Errata Sheet for Minor Corrections to
Central Coast Water Authority 2015 Urban Water Management Plan (UWMP)

This errata sheet logs minor content errors that were identified after final adoption of the Central Coast Water Authority 2015 UWMP. DWR has determined that these corrections are minor and do not require the UWMP to be amended.

☐ These data errors have been corrected in the Department of Water Resources (DWR) UWMP database at https://wuedata.water.ca.gov/secure/

☒ This errata sheet has been filed with the UWMP in all locations where it is made publicly available, including the California State Library. Errata may be submitted to State Library via email to cslgps@library.ca.gov

Name and agency of the person filing errata sheet:

John Brady
Deputy Director
Central Coast Water Authority

#	Description of Correction	Location	Rationale	Date Error Corrected
1	Table 4-1 presented in Appendix A of the 2015 CCWA UWMP did not include the "Water Losses" data. However, the data uploaded to DWR's WUEdata database did include data on "Water Losses". The correct version of Table 4-1 is attached to this errata and is consistent with the WUEdata version of Table 4-1	Page 128	The 2015 CCWA UWMP Table 4-1 needs to be consistent with the accurate WUEdata Table 4-1.	12/21/17
2	Table 4-3 presented in Appendix A of the 2015 CCWA UWMP did not include the "Water Losses" data, shown in Table 4-1, into the totals presented in Table 4-3. However, the data uploaded to DWR's WUEdata database did include data on "Water Losses". The correct version of Table 4-3 is attached to this errata and is consistent with the WUEdata version of Table 4-3.	Page 141	The 2015 CCWA UWMP Table 4-3 needs to be consistent with the accurate WUEdata Table 4-3	12/21/17

WUEdata - UWMP Tool - Central Coast Water Authority

Sign Out

Preparation > System > Water Use > Supplies > Reliability > Contingency > Adoption > Water Energy > Attachments > Submit to DWR

Chapter 4: System Water Use - View Table List

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Table 4-1 Wholesale: Demands for Potable and Raw Water - Actual

Viewing Original UWMP (Submitted on 06/30/2016) (Read-Only)
To Amend this UWMP, please contact UWMPHelp@water.ca.gov

	2015 Actual		
Use Type	Additional Description (as needed)	Level of Treatment When Delivered	Volume (AF)
Sales to other agencies	CCWA is a "pass-through" agency. There is no sale of water. CCWA treats and conveys our member agencies's water.	Drinking Water	11,673
Losses	Water Losses	Drinking Water	355
TOTAL			12,028
NOTES	QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK		

WUEdata - UWMP Tool - Central Coast Water Authority

Sign Out

Preparation > System > Water Use > Supplies > Reliability > Contingency > Adoption > Water Energy > Attachments > Submit to DWR

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Table 4-3 Wholesale: Total Water Demands

Viewing Original UWMP (Submitted on 06/30/2016) (Read-Only)

To Amend this UWMP, please contact UWMPHelp@water.ca.gov

	2015 (AF)	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (opt) (AF)
Potable and Raw Water *From Tables 4-1 and 4-2*	12,028	26,671	26,482	26,293	26,104	25,915
Recycled Water Demand* *From Table 6-4*						
TOTAL	12,028	26,671	26,482	26,293	26,104	25,915
*Recycled water demand fields will be blank until Table 6-4 is complete.						
NOTES						

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK

CENTRAL COAST WATER AUTHORITY

2015
Urban Water Management Plan

June 2016

Central Coast Water Authority
2015 Urban Water Management Plan

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AF	Acre-Foot
APA	Administrative Procedure Act
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practices
BO	Biological Opinion
BRP	Business Resumption Plan
CCWA	Central Coast Water Authority
CEQA	California Environmental Quality Act
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
D-1641	SWRCB Water Rights Decision 1641
DBP	Disinfection Byproducts
DCR	Delivery Capacity Report
DDW	Division of Drinking Water
DEIR	Draft Environmental Impact Report
Delta	Sacramento-San Joaquin Delta
DFG	Department of Fish and Game
DMM	Demand Management Measures
DPH	Department of Public Health
DWR	Department of Water Resources
DWR Form 38	Public Water System Statistics Form
ERP	Emergency Response Plan

ESA	Endangered Species Act
FEIR	Final Environmental Impact Report
FWS	United States Fish and Wildlife Service
IRWMP	Integrated Regional Water Management Plan
maf	Million Acre-Feet
MIB	2-methylisoborneol
MOU	Memorandum of Understanding
MWQI	Municipal Water Quality Investigations
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OES	Office of Emergency Services
PPWTP	Polonio Pass Water Treatment Plant
RPA	Reasonable and Prudent Alternative
RWEP	Regional Water Efficiency Program
SCADA	Supervisory Control and Data Acquisition
SIMS	State Emergency Management System
SEP	State Emergency Plan
SBCFCWCD	Santa Barbara County Flood Control and Water Conservation District
SLOCFCWCD	San Luis Obispo County Flood Control and Water Conservation District
SWRCB	State Water Resources Control Board
SYRWCDID#1	Santa Ynez River Water Conservation District, Improvement District No. 1

State	State of California
SWP	State Water Project
SWRCB	State Water Resources Control Board
SSLOCSD	South San Luis Obispo County Sanitation District
taf	Thousand Acre-Feet
TOC	Total Organic Carbon
T&O	Taste and Odor
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
Water Agency	Santa Barbara County Water Agency
WSRA	Water Supply Retention Agreements

1.0 INTRODUCTION AND OVERVIEW

1.1 Introduction

This 2015 Urban Water Management Plan (UWMP) has been prepared in response to the California Urban Water Management Planning Act (UWMP Act), California Water Code, Division 6, Part 2.6, Sections 10610 through 10650[1]. The UWMP Act requires every urban water supplier to prepare and adopt an UWMP as well as to update and adopt the UWMP every five years on or before December 31, in years ending in zero or five. However, Section 10621 (d) of the UWMP Act stipulated that the 2015 UWMP must be completed before July 1, 2016.

Section 10617 of the California Water Code defines an "urban water supplier' as a public water system that that provides water for municipal purposes either directly or indirectly to more than 3,000 customers, or supplies more than 3,000 acre-feet (AF) of water annually. The Central Coast Water Authority (CCWA) is considered an urban water supplier because it is classified as a public water system by the California State Water Resources Control Board, Division of Drinking Water (DDW) and it supplies more than 3,000 AF of water per year. In 1994, DDW issued a permit to CCWA to operate as a public water system and the associated Water System Number for CCWA is CA4210030.

Although CCWA meets the definition of an urban water supplier, it can be further classified as a wholesale urban water supplier. This classification is recognized in the California Water Code and there are several instances in the Code where the UWMP requirements for wholesaler and retail urban water suppliers are different. These differences are as follows:

- The Demand Management Measures (DMM) for wholesalers are different from those required for retailers. A description of the DMMs implemented by CCWA is presented in Section 7.0 of this UWMP.

- Wholesaler suppliers are not required to develop baseline and target values for daily per capita use, interim urban water use target, and urban water use. This data is developed by the retail urban water supplier.

An urban water supplier that does not prepare, adopt, and submit an UWMP to the California Department of Water Resources (DWR) is ineligible to receive drought assistance from the State of California (State). Consequently, in order to preserve the ability to seek assistance from the State of California, CCWA has prepared this 2015 UWMP. To ensure all required components of the UWMP have been addressed, the DWR UWMP Checklist and the DWR Standardized UWMP Tables were completed and they are presented in Appendix A[2].

1.2 The Central Coast Water Authority

The CCWA was formed in 1991 through a Joint Exercise of Powers Agreement[3] among nine public agencies in Santa Barbara County and has Water Supply Agreements[4] with five other entities. CCWA was specifically formed for the purpose of designing, building and operating the facilities needed to deliver water from the State Water Project (SWP) to the various entities entitled to receive that water in Santa Barbara County.

Currently, The CCWA Board of Directors is composed of elected Board and Council members from eight member agencies, all of which are public agencies. A founding member of CCWA, the Summerland Water District, was merged into the Montecito Water District. The CCWA member agencies are the Cities of Buellton, Guadalupe, Santa Barbara and Santa Maria, Carpinteria Valley Water District, Goleta Water District, Montecito Water District and Santa Ynez River Water Conservation District, Improvement District No. 1 (SYRWCDID#1) in which the City of Solvang is located. The other entities which do not have voting rights include Golden State Water Company, Vandenberg Air Force Base, La Cumbre Mutual Water Company, Morehart Land Company, and the Raytheon Company.

Each vote on CCWA's Board of Directors is weighted roughly in proportion to the entity's allocation of State water entitlement that was held in 1991. Table 1-1 outlines the voting percentage for each member of the CCWA Board of Directors.

Table 1-1: Board of Directors Voting Weights

Agency	Percentage
City of Guadalupe	1.15%
City of Santa Maria	43.19%
City of Buellton	2.21%
Santa Ynez RWCD, Improvement District #1	7.64%
Goleta Water District	17.20%
City of Santa Barbara	11.47%
Montecito Water District	9.50%
Carpinteria Valley Water District	7.64%
TOTAL	100.00%

The Joint Exercise of Powers Agreement also provided a means for other entities to join as associate members. A mutual water company or public utility may join CCWA as an associate member by entering into an agreement with CCWA, which establishes the terms and conditions of being an associate member. An associate member may appoint an Associate Director and Alternative Director who may sit with the CCWA Board of Directors, but do not have voting rights or count towards establishing a quorum. The La Cumbre Mutual Water District is an Associate Member of the CCWA.

Finally, other entities may join CCWA as project participants through signing a Water Supply Agreement with CCWA. This category of participants does not have representation on the CCWA Board of Directors, but are invited to participate without a

voting right in the CCWA Operations Committee. The Santa Barbara County Participants (CCWA Members, Associate Members and other Participants) are presented in the Table 1-2 below, along with their respective State Water Project Table A Amounts:

Table 1-2 Santa Barbara County Project Participant Table A Amount

Agency	Table A[1]
City of Buellton	578
Carpinteria Valley Water District	2,000
Goleta Water District	4,500
City of Guadalupe	550
La Cumbre Mutual Water Company	1,000
Montecito Water District	3,000
Morehart Land Company	200
City of Santa Barbara	3,000
Raytheon Systems Company	50
City of Santa Maria	16,200
Santa Ynez RWCD, Improvement District #1	2,000
Golden State Water Company	500
Vandenberg Air Force Base	5,500
TOTAL	39,078

- In acre-feet per year. The amounts do not include CCWA's 3,908 acre-feet per year in "drought buffer" amount. In addition, the amount listed in the table above does not include Goleta Water District's 2,500 acre-feet per year of "drought buffer".

CCWA also has certain operational relationships and agreements with the DWR and the San Luis Obispo County Flood Control and Water Conservation District (SLOCFCWCD). As specified by the original Water Supply Agreement with the State[5] (see section 2.1 for more detail), DWR was responsible for the design and construction of the Phase II Coastal Branch conveyance facilities, which extends through San Luis Obispo County to the Tank 5 site in northern Santa Barbara County. The State also retains ownership of the conveyance facilities following construction, although the costs for the design, construction and operation are 100% funded by the Santa Barbara and San Luis Obispo State Water Project Participants.

CCWA served to represent the Santa Barbara County participant interests as the DWR initiated design and construction of the Phase II Coastal Branch conveyance facilities. CCWA also was directly responsible for the design and construction of the CCWA pipeline extension from Tank 5 to the Santa Ynez Pumping Plant in the Santa Ynez Valley. In addition, CCWA designed and constructed the Polonio Pass Water Treatment Plant (PPWTP), which is located on a DWR easement in northern San Luis Obispo County.

Due to the location of the PPWTP in northern San Luis Obispo County, all turnouts on the Phase II Coastal Branch conveyance facilities receive treated potable water. Consequently, CCWA entered into two important agreements. DWR and CCWA entered into an Operations and Maintenance Agreement[6] whereby CCWA would be responsible

for the operations and maintenance of the DWR pipeline from the PPWTP outlet to Tank 5. In addition, CCWA and SLOCFCWCD entered into a Master Water Treatment Agreement[7] that detailed water treatment and conveyance operations for San Luis Obispo County water.

These two agreements define CCWA's operational relationship with SLOCFCWCD. Essentially, SLOCFCWCD is obtaining its water supply and conveyance capacity from DWR. Since CCWA operates and maintains the conveyance system for DWR from the PPWTP to the Tank 5 site, SLOCFCWCD interacts with CCWA for water delivery requests. In addition, CCWA provides water treatment services to SLOCFCWCD at the PPWTP.

Although SLOCFCWCD has 25,000 AF per year in State water Table A Amount[8], at the time of the design and construction of the Phase II Coastal Branch conveyance facilities, SLOCFCWCD elected to commit to funding for only 4,830 AF per year of treatment plant and conveyance capacity. The DWR conveyance facilities through San Luis Obispo County have two active turnouts that provide water to 11 water purveyors. These water purveyors obtained contractual rights from SLOCFCWCD to receive water from the State Water Project. The San Luis Obispo County purveyors are presented in Table 1-3 below[9], along with their respective State Water Project Table A Amounts.

Table 1-3: San Luis Obispo Project Participants Table A Amounts

Agency	Table A[1]
Avila Beach Community Services District	100
Avila Valley Mutual Water Company, Inc	20
California Men's Colony (State)	400
County of SLO C.S.A. No. 16, I.D. #1	100
County of SLO (Op Center & Reg. Park)	425
City of Morro Bay	1,313
Oceano Community Services District	750
City of Pismo Beach	1,240
San Luis Coastal Unified School District	7
San Miguelito Mutual Water Company	275
SLO Co. Comm. Coll. District (Cuesta College)	200
TOTAL	4,830

CCWA does not have a direct relationship with the San Luis Obispo Project Participants; only with SLOCFCWCD. Since SLOCFCWCD delivers treated drinking water to the San Luis Obispo Project Participants, it is classified as a wholesale urban water supplier.

2.0 PLAN PREPARATION

Due to CCWA's role as a wholesale water supplier, it is important that the efforts in preparing this UWMP be coordinated with CCWA participants, other related agencies and the public. In fact, the UWMP Act requires CCWA and its participants to exchange

important information concerning projections of service population, water supply demand and available water supply sources. Accordingly, CCWA implemented an organized coordination program to ensure that the pertinent data and issues are presented accurately. Table 2-1 presents the agencies and the role each played in coordinating the development of this UWMP:

Table 2-1: Coordination Matrix

Coordination and Public Involvement						
Entities	**Coordination and Public Involvement Actions**					
	Helped write the plan	**Was contacted for assistance**	**Received copy or link to the draft**	**Commented on the draft**	**Attended public meetings**	**Received a notice of intention to adopt**
County of San Luis Obispo – Flood Control and Water Conservation District			✔			✔
County of Santa Barbara – Water Agency	✔	✔	✔			✔
Retailers (Contractors in each County)			✔	✔		✔
CCWA Participants		✔	✔		✔	✔
Other Relevant Public Agencies			✔			✔

The CCWA UWMP coordination efforts focused on three groups presented below:

2.1 Santa Barbara County Participants

The first step in preparing the CCWA UWMP included contacting each CCWA project participant to establish an open line of communication between the staff members that are directly responsible for preparing their respective UWMPs. Through contacting each project participant, CCWA determined that only six of the thirteen Santa Barbara County project participants are required to prepare an UWMP (Table 2-2). The remaining seven project participants are well below the 3,000 service connections and 3,000 AF of supplied water criteria that triggers the UWMP requirement.

Each CCWA project participant was asked to provide projections of water supply needs for their respective service areas in five year increments through 2040. CCWA also provided each participant an estimate of the available water from the CCWA system. Estimated projections included a long term average availability, single dry year availability and multi-dry year availability for two, four and six year drought scenarios.

Table 2-2: Santa Barbara County Project Participants UWMP Requirement

Agency	UWMP Required
City of Buellton	No
Carpinteria Valley Water District	Yes
Goleta Water District	Yes
City of Guadalupe	No
La Cumbre Mutual Water Company	No
Montecito Water District	Yes
Morehart Land Company	No
City of Santa Barbara	Yes
Raytheon Company	No
City of Santa Maria	Yes
Santa Ynez RWCD, Improvement District #1	No
Golden State Water Company	Yes
Vandenberg Air Force Base	Yes

2.2 San Luis Obispo County Participants

In San Luis Obispo County, the SLOCFCWCD is preparing its own UWMP since it is considered a wholesale urban water supplier to the San Luis Obispo County water purveyors. CCWA does not have a direct contractual relationship with the San Luis Obispo Participants. Consequently, to ensure consistent accurate information, all data and data analysis concerning the San Luis Obispo water purveyors will be found in the UWMP prepared by SLOCFCWCD.

CCWA staff consulted with SLOCFCWCD staff during the preparation work on the two agencies' respective UWMPs. Both CCWA and SLOCFCWCD staff continued on-going dialog as both agencies developed their respective UWMP, as well as exchanging copies of the UWMPs for review and comment.

2.3 County of Santa Barbara, Water Resource Division

The County of Santa Barbara, Water Resources Division of the Public Works Department is comprised of two separate dependent special districts: the Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD) and the County Water Agency (Water Agency)[10]. These two special district programs were consolidated into the Water Resources Division of the Public Works Department in February 1994 as part of a Department-wide reorganization. Both the SBCFCWCD and the Water Agency have boundaries that coincide with the County's boundary. The Board of Supervisors acts as the Board of Directors of each agency and the staffs of each agency are county employees.

- **SBCFCWCD**. Currently, the primary purpose of the SBCFCWCD is to provide flood protection and to conserve storm, flood and surface waters for beneficial

public use. When the District was first created in 1955 by the State legislature in response to severe flooding and damage suffered from storms in the early 1950s, its primary charge was to implement a program of channel maintenance and capital improvements to mitigate the threat to life and property from flooding. SBCFCWCD also served as the original contracting entity for the State Water Project in 1963. See Section 3.1 for details on SBCFCWCD's role with the State Water Project and its relationship with CCWA.

- **Water Agency.** The Santa Barbara County Water Agency was established by the state legislature in 1945 to control and conserve storm, flood and other surface waters for beneficial use and to enter into contracts for water supply. Today, the Water Agency is primarily involved in projects for the storage, diversion, transportation, delivery and sale of water. It prepares investigations and reports on the County's water requirements, the water needs of projected development and the efficient use of water. It provides technical assistance to other County departments, water districts, and the public concerning water availability and water well locations and design. The Water Agency also administers the Cachuma Project and the Twitchell Dam Project contracts with the U.S. Bureau of Reclamation.

The County's Water Resources Division, through its Water Agency, implements a regional water conservation program, known as the Regional Water Efficiency Program (RWEP)[11]. This program was established in December 1990, just prior to the formation of CCWA. Following the formation of CCWA, the SBFCWCD and CCWA entered into an agreement entitled "Transfer of Financial Responsibility Agreement"[12] in 1991. In this contract, the SBFCWCD delegated specific responsibilities to CCWA which includes making CCWA financially responsible for designing, constructing and operating the Coastal Branch of the State Water Project.

The Transfer of Financial Responsibility Agreement did not delegate water conservation responsibilities from the SBFCWCD to CCWA. Rather, the SBFCWCD retained the responsibility to develop a regional water conservation program for the benefit of the water purveyors in Santa Barbara County. Due to this arrangement, CCWA staff worked closely with staff from the RWEP in coordinating information contained in the CCWA UWMP.

CCWA staff consulted with SBCFCWCD staff during the preparation of the CCWA UWMP. Both CCWA and SBCFCWCD staff continued on-going dialog as the CCWA UWMP was developed. Since the Water Agency is not a water supplier, it is not required to prepare an UWMP.

2.4 Public

CCWA recognizes the importance of obtaining public input on its programs and documents. To that end, CCWA mailed notices to 42 agencies and individuals requesting

feedback on the draft UWMP. See Appendix B for contact information, notices and other outreach materials. The notice provided information regarding how to obtain a copy of the draft plan and the dates and locations of the public workshops.

The Draft Plan was made available for public inspection at local libraries, as well as on CCWA website (www.ccwa.com). In addition, a copy of the draft UWMP was available for public review at the CCWA Office in Buellton. Draft copies were sent electronically for review and comment to all CCWA retail water supply agencies, wastewater agencies, cities, and special interest groups before the public hearing. Public notices regarding the availability of the UWMP for public inspection were posted in the local newspapers and on the CCWA website.

A public workshop was held on June 9, 2016 in CCWA's Buellton office to provide an overview of the UWMP and solicit public feedback. Public Notices and sign-in sheets for the public workshop is presented in Appendix B.

2.5 Plan Adoption, Submittal and Implementation

The 2016 UWMPs are required to be adopted by each urban water supplier and submitted to the DWR by July 1, 2016. Accordingly, the CCWA Board of Directors will consider adoption of the 2016 CCWA UWMP at its regular June meeting on June 23, 2016. A public notice was issued in advance of this Board Meeting, in accordance with Section 6066, California Government Code. The Board Resolution is presented in Appendix C.

Once the UWMP has been adopted by the CCWA Board of Directors, a copy of the UWMP will be submitted electronically to DWR, the California State Library, and every city and county within which CCWA provides water supplies within 30 days of adoption. Should any changes to the UWMP be made after adoption, the CCWA Board of Directors will consider and adopt the changes during a properly notified Board of Directors meeting. Copies of amendments or changes to the UWMP will be submitted to DWR, the California State Library, and any city or county within which CCWA provides water supplies within 30 days of adoption. In addition, within 30 days of submitting the UWMP to DWR, a copy of the UWMP will be made available for public review.

3.0 SYSTEM DESCRIPTION

3.1 CCWA History

In 1963, anticipating a future need for supplemental water supplies, the SBCFCWCD and the SLOCFCWCD entered into Water Supply Contracts (State Contract) with the State. Under the State Contract, water would be delivered to Santa Barbara and San Luis Obispo Counties through the "Coastal Branch" of the SWP. Phase I of the Coastal Branch, a 15-mile aqueduct branching off the California Aqueduct in northwestern Kern County, was completed in 1968. Construction of the remainder of the Coastal Branch (designated "Phase II") was postponed from 1975 to 1991. This postponement in construction was permitted in the State Contract, which allowed Santa Barbara and San Luis Obispo Counties to delay construction until needed.

Even though construction of the Coastal Branch Phase II project was delayed, both counties were still obligated to make certain payments to the State related to facilities (such as the Oroville Dam and the California Aqueduct) which had already been built and which would be part of the delivery system that eventually would convey SWP water to the Central Coast. Beginning in about 1979, many people in Santa Barbara County questioned whether it should continue to make payments under the State Contract. A number of water purveyors concluded it would be prudent for the County to continue to retain its Table A Amount (formerly referred to as “entitlement” which is named for “Table A” in each SWP Contractor’s Water Supply Contract) and make payments to the State. The County was willing to retain the Table A Amount, but only if the associated costs were shifted from the countywide tax base to the ratepayers in those jurisdictions that wanted to keep the option to join the SWP. Beginning in 1982, SBCFCWCD entered into a series of Water Supply Retention Agreements (WSRAs) with various water purveyors for the purpose of shifting responsibility for such State payments from the County taxpayers to individual purveyors and their ratepayers. The WSRAs included a provision stating that no revenue bond financing for project facilities could be issued unless authorized by a vote of the people within the jurisdiction of each participating purveyor.

In 1983, SBCFCWCD, SLOCFC&WCD and the State commenced joint studies that found that additional water was needed to meet projected demand for the two counties. The shortage was being met by long-term overdraft of local groundwater basins. The chronic overdraft of the local groundwater basins presented a serious environmental threat. Since many of these groundwater basins are adjacent to the ocean, the risk of saltwater intrusion and permanent damage to groundwater basins weighed on the minds of local water officials. In addition, reports from other areas in California (including some from San Luis Obispo County) indicated that groundwater over drafting was causing surface soil subsidence. Local water agencies understood the significant environmental benefits that could be derived by reducing groundwater “mining” by diversifying water supplies to include additional sources, such as imported water.

In 1985, the DWR, in conjunction with SBCFCWCD, completed a major "Alternatives Study" regarding the feasibility and costs of various supplemental sources of water supply

for Santa Barbara County. This study determined that supplemental water from an enlarged Cachuma Reservoir (constructed by the United States Bureau of Reclamation) was the preferred alternative for the Santa Ynez Valley and the South Coast, while SWP water was preferred for the cities of Lompoc, Santa Maria and other north County entities.

In 1986, the City of Santa Maria requested SBCFCWCD to ask the State to begin the planning and environmental studies, including preparation of an environmental impact report, needed to build the Coastal Branch Phase II project. In the same year, Santa Ynez River Water Conservation District, Improvement District No. 1 and the South Coast water purveyors asked the State and the United States Bureau of Reclamation (USBR) to begin a study for enlarging Cachuma Reservoir. This alternative raised environmental concerns that led to doubts about its ultimate feasibility.

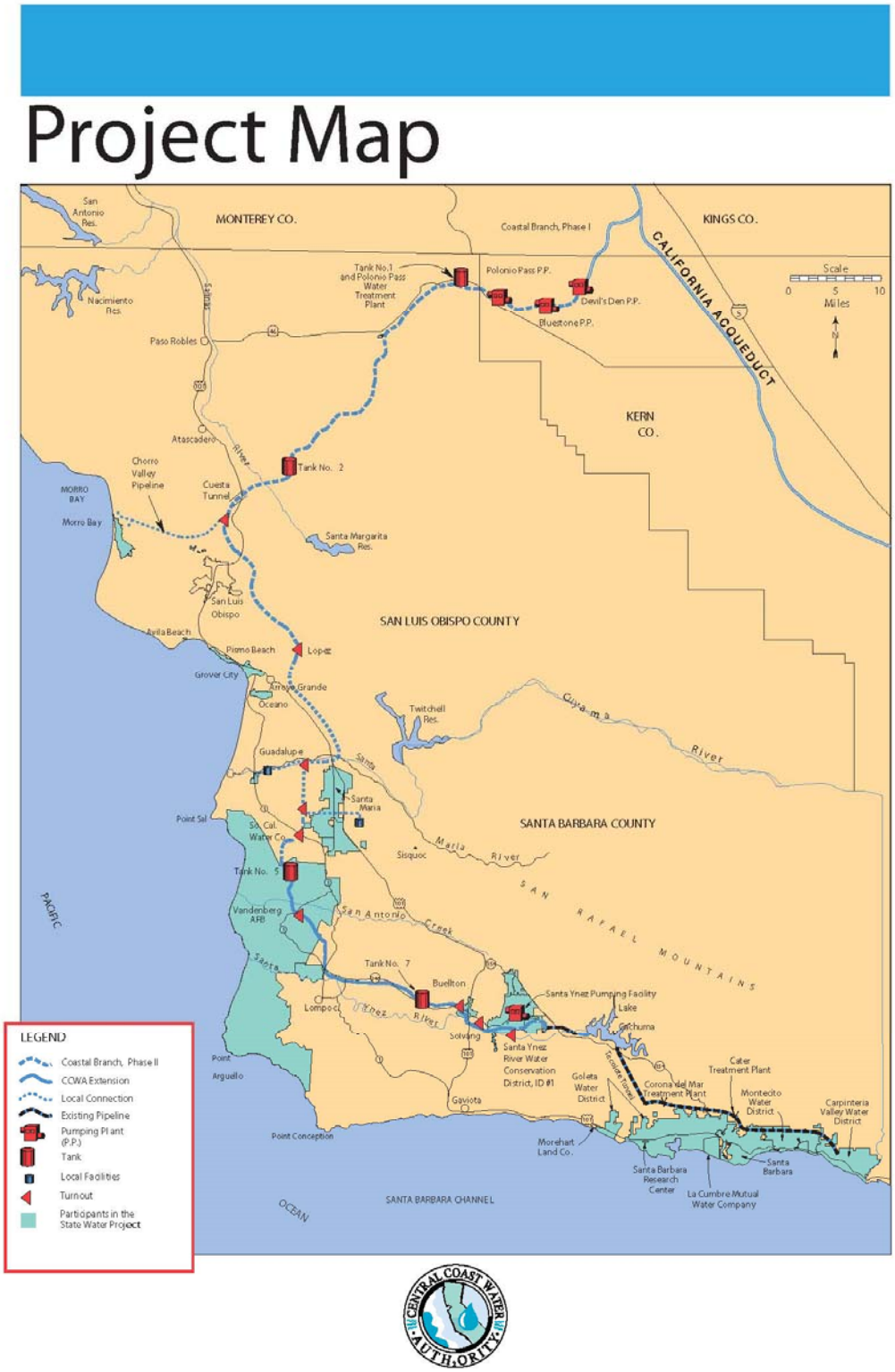
In June 1990, DWR prepared and circulated a draft environmental impact report (DEIR) on the Coastal Branch Phase II project, pursuant to the California Environmental Quality Act, Public Resources Code Section 21091 (CEQA). Under CEQA, one purpose of a DEIR is to publicly disclose the impact, both environmental and financial, of a proposed project. The Coastal Branch DEIR was the subject of numerous public meetings in Santa Barbara County.

In May 1991, DWR issued the final environmental impact report (FEIR) for the Coastal Branch Phase II project and the Mission Hills Extension. The FEIR was sent to all of the potential participating water purveyors.

On June 4, 1991, during the extended drought of 1987-1992, elections (required by the WSRAs) were held in 14 Santa Barbara County cities, communities and water districts on a State water ballot measure. The measure asked whether voters in each city or district would approve issuance of revenue bonds to finance local facilities needed to treat and distribute SWP water once the State completed construction of the Coastal Branch Phase II project (Figure 3-1). Voters in eleven cities and districts approved the bond measures. Several San Luis Obispo County cities and districts also voted to participate in the effort.

The CCWA was formed immediately after the 1991 elections. It took over the WSRAs in Santa Barbara County and transformed them into Water Supply Agreements. It also signed a Transfer of Financial Responsibility with the SBCFCWCD so it could interact directly with the State (i.e., DWR). SBCFCWCD maintained its contractual relationship with the State, however, because of its ability to tax in the event of a default. SBCFCWCD also maintained its contractual relationship with the State and signed agreements with CCWA to treat its SWP water and to operate and maintain the pipeline and facilities in San Luis Obispo County.[13]

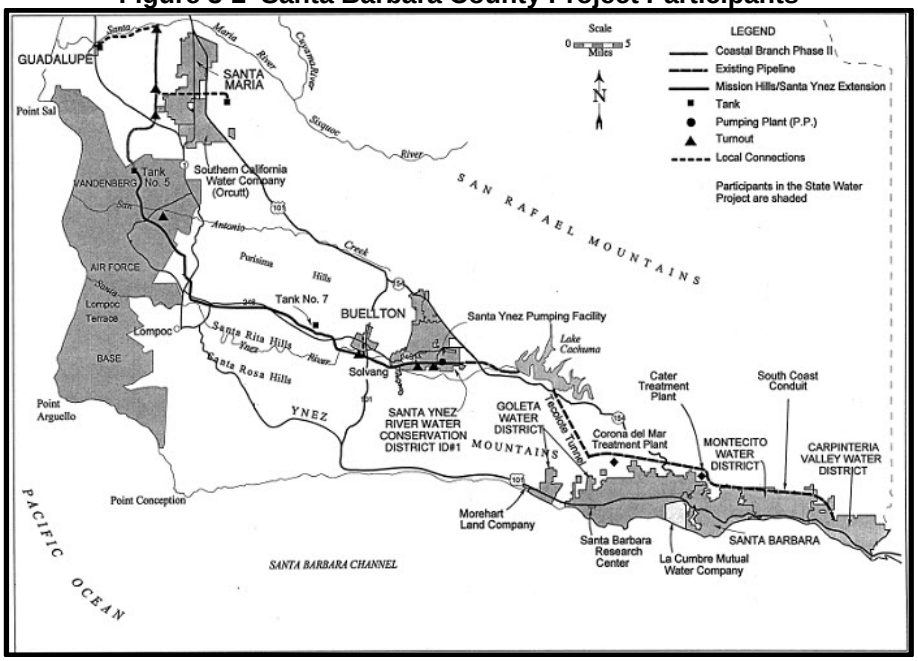
Figure 3-1 Phase II Coastal Branch



3.2 Service Area Physical Description

The CCWA operates and maintains the Coastal Branch Phase II Extension of the Coastal Branch Aqueduct Pipeline, which is part of the SWP. The CCWA supplies treated water for its member public water supply agencies and associate members. The areas served are located within Santa Barbara Counties and San Luis Obispo and are illustrated in Figure 3-2. In addition, the service areas for each CCWA Project Participant are presented in Appendix D.

Figure 3-2 Santa Barbara County Project Participants



3.3 Service Area Climate

The climate in the area served by CCWA is best described as Mediterranean, characterized by hot, dry summers in inland areas, with more temperate weather along the coast, and cool, moist winters. Summers are dry with temperatures as high as 110°F in the inland areas. Winters are somewhat cool with temperatures as low as 20°F. Average annual precipitation in the region varies from 17 to 24 inches in the coastal areas to approximately 14 inches in the more arid, eastern locations. A more detailed listing of relevant weather parameters (evapotranspiration (ETo), average high temperature and average rainfall) for selected representative areas within CCWA's service area can be found in Tables 3-1 through 3-3 and Figure 3-3 through 3-5:

Table 3-1 Monthly Averages for ETo, Temperature, & Precipitation (Santa Maria)

Monthly Averages for ETo, Temperature, & Precipitation (Santa Maria)														
	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr Ave
ETo (inches)	232	1.66	2.96	3.44	4.50	4.95	5.48	5.74	5.55	4.64	3.60	2.63	1.79	3.91
Ave Max Temp. (F)	047946	63.3	64.3	64.8	66.9	68.3	70.6	72.8	73.2	74.4	73.5	69.2	64.3	68.8
Ave Min Temp. (F)	047946	39.0	40.9	42.0	43.5	46.8	50.1	53.1	53.6	52.2	48.1	42.6	38.7	45.9
Ave Precipitation (inches)	047946	2.53	2.73	2.31	1.06	0.28	0.05	0.03	0.03	0.19	0.52	1.32	1.96	13.00

Table 3-2 Monthly Averages for ETo, Temperature, & Precipitation (Santa Ynez/Cachuma Lake)

Monthly Averages for ETo, Temperature, & Precipitation (Santa Ynez/Cachuma Lake)														
	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr Ave
ETo (inches)	64	1.46	3.14	3.70	5.37	5.47	6.21	5.71	5.95	4.91	3.93	2.65	1.80	4.19
Ave Max Temp. (F)	041253	65.5	66.7	68.8	73.0	77.5	83.8	90.5	91.1	88.2	82.2	73.2	66.3	77.2
Ave Min Temp (F)	041253	38.6	40.1	41.7	43.4	46.7	49.2	52.1	52.2	51.3	48.0	42.7	38.5	45.4
Precipitation (inches)	041253	4.39	4.65	3.47	1.54	0.38	0.04	0.01	0.03	0.21	0.66	1.93	3.09	20.39

Table 3-3 Monthly Averages for ETo, Temperature, & Precipitation (Santa Barbara)

Monthly Averages for ETo, Temperature, & Precipitation (Santa Barbara)														
	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr Ave
ETo (inches)	107	1.64	3.22	3.71	4.94	4.57	4.79	5.01	5.26	4.41	3.65	2.61	2.01	3.82
Ave Max Temp. (F)	047902	64.9	65.6	66.8	69.0	69.9	72.4	75.9	77.1	76.7	74.4	70.9	66.4	70.8
Ave Min Temp (F)	047902	43.0	44.6	46.2	48.6	51.3	54.3	57.3	57.9	56.4	52.5	46.9	43.4	50.2
Precipitation (inches)	047902	3.98	3.86	2.97	1.21	0.36	0.08	0.02	0.03	0.20	0.69	1.50	2.82	17.73

Note: Temperature and precipitation data-Western Regional Climate Center[14]

- http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7946, Santa Maria - Period of Record 1/1/1948 to 1/20/2015
- http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1253, Lake Cachuma – Period of Record 3/1/1952 to 1/20/2015
- http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7902, Santa Barbara - Period of Record 1/1/1893 to 1/20/15

ETo data-The California Irrigation Management Information System (CIMIS)[15]

- *www.cimis.water.ca.gov*
  - *Santa Maria Period of Record May 2015 to April 2016.*
  - *Santa Ynez Period of Record May 2015 to April 2016*
  - *Santa Barbara. Period of Record May 2015 to April 2016*

Figure 3-3 Historical Precipitation for Northern Santa Barbara County Area.

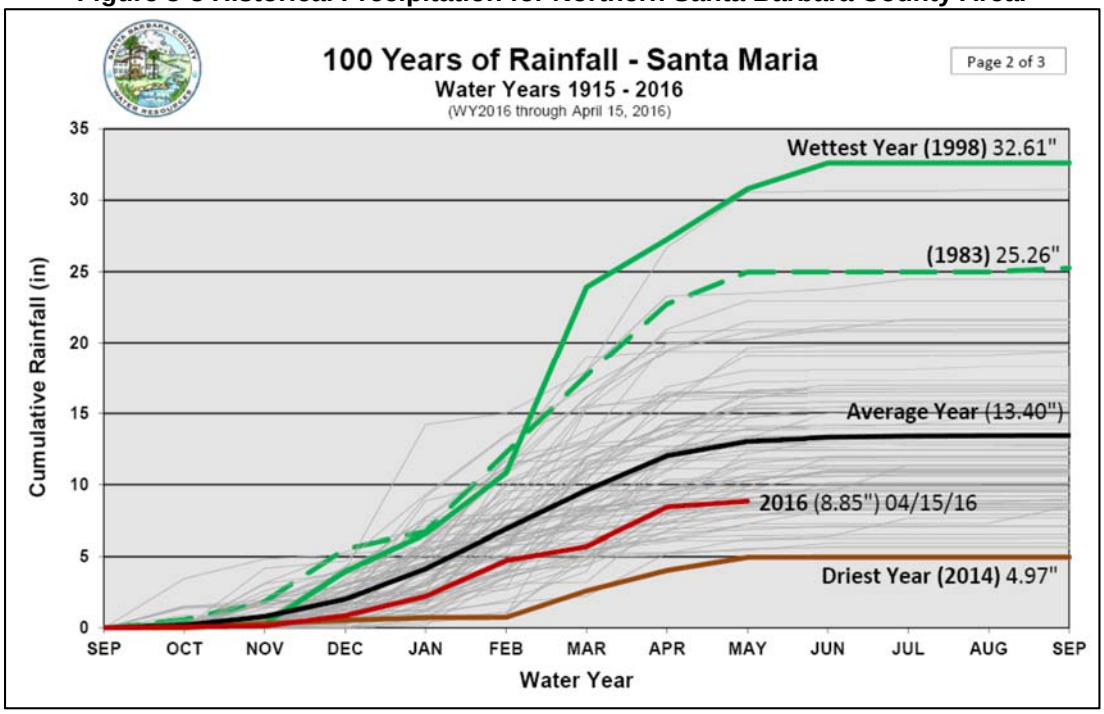


Figure 3-4 Historical Precipitation for Central Santa Barbara County Area.

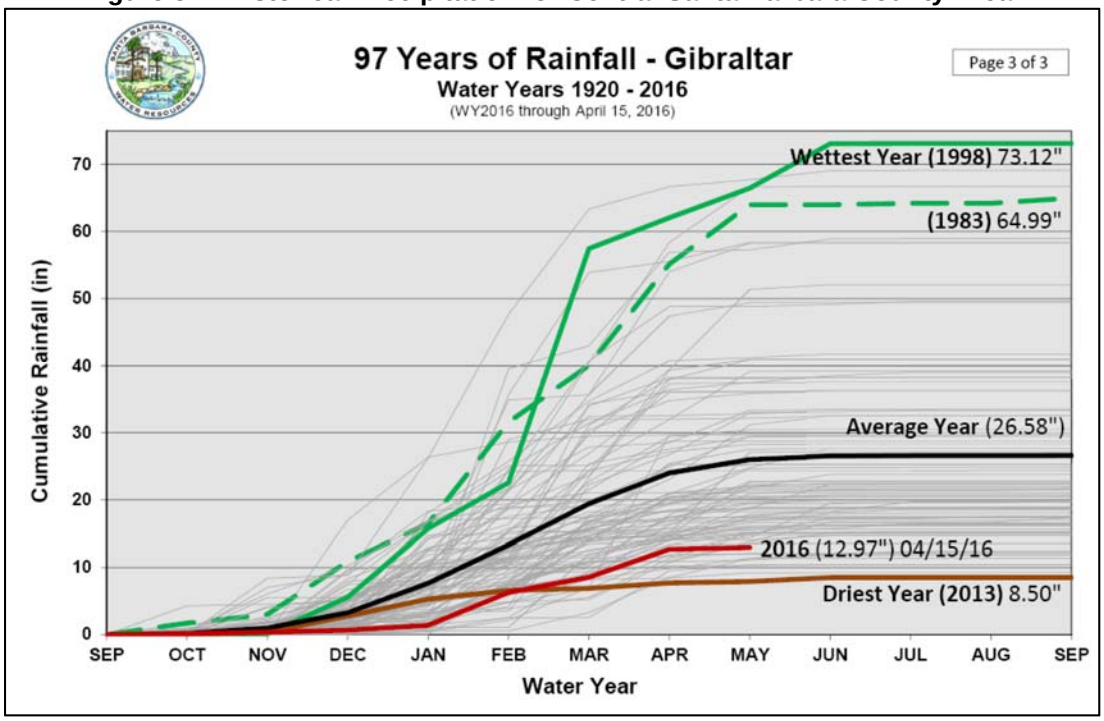
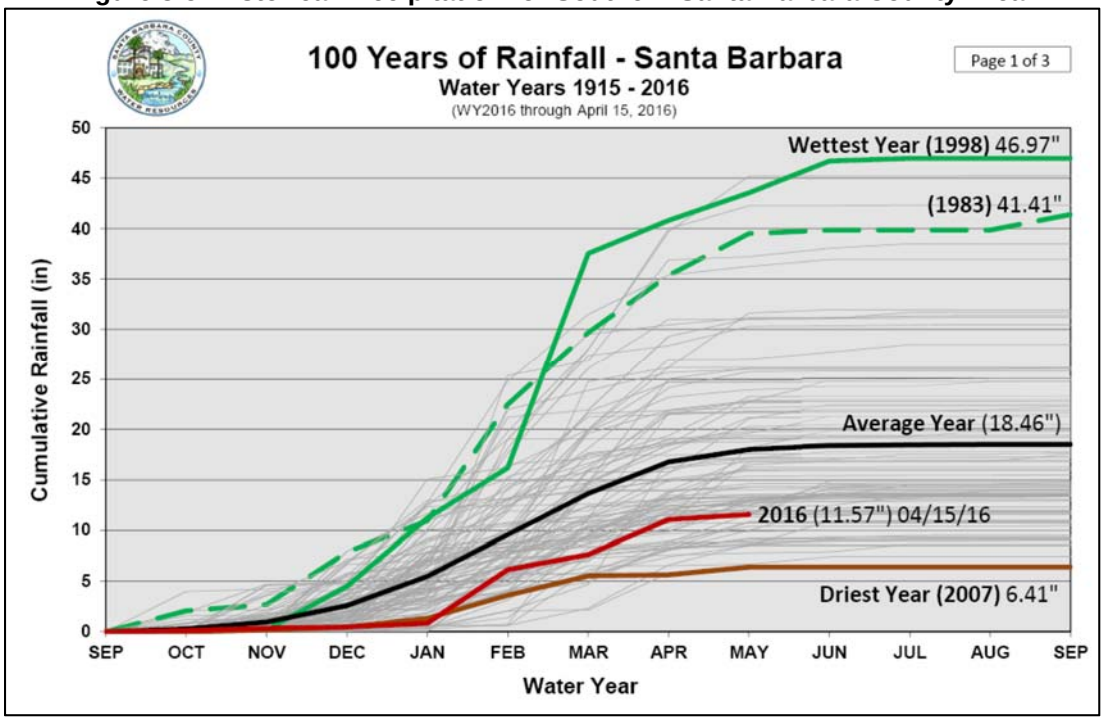


Figure 3-5 Historical Precipitation for Southern Santa Barbara County Area.



3.4 Service Area Population

The Santa Barbara County Association of Governments (SBCAG) published a report entitled "Regional Growth Forecast 2010 to 2040" in December 2012.[16] The summary data for the population forecast, at the jurisdiction level, from this report is presented in Table 3-4.

Table 3-4 Santa Barbara County Population Forecast

Table 7, Trend-based Allocation Methodology Subject to Land Use Capacity
Population, Household and Employment Forecast

Jurisdiction	2010			2020			2035			2040		
	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment
Santa Maria City	99,989	27,079	34,333	108,839	30,060	49,800	135,071	39,230	59,934	141,529	41,512	63,010
Guadalupe City	7,080	1,810	686	7,501	1,952	723	9,309	2,584	1,729	9,660	2,708	1,754
Solvang City	5,230	2,167	3,364	5,333	2,202	3,538	5,922	2,408	3,547	5,958	2,421	3,547
Buellton City	4,811	1,755	1,884	5,550	2,003	3,877	7,088	2,540	3,980	7,403	2,652	3,980
Lompoc City	42,092	13,242	10,686	42,100	13,246	11,643	46,975	14,949	12,765	47,723	15,213	12,777
Goleta City	29,824	10,880	21,120	29,954	10,924	25,247	33,912	12,307	25,285	34,588	12,546	25,297
Santa Barbara City	87,396	34,996	62,912	87,813	35,112	64,597	94,876	37,578	66,449	96,000	37,976	66,667
Carpinteria City	13,029	4,756	6,075	13,284	4,841	6,666	13,825	5,030	6,693	13,893	5,054	6,693
Santa Maria Unincorporated	32,737	11,642	6,345	32,751	11,647	7,759	39,244	13,917	8,849	39,829	14,123	10,220
Guadalupe Unincorporated	265	93	283	271	95	283	320	112	296	388	136	296
Cuyama Unincorporated	1,241	447	366	1,241	447	366	1,484	532	366	1,507	540	366
Solvang-Santa Ynez Unincorporated	12,633	4,761	7,558	12,646	4,764	7,944	15,110	5,625	10,036	15,426	5,736	11,658
Lompoc Unincorporated	15,652	5,407	9,449	15,652	5,407	9,833	18,652	6,455	10,563	18,949	6,560	11,244
Santa Barbara Unincorporated	67,216	21,185	24,754	78,320	23,299	27,071	80,913	24,204	27,628	82,161	24,645	27,661
Carpinteria Unincorporated	4,689	1,907	2,292	4,700	1,911	2,524	4,865	1,968	2,588	4,996	2,014	2,588
Total Unincorporated	*134,433*	*45,442*	*51,047*	*145,581*	*47,570*	*55,779*	*160,588*	*52,813*	*60,324*	*163,257*	*53,754*	*64,032*
Total County	**423,885**	**142,127**	**192,107**	**445,955**	**147,910**	**221,870**	**507,564**	**169,439**	**240,706**	**520,011**	**173,835**	**247,757**

Notes: Includes the UCSB Long Range Plan Population growth of 11,105, household growth of 2,113 and employment growth of 1,634
Subregional forecast does not included self-employed growth of approximately 7,000 that is in the countywide forecast.
The 2010 employment baseline consists of the InfoUSA address based employment that is approximately 5,000 less than the countywide total.
Subregional Household forecast is calculated by dividing population growth by census 2010 household size.

SBCAG, Regional Growth Forecast, 12-2012

Another source of population data is the Annual Water System Report. DDW requires all public water systems to prepare and submit an Annual Water System Report and this report contains information about population as well as a variety of other operational data.

Considering that the SBCAG report does not specifically include the population data for all of the CCWA Participants, both the Annual Water System Report and the SBCAG Report were utilized to prepare the population projection presented in Table 3.5. The 2015 population for each CCWA Participant service area, as reported in the Annual Water System Report, was used as the basis of the population projection to 2020, 2030 and 2040. The growth rates shown in the SBCAG report for the closest community match for each CCWA Participant was used to project the 2015 population to 2020, 2030 and 2040.

Table 3-5 Central Coast Water Authority Participant Population Projection

CCWA Participant	2015	2020	2030	2040	Growth Factor based on SBCAG Table 7 Juridiction/Community
City of Buellton	4,931	5,310	6,781	7,082	City of Buellton
Carpinteria Valley Water District	15,600	15,685	16,280	16,539	Carpinteria City and Carpineteria Unincorported
Goleta Water District	86,946	90,632	98,120	99,855	Goleta City and Santa Barbara Unincorporated
City of Guadalupe	1,937	1,977	2,394	2,693	City of Guadalupe and Guadalupe Unincorporated
La Cumbre Mutual Water Company	4,900	5,305	5,481	5,566	Santa Barbara Unincorporated
Montecito Water District	13,500	14,615	15,099	15,332	Santa Barbara Unincorporated
Morehart Land Company	n/a	n/a	n/a	n/a	No data - this is a Land Developer
City of Santa Barbara	93,821	94,045	101,609	102,813	City of Santa Barbara
Raytheon Company	n/a	n/a	n/a	n/a	No data - this is a company not community
City of Santa Maria	100,306	104,745	129,990	136,205	City of Santa Maria
Santa Ynez River Water Conservation District, Improvement District #1	6,737	6,740	8,053	8,221	Solvang-Santa Ynez Unincorporated
Golden State Water Company	1,962	1,962	2,351	2,386	Santa Maria unicorproated
Vandenberg Air Force Base	6,763	6,763	8,059	8,187	Lompoc Uninncorporated
CCWA Participant Population	337,403	347,779	394,217	404,879	
Percent of Santa Barbara County Population	77.58%	77.99%	77.67%	77.86%	

Note: 1. 2015 Population as reported by CCWA Participant in the 2015 Annual Water System Report submitted to SWRCB Division of Drinking Water.

3.5 Service Area Economy

The California Department of Transportation produces long term socio-economic forecasts for each County in the State of California, through its Economic Analysis Branch. These long term economic forecasts are updated annually and are produced to assist local and regional agencies in their planning efforts. The forecasts provide both historical data and a forecast from 2006 to 2040. To provide a general snapshot of the socio-economics of Santa Barbara County, copies of the 2014 updated forecasts are included in Appendix E[17]. The summary tables of the 2014 updated forecasts are presented Table 3-6:

Table 3-6 Caltrans Santa Barbara County Socio-Economic Forecast

Santa Barbara County Economic Forecast

2006-2014 History, 2015-2040 Forecast

	Population (people)	Net Migration (people)	Registered Vehicles (thousands)	Households (thousands)	New Homes Permitted (homes)	Total Taxable Sales (billions)	Personal Income (billions)	Real Per Capita Income (dollars)	Inflation Rate (% change in CPI)	Real Farm Crop Value (millions)	Real Industrial Production (billions)	Unemployment Rate (percent)
2006	412,863	-2,145	373.2	141	897	$6.12	$18.54	$51,720	4.3	1,170	3.61	4.0
2007	416,648	251	370.6	142	723	$6.06	$18.96	$50,758	3.3	1,229	3.79	4.4
2008	419,970	-107	369.4	141	543	$5.88	$18.91	$48,508	3.5	1,224	3.90	5.5
2009	422,423	-877	367.9	142	213	$5.10	$18.21	$46,826	-0.8	1,346	3.42	8.2
2010	423,999	-1,515	368.1	142	460	$5.30	$18.51	$46,845	1.2	1,308	3.43	9.7
2011	425,685	-1,179	366.1	143	347	$5.71	$19.77	$48,550	2.7	1,247	3.68	9.4
2012	426,063	-2,372	366.7	143	496	$6.04	$21.27	$51,135	2.0	1,321	3.97	8.3
2013	432,110	3,336	372.7	143	426	$6.32	$21.70	$50,885	1.1	1,454	3.66	7.1
2014	436,516	1,554	386.4	144	898	$6.65	$22.87	$52,398	1.3	1,463	3.79	6.1
2015	441,068	1,701	392.9	145	951	$7.09	$24.03	$53,981	0.9	1,468	3.87	5.0
2016	445,379	1,387	397.9	146	968	$7.53	$25.51	$55,111	3.0	1,475	3.96	4.3
2017	449,000	621	401.5	147	1,027	$7.90	$26.99	$56,128	3.1	1,492	4.07	4.2
2018	452,147	113	403.9	148	1,066	$8.24	$28.42	$57,067	2.8	1,499	4.20	4.1
2019	455,121	-99	406.4	149	1,044	$8.57	$29.90	$58,097	2.7	1,518	4.34	4.1
2020	458,006	-205	409.5	149	1,049	$8.95	$31.51	$59,210	2.8	1,557	4.48	4.0
2021	461,032	-64	411.5	150	1,024	$9.32	$33.19	$60,246	2.9	1,555	4.63	4.1
2022	463,848	-291	414.1	151	1,025	$9.73	$34.95	$61,248	2.9	1,581	4.77	4.0
2023	466,783	-171	416.3	152	1,013	$10.08	$36.54	$62,111	2.5	1,589	4.92	4.0
2024	469,640	-247	418.4	153	967	$10.39	$38.04	$62,791	2.4	1,607	5.10	4.0
2025	472,457	-281	420.1	154	947	$10.71	$39.56	$63,278	2.6	1,620	5.25	4.0
2026	475,197	-352	421.9	155	931	$11.02	$41.03	$63,576	2.7	1,636	5.41	4.0
2027	477,937	-335	423.7	155	906	$11.33	$42.52	$63,812	2.7	1,650	5.59	4.0
2028	480,647	-326	425.8	156	922	$11.67	$44.05	$64,159	2.5	1,666	5.77	4.0
2029	483,398	-267	428.2	157	924	$12.00	$45.63	$64,614	2.3	1,681	5.97	4.0
2030	486,157	-229	430.6	158	924	$12.35	$47.26	$65,137	2.2	1,697	6.16	3.9
2031	488,937	-195	433.1	159	926	$12.68	$48.93	$65,696	2.1	1,713	6.36	3.9
2032	491,649	-197	435.6	159	932	$13.03	$50.62	$66,103	2.3	1,729	6.55	3.9
2033	494,321	-193	437.8	160	945	$13.37	$52.31	$66,688	1.9	1,745	6.76	3.9
2034	496,911	-235	440.1	161	958	$13.73	$54.11	$67,244	2.1	1,762	6.98	3.9
2035	499,501	-241	442.2	162	971	$14.11	$56.01	$67,773	2.2	1,778	7.20	3.9
2036	502,023	-255	444.4	163	979	$14.53	$58.00	$68,088	2.6	1,795	7.44	3.9
2037	504,435	-252	446.4	164	989	$14.96	$60.03	$68,323	2.7	1,812	7.66	3.8
2038	506,831	-273	448.3	164	994	$15.38	$62.09	$68,647	2.5	1,828	7.89	3.8
2039	509,143	-299	450.2	165	1,001	$15.84	$64.25	$68,883	2.7	1,846	8.11	3.8
2040	511,438	-303	452.0	166	1,021	$16.29	$66.43	$69,132	2.6	1,863	8.34	3.8

Employment and population growth is forecast to remain modest in Santa Barbara County over the next five years. The northern end of the county will continue to dominate population and job growth due largely to the greater production of planned housing in the Santa Maria Valley. Housing is also more affordable in the northern communities of Santa Maria, Orcutt, and Lompoc. This suggests that the demand for water supply in the northern portion of the County may increase due to growth. The local retail purveyors are in the best position to assess and respond to this potential.

4.0 SYSTEM DEMANDS

This section characterizes the water demand by CCWA participants and also presents projections of future demand for water supply. CCWA maintains information on deliveries of SWP water to each participant. Since each CCWA participant has additional sources of water supply, the water deliveries made by CCWA do not translate to individual retailer system demand.

Historically, the DWR required all public water systems to complete a form entitled "Public Water System Statistics,"[18] also known as DWR Form 38, on an annual basis. This form required each water purveyor to provide basic water system information, water production data, number and type of service connections and the total volume of delivered water to each type of service connection.

In addition, the State Water Resources Control Board, Division of Drinking Water (DDW) currently requires all public water systems to prepare and submit an Annual Water System Report[19]. The content of the DDW report varied historically from year to year and generally included an inventory of water supply sources, number of service connections and total volume of water produced. However, the 2015 DDW Annual Water System Report now requires the same data requested in the DWR Form 38.

The SBCFCWCD and CCWA participants provided CCWA with the DWR Form 38s and the DDW Annual Water System Reports for each CCWA participant. This information was reviewed and tabulated as a way to characterize the demand for water supply within each participant's water system. In addition, the volumes of SWP water delivered to each CCWA Santa Barbara County participant is presented.

As indicated in Section 1.2, CCWA delivers SWP water to the SLOFCWCD through the Chorro Valley and Lopez Turnouts. Since SLOFCWCD is classified as a wholesale water supplier, it is preparing an UWMP for its water purveyors. Consequently, to avoid duplication of efforts, all data analysis related to the San Luis Obispo County water purveyors can be found in the UWMP prepared by SLOFCWCD.

4.1 Total CCWA Santa Barbara County Participant Water Demands

For each of the CCWA Santa Barbara County project participants, the water supply data presented in the DWR Form 38 and DDW Annual Reports were reviewed and summarized. The data for 2010 and 2015 was selected, in accordance with DWR guidelines, for evaluation. The results are presented in Table 4-1 for 2010 and Table 4-2 for 2015

Table 4-1 2010 Customer Class and Delivery Volumes

2010 Customer Class and Delivery Volume Data												
Participant	Number of Service Connections						Delivery Volumes					
	Single Family	Multi-Residential	Commercial Institutional	Industrial	Landscape	Agricultural	Single Family	Multi-Residential	Commercial Institutional	Industrial	Landscape	Agricultural
Buellton	1235	108	155	21	10	0	972	69	102	24	16	0
Carpinteria	3078	314	246	57	68	398	944.2	409.8	435.4	73.0	90.0	1580.8
Golden State Water Co (1)	11042	0	446	5	44	74	5567.6	209.0	508.8	1.8	477.1	8.3
Goleta	13342	1578	1017	0	207	164	4331	1794	2339	0	1173	2395
Guadalupe	1771	12	102	0	26	0	578.22	5.41	301.63	0	44.91	0
La Cumbre	1435	0	0	0	4	30	1.3	0	0	0	153.6	76.8
Montecito	4204	74	242	0	0	45	3679	115	540	0	0	319
Morehart (2)	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Raytheon (3)	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Santa Barbara	16919	6132	2526	56	736	59	5487.0	2842.5	1974.1	249.2	599.0	0
Santa Maria (4)	18436	787	1894	89	355	0	6605	2231	2505	337	1054	0
Santa Ynez ID1	2373	0	0	0	0	65	2299.49	0	0	0	0	2335.05
Solvang	1591	84	230	20	26	0	762.3	131.9	212.7	39.6	159.4	0.0
Vandenberg (5)	999	0	22	123	0	0	855.4	0	906.0	0	0	0

Note: 1. Golden State Water Company data is comprised of the Orcutt and Tanglewood Public Water Systems
2. The Morehart Land Company is a land developer for the planned community of Naples
3. Raytheon is a industrial/commercial participant
4. Total delivery volume presented in Table for Santa Maria does not include 340 AF of water supplied to "Other" category and 92 AF as wholesaler.
5. Service connection data obtained from Department of Public Health Annual Report

Table 4-2 2015 Customer Class and Delivery Data

2015 Customer Class and Delivery Volume Data															
Participant	Number of Service Connections							Delivery Volumes							
	Single Family	Multi-Residential	Commercial Institutional	Industrial	Landscape	Other	Agricultural	Single Family	Multi-Residential	Commercial Institutional	Industrial	Landscape	Other	Agricultural	Wholesale
Buellton	1216	140	160	21	32	0	0	400.0	90.0	359.0	36.0	81.0	0.0	0.0	0.0
Carpinteria	3217	348	275	58	51	133	406	739.7	413.2	349.3	167.9	49.8	0.0	2,129.7	0.0
Golden State Water Co (1)	10885	118	327	5	53	1	0	4,056.0	195.3	736.6	1.2	141.8	0.6	0.0	0.0
Goleta	13301	1720	1010	0	241	0	162	3,251.2	1,635.5	1,991.3	0.0	1,215.5	1.7	3,159.7	0.0
Guadalupe	1810	11	115	0	27	5	0	450.2	5.5	479.6	0.0	28.9	23.5	0.0	0.0
La Cumbre	1324	63	28	0	37	0	38	1,064.1	0.0	0.0	0.0	0.0	0.0	76.0	0.0
Montecito	4224	64	259	0	0	7	45	2,482.0	66.0	552.0	0.0	0.0	106.0	315.0	0.0
Morehart (2)	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Raytheon (3)	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Santa Barbara	16955	6402	2624	56	764	0	62	4,131.3	2,373.9	1,836.9	194.4	409.1	582.3	157.2	0.0
Santa Maria	18426	854	1840	96	546	246	0	5,113.0	1,811.0	2,144.0	559.0	1,120.0	416.0	0.0	331.0
Santa Ynez ID1	2429	0	0	0	0	4	112	1,665.0	0.0	0.0	0.0	0.0	30.3	2,314.0	28.2
Solvang	1723	69	222	26	85	0	0	554.6	92.8	208.0	35.0	90.9	1.9	0.0	0.0
Vandenberg	999	22	127	12	1	0	0	362.3	0.0	589.3	6.9	185.8	0.0	0.0	0.0
SLOFCWCD															

Note: 1. Golden State Water Company data is comprised of the Orcutt and Tanglewood Public Water Systems
2. The Morehart Land Company is a land developer for the planned community of Naples
3. Raytheon is a industrial/commercial participant

To characterize the CCWA Santa Barbara County project participants' demand for water supply, three aspects were evaluated: distribution of customer class, water deliveries to each customer class and portion of water supply provided by CCWA. The CCWA Santa Barbara County participants were evaluated as a group, as opposed to individual systems. The results of the review are as follows:

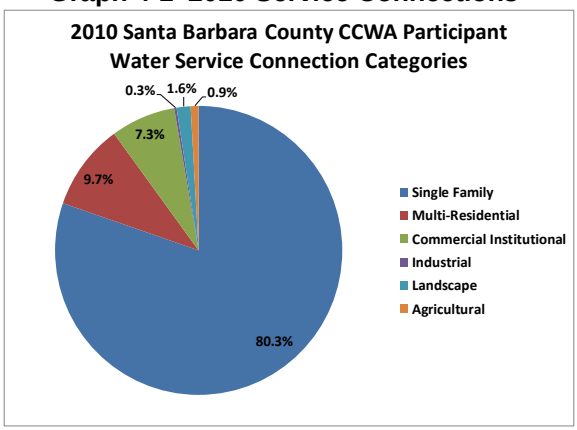
4.1.1 Customer Class

The DWR Form 38 and DDW Annual Water System Report provides six defined customer classes and a seventh category called "other". Each Public Water System provides the number of service connection per customer class and the monthly volume delivered to each customer class.

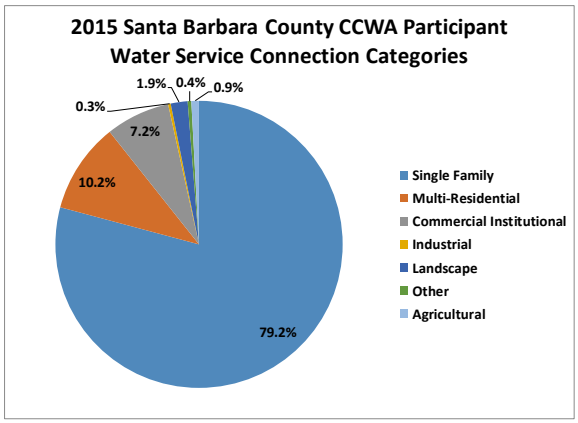
The data compiled from DWR Form 38 and the DDWA Annual Water System Report indicates that the primary customer classes that are serviced by the CCWA Santa Barbara County participants include single-family residential, followed by multi-

residential and commercial/institutional customer classes. These three categories represent well over 95% of the total number of service connections. No significant changes in the distribution of customer classes can be observed when comparing 2010 data to 2015 data. The aggregate customer class distribution for CCWA Santa Barbara County participants is graphically presented in Graph 4-1 for 2010 and Graph 4-2 for 2015

Graph 4-1 2010 Service Connections



Graph 4-2 2015 Service Connections



Although the above graphs suggest that agricultural customer service connections are few, there are project participants that provide up to 50% of their total water supply to agricultural customers. This illustrates the higher demand for water typically required by agricultural service connections as compared to other customer classes. The four CCWA Santa Barbara County participants that deliver significant volumes of water to agricultural customers are as follows:

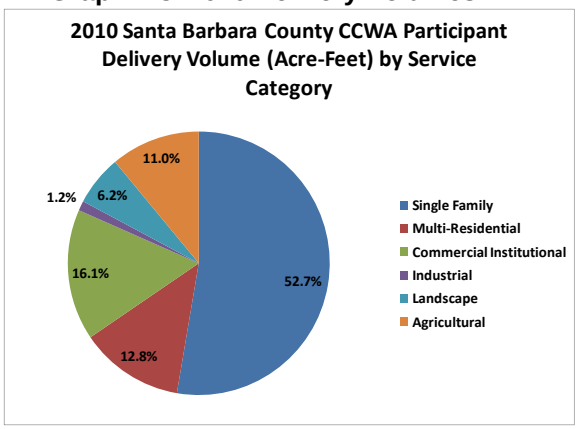
- Santa Ynez River Conservation District Improvement District #1, with approximately 4.4% of its total service connections assigned to the agricultural customer class.
- Goleta Water District, with approximately 1% of its total service connections assigned to the agricultural customer class.
- Carpinteria Water District, with approximately 9.0% of its total service connections assigned to the agricultural customer class.
- La Cumbre Mutual Water Company, with approximately 2.6% of its total service connections assigned to the agricultural customer class.

4.1.2 Total Volume Delivered by Service Connection Category

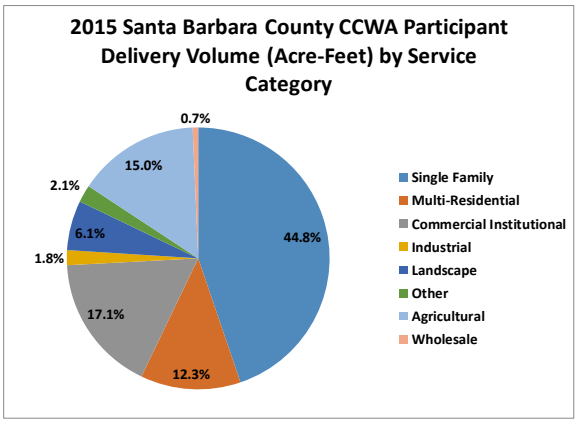
As reported in DWR Form 38 and DDW Annual Water System Report, the CCWA Santa Barbara County project participants delivered approximately 61,353 AF in 2010 and approximately 54,195 AF in 2015 as a group to their respective customers. The aggregate delivery volume for each customer class distribution for CCWA Santa

Barbara County project participants is graphically presented in Graph 4-3 for 2010 and Graph 4-4 for 2015.

Graph 4-3 2010 Delivery Volumes



Graph 4-4 2015 Delivery Volumes



Although the customer classes of single-family residential, multi-family residential and commercial/institutional represented over 95% of the number of service connections, these three classes account for roughly 81% in 2010 and 74% in 2015 of the water delivered by Santa Barbara County project participants to their respective systems. As evidenced in the graphs above, agricultural service connections represent a significant portion of the total water demand for CCWA Santa Barbara County participants. These agricultural service connections required approximately 11% in 2010 and 15% in 2015 of water delivered, even though the number of agricultural service connections is less than 1% of the total number of connections. The participants with the highest percentage of water delivered to the agricultural customer class are as follows:

- Santa Ynez River Conservation District Improvement District #1 delivering approximately 57.3% of its total water supply to agricultural customer class service connections.
- Goleta Water District delivering approximately 28.1% of its total water supply to agricultural customer class service connections.
- Carpinteria Water District delivering approximately 55.3% of its total water supply to agricultural customer class service connections.
- La Cumbre Mutual Water Company delivering approximately 6.7% of its total water supply to agricultural customer class service connections.

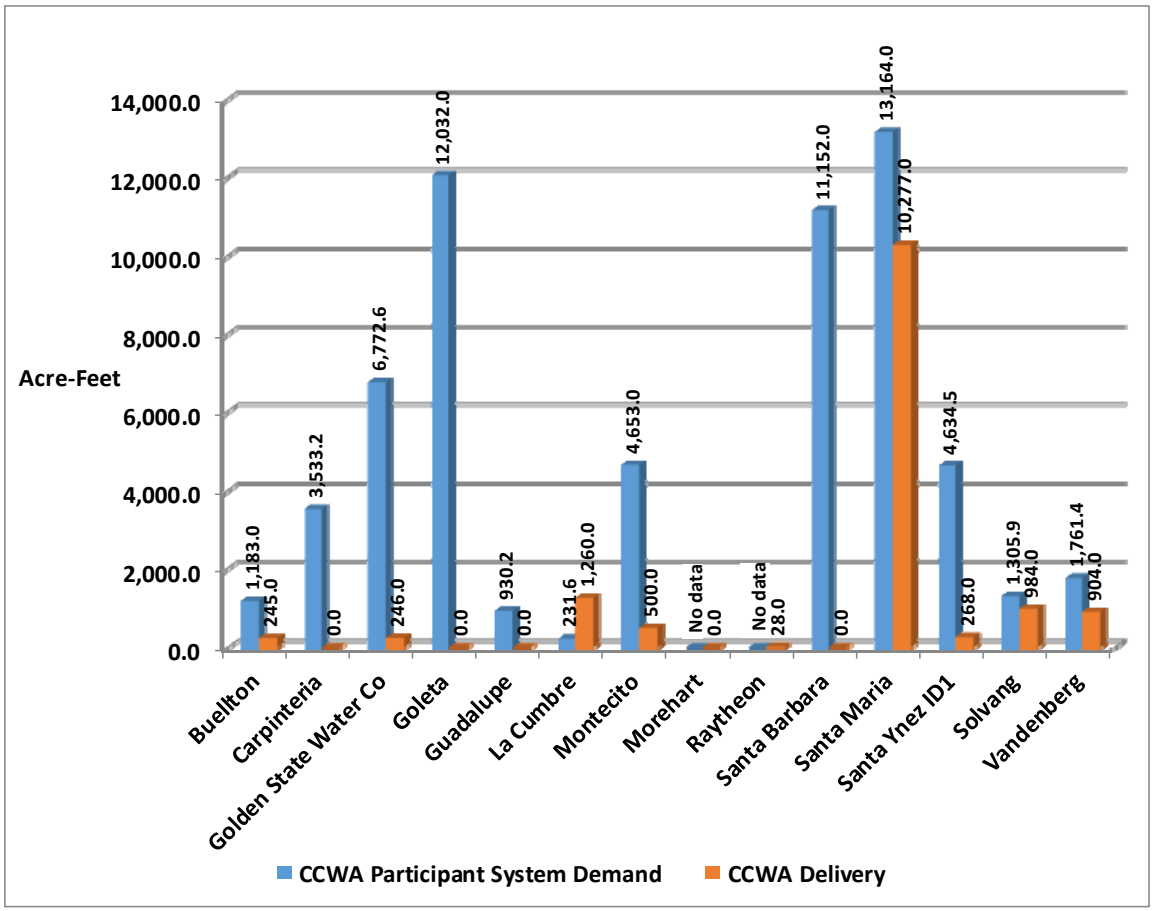
4.1.3 Comparing CCWA Deliveries to Total Reported Supply

The mission of CCWA is to provide high quality, reliable, supplemental water to Santa Barbara and San Luis Obispo Counties. The key word in CCWA's mission statement is "supplemental." All of CCWA's project participants maintain and utilize additional sources of water supply. Each CCWA participant manages its own portfolio of water supplies that best meets its long-term and short-term needs. The water provided by

CCWA is only one source of water supply for CCWA project participants and this source is also interrupted on an annual basis for scheduled maintenance work. Each year, DWR ceases water delivery operations in the Coastal Branch of the SWP for the purposes of conducting maintenance work. These annual outages typically last from two to four weeks per year. CCWA project participants are required to rely upon other sources of water supply during these annual maintenance events.

As indicated earlier, the CCWA Santa Barbara County project participants delivered 61,353 AF of water to their respective customers in 2010. Of this amount, CCWA delivered 14,712 AF of water. To illustrate the portion of water delivered to each participant, the total system demand and CCWA deliveries were plotted and presented in Graph 4-5.

Graph 4-5 2010 Project Participant System Demand and CCWA Deliveries

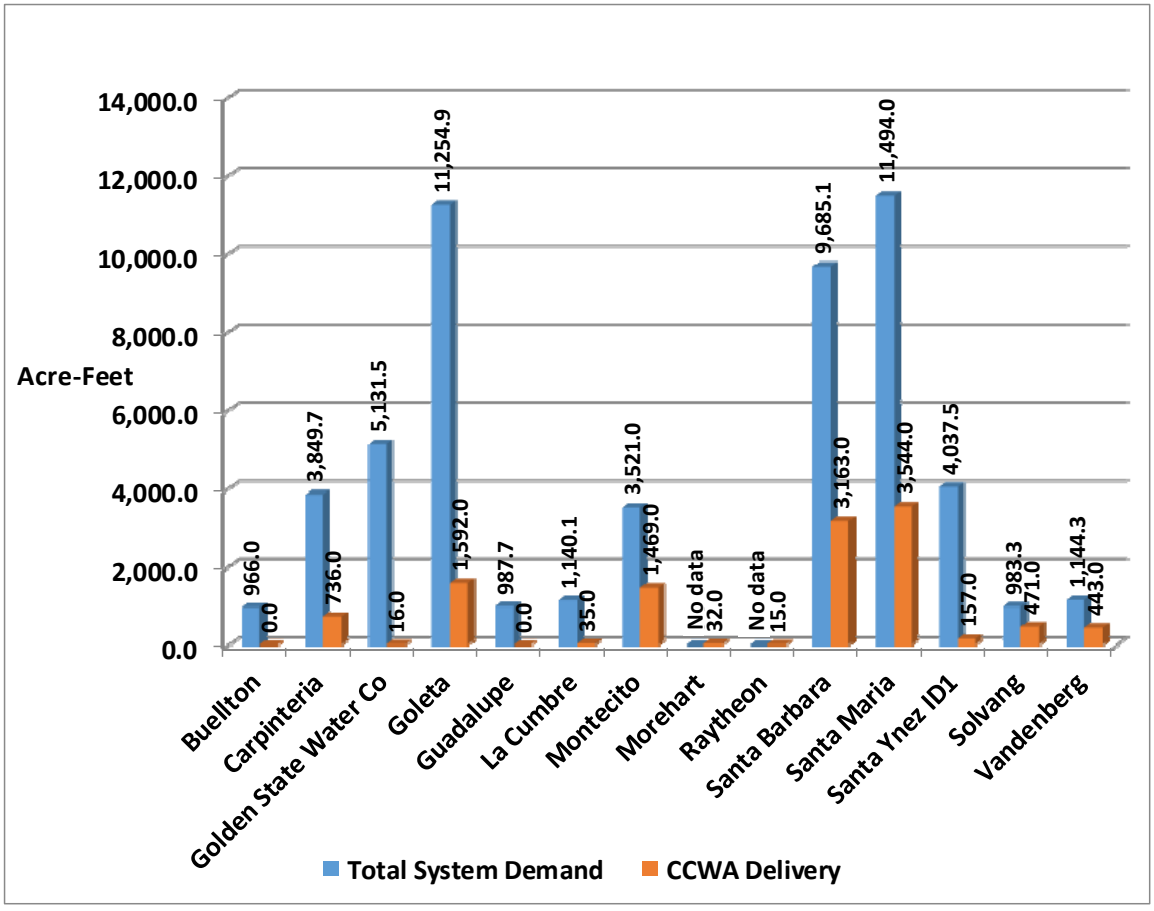


As shown in Graph 4-5, there are four CCWA Santa Barbara County participants that receive a significant portion of their total supply directly from the CCWA system. These participants include La Cumbre Mutual Water Company, Santa Maria, Solvang and Vandenberg. La Cumbre shows a demand of 231.6 AF in 2010, but took delivery of 1,260 AF of SWP water. This anomaly is explained by how SWP water is actually delivered to this agency. For all South Santa Barbara County CCWA project participants, CCWA delivers water to Lake Cachuma. Water is then subsequently

drawn from Lake Cachuma and treated to produce potable water. Since La Cumbre Mutual Water Company receives its treated water supply from the City of Santa Barbara, there is a balancing arrangement between these two agencies where La Cumbre can receive treated water that has not yet been delivered by CCWA to Lake Cachuma. La Cumbre Mutual Water Company will deliver SWP water to Lake Cachuma to re-pay the City of Santa Barbara account.

In 2015, the CCWA Santa Barbara County project participants delivered 54,195 AF of water to their respective customers. CCWA delivered 11,673 AF of this total amount. To illustrate the portion of water delivered to each participant, the total system demand and CCWA physical delivery was plotted and presented in Graph 4-6.

Graph 4-6 2015 Project Participant System Demand and CCWA Deliveries

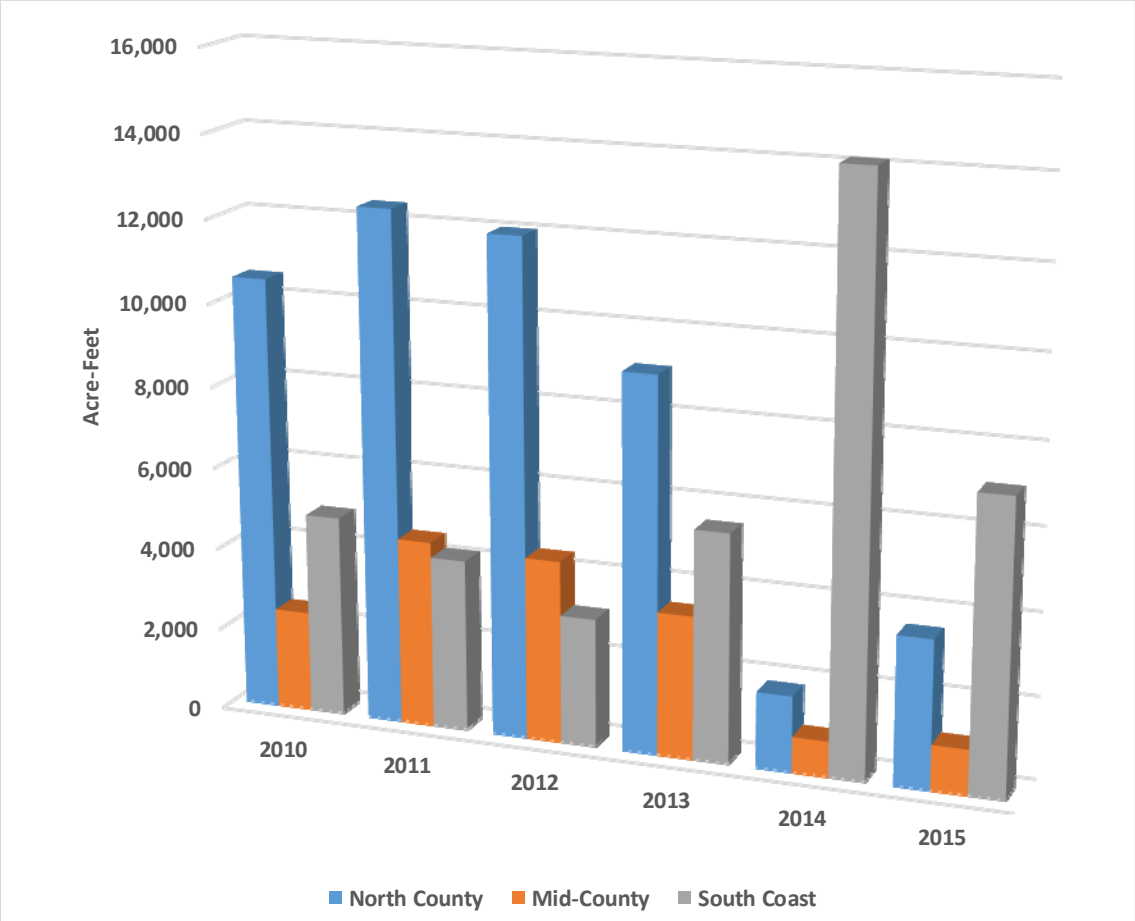


There is an observable shift in delivery pattern between 2010 and 2015. The CCWA participants located in the middle and northern portions of the County utilized more of their local supplies to meet system demand, while the South Coast CCWA participants increased their reliance on CCWA deliveries of SWP water to meet their system demand. This shift in delivery pattern arises from the impact of the current drought. As the recent and ongoing drought progressed, it impacted each of the CCWA participants in different ways, which depended on where they were located within the County.

For the South Coast CCWA participants, the groundwater basins within these agencies' respective service areas are relatively small in size and are more at risk when operated beyond their sustainable yields. Consequently, South Coast agencies are more reliant on local surface water as compared to CCWA participants located north of Lake Cachuma. As the drought progressed, the local surface water supplies were diminished and the South Coast CCWA participants needed to import more supplemental SWP water to compensate and meet their system demands.

In contrast, for CCWA participants located north of Lake Cachuma, the groundwater basins within their respective service areas are relatively large and can generally be operated beyond their sustainable yield on a short term basis without significant risk. Further, the importation of SWP water greatly benefited these north County groundwater basins through allowing the basins to recharge to much higher levels than was possible before importation of SWP water. Consequently, when the drought progressed, the CCWA participants north of Lake Cachuma were able to rely on their local groundwater resources to meet system demand.

Graph 4-7 Shift in CCWA Delivery Pattern



4.1.4 Santa Ynez Exchange Agreement

The Santa Ynez Water Exchange Agreement[20] is an innovative water management strategy that was put into effect during the original construction of the CCWA system. This agreement provided the CCWA participants located in southern portion of Santa Barbara County an opportunity to receive SWP water through existing infrastructure, as opposed to building a new pipeline around Lake Cachuma.

Lake Cachuma is utilized directly for water supply by five water purveyors. These water purveyors have water supply agreements with the Santa Barbara County Water Agency, which in turn has a Master Water Supply Agreement with the USB R.[21] The five purveyors known as the Cachuma Member Units and their project allocations are as follows:

- Carpinteria Valley Water District - 10.94%
- City of Santa Barbara - 32.19%
- Goleta Water District - 36.25%
- Montecito Water District - 10.31%
- SYRWCDID#1 - 10.31%

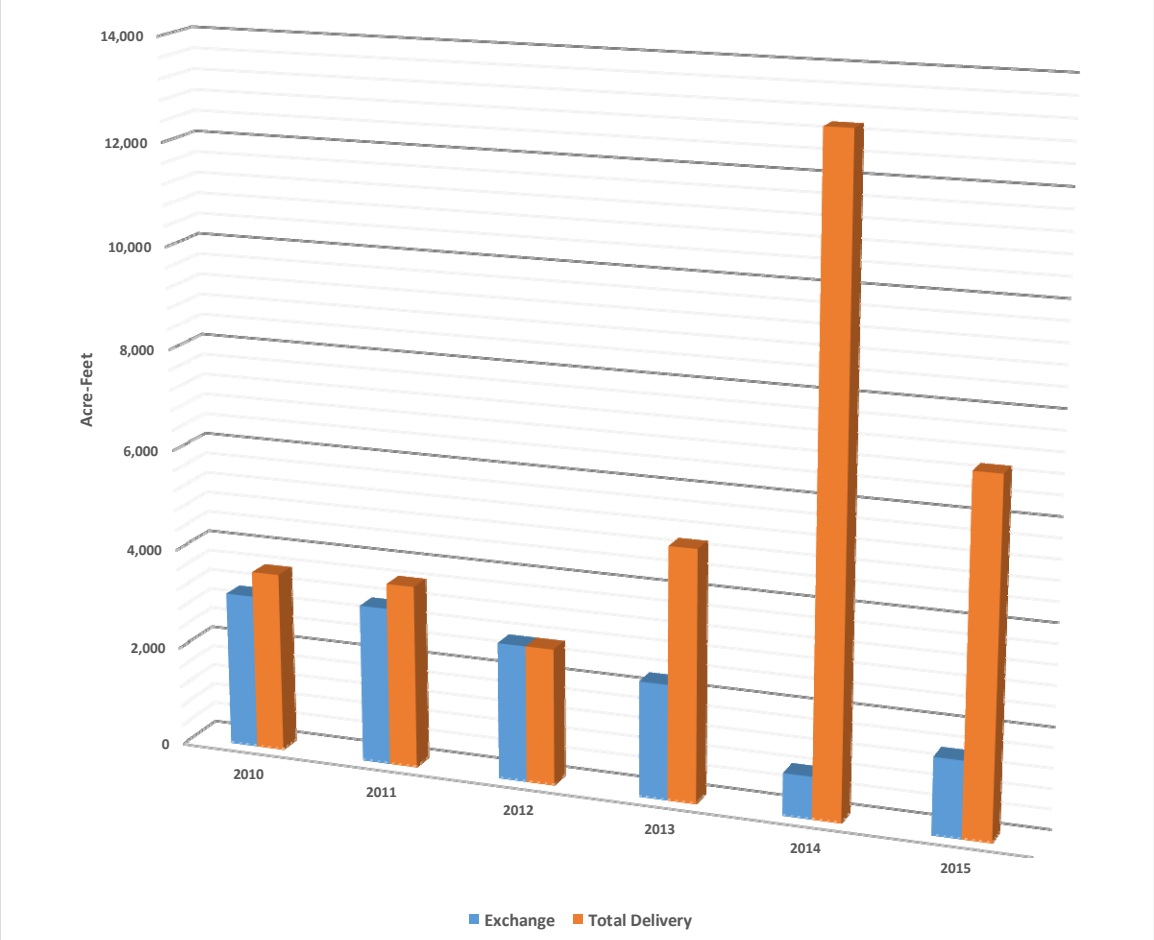
SYRWCDID#1 is located north of Lake Cachuma while all of the other Cachuma Member Units are located south of Lake Cachuma. The exchange agreement takes advantage of this fact and the related infrastructure. The agreement included SYRWCDID#1 selling its 5-mile pipeline from the Santa Ynez Valley to Lake Cachuma to CCWA for use in conveying SWP water to Lake Cachuma. Subsequently, SYRWCDID#1 exchanges its Lake Cachuma water that would have normally been delivered to SYRWCDID#1 to be delivered to the other Cachuma Member Units. In exchange, the South County Cachuma Member Units cause the delivery of a like amount of SWP water to SYRWCDID#1 on a gallon-for-gallon exchange basis.

This exchange has many advantages to both SYRWCDID#1 and the South Coast Cachuma Member Units. SYRWCDID#1 receives SWP water which has a superior quality compared to Lake Cachuma water and local groundwater supplies. While, the South Coast Cachuma Member Units will avoid the cost of pumping water to the Lake. In addition, South Coast Cachuma Member Unit will benefit from the increased conveyance capacity that the exchange can provide. In times of urgent need to deliver high volumes to the lake, the exchange essentially provides conveyance capacity that adds to the conveyance capacity of the Santa Ynez Pumping Plant. However, these advantages can only occur if the parties have water to exchange.

In times of plenty, the South Coast CCWA participants will typically request SWP water deliveries in sufficient quantity to meet their obligations under the Santa Ynez Exchange Agreement. However, when the demand of water rises or the capacity of Lake Cachuma becomes critically low, the South Coast CCWA participants will begin to request deliveries well above the minimum amount to fulfill their obligations under

the Santa Ynez Exchange Agreement. Graph 4-8 demonstrate the shift from a time of plenty (Lake Cachuma spilled in 2011) to a time of urgent need of water supply.

Graph 4-8 Santa Ynez Exchange



4.2 CCWA Water Demand

4.2.1 CCWA Historical Demand

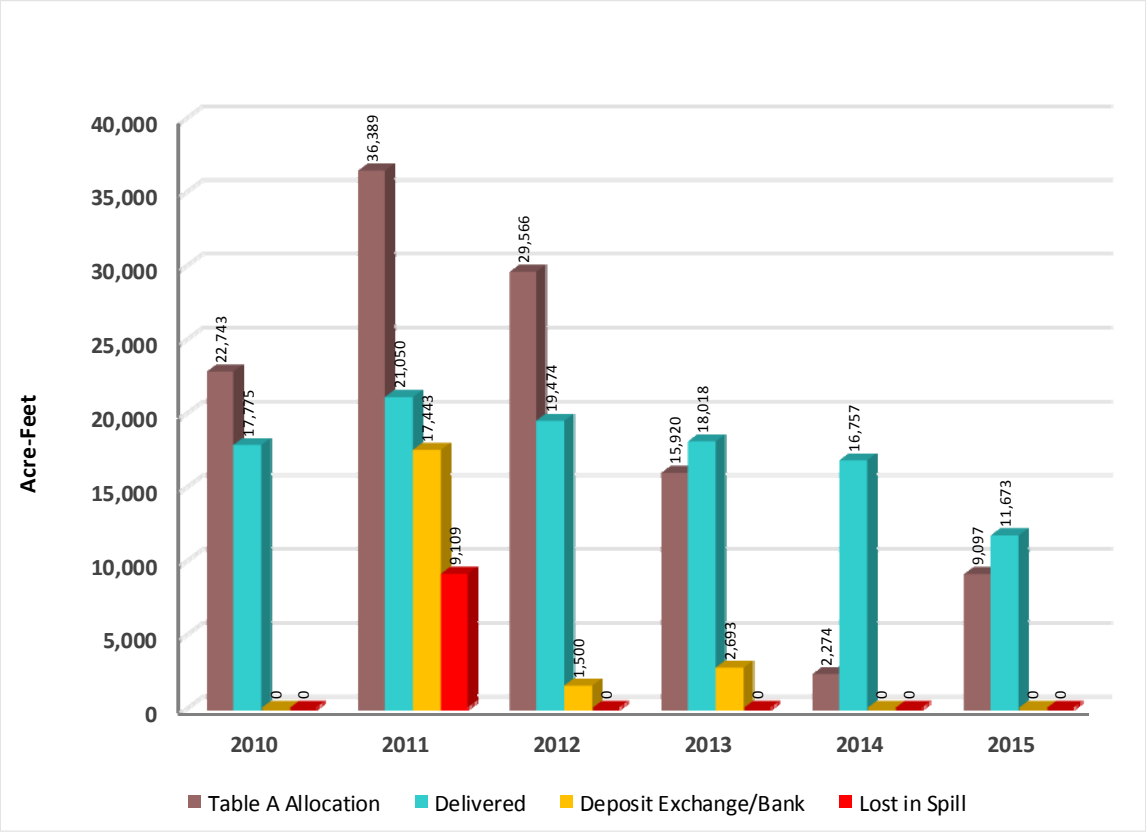
The CCWA project participants have multiple sources of water supply to respond to their own customer's water supply needs. There are a number of factors that determine the demand for water supply from the CCWA system by the CCWA project participants. These factors may include water quality issues, water production rates and availability from other sources, water transfer arrangements and many others. The demand for water from the CCWA system is ultimately a management decision by the CCWA Project Participants.

It is CCWA's responsibility to take measures to maximize the amount of water available to its project participants, up to the Table A amount (See Section 5.2 for

explanation of Table A). Although the annual DWR SWP allocation may vary from year to year, higher water delivery volumes are possible through the use of carry-over water, surplus water, water transfers, exchanges and groundwater banking opportunities. CCWA has always been successful in its ability to deliver larger volumes of water than the DWR allocation alone would provide and continues to meet the annual SWP demand for each of its project participants.

The Graph 4-9 presents the annual SWP Table A allocation, water deliveries to CCWA participants, water lost due to a spill of SWP contractor supplies from San Luis Reservoir in 2011, and water transferred to another SWP contractor or groundwater bank from 2010 to 2015. Based on this data, it is clear that CCWA has the ability to deliver greater volumes of water than the SWP allocation would provide, as observed in 2013, 2014 and 2015. Also, as can be observed in 2011 and 2012, water can be transferred to another SWP contractor or groundwater bank for the purpose of securing and increasing the reliability of water supplies for use in times of drought.

Graph 4-9 2010 through 2015, Delivered Water and Table A Allocation



Note:
1. 2011 Deposit include 14,895 AF to Dudley Ridge Westside Districts Groundwater Bank.
2. 2011 Deposit include 2,548 AF to Palmdale Water District.
3. 2012 Deposit include 1,500 AF Irvine Ranch Water District Groundwater Bank
4. 2013 Deposit include 2,693 water sale to DWR Multi-Year Exchange Program.

One of the key advantages of the CCWA system is that is connects to statewide infrastructure, which provides the ability to move water from almost anywhere in the state. This ability allows for the optimum management of a given year's SWP Table

A allocation. It can be utilized for supply or delivered to another SWP contractor or groundwater bank with the commitment to return the water in the future. In addition, the connection to statewide infrastructure allows CCWA to identify, secure and convey supplemental water from almost anywhere in the state to Santa Barbara County.

4.2.2 CCWA Water Demand Projections

An initial objective of importing water from the SWP into Santa Barbara and San Luis Obispo Counties was to reduce the overdraft of local groundwater basins. The Environmental Impact Report prepared for the Phase II Coastal Branch of the SWP and for the Mission Hills Extension Project[22] indicated that both Santa Barbara and San Luis Obispo Counties had water demands well above the average safe sustainable yield for the area, with deficits of between 60,000 and 61,000 AF per year in 1985. The EIR further stated that importation of State Water was not designed to eliminate the water supply deficit, but to help reduce it.

All CCWA participants have continued to maintain a variety of water supply sources to draw upon. The available sources include groundwater sources, developed local surface water supplies, desalination and recycled water. Therefore, the water imported by CCWA represents only one source of supply to its project participants. Due to the year to year variability of supply in the SWP, CCWA's charge is to make a reliable and consistent water supply available for the benefit of its project participants.

Most SWP water that is not utilized for local water demand in any given year is stored within the SWP system, banked, transferred or exchanged. The State Water Supply Contract includes provisions that allow these water management practices. Additionally, surplus water (also known as Article 21 water – see Section 5.2.1 for further explanation) can be requested by any SWP Contractor for delivery, when it is available. This management practice provides a level of protection against drought since it allows SWP contractors to store water for use in current or subsequent years to augment supply.

To estimate water delivery projections into the future, CCWA relies upon the guidance provided by DWR. As discussed more fully in Section 5.3.2 of this UWMP, DWR conducts a delivery capability study[23] for the SWP operation every two years to provide contractors with information about the SWP's ability to deliver water under current conditions as well as selected future conditions. The studies utilize an 82 year historical record of flows in the Delta and the use of a sophisticated flow model known as CALSIM II. The results of this study were utilized by CCWA to prepare estimated projections of water availability for each CCWA participant, following DWR estimation protocol.

According to the 2015 DWR DCR, the long term reliability of SWP water to Santa Barbara County project participants is 61% of the Table A amount in 2015 and reduces to 59% of the Table A amount in 2025. Following the DWR estimation protocol, the

long term average of available water was calculated every five years starting in 2015 and ending in 2040. The results of this calculation are presented in Table 4-3. Since CCWA's system demand is defined as the water available in any given year, the results presented in Table 4-3 are the projections for future CCWA system demand.

Table 4-3 Long Term Average Delivery Projections

Long Term Average, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	388	386	383	380	377	375
Carpinteria	2,000	200	2,200	1,343	1,334	1,325	1,315	1,306	1,296
Golden State Water Co	500	50	550	336	333	331	329	326	324
Goleta	4,500	2,950	7,450	4,549	4,517	4,485	4,453	4,421	4,389
Guadalupe	550	55	605	369	367	364	362	359	356
La Cumbre	1,000	100	1,100	672	667	662	658	653	648
Montecito	3,000	300	3,300	2,015	2,001	1,987	1,973	1,958	1,944
Morehart	200	20	220	134	133	132	132	131	130
Raytheon	50	5	55	34	33	33	33	33	32
Santa Barbara	3,000	300	3,300	2,015	2,001	1,987	1,973	1,958	1,944
Santa Maria	16,200	1,620	17,820	10,882	10,805	10,729	10,652	10,576	10,499
Santa Ynez ID1	500	200	700	427	424	421	418	415	412
Vandenberg	5,500	550	6,050	3,694	3,668	3,642	3,616	3,590	3,565

Although the CCWA Santa Barbara County participants may not need all of the water available in a given year, by virtue of being connected to a state-wide system, available water can be banked, exchanged or transferred in a variety of ways to further offset the risk of drought exposure in future years. Both short and long term measures are available to obtain additional water supplies beyond the annual allocation. These measures are discussed further in Chapter 5 and 6.

4.3 Distribution System Water Losses

The American Water Works Association developed software designed to guide a water distribution system operator through a water audit. DWR prepared the DWR Method Water Audit, which was based on the AWWA method. California Water Code Section 10631 (J) requires water supplier to quantify distribution water losses using the DWR Water Audit Method.

CCWA maintains a water delivery database, which serves as the basis of the water audit. This database is populated with monthly delivery data that is processed from flow measurements made at the individual Turnout meters and the DWR "sales" meter located at the inlet of the CCWA Water Treatment Plant. The DWR "sales" meter essentially measures water entering the CCWA system and the Turnout meters are measuring the water leaving the CCWA system.

The flow data is processed as follows. At the end of the month, DWR will provide CCWA with the monthly total of water delivered to the CCWA Water Treatment Plant. Since the DWR meter is the official "sale" meter to CCWA, the total deliveries to the Turnouts must

be corrected to match the DWR monthly total. This ensures that each CCWA participant is paying their fair share of the DWR variable costs.

First, the DWR monthly total is compared to the sum of all Turnout monthly totals. If the DWR total and the Turnout totals are within 3%, the individual Participant totals will be reconciled to match the DWR monthly total. This entails an allocation that is based on the amount of water delivered in the month to each participant. This results in either adding or subtracting to the Turnout meter total so that the sum of all Turnout meters will equal the DWR monthly total. If the DWR total and the Turnout totals are greater than 3%, the difference is investigated further.

In 2015, 15,111 AF was billed to CCWA Participants. This value matched the DWR total, but is 355 AF higher than the Turnout meter raw values for 2015. This difference is reported as distribution systems losses. This number includes all meter errors and water losses through the Water Treatment Plant. A completed AWWA-Water Audit Software printout in presented in Appendix F.

CCWA implements a number of other leak detection methods to ensure that leaks are identified in a prompt manner and repaired.

5.0 CCWA SYSTEM SUPPLIES

CCWA's source of water supply is imported water from the SWP. CCWA's Water Supply Agreements with each of its project participants stipulate that imported SWP water will be an interruptible source of supply. In addition, the Environmental Impact Report for the Phase II Coastal Branch indicated that imported SWP water is a supplemental source of water and is intended to reduce ground water overdraft.

5.1 State Water Project (SWP) Description

The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants that extends for more than 600 miles (Figure 5-1). Its main purpose is to divert and store surplus water during wet periods and distribute it to areas in Northern California, the San Francisco Bay area, the San Joaquin Valley, the Central Coast, and Southern California. It is also used for recreation and to control floods, generate power, protect fish and wildlife, and manage water quality in the Delta.

The keystone of the SWP is Lake Oroville, which conserves water from the Feather River watershed. It is the SWP's largest storage facility with a capacity of about 3.5 million acre feet (maf). Releases from Lake Oroville flow down the Feather River into the Sacramento River, which drains the northern portion of California's Central Valley. The Sacramento River flows into the Delta, comprised of 738,000 acres of land interlaced with channels that receive runoff from about 40% of the state's land area. The SWP and the Central Valley Project (CVP) rely on Delta channels as a conduit to move water from the

Sacramento River inflow to the points of diversion in the south Delta. Thus, the Delta is actually part of the SWP conveyance system, making the Delta a key component in SWP deliveries. The significance of the Delta to SWP deliveries is described in more detail below.

From the northern Delta, Barker Slough Pumping Plant diverts water for delivery to Napa and Solano counties through the North Bay Aqueduct. Near Byron in the southern Delta, the SWP diverts water into Clifton Court Forebay for delivery south of the Delta. Banks pumping plant lifts water from Clifton Court Forebay into the California Aqueduct, which channels the water to Bethany Reservoir. The water delivered to Bethany Reservoir from Banks Pumping Plant is either delivered into the South Bay Aqueduct for use in the San Francisco Bay Area or continues down the California Aqueduct to O'Neil Forebay, Gianelli Pumping-Generating Plant, and San Luis Reservoir.

Figure 5-1 State Water Project System

San Luis Reservoir is jointly operated by DWR and USBR and has a storage capacity of more than 2 maf. DWR's share of gross storage in the reservoir is about 1.062 maf. Generally, water is pumped into San Luis Reservoir during late fall through early spring, and is temporarily stored for release back to the California Aqueduct to meet summertime peaking demands for SWP and CVP contractors.

SWP water not stored in San Luis Reservoir and water eventually released from San Luis reservoir continues to flow south through the San Luis Canal, a portion of the California Aqueduct jointly owned by DWR and USBR. As water flows through the San Joaquin Valley, deliveries of CVP water are made through numerous turnouts to farmlands in the service areas of the CVP. Near Kettleman City, the Coastal Branch Aqueduct splits from the California Aqueduct for water delivery to agricultural areas to the west and municipal and industrial water users in San Luis Obispo and Santa Barbara counties.

The remaining water conveyed by the California Aqueduct travels farther in the San Joaquin Valley to agriculture users such as Kern County Water Agency before reaching Edmonston Pumping Plant, which raises the water high enough to travel across the Tehachapi Mountains into Antelope Valley. In Antelope Valley, the Aqueduct divides into the East and West Branches. The East Branch carries water into Silverwood Lake and Lake Perris. Water in the West Branch flows to Quail Lake, Pyramid Lake, and Castaic Lake.

Twenty-nine state water contractors have signed long-term water supply contracts with DWR for 4,173 maf per year. Signed in the 1960s, all contracts are in effect to at least 2035 and are essentially uniform. Each contract contains a schedule of the maximum amount of water the contractor can receive annually. This schedule is contained in SWP Table A. The annual amount was designed to increase each year, with most contractors reaching their maximum amount in 1990. In most cases, SWP water is an important component of local water supplies. Five contractors use SWP water primarily for agricultural purposes and the remaining 24 contractors use SWP water primarily for municipal purposes. All available water is allocated annually in proportion to each contractor's annual SWP Table A amount.

5.2 SWP Water Supply Agreement

The SWP Water Supply Contract[6] between the DWR and 29 SWP Water Contractors (Contractors) specifies the terms and conditions governing the water delivery and cost repayment for the SWP.

"Table A" is a table attached to the SWP Water Supply Contract. Comprehension of the purpose of Table A is important in understanding how the SWP Water Supply Contract is administered. All water-supply related costs of the SWP are paid 100% by the Contractors, and the SWP Table A serves as a basis for allocating many of those costs. In addition, SWP Table A plays a key role in the annual allocation of available supply among Contractors. When the SWP was being planned, the amount of water projected to be available for delivery to the Contractors was 4.173 maf per year. This was referred to as the maximum project yield, and it was recognized that in some years the project would be unable to deliver that amount and in other years project supply could exceed that amount. The SWP Table A amount was used as the basis for apportioning available supply to each Contractor and as a factor in calculating each Contractor's share of the

project's costs. Other contract provisions permit changes to an individual Contractor's SWP Table A under special circumstances.

Every year, DWR conducts modeling studies of the SWP system to determine the allocation, or percentage of the amount of Table A that can be delivered by the SWP system. This allocation is revised throughout the year as hydrologic conditions and other factors change.

5.2.1 SWP Water Supply Classifications

The SWP Water Supply Contract defines several classifications of water available for delivery to Contractors under specific circumstances. All classifications are considered "project" water. Many Contractors make frequent use of these additional water types to increase or decrease the amount available to them under SWP Table A.

- **SWP Table A Water** Each contract's SWP Table A is the amount in AF that is used to determine the portion of available supply to be delivered to that Contractor. SWP Table A water is given first priority for delivery.

- **Carryover Water** Pursuant to the SWP Water Supply Contract, Contractors have the opportunity to carry over a portion of their allocated water approved for delivery in the current year for delivery during the next year. The carryover program was designed to encourage the most effective and beneficial use of water and to avoid obligating the Contractors to use or lose the water by December 31 of each year. The water supply contracts states the criteria for carrying over SWP Table A water from one year to the next. Normally, carryover water is water that has been exported during the year from the delta, has not been delivered to the Contractor during that year, and has remained stored in the SWP share of San Luis Reservoir. Storage for carryover water no longer becomes available to the Contractors if it interferes with storage of SWP water for project needs. Once this occurs, the carryover water is converted to Article 21 water at a defined rate, linked to the production rate of the Banks Pumping Plant.

- **SWP Article 21 Water.** Article 21 of the SWP Water Supply Contract permits delivery of water in excess of the delivery of SWP Table A and some other water types to those Contractors requesting it. It is available under specific conditions.

- **Turnback Pool Water** Contractors may choose to offer their allocated SWP Table A water excess to their needs to other Contractors through two pools in February and March. Contributing Contractors receive a reduction in charges, and taking Contractors pay extra.

5.2.2 SWP Contract Term

The Department of Water Resources (DWR) provides water supply from the State Water Project (SWP) to 29 SWP Contractors (Contractors) in exchange for Contractor payment of all costs associated with providing that supply. DWR and each of the Contractors entered into substantially uniform long-term water supply contracts (Contracts) in the 1960s with initial 75-year terms, which thus would begin to expire in 2035. While the Contracts provide for continued water service to the Contractors beyond the initial term, efforts are currently underway to extend the Contracts to improve financing for the SWP.

The majority of the capital costs associated with the development and maintenance of the SWP is financed using revenue bonds. These bonds have historically been sold with 30-year terms. It has become more challenging in recent years to affordably finance capital expenditures for the SWP because bonds used to finance these expenditures are limited to terms that only extend to the year 2035, less than 30 years from now. To ensure continued affordability of debt service to Contractors, it is necessary to extend the term of the Contracts, which will allow DWR to continue to sell bonds with 30-year terms.

Negotiations on extending the Contracts took place between DWR and the Contractors during 2013 and 2014, and were open to the public. The following terms were agreed to and are currently the subject of analysis under the requirements of the California Environmental Quality Act (CEQA) (Notice of Preparation dated September 12, 2014):

- Extend the term of the 29 Water Supply Contracts to December 31, 2085
- Provide for increased SWP financial operating reserves during the extended term of the Contracts
- Provide additional funding mechanisms and accounts to address SWP needs and purposes.
- Develop a revised payment methodology with a corresponding billing system that better matches the timing of future SWP revenues to future expenditures.

It is anticipated that the term of the SWP Contracts will be extended to December 31, 2085 and the data and information contained in this UWMP reflect that assumption to improve coordination between supply and demand projections beyond the year 2035 as provided in the Urban Water Management Planning Act. (CWC Section 10631(b).)

5.2.3 SWP Conveyance Capacity

The original 1963 SWP Water Supply Contractors for SBCFCWCD, now represented by CCWA, had a Table A amount of 60,000 AF per year. This was reduced to 57,700 AF per year in January 1964 (Amendment #2). In 1981, the Table A amount was reduced again to 45,486 AF per year (Amendment #9). In 1994, the SWP contract

was amended (Amendment 16) to specify the pipeline flow capacity of the Phase II Coastal Branch as being 42,986 AF per year. This conveyance capacity is defined in Tables B1 and B2 of the amended SWP Water Supply Agreement, which stipulated the proportionate share of the capital costs and variable costs for the Phase II Coastal Branch pipeline. The Table A amount was not changed due to the Goleta Valley Water District retaining 2,500 AF in Table A with no associated pipeline capacity for use as drought buffer (42,986 + 2,500 = 45,486). The 42,986 AF per year also includes the 10% drought buffer acquired by CCWA for its project participants during the design phase of the Phase II Coastal Branch.

In the case of SLOCFCWCD, the SWP Water Supply Agreement has a Table A amount of 25,000 AF per year. However, there were no amendments to the agreement that documented flow capacity modification for Phase II Coastal Branch. CCWA and SLOCFCWCD have entered into a Water Treatment Master Agreement and this contract outlines the available capacity for treatment as well as flow capacity, which is 4,830 AF per year.

5.2.4 Drought Buffer

Drought buffer is a term used to identify a source of supply within the SWP system that will provide a higher level of reliability during times of drought and low DWR Table A allocations. There are two forms of drought buffer that are utilized in the Coastal Branch and they are as follows:

- Acquire or maintain a higher Table A amount than pipeline flow capacity. By having a higher Table A amount than the pipeline capacity, the DWR allocation process will not impact pipeline delivery operations until the DWR allocation is reduced to a level where available Table A is equal to pipeline capacity. This is the technique currently in use by the San Luis Obispo Flood Control and Water Conservation District, as they have 25,000 AF per year in Table A amount and a pipeline conveyance capacity of only 4,830 AF per year. The Goleta Valley Water District, one of CCWA's member agencies, has 2,500 AF per year of this category of drought buffer.

- Acquire or maintain higher Table A amount and pipeline capacity. This essentially is increasing both supply and conveyance as a method of providing reliable annual water deliveries.

5.2.5 Dry Year Programs

Dry Year Programs are methods of obtaining water from other sources, such as from other SWP contractors, during times of drought. The main advantage of the SWP system is that it provides the means for water transfers from throughout the State of California. Water from other SWP contractors and other non-project water can be

wheeled through the existing infrastructure, subject to a variety of conditions and approvals. Each Water Supply Agreement between CCWA and its project participants specifically includes the provision that allows the pipeline to be utilized for conveyance for other water sources, if SWP water is unavailable or less than the full Table A amount.

5.3 CCWA Deliveries

To illustrate how SWP deliveries may vary with time, a review of the monthly 2010 and 2015 delivery records was conducted and the results are presented below:

5.3.1 CCWA 2010 and 2015 Deliveries

In 2010, CCWA delivered a total of 17,775 AF of water to Santa Barbara County. This translates to approximately 39.1% of the full Table A amount for CCWA. To put this level of utilization into perspective, DWR's initial Table A Allocation for 2010 was 5% and was increased six times to ultimately reach 50% in late June 2010 (Table 5-1).

Table 5-1 2010 DWR Annual Allocation Adjustments

Date	Notice Number	Allocation
11/30/09	09-09	5%
2/23/10	10-03	15%
3/30/10	10-06	20%
4/22/10	10-07	30%
5/3/10	10-08	40%
5/20/10	10-10	45%
6/22/10	10-11	50%

In contrast to 2010, CCWA participants received 11,673 AF of water in 2015, which translates to 25.7% of Table A. DWR's initial Table A Allocation for 2015 was 10% and was raised two times to reach 20% (Table 5-2).

Table 5-2 2015 DWR Annual Allocation Adjustments

Date	Notice Number[24]	Allocation
12/01/14	14-10	10%
1/15/15	15-01	15%
3/2/15	15-03	20%

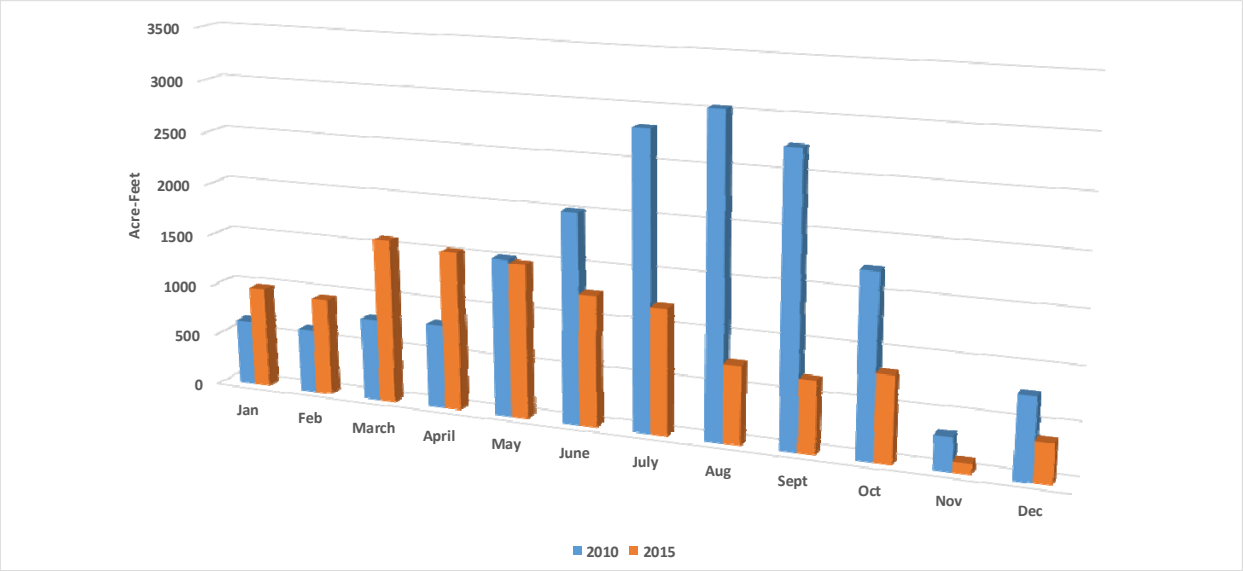
DWR will increase the annual allocation throughout the winter season due, in part, to the amount of precipitation in the Feather River watershed, which provides the source of supply for the Oroville Reservoir. The releases from this reservoir are an important factor in DWR's ability to export water from the Sacramento-San Joaquin Delta.

A measure of the amount of precipitation for the Feather River watershed is the Northern Sierra 8-Station Rain Index[25]. This index indicated that precipitation in rain year 2009/2010 (October 1, 2009 to September 30, 2010) was approximately 108%

of average and in rain year 2014/2015 (October 1 2014 to September 30 2015) was approximately 74.4% of average.

The monthly delivery volumes for each CCWA participant are presented in the Graph 5-1 below. The monthly patterns of delivery for 2010 and 2015 are very different. In 2010, there is a significant peak in deliveries occurring in the summer months. In contrast, the peak deliveries in 2015 occurred in the spring months. The lowest monthly deliveries occur in the month of November. This is primarily due to the annual DWR winter maintenance shutdown, which lasted for 2 weeks in 2010 and 3 weeks in 2015.

Graph 5-1 2010 and 2015 CCWA Monthly Delivery



5.3.2 CCWA Projected Deliveries

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the near and long-term availability of supplies from the SWP. DWR issued its most recent update, the 2015 DWR State Water Project Delivery Capability Report (DCR), in July 2015. In the 2015 update, DWR provides SWP supply estimates for SWP contractors to use in their planning efforts, including for use in their 2015 UWMPs. The 2015 DCR includes DWR's estimates of SWP water supply availability under both current and future conditions.

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key assumptions and inputs to the model include the facilities included in the system, hydrologic inflows to the system, regulatory and operational constraints on system operations, and projected contractor demands for SWP water. For example, the 2015 DCR uses the following assumptions to model current conditions: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922

through 2003), current regulatory and operational constraints, and contractor demands at maximum Table A Amounts.

To evaluate SWP supply availability under future conditions, the 2015 DCR included four model studies. The first of the future-conditions studies, the Early Long Term (ELT) scenario, used all of the same model assumptions for current conditions, but reflected changes expected to occur from climate change, specifically, a 2025 emission level and a 15 cm sea level rise. The other three future-conditions include varying model assumptions related to the Bay Delta Conservation Plan/California Water Fix ("BDCP"), such as changes to facilities and/or regulatory and operational constraints.

In spring 2015, DWR announced that BDCP would move from a Section 10 permit to a Section 7 permit process under the Federal Endangered Species Act. As a practical matter, this split the project into two distinct parts known as Cal WaterFix (Alternative 4A), the conveyance portion, and Cal EcoRestore, the restoration portion. Cal WaterFix is Alternative 4A in the recirculated environmental document, and the preferred alternative. Alternative 4A is different than any of the future scenarios modeled by DWR in the DCR. While there is widespread support for the BDCP/Cal WaterFix project, it would be speculative at this time to assume they will move forward. While there is significant support for BDCP, plans are currently in flux-environmental review is ongoing and is not anticipated to be final until at least 2016, and several regulatory and legal requirements must be met prior to construction.

This UWMP uses the ELT scenario to estimate future SWP supply availability because it is based on existing facilities and regulatory constraints, with hydrology adjusted for the expected effects of climate change. This scenario is consistent with the studies DWR has used in its previous SWP Delivery Reliability Reports for supply availability under future conditions. Therefore, in this UWMP, future SWP supply availability is based on the ELT study included in the 2015 DCR.

CCWA staff utilized the reliability data developed by DWR for Santa Barbara County. Following DWR's estimation protocol, the long term average reliability of the SWP operation was estimated. As indicated in Chapter 4, CCWA's mission is to serve as a source of water supply to its project participants and plans to deliver the amount of water available from the SWP. The project participants will manage this volume of water as their individual systems needs dictate. The long term water deliveries from 2015 to 2040 are presented in 5 year intervals in Table 5-3.

Table 5-3 Long Term Average Water Delivery Estimate

Long Term Average, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2010	2015	2020	2025	2030	2035
Buellton	578	58	636	402	398	394	390	386	382
Carpinteria	2,000	200	2,200	1,389	1,376	1,362	1,348	1,335	1,321
Golden State Water Co	500	50	550	347	344	341	337	334	330
Goleta	4,500	2,950	7,450	4,705	4,659	4,612	4,566	4,520	4,473
Guadalupe	550	55	605	382	378	375	371	367	363
La Cumbre	1,000	100	1,100	695	688	681	674	667	661
Montecito	3,000	300	3,300	2,084	2,064	2,043	2,023	2,002	1,982
Morehart	200	20	220	139	138	136	135	133	132
Raytheon	50	5	55	35	34	34	34	33	33
Santa Barbara	3,000	300	3,300	2,084	2,064	2,043	2,023	2,002	1,982
Santa Maria	16,200	1,620	17,820	11,254	11,143	11,032	10,922	10,811	10,700
Santa Ynez ID1	500	200	700	1,389	1,376	1,362	1,348	1,335	1,321
Vandenberg	5,500	550	6,050	3,821	3,783	3,746	3,708	3,670	3,633

5.4 CCWA Participant Water Sources

CCWA was formed for the sole purpose of designing, constructing and operating the facilities needed to bring SWP water to the agencies that contracted to receive that water. Since the SWP is considered an interruptible supply, CCWA participants have other sources of water supply.[19, 20, 26] The following is a brief summary of the portfolio of water supplies maintained by the CCWA project participants in Santa Barbara County:

5.4.1 City of Buellton

The City of Buellton's service area is approximately 1,025 acres and potable water is provided to residential, commercial and industrial customers. There are no agricultural irrigated lands within city limits. Currently, the City of Buellton relies upon two sources of water for domestic supply and they are as follows:

- **State Water Project:** The City of Buellton has a SWP allotment of 578 AF per year with an additional 57.8 AF per year drought buffer.

- **Groundwater**. The City of Buellton has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Buellton Uplands Groundwater Basin and the Santa Ynez River Riparian Basin.

5.4.2 Carpinteria Valley Water District

The Carpinteria Valley Water District's service area is approximately 11,300 acres. Domestic water service is provided to a population of about 18,500 and approximately 3,883 acres of irrigated crops, ranging from lemons and avocados to various nursery

products. Currently, Carpinteria Valley Water District relies on three sources of supply to meet water demand in its service area and they are as follows:

- **Cachuma Project:** Carpinteria Valley Water District is one of five water purveyors that have a Water Supply Agreement with the Santa Barbara County Water Agency for use of the Lake Cachuma as a source of water supply. The Water Agency, in turn, has the Master Water Supply Contract with the USBR. Carpinteria Valley Water District's Project Water Allocation for the Cachuma Project is 10.94%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 2,813 AF per year for the Carpinteria Valley Water District. However, Carpinteria Valley Water District also receives as much as 400 AF per year from exchanges with other member units.

- **State Water Project:** Carpinteria Valley Water District has an SWP allotment of 2,000 AF per year with an additional 200 AF per year drought buffer.

- **Groundwater**. Carpinteria Valley Water District has three active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Carpinteria Groundwater Basin. This basin has not been adjudicated, but is managed pursuant to an AB 3030 Groundwater Basin Management Plan.

5.4.3 Goleta Water District

The Goleta Water District provides water to approximately 85,000 customers in Goleta and parts of Santa Barbara. The Goleta Water District spans 29,000 acres and extends from the Santa Barbara County South Coast area west to Santa Barbara's city limits at El Capitan. It is bound on the south by the ocean and on the north by the foothills of the Santa Ynez Mountains.

Currently, the Goleta Water District relies on four sources of supply to meet water demand in its service area and they are as follows:

- **Cachuma Project:** Goleta Water District is one of five water purveyors that have a Water Supply Agreement with the Santa Barbara County Water Agency for use of Lake Cachuma as a source of water supply. The Water Agency, in turn, has the Master Water Supply Contract with the USBR. Goleta's Project Water Allocation for the Cachuma Project is 36.25%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 9,321 AF per year for the Goleta Water District.

- **State Water Project:** Goleta Water District has a SWP allotment of 4,500 AF per year with an additional 450 AF per year drought buffer. In addition, Goleta Water District has contract for 2,500 AF of special drought buffer.

- **Groundwater.** Goleta Water District has eight active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Goleta Valley Groundwater Basin. The North-Central portion of this Basin was adjudicated via the "Wright Judgment" (Martha H. Wright et al. v. Goleta Water District et al., 1989, Amended Judgment, Superior Court of Santa Barbara County Case No. SM57969). To proactively manage the Goleta Groundwater Basin, Goleta Water District customers enacted the voter-approved SAFE Water Supplies Ordinance in 1991 (amended 1994) to ensure the Basin is effectively managed. An additional measure implemented by Goleta Water District, in coordination with the La Cumbre Mutual Water Company, includes the preparation of the Goleta Groundwater Basin Groundwater Management Plan. This plan addresses groundwater issues, adopts Basin Management Objectives, and outlines management strategies for the basin.

- **Recycled Water**. Goleta Water District receives tertiary disinfected recycled water from the Goleta Sanitation District for distribution within its service area. Goleta Sanitation District has a permitted capacity to produce tertiary disinfected recycled water at a rate of 3.0 MGD.

5.4.4 La Cumbre Mutual Water Company

The La Cumbre Mutual Water Company was formed in 1925 to serve water to land owners in Hope Ranch and the area between Hollister Avenue and Hope Ranch, totaling approximately 2,000 acres. The La Cumbre Mutual Water Company provides water to its shareholders on a non-profit mutual-benefit basis. Every landowner within the service area is an owner of this company. The ownership is attached to the land and the amount of ownership is proportional to acreage.

Currently, the La Cumbre Mutual Water Company relies on two sources of supply to meet water demand in its service area and they are as follows:

- **State Water Project:** The La Cumbre Mutual Water Company has a SWP allotment of 1,000 AF per year with an additional 100 AF per year drought buffer. SWP water is treated at the PPWTP in northern San Luis Obispo County and is conveyed to the Santa Ynez Valley Pumping Plant where the water is de-chlorinated before it is pump to Lake Cachuma. The water is then subsequently delivered from Lake Cachuma to the Cater Surface Water Treatment Plant, operated by the City of Santa Barbara, for treatment. La Cumbre Mutual Water Company then receives water from the City of Santa Barbara.

- **Groundwater**. The La Cumbre Mutual Water Company has five active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Goleta Valley Groundwater Basin. This basin has not been adjudicated, but is managed pursuant to an AB 3030 Groundwater Basin Management Plan.

5.4.5 Montecito Water District

The Montecito Water District encompasses an area of 9,888 acres, of which approximately 6,883 acres are developed (about 98% as residential and 2% as commercial) and approximately 849 acres are currently used for agriculture. Currently, the Montecito Water District relies on three sources of supply to meet water demand in its service area and they are as follows:

- **Cachuma Project:** Montecito Water District is one of five water purveyors that have a Water Supply Agreement with the Santa Barbara County Water Agency for use of Lake Cachuma as a source of water supply. The Water Agency, in turn, has the Master Water Supply Contract with the USBR. Montecito's Project Water Allocation for the Cachuma Project is 10.31%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 2,651 AF per year for the Montecito Water District.

- **Jameson Lake, Fox and Alder Creeks**: The Montecito Water District receives approximately 20% to 45% of its supply from these sources.

- **State Water Project:** The Montecito Water District has a SWP allotment of 3,000 AF per year with an additional 300 AF per year drought buffer.

- **Groundwater**. The Montecito Water District has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Montecito Basin. This basin has not been adjudicated, but efforts are underway to manage it through an AB 3030 Groundwater Basin Management Plan.

5.4.6 Morehart Land Company

Morehart Land Company is a privately held California corporation owned by the Morehart family. Its primary business is real estate investment and ranching. In 1977, the Morehart Land Company acquired the majority of lots within the Townsite of Naples, which is located along the ocean, 12 miles north of Santa Barbara, California. The Townsite of Naples consists of 415 largely undeveloped lots which have a combined area of approximately 605 acres. Lot sizes range from 5,036 square feet to 3.7 acres. Six blocks have been developed and contain 23 homes, the last two of which were built in the mid-1980s.

The Morehart Land Company has developed water rights, groundwater wells and a water treatment plant and storage facility to serve the townsite and possibly nearby properties. Negotiations are underway with Goleta Water District to obtain a water transfer agreement by which Goleta Water District will transfer the Morehart Land Company's State water allotment through its existing facilities to the Company's

distribution connection. Currently, the Morehart Land Company has 200 AF in SWP water, with an additional 20 AF of drought buffer

5.4.7 City of Santa Barbara

The City of Santa Barbara encompasses 21 square miles and currently provides water to approximately 82,000 municipal and industrial customers. The City of Santa Barbara relies on seven sources of supply to meet water demand in its service area and they are as follows:

- **Gibraltar Reservoir:** This reservoir is owned by the City of Santa Barbara and is located on the Santa Ynez River. The current reservoir capacity is 7,264 AF, with an annual yield of approximately 4,600 AF per year. Water from this reservoir is delivered through the Santa Ynez Mountains to Santa Barbara via Mission Tunnel.

- **Devil's Canyon Creek:** The City of Santa Barbara maintains a small diversion works on Devil's Canyon Creek below Gibraltar Dam which diverts water from Devil's Canyon Creek into Mission Tunnel. The range of annual yield is 24 to 557 AF per year, with an average of 115 AF per year.

- **Cachuma Project:** The City of Santa Barbara is one of five water purveyors that have a Water Supply Agreement with the Santa Barbara County Water Agency for use of Lake Cachuma as a source of water supply. The Water Agency, in turn, has the Master Water Supply Contract with the USBR. Montecito's Project Water Allocation for the Cachuma Project is 32.19%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 8,277 AF per year for the City of Santa Barbara.

- **Mission Tunnel**: This structure is a 3.7 mile tunnel through the Santa Ynez Mountains running from the North Portal, located approximately 1,700 feet downstream of Gibraltar Dam to the South Portal, located on Mission Creek approximately 3 miles north of downtown Santa Barbara. Annual Infiltration for the period 1976 through 2000 ranged from 520 AFY to 2,172 AFY, with an average of 1,348 AFY.

- **Groundwater:** The City of Santa Barbara has seven active groundwater production wells that are permitted by the California DPH. Groundwater is produced from three groundwater basins: Storage Unit 1 (located in the vicinity of downtown), the Foothill Basin (located in the upper State Street area), and Storage Unit 3 (located generally in the Westside area).

- **State Water Project:** The City of Santa Barbara has a SWP allotment of 3,000 AF per year with an additional 300 AF per year drought buffer.

- **Desalination:** The City of Santa Barbara constructed a reverse osmosis seawater desalination facility as an emergency water supply during the drought of 1990. The

facility has since been incorporated into the City of Santa Barbara's long-term supply plan as a way of reducing shortages due to depleted surface supplies during drought. Due to the on-going drought, the City pursued the reactivation of this system. The City currently anticipates the systems to become fully operational by October 2016 with a capacity of 3,125 AF.

5.4.8 Raytheon

The Raytheon Company employs approximately 1,450 people at its primary facility, which is located in Goleta, and approximately 150 people at its branch facility, which is located in Santa Maria. It owns approximately 9.4 acres of land in Goleta and owns or rents 14 buildings with a total of approximately 640,000 square feet of space in Goleta and owns approximately 75 acres of land and one building of approximately 121,000 square feet of space in Santa Maria.

Raytheon has contracted for 50 AF of water from the State Water Project. This water will be used primarily as a supplemental supply for system reliability.

5.4.9 City of Santa Maria

The City of Santa Maria encompasses an area of approximately 14,361 acres (22.44 square miles). The City of Santa Maria lies along the Santa Maria River and within the Santa Maria Valley. The City expects that the undeveloped land within its boundaries will continue to be developed and that the City's estimated population at build out, in the year 2030, will be approximately 115,000 persons. Currently, the City of Santa Maria relies upon two sources of water for domestic supply and they are as follows:

- **State Water Project:** The City of Santa Maria has a SWP allotment of 16,200 AF per year with an additional 1,620 AF per year of drought buffer.

- **Groundwater**. The City of Santa Maria has nine active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Santa Maria Groundwater Basin. This Basin is adjudicated and part of the settlement, the City participates in the management and operation of the Twitchell reservoir, which is operated for the purposes of groundwater recharge within the Santa Maria Basin.

5.4.10 Santa Ynez River Water Conservation District, Improvement District #1.

Located in the central portion of Santa Barbara County, SYRWCDID#1 serves the communities of Santa Ynez, Los Olivos, Ballard and the City of Solvang. It covers about 10,850 acres. Currently, SYRWCDID#1 relies on four sources of supply to meet water demand in its service area and they are as follows:

- **Cachuma Project:** SYRWCDID#1 is one of five water purveyors that have a Water Supply Agreement with the Santa Barbara County Water Agency for use of the Lake Cachuma as a source of water supply. The Water Agency, in turn, has the Master Water Supply Contract with the USBR. SYRWCDID#1's Project Water Allocation for the Cachuma Project is 10.31%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 2,651 AF per year for the SYRWCDID#1. However SYRWCDID#1 has entered into an Exchange Agreement with the other four Cachuma Project Participants where SYRWCDID#1 receives SWP water rather than Cachuma water on a one-for-one basis. For additional details on the Exchange Agreement, see Section 3.1.4.

- **State Water Project:** SYRWCDID#1 has a SWP allotment of 2,000 AF per year with an additional 200 AF per year drought buffer.

- **Groundwater**. SYRWCDID#1 has seventeen active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Santa Ynez Uplands Groundwater Basin and the Santa Ynez River Alluvium.

5.4.11 Golden State Water Company

The Golden State Water Company is regulated by the California Public Utility Commission and is a private investor owned utility company. The Golden State Water Company has grouped five individual water systems within the Santa Maria Valley into one Customer Service Area. The five systems are known as (1) Orcutt, (2) Tanglewood, (3) Lake Marie, (4) Sisquoc and (5) Nipomo. All five systems share common management and the same operations crew. All water rates are based on the Golden State Water Company's investments and pass-through costs for these five water systems as a group.

In terms of supplying SWP water to the Golden State Water Company, there is one turnout on the CCWA system that provides water to the Tanglewood System. Golden State Water Company also obtains access to SWP deliveries for its Orcutt System through wheeling SWP through the City of Santa Maria turnout and accepting water from the City of Santa Maria through one of three system interconnections. The sources of water supply for the Tanglewood and Orcutt System are as follows:

- **State Water Project:** The Golden State Water Company has a SWP allotment of 500 AF per year with an additional 50 AF per year of drought buffer.

- **Groundwater**. The Golden State Water Company has two active groundwater production wells in its Tanglewood System and twelve active production wells in its Orcutt System that are permitted by the California DPH. These groundwater wells draw water from the Santa Maria Groundwater Basin. This Basin is

adjudicated and part of the settlement, the Company participates in the management and operation of the Twitchell reservoir, which is operated for the purposes of groundwater recharge within the Santa Maria Basin.

5.4.12 Vandenberg Air Force Base.

Vandenberg Air Force Base consists of 86,000 acres of open lands in the Lompoc-Guadalupe-Santa Maria triangle. Today, the base is operated by Air Force Space Command's 30th Space Wing. Population is approximately 12,500 and 15,000 people. Currently, Vandenberg Air Force Base relies on two sources of supply to meet water demand in its service area and they are as follows:

- **State Water Project:** Vandenberg Air Force Base has a SWP allotment of 5,500 AF per year with an additional 550 AF per year of drought buffer.

- **Groundwater**. Vandenberg Air Force Base has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Lompoc Groundwater Basin.

5.5 Transfer Opportunities

CCWA can increase water supply reliability by participating in voluntary water transfer programs. Since the California drought of 1987-1992, the concept of water transfers has evolved into a viable supplemental source to improve supply reliability. The initial concept for water transfers was codified into law in 1986 when the California Legislature adopted the "Katz" Law (California Water Code, Sections 1810-1814)[27] and the Costa-Isenberg Water Transfer Law of 1986 (California Water Code, Sections 470, 475, 480-483)[28]. These laws help define parameters for water transfers and set up a variety of approaches through which water or water rights can be transferred among individuals or agencies.

Up to 27 million AF of water are delivered for agricultural use every year. Over half of this water is used in the Central Valley, and much of it is delivered by, or adjacent to, SWP and CVP conveyance facilities. This proximity to existing water conveyance facilities provides a mechanism for the voluntary transfer of water to many urban areas, including CCWA, via the SWP. Such water transfers can involve water sales, conjunctive use and groundwater substitution, and water sharing, and usually occur as a form of spot, option, or core transfers agreements (see descriptions below). The cost of a water transfer varies depending on the type, term, timing and location of the transfer.

One of the most important aspects of any resource planning process is flexibility. A flexible strategy minimizes unnecessary or redundant investments (or stranded costs). The voluntary purchase or exchange of water between willing participants can be an effective means of achieving flexibility. However, not all water transfers or exchanges have the same effectiveness in meeting resource needs.

5.5.1 Categories of Water Transfers

Through the resource planning process and ultimate implementation, several different types of water transfers and exchanges could be undertaken:

- **Permanent Transfers** - Agreements to purchase a defined quantity or Table A amount of water every year. These transfers have the benefit of more certainty in costs and supply, but in some years can be surplus to imported water (available in most years) that is already paid for.

- **Spot Market Transfers -** Water that is purchased only during the time of need (such as during a drought). Payments for these transfers occur only when water is actually requested and delivered, but there is usually greater uncertainty in terms of costs and availability of supply. An additional risk of spot market transfers is that the purchases may be subject to institutional limits or restricted access (e.g., requiring the purchasing agency to institute rationing before it is eligible to participate in the program). A recent example of this kind of transfer is DWR implementing the Drought Water Bank (DWB) in response to a third year of drought. The DWB provided 74,100 AF of water for through Delta transfers for use in the San Joaquin Valley and Southern California. In addition to the water provided by the DWB, another 200,185 AF of water was transferred through the Delta through separate transfer agreements.

- **Option Contracts -** Agreements that specify the amount of water needed and the frequency or probability that the supply will be called upon (an option). Typically, a relatively low up-front option payment is required and, if the option is actually called upon, a subsequent payment would be made for the amount called. These transfers have the best characteristics of both core and spot transfers. With option contracts, the potential for redundant supply is minimized, as are the risks associated with cost and supply availability.

- **Exchanges** – Exchanges occur when participants have different delivery requirements during certain portions of the year or during various year types (wet, normal, dry, etc.). Exchangers offer water to other participants in exchange for water at a later time. Exchanges can take place over single or several years and can be even (one af for one af) or un even (one af during a dry year for two af during a wet year).

5.5.2 Examples of Recent CCWA Water Transfers/Exchanges

CCWA has participated in a number of water transfers and exchanges since the 2005 UWMP. The programs are identified and presented to the CCWA Project Participants

as conditions merit. Examples of the programs implemented since 2010 are as follows:

Exchanges

- **2011 Palmdale Water District Exchange, SWPAO 11006**. CCWA entered into an Exchange Agreement with the Palmdale Water District (PWD) and DWR. The Agreement authorized CCWA to deliver up to 7,000 AF of CCWA's 2010 carryover water to PWD in exchange for PWD's future approved Table A allocation water on a one-for-one basis. Due to the San Luis Reservoir "Spill Event" in 2011, most of CCWA's 2010 carryover water was lost. However, the exchange proceeded with CCWA delivering 2,548 AF of 2011 approved Table A allocation water to O'Neil Forebay for the benefit of PWD. PWD was obligated to return 2,548 AF of its future approved Table A allocation water before December 31, 2021. The agreement further states that when the DWR Table Allocation is more than 50% in any given year, PWD will make their best good faith effort to return water to CCWA, if requested by CCWA. The agreement also states that the delivery and return of water shall follow a delivery schedule approved by DWR and the receiving agency.

- **2011 Westside Districts/Dudley Ridge Exchange, SWPAO 11018 and 11019**. In October 2011, CCWA entered into a formal Water Exchange Agreement with Dudley Ridge Water District, Belridge Water Storage District, Berrenda Mesa Water District, Lost Hills Water District and Wheeler Ridge-Maricopa Water Storage District, collectively known as the Westside Districts. The Agreement was for CCWA to deliver up to 20,000 AF of its 2011 approved Table A allocation water to the Westside Districts in exchange for their future approved Table A allocation water. For every acre-foot of CCWA's 2011 approved Table A allocation water, the Westside Districts would return two-thirds of an acre-foot (3 for 2 exchange), less up to 10% losses.

  In addition, CCWA entered into an Exchange Agreement with the Kern County Count Water Agency and DWR to further delineate the Westside/Dudley Ridge Exchange Agreement, since four of the Westside Districts are member agencies of the KCWA (SWPAO 11018). This Agreement addressed the exchange of up to 17,000 AF of CCWA 2011 approved Table A allocated water. Finally, CCWA entered into an Exchange Agreement with Dudley Ridge and DWR to further delineate the Westside/Dudley Ridge Exchange Agreement with respect to Dudley Ridge Water District (SWPAO 11019). This Agreement addressed the exchange of up to 3,000 AF of CCWA 2011 approved Table A allocated water

  The exchange proceeded with CCWA delivering 14,895 AF of 2011 approved Table A allocation water to KCWA and Dudley Ridge. The Agreement requires KCWA and Dudley Ridge to return the water to CCWA by December 31, 2021 following a delivery schedule approved by DWR and CCWA. However, the Westside/Dudley Ridge Exchange Agreement further states that the Westside

Districts and Dudley Ridge will have sole discretion to determine whether they have the capacity to return the water and will only return water when capacity is available.

- **2011 Irvine Ranch Exchange, SWPAO 11021**. CCWA, on behalf of Carpentaria Valley Water District, entered into an Exchange Agreement with the Metropolitan Water District of Southern California (MWDSC) and DWR. The MWDSC entered into the Agreement on behalf of the Irvine Ranch Water District (IRWD), which a member agency of Municipal Water District of Orange County, which is in turn a member agency of MWDSC. The IRWD owns the Integrated Strand Ranch Water Banking Project (Strand Ranch), which is operated by Rosedale-Rio Bravo Water Storage District, which is a member agency of Kern County Water Agency.

  The Agreement authorized CCWA to deliver up to 1,500 AF of CCWA's approved water supplies to Strand Ranch, through KCWA turnouts, in exchange for future approved Table A allocation water from IRWD on a one-half AF returned for one AF delivered basis, minus 15% losses. CCWA, on behalf of Carpentaria Valley Water District, delivered 1,500 AF of water to Strand Ranch in 2012. IRWD was obligated to return water to CCWA before December 31, 2017, following a delivery schedule approved by DWR, CCWA and KCWA.

- **2014 Mojave Water Agency Exchange, SWPAO 14009**. CCWA entered into an Exchange Agreement with the Mojave Water Agency (MWA) and DWR. The Agreement authorized CCWA to receive 500 AF of MWA's approved Table A allocation water in exchange for CCWA returning 500 AF of its future approved Table A allocation water before December 31, 2019 and payment of $400/AF (1:1 exchange) . The cash payment is to reimburse MWA for its costs associated with the exchange. Further, CCWA will be obligated to return water at a prescribed schedule linked to increasing DWR Table A Allocations. The return schedule must be approved by DWR and MWA.

- **2014 Mojave Water Agency Exchange, SWPAO 14015**. CCWA entered into an Exchange Agreement with the Mojave Water Agency (MWA) and DWR. The Agreement authorized CCWA to receive 500 AF of MWA's approved Table A allocation water in exchange for CCWA returning 1,125 AF of its future approved Table A allocation water before December 31, 2019 and payment of water transportation costs to MWA turnouts. Further, CCWA will be obligated to return water at a prescribed schedule linked to increasing DWR Table A Allocations. The return schedule must also be approved by DWR and MWA.

- **2015 Antelope Valley-East Kern Water Agency Exchange, SWPAO 15005**. CCWA entered into an Exchange Agreement with the Antelope Valley-East Kern Water Agency (AVEK) and DWR. The Agreement authorized CCWA to receive 10,000 AF of AVEK's approved Table A allocation water in exchange for CCWA returning 10,000 AF of its future approved Table A allocation water before December 31, 2025 and payment of $500/AF (1:1 exchange) . The cash payment

is to reimburse AVEK for its costs associated with the exchange. Further, the return schedule must be approved by DWR and MWA.

Transfers

- **2013 DWR Multi-Year Water Pool Demonstration Program, SWPAO**. DWR offered this program to the SWP contractors, which allowed the SWP contractors to offer for transfer and request to receive a transfer from a common pool over a two year period. CCWA participated in this program and did sell a small amount of water.

- **2014 Westlands Water District Transfer, SWPAO 14010**. DWR and the Westland Water District (Westlands) entered into a Transfer Agreement where DWR allowed Westlands to pump groundwater into the San Luis Canal, which is the main aqueduct for the State Water Project passing through the Westlands District, in exchange for 1,500 AF of mitigation water delivered to CCWA as well as delivery of mitigation water to other effected SWP contractors. Westland requested approval to pump in ground water into the San Luis Canal for the purpose of conveying the water to the southern portion of the Westlands District. The purpose of the mitigation water is to offset the effects of the groundwater pump-in operation, which results in increased mineral content of the water in the San Luis Canal.

- **2014 Biggs-West Gridley Water District, SWPAO 14721**. CCWA entered into a Transfer Agreement with DWR and the Biggs-West Gridley Water District. This Agreement required Biggs-West Gridley Water District to enter into contracts with agricultural land owners within the District to idle land that would have otherwise been put into cultivation. This, in turn, resulted in the land owners not extracting the amount of water they are entitled to from the Feather River Basin. A total of 1,114.35 acres were idled which liberated 3,673 AF of surface supply water at a cost of $505/AF. This volume of water was transported through the Delta with a carriage loss of 20%. The final volume delivered to CCWA was 2,942 AF.

- **2015 State Water Project Contractors Dry Year Program, SWPAO 150725**. CCWA, along with six other SWP contractors, entered into a Transfer Agreement with the DWR and the South Sutter Water District. This Agreement required South Sutter Water District to release up to 6,000 AF of water from the Camp Far West Reservoir. The released water would be subject to river losses to yield a maximum of 5,580 AF available for transfer at the Camp Far West Diversion Dam. This volume of water was transported through the Delta and subject to carriage losses.

- **2015 DWR Multi-Year Water Pool Program, SWPAO 15106**. DWR offered this program to the SWP contractors, which allowed the SWP contractors to offer for transfer and request to receive a transfer from a common pool over a two year

period. CCWA participated in this program and did receive a small amount of water.

5.6 Groundwater Banking Opportunities

Conjunctive use is a well-established water management method of using multiple water supply sources to achieve improved supply reliability. Most conjunctive use concepts are based on storing water within groundwater basins during times of water surplus. During dry periods and drought the water could be recovered from the groundwater basins for use as supply at a time when surface water supplies would likely be limited. With recent developments in conjunctive use and groundwater banking, significant opportunities exist to improve water supply reliability for CCWA.

Groundwater banking programs involve storing available surface water supplies during wet years in groundwater basins in either locally or in locations convenient to water transportation facilities. Water is typically stored either directly by surface spreading or injection, or indirectly by supplying surface water to farmers for their use in lieu of their intended groundwater pumping. During water shortages, the stored water could be pumped out and conveyed through the California Aqueduct. There are several conjunctive use and groundwater banking opportunities throughout the State that are available to CCWA.

CCWA has been researching the available groundwater banking programs for its participants. Three programs have been studied and they include the following:

5.6.1 Irvine Ranch Water District – Strand Ranch Groundwater Bank

CCWA has been exploring the potential of utilizing the Irvine Ranch Water District (IRWD) Strand Ranch Groundwater Bank. The Carpinteria Valley Water District (Carpinteria) participated in a pilot project in which they deposited water into the Bank in 2008, 2011 and 2012. Subsequently, Carpinteria made several separate requests to return of a portion of their water and in each case, the water was successfully returned. Due to this successful operation, the CCWA Board of Directors received a presentation from IRWD staff. This groundwater banking operation is under consideration by CCWA for future use.

5.6.2 Antelope Valley East Kern Water District

The Antelope Valley-East Kern Water Agency (AVEK) encompasses 2,300 square miles in the Mojave Desert area of California, northeast of Los Angeles, and includes over twenty municipal users as well as Edwards AFB, Palmdale Air Force (Plant 42) and U. S. Borax.

Because groundwater resources were severely over-drafted in the past, AVEK contracted for a supplemental supply of municipal and industrial water (144,844 acre-feet) from the California State Water Project. Of the 144,844 acre-foot annual entitlement, the municipal and industrial, and agricultural water customers are currently using about 75,000 acre feet per year.

The Antelope Valley-East Kern Water (AVEK) is the third largest State Water Project (SWP) Contractor in the State and, in cooperation with the other water wholesalers and retailers in the Region has analyzed the most suitable locations and methods for water storage. Based on these studies and reports, groundwater basin banking is the most appropriate and efficient storage mechanism. The need for groundwater storage may also increase significantly in the near future as a result of the pending adjudication of the Antelope Valley Groundwater Basin. Consequently, AVEK is actively pursuing a long term groundwater banking relationship with CCWA. To that end, the CCWA Board of Directors received a presentation from AVEK staff. This groundwater banking operation is under consideration by CCWA for future use.

5.7 Desalinated Water Opportunities

Desalination represents a significant potential opportunity to increase the available water supplies in California. In May 2015, the State Water Resources Control Board approved amendment to the State Water Quality Control Plan for Ocean Waters (Ocean Plan) that would address desalination facilities. The intention of the amendment is to establish a uniform statewide approach for protecting the beneficial uses of ocean water from degradation due to seawater intake and discharge of brine waste from desalination facilities. The new amendment contains four primary components intended to control potential adverse impacts to marine life associated with the construction and operation of desalination facilities and they are:

- Clarify the State Water Board's authority over desalination facility intakes and discharges

- Provide direction to the regional water boards regarding the determination required by Water Code section 13142.5, subdivision (b) for the evaluations of the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life at new or expanded desalination facilities.

- A narrative receiving water limitation for salinity applicable to all desalination facilities to ensure that brine discharges to marine waters meet the biological characteristics narrative water quality objective and do not cause adverse effects to aquatic life beneficial uses.

- Monitoring and reporting requirements that include effluent monitoring, as well as monitoring of the water column bottom sediments and benthic community

health to ensure that the effluent plume is not harming aquatic life beyond the brine mixing zone.

The final staff report[29] for the Ocean Plan documented eleven existing and fifteen proposed desalination facilities on the California Coast, as of late 2014. Three of the existing desalination plants were located in San Luis Obispo County (City of Morro Bay, Diablo Nuclear Power Plant and Duke Energy in Morro Bay) and two of the existing plants are located in Santa Barbara County (Chevron near Gaviota and the City of Santa Barbara). There are only two proposed projects located in San Luis Obispo County (Oceano and Cambria). With the exception of the City of Santa Barbara's system, all of the existing and proposed desalination facilities in Santa Barbara and San Luis Obispo Counties were well below 1 MGD. The City of Santa Barbara system was reported at 2.8 to 8.9 MDG.

Figure 5-2 Existing Desalination Facilities

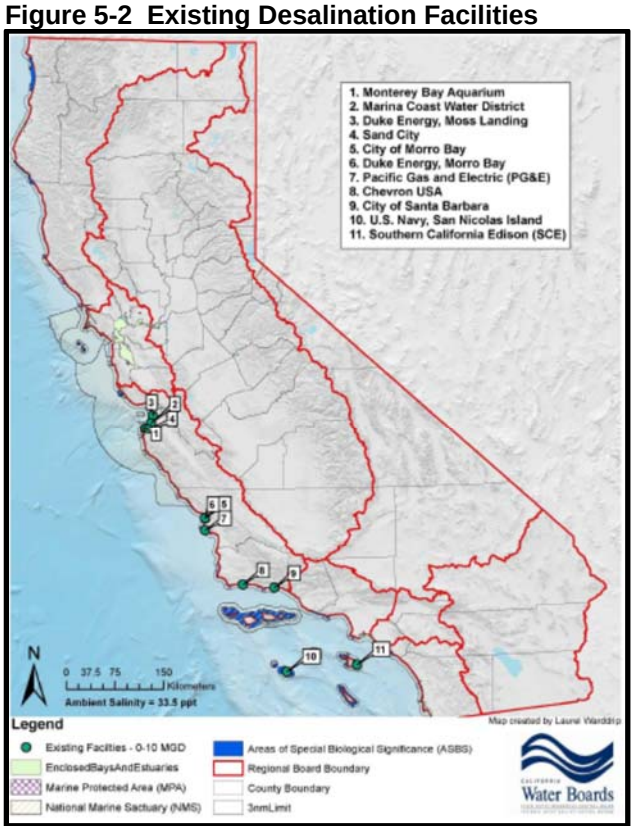


Figure 5-3 Proposed Desalination Facilities

The approved Ocean Plan will be implemented through the National Pollutant Elimination System (NPDES) permits or Waste Discharge Requirements issued by the applicable Regional Water Quality Control Board, in consultation with the State Water Resources Control Board. Specific discharge requirements would apply to all desalination facilities and intake-related requirements would apply to all new or expanded seawater desalination facilities.

Another source of information on seawater desalination facilities in Santa Barbara County includes a report prepared by RMC Consultant entitled “Long Term Supplemental Water Supply Alternatives Report”[30]. This report was prepared for the County of Santa Barbara and was published in December 2015. One of the categories of water supplies investigated included seawater desalination facilities. As part of the report, RMC investigated favorable locations for seawater desalination facilities and focused on wastewater treatment plants with ocean outfalls and other locations that had favorable geologic conditions for subsurface ocean water intakes.

The RMC report identifies nine potential seawater desalination facility locations, with two located in southern San Luis Obispo County, two in middle Santa Barbara County, four on the South Coast and one mobile desalination system. When evaluating the use of desalination facilities for regional use, all will involve the use of the CCWA/DWR pipeline to distribute water throughout Santa Barbara County. This would involve a variety of methods that includes both exchange and direct delivery concepts.

Additional details of the local public desalination studies and facilities are presented below:

5.7.1 City of Santa Barbara Desalination

The City constructed a reverse osmosis seawater desalination facility as an emergency water supply during the drought of 1990. The facility has since been incorporated into the City's long-term supply plan as a way of reducing shortages due to depleted surface supplies during drought. A portion of the reverse osmosis filtration capacity was subsequently sold, leaving a current capacity of 3,125 AF. In 1995, the plant was dedicated as the Charles Meyer Desalination Facility in honor of Commissioner Meyer's long and dedicated service on the City Water Commission.[31] The City is currently in the process of reactivating this facility. Construction and permitting is expected to be completed in the last quarter of 2016.

5.7.2 City of Morro Bay Desalination

The City of Morro Bay's desalination plant is only operating desalination facility in San Luis Obispo County. In the past, the City of Morro Bay has used the salt water reverse osmosis (SWRO) treatment plant to treat water from saltwater wells and to remove nitrates from fresh water wells. However, recently the City of Morro Bay completed the installation of two 450 gallons per minute (gpm) brackish water reverse osmosis (BWRO) treatment trains. The addition of these treatment processes will enable the Morro Bay to treat both fresh water and salt water wells simultaneously, and will also reduce the energy usage of the facility as well. The SWRO trains are designed to produce approximately 645 AFY of potable water from sea water. The BWRO system is capable of treating the entire 581 AF of the City is permitted to extract from the Morro Groundwater Basin.[10]

5.7.3 Northern Cities Desalination Evaluation

The City of Arroyo Grande, the City of Grover Beach, and the Oceano Community Services District, known as the Northern Cities, participated in the evaluation of a desalination project[32] to supplement their existing potable water sources. Currently, all three agencies receive water from various sources, including the California SWP, Lopez Lake Reservoir, and groundwater from the Arroyo Grande Plain Hydrologic Subarea that is part of the Santa Maria Valley Groundwater Basin.

Recent projections of water supply shortfalls in the region motivated the agencies to conduct a more detailed study of desalination as a supplemental water supply. The study focused on utilizing the existing South San Luis Obispo County Sanitation District's (SSLOCSD) wastewater treatment plant to take advantage of utilizing the existing ocean outfall, while having the plant located near seawater. The feasibility study, completed in 2008, was based on a 2,300 AFY seawater desalination facility. Some of the major points of interest and concern of this study include:

- Twenty or more beach wells may be needed to provide enough seawater to produce the required 2,300 AFY potable water.

- Permitting and environmental issues could be complex, and implementation could take eight years or longer.

Initial capital cost was estimated to be in the range of $35 million, and customer rates could be increased by 18 percent to over 100 percent to fund the project, and would cost in the neighborhood of $2,300 per AF or more, on a 20-year life cycle basis.

5.7.4 Nipomo Community Service District Desalination Evaluation

The Nipomo Community Service District (NCSD) conducted a series of studies to identify alternative sources of water supply in 2007.[33] This agency sole source of water supply is from groundwater wells. Due to groundwater levels falling to levels below sea-level, the NCSD moved forward with the evaluation for a 6,300 AFY desalination facility. The conclusion of the study indicated:

- On a net worth basis, a desalination project would cost approximately $79,000,000, not including contingencies or cost escalation. If cost escalation is considered, then the project will cost approximately $98,210,000.

- Additional costs will be required for modification of the distribution system to accommodate the new source of supply.

- The consultant noted the fact that two large desalination projects (Monterey Bay and Dana Point Facilitates) have required significant time, effort and expense, but have not received all of the required permits to operate the full scale systems.

- The consultant noted the proximity of the Northern Cities Desalination Project and indicated that its close proximity could potential hamper permitting efforts for the Nipomo System.

5.7.5 Diablo Canyon Nuclear Power Plant Desalination Facility.

The Diablo Canyon Nuclear Power Plant is operated by Pacific Gas and Electric Company. Due to the Plants needs for ultra-pure water, the power plant is equipped with a seawater desalination facility. The system is not currently operated at its full treatment capacity. The capacity is currently estimated at 500 AFY without modification and 1,300 AFY with some improvements to the treatment facility. In order to receive water produced from this plant, a seven mile pipeline will need to be constructed to connect to the end of the Lopez Lake pipeline in Avila Beach California. This option is currently under consideration by a number of water agencies in San Luis Obispo County[34].

5.8 Recycled Water and Local Groundwater

CCWA was formed for the specific purpose of designing, building and operating the Coastal Branch of the SWP. There are no plans to expand the charter of CCWA to include the management and/or distribution of recycled water or local groundwater.

5.9 Future Water Projects

CCWA project participants as a whole are forward thinking and sophisticated water managers. A wide variety of potential projects are under evaluation, as follows:

5.9.1 SWP Additional Supply Project

An ongoing planning effort to increase long-term supply reliability for both the SWP and CVP is taking place through the Bay Delta Conservation Plan (BDCP) process. The co-equal goals of the BDCP are to improve water supply reliability and restore the Delta ecosystem. The BDCP is being prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies environmental organizations, and other interested parties. Several “isolated conveyance system” alternatives are being considered in the plan that would divert water from the north Delta to the south Delta where water is pumped into the south-of-Delta stretches of the SWP and CVP. The new conveyance facilities would allow for greater flexibility in balancing the needs of the estuary with the reliability of water supplies. The plan would also provide other benefits, such as reducing the risk of long outages from Delta levee failures.

The BDCP has been in development since 2006 and is currently undergoing extensive environmental review. The Draft BDCP and its associated Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS)[35] were released for public review in December 2013. In response to public comments, the BDCP was reevaluated, and in April 2015 the lead agencies announced a modified alternative which effectively split the project into two parts: the conveyance portion (known as Cal WaterFix), and the restoration portion (known as EcoRestore). The Cal WaterFix alternative is evaluated in a partially recirculated draft environmental document (Recirculated Draft EIR/Supplemental Draft EIR) that was released for public review in July 2015. That environmental document is not anticipated to be final until at least 2016.

While there is widespread support for the BDCP/Cal WaterFix project, plans are currently in flux and environmental review is ongoing. Additionally, several regulatory and legal requirements must be met prior to any construction. Because of this uncertainty, any improvements in SWP supply reliability or other benefits that could result from this proposed project are not included in this Plan.

5.9.2 Suspended Table A Reacquisition

SBCFCWCD executed a Water Supply Contract with the DWR to fund the construction of water conservation and conveyance facilities for the SWP in 1963. The State subsequently moved forward with the construction of these facilities, which included Phase I of the Coastal Branch conveyance facilities. The Coastal Branch facilities were designed to handle the 57,700 AF requested by SBFCWCD. Construction of Phase II of the Coastal Branch was not immediately constructed and was delayed indefinitely by SBFCWCD, as allowed by the State Water Supply Contract.

In 1979 a bond measure was placed before Santa Barbara County voters to secure funds to construct Phase II of the Coastal Branch. However, the bond measure was soundly defeated. Consequently, SBFCWCD considered ceasing payments to DWR for the SWP facilities. In response, several water purveyors urged SBFCWCD to retain the SWP entitlements. By the mid-1980's, the water purveyors and SBFCWCD entered into WSRA where the water purveyors agreed to pay for their share of the SWP. Through the WSRAs, 45,486 AF of SWP water were preserved. As a result, the remaining 12,214 AF was suspended by DWR and no additional payments have been made by SBFCWCD since 1982. The 12,214 AF of SWP water supply entitlement is known as "Suspended Table A Water" and the SBFCWCD has the option of reacquiring this entitlement through payment of past costs plus interest. The possible future project is to reacquire the Suspended Table A Water.

Since Phase II of the Coastal Branch was designed to convey 42,985 AF, the reacquisition of the Suspended Table A Water will be a measure to increase the reliability of SWP deliveries to Santa Barbara County. The original contract with DWR states that it will use its best efforts to deliver all or a portion of the contracted amount

to each of the twenty-nine State Water Contractors. Each year DWR determines the percent allocation of the Table A amount that will be delivered based upon a number of variables. The allocation is determined through consideration of both hydrologic and regulatory constraints, as well as reservoir storage, accretions, transportation losses, etc. Through reacquiring the suspended water, CCWA Participant's allocation will be based on a larger contract amount. By having a larger amount, CCWA participants will enhance the reliability of their SWP water supply in two important ways:

- During high allocation years, participants will be able to utilize a number of available water banking opportunities which increases the reliability of supply during low allocation years.

- During low allocation years, participants will be able to receive volumes of water more consistent with their contract amounts. The volume of delivered water will be larger because (1) the allocation percentage will be applied to a larger contract amount and (2) water stored in water banks as a result of higher contract allocation amount during wetter years can also be used to augment imported supplies.

Suspended Table A provides 12,214 AF of additional Table A contract amount. For a long term average reliability of 61% at 2015 conditions, this translates to an average of 7,451 AF of additional supply.

5.9.3 SLOFCWCD and CCWA Long Term Exchange

SLOFCWCD executed a Water Supply Agreement with the DWR in 1963 for a Table A amount of 25,000 AF. This Agreement was to fund the construction of water conservation and conveyance facilities for the SWP. DWR moved forward with the construction of these facilities, which included Phase I of the Coastal Branch conveyance facilities. The Coastal Branch facilities were designed to handle the 25,000 acre-feet requested by SLOFCWCD. Construction of Phase II of the Coastal Branch was not immediately constructed and was delayed indefinitely by SLOFCWCD, as allowed by the SWP Water Supply Agreement.

When the design for the Phase II Coastal Branch was initiated, SLOFCWCD ultimately decided not to fund construction of conveyance facilities for the full 25,000 AF Table A amount. Rather, SLOFCWCD entered into the Master Water Treatment Agreement with CCWA. This agreement specified that the treatment plant and the pipeline would provide SLOFCWCD with 4,830 AFY of treatment and conveyance capacity. This measure provided a very high level of reliability for the SLOFCWCD subcontractors, as the annual DWR allocation would need to fall to less than 19.3% to impact delivery requests to the San Luis Obispo water purveyors.

Currently, there is interest by the San Luis Obispo County water purveyors to secure additional treatment plant and pipeline flow capacity. Since, SLOFCWCD has 25,000 AF of Table A contract amount, they typically have more than 4,820 AF available in any given year. Through working together, both CCWA and SLOFCWD have developed a mutually beneficial exchange concept where SLOFCWCD would exchange their approved Table A allocation water on a 2:1 basis with CCWA. In other words, SLOFCWCD would provide 2 AF of water to CCWA and CCWA would return at a later date 1 AF of treated water to one of the SLOFCWCD Turnouts. This concept is currently being evaluated by CCWA, SLOFCWCD and DWR.

SLOCFCWCD has reserved 4,830 of conveyance and treatment capacity and 4,897 AF of drought buffer reserved for its SWP subcontractors. This leaves 15,273 AF of SLOCFCWCD's 25,000 AF of Table A remaining for potential use in the long term exchange with CCWA. For a long term average reliability of 61% at 2015 conditions and a 2:1 unbalanced exchange, this translates to 4,658 AF of additional supply to CCWA participants.

6.0 WATER SUPPLY RELIABILITY

CCWA is a supplemental source of water supply to its Project Participants. It is also an interruptible supply, as specified in each of the Project Participant's Water Supply Agreements. In fact, DWR ceases water delivery operations on the SWP Coastal Branch on an annual basis for maintenance work. This maintenance shutdown is typically scheduled during the winter months and lasts from two to four weeks. During this time, all CCWA Project Participants are required to utilize their other sources of water supply to meet the water supply demand of their individual systems. It is CCWA's mission to deliver of the SWP water that is available to each project participant and to manage undelivered SWP as each project participant dictates.

The UWMP Act requires urban water suppliers to compare the total projected demand for water supply with the amount of water supply that is available over the next twenty years, in five year increments. As described in Section 4.2, the demand for water from the CCWA system is highly influenced by the management decisions of the retail water purveyors. To respond to end user demands for water supply, the retail purveyor will first select the source of supply to be utilized, and then convey it to where the water is needed. The selection of which source of supply to be used in responding to the end user demand for water involves both short term and long term considerations. Since the CCWA system is only one of the sources that are available to the CCWA Project Participants, it is difficult to predict the proportion of retail system demand that will be met by water supplied by the CCWA system in any given year.

In terms of the amount of water supply that is available over the next twenty years, DWR has provided data and estimation protocols to assist with the assessment. The estimation of available supply in future years is termed "water supply reliability". The reliability estimations that are presented in this chapter are strictly focused on the routine delivery

of Table A water. Water Transfers, Surplus Water (Article 21) and Groundwater Banking are not considered. This chapter presents the reliability assessment for CCWA's source of water supply, based on individual Project Participant Table A Amount and Drought Buffer. It also presents a reliability assessment of a single dry year and multiple year droughts.

6.1 Water Supply Reliability Estimations

Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of water supplies. The various engineered water supply systems throughout the state can only capture what nature provides, in terms of rainfall and run-off patterns. However, there are numerous other factors that influence the availability of water that include regulatory restrictions, operational status of key pumping and storage facilities and many other factors.

As discussed in Section 5.2, each SWP contractor's Water Supply Contract contains a Table A amount that identifies the maximum amount of Table A water that contractor may request each year. However, the amount of SWP water actually allocated to contractors each year is dependent on a number of factors than can vary significantly from year to year. The primary factors affecting SWP supply availability include the availability of water at the source of supply in northern California, the ability to transport that water from the source to the primary SWP diversion point in the southern Delta and the magnitude of total contractor demand for that water. In many years, the availability of SWP supplies to CCWA and the other SWP contractors is less than their maximum Table A Amounts, and can be significantly less in very dry years.

As discussed in Section 5.3.2, DWR's 2015 SWP Delivery Capability Report,[23] prepared biennially, assists SWP contractors and local planners in assessing the reliability of the SWP component of their overall supplies. In its Reliability Report, DWR presents the results of its analysis of the reliability of SWP supplies, based on model studies of SWP operations. In general, DWR model studies show the anticipated amount of SWP supply that would be available for a given SWP water demand, given an assumed set of physical facilities and operating constraints, based on 82 years of historic hydrology. The results are interpreted as the capability of the SWP to meet the assumed SWP demand, over a range of hydrologic conditions, for that assumed set of physical facilities and operating constraints.

DWR's 2015 update of the Delivery Capability Report presents the results of model studies for years 2015 and 2025. In these model studies, DWR assumed existing SWP facilities and operating constraints for both the 2015 and 2025 studies. The primary difference between the two studies is the effect of climate change and accompanying sea level rise.

DWR presents the SWP delivery capability resulting from these studies as a percent of maximum contractor Table A amounts, which is called the reliability factor. A reliability

factor is estimated for each year between 1922 and 2003, given the modeled conditions (i.e. 2015 or 2025 conditions). To estimate the supply capability in intermediate years between 2015 and 2025, DWR instructs contractors to interpolate the data between the results of those two studies.

The following sections provide an estimate of the availability of SWP supply during various hydrologic conditions.

6.1.1 Reliability Factor Estimates

DWR provided contractor specific estimates for the reliability factors for the years between 1922 and 2003, as modeled under 2015 conditions and again as modeled under 2035 conditions.[36] This data was utilized, following DWR guidance, to estimate the long term average, the single driest year, two-year drought, four-year drought and six-year drought reliability factors.

The multi-year drought reliability factors were estimated by analyzing the DWR data through determining the two-year running average, four-year running average and six-year running average for the DWR data set. The lowest running average represented the drought periods of interest (i.e. two, four and six year droughts). For the situation where the lowest running averages were different for 2015 versus 2035 modeled conditions, two separate drought year time frames were analyzed. The reliability factors for the years other than 2015 and 2035 were linearly interpolated. Tables 6-1 represent the results of these calculations:

Table 6-1 CCWA Reliability Factor Estimate – Santa Barbara County (SBCFCWCD)

Year	Long Term Average	Single Dry Year 1977	2-year drought 1991-1992	2-year drought 1990-1991	4-year drought 1931-1934	4-year drought 1988-1991	6-year drought 1987-1992
2015	61%	11%	20%	20%	29%	31%	28%
2020	61%	10%	20%	18%	30%	29%	27%
2025	60%	9%	20%	17%	31%	28%	26%
2030	60%	9%	20%	15%	32%	26%	25%
2035	59%	8%	20%	14%	33%	25%	24%
2040	59%	7%	20%	13%	34%	23%	23%

6.1.2 Long Term Average Condition

As required by DWR guidelines, the long term annual average delivery has been calculated for each CCWA Project Participant in five year increments from 2015 to 2040. All calculations follow the estimation protocol outlined in the DWR Reliability Report. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity allocation for each participant was not exceeded. Table 6-2 presents the results of these calculations:

Table 6-2 Long Term Average Delivery Estimate

Long Term Average, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	388	386	383	380	377	375
Carpinteria	2,000	200	2,200	1,343	1,334	1,325	1,315	1,306	1,296
Golden State Water Co	500	50	550	336	333	331	329	326	324
Goleta	4,500	2,950	7,450	4,549	4,517	4,485	4,453	4,421	4,389
Guadalupe	550	55	605	369	367	364	362	359	356
La Cumbre	1,000	100	1,100	672	667	662	658	653	648
Montecito	3,000	300	3,300	2,015	2,001	1,987	1,973	1,958	1,944
Morehart	200	20	220	134	133	132	132	131	130
Raytheon	50	5	55	34	33	33	33	33	32
Santa Barbara	3,000	300	3,300	2,015	2,001	1,987	1,973	1,958	1,944
Santa Maria	16,200	1,620	17,820	10,882	10,805	10,729	10,652	10,576	10,499
Santa Ynez ID1	500	200	700	427	424	421	418	415	412
Vandenberg	5,500	550	6,050	3,694	3,668	3,642	3,616	3,590	3,565

6.1.3 Single Year Drought

As required by DWR guidelines, the available delivery for the single driest year was calculated for each CCWA Project Participant in five year increments from 2015 to 2040. All calculations follow the estimation protocol outlined in the DWR Reliability Report. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity allocation for each participant was not exceeded. Table 6-3 and 6-4 presents the results of these calculations:

Table 6-3 Single Dry Year Delivery Estimate, Based on Model

Single Driest Year, 1977, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	68	64	59	55	51	47
Carpinteria	2,000	200	2,200	234	220	205	190	176	161
Golden State Water Co	500	50	550	59	55	51	48	44	40
Goleta	4,500	2,950	7,450	794	744	695	645	596	546
Guadalupe	550	55	605	64	60	56	52	48	44
La Cumbre	1,000	100	1,100	117	110	103	95	88	81
Montecito	3,000	300	3,300	352	330	308	286	264	242
Morehart	200	20	220	23	22	21	19	18	16
Raytheon	50	5	55	6	5	5	5	4	4
Santa Barbara	3,000	300	3,300	352	330	308	286	264	242
Santa Maria	16,200	1,620	17,820	1,899	1,780	1,662	1,543	1,424	1,306
Santa Ynez ID1	500	200	700	75	70	65	61	56	51
Vandenberg	5,500	550	6,050	645	604	564	524	484	443

Table 6-4 Single Dry Year, Based on 2014

Single Driest Year, 2014, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	32	32	32	32	32	32
Carpinteria	2,000	200	2,200	110	110	110	110	110	110
Golden State Water Co	500	50	550	28	28	28	28	28	28
Goleta	4,500	2,950	7,450	373	373	373	373	373	373
Guadalupe	550	55	605	30	30	30	30	30	30
La Cumbre	1,000	100	1,100	55	55	55	55	55	55
Montecito	3,000	300	3,300	165	165	165	165	165	165
Morehart	200	20	220	11	11	11	11	11	11
Raytheon	50	5	55	3	3	3	3	3	3
Santa Barbara	3,000	300	3,300	165	165	165	165	165	165
Santa Maria	16,200	1,620	17,820	891	891	891	891	891	891
Santa Ynez ID1	500	200	700	35	35	35	35	35	35
Vandenberg	5,500	550	6,050	303	303	303	303	303	303

The extremely dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in the historical record. Water year 2013 was a year with two hydrologic extreme. October through December 2012 was one of the wettest fall periods on record, but was followed by the driest consecutive 12 months on record. Accordingly, the 2013 State Water Project (SWP) supply allocation was a low 35% of SWP Table A Amounts. The 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was an extremely dry year, with runoff for water year 2014 the fourth driest on record. Due to extraordinarily dry conditions in 2013 and 2014, the 2014 SWP water supply allocation was a historically low 5% of Table A Amounts. The dry hydrologic conditions that led to the low 2014 SWP water supply allocation were extremely unusual, and to date have not been included in the SWP delivery estimates presented in DWR's 2015 Delivery Capability Report. It is anticipated that the hydrologic record used in the DWR model will be extended to include the period through 2014 during the next update of the model, which is expected to be completed prior to issuance of the next update to the biennial SWP Delivery Capability Report. For the reasons stated above, this UWMP also presents a conservative assumption that a 5% allocation of SWP Table A Amounts represents the "worst case" scenario.

6.1.4 Two-Year Drought

The average delivery for a two-year drought period was calculated for each CCWA Project Participant in five year increments from 2015 to 2040. All calculations follow the estimation protocol outlined in the DWR Reliability Report. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity allocation for each participant was not exceeded. Two separate two-year drought periods were evaluated, as outlined in Section 6.1.1. Tables 6-5 and 6-6 present the results of these calculations:

Table 6-5 Two Year Drought Delivery Estimate – 1990 to 1991

Two Year Drought, 1990-1991, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	124	116	107	98	90	81
Carpinteria	2,000	200	2,200	430	400	370	340	311	281
Golden State Water Co	500	50	550	107	100	93	85	78	70
Goleta	4,500	2,950	7,450	1,455	1,354	1,253	1,153	1,052	951
Guadalupe	550	55	605	118	110	102	94	85	77
La Cumbre	1,000	100	1,100	215	200	185	170	155	140
Montecito	3,000	300	3,300	644	600	555	511	466	421
Morehart	200	20	220	43	40	37	34	31	28
Raytheon	50	5	55	11	10	9	9	8	7
Santa Barbara	3,000	300	3,300	644	600	555	511	466	421
Santa Maria	16,200	1,620	17,820	3,480	3,239	2,998	2,757	2,516	2,275
Santa Ynez ID1	500	200	700	137	127	118	108	99	89
Vandenberg	5,500	550	6,050	1,181	1,100	1,018	936	854	772

Table 6-6 Two Year Drought Delivery Estimate – 1991 to 1992

Two Year Drought, 1991-1992, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	124	125	126	126	127	128
Carpinteria	2,000	200	2,200	429	432	435	437	440	443
Golden State Water Co	500	50	550	107	108	109	109	110	111
Goleta	4,500	2,950	7,450	1,454	1,463	1,472	1,481	1,490	1,499
Guadalupe	550	55	605	118	119	120	120	121	122
La Cumbre	1,000	100	1,100	215	216	217	219	220	221
Montecito	3,000	300	3,300	644	648	652	656	660	664
Morehart	200	20	220	43	43	43	44	44	44
Raytheon	50	5	55	11	11	11	11	11	11
Santa Barbara	3,000	300	3,300	644	648	652	656	660	664
Santa Maria	16,200	1,620	17,820	3,478	3,500	3,522	3,543	3,565	3,586
Santa Ynez ID1	500	200	700	137	137	138	139	140	141
Vandenberg	5,500	550	6,050	1,181	1,188	1,196	1,203	1,210	1,218

6.1.5 Four-Year Drought

The average delivery for a four-year drought period was calculated for each CCWA Project Participant in five year increments from 2015 to 2040. All calculations follow the estimation protocol outlined in the DWR Reliability Report. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity allocation for each participant was not exceeded. Two separate four-year drought periods were evaluated, as outlined in Section 6.1.1. Tables 6-7 and 6-8 present the results of these calculations:

Table 6-7 Four Year Drought Delivery Estimate – 1931 to 1934

Four Year Drought, 1931-1934, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	185	191	197	203	210	216
Carpinteria	2,000	200	2,200	639	660	682	703	725	746
Golden State Water Co	500	50	550	160	165	170	176	181	187
Goleta	4,500	2,950	7,450	2,163	2,236	2,309	2,382	2,455	2,527
Guadalupe	550	55	605	176	182	187	193	199	205
La Cumbre	1,000	100	1,100	319	330	341	352	362	373
Montecito	3,000	300	3,300	958	990	1,023	1,055	1,087	1,120
Morehart	200	20	220	64	66	68	70	72	75
Raytheon	50	5	55	16	17	17	18	18	19
Santa Barbara	3,000	300	3,300	958	990	1,023	1,055	1,087	1,120
Santa Maria	16,200	1,620	17,820	5,174	5,348	5,522	5,697	5,871	6,045
Santa Ynez ID1	500	200	700	203	210	217	224	231	237
Vandenberg	5,500	550	6,050	1,756	1,816	1,875	1,934	1,993	2,052

Table 6-8 Four Year Drought Delivery Estimate – 1988 to 1991

Four Year Drought, 1931-1934, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	185	191	197	203	210	216
Carpinteria	2,000	200	2,200	639	660	682	703	725	746
Golden State Water Co	500	50	550	160	165	170	176	181	187
Goleta	4,500	2,950	7,450	2,163	2,236	2,309	2,382	2,455	2,527
Guadalupe	550	55	605	176	182	187	193	199	205
La Cumbre	1,000	100	1,100	319	330	341	352	362	373
Montecito	3,000	300	3,300	958	990	1,023	1,055	1,087	1,120
Morehart	200	20	220	64	66	68	70	72	75
Raytheon	50	5	55	16	17	17	18	18	19
Santa Barbara	3,000	300	3,300	958	990	1,023	1,055	1,087	1,120
Santa Maria	16,200	1,620	17,820	5,174	5,348	5,522	5,697	5,871	6,045
Santa Ynez ID1	500	200	700	203	210	217	224	231	237
Vandenberg	5,500	550	6,050	1,756	1,816	1,875	1,934	1,993	2,052

6.1.6 Six-Year Drought

The average delivery for a six-year drought period was calculated for each CCWA Project Participant in five year increments from 2015 to 2040. All calculations follow the estimation protocol outlined in the DWR Reliability Report. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity allocation for each participant was not exceeded. Tables 6-9 present the results of these calculations:

Table 6-9 Six Year Drought Delivery Estimate – 1929 to 1934

Six Year Drought, 1987-1992, Acre-Feet per Year									
Participant	Table A	Buffer	Total Table A	2015	2020	2025	2030	2035	2040
Buellton	578	58	636	180	173	167	161	154	148
Carpinteria	2,000	200	2,200	621	599	577	555	533	512
Golden State Water Co	500	50	550	155	150	144	139	133	128
Goleta	4,500	2,950	7,450	2,104	2,030	1,955	1,881	1,807	1,732
Guadalupe	550	55	605	171	165	159	153	147	141
La Cumbre	1,000	100	1,100	311	300	289	278	267	256
Montecito	3,000	300	3,300	932	899	866	833	800	767
Morehart	200	20	220	62	60	58	56	53	51
Raytheon	50	5	55	16	15	14	14	13	13
Santa Barbara	3,000	300	3,300	932	899	866	833	800	767
Santa Maria	16,200	1,620	17,820	5,033	4,855	4,677	4,499	4,321	4,143
Santa Ynez ID1	500	200	700	198	191	184	177	170	163
Vandenberg	5,500	550	6,050	1,709	1,648	1,588	1,528	1,467	1,407

6.2 Comparison of Demand and Supply

As discussed previously, the CCWA Project Participants have multiple sources of water supply. The CCWA system is only one of those sources. In responding to the long term and short term needs for water supply, the retail water supplier will determine the best use of each available source of supply. The water demand upon the CCWA system is highly dependent on the management decision by the individual Project Participants, as opposed to arising directly from an end user demand for water supply. Consequently, it is difficult to predict the level of water demand for the CCWA system.

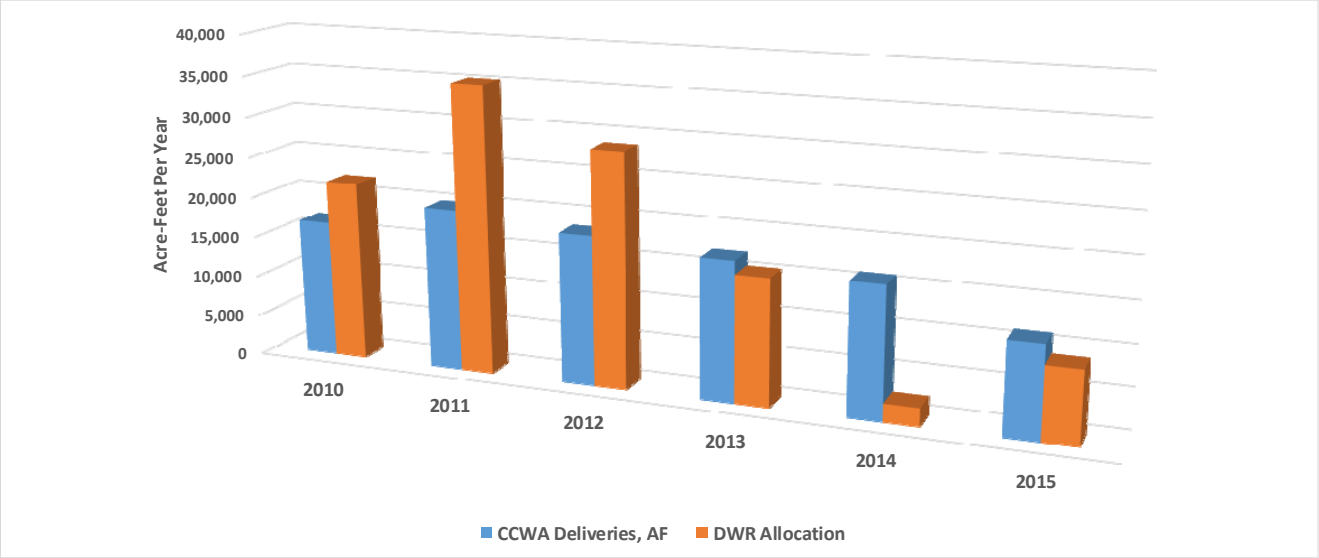
However, the essential question that the comparison of available supply to demand is whether each Project Participant has enough water to meet the demand for water supply for their respective systems. To address this question, a review of the historical water delivery records will provide insight. Table 6-10 and Graph 6-1 presents the actual deliveries, expressed as a percent of the Table A amount, from 2010 through 2015. The associated DWR annual allocations are also presented.

Table 6-10 CCWA Deliveries, as Percent of Table A, Compared to DWR Annual Allocation

CCWA Participants Actual Deliveries, 2010 through 2015 in Percent Table A									
Participant	Table A	Buffer	Total Table A	2010	2011	2012	2013	2014	2015
DWR Allocation				50%	80%	65%	35%	5%	20%
Buellton	578	58	636	38.5%	72.0%	83.0%	25.3%	2.2%	0.0%
Carpinteria	2,000	200	2,200	22.4%	22.8%	19.7%	39.2%	40.5%	33.5%
Golden State Water Co	500	50	550	44.7%	80.9%	56.2%	40.0%	3.6%	2.9%
Goleta	4,500	2,950	7,450	14.8%	15.1%	13.0%	21.8%	63.3%	21.4%
Guadalupe	550	55	605	0.0%	29.1%	68.6%	48.6%	1.8%	0.0%
La Cumbre	1,000	100	1,100	114.5%	42.6%	31.7%	48.2%	100.5%	3.2%
Montecito	3,000	300	3,300	37.4%	37.9%	19.6%	75.5%	107.3%	44.5%
Morehart	200	20	220	0.0%	0.0%	0.0%	0.0%	11.4%	14.5%
Raytheon	50	5	55	50.9%	80.0%	65.5%	0.0%	40.0%	27.3%
Santa Barbara	3,000	300	3,300	22.2%	22.8%	19.6%	0.0%	115.5%	95.8%
Santa Maria	16,200	1,620	17,820	57.7%	66.1%	63.3%	48.0%	10.0%	19.9%
Santa Ynez ID1	500	200	700	38.3%	112.1%	59.4%	37.1%	8.4%	22.4%
Vandenberg	5,500	550	6,050	14.9%	34.2%	38.0%	32.7%	0.0%	7.3%

Note: 1. Green Highlight represents deliveries in excess of DWR allocation

Graph 6-1 Historical Deliveries Compared to DWR Allocation



As can be observed in the historical delivery record, Project Participants in the aggregate had a fairly consistent level of demand from 2010 to 2014. It was only in 2015 that a significant reduction in SWP deliveries occurred.

To meet demand for water during drought years, the CCWA system will be able to facilitate the delivery of additional supplies above the DWR annual allocation amount. This is accomplished through the use of many reliability measures that are available. These measures include drought buffer, carryover water, water transfers among CCWA Project Participants, water transfers with other SWP contractors, water transfers from "non-project" sources, DWR dry year purchase programs, exchanges and potential groundwater banking programs. All of these programs are possible because of the physical connection to a state-wide distribution system.

6.3 Water Quality

CCWA provides water from the State Water Project (SWP) to participants in Santa Barbara and San Luis Obispo Counties. SWP water comes from the Sacramento-San Joaquin Delta (Delta) which is fed by rain and snow from the Sierra Nevada, Cascade, and Coastal mountain ranges. Water from the Delta is pumped into a series of canals and reservoirs and provides water to urban and agricultural consumers throughout the Bay Area and central and southern California. Water flowing through the Delta is of generally high quality; however certain water quality aspects may vary considerably due to conditions in the Delta. Seawater intrusion from the San Francisco Bay creates higher concentrations of chloride and bromide salts. Total organic carbon (TOC) concentrations also increase as the water flows through the Delta due to agricultural drainage from peat soil islands in the Delta. Treated wastewater discharged into the Delta also increases salt concentrations and adds pathogens to the water.

In order to improve the usability of the Delta as a municipal water source, the Municipal Water Quality Investigations (MWQI) Program was created. The MWQI Program accomplishes this, in part, by providing monitoring, forecasting, and reporting of SWP water quality at sites in the Delta. By using data provided by the MWQI Program and its own water monitoring programs, CCWA is able to make adjustments at the treatment plant to produce water to the highest standards attainable. The treatment plant, at Polonio Pass, utilizes conventional treatment to provide a multi-barrier strategy.

The first barrier is advanced coagulation which removes organic and sediment particulates as well as dissolved organic matter. Removing particles improves the anti-microbial action of the disinfectants and the removal of dissolved organic matter removes a microbial food source as well as precursors for disinfection byproducts. The water is then passed through a second barrier of activated carbon filters to remove remaining particulate matter down to micron size. The filters also adsorb additional organic matter. Finally, the water enters the third barrier, a dedicated chlorine contactor. Chlorine kills any remaining microbes that have made it through the treatment process. After a sufficient chlorination contact time, ammonia is added to the water to form chloramines. Chloramines are similar to chlorine and prevent the growth of bacteria in the distribution system, which delivers water from the treatment plant to CCWA's project participants.

The TOC and bromide in Delta water has the potential to form harmful disinfection byproducts (DBP) by reacting with chlorine or chloramines in the treatment process. In order to reduce the potential for the formation of DBPs, TOC levels are reduced prior to the disinfection. The concentration of TOC varies from below 2 mg/L to more than 10 mg/L in water from the Delta. The cost of treatment fluctuates with the amount of chemicals necessary to remove the organic carbon.

Another important property of SWP water is the mineral content. SWP water is generally low in alkalinity and dissolved minerals, such as calcium, magnesium, sodium, potassium, iron, manganese, nitrate, and sulfate. Most of these do not have health based concerns, but "hard" water (water high in calcium, magnesium, and iron) can cause a number of problems for consumers, such as the formation of white crusts in plumbing fixtures, water spots, damage to water heaters, and excess use of soaps. Nitrate is the main exception, as it has significant health effects for infants; however, the nitrate content of SWP water is very low. A low alkalinity levels affects the coagulation treatment process. Alkalinity is necessary to react with aluminum sulfate (alum) used in the treatment process, in order to cause coagulation and flocculation of suspended solids and colloidal particles. The reaction of alum with alkalinity also removes excess alum from the processed water. Without this reaction, some alum may stay dissolved in the water and be released in the processed water. Aluminum has been linked to health related problems. The use of additional chemicals may be used to compensate for low alkalinity leading to higher treatment costs. Also of significance is the chloride content. Although not a human health risk, chloride can have a negative impact on agricultural activities and regulatory compliance for local sanitation agencies.

Water from the Delta is also susceptible to taste and odor (T&O) problems associated with algal growth in the Delta. This is typically a seasonal problem only occurring in the warmer months which when accompanied by other factors, can lead to algal blooms. Some algae, especially blue-green algae, release 2-methylisoborneol (MIB) and geosmin which are T&O chemicals associated with musty and earthy taste and smells. Both of these compounds have very low odor thresholds and can be sensed by some people at concentrations around 10 to 30 parts per trillion. The source of these compounds is not fully understood so CCWA uses a combination of monitoring by the DWR in the Delta and at San Luis Reservoir and monitoring of the water entering the treatment plant to forecast a possible spike in the levels of these two T&O compounds. In the case of an actual T&O event, CCWA is prepared to remove these contaminants using powdered activated carbon in the treatment process.

Each winter the DWR performs maintenance and inspections on the Coastal Branch of the SWP. In order for DWR to obtain access to the canal and pipelines, the Coastal Branch is slowly dewatered. During this time the PPWTP must shut down. As the water flow decreases, concentrations of ammonia in the canal can rise significantly. During the shutdown, ammonia levels may continue to rise in the raw water tanks at the treatment plant. The management of the excess ammonia prior to and following the plant shutdown creates a challenge in the treatment of the water along with extra expenses associated with the use of additional chemicals. This has been remedied to some extent by the removal of sediment buildup in the canal and pumping plant forebays of the Coastal Branch as part of the routine maintenance performed during the winter shutdowns.

CCWA does not believe that water quality will negatively impact its ability to provide a reliable supply of water over the next twenty years, although water quality is certainly a consideration in water supply planning. CCWA's approach has been to monitor water quality both upstream and downstream of the treatment plant and to use that information to treat the water to the highest standards attainable.

6.4 Operational Factors Effecting SWP Deliveries

While Table A identifies the maximum annual amount of Table A water a SWP contractor may request, the amount of SWP water actually available and allocated to SWP contractors each year is dependent on a number of factors and can vary significantly from year to year. The primary factors affecting SWP supply availability include: the availability of water at the source of supply in northern California, the ability to transport that water from the source to the primary SWP diversion point in the southern Delta and the magnitude of total contractor demand for that water.

6.4.1 Availability of SWP Source Water

SWP supplies originate in northern California, primarily from the Feather River watershed. The availability of these supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the

Feather River, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that flows into Lake Oroville. However, Lake Oroville acts to regulate some of that variability, storing high inflows in wetter years that can be used to supplement supplies in dry years with lower inflows.

Climate change adds another layer of uncertainty in estimating the future availability of SWP source water. Current literature suggests that climate change may change precipitation patterns in California from the patterns that occurred historically. While different climate change models show differing effects, potential changes could include more precipitation falling in the form of rain rather than snow and earlier snowmelt, which would result in more runoff occurring in the winter rather than spread out over the winter and spring.

6.4.2 Ability to Convey SWP Source Water

Water released from Lake Oroville flows down natural river channels into the Delta. The Delta is a network of channels and reclaimed islands at the confluence of the Sacramento and San Joaquin rivers. The SWP and the CVP use Delta channels to convey water to the southern Delta for diversion, making the Delta a focal point for water distribution throughout the state.

A number of issues affecting the Delta can impact the ability to divert water supplies from the Delta, including water quality, fishery protection and levee system integrity. Water quality in the Delta can be adversely affected by both SWP and CVP diversions, which primarily affect salinity, as well as by urban discharge and agricultural runoff that flows into the Delta, which can increase concentrations of constituents such as mercury, organic carbon, selenium, pesticides, toxic pollutants and reduce dissolved oxygen. The Delta also provides a unique estuarine habitat for many resident and migratory fish species, some of which are listed as threatened or endangered. The decline in some fish populations is likely the result of a number of factors, including water diversions, habitat destruction, degraded water quality through urban runoff and waste water discharge, and the introduction of non-native species. Delta islands are protected from flooding by an extensive levee system. Levee failure and subsequent island flooding can lead to increased salinity requiring the temporary shut down of SWP pumps.

In order to address some of these issues, SWP and CVP operations in the Delta are limited by a number of regulatory and operational constraints. These constraints are primarily incorporated into the SWRCB's Water Rights Decision [37]1641 (D-1641), which establishes Delta water quality standards and outflow requirements that the SWP and CVP must comply with. In addition, SWP and CVP operations are further constrained by requirements included in BOs for the protection of threatened and

endangered fish species in the Delta, issued by the FWS in December 2008 and the NMFS in June 2009. The requirements in the BOs are based on real-time physical and biological phenomena (such as turbidity, water temperature and location of fish), which results in uncertainty in estimating potential impacts on supply of the additional constraints imposed by the BOs.

6.4.3 Demand for SWP Water

The reliability of SWP supplies is affected by the total amount of water requested and used by SWP contractors, since an increase in total requests increases the competition for limited SWP supplies. As previously mentioned, contractor Table A Amounts in the SWP Water Supply Contracts have ramped up over time, based on projected increases in population and water demand at the time the contracts were signed. Urban SWP contractors' requests for SWP water were low in the early years of the SWP, but have increased steadily over time, although more slowly than the ramp-up in their Table A Amounts, which reached a maximum for most contractors in the early to mid 1990s. Since that time, urban contractors' requests for SWP have continued to increase until recent years when nearly all SWP contractors are requesting their maximum Table A Amounts.

7.0 WATER SHORTAGE CONTINGENCY PLANNING

7.1 Water Shortage Contingency Planning

Both CCWA and DWR are committed to delivering all of the water that is available in a given year. There are many design features in the DWR and CCWA systems that are intended to facilitate continuous supply and delivery operations, with a minimum of interruptions. Some of the features are as follows:

- To prevent service interruption due to power failures, all key facilities have emergency electrical generators to, at least, maintain communication and control of these facilities.

- To prevent malicious acts of vandalism or terrorism, a wide variety of security measures are in place.

- To minimize the impact of earthquakes, there are a range of design features on the pipeline to minimize damage. These features include specialized pipe connections such as the Coastal Branch pipeline crosses the San Andreas Fault and isolation valves at other fault crossing locations/

- To provide early detection of contamination, the pipeline and treatment plant are equipped with a wide variety of water quality instrumentation. All of these water

quality instruments can be monitored through CCWA's Supervisory Control and Data Acquisition (SCADA) System.

A draft Wholesale Water Shortage Contingency Plan Resolution is presented in Appendix C. The water shortage contingencies that are within the scope of CCWA and DWR are described below:

7.1.1 Water Supply Agreement on Shortage in Water Supply

Water supplies may be interrupted or reduced significantly in a number of ways, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, or a toxic spill that affects water quality. As a wholesaler of a supplemental water supply, CCWA's obligation during water supply interruptions or reductions is limited. The Water Supply Agreements signed by each project participant includes the following language to address shortage of water supply: [5]

"*Shortage in Water Supply*

a) Temporary Shortages; Delivery Priorities. In any Year in which there may occur a shortage or interruption due to drought or other temporary cause in the supply of water available for delivery to the Contractor, with the result that such supply is less than the total of the annual Project Allotments of all Project Participants for that Year, the Authority Shall reduce the delivery of water to the Contractor based upon water use in accordance with the State Water Supply Contract.

b) Permanent Shortage Entitlements. In the event that the State is unable to construct sufficient additional conservation facilities to prevent a reduction in the minimum State Water Project yield, or if for any other reason there is a reduction in the minimum State Water Project yield, which, notwithstanding preventive or remedial measures taken or to be taken by the State, threatens a permanent shortage in the supply of State Water Project water to be made available to the Authority under the State Water Supply Contract the Project Allotment of the Contractor shall be reduced in accordance with the State Water Supply Contract.

c) No Liability for Shortages. Neither the Authority nor any of its officers, agents, or employees shall be liable for any damage, direct or indirect, arising from the shortages in the amount of water to be made available for delivery to the Contractor under this Agreement caused by non-availability of water to the Authority under the State Water Supply Contract or caused by drought, operation of area of origin statutes, or any other cause beyond its control.

d) Wheeling During Shortages. In the event that the Contractor's Project Allotment has been temporarily or permanently reduced, the Contractor may direct the Authority to deliver water acquired by the Contractor outside of Santa Barbara County and delivered through the Coastal Aqueduct, up to an amount equal to

such reduction, subject to the Authority's overall delivery ability considering the then current delivery schedule of all Project Participants and subject to water quality requirements reasonably approved by the Authority. For purpose of Section 13 hereof, such water shall be treated as Project Allotment and the Authority shall not charge any fee in connection with the delivery of such water except Fixed O&M Costs and Variable O&M Costs which would be allocable to such Contractor's Project Allotment."

CCWA informs its project participants whenever there is a change in the DWR delivery allotment. Additionally, it makes every attempt to increase reliability in both the short and long term and to locate additional supplies to firm up deliveries.

7.1.2 CCWA Emergency Response Plan

CCWA has prepared an Emergency Response Plan (ERP)[38] which provides detailed instructions for catastrophic interruption of its water supply including chemical spill, SCADA or other communications failure, accidental contamination of water supply, contamination of water supply threat, earthquake, fire, intrusion alarm at CCWA facilities, power failure, vandalism or other damage to CCWA facilities, water supply failure and water treatment failure.

The ERP includes job classification-specific instructions for all the above situations, notification lists, facility specific information, chain of command/emergency operations center information, emergency contractor and supplier information and a complete set of forms to assist in emergency tracking. CCWA also maintains an inventory of essential equipment such as emergency generators, portable chlorination and de-chlorination equipment, lighting, etc. as well as long lead time supplies such as pipe sections in various diameters, valves and other critical items.

The ERP is updated annually. Additionally, staff receives training and performs emergency response exercises on a frequent basis.

7.1.3 DWR Emergency Response Plan/Business Resumption Plan

DWR performs numerous water resources planning and management activities throughout California and is responsible for protecting life and property from emergencies caused by catastrophic events such as flood, drought, and dam or levee failure. An extensive and complex emergency planning and management system has been developed by DWR. The system starts at the statewide level and includes individual State agencies and departments in response actions to ensure that appropriate actions are taken in a timely manner.

DWR documents its general procedures in its ERP[39]. The ERP is the DWR master plan that incorporates the emergency plans of department units and describes the

emergency management organization and responsibilities for protecting lives and property. The ERP is mandated by government code and is also required by the State Emergency Plan (SEP). The SEP requires each agency to submit an ERP to Office of Emergency Services (OES) and explain what it will do to provide resources and how critical business will be resumed. The ERP also describes critical functions of DWR, including the management of essential resources, coordination of emergency response and preparedness, and communication within DWR and with OES. Along with the Business Resumption Plan (BRP), which is discussed below, the ERP is the main document forming the overarching structure for the Emergency Action Plans of the local DWR Field Divisions. Specifically, the ERP:

- Establishes and maintains guidelines for division and district/field offices for responding to emergencies (that is, preparation and execution of the Field Division's Emergency Action Plans);

- Outlines how DWR will respond to and manage flood and dam emergencies, incidents on the SWP, acts of terrorism and war, and provide the necessary support to other State agencies during catastrophic events, especially OES;

- Identifies the organization and functions that DWR staff may be assigned to during an emergency using the State Emergency Management System (SEMS) concept;

- Outlines the responsibilities of key DWR staff;

- Integrates essential emergency organizations;

- Incorporates the coordination with other federal, State, and local authorities and, at a minimum, is revised annually.

The BRP contains the overall structure and process for addressing business recovery and resumption, including specific plans for critical functions, remote facilities, and major departmental organizations. Considering that the State would be greatly affected if the DWR were unable to recover and resume business functions following a disaster or during an emergency, the BRP establishes a process that DWR will follow to recover after a catastrophic event.

7.1.4 Theoretical Three Year Minimum Supply for 2015 to 2017

As required by DWR guidelines, the minimum delivery for a three year period was calculated for each CCWA project participant and applied to the years 2015 to 2017. All calculations follow the estimation protocol outlined in the DWR Capability Report. The conditions of a three year drought were utilized to estimate the minimum three year supply. The Table A amount and drought buffer amount for each CCWA Project Participant was utilized in the delivery estimate, provided that the conveyance capacity

allocation for each participant was not exceeded. Table 7-1 presents the reliability factors and Table 7-2 presents the results of the delivery calculations:

Table 7-1 Three Year Minimum Reliability Factors, Assumes 3 Year Drought

3-Year Minimum Supply Reliability Factor, 3 Yr Drought			
Agency	**2015**	**2016**	**2017**
CCWA Participants	**21.0%**	**20.8%**	**20.7%**

Table 7-2 Three Year Minimum Delivery Estimate

Three Year Drought, Acre-Feet per Year						
Participant	**Table A**	**Buffer**	**Total Table A**	**2015**	**2016**	**2017**
Buellton	578	58	636	134	128	122
Carpinteria	2,000	200	2,200	463	443	423
Golden State Water Co	500	50	550	116	111	106
Goleta	4,500	2,950	7,450	1,566	1,499	1,431
Guadalupe	550	55	605	127	122	116
La Cumbre	1,000	100	1,100	231	221	211
Montecito	3,000	300	3,300	694	664	634
Morehart	200	20	220	46	44	42
Raytheon	50	5	55	12	11	11
Santa Barbara	3,000	300	3,300	694	664	634
Santa Maria	16,200	1,620	17,820	3,746	3,585	3,424
Santa Ynez ID1	500	200	700	147	141	134
Vandenberg	5,500	550	6,050	1,272	1,217	1,162

7.2 Actions to Prepare for Catastrophic Interruption

The Phase II Coastal Branch pipeline traverses the San Andreas Fault, in addition, the California Aqueduct passes within 20 miles of the San Andreas Fault as well. The California Division of Mines and Geology has stated that two of the aqueduct systems that import water to southern California (including the California Aqueduct) could be ruptured by displacement on the San Andreas Fault. The situation would be further complicated by physical damage to pumping equipment and local loss of electrical power.

DWR has an Aqueduct Outage Plan for restoring the California Aqueduct to service should a major break occur, which it estimates would take approximately four months to repair. This would interrupt the SWP source of supply to the CCWA project participants for the four month repair period. Since the CCWA system is a supplemental and interruptible supply, the CCWA project participants maintain other sources of water supply that could be utilized during this potential extended outage. However, CCWA staff would work and cooperate with DWR in facilitating a speedy resumption of service.

7.2.1 SWP Emergency Outage Scenarios

In addition to earthquakes, the SWP could experience other emergency outage scenarios. Past examples include slippage of aqueduct side panels into the California Aqueduct near Patterson in the mid-1990s, the Arroyo Pasajero flood event in 1995 (which also destroyed part of Interstate 5 near Los Banos) and various subsidence repairs needed along the East Branch of the Aqueduct since the 1980s. All these outages were short-term in nature (on the order of weeks), and DWR's Operations and Maintenance Division worked diligently to devise methods to keep the Aqueduct in operation while repairs were made. Thus, the SWP contractors experienced no interruption in deliveries.

One of the SWP's important design engineering features is the ability to isolate parts of the system. The Aqueduct is divided into "pools." Thus, if one pool or portion of the California Aqueduct is damaged in some way, other portions of the system can still remain in operation. The principal SWP facilities are shown on Figure 5-1.

There are other events that could result in significant outages and potential interruptions of service. Examples of possible nature-caused events include a levee breach in the Delta near the Harvey O. Banks Pumping Plant or a flood or earthquake event that severely damages the Aqueduct along its San Joaquin Valley traverse. Such events could impact some or all SWP contractors south of the Delta.

The response of DWR, CCWA and other SWP contractors to such events would be highly dependent on the type and location of any such events. In typical SWP operations, water flowing through the Delta is diverted at the SWP's main pumping facility, located in the southern Delta, and is pumped into the California Aqueduct. During the relatively heavier runoff period in the winter and early spring, Delta diversions generally exceed SWP contractor demands and the excess is stored in San Luis Reservoir. During the summer and fall, when diversions from the Delta are generally more limited and less than contractor demands, releases from San Luis Reservoir are used to make up the difference in deliveries to contractors. The SWP share of maximum storage capacity at San Luis Reservoir is 1,062,000 AF.

CCWA receives its SWP deliveries through the Coastal Branch Phase II of the SWP. The only other contractors receiving deliveries from the Coastal Branch Phase II is SLOCFCWCD. The Coastal Branch Phase I and II have a total of five pumping stations to deliver water to the PPWTP. The available raw water storage at PPWTP is 24.1 million gallons.

Three scenarios that could impact the delivery to CCWA of its SWP supply are described below:

<u>Scenario 1: Levee Breach Near Banks Pumping Plant</u>

The California Department of Water Resources (DWR) has estimated that in the event of a major earthquake in or near the Delta, regular water supply deliveries from the

SWP could be interrupted for up to three years, posing a substantial risk to the California business economy. Accordingly, a post-event strategy has been developed which would provide necessary water supply protections. The plan has been coordinated through DWR, the Army Corps of Engineers (Corps), Bureau of Reclamation, California Office of Emergency Services (Cal OES), the Metropolitan Water District of Southern California, and the State Water Contractors. Full implementation of the plan would enable resumption of at least partial deliveries from the SWP in less than six months.

- **DWR Delta Flood Emergency Management Plan.** DWR has developed the Delta Flood Emergency Management Plan to provide strategies for a response to Delta levee failures, which addresses a range of failures up to and including earthquake-induced multiple island failures during dry conditions when the volume of flooded islands and salt water intrusion are large. Under such severe conditions, the plan includes a strategy to establish an emergency freshwater pathway from the central Delta along Middle River and Victoria Canal to the export pumps in the south Delta. The plan includes the pre-positioning of emergency construction materials at existing and new stockpiles and warehouse sites in the Delta, and development of tactical modeling tools (DWR Emergency Response Tool) to predict levee repair logistics, water quality conditions, and timelines of levee repair and suitable water quality to restore exports. The Delta Flood Emergency Management Plan has been extensively coordinated with state, federal and local emergency response agencies. DWR, in conjunction with local agencies, the Corps and Cal OES, regularly conduct simulated and field exercises to test and revise the plan under real time conditions.

  DWR and the Corps provide vital Delta region response to flood and earthquake emergencies, complementary to an overall Cal OES structure. Cal OES is preparing its Northern California Catastrophic Flood Response Plan that incorporates the DWR Delta Flood Emergency Management Plan. These agencies utilize a unified command structure and response and recovery framework. DWR and the Corps, through a Draft Delta Emergency Operations Integration Plan (April 2015), would integrate personnel and resources during emergency operations.

- **Levee Improvements and Prioritization.** The DWR Delta Levees Subvention Program has prioritized, funded, and implemented levee improvements along the emergency freshwater pathway and other water supply corridors in the central and south Delta region. These efforts have been complementary to the DWR Delta Flood Emergency Management Plan, which along with use of pre-positioned emergency flood fight materials in the Delta, relies on pathway and other levees providing reasonable seismic performance to facilitate restoration of the freshwater pathway after a severe earthquake. Together, these two DWR programs have been successful in implementing a coordinated strategy of emergency preparedness for the benefit of SWP and CVP export systems.

Significant improvements to the central and south Delta levee systems along Old and Middle Rivers began in 2010 and are continuing to the present time at Holland Island, Bacon Island, Upper and Lower Jones Tracts, Palm Tract and Orwood Tract. This complements substantially improved levees at Mandeville and McDonald Islands and portions of Victoria and Union Islands. Together, levee improvements along the pathway and Old River levees consisting of crest raising, crest widening, landside slope fill and toe berms, meet the needs of local reclamation districts and substantially improve seismic stability to reduce levee slumping and create a more robust flood-fighting platform. Many urban water supply agencies have participated or are currently participating in levee improvement projects along the Old and Middle River corridors.

Scenario 2: Complete Disruption of the California Aqueduct in the San Joaquin Valley

The 1995 flood event at Arroyo Pasajero demonstrated vulnerabilities of the California Aqueduct (the portion that traverses the San Joaquin Valley from San Luis Reservoir to Edmonston Pumping Plant). Should a similar flood event or an earthquake damage this portion of the aqueduct, deliveries from San Luis Reservoir could be interrupted for a period of time. DWR has informed the SWP contractors that a four-month outage could be expected in such an event.

Arroyo Pasajero is located downstream of San Luis Reservoir and upstream of the Coastal Branch aqueduct. Assuming an outage at a location near Arroyo Pasajero that takes the California Aqueduct out of service for four months, supplies from San Luis Reservoir would not be available to those SWP contractors located downstream of that point.

In 2014, Kern County Water agency proposed a project to reverse flow from their groundwater banking facilities to the Coastal Branch to provide water the Berrenda Mesa Water District (Kern County Water Agency Member). This project was technically possible and would be implemented by operating three pools as one. The three combined pools would extend from the Coastal Branch spur to Check 25. At Check 25, Kern and DWR would operate a pumping systems to move water from the lower pool into the higher pool. The lower level pool would be supplied by groundwater sources.

Scenario 3: Complete Loss of Electrical Power on the Coastal Branch

The Phase I and II Coastal Branch have a total of five pumping station to lift water from the San Joaquin Valley to the Polonio Pass of the Diablo/Coastal Mountain Range. These five pumping plants lift the water over 1,700 feet. Due to the size of the pumps in use at each pumping plant, operation by a standby emergency generator is not practical. Since these pumping Plants are part of critical infrastructure, the restoration of power is expected to be within a 24 to 48 hour period.

Once water has been delivered to the PPWTP, it can be treated and conveyed to the CCWA project participants, even during a regional power outage. The Treatment Plant is equipped with an emergency electrical generator sized for all plant processes. All water passing through the treatment train of the plant flows by gravity flow, with no need for pumping. Standby emergency generators are also available at all key conveyance facilities to provide continuous monitoring and control functions.

7.2.2 Assessment of Worst Case Scenario

Since the CCWA system receives all of its water supply through the SWP system, any interruption between the San Luis Reservoirs and the Coastal Branch will represent significant potential for interrupting water supply delivery operations. Scenario #2, the complete disruption of the California Aqueduct between San Luis Reservoir and the Coastal Branch, would represent the worst case scenario because it separates the Coastal Branch from both the Delta and San Luis Reservoir. As discussed above, DWR has estimated that the time to repair a complete disruption of the aqueduct would be four months. Although the Levee failures in the Delta would impact SWP export for up to six months, CCWA typically has carryover water in San Luis Reservoir, which would reduce, but not eliminate, the impact.

During an outage arising from scenario #2, CCWA project participants would be required to utilize their other sources of water supply. As part of CCWA efforts in increase drought reliability, groundwater banking opportunities are currently being explored. The location of the groundwater banks and the ability to convey water to the Coastal Branch during Scenario #1 or #2 will be major considerations in selecting CCWA's future groundwater banking partner. The two groundwater banking operations described in Section 5.6 both have facilities located south of the Coastal Branch spur. Should supplies to the north become unavailable, water from the groundwater banks can be conveyed to the Coastal branch, as discussed in Section 7.2.1, Scenario #2.

7.3 Drought Planning

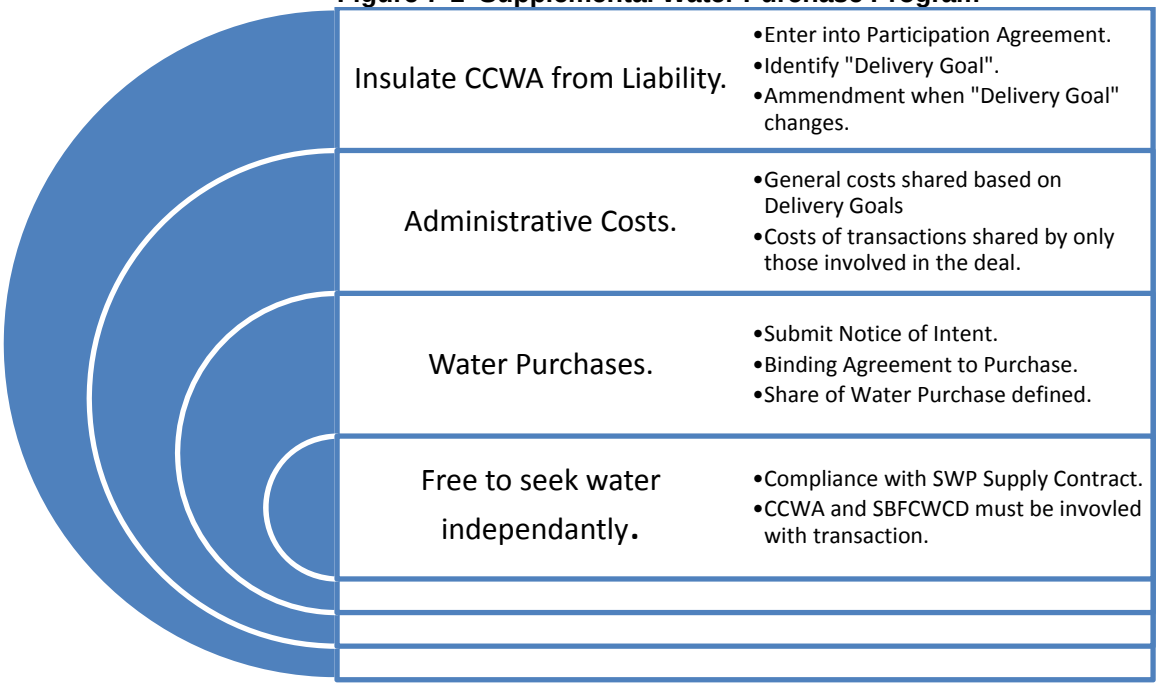
CCWA is a joint powers agency that was formed by its member agencies for the sole purpose of building and operating the Coastal Branch of the SWP to provide supplemental imported water. CCWA defers the creation of water shortage action plans to its member retail agencies that have the ability to rely on other water sources, participate in demand management measures and institute voluntary and mandatory conservation. These shortage contingency plans are contained in their individual agency UWMPs and Master Water Plans. CCWA has no ability to reduce water consumption during a water shortage event. In fact, during a water shortage event, CCWA is called upon by its member agencies to increase and maximize deliveries if possible.

CCWA's charge is to assure that the delivery of the SWP to retail agencies is as reliable as possible each and every year. To that end, CCWA will respond to the need of its participants when additional sources of water, beyond that provided by the annual DWR Table A allocation process (see Section 5.2 for explanation). During one of the driest periods on record (late 2013 and 2014), the CCWA Board of Directors established two important goals for CCWA staff to pursue: (1) establish a program to identify and secure supplemental water during times of drought and (2) investigate the options for a groundwater banking partnership for storing excess water, when it is available.

7.3.1 Supplemental Water Purchase Program

The CCWA Supplemental Water Purchase Program (SWPP) was first implemented in 2014, which was the year with the lowest annual Table A allocation in the history of the SWP. Considering that each CCWA participant had their own unique set of water supply needs, it was necessary to develop a specific program to assist only those agencies that required supplemental source of water supplies. The purpose of this separation was to isolate the participants not involved with purchasing supplemental water from the costs and liabilities associated with such transactions.

Figure 7-1 Supplemental Water Purchase Program



As illustrated in Figure 7-1, the SWPP was formed through a contract among the CCWA participants joining the program. The program was established to facilitate a group effort to secure supplemental water, while not prohibiting individual CCWA participants from making their own independent efforts.

The SWPP Participation Agreement included provisions where those signing the agreement would agree to indemnify CCWA and its member agencies from the costs and liabilities associated with the program. The Agreement also outlined how general administrative costs and specific transaction costs would be allocated to the membership of the SWPP.

First, to join the SWPP, a CCWA participant would need to identify a delivery goal and this goal would be documented in the Participant Agreement. If a SWPP member wanted to change their delivery goal at a later date due to changing circumstances, they would need to change it by an amendment to the Agreement. All general administrative costs for the program would be proportionally shared based on Delivery Goals.

When a specific supplemental water transaction is identified, SWPP members will opt in or opt out. Those that opt in on the transaction will need to submit a Notice of Intent. The costs for the transaction would be shared only by those SWPP members involved with the transaction and would be proportionally paid based on the volumes presented in the Notice of Intent. Finally, once the specifics of the transaction became finalized, each participating SWPP member would need to enter a Binding Agreement to Purchase. This agreement included provisions to allocate the share of the water purchase in terms of costs and water received.

The SWPP proved to be highly effective in responding to the urgent need for supplemental water in 2014 and it was renewed in 2015 and 2016. Table 7-3 presents the water acquired through the SWPP during the years of 2014 and 2015.

Table 7-3 Supplemental Water Purchase Program

Supplemental Water Purchase Program, 2014 to 2015			
Project Participant	**AF**	**Sources**	**AF**
City of Santa Barbara	7,278	Antelope Valley East Kern WD	10,000
La Cumbre Mutual Water Co.	150	Mojave Water Agency	1,000
Montecito Water District	4,743	Biggs West Gridley Water District	2,942
Goleta Water District	2,500	Vandenberg Air Force Base	1,659
Santa Ynez ID#1 (Solvang)	978	Other	47
Total:	15,648		15,648

7.3.2 Groundwater Banking Programs

The CCWA Board of Directors are actively investigating the use of groundwater banking operations. A description of the groundwater banking operations currently under consideration are described in section 5.6. The intent of the groundwater banks is to deposit water during times when excess water is available and to withdraw during times of drought.

8.0 DEMAND MANAGEMENT MEASURES

The UWMP Act defines a set of Demand Management Measures (DMM), which are a set of specific methods employed by a water supplier to encourage and facilitate water conservation. The UWMP Act requires that any water management grant or loan that is administered by DWR, State Water Resource Control Board or California Bay-Delta Authority (Funding Agencies) and issued to an urban water supplier must be conditioned to require implementation of applicable DMMs.

In 2014, the section of the California Water Code that addressed DMMs was significantly modified. DWR formed the Independent Technical Panel (ITP) to provide information and recommendations to DWR and the State Legislature on new DMMs, technologies and approaches to water efficiency. The ITP issued a report that recommended the UWMP Act be amended to simplify, clarify and update the DMM reporting requirements. In response to the recommendations, the Legislature enacted changes to the DMM requirements for both retail and wholesale water suppliers. For wholesale water suppliers, there are three specific measures and a fourth "other" category of DMMs, as listed below:

- Metering
- Public Education and Outreach
- Water Conservation program coordination and staffing support
- Other DMMs that have a significant impact on water use as measured in gallons per capita per day.

The UWMP Act also requires wholesale water suppliers to provide a narrative discussion in their UWMP that addresses asset management and wholesale assistance programs.

There is an important delineation of responsibilities between water supply and water conservation responsibilities in Santa Barbara County. This delineation arises in the originating charter of CCWA and the election of the SBFCWCD to retain responsibility for managing the county-wide water conservation program.

CCWA is a joint powers agency that was formed for the specific purpose of designing, constructing, operating and maintaining the facilities needed to import State Water into the central coast. As will be discussed in Section 8.1, the management of the water conservation program in Santa Barbara County was specifically excluded from CCWA's charter. Consequently, CCWA does not have the legal authority to implement some of the wholesaler DMMs. However, the SBFCWCD manages a comprehensive water conservation program that addresses all of the DMMs required by the UWMP Act for the benefit of all Santa Barbara County water purveyors. This program is known as the Regional Water Efficiency Program (RWEP). Other than providing facilities for RWEP to meet, CCWA has no direct involvement with the program.

The details of the relationship between SBFCWCD and CCWA are explained below, followed by a description of the SBFCWCD water conservation program and a description of the applicable DMMs and asset management practices implemented by CCWA:

8.1 Santa Barbara County and CCWA Contractual Relationship

The SBFCWCD entered into an agreement with DWR in February 1963 entitled "Water Supply Contract".[6] This contract secured the SBFCWCD's participation in the SWP. In 1981, the SBFCWCD assigned certain rights and responsibilities of the SWP Water Supply Contract to local water purveyors in a series of agreements entitled "Water Supply Retention Agreements".[40] However, even though the SBFCWCD assigned certain rights of the SWP Water Supply Contract, the SBFCWCD has remained the responsible contracting entity recognized by DWR.

The local water purveyors that entered into the WSRA ultimately formed the CCWA through a Joint Exercise of Powers Agreement in 1991.[4] CCWA was specifically formed for the purpose of designing, building and operating the facilities needed to deliver water from the SWP to the various entities entitled to receive that water in Santa Barbara County. Each CCWA participant entered into a Water Supply Agreement with CCWA which assigned the rights they derived from their WSRA to CCWA.

Since the SBFCWCD is the recognized contracting entity in the original SWP Water Supply Contract, CCWA and the SBFCWCD entered into an agreement entitled "Transfer of Financial Responsibility Agreement" in 1991.[13] In this agreement, the SBFCWCD delegated specific responsibilities to CCWA which includes making CCWA financially responsible for designing, constructing and operating the Coastal Branch of the SWP.

The Transfer of Financial Responsibility Agreement did not delegate water conservation responsibilities from the SBFCWCD to CCWA. Rather, the SBFCWCD retained the responsibility to develop a regional water conservation program for the benefit of the water purveyors in Santa Barbara County. The SBFCWCD's regional water conservation program, known as the RWEP, was established in December 1990.[12] The individual CCWA Santa Barbara County Project Participants directly participate in the RWEP. Organizationally, both the RWEP and the SBFCWCD are part of the County of Santa Barbara Water Resource Division.

It is noteworthy that the USBR recognizes the RWEP as a regional water conservation program. This program satisfies the USBR's requirement for the County Water Agency, as a USBR master contractor for the Cachuma Project, to have a regional water conservation program.

8.2 Santa Barbara County Regional Water Efficiency Program

The CCWA Santa Barbara County Project Participants work within the framework of the County of Santa Barbara's robust water conservation program to supplement their own programs. The RWEP provides information and assistance to 18 local water purveyors within the County.[12]

The RWEP provides coordination for cooperative efforts among purveyors, acts as a clearinghouse for information on water efficiency technology, manages specific projects, and monitors local, state, and national legislation concerning efficient water use. The RWEP is operated within the Santa Barbara County Water Agency, whose staff work cooperatively with all local water purveyor staff to implement conservation projects throughout the County. Individual water purveyors work with County staff on projects, as well as implement their own conservation programs within their service areas.

A multi-agency team of conservation staff meets regularly to ensure that water conservation goals are being met. In addition to the Santa Barbara County Water Agency, partnering water purveyors, who provide staff time or funding to regional programs include: City of Buellton, Carpinteria Valley Water District, Casmalia Community Services District, Cuyama Community Services District, Golden State Water Company, Goleta Water District, City of Guadalupe, La Cumbre Mutual Water Company, City of Lompoc, Los Alamos Community Services District, Mission Hills Community Services District, Montecito Water District, City of Santa Barbara, City of Santa Maria, Santa Ynez River Water Conservation District Improvement District No. 1, City of Solvang, Vandenberg Air Force Base, and Vandenberg Village Community Services District. Of these, the Carpinteria Valley Water District, City of Santa Barbara, City of Santa Maria, Goleta Water District, Montecito Water District, Santa Barbara County Water Agency, and Santa Ynez River Water Conservation District Improvement District No. 1 are also members of the CUWCC, and are committed to implementing water conservation best management practices.

The most recent annual report documenting the efforts of the RWEP is presented in Appendix G. The program has seven focus areas of conservation activities within Santa Barbara County and they are:

- School Education
- Public Information
- Commercial, Industrial, and Institutional
- Landscape/Outdoor Water Use
- Residential/Indoor Water Use
- Agricultural
- Coordination/Administration

8.2.1 School Education

Regional school education programs include participation in the DWR statewide Water Education Committee, free educational materials and curricula distribution to teachers, the Water Awareness High School Video Contest, a Book Bag Lending Program, and classroom presentations for K-12 grades. Through these programs, students and teachers gain exposure to water conservation ideas. Additional programs for individual water purveyor districts include an elementary school art contest and after-school program in Lompoc, and extensive classroom programs by many water purveyor staff in the Cities of Santa Barbara, Lompoc, Santa Maria, and in the Goleta, Carpinteria Valley and Montecito water districts.

8.2.2 Public Information

The RWEP and individual water purveyors work towards an integrated, cohesive message about the importance of water conservation countywide. This is accomplished through an annual Summer Media Campaign, a cooperative Web site (www.sbwater.org), interpretative signage along the Santa Maria Bike Path and at water purveyor facilities, and production and distribution of informative brochures and a regional newsletter. The regional group of purveyors has created a logo to promote a shared message, and this is used on publications, in public service announcements, and on the Web site. Water Awareness Month in May includes tours of local demonstration gardens and the City of Santa Barbara Desalination facility. Staff from many purveyors attends public events including Earth Day, Boy and Girl Scout activities, Lompoc Environment Fair, and others. All purveyors as well as the County Water Agency are available to respond to information requests by citizens.

8.2.3 Commercial, Industrial, and Institutional

Water efficiency in local businesses is an important target area for Santa Barbara's RWEP and water purveyors. Programs include the Green Awards Consortium, which honors businesses that save water among other environmentally friendly activities; a Lodging Industry Program, which distributes water-saving tips on door hangers and table tents to local hotels; as well as the Save Water, Save a Buck Rebate Program, which offers rebates to commercial, industrial, and institutional water users who retrofit their businesses with water efficient toilets, urinals, and clothes washers. Other programs include the Rinse and Save Program, which retrofits restaurants with efficient pre-rinse spray nozzles; the Conductivity Controller Retrofit Program, which rebates controllers on commercial cooling towers; and the Waterless Urinal Installation Program, retrofitting County facilities with waterless urinals. Water district and County staff work on these programs in varying capacities to provide an integrated commercial water efficiency program throughout the County.

8.2.4 Landscape/Outdoor Water Use

Landscape programs are a major focus of the RWEP and purveyor activities, because as much as 50 percent of customer water use often goes to outdoor water use. A weather-based irrigation controller program that retrofits residential landscapes with weather-based irrigation controllers is underway. The Green Gardener Program in Santa Barbara and Santa Maria offers classes to landscape professionals on green practices with an emphasis on efficient irrigation. Other cooperative programs include the Garden Wise Guys TV show, a locally produced television show on sustainable landscaping; the Landscape Water Budget Program, which provides customers with customized water budgets for their landscapes; and large landscape irrigation evaluations, provided by staff of the Cachuma Resource Conservation District staff. Landscape facilities include the Santa Maria Valley Sustainable Garden, which demonstrates technology and plantings that reduce water use; several “water-wise” installations at water purveyor facilities throughout the County; and five California Irrigation Management Information System network weather stations throughout the County, providing localized evapotranspiration data used in landscape programs. The City of Santa Barbara also uses a landscape ordinance to regulate the installation of new landscapes and ensures they are making efforts to reduce water use.

8.2.5 Residential/Indoor Water Use

Many local water purveyors provide in-home water checkups (audits) that educate customers about water efficient appliances and leak detection. In some cases, residential landscape audits are also offered. The RWEP Web site promotes these services and offers County residents a clearinghouse for residential and indoor water saving information. The City of Lompoc offers rebates on water efficient toilets, clothes washers, and dishwashers. The City of Santa Barbara and the City of Santa Maria offer free 2-gallon-per-minute showerheads to all city residents upon request.

8.2.6 Agricultural

RWEP partners work closely with the Cachuma Resource Conservation District to promote the Irrigation Evaluation Program on agricultural lands within the County. The District’s mobile lab visits farms to evaluate water use and make suggestions for increasing efficiency. Staff analyze the distribution uniformity of the sprinklers; provide an estimate of seasonal evapotranspiration, effective rainfall, leaching, and irrigation water requirements; test pumping plants for energy efficiency; and measure the water quality by testing pH, electrical conductivity, nitrates, hardness, and iron in the irrigation water.

8.2.7 Coordination/Administration

The RWEP acts as a clearinghouse for water conservation information and programs. Tasks include surveying water providers and collecting data on water production and rates, water planning coordination including integrated regional water management planning and drought planning activities, and information sharing. Information sharing includes attending state and national meetings on topics related to water conservation, working closely with the CUWCC on implementing programs and reporting on conservation activities, as well as coordinating among all the water purveyors within Santa Barbara County on cooperative programs within the RWEP. The RWEP also provides information and training to local water conservation staff. This includes legislative updates, information on new water conserving technologies, reporting to local agencies on regional programs, and workshops on various water efficiency topics.

Additionally, the RWEP serves an oversight role for shared conservation projects including financial management of shared grants and project management activities such as budgeting, scheduling, and logistics. Multiple benefits result from using water efficiently, including saving energy, reducing flow into wastewater treatment facilities, and minimizing the need to develop new supplies, which comes with associated costs. Individual water consumers can also benefit by saving money on their water and energy bills when using water efficiently. The Integrated Regional Water Management Plan (IRWMP) includes projects that enhance existing conservation programs and will help increase water supply reliability, which is essential to effective regional water management for years in which water is in short supply.

8.3 CCWA's Wholesale Demand Management Measures

Although the legal authority to implement many of the required wholesaler DMMs rests with the Santa Barbara County RWEP, CCWA does have a role in some of the wholesale DMMs. A description of the CCWA's wholesale DMM efforts are presented below:

8.3.1 Water Metering

The CCWA pipeline has ten turnouts where water is delivered. Each turnout is equipped with a meter that provides continuous measurement of flow rate and also provides totalized delivery volumes. The meters are monitored continuously through the CCWA Supervisory Control and Data Acquisition system. On a monthly basis, the total recorded delivery volume for each turnout is reviewed and reconciled with Master Meters, as required by contract. All variable costs associated with the CCWA operation is based on the monthly totals of each participant turnout.

The CCWA Instrumentation, Calibration and Repair Department is charged with the responsibility of servicing the turnout meters to ensure they perform to industry

standards. The service includes routine calibration and replacement of faulty parts or complete meters, as appropriate. The meters in use are as follows:

Table 8-1 CCWA Meters

Turnout	Type of Meter	Min Flow gpm	Max Flow gpm
Chorro	Venturi	500	3,500
Lopez	Venturi	500	3,500
Guadalupe	Venturi	65	680
Santa Maria	Venturi	1,480	15,500
So Cal	Venturi	185	1,950
Vandenberg	Venturi	550	5,500
Buellton	Venturi	100	500
Solvang	Venturi	140	1,300
Santa Ynez	Venturi	500	6,000
Lake Cachuma	Electromagnetic	0	32cfs

8.3.2 Public Education and Outreach

As described in Section 8.2, the SBFCWCD did not delegate the responsibility of implementing a water conservation program to CCWA. Rather, the SBFCWCD developed the Santa Barbara County RWEP to serve the Santa Barbara County water purveyors. Consequently, CCWA relies upon the Santa Barbara County RWEP for dissemination of water conservation information to the public and school system. However, CCWA does cooperate with the RWEP through providing a link to the RWEP website on the CCWA website. CCWA also provides meeting facilities for RWEP functions.

8.3.3 Water Conservation Program Coordination and Staffing

As described in Section 8.2, the SBFCWCD did not delegate the responsibility of implementing a water conservation program to CCWA. Rather, the SBFCWCD developed the Santa Barbara County RWEP to serve the Santa Barbara County water purveyors. However, CCWA has assigned staff to be responsible for the water loss program, which is a DMM for wholesale water suppliers. The WTP Supervisor has been assigned to be primarily responsible for implementing the water loss control program, as described in Section 8.3.4.

8.3.4 Water Loss Control

The CCWA distribution system consists of a 122 mile long pipeline, ranging from 36-inches to 60-inches in diameter. The pressure within the pipeline can range from atmospheric pressure within the pipeline reservoirs to pressures reaching up to 400

psi. Due to the length of the pipeline and the remote locations in which the pipeline traverses, it is critically important to implement a comprehensive leak detection program.

To address the critical need for leak detection, CCWA has implemented a program that consists of a variety of physical inspection, testing and analytical techniques. The leak detection tasks that are in use at CCWA are as follows:

- Visual Ground Surface Inspections. The full 122 mile Right-of-Way for the CCWA pipeline is inspected for a variety of purposes throughout the year. One element of each inspection is to identify any evidence of leakage from the pipeline. The evidence can include excess growth of vegetation, water seeping from the ground surface, leakage from one of the pipeline appurtenance vaults, leakage in any aboveground pipe or piping within the appurtenance vaults. The pipeline right-of-way is inspection during the annual valve exercise and vault assessment program, the annual close interval survey of the cathodic protection system and the annual mowing of the right-of-way. There also numerous other maintenance and repair tasks that bring CCWA staff along the pipeline right-of-way.

  In addition to CCWA staff inspections, an informational flier is mailed to every owner of property in which the pipeline crosses. In this flier, information about the pipeline and its associated structures is provided and also provides information about how to report a leak to CCWA. The CCWA website also provides important contact information if a leak is detected by the member of the public as well.

- Periodic Hydrostatic Testing of the Pipeline. Typically, DWR will shut down the Coastal Branch of the SWP once per year to conduct maintenance work for a period of two to four weeks. This shut down results in the CCWA pipeline being shut down for delivery operations as well. Although maintenance work is planned for some sections of the pipeline, there are section that will remain idle and fully charge with water. During this planned outage, CCWA staff will make pressure measurements within the sections of pipeline that are idle at the start of the shutdown and at the end of the shutdown. Considering that the shutdown lasts up to four weeks, even a small leak can be detected. The pressure measurements are reviewed annually immediately following a winter shutdown. If there is a loss of pressure, additional investigation will be implemented.

- Periodic Internal Inspection of the Pipeline. During the annual DWR winter shutdown, CCWA staff will conduct internal pipeline inspections for selected sections of the pipeline. A different section of the pipeline is inspected with each winter shutdown to ensure a good coverage of all sections of the pipeline. The interior inspections look for potential damage to the pipe, such as pipe deflection arising from excessive ground surface loading or improper installation, delamination of the protective mortar lining, excessive corrosion or

any other compromise of the pipe's integrity that may have led to leakage or lead to future leakage.

- Annual AWWA Water Audit Analysis. The American Water Work Association developed software designed to guide a water distribution system operator through a water audit. DWR prepared the DWR Method Water Audit, which was based on the AWWA method. California Water Code Section 10631 (J) requires water supplier to quantify distribution water losses using the DWR Water Audit Method. CCWA.

  CCWA maintains a water delivery database, which serves as the basis of the water audit. This database contains the monthly delivery volumes to each CCWA Participant. Each CCWA Participant Turnout has a flow meter and the total monthly delivery is logged. Also, at the end of each month, DWR will provide CCWA with the monthly total of water delivered to the CCWA Water Treatment Plant, as the DWR meter is the official "sale" meter to CCWA. The DWR monthly total is compared to the sum of all Turnout monthly totals. If the DWR total and the Turnout totals are within 3%, the individual Participant totals will be reconciled to match the DWR monthly total. This entails an allocation based on the amount of water delivered in the month to each participant to either add or subtract so that the sum of all Turnout meters will equal the DWR monthly total. If the DWR total and the Turnout totals are greater than 3%, the difference is investigated further.

  In 2015, 15,111 AF was billed to CCWA Participants. This value matched the DWR total, but is 355 AF higher than the Turnout meter raw values. This difference is reported as distribution systems losses. This number includes all meter errors and water losses through the Water Treatment Plant. A completed AWWA-Water Audit Software printout in presented in Appendix F.

- Analysis of Daily Delivery Data. The water entering the CCWA distribution system is measured by the Water Treatment Plant outlet meter and the water leaving the distribution system is measured by ten Turnout meters. As part of the leak detection program, the daily delivery totals for WTP outlet meter are compared to the sum total of the Turnout meters. Due to the errors inherently associated with flow measurements, there will always be a difference between the total volume measured going into the distribution system and the total volume measured leaving the distribution system.

  In order to evaluate if the pipeline is leaking, the daily flow data is analyzed to determine if the WTP outlet meter and the Turnout meters are measuring the same volume. If the analysis suggests that the same volume is not being measured, this would constitute evidence of a potential leak that would require additional investigation.

CCWA utilizes an analytical method for inspecting the flow data for evidence of potential leakage. A correlation plot is used to evaluate potential leakage in the daily delivery totals. The correlation plot uses the daily Turnout meter totals (Y axis) plotted as a function of the WTP meter totals (X axis). A trend line and a Coefficient of Determination (R^2) is calculated and plotted for this graph. From the best fit line equation for this plot, the difference between the predicted value and actual value are calculated (residual). The residual data is then plotted on a separate graph with the same range of WTP volumes. If the Coefficient of Determination is less than 0.9, this would be evidence of a potential leak and additional investigation is merited If the residual values have an organized curvilinear relationship with increasing WTP daily totals, this would be evidence of a potential leak and additional investigation is merited. If the residuals are random, it strongly suggests that the difference between the WTP meter and the Turnout meters are related to measurement error only. The 2015 monthly correlation plots are presented in Appendix H.

8.4 Review of Implemented DMMs from 2010 to 2015

The main Demand Management Measures directly implemented by CCWA include the metering of all water deliveries and the water loss program. Both programs have been in place throughout the last five years, with no issue.

The metering of all Turnouts included annual calibrations and service to ensure accurate readings. During the summer of 2014, high concentration of taste and odor compounds were present in the treated water. This resulted in many CCWA participants reducing the delivery rates into their respective Turnouts. In some cases, the flowrates through the Turnouts were lower than the Turnout meter could reliably measure. At the end of the month, the delivery data was analyzed and the results suggested that there was a potential leak. Upon further investigation, it was found that the City of Santa Maria Turnout was accepting flows well below the measurement range of the Turnout meter. To remedy the situation, all CCWA participants were advised of the minimum and maximum flow rates for their respective Turnouts.

In regards to the water loss program, three leaks were detected. The leaks in question are as follows:

- Gainey Ranch Leak, September 2010. This leak was reported by a property owner, following observation of a spring emerging from the ground near the CCWA pipeline. Testing of the emerging water verified it had a chlorine residual, which confirms the water originated from the CCWA pipeline. A repair was subsequently implemented, along with an internal inspection of the pipeline in the immediate area while the pipeline was dewatered.

- Santa Margarita Air Vacuum/Air Release Valve Leak, July 2015. This leak was identified during a pipeline Right-of-Way inspection by CCWA staff. No excessive

vegetation near the leak location was observed upon discovery, suggesting that the leak only recently occurred. This leak was subsequently repaired.

- Bradbury Penstock Valve Leakage, February 2015. During a calibration verification task for the accusonic flow meter located in the Bradbury Penstock and the electromagnetic flow meter at the Santa Ynez Pumping Plant, evidence of a leak was detected. The differences in flow rate measurements between the two meters increased with increasing flow rates, which suggests a leak in the pipeline. This was investigated through a pipeline Right-of-Way inspection and two hydrostatic tests. It was found that the discharge valves on the Bradbury Penstock were leaking at a flow rate in the 0.5 cfs range. This finding was reported to the US Bureau of Reclamation.

8.5 CCWA Asset Management Program

An asset management program is in place at CCWA. The program consists of three elements that addresses routine maintenance, condition assessment and long term planning for replacing or improving CCWA assets. A description of the program follows:

8.5.1 Routine Maintenance

The goal of any asset management program is to ensure that all assets are routinely serviced to ensure reliable operation and to maximize service life. CCWA accomplishes this goal through two key tools: (1) use of a computerized maintenance management systems (CMMS) and (2) the use of qualified and skilled employees.

CCWA has utilized a CMMS since the agency's inception. CMMS is database software that will maintain an inventory of assets, the associated maintenance tasks for each asset, a schedule of all maintenance tasks and location of each asset. The software will also provide automated notification of when maintenance tasks are required, accept work completion reports and also allow for entry of discrepancy reports for requesting work to be completed. There are also a wide range of capabilities of the software to allow for specific work instruction, safety procedures and any other pertinent data in the work order produced by the software. Finally, CMMS software can also produce management reports so that the status of maintenance activities can be rapidly assessed and utilized for work planning purposes.

CCWA staff convenes weekly supervisor meetings in which CMMS management reports are used to plan the workweek. Supervisors of each department attend and work is coordinated among the departments, as needed.

The most important part of a maintenance program is the use of highly qualified and skilled staff. CCWA implements its maintenance program through four primary departments: (1) Instrumentation/Electrical/Network, (2) Distribution, (3) Treatment

Operations and (4) WTP Maintenance. Each department is staffed with employees that are qualified and skilled for the work they responsible for. In addition, each department has a training plan for their staff to maintain and enhance the knowledge and skill of each employee.

8.5.2 Condition Assessment

Beyond routine maintenance, CCWA implements a variety of assessment program to determine the performance of assets as a way to plan for refurbishment or replacement. The programs currently in place at CCWA include the following:

- **Cathodic Protection Program**. The pipeline is protected from corrosion by an impressed current cathodic protection (CP) system. This system consists of a series of rectifiers that are electrically connected to the pipe. The rectifiers are also electrically connected a near-by deep-bed anode. This arrangement creates conditions where the pipeline is protected from corrosion while the deep-bed anode is corroded instead.

  The operation of the CP system must be routinely assessed to ensure that the cathodic protection remains within its protective range. The assessment of the CP system function includes monitoring of the electrical potential created by the CP system at fixed testing stations located along the pipeline route as well as close interval survey where CCWA staff walks directly above the pipeline to measure the electrical potential. In addition, where needed, special cathodic investigations are carried out.

  Since CP systems only protect the exterior of the pipeline, additional cathodic protection is needed to protect the interior of the pipeline. The CCWA/DWR pipeline has a motor lining, which is designed to provide internal cathodic protection. To monitor the effectiveness of the lining, CCWA staff conducts annual internal inspections of selected sections of the pipeline to check the physical condition of the motor lining. The internal inspections are performed during the annual DWR winter maintenance shutdown, typically scheduled for two to four weeks in November. The sections of pipeline inspected will rotate from year to year.

  Finally, the chemistry of the water in the pipeline is sampled and tested weekly to determine if conditions exist that would facilitate degradation of the mortar lining of the pipe. The water samples are analyzed for the Calcium Carbonate Precipitation Potential and the Langmier Index. These indices will indicate if calcium carbonate will be likely to precipitate onto the walls of the pipe or not. A calcium carbonate precipitation on the pie interior walls will assist with prevention of corrosion of the metal pipe.

- **Leak Detection Program**. As discussed in Section 7.3.4, CCWA implements a program to detect leakage from the pipeline. In short, the program includes hydro-static testing of pipeline segments during winter shutdown, pipeline Right-of-Way inspections for evidence of leakage, analysis of flow measurements into and out of the pipeline and internal pipeline inspections. The locations of leaks will be identified in the CCWA GIS system.

- **Winter Preparation Inspection Program**. The DWR/CCWA pipeline is 122 miles long and passes through a wide variety of terrain. Along the pipeline alignment, there are certain locations that are at a higher risk of erosional damage from heavy winter storms. To assess the erosion control systems put into place at these locations, annual winter preparation inspections are conducted, as well as post-storm inspections.

  The inspections will identify drainage area, concentrated flow paths of storm water run-off, condition of drainage facilities, if present, and the extent of damage, if present. If the erosion control features require service or repair, they will be serviced prior to the storm event.

- **Valve Exercise/Valve Vault Assessments**. Every year, all valve on the pipeline will be inspected and fully exercised through fulling opening and closing each valve. In addition, the condition of the concrete valve vaults will be assessed, along with the area immediately surrounding the vault. Standardized forms and common descriptive terms are used to document the condition of the valves, associated vaults and immediate area surrounding the vault.

- **Electric Motors and Pumps Assessments**. All electric motors and pumps are assessed as follows: (1) monthly vibration monitoring, (2) annual integrity testing of the electric motor winding insulation, (3) annual wire-to-wire efficiency testing, (4) annual infrared camera inspections of motor control centers and switchgear, and (5) at reinstallation or as needed, a mechanical check of shaft alignment between motor and pump as well as verification of pump clearance specifications.

- **Major Facilities Assessment Program**. All major structures and facilities are assessed on an annual basis. CCWA staff conducts the following assessments: (1) pavement assessments, (2) structure paint assessments, (3) concrete assessments, (4) fencing/gates/locks/signage assessment and (5) assessment of the condition of miscellaneous valves, piping, drainage, venting, screens, ect. CCWA staff receives training on assessment methods to ensure consistent assessments and the use of common nomenclature of conditions.

  In addition to staff assessments, specialized vender are also utilized by CCWA to evaluate the conditions of CCWA assets. These specialized venders include: (1) licensed land surveyors to conduct the biennial monument survey of the pipeline seismic joint, which crosses the San Andreas Fault, (2) potable water divers for

the five year internal tank inspection and cleaning, (3) structural engineers for assessments of selected structure, as needed.

8.5.3 Capital Improvement Program

CCWA is in the process of developing its first formal Capital Improvement Program (CIP). As the various facilities and systems that are operated and maintained by CCWA ages, there will be a need for projects to replace, refurbish and improve those facilities and systems. Not only will the number of these kinds of project increase but their magnitude in both costs and potential impact on operations will increase as well. In addition, the CCWA Board of Directors may find that the CCWA System can be improved or modified to provide addition benefits to CCWA Participants. Consequently, there is a need to carefully consider what specific projects are required or desired by the CCWA Board of Directors and to plan and schedule their implementation. The project identification, planning, prioritization and scheduling steps are the basic steps of preparing a formal CIP.

Another important purpose of a formal CIP is that it provides a format in which to communicate to the CCWA Board of Directors a more comprehensive long range plan for the CCWA system operation and development. The current method for presenting projects to the CCWA Board of Directors is through the annual budgeting process. Historically, all projects are funded on a current year basis and are included in the agency's draft budget, which is submitted to the CCWA Board of Directors for approval. This process does not provide a full view of multi-year projects nor does it provide a definitive long term plan. A formal CIP is needed to adequately communicate to the CCWA Board Directors the ongoing work of careful planning and prioritizing of projects.

CCWA is moving forward with developing a formal CIP through retaining the services of an experienced engineering consultant to assist CCWA staff. As with all CIPs, the basic elements will include the following

- Identification of Projects. Since the purpose of the CIP is to communication the long term development plans for the CCWA System, it is important to identify the size of the projects to bring to the Boards attention. For the purposes of initial evaluation, CCWA staff will use $75,000 as the threshold level in which to include a project in the CIP. The Board may decide to increase or reduce this threshold level

  In terms of identifying projects, there are two kinds of projects: (1) projects identified through routine facility assessments and (2) projects that improve the CCWA system that provided additional benefits to CCWA Participants, such as expanding the water treatment plant for example.

- Identify Funding for Projects. For the CCWA operation, all funding of projects occurs through the annual budgeting process for the CCWA operation. However, for large projects, the Board may decide to direct staff to pursue grant funding opportunities. Since applying for grants is a project in itself and may require an extended timeframe to secure a grant, this may be the first step in developing a project.

- Budgeting Project. A formal CIP will allow the Board to fully consider the costs and schedule of a multi-year project. In addition, annual updates of the CIP will allow updates to project costs estimates and other important updates for the Board to consider. This will improve the current method of submitting projects on a current year budget basis only.

- Implementing Projects. A standard project management approach will be utilized in organizing and implementing projects. Every project will be described, in terms of cost and schedule, as a multi-phased project to include the phases shown below:

    - Project initiation. Once a project is identified, staff will need to prepare a description of the project as well as provide justification for the project. This is the very early stages of the project and is the basis for initial approval. If the project is approved, the next step will be implemented.

    - Planning/Predesign. For large projects, preliminary engineering is required to estimate the order of magnitude scope and cost of the project. Either staff or a consulting engineer can be utilized in developing these estimates. Following this step, the Board may want to provide additional review as to whether to approve the project for further development.

    - Design. Once a project has been approved by the Board, the project will be designed by a consulting engineering firm. If the design contract exceeds $30,000, staff will request approval from the Board before awarding the contract, consistent with the CCWA Purchasing Policies. Generally, the design will be incorporated into a Request-For-Bids (RFB) document, using CCWA's standard contracts and front end specifications for public works projects.

    - Construction Bid and Award. Once the RFB is finalized, it will be advertised as required by public procurement regulations. The competitive bidding process will follow establish public works project protocol. Once bids have been publically opened, the Bids will be reviewed to determine if the contractor is responsible and if the Bid was responsive to Bid Documents. Once this process is completed, the lowest responsible and responsive Bid will be presented to the Board for consideration for contract award.

- o Construction. The construction phase will include the efforts of CCWA staff and engineering inspectors to closely monitor the progress of the construction to ensure adherence to the requirements of the Contract Documents as well as identify potential changes to the work that may to CCWA's benefit. Staff will provide periodic updates to the Board and may also potentially request modifications of the work underway.

- o Post Construction. This step is critical in terms of releasing the contractor from the project through verifying work was completed as required by the Contract Documents, all releases from future contractor and subcontractor claims have been secured and that as built records are completed.

8.5.4 Encroachment Permit Program

The CCWA/DWR pipeline is typically constructed within exclusive easements through private property. An easement is a property right that is purchased from the property owner and is defined in an easement agreement. Once the easement is procured, the property owner cannot construct on or modify their property within the easement that would infringe on the use of the easement.

In general there are two kinds of easements: exclusive and non-exclusive easements. In the case of non-exclusive easements, a property owner will have reasonable access to the easement for construction or other modification of the property, as long as it does not infringe on the purpose of the easement. In the case of exclusive easements, the easement owner can exclude the property owner from constructing on or modifying their property within the easement for any reason. Typically, the DWR/CCWA pipeline has both exclusive and non-exclusive easements. The exclusive easement defined as being within two feet of the pipeline itself and the non-exclusive easement is typically defined as a strip of land 60 feet wide and following the length of the pipeline.

The encroachment permit program manages the issue of property owners needing to build or modify their land within the pipeline easement. The term encroachment refers to a property owner building or otherwise modifying their property within the easement boundaries, which may or may not be authorized. To ensure that all encroachments are authorized, the encroachment permit program starts with a formal exchange of engineering data and construction plans between the property owner and CCWA/DWR. This exchange of engineering data allows for a process where a mutually acceptable project can be agreed upon. The agreement is documented by a permit issued by the easement owner to the property owner.

A big part of any encroachment permit program is the ability to store and retrieve engineering data for any section of the pipeline. To address this need, CCWA utilizes

a Geographical Information System (GIS), which is a database software system that uses geolocation as its main organizing method. This system is utilized for a wide variety of purposes including providing engineering data to property owners or other public agencies for utility coordination, to identify USA alert clearance requests, to store approved encroachment permits and many other uses.

Other important components of the encroachment permit program is to conduct inspection and surveillance of the pipeline right-of-way to identify and address unauthorized encroachments within the easement, observing construction of authorized encroachments to ensure the pipeline and related facilities are protected from damage and to establish good relationships with the property owners along the right-of-way. With regards to property owner relations, CCWA also mails a brochure to all property owners on a biannual basis. This brochure will ensure that property owners have contact information to report leaks, unusual activity on the pipeline as well as information about the encroachment permit process and USA alert requirements.

9.0 REFERENCES

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APPENDIX A

Checklist Arranged by Water Code Section

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Section 8.0**
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	**Not Applicable**
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	**Section 1.0**
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	**Section 2.0**
10620(f)	Describe water management tools and	Water Supply	Section 7.4	**Section 6.0**

	options to maximize resources and minimize the need to import water from other regions.	Reliability Assessment		
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	**Appendix B**
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	**Section 2.5**
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	**Section 3.2 Appendix D**
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	**Section 3.3**
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	**Section 3.4**
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	**Section 3.4**
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	**Section 3.5**
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	**Section 5.0**
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	**Section 5.8**
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	**Not Applicable**
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
10631(b)(3)	Provide a detailed description and analysis	System Supplies	Section 6.2.4	**Not**

	of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years			**Applicable**
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	**Not Applicable**
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	**Section 6.0**
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	**Section 6.1**
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	**Section 7.3**
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	**Section 5.5**
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	**Section 4.0**
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	**Section 4.3**
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	**Not Applicable**
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	**Section 8.0**
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	**Section 5.9**
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	**Section 5.7**
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	**Not Applicable**
10631(j)	Retail suppliers will include documentation that they have provided their wholesale	System Supplies	Section 2.5.1	**Not Applicable**

	supplier(s) – if any - with water use projections from that source.			
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	**Appendix B**
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	**Not Applicable**
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	**Appendix C**
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	**Section 7.1.4**
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	**Section 7.2**
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	**Not Applicable**
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	**Not Applicable**
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	**Not Applicable**
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	**Not Applicable**
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	**Appendix C**
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	**Not Applicable**
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	**Not Applicable**
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service	System Supplies (Recycled	Section 6.5.2	**Not Applicable**

	area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	Water)		
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Section 6.3**
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	**Section 6.0**
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	**Section 7.1 Appendix C**
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	**Appendix B**
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the	Plan Adoption, Submittal, and	Sections 10.2.2, 10.3,	**Appendix B**

	public hearing, and held a public hearing about the plan.	Implementation	and 10.5	
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	**Appendix B & C**
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 B**
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 B**
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	**Section 2.5**
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	**Section 2.5**

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	**Section 1.0**
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	**Section 2.0**
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	**Appendix B**
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	**Section 3.2 Appendix D**
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	**Section 3.3**
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	**Section 3.4**
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	**Section 3.5**
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	**Section 3.4**
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	**Section 4.0**
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	**Section 4.3**
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	**Not Applicable**
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	**Not Applicable**
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	Baselines and Targets	Chapter 5 and App E	**Not Applicable**

	with the bases for determining those estimates, including references to supporting data.			
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	**Not Applicable**
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	**Not Applicable**
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	**Not Applicable**
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	**Section 8.0**
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	**Not Applicable**
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	**Section 5.0**
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	**Section 5.8**
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	**Not Applicable**
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water	System Supplies	Section 6.2.4	**Not Applicable**

	supplier for the past five years			
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	**Not Applicable**
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	**Section 5.5**
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	**Section 5.9**
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	**Section 5.7**
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	**Not Applicable**
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	**Appendix B**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**
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	**Not Applicable**

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	**Not Applicable**
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	**Not Applicable**
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	**Section 6.0**
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	**Section 6.0**
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	**Section 6.1**
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	**Sectio 7.3**
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	**Section 6.3**
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	**Section 6.0**
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	**Appendix C**
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	**Section 7.1.4**
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	**Section 7.2**
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	**Not Applicable**
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	**Not Applicable**
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency	Section 8.3	**Not Applicable**

		Planning		
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	**Not Applicable**
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	**Appendix C**
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	**Not Applicable**
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	**Not Applicable**
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	**Section 8.0**
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	**Not Applicable**
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	**Not Applicable**
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	**Appendix B**
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	**Section 2.5**
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	**Section 7.1 Appendix C**
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the	Plan Adoption, Submittal, and	Sections 10.2.2, 10.3,	**Appendix B**

	public hearing, and held a public hearing about the plan.	Implementation	and 10.5	
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	**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 B & 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 B**
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 B**
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	**Section 2.5**
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	**Section 2.5**

Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* *drop down list*
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

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 Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
☑	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.
	Provide page number for location of the list.
☐	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 *(Add additional rows as needed)*	
City of Buellton	
Carpinteria Valley Water District	
Goleta Water District	
City of Guadalupe	
La Cumbre Mutual Water Company	
Montecito Water District	
Morehart Land Company	
City of Santa Barbara	
Raytheon Company	
City of Santa Maria	
Santa Ynez River Water Conservation District, Improvement District #1	
Golden State Water Company	
Vandenberg Air Force Base	
NOTES: CCWA Participants	

Table 3-1 Wholesale: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	337,403	347,779	370,998	394,217	399,548	404,879
NOTES: Utilzed Santa Barbara County Assoication of Governments Regional Growth Forecast 2010 to 2040 as the basis for population estimates. Year 2015 based on CCWA Participant reported population in the Annual Water System Report submitted to Division of SWRCB Division of Drinking Water. Years 2025 and						

Table 4-1 Wholesale: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 Actual		
Drop down list *May select each use multiple times* *These are the only use types that will be recognized by the WUE data online submittal tool*	Additional Description *(as needed)*	Level of Treatment When Delivered *Drop down list*	Volume
Sales to other agencies	CCWA is a "pass-through" agency. There is no sale of water. CCWA treats and conveys our member agencies's water.	Drinking Water	11,673
		TOTAL	11,673
NOTES:			

Table 4-2 Wholesale: Demands for Potable and Raw Water - Projected						
Use Type *(Add additional rows as needed)*	Additional Description *(as needed)*	Projected Water Use *Report To the Extent that Records are Available*				
Drop down list *May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.*		2020	2025	2030	2035	2040 *(opt)*
Sales to other agencies		26,671	26,482	26,293	26,104	25,915
TOTAL		26,671	26,482	26,293	26,104	25,915
The 2015 DWR Delivery Capability Report proivded a long term average Table A allocation						

Table 4-3 Wholesale: Total Water Demands						
	2015	2020	2025	2030	2035	2040*(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	11,673	26,671	26,482	26,293	26,104	25,915
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	11,673	26,671	26,482	26,293	26,104	25,915
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

Table 4-4 Wholesale: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	355
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	
NOTES: The AWWA Water Audit Procedure may work reasonably well for a retail distribution system, but does not work very well with a regional aqueduct. The AWWA Method over-estimates leakage rates in regional aqueducts. The CCWA aqueduct is hydrostatically tested annually and the	

Table 6-1 Wholesale: Groundwater Volume Pumped						
☑	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
TOTAL		0	0	0	0	0
NOTES:						

Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2015										
☐	Wholesale supplier neither distributes nor provides supplemental treatment to recycled water. The supplier will not complete the table below.									
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level *Drop down list*	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
						Total	0	0	0	0
NOTES:										

Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area							
☑	Recycled water is not directly treated or distributed by the supplier. The supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 *(opt)*
Add additional rows as needed							
	Total	0	0	0	0	0	0
NOTES:							

Table 6-5 Wholesale: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual		
☑	Recycled water was not used or distributed by the supplier in 2010, nor projected for use or distribution in 2015. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2010 Projection for 2015	2015 actual use
Add additional rows as needed		
Total	0	0
NOTES:		

Table 6-7 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.					
57	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 *Drop Down list*	Expected Increase in Water Supply to Agency
	Drop Down Menu	*If Yes, Agency Name*				
Add additional rows as needed						
Suspended Table A	*Yes*	CCWA Project Participants	Reacquire 12,214 AF of Table A water	2017	Average Year	7,451
Long Term Exchange with SLOCFCWCD	*Yes*	San Luis Obispo County Flood Control and Water Conservation District (SLOCFCWCD)	Long Term Unbalanced Exchange with SLOCFCWCD	2017	Average Year	4,658
NOTES: (1) Suspended Table A provides 12,214 AF of additonal Table A contract amount. For a long term average reliability of 61% at 2015 conditions, this translates to an average of 7,451 AF of additional supply, (2) SLOCFCWCD has reserved 4,830 of conveyance and treatment capacity and 4,897 AF of drought buffer for its SWP subcontractors. This leaves 15,273 AF of SLOCFCWCD's 25,000 AF of Table A remaining for use in the long term exchange with CCWA. For a long term average reliability of 61% at 2015 conditions and a 2:1						

Table 6-8 Wholesale: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
Drop down list *May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		Actual Volume	Water Quality *Drop Down List*	Total Right or Safe Yield *(optional)*
Add additional rows as needed				
Purchased or Imported Water	SWP Water, Table A and Carryover	6,079	Raw Water	
Transfers	Westlands, DWR Multiyear, SWP DYTP	337	Raw Water	
Exchanges		4,847	Raw Water	
Supply from Storage	IRWD Groundwater Bank	410	Raw Water	
	Total	11,673		0
See Section 5.5.2 and 7.3.1 of the CCWA UWMP for a decription of the groundwater bank returns, transfers and exchanges				

Table 6-9 Wholesale: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply *Report To the Extent Practicable*									
		2020		2025		2030		2035		2040 *(opt)*	
Drop down list *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Add additional rows as needed											
Purchased or Imported Water		26,671		26,482		26,293		26,104		25,915	
Total		26,671	0	26,482	0	26,293	0	26,104	0	25,915	0

NOTES:

Table 7-1 Wholesale: Basis of Water Year Data			
Year Type	**Base Year** *If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000*	**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 Average Supply**
Average Year			100%
Single-Dry Year			
Multiple-Dry Years 1st Year			
Multiple-Dry Years 2nd Year			
Multiple-Dry Years 3rd Year			
Multiple-Dry Years 4th Year *Optional*			
Multiple-Dry Years 5th Year *Optional*			
Multiple-Dry Years 6th Year *Optional*			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table. Suppliers may create an additional worksheet for the additional tables.			
The source of water supply is the State Water Project. Section 4.2.1 of the CCWA UWMP discusses historical demand and presents data on the annual deliveries from 2010 to 2015. The three driest years on record were 2013, 2014 and 2015, with annual allocations of 15,920 AF, 2,274 AF and 9,097 AF respectively			

Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals *(autofill from Table 6-9)*	26,671	26,482	26,293	26,104	25,915
Demand totals *(autofill fm Table 4-3)*	26,671	26,482	26,293	26,104	25,915
Difference	0	0	(0)	(0)	(0)
NOTES:					

Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	4,394	4,101	3,809	3,516	3,223
Demand totals	4,394	4,101	3,809	3,516	3,223
Difference	0	0	0	0	0
NOTES:					

Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	8,849	8,451	8,053	7,654	7,256
	Demand totals	8,849	8,451	8,053	7,654	7,256
	Difference	0	0	0	0	0
Second year	Supply totals	8,769	8,371	7,973	7,575	7,177
	Demand totals	8,769	8,371	7,973	7,575	7,177
	Difference	0	0	0	0	0
Third year	Supply totals	8,690	8,292	7,893	7,495	7,097
	Demand totals	8,690	8,292	7,893	7,495	7,097
	Difference	0	0	0	0	0
Fourth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES: Projections are based on Theoretical Three Year Minimum Supply (Section 7.1.4 of CCWA UWMP). Procedure: Identify lowest running three year average in the 2015 DWR Delivery Capability Report for current conditions and the Early Long Term Future condition, extrapolate between present and future conditions to provide the three minimum supply						

Table 8-1 Wholesale Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Supply Reduction[1]	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
1	50%	DWR Table A Allocation less than 30%
[1] *One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.*		

Stage 1 will be activated when the DWR annual Table A allocation is less than 30%, which is 50% of the long term average Table A allocation for SBCFCWCD of 61%. The main actions taken by CCWA will include activation of the Supplemental Water Purchase Program (Section 7.3 of the CCWA UWMP).

Table 8-4 Wholesale: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	9,247	9,168	9,088
The DWR 2015 Delivery Capacity Report was analyzed for a three year drought for current conditions and ELT conditions for SBCFCWCD.			

Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
☑	Supplier has notified more than 10 cities or counties in accordance with CWC 10621 (b) and 10642. **Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.**	
	Provide the page or 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
Add additional rows as needed		
Appendix B	☑	☑
	☑	☑
	☑	☑
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Santa Barbara County	☑	☑
San Luis Obispo County	☑	☑
NOTES: See Appendix B of the CCWA UWMP		

APPENDIX B

January 7, 2016

«First_Name» «Last_Name»
«Company_Name»
«Mailing»
«City», «State» «Zip»

Subject: 60-Day Notification for Preparation of the 2015 Urban Water Management Plan for the Central Coast Water Authority

Dear Mr. «Last_Name»:

The Central Coast Water Authority (CCWA) is in the process of preparing an updated Urban Water Management Plan, as required under the Urban Water Management Plan Act (Act). The deadline for completing and adopting the final Urban Water Management Plan is July 1, 2016.

Water Code, Section 10621(b) of the Act requires CCWA to provide a 60 day advance notice regarding the preparation of its 2015 Urban Water Management Plan (Plan). This notice must be provided to any city or county that receives water from the Central Coast Water Authority. This letter constitutes CCWA's 60 day notice.

When a draft Plan is available for public review, a copy will be posted on our website (www.ccwa.com). A copy of the draft Plan will also be available for review at our office in Buellton, California, once available to the public. In addition, CCWA will hold two public workshops in late April or early May of this year and will make its draft Plan available to the public at least two weeks prior to the public workshops. A notice of these public workshops will be issued in advance, as required.

The public hearing to consider adoption of the final Plan will be held in late May or June, 2016. The hearing will take place at the CCWA Board room, located at 255 Industrial Way, Buellton, CA 93427-9565. A notice will be issued specifying the date and time in advanced of the hearing, as required.

If you have any questions, please call our office at (805) 688-2292.

Sincerely,

John Brady
Deputy Director

UWMP 60 Day Notice

Last Name	First Name	Company Name	Mailing	City	State	Zip	
Alvarado	Mike	La Cumbre Mutual Water Company	695 Via Tra	Santa Barb	CA	93110	7015 1660 0000 8797 3550
Babb	Mike	Golden State Water Company	2330 "A" St	Santa Mari	CA	93455	7015 1660 0000 8797 3567
Carter	Andrew	City of Guadalupe	918 Obispc	Guadalupe	CA	93434	7015 1660 0000 8797 3574
Dahlstrom	Chris	Santa Ynez River WCD, ID #1	P. O. Box 1	Santa Ynez	CA	93460	7015 1660 0000 8797 5301
Dyer	Kelley	City of Santa Barbara	P.O. Box 1	Santa Barb	CA	93102	7015 1660 0000 8797 5318
Haggmark	Joshua	City of Santa Barbara	P.O. Box 1	Santa Barb	CA	93102	7015 1660 0000 8797 5325
Hamilton	Charles	Carpinteria Valley Water District	1301 Santa	Carpinteria	CA	93013	7015 1660 0000 8797 5332
Hess	Rose	City of Buellton	PO Box 181	Buellton	CA	93427	7015 1660 0000 8797 5349
Hite	Terry	Raytheon	Fac. B05/M	Goleta	CA	93117	7015 1660 0000 8797 5356
McInnes	John	Goleta Water District	4699 Hollis	Santa Barb	CA	93110-1999	7015 1660 0000 8797 5363
Mosby	Tom	Montecito Water District	583 San Ysi	Santa Barb	CA	93108-2124	7015 1660 0000 8797 5370
Mueller	Madeleine	Morehart Land Co.	P.O. Box 12	Carpinteria	CA	93014-1209	7015 1660 0000 8797 5387
Rush	Pernell	30 CES/CEOEO 1028	1028 Icelar	Vandenber	CA	93437	7015 1660 0000 8797 5394
Springer	Shad	City of Santa Maria	2065 East I	Santa Mari	CA	93454	7015 1660 0000 8797 5400
van der Linden	Matt	City of Solvang	411 Secon	Solvang	CA	93463	7015 1660 0000 8797 5417
Sommer	Toni	Cuesta College	P.O.Box 81	San Luis Ob	CA	93403	7015 1660 0000 8797 5424
Alves-Wright	Mary Ann	California Mens Colony	P.O. Box A	San Luis Ob	CA	93409	7015 1660 0000 8797 5431
Seifert	Debbie	San Miguelito Mutual Water Company	P.O. Box 21	Avila Beach	CA	93424	7015 1660 0000 8797 5448
Wallace	John	Avila Beach CSD	612 Clarior	San Luis Ob	CA	93401	7015 1660 0000 8797 3635
Geaslen	Tom	Oceano CSD	1655 Front	Oceano	CA	93445	7015 1660 0000 8797 3642
Oishi	Jane	Avila Valley Mutual Water Co., Inc.	233-D Grar	San Luis Ob	CA	93401	7015 1660 0000 8797 3659
West-Jones	Susan	City of Pismo Beach	760 Mattie	Pismo Beac	CA	93449-2000	7015 1660 0000 8797 3666
Slayton	Susan	City of Morro Bay	595 Harbor	Morro Bay	CA	93442	7015 1660 0000 8797 3673
Clemens	Will	San Luis Obispo County	County Gov	San Luis Ob	CA	93408	7015 1660 0000 8797 3680
Fayram	Tom	Santa Barbara County FC&WCD	123 East Ar	Santa Barb	CA	93101	7015 1660 0000 8797 3697

Last Name	First Name	Company Name	Mailing	City	State	Zip	
Alvarado	Mike	La Cumbre Mutual Water Company	695 Via Tra	Santa Barb	CA	93110	7015 1660 0000 8797 1419
Babb	Mike	Golden State Water Company	2330 "A" St	Santa Mari	CA	93455	7015 1660 0000 8797 3543
Carter	Andrew	City of Guadalupe	918 Obispc	Guadalupe	CA	93434	7015 1660 0000 8797 3536
Dahlstrom	Chris	Santa Ynez River WCD, ID #1	P. O. Box 1	Santa Ynez	CA	93460	7015 1660 0000 8797 3529
Dyer	Kelley	City of Santa Barbara	P.O. Box 1	Santa Barb	CA	93102	7015 1660 0000 8797 3512
Haggmark	Joshua	City of Santa Barbara	P.O. Box 1	Santa Barb	CA	93102	7015 1660 0000 8797 3505
Hamilton	Charles	Carpinteria Valley Water District	1301 Santa	Carpinteria	CA	93013	7015 1660 0000 8797 3499
Hess	Rose	City of Buellton	PO Box 181	Buellton	CA	93427	7015 1660 0000 8797 5486
Hite	Terry	Raytheon	Fac. B05/M	Goleta	CA	93117	7015 1660 0000 8797 5479
McInnes	John	Goleta Water District	4699 Hollis	Santa Barb	CA	93110-	7015 1660 0000 8797 5462
Mosby	Tom	Montecito Water District	583 San Ysi	Santa Barb	CA	93108-	7015 1660 0000 8797 5455
Mueller	Madeleine	Morehart Land Co.	P.O. Box 12	Carpinteria	CA	93014	7011 0470 0003 6551 1524
Rush	Pernell	30 CES/CEOEO 1028	1028 Icelar	Vandenber	CA	93437	7015 1660 0000 8795 5846
Springer, P.E., MPA	Shad	City of Santa Maria	2065 East I	Santa Mari	CA	93454	7015 1660 0000 8795 5839
van der Linden, P.E.	Matt	City of Solvang	411 Secon	Solvang	CA	93463	7015 1660 0000 8795 5822
Toni	Sommer	Cuesta College	P.O.Box 81	San Luis Ob	CA	93403	7015 1660 0000 8797 0672
Mary Ann	Alves-Wright	California Mens Colony	P.O. Box A	San Luis Ob	CA	93409	7015 1660 0000 8797 0634
Debbie	Seifert	San Miguelito Mutual Water Company	P.O. Box 21	Avila Beach	CA	93424	7015 1660 0000 8797 0665
John	Wallace	Avila Beach CSD	612 Clarior	San Luis Ob	CA	93401	7015 1660 0000 8797 0689
Tom	Geaslen	Oceano CSD	1655 Front	Oceano	CA	93445	7015 1660 0000 8797 0641
Jane	Oishi	Avila Valley Mutual Water Co., Inc.	233-D Grar	San Luis Ob	CA	93401	7015 1660 0000 8797 0658
Susan	West-Jones	City of Pismo Beach	760 Mattie	Pismo Beac	CA	93449-	7015 1660 0000 8797 1457
Susan	Slayton	City of Morro Bay	595 Harbor	Morro Bay	CA	93442	7015 1660 0000 8797 1440
Clemens	Will	San Luis Obispo County	County Gov	San Luis Ob	CA	93408	7015 1660 0000 8797 1433
Fayram	Tom	Santa Barbara County FC&WCD	123 East An	Santa Barb	CA	93101	7015 1660 0000 8797 1426

February 23, 2016

Example Projection Estimate Letter issued to all CCWA Participants

Rose Hess
City of Buellton
PO Box 1819
Buellton, CA 93427

Subject: Central Coast Water Authority
2015 Urban Water Management Plan Update
Projection Estimates of Future Water Supplies

Dear Rose:

The California Urban Water Management Planning Act requires every urban water supplier to prepare and adopt an Urban Water Management Plan (UWMP). An urban water supplier is defined as a public water system supplying water to 3,000 connections or delivering greater than 3,000 acre-feet of water annually. The Central Coast Water Authority (CCWA) is classified as a wholesale urban water supplier. As such, CCWA is required to prepare an UWMP and is also required to provide projection estimates of the volume of water that could potentially be made available in the future to CCWA Participants for a range of water-year types.

To develop the required water supply projection estimates, CCWA staff reviewed the Department of Water Resources (DWR) report entitled "The State Water Project Delivery Capability Report 2015". This report uses a sophisticated flow model, called CalSim II, to estimate the current and future volumes of water that can potentially be made available from the State Water Project (SWP). The report also provides estimated delivery data that is specific to Santa Barbara County.

In the DWR report, the CalSim II model was first used to calculate the volumes of water that could be provided by the SWP under "current conditions" within the watershed. In addition, the model was run again for future conditions. The most conservative and appropriate study to use for long-term planning estimates of future SWP supply availability is the scenario known as Early Long-Term (ELT), which assumes a 15 cm sea level rise due to climate change and all other conditions within the watershed being the same as in 2015. Example text for the rational of using the "ELT" future Scenario is presented in Attachment A.

Using the data developed by DWR, CCWA prepared an estimated projection for future water deliveries for a variety of water-year types for your agency using your current Table A amount. The projections are based on using DWR's "current conditions" and the "ELT" model results, and following the calculation protocol outlined in DWR's guidance documents. Our estimate is presented in Attachment B for your use. An excel file will also be emailed to you separately for your use in developing your own projections, if you need to utilize different scenarios than provided in the CCWA estimate.

255 Industrial Way
Buellton, CA 93427-9565
(805) 688-2292
FAX: (805) 686-4700

42339

Please note that the CalSim II model utilized a historic range of hydrologic conditions that occurred from water years 1922 through 2003, with adjustments to account for land-use changes. The significance of this time frame is that it did not include the hydrology for water year 2014. Consequently, the single dry year identified by the CalSim II model is 1977. As you know, the lowest Table A allocation in the history of the SWP was in 2014 at 5%. It is suggested that both the CalSim II model results and the recent 2014 experience be recognized in your UWMP. Example text that you may want to consider is presented in Attachment C.

Finally, as required by the UWMP Act, retail urban water suppliers that rely upon a wholesale agency for a source of water supply must provide the wholesale water agency with water use projections for that source of water in five-year increments for 20 years. Accordingly, we would appreciate your agency providing this information by March 15, 2016.

If you have any question, please call me at 805-688-2292, ext 228.

Sincerely,

John Brady
Deputy Director
Central Coast Water Authority

Attachments

Attachment A

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the near and long-term availability of supplies from the SWP. DWR issued its most recent update, the 2015 DWR State Water Project Delivery Capability Report (DCR), in July 2015. In the 2015 update, DWR provides SWP supply estimates for SWP contractors to use in their planning efforts, including for use in their 2015 UWMPs. The 2015 DCR includes DWR's estimates of SWP water supply availability under both current and future conditions.

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key assumptions and inputs to the model include the facilities included in the system, hydrologic inflows to the system, regulatory and operational constraints on system operations, and projected contractor demands for SWP water. For example, the 2015 DCR uses the following assumptions to model current conditions: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints, and contractor demands at maximum Table A Amounts.

To evaluate SWP supply availability under future conditions, the 2015 DCR included four model studies. The first of the future-conditions studies, the Early Long Term (ELT) scenario, used all of the same model assumptions for current conditions, but reflected changes expected to occur from climate change, specifically, a 2025 emission level and a 15 cm sea level rise. The other three future-conditions include varying model assumptions related to the Bay Delta Conservation Plan/California Water Fix ("BDCP"), such as changes to facilities and/or regulatory and operational constraints.

In spring 2015, DWR announced that BDCP would move from a Section 10 permit to a Section 7 permit process under the Federal Endangered Species Act. As a practical matter, this split the project into two distinct parts known as Cal WaterFix (Alternative 4A), the conveyance portion, and Cal EcoRestore, the restoration portion. Cal WaterFix is Alternative 4A in the recirculated environmental document, and the preferred alternative. Alternative 4A is different than any of the future scenarios modeled by DWR in the DCR. While there is widespread support for the BDCP/Cal WaterFix project, it would be speculative at this time to assume they will move forward. While there is significant support for BDCP, plans are currently in flux- environmental review is ongoing and is not anticipated to be final until at least 2016, and several regulatory and legal requirements must be met prior to construction.

For purposes of this UWMP, the ELT scenario analyzed in DWR's 2015 DCR is deemed to be the most conservative and appropriate study to use for long-term planning estimates of future SWP supply availability. The ELT scenario, based on existing facilities and current operations, adjusted for the expected effects of climate change, is consistent with the studies DWR has used in its previous SWP Delivery Reliability Reports for supply availability under future conditions. Therefore, in this UWMP, future SWP supply availability is based on the ELT study included in the 2015 DCR.

Attachment B

Table 1 CCWA Table A Reliability Estimate

Year	**Long Term Average**	Single Dry Year 1977	2-year drought 1991-1992	2-year drought 1990-1991	4-year drought 1931-1934	4-year drought 1988-1991	6-year drought 1987-1992
2015	61%	11%	20%	20%	29%	31%	28%
2020	61%	10%	20%	18%	30%	29%	27%
2025	60%	9%	20%	17%	31%	28%	26%
2030	60%	9%	20%	15%	32%	26%	25%
2035	59%	8%	20%	14%	33%	25%	24%
2040	59%	7%	20%	13%	34%	23%	23%

Note

1. Highlighted rows are linked to tab "Reliabaility Data Analysis"
2. Other cells are interpolated by formula

Table 2 Maximum Table A Amount in Selected Drought Conditions

Drought Condition	2015	2020	2025	2030	2035	2040
Long Term Average	388	386	383	380	377	375
Single Dry Year 1977	68	64	59	55	51	47
2-year drought 1992-1991	124	125	126	126	127	128
2-year drought 1990-1991	124	116	107	98	90	81
4-year drought 1931-1934	185	191	197	203	210	216
4-year drought 1988-1991	197	188	178	168	159	149
6-year drought 1987-1992	180	173	167	161	154	148

Participant Name **Buellton**

Contractor Table A Amount:	636

Note: Enter CCWA Participant Table A Amount in yellow highlighted cell - Table will automatically calculate estimated deliveries

Current Conditions, 2015

	1 yr drought	2 yr drought	4 yr drought	6 yr drought
1922	77%			
1923	63%	70%		
1924	24%	44%		
1925	41%	32%	51%	
1926	52%	46%	45%	
1927	70%	61%	47%	54%
1928	77%	73%	60%	54%
1929	23%	50%	55%	48%
1930	37%	30%	52%	50%
1931	33%	35%	43%	49%
1932	32%	33%	31%	45%
1933	25%	28%	32%	38%
1934	26%	25%	29%	29%
1935	67%	47%	38%	37%
1936	75%	71%	48%	43%
1937	75%	75%	61%	50%
1938	100%	87%	79%	61%
1939	32%	66%	70%	63%
1940	65%	48%	68%	69%
1941	87%	76%	71%	72%
1942	70%	79%	63%	71%
1943	89%	79%	78%	74%
1944	42%	65%	72%	64%
1945	74%	58%	69%	71%
1946	68%	71%	68%	72%
1947	55%	61%	60%	66%
1948	52%	53%	62%	63%
1949	38%	45%	53%	55%
1950	61%	49%	51%	58%
1951	78%	70%	57%	59%
1952	91%	85%	67%	62%
1953	63%	77%	73%	64%
1954	64%	64%	74%	66%
1955	42%	53%	65%	67%
1956	89%	65%	65%	71%
1957	55%	72%	62%	67%
1958	100%	78%	71%	69%
1959	55%	77%	75%	67%
1960	48%	52%	65%	65%
1961	24%	36%	57%	62%
1962	56%	40%	46%	56%
1963	66%	61%	49%	58%
1964	44%	55%	48%	49%
1965	66%	55%	58%	51%
1966	63%	65%	60%	53%
1967	100%	82%	68%	66%
1968	54%	77%	71%	66%
1969	100%	77%	79%	71%
1970	76%	88%	82%	77%
1971	68%	72%	74%	77%
1972	52%	60%	74%	75%
1973	78%	65%	69%	71%
1974	85%	82%	71%	77%
1975	71%	78%	72%	72%
1976	42%	56%	69%	66%
1977	11%	26%	52%	56%
1978	81%	46%	51%	61%
1979	74%	78%	52%	61%
1980	100%	87%	66%	63%
1981	56%	78%	78%	61%
1982	100%	78%	82%	70%
1983	100%	100%	89%	85%
1984	79%	89%	84%	85%
1985	75%	77%	88%	85%
1986	89%	82%	86%	83%
1987	21%	55%	66%	77%
1988	21%	21%	52%	64%
1989	64%	42%	49%	58%
1990	24%	44%	33%	49%
1991	15%	20%	31%	39%
1992	24%	20%	32%	28%
1993	66%	45%	32%	36%
1994	32%	49%	34%	37%
1995	72%	52%	48%	39%
1996	77%	74%	62%	48%
1997	85%	81%	66%	59%
1998	88%	86%	80%	70%
1999	77%	82%	82%	72%
2000	74%	75%	81%	79%
2001	31%	53%	67%	72%
2002	44%	38%	57%	66%
2003	68%	56%	54%	64%
Min	11%	20%	29%	28%

Long Term Average 61%

Future Conditions, 2035

	1 yr drought	2 yr drought	4 yr drought	6 yr drought
1922	73%			
1923	62%	67%		
1924	18%	40%		
1925	47%	33%	50%	
1926	49%	48%	44%	
1927	65%	57%	45%	52%
1928	76%	71%	59%	53%
1929	18%	47%	52%	46%
1930	47%	33%	52%	51%
1931	20%	34%	41%	46%
1932	47%	34%	33%	46%
1933	36%	41%	38%	41%
1934	29%	32%	33%	33%
1935	65%	47%	44%	41%
1936	74%	69%	51%	45%
1937	74%	74%	60%	54%
1938	100%	87%	78%	63%
1939	20%	60%	67%	60%
1940	66%	43%	65%	67%
1941	86%	76%	68%	70%
1942	74%	80%	62%	70%
1943	92%	83%	80%	73%
1944	40%	66%	73%	63%
1945	74%	57%	70%	72%
1946	70%	72%	69%	73%
1947	31%	51%	54%	64%
1948	52%	41%	57%	60%
1949	42%	47%	49%	52%
1950	56%	49%	45%	54%
1951	79%	67%	57%	55%
1952	97%	88%	68%	59%
1953	52%	74%	71%	63%
1954	63%	57%	73%	65%
1955	45%	54%	64%	65%
1956	89%	67%	62%	71%
1957	51%	70%	62%	66%
1958	100%	76%	71%	67%
1959	47%	73%	72%	66%
1960	29%	38%	57%	60%
1961	23%	26%	50%	57%
1962	59%	41%	40%	52%
1963	68%	64%	45%	54%
1964	62%	65%	53%	48%
1965	69%	66%	65%	52%
1966	66%	68%	67%	58%
1967	88%	77%	71%	69%
1968	54%	71%	70%	68%
1969	100%	77%	77%	73%
1970	72%	86%	79%	75%
1971	66%	69%	73%	74%
1972	52%	59%	72%	72%
1973	78%	65%	67%	70%
1974	75%	77%	68%	74%
1975	71%	73%	69%	69%
1976	45%	58%	67%	64%
1977	8%	26%	50%	55%
1978	86%	47%	53%	61%
1979	75%	81%	53%	60%
1980	100%	87%	67%	64%
1981	43%	71%	76%	59%
1982	100%	71%	79%	69%
1983	100%	100%	86%	84%
1984	86%	93%	82%	84%
1985	56%	71%	86%	81%
1986	83%	70%	81%	78%
1987	22%	52%	62%	75%
1988	15%	19%	44%	60%
1989	56%	36%	44%	53%
1990	12%	34%	26%	41%
1991	16%	14%	25%	34%
1992	24%	20%	27%	24%
1993	62%	43%	29%	31%
1994	31%	46%	33%	33%
1995	82%	56%	50%	38%
1996	73%	78%	62%	48%
1997	85%	79%	68%	59%
1998	94%	89%	83%	71%
1999	67%	80%	79%	72%
2000	72%	69%	79%	79%
2001	28%	50%	65%	70%
2002	37%	33%	51%	64%
2003	47%	42%	46%	57%
Min	8%	14%	25%	24%

Long Term Average 59%

Data obtained directly from Department of Water Resources , Bay Delta Office

Attachment C

Draft Explanation of 2014 SWP Water Supply Allocation

The extremely dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in the historical record. Water year 2013 was a year with two hydrologic extremes.[1] October through December 2012 was one of the wettest fall periods on record, but was followed by the driest consecutive 12 months on record. Accordingly, the 2013 State Water Project (SWP) supply allocation was a low 35% of SWP Table A Amounts. The 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was an extremely dry year, with runoff for water year 2014 the fourth driest on record. Due to extraordinarily dry conditions in 2013 and 2014, the 2014 SWP water supply allocation was a historically low 5% of Table A Amounts. The dry hydrologic conditions that led to the low 2014 SWP water supply allocation were extremely unusual, and to date have not been included in the SWP delivery estimates presented in DWR's 2015 Delivery Capability Report.[2] It is anticipated that the hydrologic record used in the DWR model will be extended to include the period through 2014 during the next update of the model, which is expected to be completed prior to issuance of the next update to the biennial SWP Delivery Capability Report. For the reasons stated above, this UWMP uses a conservative assumption that a 5% allocation of SWP Table A Amounts represents the "worst case" scenario.

[1] A water year begins in October and runs through September. For example, water year 2013 is October 2012 through September 2013.

[2] SWP delivery estimates from DWR's 2015 SWP Delivery Capability Report are from computer model studies which use 82 years of historical hydrologic inflows from 1922 through 2003.

Allison Febbo
State Water Contractors
September 2015

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In September 1991 CCWA was formed to construct, manage and operate Santa Barbara County's local facilities for distribution and treatment of State water. CCWA is a joint powers authority comprised of eight member agencies. CCWA is a wholesale water provider to 13 water districts and private companies in Santa Barbara County, and another 11 water purchasers in San Luis Obispo County.

>> **Announcements** <<

CCWA's next meeting of the Board of Directors is scheduled for June 23, 2016.

Notice of Public Workshop and Hearing for CCWA's 2015 Urban Water Management Plan

If you have any questions or comments regarding this site or the information contained herein, please call or email:

Lisa F. Watkins
e: lfw@ccwa.com
p: 805.697.5219

Central Coast Water Authority
255 Industrial Way
Buellton, CA 93427
805.688.2292

NOTICE OF PUBLIC WORKSHOP AND PUBLIC HEARINGS

2015 URBAN WATER MANAGEMENT PLAN

The Central Coast Water Authority ("CCWA") has prepared its 2015 Urban Water Management Plan ("UWMP"), as encouraged by the Urban Water Management Planning Act ("Act"). Adoption of the 2015 UWMP by the CCWA Board of Directors is required under the Act by July 1, 2016.

While the Act only requires that an urban water supplier hold one public hearing before adopting a plan, in order to ensure sufficient opportunity for public feedback, input and suggestions concerning the 2015 UWMP, a public workshop has also been scheduled in advance of the Public Hearing to adopt the 2015 UWMP.

The public workshop will be held at 5:00 p.m. on Thursday, June 9, 2016. The public hearing will be held at 9:00 a.m., on Thursday, June 23, 2016. Both the public workshop and hearing will take place at the CCWA Board Room, located on the 255 Industrial Way, Buellton California 93427.

For additional information regarding the public hearings, please contact John Brady at (805) 688-2292.

May 26, 29/2016--50799

SANTA BARBARA NEWS PRESS
Proof of Publication
(2015.5C.C.P)

Superior Court of
the State of California
In and for The County of Santa Barbara

In the Matter of:

Legal 50799
Ad# 3821544

Notice of Public Workshop and Public Hearings

The undersigned, being the principal clerk of the printer of the Santa Barbara News Press, a newspaper of general circulation, printed and published daily in the City of Santa Barbara, County of Santa Barbara, California and which newspaper has been adjudged a newspaper of general circulation by the Superior Court in the County of Santa Barbara, State of California, Adjudication Number 47171; and that affiant is the principal clerk of said Santa Barbara News Press. That the printed notice hereto annexed was published in the SANTA BARBARA NEWS-PRESS, in the issues of the following named dates

May 26, 29, 2016

all in the year 2016 I hereby certify (or declare) under penalty of perjury that the foregoing is true and correct.

Executed on this 31st of May, 2016 at Santa Barbara, CA.

E. Bogart

Evangeline Bogart

NOTICE OF PUBLIC WORKSHOP AND PUBLIC HEARINGS

2015 URBAN WATER MANAGEMENT PLAN

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For additional information regarding the public hearings, please contact John Brady at (805) 688-2292.

May 26, 29/2016--50799

June 29, 2016

«First_Name» «Last_Name»
«Company_Name»
«Mailing_Address»
«City», «State» «Zip»

Subject: Final 2015 Urban Water Management Plan (UWMP) for the Central Coast Water Authority

Dear «First_Name» «Last_Name»:

The Central Coast Water Authority's (CCWA) 2015 Urban Water Management Plan (Plan) is complete and available for review. The Plan was prepared in compliance with the Urban Water Management Planning Act (Division 6, Part 2.6 of the California Water Code).

As required by the UWMP Act, a public workshop was convened on June 9, 2016 in the CCWA Buellton office to solicit public comment. In addition, the CCWA Board of Directors considered and formally adopted the 2015 UWMP in a Public Hearing held on June 23, 2016.

As required by the UWMP Act, the CCWA 2015 UWMP must be made available to any City or County that receives water from CCWA within 30 days of the UWMP adoption. We are issuing you this letter to comply with this requirement. Please find the Final 2015 CCWA UWMP at the following location:

http://www.ccwa.com/

Please find the UWMP under the "Major Reports" tab of this website. Hard copies of the UWMP are also available at the CCWA Administrative Office in Buellton, California, as well. If you have any questions, please call our office at (805) 688-2292.

Sincerely,

John Brady
Deputy Director

First Name	Last Name	Company Name	Mailing Address	City	State	Zip
Pernell	Rush	30 CES/CEOEO 1028	1028 Iceland Ave. Bldg. 1	Vandenberg AFB	CA	93437
John	Wallace	Avila Beach CSD	612 Clarion Court	San Luis Obispo	CA	93401
Jane	Oishi	Avila Valley Mutual Water Co., Inc.	233-D Granada Street	San Luis Obispo	CA	93401
Mary Ann	Alves-Wright	California Mens Colony	P.O. Box A	San Luis Obispo	CA	93409
Charles	Hamilton	Carpinteria Valley Water District	1301 Santa Ynez Avenue	Carpinteria	CA	93013
Norma	Rosales	Carpinteria Valley Water District	1301 Santa Ynez Avenue	Carpinteria	CA	93013
Rose	Hess	City of Buellton	PO Box 1819	Buellton	CA	93427
Andrew	Carter	City of Guadalupe	918 Obispo Street	Guadalupe	CA	93434
Susan	Slayton	City of Morro Bay	595 Harbor Blvd.	Morro Bay	CA	93442
Susan	West-Jones	City of Pismo Beach	760 Mattie Road	Pismo Beach	CA	93449-2000
Kelley	Dyer	City of Santa Barbara	P.O. Box 1990	Santa Barbara	CA	93102
Joshua	Haggmark	City of Santa Barbara	P.O. Box 1990	Santa Barbara	CA	93102-1990
Shad	Springer, P.E., MPA	City of Santa Maria	2065 East Main	Santa Maria	CA	93454
Sandra	Featherson	City of Solvang	1644 Oak Street	Solvang	CA	93463
Matt	van der Linden, P.E.	City of Solvang	411 Second Street	Solvang	CA	93463
Dan	Troy	Cuesta College	P.O.Box 8106	San Luis Obispo	CA	93403
Mark	Zimmer	Golden State Water Company	2330 "A" Street Suite A	Santa Maria	CA	93455
Ryan	Drake	Goleta Water District	4699 Hollister Avenue	Santa Barbara	CA	93110-1999
Dave	Matson	Goleta Water District	4699 Hollister Ave	Goleta	CA	93110
John	McInnes	Goleta Water District	4699 Hollister Ave.	Santa Barbara	CA	93110-1999
Jonathan	Wunderlich	Goleta Water District	4699 Hollister Ave.	Santa Barbara	CA	93110-1999
Mike	Alvarado	La Cumbre Mutual Water Company	695 Via Tranquila	Santa Barbara	CA	93110
Edward	Lyons	Montecito Water District	583 San Ysidro Road	Santa Barbara	CA	93108-2124
Nick	Turner	Montecito Water District	583 San Ysidro Road	Santa Barbara	CA	93108-2124
Madeleine	Mueller	Morehart Land Co.	P.O. Box 1209	Carpinteria	CA	93014-1209
Tom	Geaslen	Oceano CSD	1655 Front Street	Oceano	CA	93445
Terry	Hite	Raytheon	Fac. B05/MS48, 75 Coror	Goleta	CA	93117
Wade	Horton	San Luis Obispo County	County Government Cen	San Luis Obispo	CA	93408
Rick	Koon	San Miguelito Mutual Water Company	P.O. Box 2120	Avila Beach	CA	93424
Chris	Dahlstrom	Santa Ynez River WCD, ID #1	P. O. Box 157	Santa Ynez	CA	93460
Sherri	Weiss	SLO County Engineering	County Government Cen	San Luis Obispo	CA	93408
Steve	Amerikaner	Brownstein Hyatt Farber Schreck	Post Office Drawer 720	Santa Barbara	CA	93102
Joe	Barget	Vandenberg Village CSD	3757 Constellation Road	Lompoc	CA	93436
Rosemarie	Gaglione	City of Goleta	130 Cremona Drive, Suit	Goleta	CA	93117
Gregory	Ray	City of Grover Beach	154 S. Eighth Street	Grover Beach	CA	93433
Charlie	Eberling	City of Carpinteria	5775 Carpinteria Avenue	Carpinteria	CA	93103
Tom	Fayram	S.B. County Water Agency	123 East Anapamu Stree	Santa Barbara	CA	93101
Janet	Gingras	Cachuma Operation and Maintenance Board	3301 Laurel Canyon Roa	Santa Barbara	CA	93105-2017
Karen	Poggione	City of Lompoc	100 Civic Center Plaza	Lompoc	CA	93463
Bruce	Wales	Santa Ynez River WCD	Post Office Box 719	Santa Ynez	CA	93460
James	Hampton	Cuyama CSD	4885 Primero Street	New Cuyama	CA	93254-0368

June 29, 2016

California State Library
Government Publications Section
914 Capitol Mall
Sacramento California 95814

Subject: Submittal of the 2015 Urban Water Management Plan for the Central Coast Water Authority

Dear Government Publications Section:

Please find attached a bound copy of the final 2015 Urban Water Management Plan for the Central Coast Water Authority. We have also enclosed an electronic copy on a CD for your use as well.

If you have questions, please call our offices at 805-688-2292.

Sincerely,

John Brady
Deputy Director
Central Coast Water Authority.

255 Industrial Way
Buellton, CA 93427-9565
(805) 688-2292
FAX: (805) 686-4700

42847

APPENDIX C

RESOLUTION NO. 16-05

RESOLUTION ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN FOR THE CENTRAL COAST WATER AUTHORITY AS REQUIRED BY THE CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT, CALIFORNIA WATER CODE SECTION 10610

WHEREAS, pursuant to California Water Code section 10652, the preparation and adoption of an Urban Water Management Plan is exempt from the requirements of the California Environmental Quality Act (California Public Resources Code section 21000, et seq.); and

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-84 Regular Session, and as amended subsequently, which mandates that every retail and wholesale water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the Central Coast Water Authority (CCWA) is a water wholesaler providing water to retail water purveyors that serve a population of over 350,000 people; and supply over 30,000 acre-feet per year of State Water Project Water; and

WHEREAS, the Plan must be adopted by July 1, 2016, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the CCWA circulated said Plan among local retail water suppliers contracted to receive water from CCWA; and

WHEREAS, the CCWA conducted one properly noticed public workshop regarding said Plan on June 9, 2016; and

WHEREAS, the CCWA conducted one properly noticed public hearing regarding said Plan on June 23, 2016; and

WHEREAS, CCWA shall file said Plan with the California Department of Water Resources by July 1, 2016;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Central Coast Water Authority:

1. That the 2015 Urban Water Management Plan is hereby approved and adopted.
2. That the Executive Director of CCWA is hereby authorized and directed to submit the 2015 Urban Water Management Plan to the Department of Water Resources within 30 days of execution of this Resolution

I certify that the foregoing Resolution No. 16-05 was adopted by the Board of Directors of the Central Coast Water Authority at a meeting held June 23, 2016.

Jack Boysen, Chairman

[Seal]

Attest:

Elizabeth Watkins
Secretary to the Board of Directors

	VOTING PERCENTAGE	AYE	NAY	ABSTAIN	ABSENT
City of Buellton	2.21%	X			
Carpinteria Valley Water District	7.64%	X			
Goleta Water District	17.20%			X	
City of Guadalupe	1.15%	X			
Montecito Water District	9.50%				X
City of Santa Barbara	11.47%				X
City of Santa Maria	43.19%	X			
Santa Ynez River Water Conservation District, Improvement District No. 1	7.64%	X			

RESOLUTION NO. ____

RESOLUTION OF THE BOARD OF DIRECTORS OF THE CENTRAL COAST WATER AUTHORITY ADOPTING A WHOLESALE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the Central Coast Water Authority (the "Authority"), a joint exercise of powers authority duly organized and existing under and pursuant to the Constitution and laws of the State of California, and is authorized to, among other things supply water on a wholesale basis to certain retail water suppliers within San Luis Obispo and Santa Barbara Counties; and

WHEREAS, the Authority is a wholesale urban water supplier for purposes of the Urban Water Management Panning Act (Water Code section 10610 et seq.) and the Water Conservation Act of 2009 (Water Code section 10608 et seq.), commonly referred to as SBX7-7; and

WHEREAS, the Authority has access to water that it treats and delivers on a wholesale basis to certain retail water suppliers in San Luis Obispo and Santa Barbara Counties, which source of water is annual contractual supplies from the State Water Project (SWP); and

WHEREAS, the State of California recently experienced record multiple-dry year conditions and many portions of the state continue to face ongoing drought conditions, wherein such conditions have affected the availability and reliability of the Authority's wholesale water supplies and water supplies throughout San Luis Obispo and Santa Barbara Counties, and wherein future drought conditions will continue to affect the availability and reliability of water supplies available to the Authority and the retail water suppliers; and

WHEREAS, in addition to being subject to drought conditions, water supplies available to the Authority and the retail water suppliers are subject to environmental, regulatory, legal, and other constraints, and are further subject to shortages and reductions caused by catastrophic conditions such as regional power outages, earthquakes, or other disasters; and

WHEREAS, in addition to being subject to drought conditions, water supplies available to the Authority and the retail water suppliers are subject to environmental, regulatory, legal, and other constraints, and are further subject to shortages and reductions caused by catastrophic conditions such as regional power outages, earthquakes, or other disasters; and

WHEREAS, in accordance with the Urban Water Management Planning Act, the Authority and the retail water suppliers are required to provide a water shortage contingency analysis as part of their regional Urban Water Management Plan, which must include,

among other things, a final or draft water shortage contingency resolution or ordinance for each agency; and

WHEREAS, in response to the current and future variability of water supply conditions throughout the State and within San Luis Obispo and Santa Barbara counties, the Authority desires to establish its Water Shortage Contingency Plan for purposes of the 2015 Regional Urban Water Management Plan being prepared by the Authority and the Retail water suppliers, and further desires to coordinate any implementation of its Water Shortage Contingency Plan with the retail water suppliers.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Central Coast Water Authority as follows:

Section 1. Incorporation of Recitals. All of the Recitals set forth above are true and correct and the Board of Directors so finds and determines. Said Recitals are incorporated herein and made an operative part of this Resolution.

Section 2. Purpose and Scope. The Urban Water Management Planning Act requires, among other things, that an Urban Water Management Plan provide an urban water shortage contingency analysis that includes various elements that are within the authority of the urban water supplier, including but not limited to, the stages of action to be undertaken by the urban water supplier in response to water supply conditions such as shortages, including up to a 50 percent reduction in water supply. The Authority has developed and the Board of Directors adopts the Water Shortage Contingency Plan (WSCP) as set forth herein to respond to potential water supply shortages or reductions in water supply in accordance with the requirements of the Urban Water Management Planning Act.

Section 3. Notice and Public Hearing. The Authority's Board of Directors has conducted a noticed public hearing on (INSERT DATE) to allow public agencies, members of the public, and other interested stakeholders to review this Resolution and the Authority's WSCP, and to submit comments, be heard, or protest the Resolution or WSCP prior to being adopted by the Board of Directors.

Section 4. WSCP Principles. In addition to the scope and purpose of the WSCP as described in Section 2, above, a guiding principle of the WSCP is to manage the Authority's water resources and water supply planning efforts to minimize the effects of water shortages or water supply reductions. Additional supporting principles include:

(a) Coordinate water supply planning efforts and water supply operations with the retail water suppliers to the greatest extent practicable.

(b) Pursue innovative transfer and banking programs to secure additional imported water supplies for use in dry years and during water shortage conditions.

Section 5. Implementation. On an ongoing basis, the Authority evaluates its water supply conditions to determine the appropriate management stage. Each stage is associated with specific water resource management considerations designed to: (1) avoid

shortages to the maximum extent practicable; and (2) coordinate with the Retail water suppliers to minimize the effects of reductions in water supply or water shortage conditions.

Section 6. Stage 0 Water Supply Condition.

a. A Stage 0 Water Supply Condition exists when the Authority determines in its sole discretion that its imported water supplies are greater than demand from the Retail water suppliers. The Authority's total year SWP Table A allotment (45,486 acre-feet) is referred to for purposes of this Resolution as the Authority's "Normal Year Wholesale Imported Supply." When the Authority determines in its sole discretion that at least 65 percent of its Normal Year Wholesale Imported Supply is available to the Authority, the Authority is considered to be in a Stage 0 Water Supply Condition, where the Authority's Normal Year Wholesale Imported Supply is considered to exceed demands for such supply in that year, and extraordinary water supply management actions are not required. Notwithstanding, the following actions may continue to be undertaken by the Authority during a Stage 0 Water Supply Condition:

1. Wholesale and Retail Coordination. The Authority meets and coordinates with the retail water suppliers regarding current and projected water supplies and demands.

2. Manage Water Supplies in Excess of Demands. Water available to the Authority in excess of demands will be managed to the maximum extent practicable, including but not limited to, placing such water in water banking or water exchange programs, or in available SWP surface storage.

Section 7. Stage 1 Water Supply Condition.

a. A Stage 1 Water Supply Condition exists when the Authority determines in its sole discretion that due to drought, regulatory, legal, catastrophic, or other conditions, the Authority's Normal Year Wholesale Imported Supply is subject to a 35 to 39 percent reduction. Under a Stage 1 Water Supply Condition, the Authority has sufficient SWP surface storage to meet the reduction in supply. A Stage 1 Water Supply Condition will trigger the following water management actions by the Authority:

1. Wholesale and Retail Coordination. The Authority meets and coordinates with the retail water suppliers regarding current and projected water supplies and demands.

2. Take Water from SWP Surface Storage. The Authority will take water supplies it has previously stored in SWP surface reservoirs, including but not limited to water stored in San Luis Reservoir under the Authority's SWP water supply contract.

3. Stage 0 Actions. The Authority will continue to undertake other actions identified above under a Stage 0 Water Supply Condition.

Section 8. Stage 2 Water Shortage Condition.

a. A Stage 2 Water Supply Condition exists when the Authority determines in its sole discretion that due to drought, regulatory, legal, catastrophic, or other conditions, the Authority's Normal Year Wholesale Imported Supply is subject to a 40 to 44 percent reduction. Under a Stage 2 Water Supply Condition, the Authority has sufficient SWP surface storage plus other low-cost water resources to meet the reduction in supply. A Stage 2 Water Supply Condition will trigger the following water management actions by the Authority:

1. Wholesale and Retail Coordination. The Authority meets and coordinates with the retail water suppliers regarding current and projected water supplies and demands.

2. Take Water from Low-Cost Water Exchange Programs. As needed, the Authority will call on water supplies held in its contractual exchange programs.

3. Take Water from Low-Cost Water Transfers. As needed, the Authority will call on water supplies held through its contractual participation in water transfer programs.

Section 9. Stage 3 Water Shortage Condition.

a. A Stage 3 Water Supply Condition exists when the Authority determines in its sole discretion that due to drought, regulatory, legal, catastrophic, or other conditions, the Authority's Normal Year Wholesale Imported Supply is subject to a 45 to 75 percent reduction. Under a Stage 3 Water Supply Condition, the Authority has sufficient SWP surface storage plus other low-cost water resources plus other potential actions to meet the reduction in supply. A Stage 3 Water Supply Condition will trigger the following water management actions by the Authority:

1. Wholesale and Retail Coordination. The Authority meets and coordinates with the Retail water suppliers regarding current and projected water supplies and demands.

2. Take from Water Banking Programs. As needed, the Authority will call on water supplies held in its contractual banking programs.

3. Participate in Additional Water Purchases. As needed, the Authority may consider and execute additional water purchases individually or as part of a pool of buyers.

Section 10. Exemption from the California Environmental Quality Act. The Board of Directors determines that the adoption of this Resolution and the Water Supply Allocation Plan set forth herein, for the purpose of addressing potential reductions in water supply or water supply shortages, are exempt from the requirements are exempt from the requirements of the California Environmental Quality Act (CEQA).

Section 11. Effective Date. This Resolution shall be effective immediately upon adoption and shall be presumed to continue in effect unless or until a contrary finding is made by applicable action by the Board of Directors.

I certify that the foregoing Resolution No. _____ was adopted by the Board of Directors of the Central Coast Water Authority at a meeting held _____.

_____
Jack Boysen, Chairman

[Seal]

Attest:

_____
Elizabeth Watkins
Secretary to the Board of Directors

	VOTING PERCENTAGE	AYE	NAY	ABSTAIN	ABSENT
City of Buellton	2.21%	_____	_____	_____	_____
Carpinteria Valley Water District	7.64%	_____	_____	_____	_____
Goleta Water District	17.20%	_____	_____	_____	_____
City of Guadalupe	1.15%	_____	_____	_____	_____
Montecito Water District	9.50%	_____	_____	_____	_____
City of Santa Barbara	11.47%	_____	_____	_____	_____
City of Santa Maria	43.19%	_____	_____	_____	_____
Santa Ynez River Water Conservation District, Improvement District No. 1	7.64%	_____	_____	_____	_____

APPENDIX D

WATER SOURCES AND DISTRIBUTION IN SANTA BARBARA COUNTY

Department of Public Works
County of Santa Barbara

San Luis Obispo County

San Luis Obispo County

Santa Barbara County

Ventura County

Cuyama River

Santa Maria River

Sisquoc River

Santa Ynez River

Santa Ynez River

Pacific Ocean

HWY 101

HWY 101

HWY 101

HWY 246

State HWY 154

STATE WATER PIPELINE

STATE WATER PIPELINE

TWITCHELL RESERVOIR

TWITCHELL DAM

CACHUMA RESERVOIR

BRADBURY DAM

GIBRALTAR RESERVOIR

GIBRALTAR DAM

JUNCAL DAM

JAMESON RESERVOIR

TECOLOTE TUNNEL

MISSION TUNNEL

DOULTON TUNNEL

SOUTH COAST CONDUIT

Santa Maria

Guadalupe

GSWC

GSWC

GSWC

GSWC

Casmalia CSD

Vandenberg Air Force Base

Vandenberg Village CSD

Mission Hills CSD

Lompoc

Los Alamos CSD

Buellton

Solvang

Santa Ynez R WCD ID1

Goleta WD

La Cumbre Mutual Water Co

City of Santa Barbara Water Service Area

Montecito WD

Carpinteria Valley WD

Cuyama CSD

Legend

- Dams
- SWP Turnout
- City Boundary Line
- State Water Project Pipeline
- Rivers
- South Coast Conduit
- Tunnel
- Roads
- Highways Freeways
- Groundwater Basins
- Lakes & Reservoirs
- Casmalia CSD
- City of Santa Barbara Water Service Area
- County boundary
- Santa Maria
- Vandenberg Air Force Base
- La Cumbre Mutual Water Co
- Goleta WD
- Buellton
- Carpinteria Valley WD
- Cuyama CSD
- Guadalupe
- Lompoc
- Los Alamos CSD
- Mission Hills CSD
- Montecito WD
- Vandenberg Village CSD
- Golden State Water Co (GSWC)
- Solvang
- Santa Ynez R WCD ID1
- Pacific Ocean

N
W E
S

Miles
0 0.5 1 2 3 4

Coordinate System: State Plane California Zone V NAD 1983

WATER SOURCES AND DISTRIBUTION IN SANTA BARBARA COUNTY

Santa Barbara County, California

PUBLIC WORKS
ENTERPRISE GIS

Prepared By:
G. Reedy

Compiled by the Public Works Enterprise GIS in October 2012

Santa Barbara Flood Control and Water Conservation District

Compiled by the Office of the County Surveyor in September of 2007

Legend

- Parcel Boundary
- Annexation
- Detachment
- Formation

N

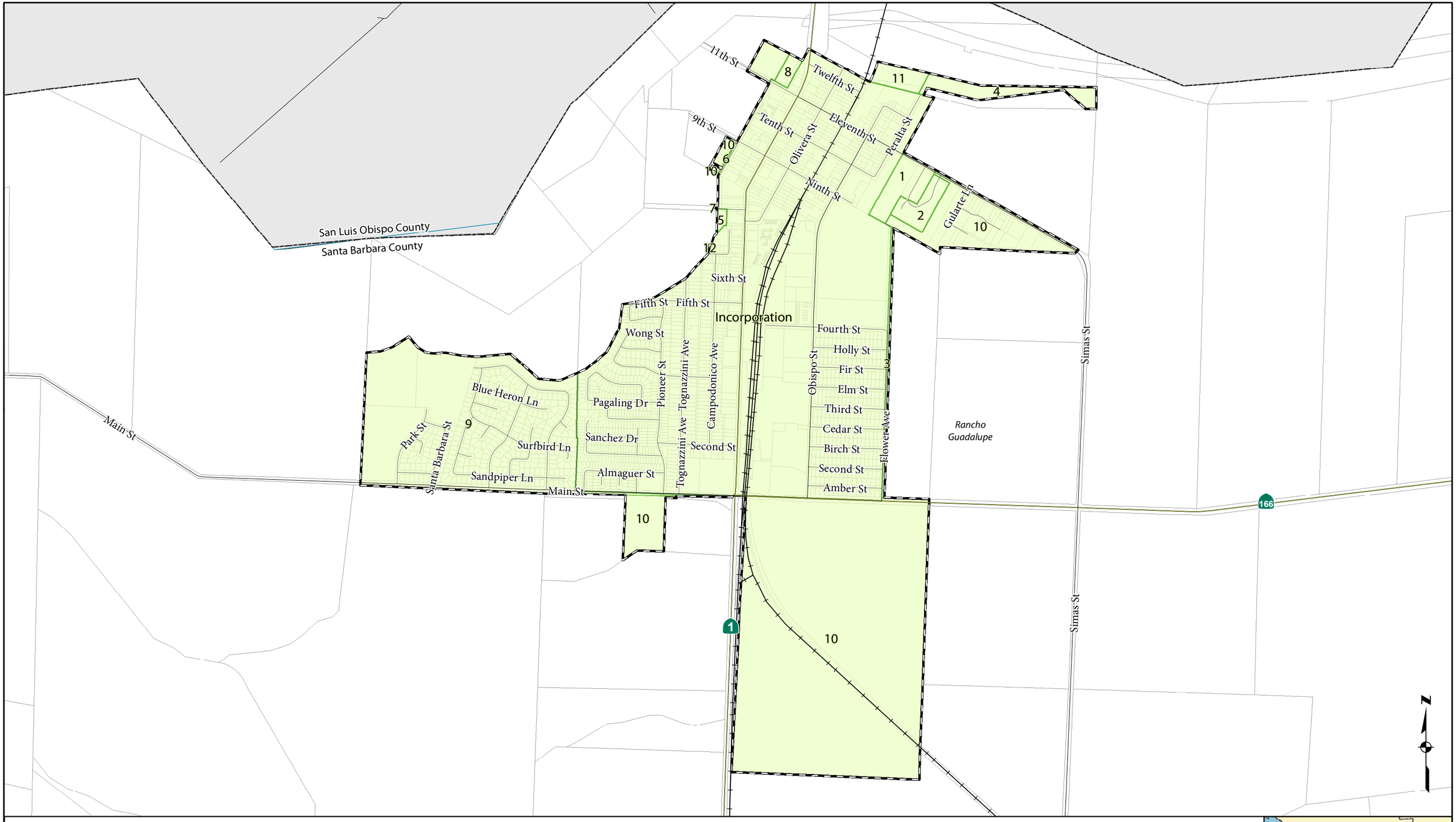
W E

S

GRAPHIC SCALE

0 2.5 5 10 15 20

Miles



City of Guadalupe

Compiled by the Office of the County Surveyor in December of 2010. Incorporated 8/3/1946 by County Res. 6769. Last Action: Gowing Reorg., LAFCO 07-10, 11/13/2007. Sphere: 11/4/2010. See boundary activity table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

GRAPHIC SCALE

0 0.125 0.25 0.5

Miles

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Ranchos and Townships
- County Boundary
- City Boundary
- Sphere of Influence
- Annexation
- Incorporation
- Detachment

City of Guadalupe Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

InternalNo	Title	Type	Effective	County_Res	City_Ord	City_Res	City_Date	LAFCO_Res	LAFCO_Date	Instrument	Recorded
0	Incorporation of the City of Guadalupe	Formation	8/3/1946	6769						32/177-179	
1	Ordinance No. 45	Annexation	3/19/1951		45		3/19/1951				
2	Ordinance No. 55	Annexation	9/24/1956		55						
3	Annexation No. 3	Annexation	5/31/1960								
4	Annexation No. 4	Annexation	1/26/1961		71		12/27/1960				
5	Annexation No. 5	Annexation	8/7/1963		88	6769	7/8/1963				
6	Pioneer Street Annexaton No. 1	Annexation	12/5/1974			432		1974-385	12/5/1974		
7	Sewer Lift Station	Annexation	3/31/1975			433	2/7/1975	1974-386			
8	El Club Comote Civico Mexicano de Guadalupe	Annexation	3/28/1980			554		1979-533	4/2/1982	1980-0012905	3/28/1980
9	Annexation No. 6, Wastewater Treatment Plant	Annexation	11/29/1988		88-846			1988-774	11/18/1988	1988-0076520	11/29/1988
10	DJ Farms Reorganization	Annexation	6/5/1995			95-05	5/11/1995	1993-14	5/23/1995	1995-0030210	6/8/1995
11	Jasco Reorganization	Annexation	8/5/2004					2003-11	9/4/2004	2004-0111676	10/20/2004
12	Gowing Reorganization	Annexation	11/13/2007					2007-10	11/13/2007	2007-0078906	11/13/2007
	City of Guadalupe Sphere of Influence	SOI	11/4/2010						11/4/2010		

City of Santa Maria

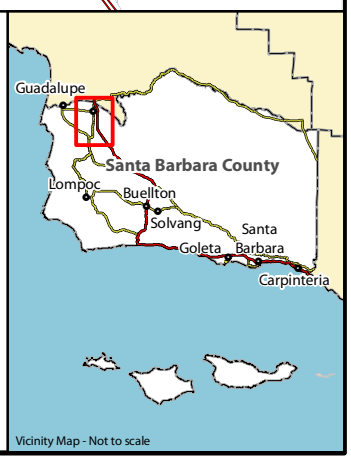
Compiled by the Office of the County Surveyor in December of 2011.
Incorporated 9/18/1905, Board of Supervisors Minute Book J/ 150-152.
Last Action: 106, Wastewater Treatment Plant Reorg., LAFCO 07-08, 10/5/2007.
Sphere: 11/4/2010. See Boundary Activity Table at
http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

A missing number means no completion information was found for a proposed boundary change.
NOTICE OF DISCLAIMER: This data is for reference only. Although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the database may be reflected in this data. Santa Barbara County shall not be liable for any errors, omissions, or damages that result from inappropriate use of this document. No level of accuracy is claimed for the boundary lines shown hereon and lines should not be used to obtain coordinate values, bearings or distances.

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Ranchos and Townships
- County Boundary
- City Boundary
- Sphere of Influence
- Annexation
- Incorporation
- Detachment

GRAPHIC SCALE
0 0.25 0.5 1 1.5 2
Miles



Vicinity Map - Not to scale

City of Santa Maria Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

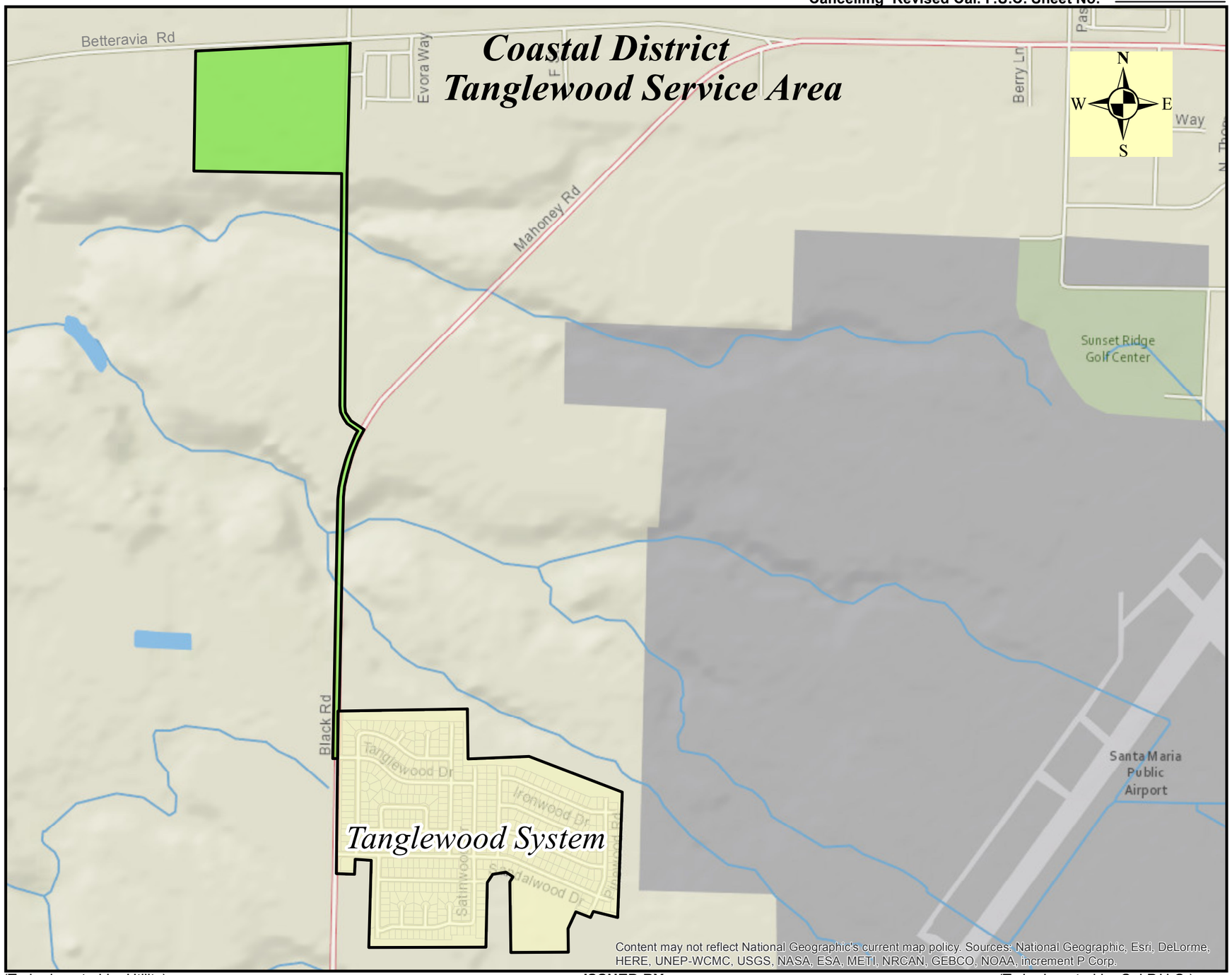
InternalNo	Title	Type	Effective	City_Ord	City_Res	City_Date	County_Res	LAFCO_Res	LAFCO_Date	Instrument	Recorded	State_Date
0	Incorporation of the City of Santa Maria	Formation	9/18/1905							BOS Min. J 150		
1	S. M. Freezer	Annexation	7/16/1956	340		7/16/1956						
2	La Brea Securities	Annexation	7/15/1957	354		7/15/1957						
3	Driver Co.	Annexation	3/15/1958	368		3/15/1958						
4	Sewer Plant	Annexation	3/17/1958				17704					
5	Enos	Annexation	10/24/1958	378		10/24/1958						
6	Porter (Stowell)	Annexation	11/5/1958	382		11/5/1958						
7	Ray Hommes Dev. Co. (Donovan)	Annexation	3/2/1959	384		3/2/1959						
8	Diani Hanson	Annexation	4/6/1959	389		4/6/1959						
9	Enos	Annexation	2/16/1959	390		2/16/1959						
10	Thompson (Holcomb)	Annexation	2/16/1959	392		2/16/1959						
11	Maria Vista (Pasquini)	Annexation	3/23/1959	396		3/23/1959						
12	Pace - Paige	Annexation	1/16/1961	413		1/16/1961						
13	EB Taylor Estate (No Park.)	Annexation	7/27/1959	405		7/27/1959						
14	Porter - Ruiz	Annexation	4/4/1960	428		4/4/1960						
15	Airport	Annexation	7/18/1960	445		7/18/1960						
17	Enos	Annexation	3/7/1960	431		3/7/1960						
18	Mahoney	Annexation	8/15/1960	436		8/15/1960						
19	Cortez Land and Mortgage Co.	Annexation	2/6/1961	463		2/6/1961						
20	Thompson Associates	Annexation	7/17/1961	472		7/17/1961						
21	Newlove	Annexation	9/18/1961	492		9/18/1961						
23	Mayer Tract	Annexation	9/4/1962	546		9/4/1962						
24	City Dump	Annexation	8/7/1961	481		8/7/1961						
26	Pasquini	Annexation	1/22/1962	510		1/22/1962						
27	Cossa (East Gate)	Annexation	11/20/1961	502		11/20/1961						
28	Freeway R/W (Sec. 12)	Annexation	3/5/1962	513		3/5/1962						
29	Bognuda	Annexation	4/24/1962	517		4/24/1962						
30	S. Counties Gas Co.	Annexation	4/2/1962	518		4/2/1962						
31	Cemetery Association	Annexation	7/16/1962	523		7/16/1962						
32	McCoy	Annexation	6/4/1962	530		6/4/1962						
33	South Side of E. Stowell Rd. and Vicinity	Annexation	6/18/1962	532		6/18/1962						
34	Machado	Annexation	8/20/1962	533		8/20/1962						
35	Suey Iliff	Annexation	4/1/1963	564		4/1/1963						
36	Theo Holcomb	Annexation	7/24/1962	538		7/24/1962						
39	South Bradley Road (Jones to Stowell)	Annexation	11/5/1962	551		11/5/1962						
40	Bob Roberts and Aguirre	Annexation	1/21/1963	554		1/21/1963						
48	Petrolane Gas	Annexation	1/17/1964	589		1/17/1964						
53	Airport (SMPA2), et al	Annexation	3/31/1967	659		3/31/1967		17	6/23/1966			
54	Viking AFCO (Iverson)	Annexation	8/1/1966		2442	8/1/1966						

InternalNo	Title	Type	Effective	City_Ord	City_Res	City_Date	County_Res	LAFCO_Res	LAFCO_Date	Instrument	Recorded	State_Date
55	Skyway Drive Annex (SMPA)	Annexation	12/17/1976	1976-879		11/2/1976				1976-0054319	12/17/1976	
56	"A" Street	Annexation	12/27/1977		1977-444	8/2/1977		1976-445		1977-0063359	12/27/1977	
57	Foster Road	Annexation	12/27/1977		1977-4446	12/6/1977		1977-469	6/1/1977	1977-0063357	12/27/1977	
58	Sander Mobile Home Park	Annexation	9/9/1970	746		9/9/1970		1970-205	7/9/1970			
60	Suey Disposal Site	Annexation	11/20/1972		3395	11/20/1972		1972-319	10/26/1972			
61	Columbia Broadcasting System	Annexation	11/20/1972		3383	11/20/1972		310	9/28/1972			
62	Suey Crossing	Annexation	11/11/1977	1977-907		6/7/1977		1976-412	1/8/1976	1977-0056586	11/11/1977	12/12/1977
63	Country Club	Annexation	5/5/1975		3898	4/1/1975		1975-391	2/27/1975	1975-0015095		5/5/1975
65	Mahoney	Annexation	12/28/1977	1977-924		11/1/1977		1977-472	7/28/1977	1977-0063659	12/28/1977	1/11/1978
67	Pertusi	Annexation	12/17/1976	1976-881		12/16/1976				1976-0054320	12/17/1976	
68	Libeu	Annexation	6/15/1979		1979-4804	7/15/1979		1979-526	5/24/1979	1979-0027232	6/15/1979	7/5/1979
69	Kerr Hall Hurly Deutsch (SB Research)	Annexation	7/14/1982		1982-416	6/22/1982				1982-0029007	7/14/1982	7/28/1982
71	Hidden Pines	Annexation	3/17/1987		1986-190	12/16/1986		1986-738	11/13/1986	1987-0019714	3/17/1987	5/5/1987
73	First Christian Church	Annexation	5/13/1987		1987-44	4/7/1987		1987-745	2/26/1987	1987-0035655	5/13/1987	7/14/1987
77	Jeff White ("A" Street)	Annexation	9/27/1989		1989-112	9/19/1989		1989-793	6/15/1989	1989-0064342	9/27/1989	10/27/1989
78	Foxenwoods	Annexation	12/5/1990		1990-146	11/20/1990		1990-804	9/6/1990	1990-0077404	12/5/1990	1/18/1991
80	Robinson Helicopter Co.	Annexation	2/10/1992		1992-03	2/5/1992		1991-828	12/5/1991	1992-0008884	2/10/1992	3/5/1992
81	Hidden Pines Estates Reorg.	Annexation	5/7/1992		1991-191	12/17/1991		1991-826	11/7/1991	1992-0034516	5/7/1992	01920605
82	Hidden Pines Reorg. (Cherry Blossom)	Annexation	12/27/1994		1994-204	11/15/1994				1994-0092336	12/27/1994	
83	Hidden Pines II/Riverside MHP Reorg.	Annexation	7/29/1992		1992-72	6/2/1992		1992-835	5/7/1992	1992-0058964	7/29/1992	8/31/1992
84	Old Country Club Estates	Annexation	9/15/1993		1993-114	9/9/1993		1992-02	6/10/1993	1994-0018617	3/3/1994	
85	West Main Reorg.	Annexation	10/24/1994		1994-160	8/16/1994				1994-0079390	10/24/1994	
86	Blosser Southeast Reorg.	Annexation	12/30/1994		1994-205					1994-0093861	12/30/1994	
87	Blosser Southwest Reorg.	Annexation	12/27/1994		1994-206	11/15/1994				1994-0092337	12/27/1994	
89	West Stowell Reorg.	Annexation	9/30/1994		1994-161	8/16/1994				1994-0074841	9/30/1994	
90	Entrada Este Reorg.	Annexation	12/27/1994		1994-207	11/15/1994				1994-0092335	12/27/1994	
91	Sur Del Rio Reorg.	Annexation	7/24/1995		1995-93	7/17/1995		1993-04	8/18/1994	1995-0039890	7/24/1995	
93	Sur Del Rio Reorg. (Costco/Carls)	Annexation	7/24/1995		1995-93	7/17/1995		1993-04	8/18/1994	1995-0039890	7/24/1995	
95	Refiled Bradley Land Co. Reorg.	Annexation	7/24/2000					2000-01	2/3/2000	2000-0044768	7/24/2000	
96	City Wastewater Treatment Plant Reorg.	Annexation	12/3/1999					1999-13	10/7/1999	1999-0094776	12/3/1999	
96	City Wastewater Treatment Plant Reorg.	Detachment	12/3/1999					1999-13	10/7/1999	1999-0094776	12/3/1999	
97	North Preisker Ranch Reorg.	Annexation	3/16/2000					1999-06	8/5/1999	2000-0015587	3/16/2000	
99	Robinson Annex	Annexation	4/12/2004					2002-15	2/6/2003	2004-0036513	4/12/2004	
100A	Santa Maria Cemetery Reorg.	Annexation	11/19/2003					2002-18	9/4/2003	2003-0158428	11/19/2003	
100	Enos-[Buss] Ranchos Reorg.	Annexation	8/7/2008					2008-04	7/3/2008	2008-0046995	8/7/2008	
102	Refiled Mahoney Ranch Annex	Annexation	11/9/2004					2003-05	3/4/2004	2004-0119171	11/9/2004	
103	Black Road Reorg.	Annexation	11/23/2004					2004-01	9/17/2004	2004-0124282	11/23/2004	
104	Hagerman Sports Complex (CSM)	Annexation	7/14/2006					2005-17	12/1/2005	2006-0055703	7/14/2006	
105	Quail Run Reorg. (ADAM)	Annexation	1/28/2008					2007-11	12/28/2007	2008-0004886	1/28/2008	
106	Wastewater Treatment Plant Reorg.	Annexation	10/5/2007					2007-08	9/6/2007	2007-0071432	10/5/2007	
	City of Santa Maria Sphere of Influence	SOI	2/2/2006						2/2/2006			

GOLDEN STATE WATER COMPANY (U 133 W)
630 EAST FOOTHILL BOULEVARD
SAN DIMAS, CALIFORNIA 91773

Revised Cal. P.U.C. Sheet No. 7429-W
Cancelling Revised Cal. P.U.C. Sheet No. 5258-W

Coastal District
Tanglewood Service Area



California Vicinity Map

SHOWING TERRITORY WITHIN WHICH DULY ESTABLISHED AND REGULARLY FILLED TARIFF SCHEDULES APPLICABLE TO WATER SERVICE ARE IN EFFECT

This map shall not be considered by the Public Utilities Commission of the State of California or any other public body as a final or conclusive determination or establishment of the dedicated area of service, or any portion thereof.

Indicates Existing Service Area

Indicates Service Area Added by the Filing of this Map

Golden State Water Company
A Subsidiary of American States Water Company

(To be inserted by Utility)
Advice Letter No. 1651-W
Decision No._____

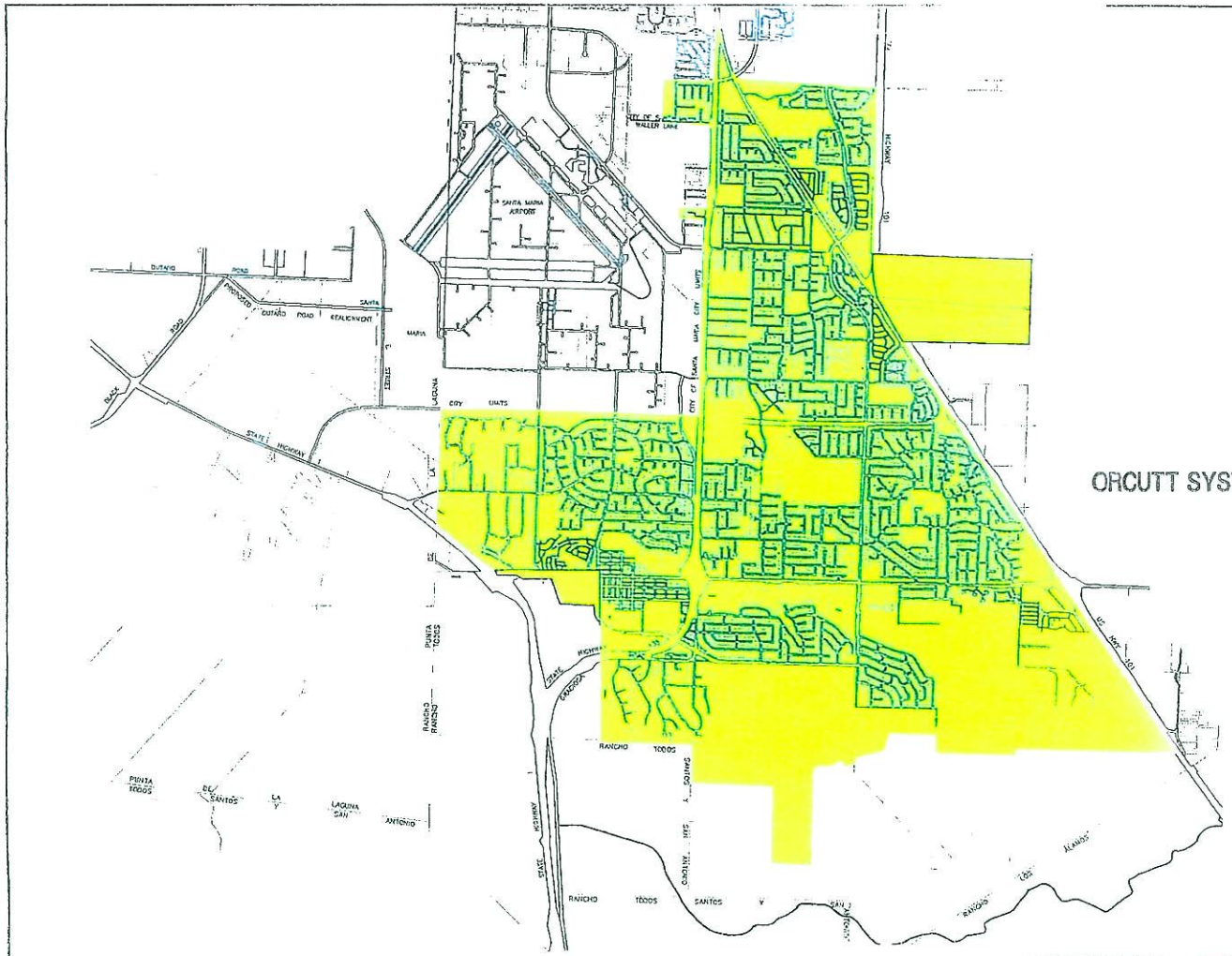
ISSUED BY
R.J. SPROWLS
PRESIDENT

(To be inserted by Cal P.U.C.)
Date Filed: February 22, 2016
Effective: March 23, 2016
Resolution No._____

GOLDEN STATE WATER COMPANY
630 E. FOOTHILL BLVD. P. O. BOX 9016
SAN DIMAS, CALIFORNIA 91773-9016

Revised Cal. P.U.C. Sheet No. 5558-W

Canceling Revised Cal. P.U.C. Sheet No. 5256-W



COASTAL DISTRICT
SANTA MARIA SERVICE AREA

Indicates Existing Service Area

ORCUTT SYSTEM

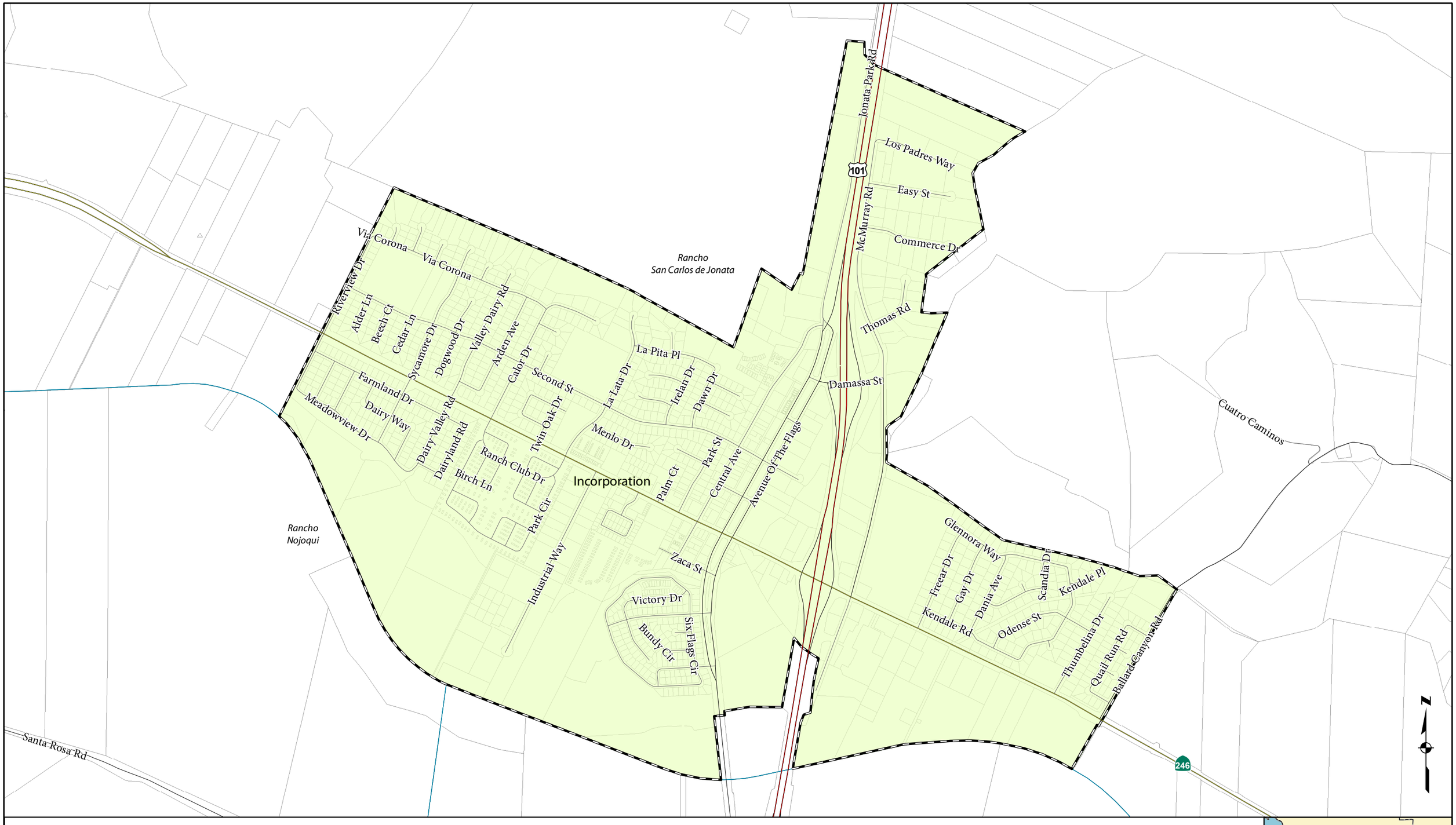
This map shall not be considered by the Public Utilities Commission of the State of California or any other public body as a final or conclusive determination of establishment of the dedicated area of service, or any portion thereof.

SHOWING TERRITORY WITHIN WHICH DULY ESTABLISHED AND REGULARLY FILED TARIFF SCHEDULES APPLICABLE TO WATER SERVICE ARE IN EFFECT

ISSUED BY
R. J. SPROWLS
President

(To be inserted by Cal. P.U.C.)
Date Filed MAR 20 2009
Effective Date MAR 27 2009
Resolution No.

Advice Letter No. 1322-W
Decision No.



City of Buellton

Compiled by the Office of the County Surveyor in December of 2010. Incorporated 2/1/1992 by 1991-0081535, Official Records of Santa Barbara County. Sphere: 11/4/2010. Boundary activity table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

GRAPHIC SCALE

0 0.1 0.2 0.4

Miles

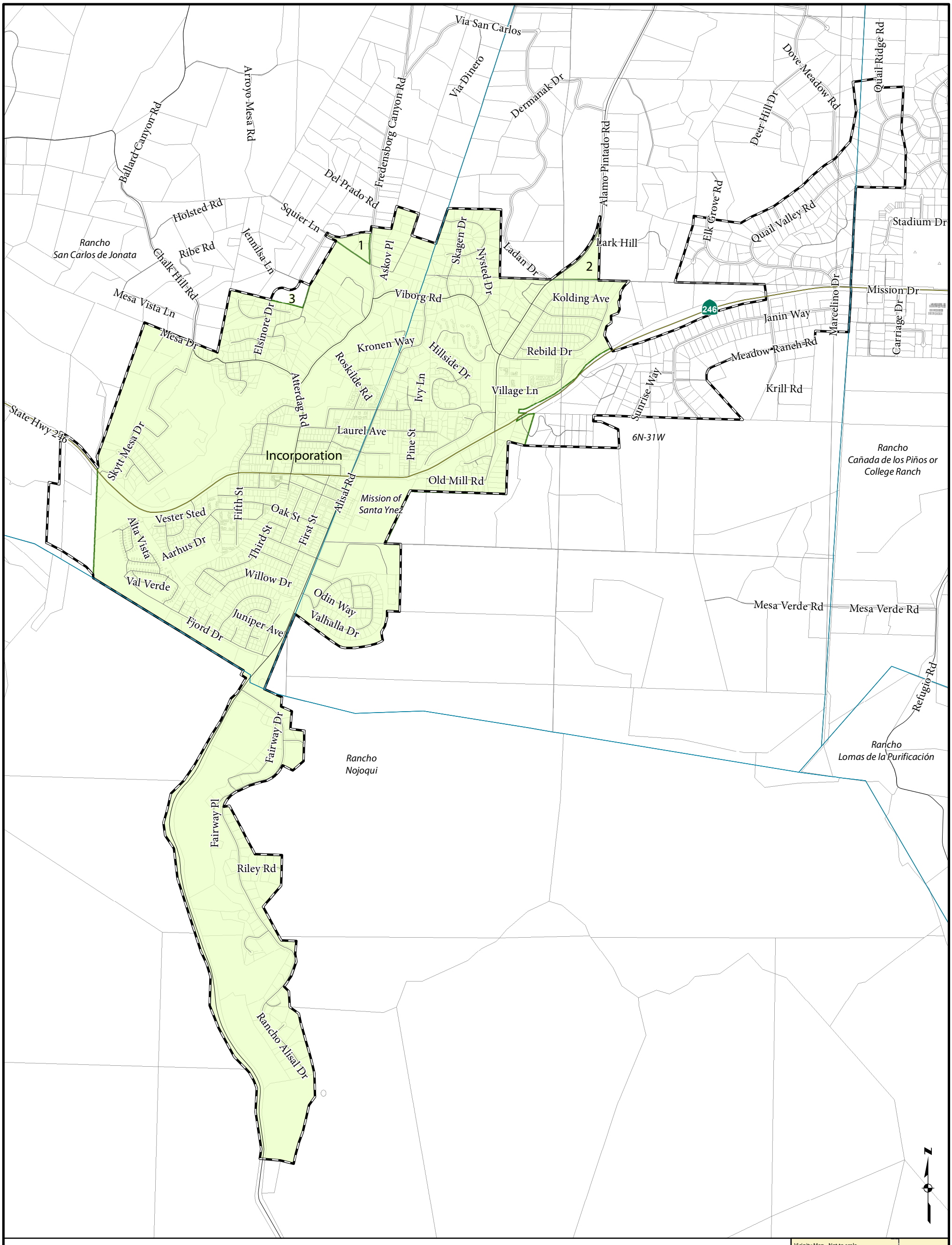
Legend

- Freeways
- Highways
- Roads
- Ranchos and Townships
- City Boundary
- Sections
- Parcels
- Sphere of Influence
- Annexation
- Incorporation
- Detachment

City of Buellton Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

InternalNo	Title	Type	Effective	County_Res	LAFCO_Res	LAFCO_No	Instrument	Recorded
0	City of Buellton Incorporation	Formation	2/1/1992	1991-676	1991-821	1990-R-01	1991-0081535	12/5/1991
	City of Buellton Sphere of Influence	SOI	11/4/2010					



City of Solvang

Compiled by the Office of the County Surveyor in June of 2010.
Incorporated 12/17/1984, by 1984-0066853, Official Records.
Last Action: Seltzer Modification, LAFCO 05-14, 9/1/2005.
Sphere: 11/4/2010. See boundary activity table at
http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Ranchos and Townships
- City Boundary
- Sphere of Influence
- Annexation
- Incorporation
- Detachment

GRAPHIC SCALE

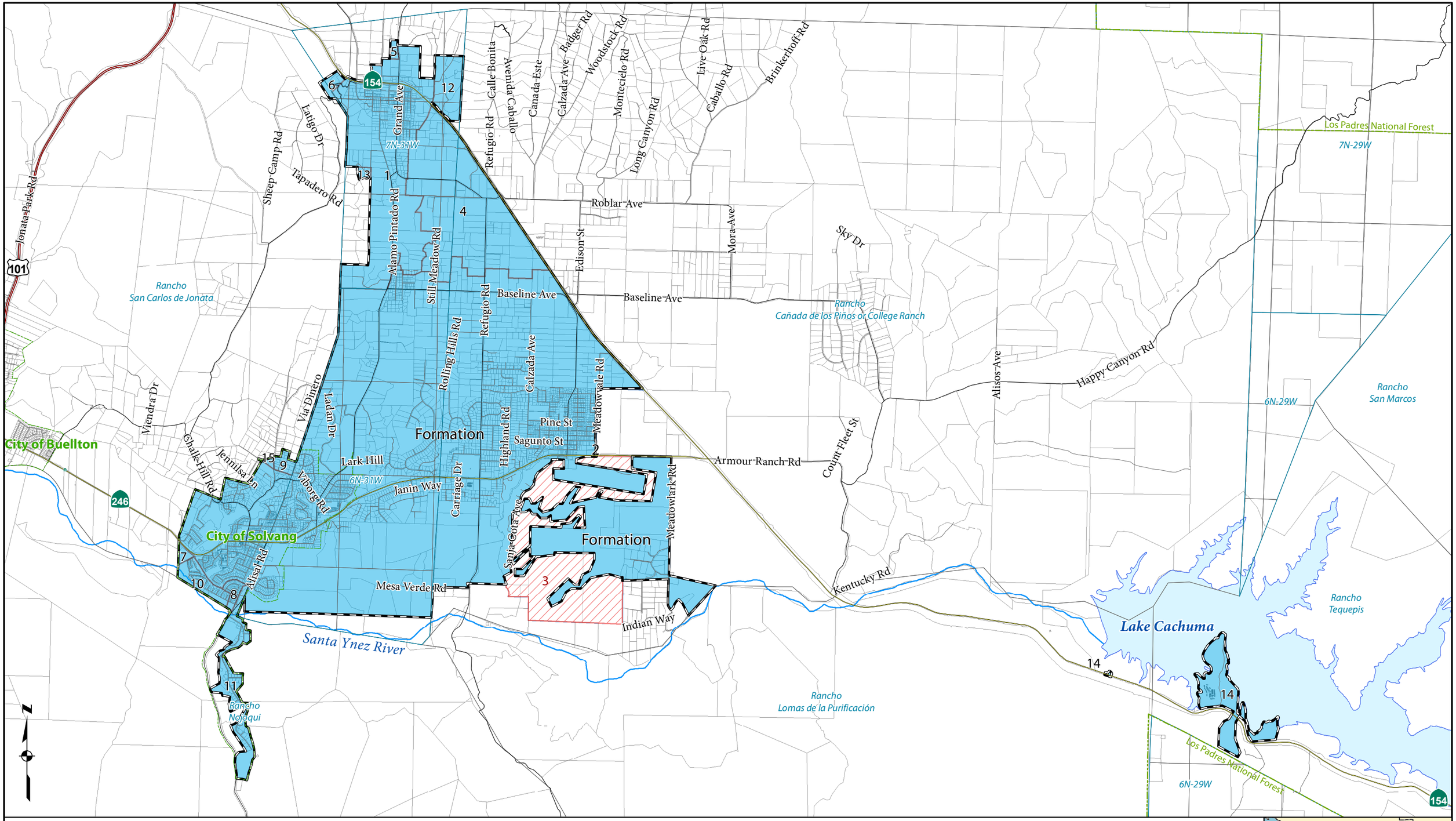
0 0.125 0.25 0.5 0.75 1

Miles

City of Solvang Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

InternalNo	Title	Type	Effective	County_Res	LAFCO_Res	LAFCO_No	LAFCO_Date	Instrument	Recorded
0	Incorporation of Solvang 1985	Formation	5/1/1985	1984-560	1984-667	1982-R-01	4/19/1984	1984-0066853	12/17/1984
1	Shley Reorg	Annexation	8/9/1995		1995-01	1995-01	4/12/1995	1995-0043869	8/9/1995
2	Triangle Park Reorganization	Annexation	10/20/2005		2004-08	2004-08	12/16/2004	2005-0102320	10/20/2005
3	Seltzer Modification	OOASA	9/1/2005		2005-14	2005-14	9/1/2005		
	City of Solvang Sphere of Influence	SOI	4/6/2006				4/6/2006		



Santa Ynez River Water Conservation District

Improvement District No. 1

Compiled by the Office of the County Surveyor in April of 2012. Formed by Santa Ynez River Water Conservation District Board of Directors Resolution 103, Recorded 7/20/1961. Last Action: 15, Schley Annexation, SYRWCDID1 Board Resolution 526, Adopted 6/6/1995. Shprere: 4/5/2012. See Boundary Activity Table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

GRAPHIC SCALE

0 0.5 1 2

Miles

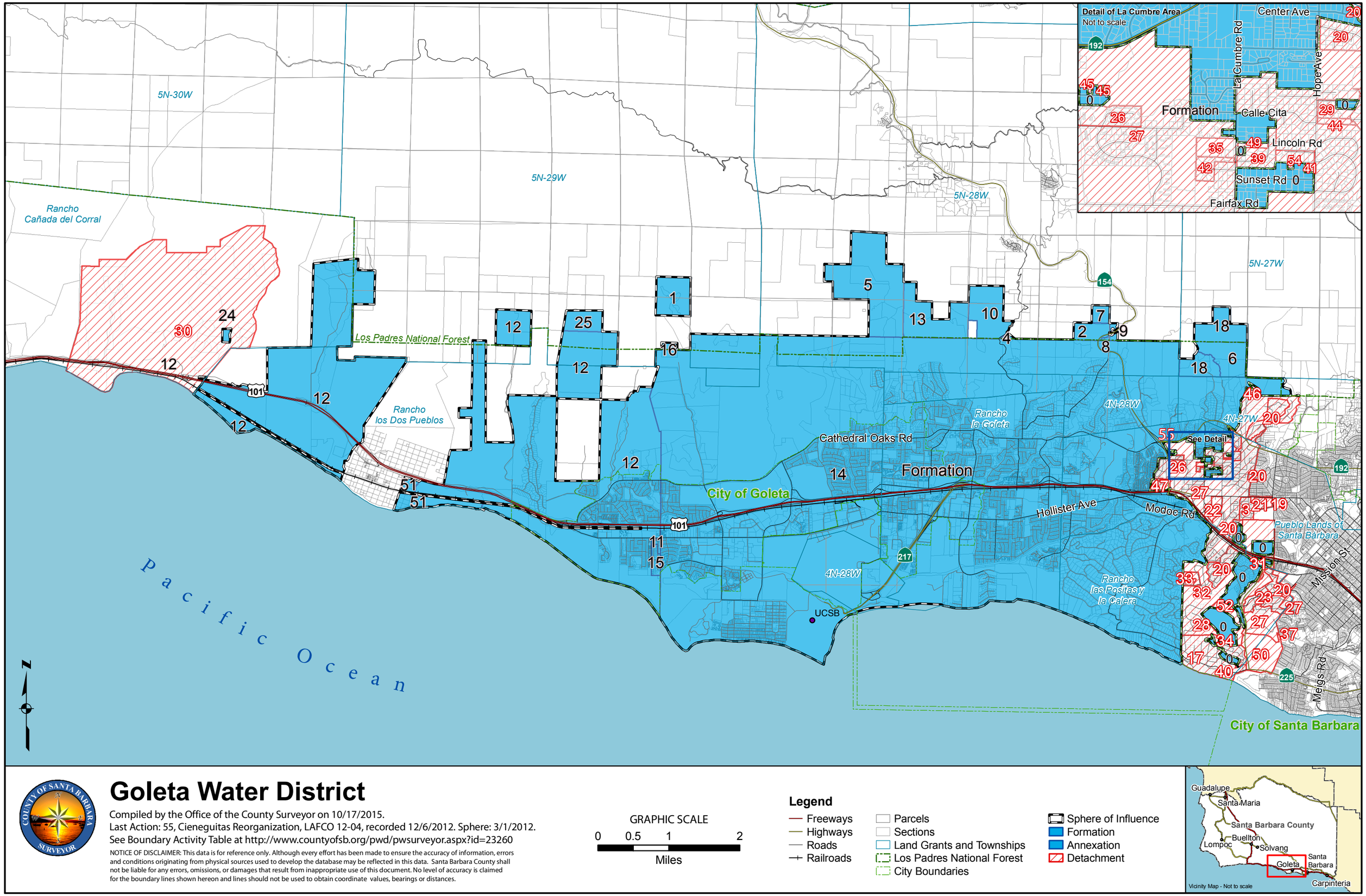
Legend

- Freeways
- Highways
- Roads
- Santa Ynez River
- Parcels
- Sections
- Los Padres National Forest
- City Boundaries
- Lake Cachuma
- Annexation
- Formation
- Detachment
- Sphere of Influence

Santa Ynez River Water Conservation District Improvement District No. 1

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

InternalNo	Title	Type	BOS_Date	Dist_Number	District_Res	District_Date	LAFCO_No	LAFCO_Res	LAFCO_Date	Instrument	Recorded	Equalization_Secretary_of_State
0	Formation	Formation			103	7/7/1959						
1	Los Olivos Area, A	Annexation			280	10/3/1963				2017/393-412	10/16/1963	
2	Los Olivos Area, B	Annexation			280	10/3/1963				2017/393-412	10/16/1963	
3	Gainey Ranch	Detachment		1964-1	303	12/18/1964				2093/942-953	3/1/1965	
4	Refugio Road Area	Annexation		1965-1	317, 319	2/3/1966				2146/1378-1400	4/7/1966	
5	Sides Property	Annexation		1965-2	317, 319	2/3/1966				2146/1378-1400	4/7/1966	
6	Hansen Property	Annexation		1965-3	317, 319	2/3/1966				2146/1378-1400	4/7/1966	
7	SMID No. 4 Area	Annexation		1965-4	318, 320	2/3/1966				2146/1401-1413	4/7/1966	
8	SMID No. 9 Area	Annexation		1965-5	318, 320	2/3/1966				2146/1401-1413	4/7/1966	
9	SMID Fredensborg Area	Annexation		1967-1	1967-11	10/13/1967						11/1/1967
10	SMID 1970-1 Area	Annexation	5/7/1973		356	7/8/1970						
11	Alisal Ranch	Annexation		1972-1	367, 370	7/27/1972						
12	Stewart	Annexation		1981-1	424, 426	9/30/1981						
13	Osborne	Annexation		1981-2	425, 427	9/30/1981						
14	Cachuma Park	Annexation		1983-1	291,449	12/13/1983	83-AD-6	83-643	10/30/1983	1983-0053181	10/4/1983	10/17/1983
15	Schley Annex 1995-1	Annexation		1995-1	526	6/6/1995						
		SOI							4/5/2012			



Goleta Water District

Compiled by the Office of the County Surveyor on 10/17/2015.
Last Action: 55, Cieneguitas Reorganization, LAFCO 12-04, recorded 12/6/2012. Sphere: 3/1/2012.
See Boundary Activity Table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

GRAPHIC SCALE
0 0.5 1 2
Miles

Legend

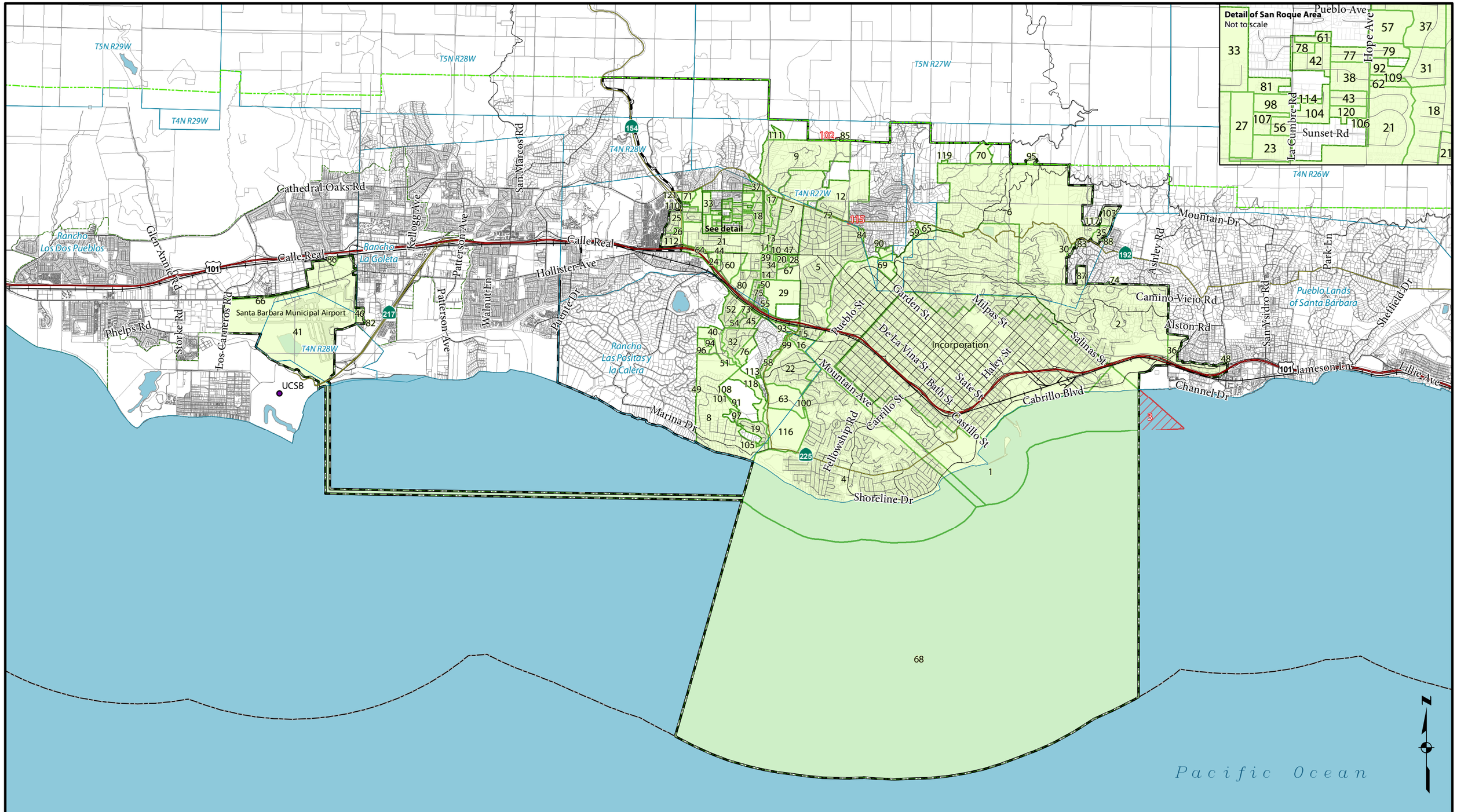
- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Land Grants and Townships
- Los Padres National Forest
- City Boundaries
- Sphere of Influence
- Formation
- Annexation
- Detachment

Goleta Water District Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

InternalNo	Title	Type	Effective	County_Res	County_DT	Ord	Dist_Res	LAFCO_Res	LAFCO_No	Instrument	Recorded
0	Goleta County Water District Formation	Formation	11/13/1944		11/13/1944						
1	George W. Smith and Bird S. Smith	Annexation	7/2/1954	14096	7/2/1954	Ord. #2	126				
2	Oluf O. Hove, et al. Annexation	Annexation	7/2/1954	14096	7/2/1954	Ord. #2	126				
3	San Roque Exclusion	Detachment	1/24/1955	14096			116, 126			1282/0180-0183	1/24/1955
4	Ruth D. Ehrenborg Annexation	Annexation	11/27/1955	15170	11/27/1955	Ord. #3					
5	Esther H. Marchiando Et Al. Annexation	Annexation	5/23/1955	15170		Ord. #4				1613/0018-0024	5/23/1955
6	Horace F. Pierce	Annexation	10/15/1956	16387	10/15/1956	Ord. #5					
7	George W. Smith Et Ux. Annexation	Annexation	10/10/1956	16387	10/10/1956	Ord. #6					
8	Henry J. Kuzen Annexation	Annexation	11/29/1956	16387	11/29/1956	Ord. #7					
9	Eleanor S. Parker, Et Al. Annexation	Annexation	12/24/1956	16387	12/24/1956	Ord. #8					
10	T. Scudelari Annexation	Annexation	11/29/1956	16387	11/29/1956	Ord. #9					
11	Ann and Nathaniel Perkoff Annexation	Annexation	5/23/1957	17552	5/23/1957	Ord. #11	237				
12	Edwards Et Al. Annexation	Annexation	5/23/1957	17552		Ord. #10	209, 237			1652/0514-0522, 1652/0523-0533	5/23/1957
13	Sharky Et Al. Annexation	Annexation	5/21/1959			Ord. #12					
14	La Patera Land Company	Annexation	7/21/1960	21098	7/21/1960	Ord. #13	365, 404, 405, 426				
15	Charlotte W. Anderson Et Al. Annexation	Annexation	10/12/1960	21098	10/12/1960	Ord. #13	404, 405, 426				
16	So. Cal. Edison Company Annexation	Annexation	9/13/1962	22850	9/13/1962	Ord. #14	519				
17	Henry L. Mertz Et Al. Detachment	Detachment	1/17/1963	23746		Ord. #14A				1977/0759-0765	1/17/1963
18	Horace F. & Shirley H. Pierce Annexation	Annexation	11/21/1963	23746		Ord. #15				2022/0872-0877	11/21/1963
19	De Loreto Exclusion	Detachment	3/24/1966	1966-663			586	1966-05		2146/0968-0977	3/24/1966
20	Hidden Valley Estates, et. al. (Hope Area)	Detachment	4/15/1966	1966-663			589	1966-06		2149/0093-0110	4/15/1966
21	Plaza Felipe Subdivision	Detachment	12/16/1968	1968-676			618, 621	1967-58		2225/0829-0838	12/16/1968
22	Prevedello-Lasarzig et al withdrawal	Detachment	2/6/1969				634	1968-109		2262/0435-0445	2/6/1969
23	Bel-Air Knolls	Detachment	11/14/1969				649	1969-175		2290/0673-0682	11/14/1969
24	El Capitan Ranch Annex.	Annexation	10/22/1970				664	1970-219		2330/0886-0902	10/22/1970
25	Cavalletto Property Annex.	Annexation	12/6/1972				699	1972-293		2434/1460-1471	12/6/1972
26	Reino Land Company Inc. Property Reorg.	Detachment	8/16/1982					1982-616	1981-AC-02	1982-0034183	8/16/1982
27	City of Santa Barbara Proceedings, Parcel 2, Detach.	Detachment	7/23/1983				1983-13	1983-642	1983-DD-01	1983-0037200	7/23/1983
27	City of Santa Barbara Proceedings, Parcel 1, Detach.	Detachment	7/23/1983				1983-13	1983-642	1983-DD-01	1983-0037200	7/23/1983
28	Portion of APN 47-010-43 (Fard & Cambell) Reorg.	Detachment	9/27/1983					1983-648	1983-AC-02	1983-0057795	9/27/1983
29	Tatjes Property Reorg.	Detachment	9/4/1984					1984-664	1983-AC-04	1984-0048035	9/4/1984
30	El Capitan Ranch Detachment	Detachment	10/11/1984				1984-14	1981-595	1981-DD-01	1984-0055526	10/11/1984
31	Kirkhart & Ozolins Property (Modoc Rd Condos) Reorg.	Detachment	11/1/1984					1984-663	1983-AC-03	1984-0059471	11/1/1984
32	Valle Verde Property Reorg.	Detachment	11/8/1984				1984-184	1984-681	1984-AC-02	1984-0067876	11/8/1984
33	Rutherford Property Reorg.	Detachment	6/27/1986				1986-105	1985-704	1985-AC-05	1986-0038606	6/27/1986
34	Nichols Property Reorg.	Detachment	6/8/1987					1986-734	1986-R-02	1987-0042369	6/8/1987

InternalNo	Title	Type	Effective	County_Res	County_DT	Ord	Dist_Res	LAFCO_Res	LAFCO_No	Instrument	Recorded
35	Feazelle	Detachment	7/13/1987					1986-732		1987-0052422	7/13/1987
36	APN 49-150-47 Reorganization	Detachment	1/11/1988					1987-754		1988-0001665	1/11/1988
37	Elbek (Jesuit Property) Reorganization	Detachment	1/26/1988					1986-743		1988-0004999	1/26/1988
38	Markel Reorganization	Detachment	4/19/1988					1988-766		1988-0022828	4/19/1988
39	Towbes Reorganization	Detachment	6/11/1996					1994-22		1996-0035858	6/11/1996
40	Morgan Reorganization	Detachment	2/4/1997				1996-138	1995-16		1997-0006130	2/4/1997
41	Cantor Reorg. Part 1	Detachment	9/4/1997					1997-07		1997-0056661	9/4/1997
42	Carey Reorg	Detachment	12/8/1998				1998-150	1998-07		1998-0095550	12/8/1998
43	Compton Reorg.	Detachment	12/24/1998				1998-159	1998-08		1998-0100683	12/24/1998
44	Investec Reorganization	Detachment	7/19/2000					2000-10		2000-0044014	7/19/2000
45	Cantor Reorg Part 2	Detachment	7/25/2000					1997-07		2000-0044976	7/25/2000
46	Northridge Reorganization	Detachment	1/11/2001					2000-24		2001-0002894	1/11/2001
47	St Vincents Reorg.	Detachment	10/24/2002					2002-09		2002-0107674	10/24/2002
48	Kennedy Reorg.	Detachment	10/21/2003					2003-08		2003-0145552	10/21/2003
49	Hart Reorg.	Detachment	8/16/2005					2004-10		2005-0078552	8/16/2005
50	Las Positas Reorganization	Detachment	4/7/2008					2006-06		2008-0019858	4/7/2008
51	Dos Pueblos Golf Links Reorganization	Annexation	8/11/2008					1998-11		2008-0047472	8/11/2008
52	Veronica Meadows Reorganization	Detachment	7/14/2009					2007-12		2009-0042221	7/14/2009
53	Las Canoas Reorganization	Detachment	9/7/2010					2009-08		2010-0048697	9/7/2010
54	Hope Avenue Reorganization	Detachment	8/6/2012					2012-03		2012-0051116	8/6/2012
55	Cieneguitas Reorganization	Detachment	12/6/2012					2012-04		2012-0083507	12/6/2012
	Goleta County Water District Sphere of Influence	SOI	3/1/2012								3/1/2012



City of Santa Barbara

Compiled by the Office of the County Surveyor on 08/05/2013. Incorporated April, 1850.
Last Action: Cieneguitas Reorganization, LAFCO 12-04, 12/6/2012. Sphere updated with no changes: 2/3/2011.
See boundary activity table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

GRAPHIC SCALE
0 0.25 0.5 1 1.5
Miles

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- City Boundary
- Sections
- Ranchos and Townships
- County Boundary
- Los Padres National Forest
- Sphere of Influence
- Annexation
- Incorporation
- Detachment

City of Santa Barbara Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=5118

InternalNo	Title	Type	Effective	City_Ord	City_Res	City_Date	County_Res	LAFCO_Res	LAFCO_No	LAFCO_Date	Instrument	Recorded
0	Haley - Official Maps 1 & 2	Formation	8/9/1855	7								
1	City Charter Article I	Annexation	4/4/1898			4/4/1898						
2	city boundary	Annexation	9/21/1915	454		10/21/1903						
3	Line Change statute of 1917 (Elmer L. Jones)	Detachment	1/1/1917			1/1/1917						
4	Mesa Annexation, Territory No.1	Annexation	5/6/1921	1066		5/6/1921						
5	Pedregosa Annexation, Territory No.2	Annexation	5/6/1921	1066		5/6/1921						
6	Las Canoas, Territory No.3	Annexation	5/6/1921	1066		5/6/1921						
7	City Boundaries (Foothill)	Annexation	1/8/1926	1282		1/8/1926						
8	Braemar Tract	Annexation	12/31/1945	2052		11/29/1945						
9	Ontare Annexation	Annexation	11/29/1945	2053		1/19/1946						
10	Dixon Tract	Annexation	4/12/1946	2076		4/12/1946						
11	Higbee Tract	Annexation	5/1/1947	2139		5/1/1947						
12	Johnston Property	Annexation	5/5/1948	2182		3/4/1948						
13	Greene Tract	Annexation	8/26/1948	2202		8/26/1948						
14	San Roque Gardens	Annexation	3/26/1951	2315		3/26/1951						
15	West Property	Annexation	4/5/1951	2318		4/5/1951						
16	Las Positas Estates No.1	Annexation	5/31/1956	2541		5/31/1956						
17	Blackmore Annexation	Annexation	7/19/1956	2555		7/19/1956						
18	Schooler Annexation	Annexation	8/23/1956	2563		8/23/1956						
19	Braemar Annexation	Annexation	8/30/1956	2566		8/30/1956						
20	Phillips State Street Annexation	Annexation	9/13/1956	2571		9/13/1956						
21	State-Hope-La Cumbre Annex	Annexation	2/21/1957	2594		2/21/1957						
22	Las Positas Estates No.2	Annexation	3/14/1957	2601		3/14/1957						
23	La Colina Annexation	Annexation	2/27/1958	2649		2/27/1958						
24	Hollister Wye Annexation	Annexation	3/20/1958	2651		3/20/1958						
25	San Marcos Gardens Annexation	Annexation	3/27/1958	2654		3/27/1958						
26	Watling Annexation	Annexation	3/27/1958	2655		3/27/1958						
27	Hope School Property of the Hope Elem. School Dist	Annexation	8/7/1958	2681		7/21/1958	18187					
28	De Loreto Annexation	Annexation	11/20/1958	2692		11/20/1958						
29	Municipal Golf Course and Adams School Annex.	Annexation	7/7/1959	2716		7/7/1959						
30	Sycamore Canyon Annexation	Annexation	7/16/1959	2721		7/16/1959						
31	Coleman Annexation	Annexation	7/16/1959	2723		7/16/1959						
32	Hidden Valley Annexation	Annexation	7/16/1959	2722		7/16/1959						
33	La Colina Jr. High School Property	Annexation	9/3/1959	2731		9/3/1959						
34	Shapiro Annexation	Annexation	10/26/1959	2733		9/17/1959						
35	Montecito Circle Annexation	Annexation	1/27/1960	2752		1/27/1960						
36	Montecito Strip Annexation	Annexation	5/13/1960	2765		4/12/1960	2765					
37	Archer Annexation	Annexation	6/17/1960	2770		5/17/1960						
38	Hope Terrace Annexation	Annexation	9/6/1960	2779		8/2/1960						

InternalNo	Title	Type	Effective	City_Ord	City_Res	City_Date	County_Res	LAFCO_Res	LAFCO_No	LAFCO_Date	Instrument	Recorded
39	Ormiston Annexation	Annexation	9/6/1960	2783		8/2/1960						
40	Rutherford Annexation	Annexation	9/6/1960	2783		8/2/1960						
41	Santa Barbara Airport Annexation	Annexation	11/14/1961	2846		11/14/1961						
42	Moxcey Annexation	Annexation	4/27/1962	2870								
43	Lincoln Road Annexation	Annexation	5/1/1962	2874		5/1/1962						
44	State Street-South La Cumbre Road	Annexation	7/31/1962	2887		7/31/1962						
45	Hidden Valley Estates Annexation	Annexation	1/22/1963	2907		1/22/1963						
46	Airport Clear Zone Annexation	Annexation	3/12/1963	2914		3/12/1963						
47	Schaefer Annexation	Annexation	5/7/1963	2923		5/7/1963						
48	Robillard Annexation	Annexation	10/29/1963	2947	5682	9/24/1963						
49	Hope Ranch Estates Annexation	Annexation	10/29/1963	2949		10/29/1963						
50	Widling Annexation	Annexation	12/10/1963	2959		12/10/1963						
51	Hope Ranch Misc (Boundary Correction)	Annexation	1/21/1964	2964		1/21/1964						
52	Williams, et al Annexation	Annexation	1/30/1964	2963		12/31/1963						
53	Rue Property Annexation	Annexation	3/3/1964	2969		3/3/1964						
54	Cavaletto Annexation	Annexation	4/21/1964	2977		4/21/1964						
55	Karleskint Annexation	Annexation	9/8/1964	3005		9/8/1964						
56	Stacy Lane Annexation	Annexation	4/5/1965	3031		2/23/1965						
57	Hope School District Annex. No. 2	Annexation	7/6/1965				24812					
58	Esperanza Estates	Annexation	7/13/1965	3056		7/13/1965						
59	City Water Dept Property Annexation	Annexation	8/17/1965	3062		8/17/1965						
60	Prevedello-Lasarzig et al Annexation	Annexation	2/23/1966	3160		2/23/1966						
61	Blankenship Annexation	Annexation	6/14/1966	3152		6/14/1966						
62	Bethany Congregational Church Annexation	Annexation	7/5/1966	3161		7/5/1966						
63	City Sanitary Fill Site, et al. Annexation	Annexation	7/19/1966	3166		7/19/1966						
64	Calle Real Property Annexation	Annexation	12/6/1966	3184		12/6/1966						
65	John F. Kennedy School Site Annexation	Annexation	12/13/1966	3188		12/13/1966						
66	Hollister Avenue Annexation	Annexation	1/3/1967	3198		1/3/1967						
67	Renwick Annexation	Annexation	4/4/1967	3212		4/4/1967						
68	Tidelands Annexation	Annexation	11/7/1967	3257		11/7/1967						
69	Old Mission-Museum Annexation	Annexation	3/19/1968	3283				1967-43	1967-AC-02			
70	St. Mary's Seminary Annexation	Annexation	4/16/1968	3289	6554	4/16/1968						
71	Gainor Annexation	Annexation	4/23/1968	3293		4/23/1968						
72	Foothill Road Annexation	Annexation	9/12/1968	3309				1968-100	1968-AC-03			
73	Emanuel Lutheran Church Annexation	Annexation	5/20/1969	3367		5/20/1969						
74	Alexander Annexation	Annexation	10/14/1969	3384	6960	10/14/1969						
75	Thompson-Anderman Annexation	Annexation	12/23/1969	3397		12/23/1969						
76	Veronica Springs Road Properties Annexation	Annexation	2/19/1970	3400				1969-169	1969-AC-05			
77	Connie Way Properties Annexation	Annexation	7/9/1971	3479		7/9/1971						
78	Brooks Property Annexation	Annexation	10/14/1971	3489		9/14/1971			1971-AC-01			
79	Avco-Demelik Annexation	Annexation	2/20/1973	3581		2/20/1973						
80	Bueneman, Cavaletto & Transportation Corridor Ann*	Annexation	12/10/1973	3606	7670			1973-333	1973-AC-05			

InternalNo	Title	Type	Effective	City_Ord	City_Res	City_Date	County_Res	LAFCO_Res	LAFCO_No	LAFCO_Date	Instrument	Recorded
81	Aiches Property Annexation	Annexation	10/15/1974	3691		10/15/1974						
82	Airport Easterly Clear Zone Annexation	Annexation	5/27/1975	3772		5/27/1975						
83	Eucalyptus Knolls #2 (Williams Property)	Annexation	3/15/1979	1979-016				1978-511	1978-AC-02		1978-0011541	3/15/1979
84	PM 12,700	Annexation	10/11/1979		1979-78,79	10/11/1979		1979-520	1978-AC-04		1979-0047689	
85	Giordani Property	Annexation	5/22/1980								1980-0042163	5/22/1980
86	Airport Property	Annexation	10/16/1980								1980-0042162	10/16/1980
87	Thompson Property (Via Alicia)	Annexation	10/16/1980		1980-055	10/16/1980		1997-481	1977-AC-03		1980-0042161	
88	M. Edwards Property (APN 13-123-09)	Annexation	7/22/1982	1980-576		11/3/1981		1981-594	1979-AC-07		1982-0030245	7/22/1982
89	Reino Land Company Inc. Property Annexation	Annexation	8/16/1982								1982-0034183	8/16/1982
90	Hill Property	Annexation	11/23/1982								1982-0053336	11/23/1982
91	Portion of APN 47-010-43 (Fard & Cambell Property)	Annexation	10/23/1983								1983-0057795	10/23/1983
92	Tatjes Property	Annexation	9/4/1984								1984-0048035	9/4/1984
93	Kirkhart & Ozolins Property (Modoc Road Condos)	Annexation	11/1/1984		1984-164	11/1/1984		1984-663	1983-AC-03	10/23/1984	1984-0059471	
94	Valle Verde Property	Annexation	12/21/1984		1984-184	12/21/1984		1984-681	1984-AC-2	11/8/1984	1984-0067876	
95	Sanchez Property Annexation	Annexation	1/11/1985	1984-191				1984-671	1994-14		1985-0001805	1/11/1985
96	Koelsch/Schwaiger & Rutherford Property Reorg	Annexation	5/20/1986		1986-104	5/20/1986		1985-704	1985-AC-5		1986-0038606	
97	Nichols Property Reorganization	Annexation	6/8/1987								1987-0042369	6/8/1987
98	Feazelle Annexation	Annexation	7/13/1987		1986-165	7/13/1987		1986-732	1986-AC-03		1987-0052422	
99	APN 49-150-47 Reorganization	Annexation	1/11/1988								1988-0001665	1/11/1988
100	Elbek (Jesuit Property) Annexation	Annexation	1/26/1988								1988-0004999	1/26/1988
101	Markel Reorganization	Annexation	4/5/1988								1988-0022828	4/5/1988
102	Giordani Detachment	Detachment	12/10/1993		1993-124	12/10/1993		1992-842	1991-DC-1		1993-0098471	
103	Westmont Reorganization	Annexation	8/28/1995	1995-014		1/17/1995		1994-014	1994-14		1995-0048109	8/28/1995
104	Towbes Reorganization	Annexation	6/11/1996								1996-0035858	6/11/1996
105	Morgan Reorganization	Annexation	2/4/1997								1997-0006130	2/4/1997
106	Cantor Reorg. Part 1	Annexation	9/23/1997					1997-07	1997-07	1/1/1997	1977-0056661	9/23/1997
107	Carey Reorganization	Annexation	12/8/1998								1998-0095550	12/8/1998
108	Compton Reorganization	Annexation	12/24/1998								1998-0100683	12/24/1998
109	Investec Reorganization	Annexation	7/19/2000					2000-10	2000-10	7/18/2000	2000-0044014	7/19/2000
110	Cantor Reorg. Part 2	Annexation	7/25/2000					1997-07	1997-07	1/1/1997	2000-0044976	7/25/2000
111	Northridge Reorganization	Annexation	1/11/2001					2000-24	2000-24	12/18/2000	2001-0002894	1/11/2001
112	St. Vincent's Reorganization	Annexation	10/24/2002					2002-09	2002-09		2002-0107674	10/24/2002
113	Kennedy Reorganization	Annexation	10/21/2003					2003-08	2003-08		2003-0145552	10/21/2003
114	Hart Reorg.	Annexation	8/16/2005					2004-10	2004-10		2005-0078552	8/16/2005
115	Lengsfelder Reorganization	Detachment	5/17/2006					2006-03	2006-03	4/6/2006	2006-0039991	5/17/2006
116	Las Positas Reorganization	Annexation	4/7/2008					2006-06	2006-06		2008-0019858	4/7/2008
117	Rivera Trust Out-of-Agency Service Agreement	OOASA	7/2/2009					2009-03	2009-03		n/a	7/2/2009
118	Veronica Meadows Reorganization	Annexation	7/14/2009					2007-12	2007-12		2009-0042221	7/14/2009
119	Las Canoas Reorganization	Annexation	9/7/2010					2009-08	2009-08		2010-0048697	9/7/2010
120	Hope Avenue Reorganization	Annexation	8/6/2012					2012-03	2012-03		2012-0051116	8/6/2012
121	Cieneguitas Reorganization	Annexation	12/6/2012					2012-04	2021-04	11/1/2012	2012-0083507	12/6/2012
	City of Santa Barbara Sphere of Influence	SOI	2/3/2011							2/3/2011		

Montecito Water District

Compiled by the Office of the County Surveyor in October of 2014.
Formed by resolution of the County Board of Supervisors, BOS Minute Book T, Pages 287-293, 11/7/1921.
Sphere 3/1/2012. Last Action: 24, Bella Vista Annexation, LAFCO 10-01, 5/6/2010.
See Boundary activity table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

GRAPHIC SCALE
0 0.25 0.5 1
Miles

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Ranchos and Townships
- Los Padres National Forest
- City Boundaries
- Sphere of Influence
- Formation
- Annexation
- Detachment

Vicinity Map - Not to scale
Guadalupe, Santa Maria, Santa Barbara County, Buellton, Lompoc, Solvang, Santa Barbara, Goleta, Carpinteria

Montecito Water District Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

Note: Only the portion of the SPRR Detachment (1) not annexed by the Berenzer Annexation (18) is depicted

InternalNo	Title	Type	Effective	County_Res	County_DT	LAFCO_Res	Dist_Ord	Dist_DT	Instrument	Recorded
0	Montecito Water District Formation	Formation	11/7/1921	Minute T/287	11/7/1921					
1	SPRR Detachment	Detachment	6/12/1922					6/12/1922		
2	Ordinance 6	Annexation	12/29/1925				6	12/29/1925		
3	Langley Hill	Annexation	12/29/1925				7	12/29/1925		
4	Ordinance No. 8	Annexation	12/29/1925				8	12/29/1925		
5	Ordinance No. 9	Annexation	12/29/1925				9	12/29/1925		
6	Barnes & Barnes	Annexation	3/27/1934				15	3/27/1934		
7	Ortega Hill	Annexation	3/27/1934				16	3/27/1934		
8	King	Annexation	1/19/1948	7768	1/19/1948		18			
9	Ordinance No. 20	Annexation	3/1/1948				20	3/1/1948		
10	Ordinance No. 23	Annexation	5/19/1948				23	5/19/1948		
11	Ordinance No. 37	Annexation	4/15/1959	19850	4/15/1959		37			
12	Ordinance No. 38	Annexation	4/15/1959	19850	4/15/1959		38			
13	Stegall	Annexation	12/2/1969	1108 A		1968-181			2291/1434-1444	12/2/1969
14	Casa Dorinda	Annexation	7/23/1974	1362-A		1973-341			1974-0027146	7/23/1974
15	Slovak Bondi	Annexation	8/16/1994			1994-09			1994-0064238	8/16/1994
16	Miller Reorganization	Annexation	8/17/1994			1994-10			1994-0064734	8/17/1994
17	Knoll	Annexation	8/26/1994			1994-11			1994-0066591	8/26/1994
18	Berenzer	Annexation	12/12/1994			1994-13			1994-0089380	12/12/1994
19	Summerland Water Reorg.	Annexation	12/6/1995			1994-21			1995-0068098	12/6/1995
20	McCaslin	Annexation	7/8/1996			1995-13			1996-0041210	7/8/1996
21	Vista	Annexation	11/18/1997			1996-16			1997-0069733	11/18/1997
22	Gostovich	Annexation	7/27/2000			2000-04			2000-0045765	7/27/2000
23	Dishion	Annexation	10/11/2001			2001-10			2001-0087500	10/11/2001
24	Bella Vista Annexation	Annexation	5/6/2010			2010-01			2010-0043982	8/16/2010
	Montecito Water District SOI	Sphere	3/1/2012							

Carpinteria Valley Water District

Compiled by the Office of the County Surveyor in September of 2014. Formed 2/10/1941.
Sphere: 3/1/2012. Last Action: 6, Railroad Corridor Annexation, LAFCO 13-08, 9/10/2014.
See Boundary activity table at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

GRAPHIC SCALE
0 0.5 1 2
Miles

Legend

- Freeways
- Highways
- Roads
- Railroads
- Parcels
- Sections
- Ranchos and Townships
- Los Padres National Forest
- City Boundaries
- County Boundary
- Ventura County Parcels
- Sphere of Influence
- Formation
- Annexation
- Detachment

Vicinity Map - Not to scale

Carpinteria Valley Water District Boundary Activity

See map at http://www.countyofsb.org/pwd/pwsurveyor.aspx?id=23260

InternalNo	Title	Type	Effective	County_Res	County_DT	LAFCO_Res	Instrument	Recorded
0	Carpinteria Valley Water District Formation	Formation	2/10/1941		2/10/1941		Min 23/385-389	
1	Resolution 16388	Annexation	1/21/1957	16388	1/21/1957			
2	Louis C. Blau	Annexation	7/26/1966	1966-634		1966-13	2159/1103-1115	7/26/1966
3	Borgatello (Kaiser-Aetna)	Annexation	10/9/1973			1972-304	2487/0394-0406	10/9/1973
4	Miller Reorganization	Detachment	8/17/1994			1994-10	1994-0064734	8/17/1994
5	Rancho Monte Alegre	Annexation	4/20/2004			2003-02	2004-0039865	4/20/2004
6	Railroad Corridor	Annexation	9/10/2014			2013-08	2014-0041234	9/10/2014
	Carpinteria Valley Water District Sphere of Influence	SOI	3/1/2012					

APPENDIX E

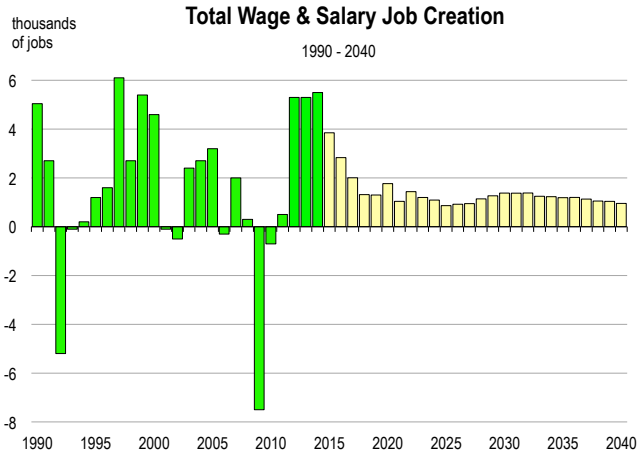
Santa Barbara County Economic Forecast

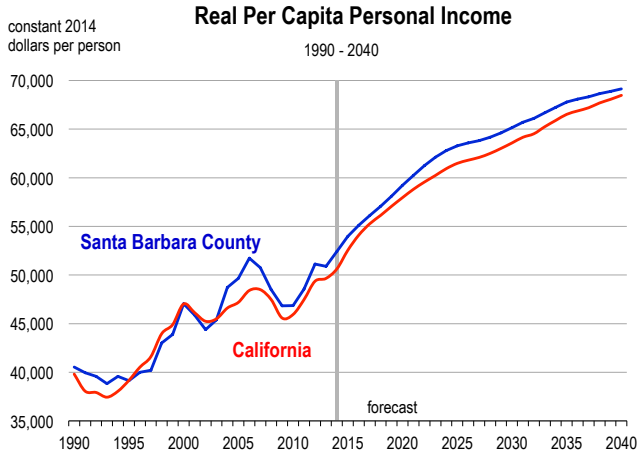
Santa Barbara County, located immediately northwest of Ventura County, is dominated by three principal economic activities: tourism, Vandenberg Air Force Base, and education. It has a population of 436,500 people and a total of 198,100 wage and salary jobs. The income per capita is $52,398 and the average salary per worker is $57,649.

Across Southern California, employment increased by 2.6 percent in 2014. In Santa Barbara County, 5,500 wage and salary jobs were created, representing a growth rate of 2.9 percent. The unemployment rate improved substantially, falling from 7.1 percent in 2013 to 6.1 percent in 2014.

In 2014, most major sectors were characterized by positive job growth. The largest gains were observed in agriculture (+1,700 jobs), education and healthcare (+1,200 jobs), and leisure and hospitality (+1,100 jobs). The largest losses were in professional and business services (-400 jobs), and financial activities (-100 jobs).

Between 2009 and 2014, the population of Santa Barbara County grew at an average rate of 0.7 percent per year. This growth was due entirely to the natural increase (new births), as overall net migration was negative. During the forecast period, the majority of population growth will occur in the northern portion of the county. Because of restrictions on new housing development, population growth in the southern portion of the county will be limited.





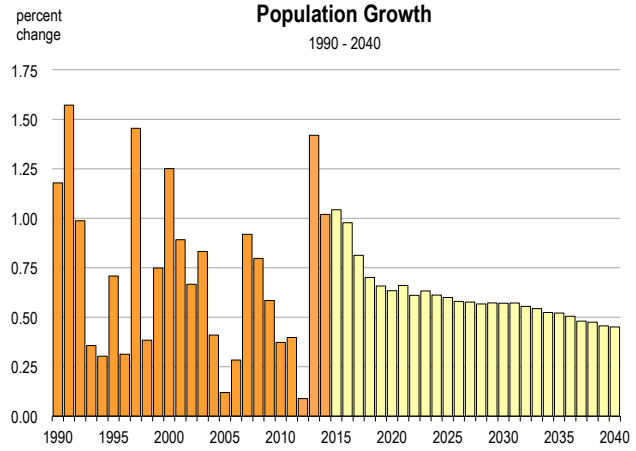
Forecast Highlights

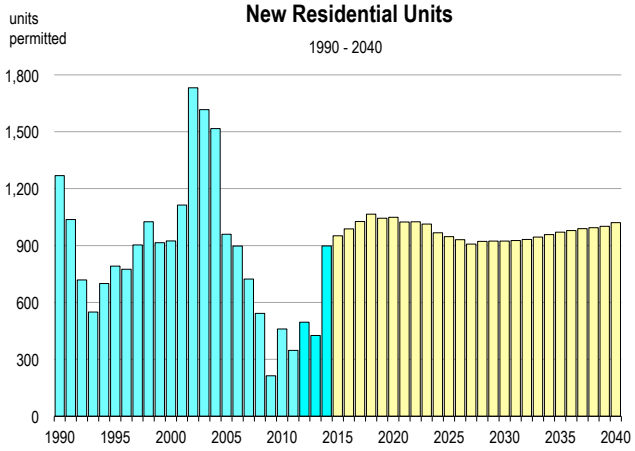
- In 2015, total employment is expected to increase by 1.9 percent. Over the 2015-2020 period, growth is expected to average 0.9 percent per year.
- Average salaries are currently below the California state average, and will remain so over the forecast horizon. In Santa Barbara County, inflation-adjusted salaries are forecasted to rise at a rate of 1.4 percent per year from 2015 to 2020.
- Over the 2015-2020 period, the largest employment gains will be observed in professional services, government, leisure services, education and healthcare, and agriculture. Combined, these industries will account for 77 percent of net job creation in the county.
- Population growth will remain relatively moderate. Growth in the 2015-2020 period will average 0.8 percent per year.
- Net migration will be positive over the 2015-2020 period, with an average of 360 net migrants entering the county each year. Northern Santa Barbara County will be characterized by positive net migration, while Southern Santa Barbara County will lose residents through out-migration.
- Real income per capita is expected to rise at an average annual rate of 1.9 percent from 2015 to 2020.
- Total taxable sales, adjusted for inflation, are expected to increase by an average of 1.9 percent per year during the 2015-2020 period.
- From 2015 to 2020, industrial production will rise by an average of 3.0 percent per year.
- Farm production is forecasted to increase by 1.2 percent per year between 2015 and 2020. The principal crop in the county is the strawberry.

Santa Barbara County Economic Forecast

2006-2014 History, 2015-2040 Forecast

	Population (people)	Net Migration (people)	Registered Vehicles (thousands)	Households (thousands)	New Homes Permitted (homes)	Total Taxable Sales (billions)	Personal Income (billions)	Real Per Capita Income (dollars)	Inflation Rate (% change in CPI)	Real Farm Crop Value (millions)	Real Industrial Production (billions)	Unemployment Rate (percent)
2006	412,853	-2,145	373.2	141	897	$6.12	$18.54	$51,720	4.3	1,170	3.61	4.0
2007	416,648	251	370.6	142	723	$6.06	$18.96	$50,758	3.3	1,229	3.79	4.4
2008	419,970	-107	369.4	141	543	$5.88	$18.91	$48,508	3.5	1,224	3.90	5.5
2009	422,423	-877	367.9	142	213	$5.10	$18.21	$46,826	-0.8	1,346	3.42	8.2
2010	423,999	-1,515	368.1	142	460	$5.30	$18.51	$46,845	1.2	1,308	3.43	9.7
2011	425,685	-1,179	366.1	143	347	$5.71	$19.77	$48,550	2.7	1,247	3.68	9.4
2012	426,063	-2,372	366.7	143	496	$6.04	$21.27	$51,135	2.0	1,321	3.97	8.3
2013	432,110	3,336	372.7	143	426	$6.32	$21.70	$50,885	1.1	1,454	3.66	7.1
2014	436,516	1,554	386.4	144	898	$6.65	$22.87	$52,398	1.3	1,463	3.79	6.1
2015	441,068	1,701	392.9	145	951	$7.09	$24.03	$53,981	0.9	1,468	3.87	5.0
2016	445,379	1,387	397.9	146	988	$7.53	$25.51	$55,111	3.0	1,475	3.96	4.3
2017	449,000	621	401.5	147	1,027	$7.90	$26.99	$56,128	3.1	1,492	4.07	4.2
2018	452,147	113	403.9	148	1,066	$8.24	$28.42	$57,067	2.8	1,499	4.20	4.1
2019	455,121	-99	406.4	149	1,044	$8.57	$29.90	$58,097	2.7	1,518	4.34	4.1
2020	458,006	-205	409.5	149	1,049	$8.95	$31.51	$59,210	2.8	1,557	4.48	4.0
2021	461,032	-64	411.5	150	1,024	$9.32	$33.19	$60,246	2.9	1,555	4.63	4.1
2022	463,848	-291	414.1	151	1,025	$9.73	$34.95	$61,248	2.9	1,581	4.77	4.0
2023	466,783	-171	416.3	152	1,013	$10.08	$36.54	$62,111	2.5	1,589	4.92	4.0
2024	469,640	-247	418.4	153	967	$10.39	$38.04	$62,791	2.4	1,607	5.10	4.0
2025	472,457	-281	420.1	154	947	$10.71	$39.56	$63,278	2.6	1,620	5.25	4.0
2026	475,197	-352	421.9	155	931	$11.02	$41.03	$63,576	2.7	1,636	5.41	4.0
2027	477,937	-335	423.7	155	908	$11.33	$42.52	$63,812	2.7	1,650	5.59	4.0
2028	480,647	-326	425.8	156	922	$11.67	$44.05	$64,159	2.5	1,666	5.77	4.0
2029	483,398	-267	428.2	157	924	$12.00	$45.63	$64,614	2.3	1,681	5.97	4.0
2030	486,157	-229	430.6	158	924	$12.35	$47.26	$65,137	2.2	1,697	6.16	3.9
2031	488,937	-195	433.1	159	926	$12.68	$48.93	$65,696	2.1	1,713	6.36	3.9
2032	491,649	-197	435.6	159	932	$13.03	$50.62	$66,103	2.3	1,729	6.55	3.9
2033	494,321	-193	437.8	160	945	$13.37	$52.31	$66,688	1.9	1,745	6.76	3.9
2034	496,911	-235	440.1	161	958	$13.73	$54.11	$67,244	2.1	1,762	6.98	3.9
2035	499,501	-241	442.2	162	971	$14.11	$56.01	$67,773	2.2	1,778	7.20	3.9
2036	502,023	-255	444.4	163	979	$14.53	$58.00	$68,088	2.6	1,795	7.44	3.9
2037	504,435	-252	446.4	164	989	$14.96	$60.03	$68,323	2.7	1,812	7.66	3.8
2038	506,831	-273	448.3	164	994	$15.38	$62.09	$68,647	2.5	1,828	7.89	3.8
2039	509,143	-299	450.2	165	1,001	$15.84	$64.25	$68,883	2.7	1,846	8.11	3.8
2040	511,438	-303	452.0	166	1,021	$16.29	$66.43	$69,132	2.6	1,863	8.34	3.8

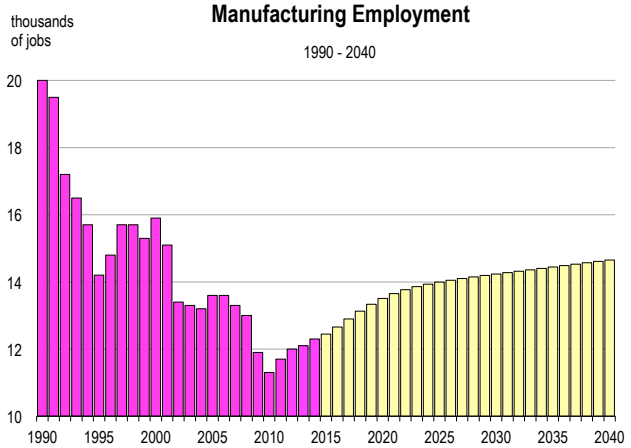


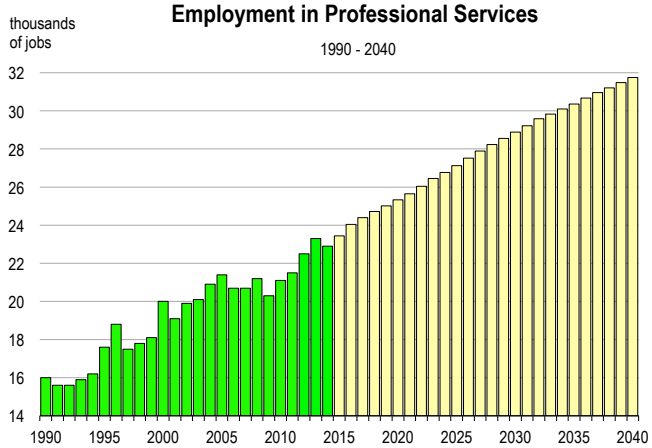


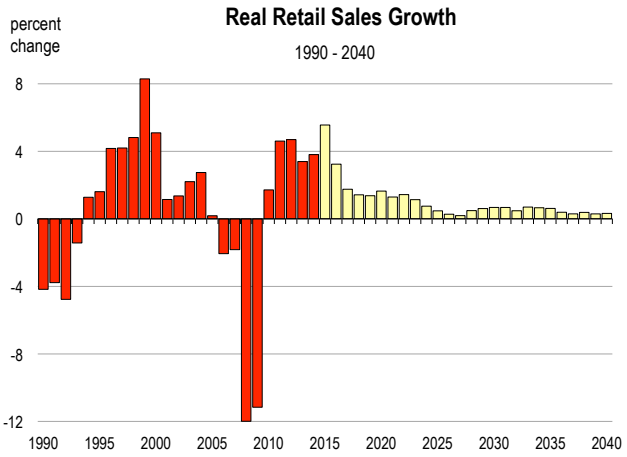
Santa Barbara County Employment Forecast

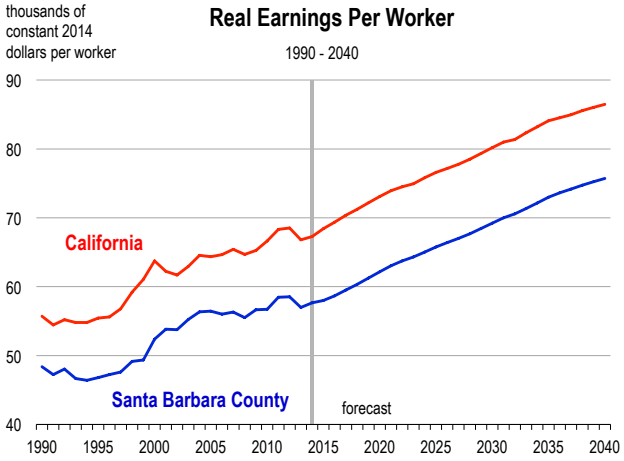
2006-2014 History, 2015-2040 Forecast

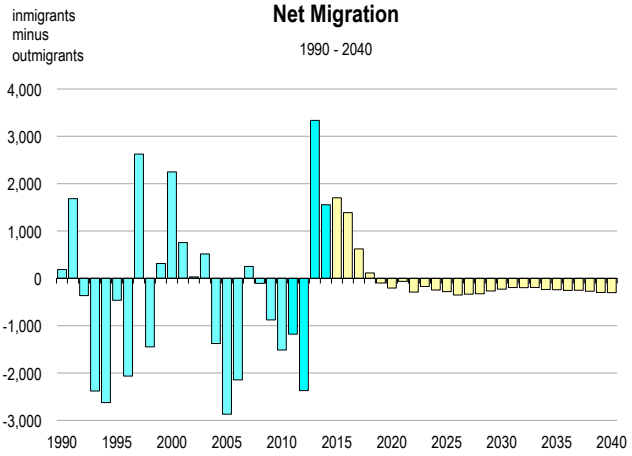
	Total Wage & Salary	Farm	Construction	Manufac-turing	Transportation & Utilities	Wholesale & Retail Trade	Financial Activities	Professional Services	Information	Health & Education	Leisure	Government
	employment (thousands of jobs)											
2006	187.4	15.4	10.5	13.6	3.1	25.2	8.7	20.7	4.0	20.5	22.7	36.1
2007	189.4	16.1	10.5	13.3	3.0	25.1	8.2	20.7	3.9	21.5	22.9	37.0
2008	189.7	17.1	9.7	13.0	3.1	24.6	7.8	21.2	3.7	21.9	23.1	37.4
2009	182.2	17.6	7.8	11.9	3.0	22.8	6.7	20.3	3.5	22.2	22.1	37.8
2010	181.5	18.6	7.0	11.3	2.8	22.0	6.4	21.1	3.5	22.4	21.9	38.2
2011	182.0	18.2	6.8	11.7	2.8	21.8	6.5	21.5	3.6	22.9	22.1	37.8
2012	187.3	18.8	6.8	12.0	3.1	22.7	6.5	22.5	4.2	23.5	22.9	37.8
2013	192.6	19.3	7.2	12.1	3.4	23.5	6.5	23.3	4.3	24.2	24.4	37.8
2014	198.1	21.0	7.4	12.3	3.6	24.1	6.4	22.9	4.4	25.4	25.5	38.3
2015	202.0	21.1	8.0	12.4	3.6	24.7	6.6	23.4	4.4	25.9	26.2	38.6
2016	204.8	21.2	8.3	12.7	3.6	25.0	6.8	24.0	4.4	26.4	26.6	38.9
2017	206.8	21.4	8.4	12.9	3.5	25.1	6.8	24.4	4.4	26.7	26.9	39.3
2018	208.1	21.4	8.2	13.1	3.5	25.2	6.9	24.7	4.4	27.0	27.1	39.5
2019	209.4	21.7	8.0	13.3	3.5	25.4	6.9	25.0	4.4	27.2	27.2	39.8
2020	211.2	22.2	8.0	13.5	3.5	25.5	6.9	25.3	4.4	27.5	27.2	40.2
2021	212.2	22.1	8.0	13.7	3.5	25.5	6.9	25.6	4.4	27.7	27.2	40.5
2022	213.6	22.4	8.1	13.8	3.5	25.6	6.9	26.0	4.4	27.9	27.3	40.8
2023	214.8	22.6	8.1	13.9	3.4	25.7	6.9	26.5	4.4	28.1	27.3	41.0
2024	215.9	22.8	8.2	13.9	3.4	25.7	6.9	26.8	4.4	28.3	27.3	41.2
2025	216.8	22.9	8.1	14.0	3.4	25.8	6.9	27.1	4.4	28.5	27.3	41.2
2026	217.7	23.1	8.1	14.0	3.4	25.8	6.9	27.5	4.4	28.8	27.4	41.2
2027	218.7	23.3	8.0	14.1	3.4	25.9	6.9	27.9	4.3	29.0	27.4	41.2
2028	219.8	23.4	8.0	14.1	3.5	26.0	6.9	28.2	4.3	29.3	27.5	41.3
2029	221.1	23.6	8.1	14.2	3.5	26.1	6.9	28.6	4.3	29.6	27.7	41.5
2030	222.5	23.8	8.1	14.2	3.5	26.2	6.9	28.9	4.3	29.8	27.8	41.7
2031	223.8	24.0	8.1	14.3	3.5	26.3	6.9	29.2	4.3	30.1	28.0	42.0
2032	225.2	24.1	8.1	14.3	3.5	26.5	6.9	29.6	4.3	30.4	28.1	42.2
2033	226.5	24.3	8.1	14.4	3.5	26.6	6.9	29.8	4.3	30.6	28.2	42.4
2034	227.7	24.5	8.1	14.4	3.5	26.8	6.9	30.1	4.3	30.9	28.4	42.7
2035	228.9	24.7	8.1	14.4	3.5	26.9	6.9	30.4	4.3	31.1	28.5	42.9
2036	230.1	24.8	8.1	14.5	3.5	27.0	6.9	30.7	4.3	31.4	28.7	43.0
2037	231.2	25.0	8.1	14.5	3.5	27.0	6.9	31.0	4.2	31.6	28.8	43.2
2038	232.3	25.2	8.1	14.6	3.5	27.1	6.9	31.2	4.2	31.9	28.9	43.4
2039	233.3	25.4	8.1	14.6	3.5	27.1	6.9	31.5	4.2	32.1	29.1	43.5
2040	234.3	25.5	8.1	14.7	3.5	27.2	6.9	31.8	4.2	32.3	29.2	43.7

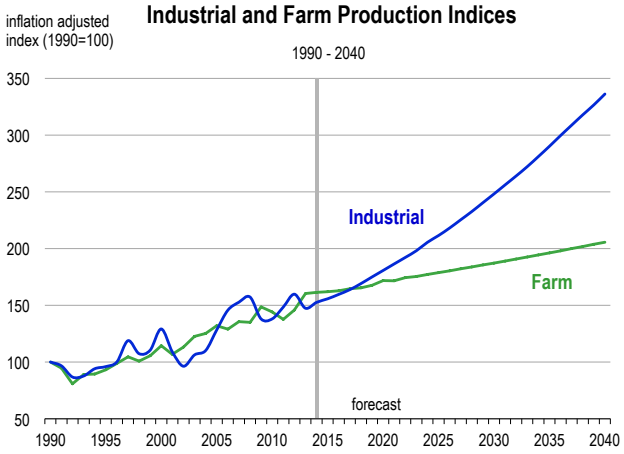












County Economic and Demographic Indicators

Projected Economic Growth (2015-2020)

Expected retail sales growth:	9.8%
Expected job growth:	4.6%
Fastest growing jobs sector:	Manufacturing
Expected personal income growth:	13.9%

Expected population growth:	3.8%
Net migration to account for:	10.7%
Expected growth in number of vehicles:	4.2%

Demographics (2015)

Unemployment rate (March 2015):	5.3%
County rank* in California (58 counties):	13th
Working age (16-64) population:	65.9%

Population with B.A. degree or higher:	30.4%
Median home selling price (2014):	$450,000
Median household income:	$64,571

Quality of Life

Violent crime rate (2013):	323 per 100,000 persons
County rank* in California (58 counties):	24th
Average commute time to work (2015):	21.1 minutes

High school drop out rate (2014):	10.7%
Households at/below poverty line (2015):	9.9%

* The county ranked 1st corresponds to the lowest rate in California

APPENDIX F

AWWA Free Water Audit Software:
Reporting Worksheet

Water Audit Report for: Central Coast Water Authority
Reporting Year: 2015 (1/2015 - 12/2015)

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

				Master Meter and Supply Error Adjustments Pcnt:	Value:	
Volume from own sources:	10	15,111.000	acre-ft/yr	8		acre-ft/yr
Water imported:			acre-ft/yr			acre-ft/yr
Water exported:			acre-ft/yr			acre-ft/yr
WATER SUPPLIED:		**15,111.000**	acre-ft/yr	Enter negative % or value for under-registration Enter positive % or value for over-registration		

AUTHORIZED CONSUMPTION

				Pcnt:	Value:	
Billed metered:	10	14,755.000	acre-ft/yr			
Billed unmetered:	8	355.000	acre-ft/yr			
Unbilled metered:	1	0.000	acre-ft/yr			
Unbilled unmetered:	10	0.100	acre-ft/yr		0.100	acre-ft/yr
AUTHORIZED CONSUMPTION:		**15,110.100**	acre-ft/yr			

WATER LOSSES (Water Supplied - Authorized Consumption)

0.900 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:	9	0.100	acre-ft/yr		0.100	acre-ft/yr
Customer metering inaccuracies:	9	0.000	acre-ft/yr			acre-ft/yr
Systematic data handling errors:	9	0.100	acre-ft/yr		0.100	acre-ft/yr
Apparent Losses:		**0.200**	acre-ft/yr			

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		**0.700**	acre-ft/yr
WATER LOSSES:		**0.900**	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:		**1.000**	acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	122.8	miles
Number of active AND inactive service connections:	9	10	
Service connection density:		0	conn./mile main
Are customer meters typically located at the curbstop or property line?			
Average length of customer service line:	10		ft
Average operating pressure:	8	165.3	psi

COST DATA

Total annual cost of operating water system:	6		$/Year
Customer retail unit cost (applied to Apparent Losses):	6		
Variable production cost (applied to Real Losses):	6		$/acre-ft

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 85 out of 100 *****

Based on the information provided, audit accuracy can be improved by addressing the following components:

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

Water Audit Report for: Central Coast Water Authority
Reporting Year: 2015 | 1/2015 - 12/2015

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 85 out of 100 ***

System Attributes:

	Apparent Losses:	0.200	acre-ft/yr
+	Real Losses:	0.700	acre-ft/yr
=	Water Losses:	0.900	acre-ft/yr

?	Unavoidable Annual Real Losses (UARL):	123.29	acre-ft/yr
	Annual cost of Apparent Losses:		
	Annual cost of Real Losses:		Valued at Variable Production Cost

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	0.0%	
	Non-revenue water as percent by cost of operating system:		Real Losses valued at Variable Production Cost

Operational Efficiency:	Apparent Losses per service connection per day:	17.85	gallons/connection/day
	Real Losses per service connection per day:	N/A	gallons/connection/day
	Real Losses per length of main per day*:	5.09	gallons/mile/day
	Real Losses per service connection per day per psi pressure:	N/A	gallons/connection/day/psi

	From Above, Real Losses = Current Annual Real Losses (CARL):	0.70	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.01	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software:
User Comments

Use this worksheet to add comments or notes to explain how an input value was calculated, or to document the sources of the information used.

General Comment:	2015 annual overall water audit for the Central Coast Water Authority (CCWA). CCWA is a Joint Powers Water Authority and operates as a water wholesaler. The AWWA audit software v5.0 (WAS v5.0) was designed to be used for retail systems. Because of the retail programing parameters of the software the wholesale application presented here may not be represented accurately

Audit Item	Comment
Billed metered:	Sum total of 10 meters tied directly to SCADA and then reported on a spreadsheet. Billed Metered = 14,755 AF. This is the raw total of all turnout meters for 2015. We have a billing process that allocates pipeline and WTP water losses, which yields our billed total of 15,111 AF.
Billed unmetered:	Billed, unmetered = 355 AF. This is the annual water loss that is allcoated to the billing totals.
Length of mains:	122.8 miles
Average operating pressure:	Based on the length of the pipeline and the 5 pressure zones in the system. Averaging each pressure zone and then using a weighted average from the 5 zone pressures calculated 168.2 PSI Pressure taken from SCADA at the respective locations on a day where Pipeline Flow was at 50% of design capacity (June 1, 2015 at 0000 hours)

AWWA Free Water Audit Software: Water Balance

WAS v5.0

Water Audit Report for:	Central Coast Water Authority	
Reporting Year:	2015	1/2015 - 12/2015
Data Validity Score:	85	

Own Sources (Adjusted for known errors)
15,111.000

Water Imported
0.000

Water Exported
0.000

Water Supplied
15,111.000

Authorized Consumption
15,110.100

Billed Authorized Consumption
15,110.000

Billed Water Exported

Billed Metered Consumption (water exported is removed)
14,755.000

Billed Unmetered Consumption
355.000

Revenue Water
15,110.000

Unbilled Authorized Consumption
0.100

Unbilled Metered Consumption
0.000

Unbilled Unmetered Consumption
0.100

Non-Revenue Water (NRW)
1.000

Water Losses
0.900

Apparent Losses
0.200

Unauthorized Consumption
0.100

Customer Metering Inaccuracies
0.000

Systematic Data Handling Errors
0.100

Real Losses
0.700

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 Free Water Audit Software:
Dashboard

WAS v5.0

The graphic below is a visual representation of the Water Balance with bar heights propotional to the volume of the audit components

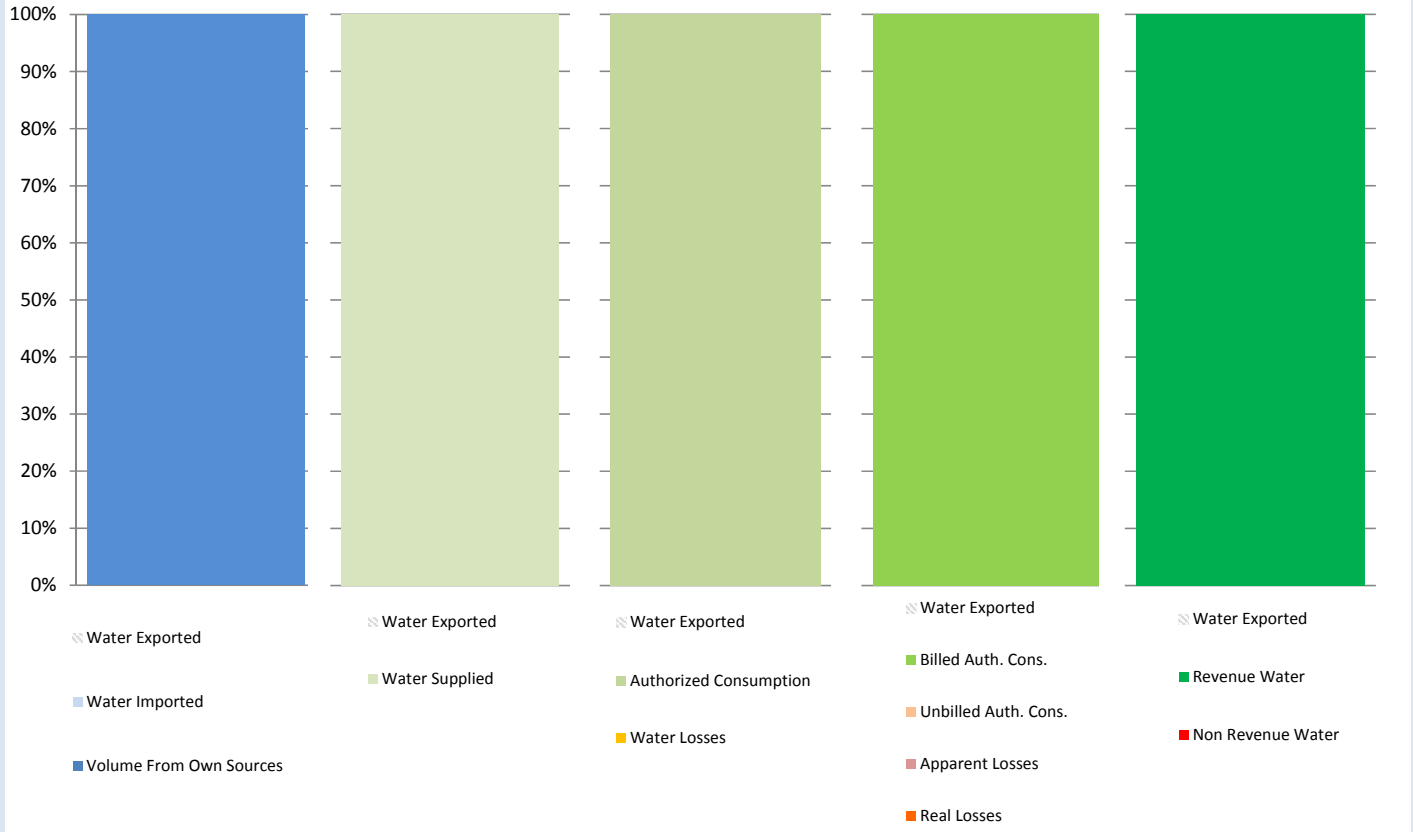
Water Audit Report for: **Central Coast Water Authority**

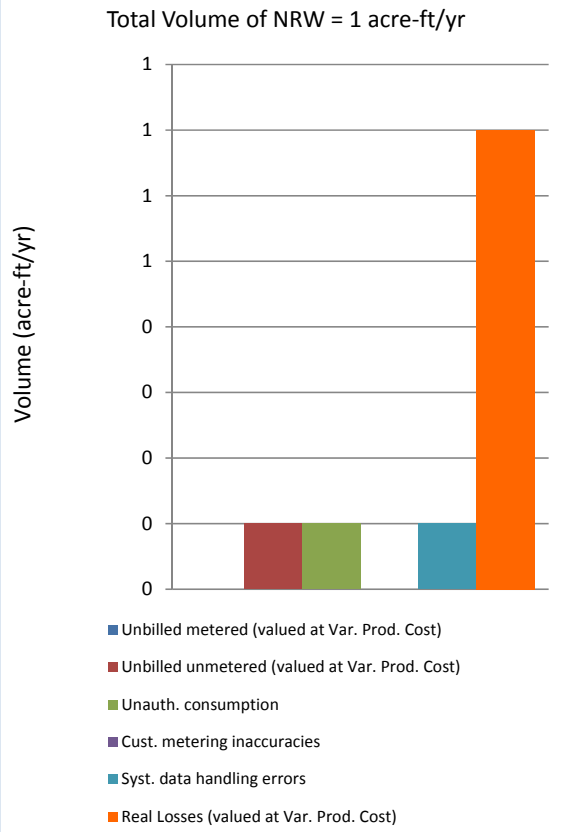
Reporting Year: **2015** **1/2015 - 12/2015**

Data Validity Score: **85**

(•) Show me the VOLUME of Non-Revenue Water

( ) Show me the COST of Non-Revenue Water





Cummulative Distance from Plant

	Stat	Dist, ft	Dist, mile	Zone Length	Pressure, psi	Zone Ave Pressure	Comment
T1	69900	0	0.0		10.0		Clearwell at WTP
Shandon TO	124600	54700	10.4				
	129525	59625	11.3				
	131665	61765	11.7				
	233100	163200	30.9				
Tank 2	233100	163200	30.9	44.1	159.0	84.5	Inlet at Tank 2
	244800	174900	33.1				Outlet Tank 2
	246025	176125	33.4				
	249400	179500	34.0				
	281695	211795	40.1				
Cuesta Tunnel	282473	212573	40.3		443.0		Chorro TO
Chorro TO	289320	219420	41.6				
	298100	228200	43.2				
	299200	229300	43.4				
	300550	230650	43.7				
	306200	236300	44.8				
	307600	237700	45.0	14.1	518.0	480.5	EDV Inlet
	313200	243300	46.1				EDV Outlet
	314600	244700	46.3				
	317400	247500	46.9				
	337000	267100	50.6				
	363150	293250	55.5				
Lopez TO	376600	306700	58.1		216.0		
Guadalupe TO	467600	397700	75.3		265.0		
Santa Maria TO	491550	421650	79.9		251.0		
GSWC TO	505910	436010	82.6		254.0		
	533108	463208	87.7				
Tank 5	533108	463208	87.7	42.7		246.5	Tank 5
Vandeburg TO	555434	485534	92.0		26.0		
	603808	533908	101.1				
	660408	590508	111.8				
Tank 7	660408	590508	111.8	24.1	65.0	45.5	Tank 7 Upstream Inlet valve
Buellton TO	688508	618608	117.2		105.0		
Solvang TO	706138	636238	120.5		83.0		
ID #1 TO	715538	645638	122.3		54.0		
SYPP	718208	648308	122.8	10.9	32.0	68.5	SYPP Forebay Upstream Inlet Valve

168.2 Weighted Average

APPENDIX G

REGIONAL WATER EFFICIENCY PROGRAM (RWEP)
for
SANTA BARBARA COUNTY

Annual Report: FY2014-15

Covering July 1, 2014 - June 30, 2015

Prepared by:
Santa Barbara County Water Agency
Public Works Department
130 E. Victoria Street, Suite 200
Santa Barbara, CA 93101

(8/10/15)

TABLE OF CONTENTS

RWEP Program Overview

Santa Barbara County's Regional Water Efficiency Program (RWEP) was established by the Santa Barbara County Water Agency in December 1990 as a partnership among local water purveyors and the County. RWEP promotes the efficient use of urban and agricultural water supplies Countywide, and provides information and assistance to the eighteen local water purveyors within the County (see table on page 4). Through the RWEP, the County Water Agency coordinates cooperative water conservation efforts among purveyors, co-funds projects and programs, acts as a clearinghouse for information on water efficiency, manages specific projects and programs, and monitors local, state and national legislation related to efficient water use.

This annual report provides information on accomplishments of the RWEP as coordinated by the County. This report does not capture all water conservation activities or accomplishments of each individual water purveyor across the County.

Some local water purveyors, along with the County Water Agency, are members of the California Urban Water Conservation Council (CUWCC), and have signed a Memorandum of Understanding (MOU) committing to implement certain Best Management Practices (BMPs). This report identifies which RWEP accomplishments relate to specific BMPs under the MOU. For more information on CUWCC's reporting requirements, see the Council's website at **www.cuwcc.org** . Implementation of the RWEP also satisfies the U. S. Bureau of Reclamation's requirement for the County Water Agency, as USBR master contractor for the Cachuma Project, to have a regional water conservation plan as a supplement to individual water purveyors' water conservation plans.

For information on water conservation in Santa Barbara County, see our RWEP website at www.WaterWiseSB.org .

Water Purveyors in Santa Barbara County
Buellton, City of
Carpinteria Valley Water District
Casmalia Community Services District
Cuyama Community Services District
Goleta Water District
Golden State Water Company, Orcutt
Guadalupe, City of
La Cumbre Mutual Water Company
Lompoc, City of
Los Alamos Community Services District
Mission Hills Community Services District
Montecito Water District
Santa Barbara, City of
Santa Maria, City of
Santa Ynez River Conservation District, I.D. #1
Solvang, City of
Vandenberg Airforce Base
Vandenberg Village Community Services District

Public Information Programs

Supporting CUWCC's Public Information Program BMP #2.1

Continued to promote the new WaterwiseSB brand and logo for the Regional Water Efficiency Program

- Seasonal media campaigns featured our brand (WaterWise in Santa Barbara County), our logo (see cover of this report), and our tagline (*Let's Save Together*).
- Included the brand/logo on items such as tote bags and water bottles given to students participating in the High School Video Contest, as well as clip boards and hats given to graduates of the Green Gardener Program, and on all outreach material available to the public.

Informed the Public Through Media Campaigns

- Through October 31st, 2014, Stacy Miller Public Affairs had been contracted to develop outreach material that would be used across some media outlets listed here.
- Fall 2014 media campaign consisted of:
    - TV: "*The Most Fascinating Man*" and "*Gold is the New Green*"
        - September – November: 6 Stations; 518 spots.

    - Theatre Screens: "*Gold is the New Green*"
        - August – November: 8,320 spots.
    - Radio: "*Did you Know*"
        - August – November: 8 Stations; 882 spots.
    - Print: "*Save Water Inside & Outside*" and "*Did you Know*"
        - July – November: 6 publications; 42 ads.
    - Online: "*Did you Know*"
        - July – November: Noozhawk; 98 ads.
- Winter 2014 media campaign consisted of:
    - Radio: "*Did you know*" Water Wise Awareness
        - October – December: 519 spots.
- Spring 2015 media campaign consisted of:
    - TV: "*Mulch Madness*"
        - March – April: 56 spots
    - Theatre Screens: "*Mulch Madness*"
        - March – April: 6,468 spots
    - Radio: "*Mulch Madness*"
        - March – April: 3 stations; 112 spots
    - Following the spring media campaign, all RWEP media budget funds had been exhausted due to the drought and increased campaign messaging.
- Summer 2015 media campaign consisted of:
    - Theatre Screens: High School Video Contest 1st place "So Many H_2Options" and 2nd place "Stop the Drought at the Spout"
        - May – June: 3,948 spots
    - SBCWA covered all costs for the summer 2015 media campaign.
- Plus 322 Green Gardener radio ads in fall and spring, and in summer to promote the list of certified Green Gardeners on WaterWiseSB.org.
- Media ads were co-funded by most water providers across the County. *See list of funding agencies at end of this report.*

Informed Public Through Water Conservation Website: www.WaterWiseSB.org

- County staff continually maintained the site, posting updates, events, edits, new info & links.
- The site averaged 2,905 "users" per month.
- Created a number of new program pages including: Water Wise Landscape Rebate Program, Showerhead Exchange Program and the Water Wise Landscaping Workshops (pilot) Program.
- Began update to mobile reactive website platform.

Participated in Public Events

- Landscaper Expo sponsored by All Around Landscape Supply at Earl Warren Showgrounds (February 2015).
- Earth Day in Santa Barbara (April 2015).

- In support of Water Awareness Month in May 2015, SBCWA provided a display of water supply, water conservation and drought information in the Santa Barbara County Administration Building.
    - Provided water conservation brochures and handouts for free.

Water Conservation Materials and Brochures updated

- Updated 1 brochure (on-line version of "Sustainable Landscaping"), and our Green Gardener caps during FY14-15.
- Created new conservation material:
    - Poster/brochure "Saving water inside/outside"
    - 3-Up rack cards "Did you Know"
    - Door hangers "Did you Know"
    - Hotel/motel door hangers and linen cards
- Distributed over 12,000 brochures, catch cans, and other materials to RWEP partners for distribution to their retail customers.

Issued Press Releases

- Periodically issued 16 press releases County-wide for announcements such as:

  – "Water Wisely to Save Money and Water" (July 14, 2014)
  – "Coming Together for Water Conservation" (August 1, 2014)
  – "Garden Contest Greenery Saves Water" (August 21, 2014)
  – "Stay Sandy Santa Barbara" (September 2, 2014)
  – "Mulch Ado About Water Conservation" (September 11, 2014)
  – "Water Saving is Elementary in Montecito" (October 13, 2014)
  – "Saving Water Might Actually Save Your Home" (October 22, 2014)
  – "Planning Ahead to Avoid Fire and Drought Disaster" (October 28, 2014)
  – "Drought is a Red Flag for Preparedness" (October 28, 2014)
  – "Teamwork is Key to Saving Water During Drought Challenge" (October 28, 2014)
  – "Public Invited to Vote in County's Water Wise Video Contest" (March 27, 2015)
  – "Video Contest Winners Identify Water Wise Actions" (April 4, 2015)
  – "County Urges Water Awareness and Water-Saving Fixtures" (May 27, 2015)

Landscape Water Use Programs

Supporting CUWCC's Landscape BMP #5;
and Residential BMP #3.2 for Landscape Water Survey.

Garden Recognition Contest

- The "Water Wise Garden Recognition Contest" was only implemented by Carpinteria Valley Water District in 2014, with voting ending on June 30, 2014. It is included within this report because the recognition efforts for the contest winner ran into FY14-15 by being acknowledged on WaterWiseSB.org and SBCWA coordinating the engraving of a sandstone rock award.

- The current drought conditions forced many agencies to focus their staff resources on other priorities, and, as a result, water purveyors decided not to participate in FY14-15.

Green Gardener Program

- Students earn certificate from Santa Barbara City College and Allan Hancock College in Santa Maria in 15-week course.
- 90 graduates from 5 classes in FY14-15: three in Fall 2014 and three in Spring 2015.
- GG list updated; available at **www.GreenGardener.org**

Principal co-funders were: SB City College, County WA, City of Santa Barbara, Goleta Water, Montecito WD, Carpinteria Valley WD, Buellton, Solvang, La Cumbre Mutual WC, City of Santa Maria and some private sponsors.

USBR Grant for Landscape Rebate Program

County WA, on behalf of 7 RWEP members, applied for and was awarded a grant from the USBR for a "WaterWise Landscape Rebate Program". SBCWA administers the 2-year USBR grant-funded program that kicked-off on October 1, 2014.

Produced and Aired additional episodes for *Garden Wise TV*

- 3 new episodes aired during FY14-15.
    - Episode 8: "Get to Know Your H2O"
    - Episode 9: "Golden Rules for Golden Landscapes"
    - Episode 10: "Sage Advice from Garden Masters"
- Santa Barbara City TV filmed all shows; Aired on County GATV20, SB City TV18, Comcast 23 and Santa Maria public access TV. Also available for viewing online at WaterWiseSB's YouTube page.
- Co-funded by County, City of Santa Barbara, Goleta WD, and other water districts.

Funded website for "*Water Wise Gardening for Santa Barbara County*"

- Website received 16,272 unique visitors, making over 25,734 visits to view over 235,593 pages on the website.
- Website updates completed in FY2014-15 include:
    - Changed all backgrounds to neutral background color.
    - Floated message panel, rebuilt menu system with cascading menus and are able to access any page from every other page.
    - Established new and more memorable URL: waterwisegardeningsb.org
    - Added a toggle switch for hot links to turn "off and on" for ease in printing pages.
    - Moved "Add" (to my list) to the right side of page and redesigned it.

Updated Weekly Watering % Adjust

- County staff updated website weekly using data from eight California Irrigation Management Information System (CIMIS) stations across SB County.

Funded Large Landscape Evaluations Across Santa Barbara County

- County funded Cachuma Resource Conservation District's Mobile Irrigation Lab.
- CRCD's expert staff conducted irrigation system evaluations through site visits and testing of turf and crop irrigation systems County-wide.

Student Education Programs

Supporting CUWCC's School Education Programs BMP #2.2

School Assembly Presentations on Water Conservation

- County partnered with local water purveyors to co-fund assembly presentations at elementary schools.
- Extended contract (with "Shows That Teach") for engaging musical-comedy-educational show about the value of water & water conservation.
- Reached 3,956 students in 18 performances at 10 schools in Carpinteria, Santa Barbara, Goleta WD, Lompoc and Vandenberg Village CSD.

High Schools Competed in 2015 Water Awareness Video Contest

- Received and judged 15 videos from 6 different schools for potential use as 30 second Public Service Announcements on water conservation.
- Award trophies and certificates issued to students and schools, including:
    - Dos Pueblos HS, Santa Ynez Valley Union HS, Bishop Garcia Diego HS, Dunn School, Carpinteria HS, and Laguna Blanca School.
- Videos posted on YouTube, Facebook, and www.WaterWiseSB.org.
- 1st and 2nd place winning videos were used in spring and summer media.
- Co-funded by all RWEP members across the County.
- For the third year in a row, this annual contest featured prizes donated by private sector companies for awards to students on winning teams.

Made awards as part of SB County Science Fair

- Science Fair is open to all high school and junior high students County-wide.
- On behalf of RWEP, continued to co-sponsor Santa Barbara County Science Fair's award of four cash prizes as part of our "Water Awareness Special Award".
    - Senior High: No projects met the "Water Awareness Special Award" criteria.
    - Junior High: One winner and three runner up awards were given.

Commercial and Institutional Programs

Supporting CUWCC's Commercial, Industrial, and Institutional BMP #4

Participated in County's Green Business Program

- County WA assisted on Steering Committee
- WA staff assisted in re-structuring program format to a cohort-based model to be rolled-out in September 2015.

- Due to program restructuring, WA staff did not conduct audits or review applications for approval.

Information on Utility Operations

Supporting CUWCC's Utility Operations BMP #1.3 for metering rates; and BMP #1.4 for retail conservation pricing.

Reported on Local Water Rates

- Compiled water rate information from 17 local water purveyors across SB County
- Shared report (March 2015) and posted online under "About Us" at www.WaterWiseSB.org All local purveyors cooperated; staffed by County WA.

Compiled Water Production Data

- Compiled local water purveyors' annual water production data, for CY2014.
- Shared summary table (July 2015), prepared a summary table, and posted online under "About Us" at **www.WaterWiseSB.org**
- All local purveyors cooperated; staffed by County WA.

Coordination of Regional Water Efficiency Program

Supporting CUWCC's Utility Operations BMP #1.1 for a Conservation Coordinator

Coordinated Monthly RWEP Meetings

- For program coordination, information sharing, vetting ideas, etc.
- WA scheduled and facilitated all meetings; set each agenda; circulated meeting notes
- 11 meetings held in FY2014-15.

Held Bi-County Meeting on Water Conservation

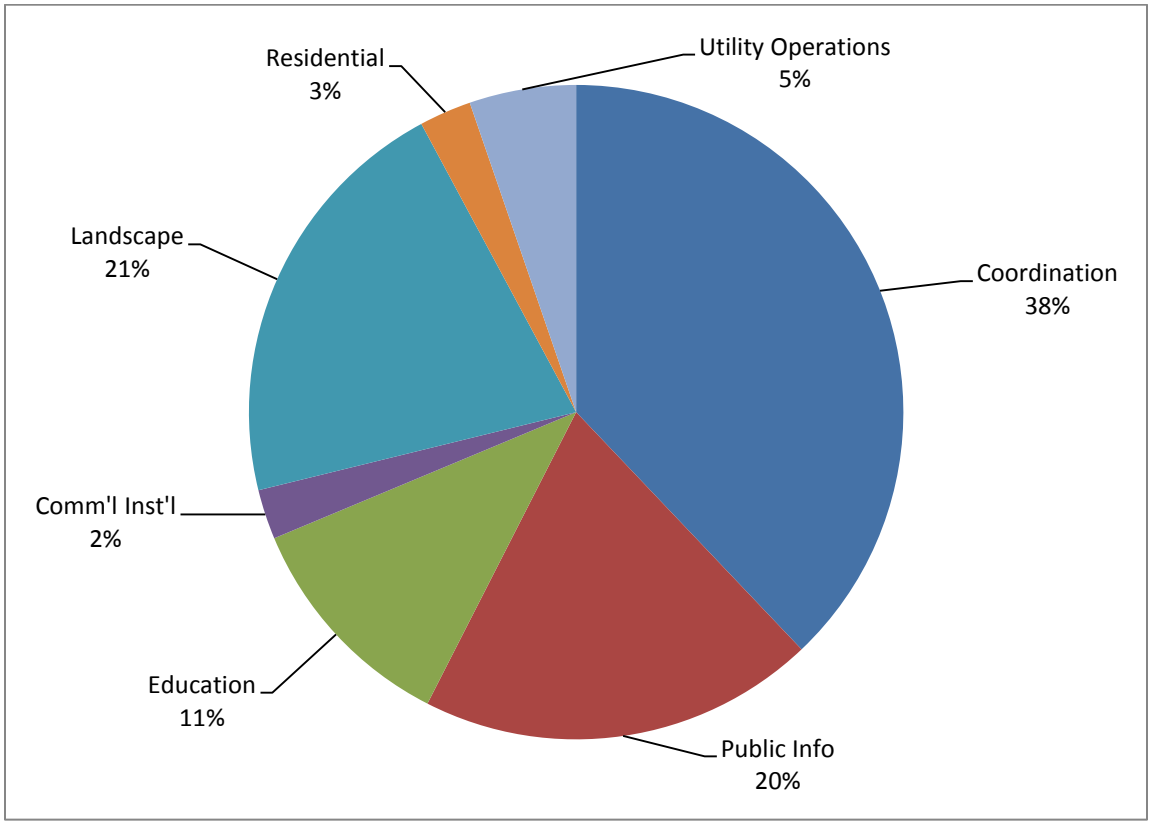
- Met with staff from water purveyors in San Luis Obispo County, Feb 2015.
- WA hosted the meeting; set agenda; coordinated logistics
- Meetings useful for program coordination, information sharing, vetting ideas, etc.

Regional Projects Co-Funded by Local Water Providers FY2014-15*						
	Website	Media Ads	High School Video Contest	Grdn Wise TV	Green Grdnr Prog	Sci Fair Awd
Buellton	Website	Ads	HS Video	TV	Green	Sci
Carpinteria Valley Water District	Website	Ads	HS Video	TV	Green	Sci
Cuyama CSD	Website	Ads	HS Video			Sci
Golden State Water Co., Orcutt	Website	Ads	HS Video	TV		Sci
Goleta WD	Website	Ads	HS Video	TV	Green	Sci
Guadalupe						
La Cumbre Mutual Water Company	Website	Ads	H S Video	TV	Green	Sci
Lompoc	Website	Ads				
Los Alamos CSD	Website	Ads	H S Video			
Mission Hills CSD						
Montecito WD	Website	Ads	HS Video	TV	Green	Sci
Santa Barbara (City)	Website	Ads	HS Video	TV	Green	Sci
Santa Barbara Co.	Website	Ads	HS Video	TV	Green	Sci
Santa Maria	Website	Ads	HS Video	TV	Green	Sci
Santa Ynez River WCD, ID#1	Website	Ads	HS Video			
Solvang	Website	Ads	HS Video	TV	Green	Sci
Vandenberg Village CSD	Website	Ads	HS Video	TV		Sci

*** Many water purveyors have w/c programs separate from regional projects listed here.**

Allocation of Water Agency Staff Time FY2014-15

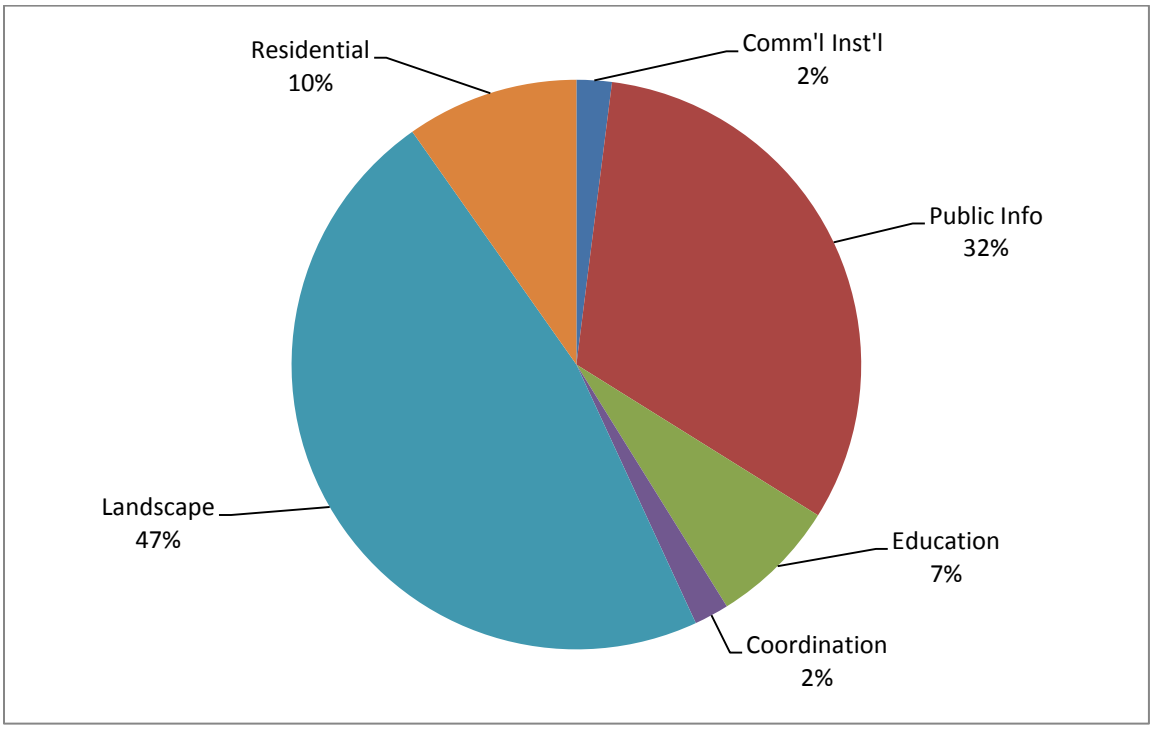
% of total WA staff hours by category



Allocation of RWEP Funds, FY 2014-15

% of total dollars

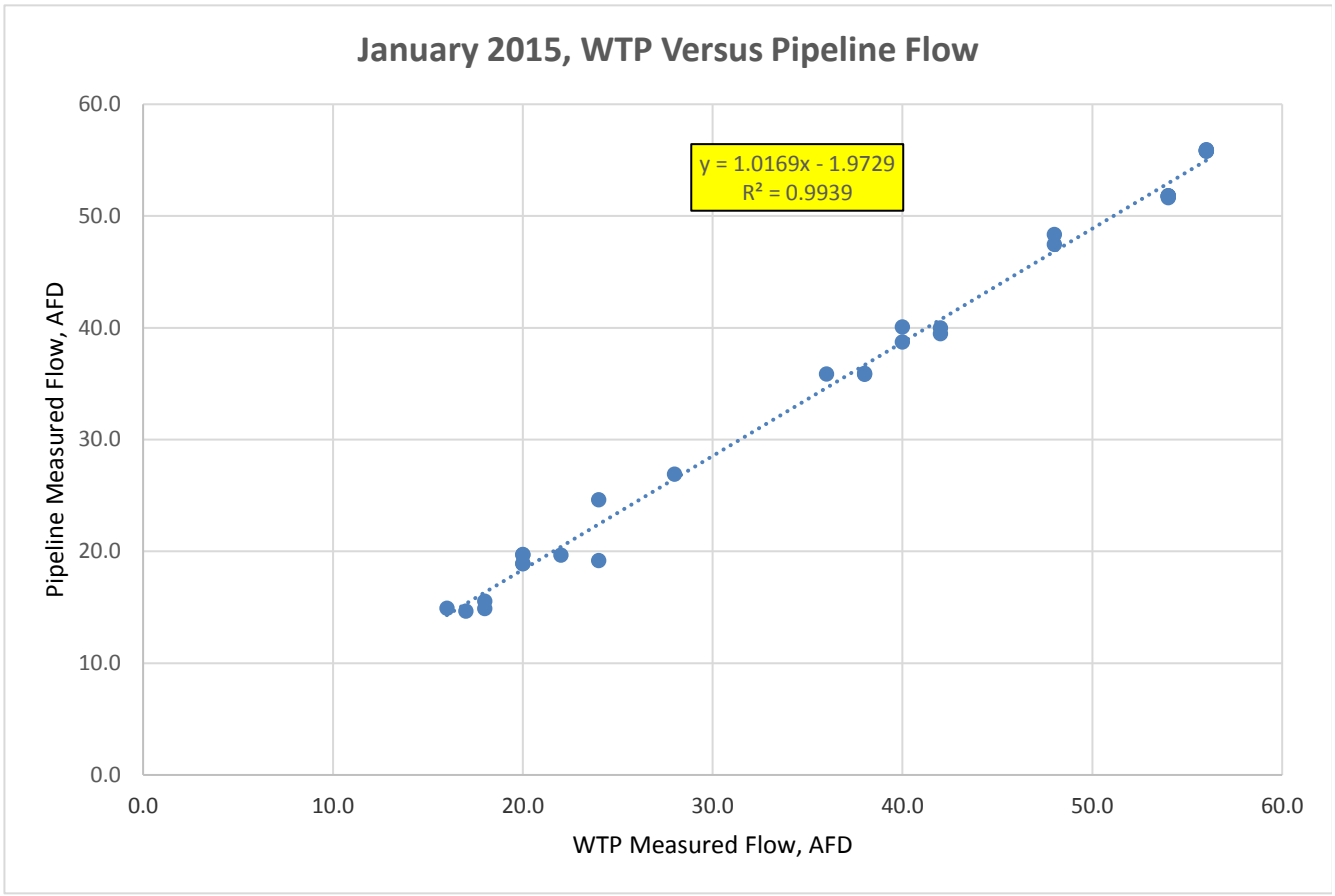
(Includes WA funds and contributions from RWEP members;
Excludes funds for staff time and for CRCD mobile lab)

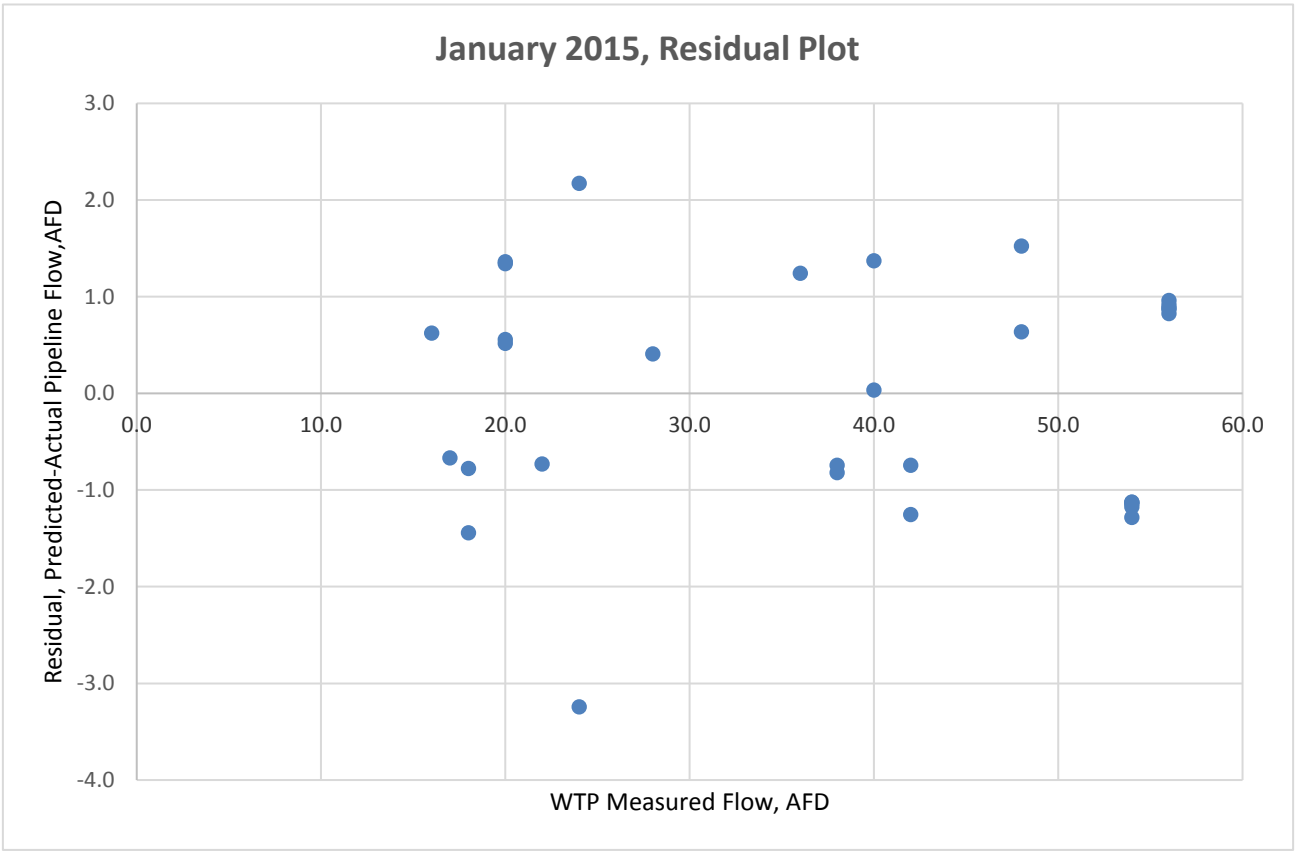


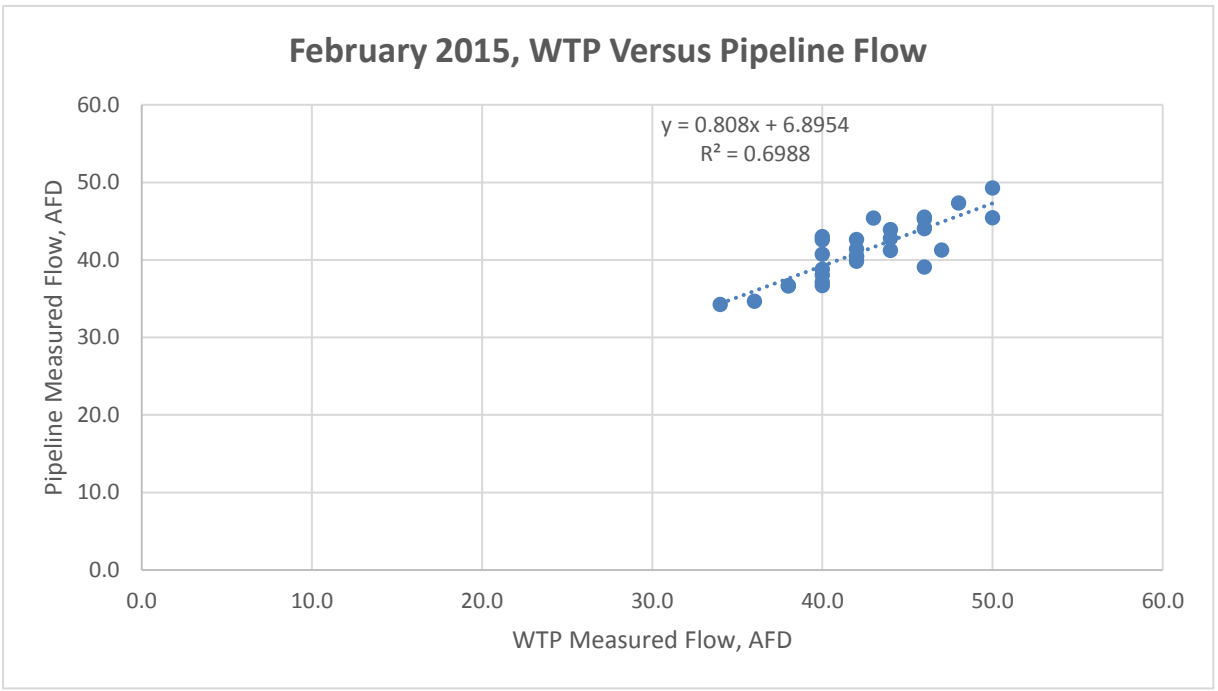
Note: Landscape expenditures include USBR funds for reimbursing local agencies for rebates issued under the grant for the Water Wise Landscape Rebate Program. Residential expenditures include cost of showerheads for county-wide Showerhead Exchange Program.

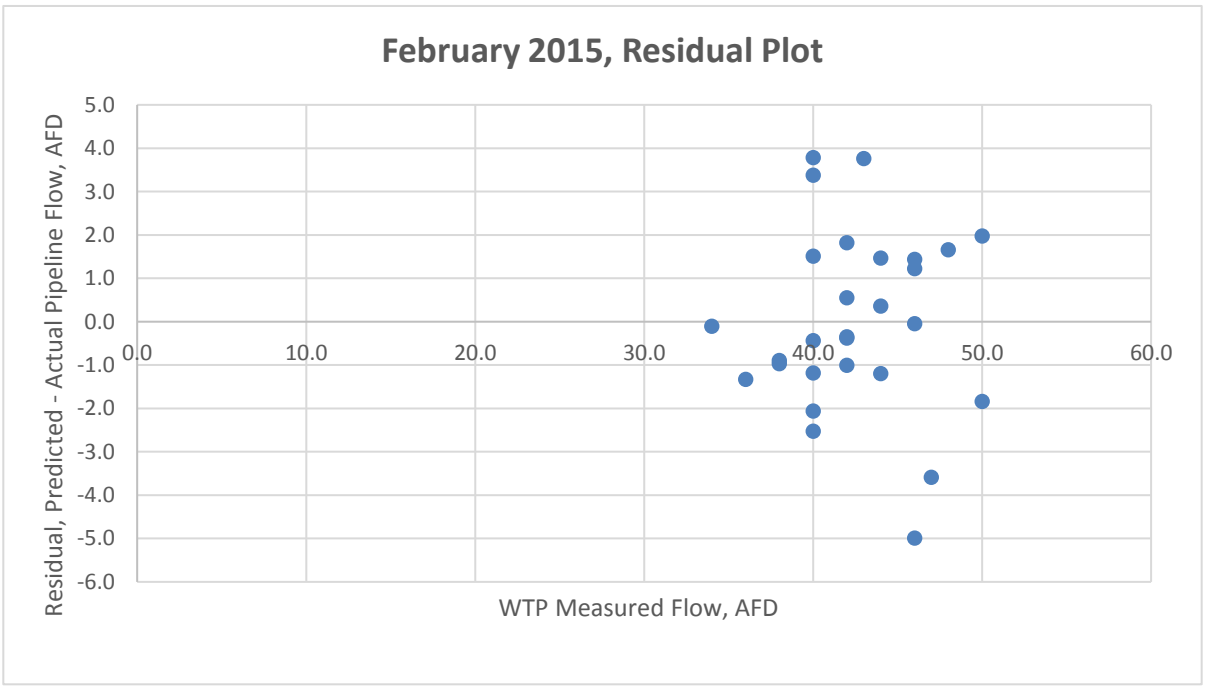
Let's Save Together
waterWise
IN SANTA BARBARA COUNTY

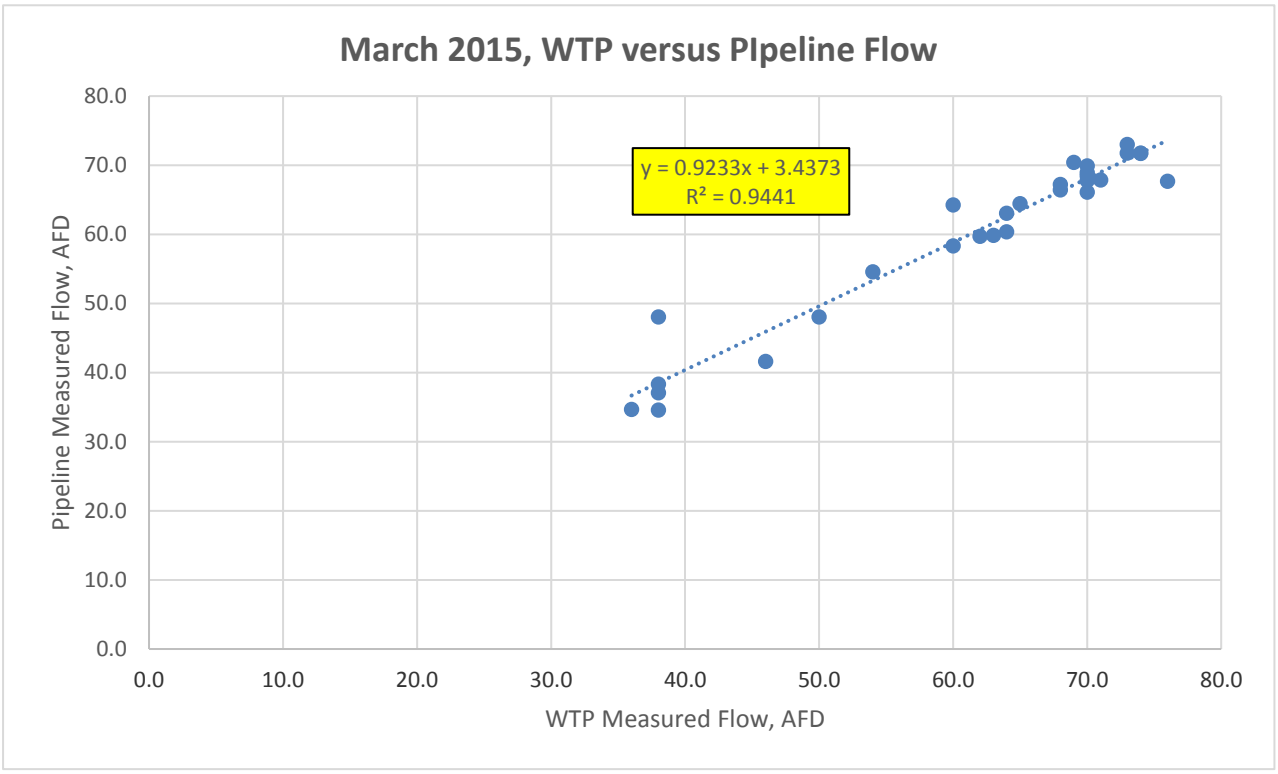
APPENDIX H

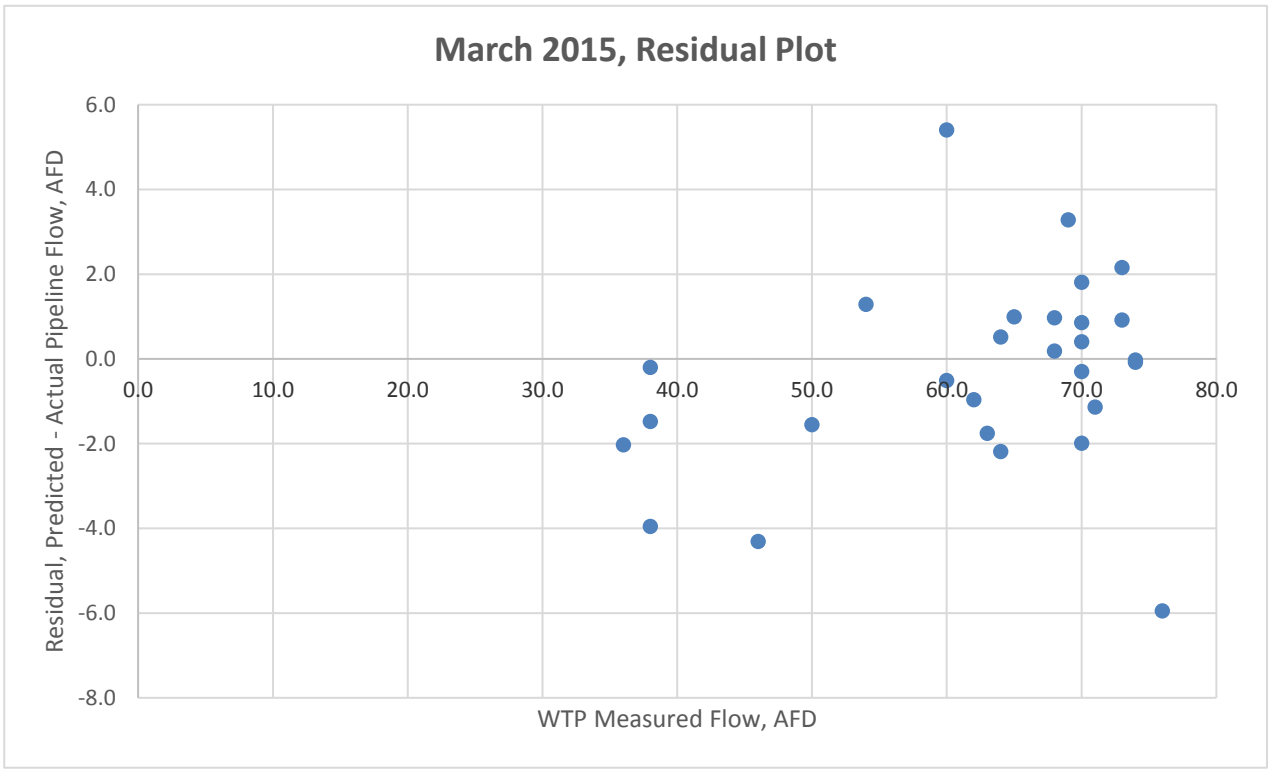

January 2015, WTP Versus Pipeline Flow
y = 1.0169x - 1.9729
R² = 0.9939
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
0.0
10.0
20.0
30.0
40.0
50.0
60.0

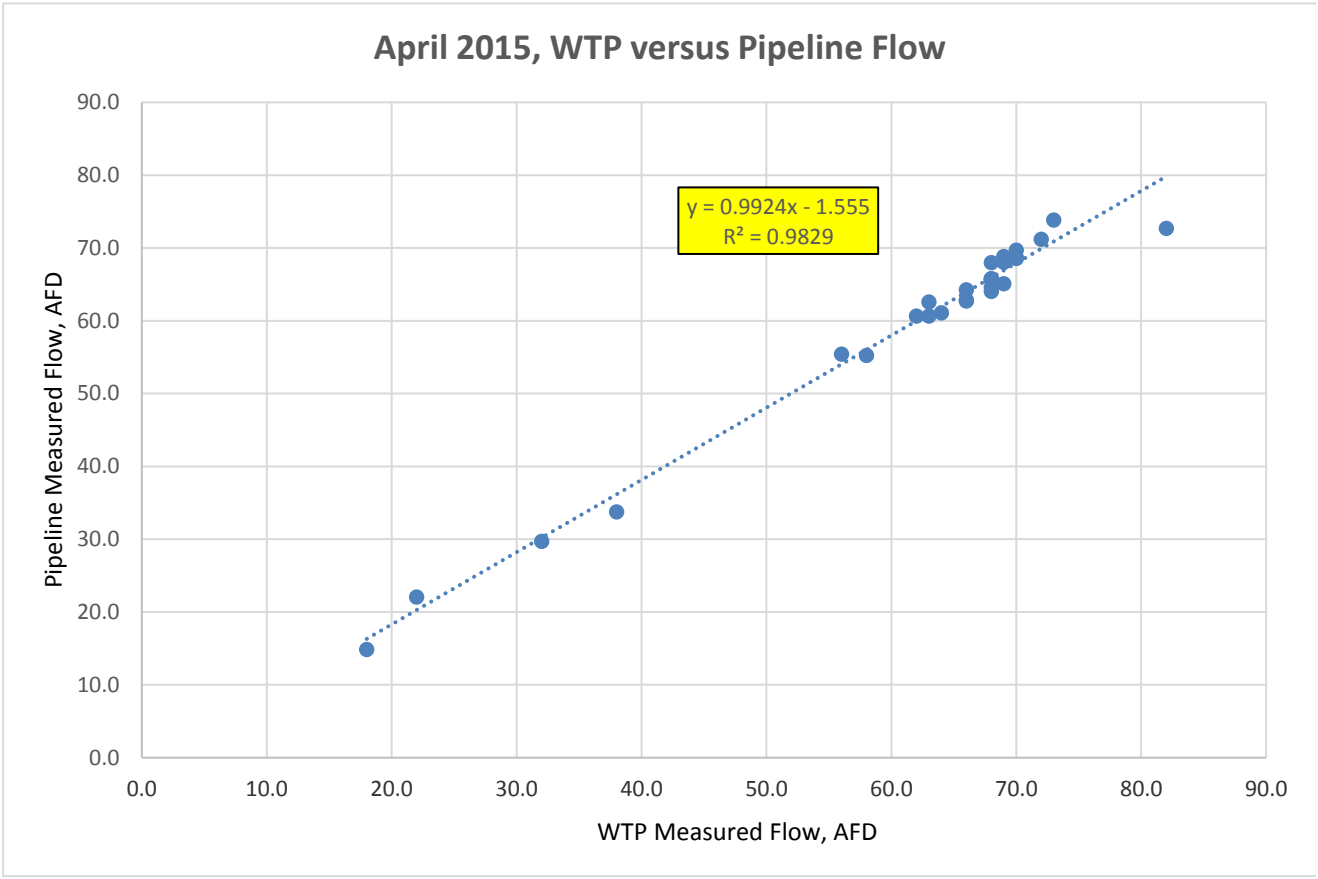

January 2015, Residual Plot
Residual, Predicted-Actual Pipeline Flow,AFD
WTP Measured Flow, AFD
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0

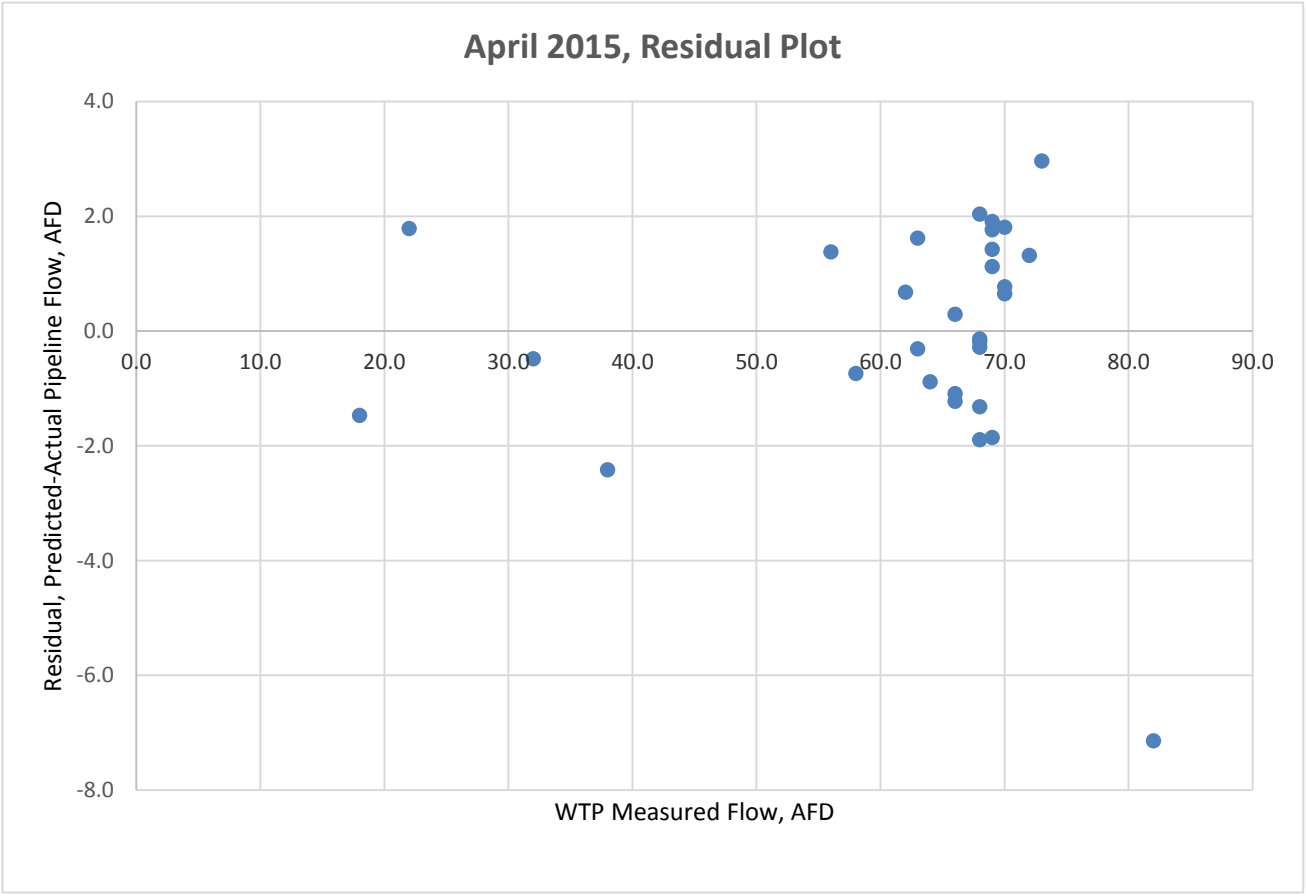

February 2015, WTP Versus Pipeline Flow
y = 0.808x + 6.8954
R² = 0.6988
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
60.0
50.0
40.0
30.0
20.0
10.0
0.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0

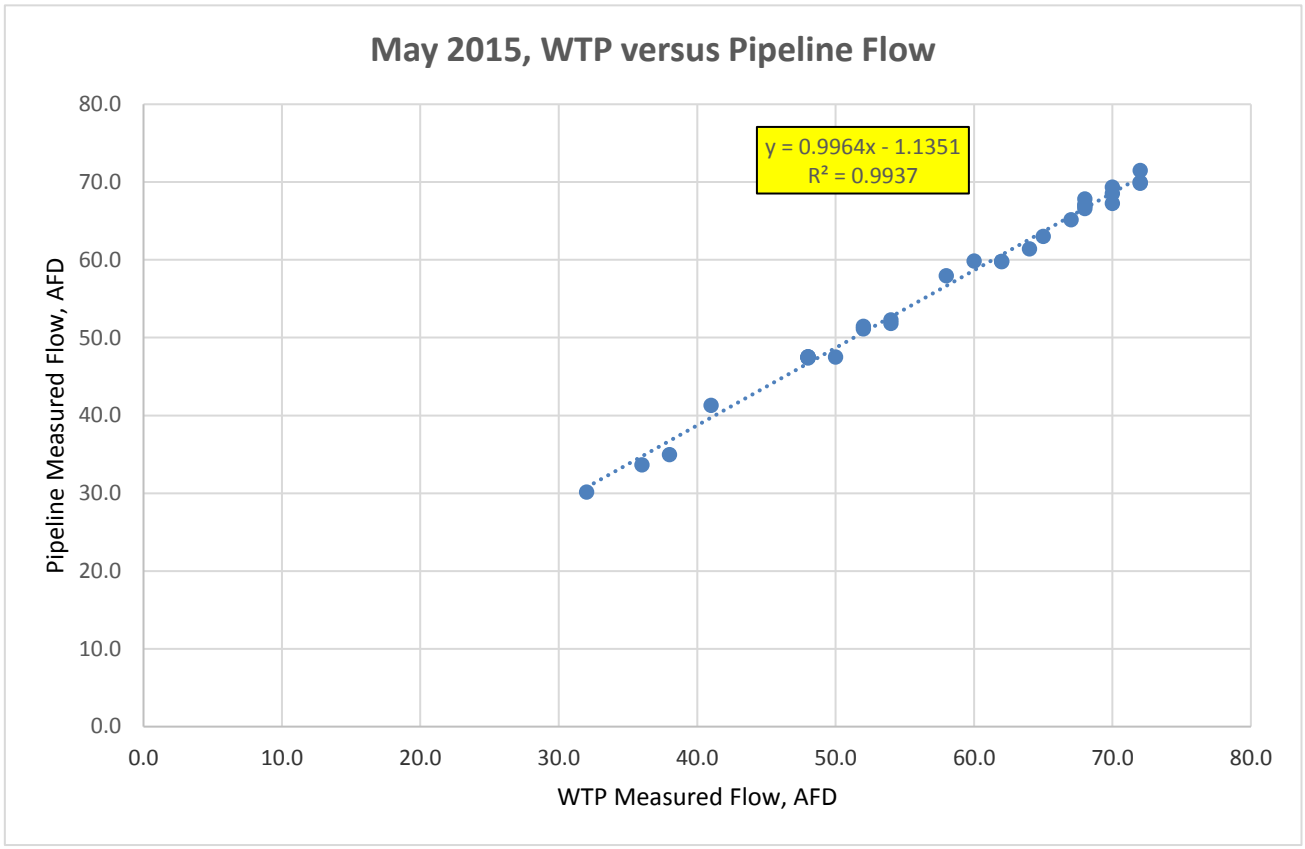

February 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0

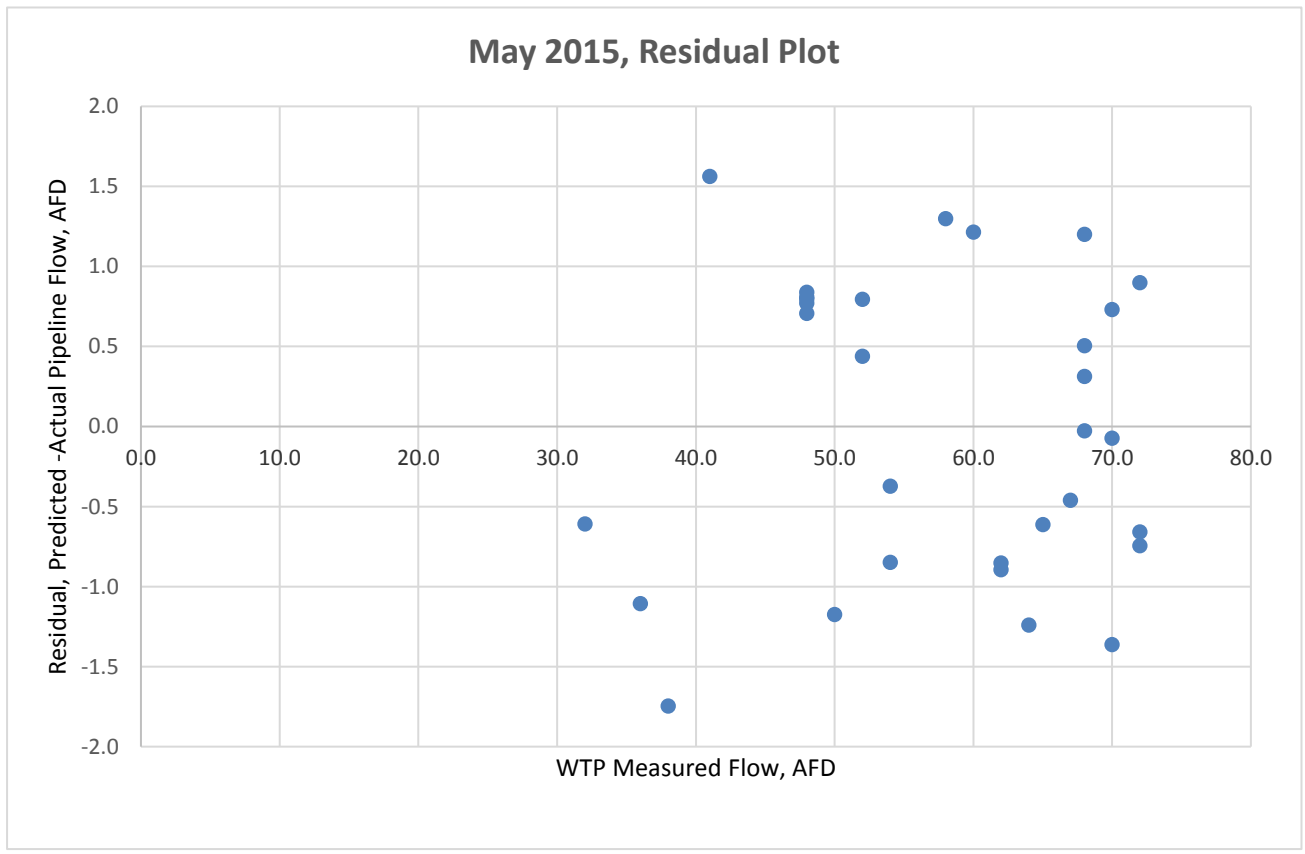

March 2015, WTP versus PIpeline Flow
y = 0.9233x + 3.4373
R² = 0.9441
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

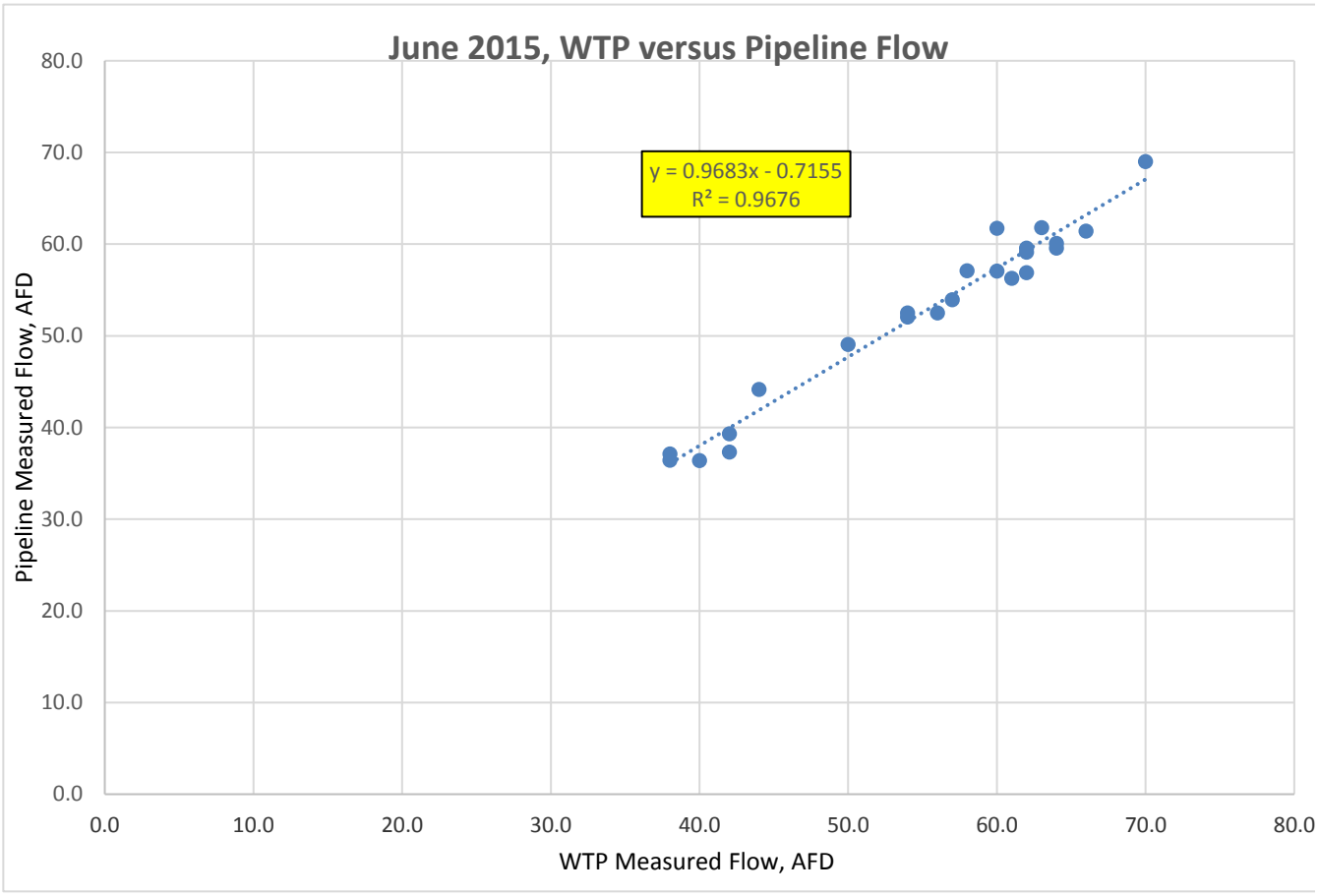

March 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

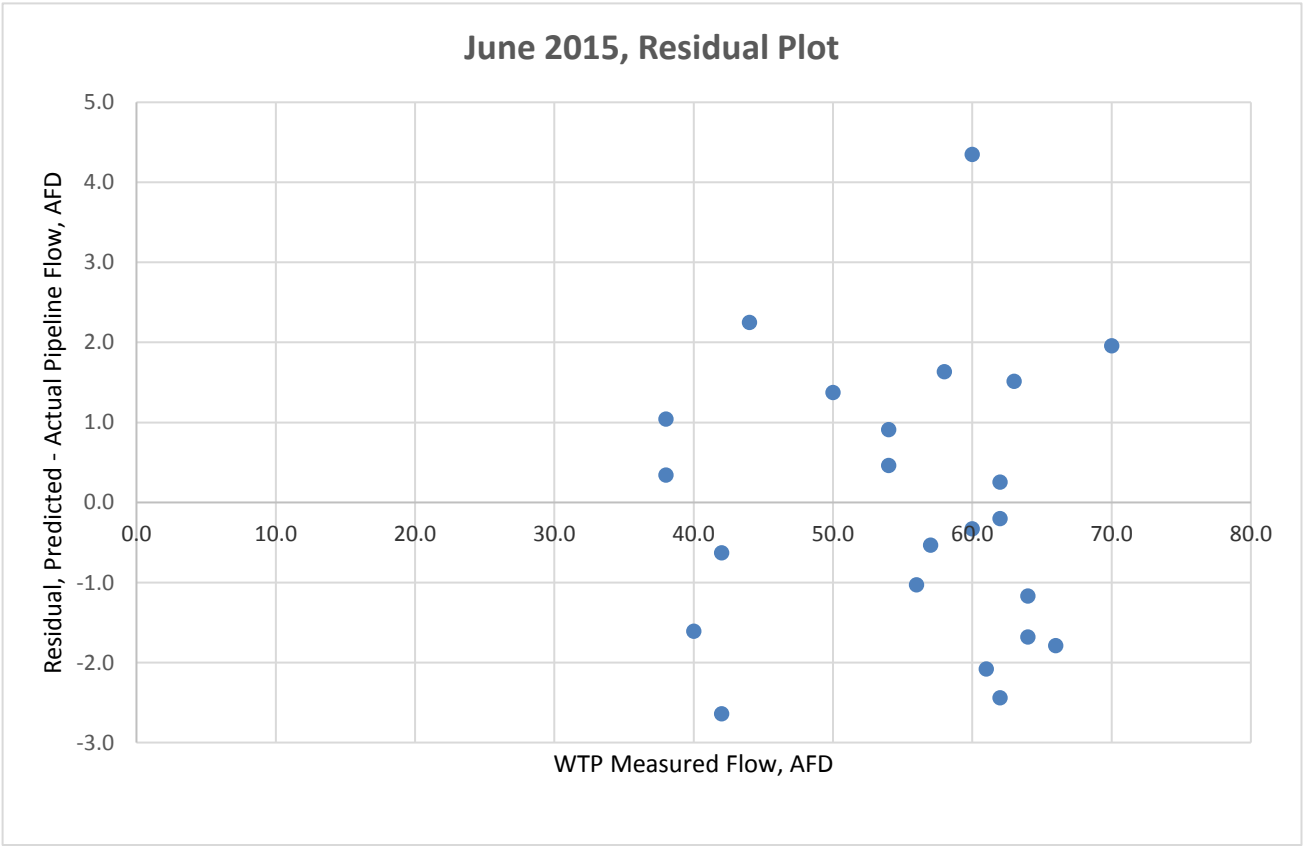

April 2015, WTP versus Pipeline Flow
y = 0.9924x - 1.555
R² = 0.9829
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0

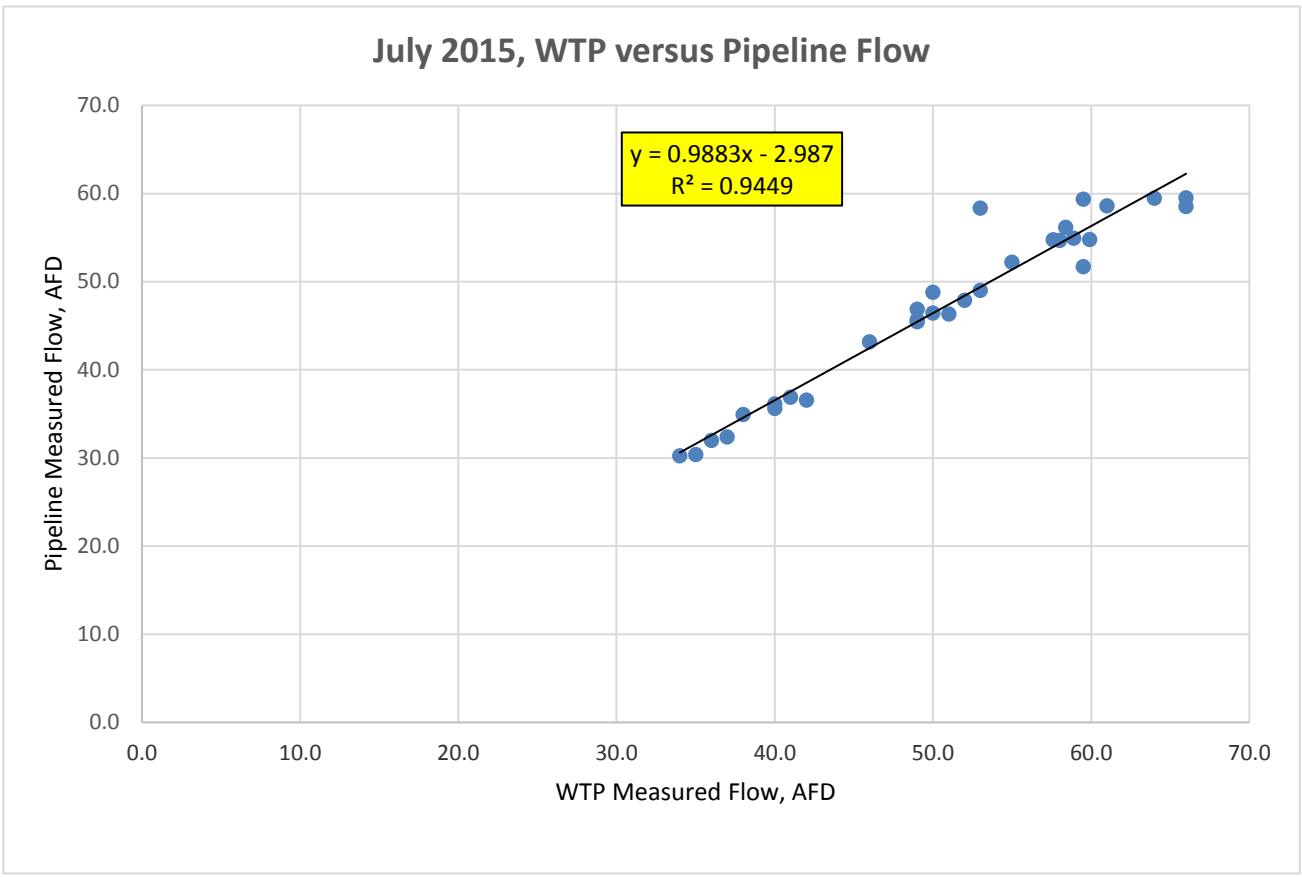

April 2015, Residual Plot
Residual, Predicted-Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0

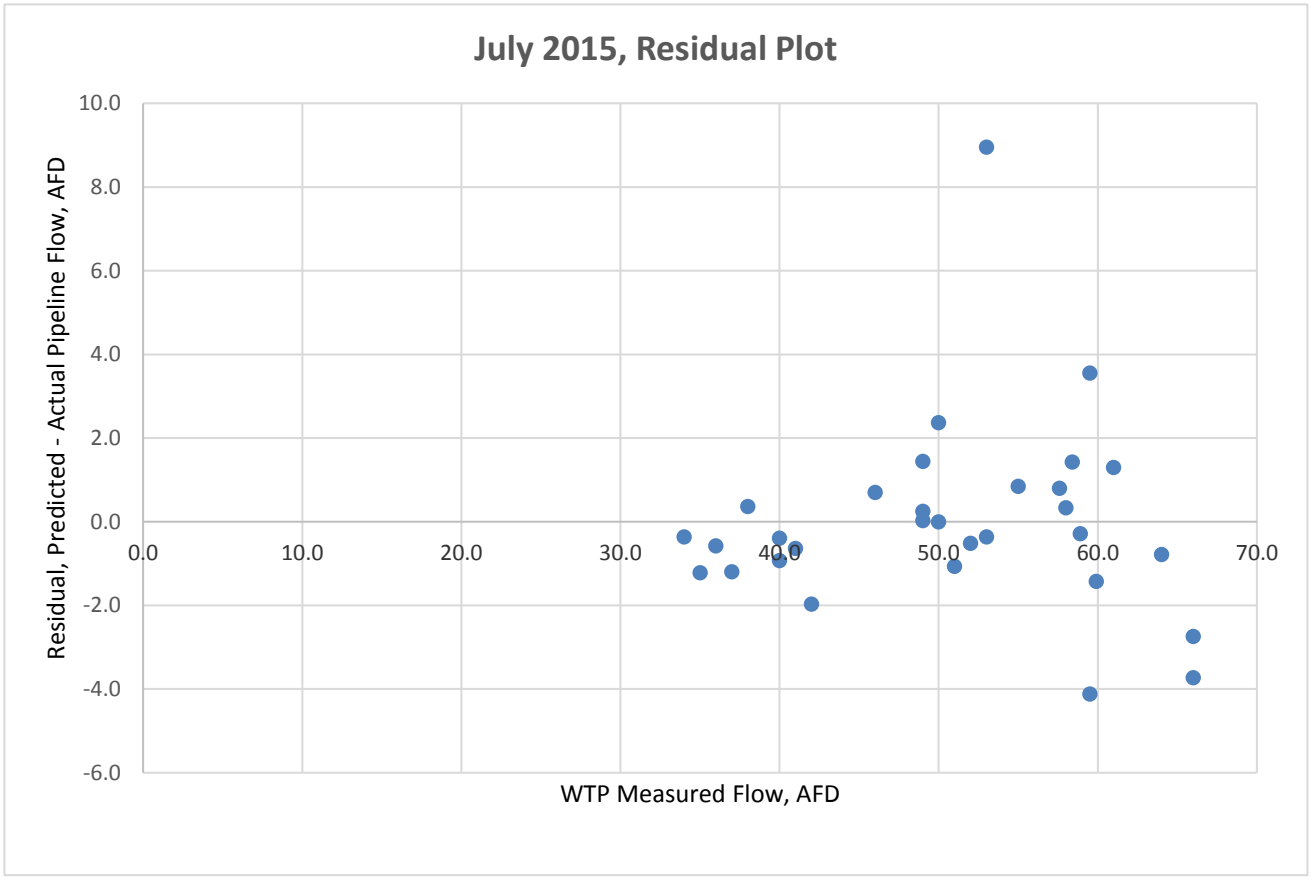

May 2015, WTP versus Pipeline Flow
y = 0.9964x - 1.1351
R² = 0.9937
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

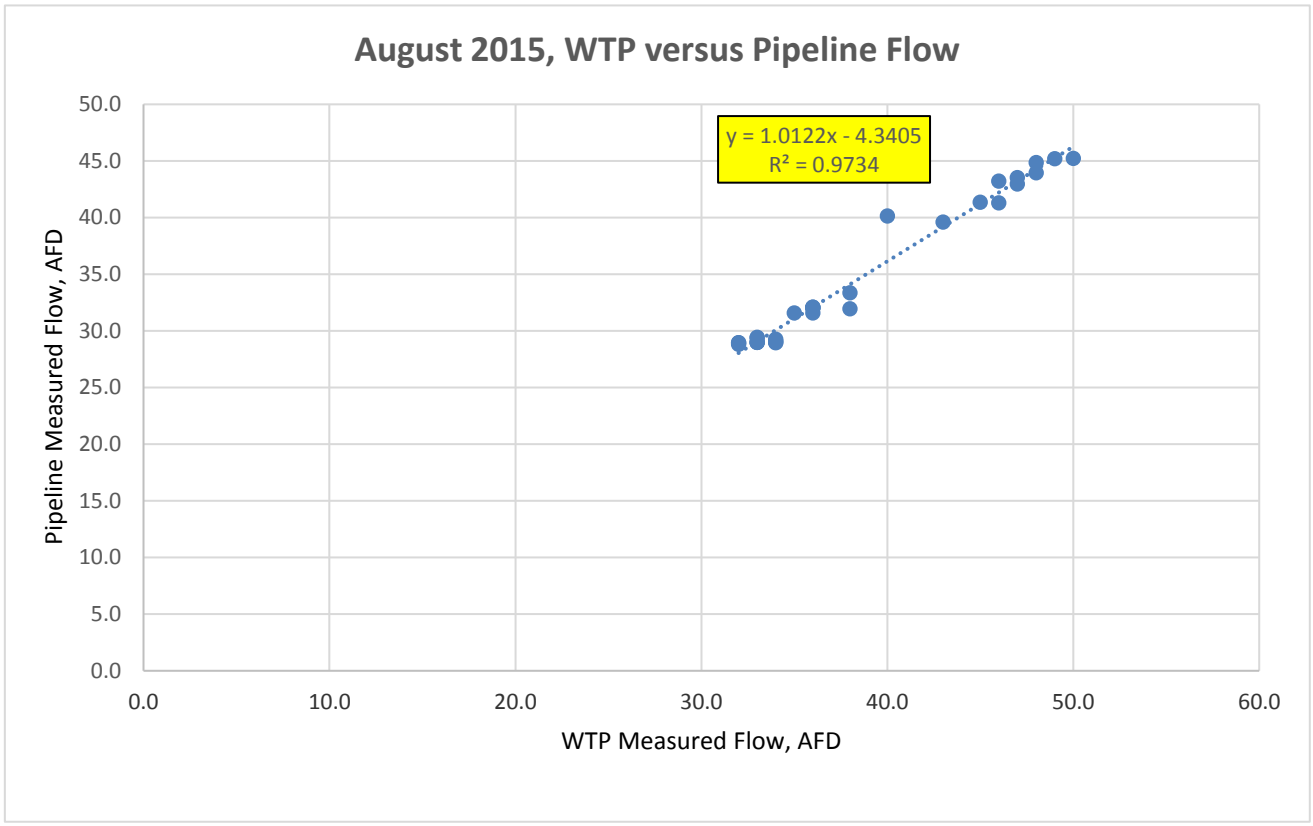

May 2015, Residual Plot
Residual, Predicted -Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

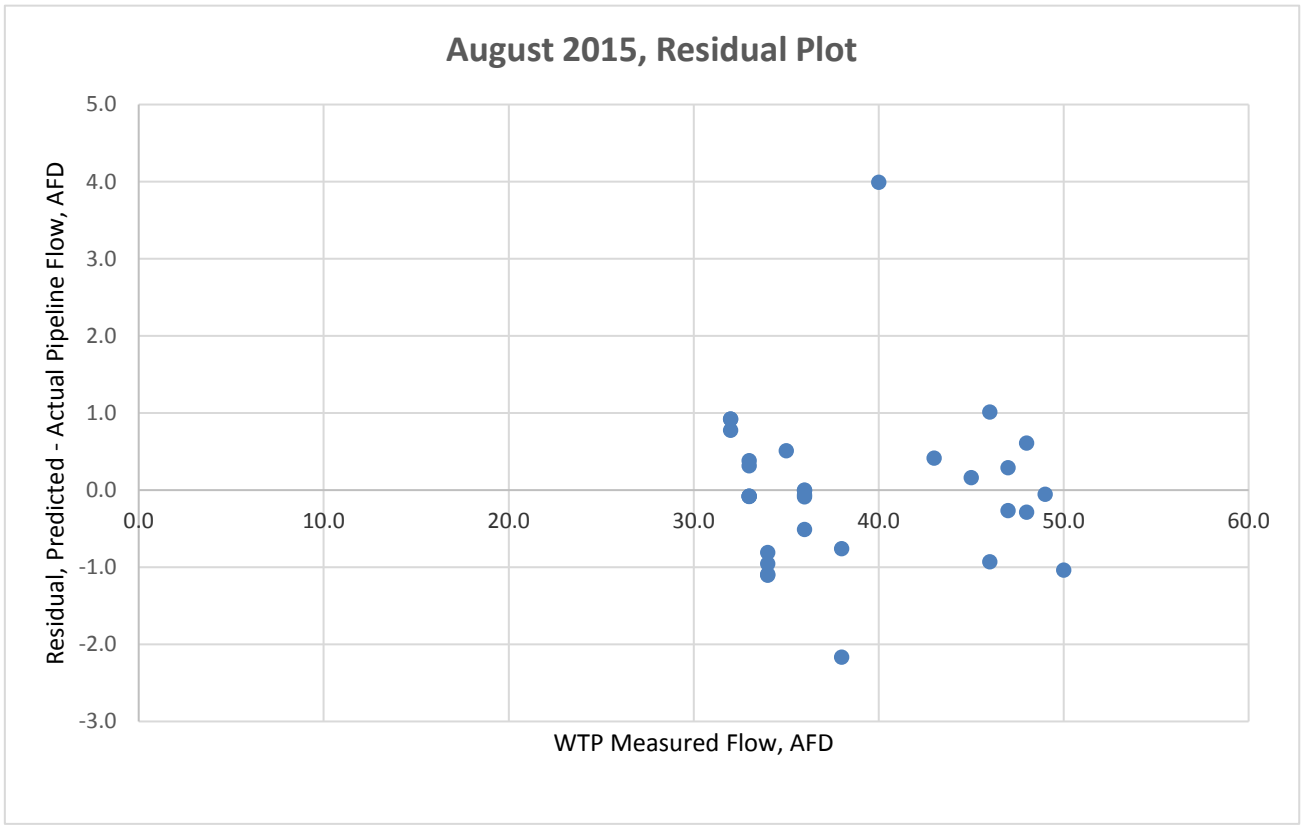

June 2015, WTP versus Pipeline Flow
y = 0.9683x - 0.7155
R² = 0.9676
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

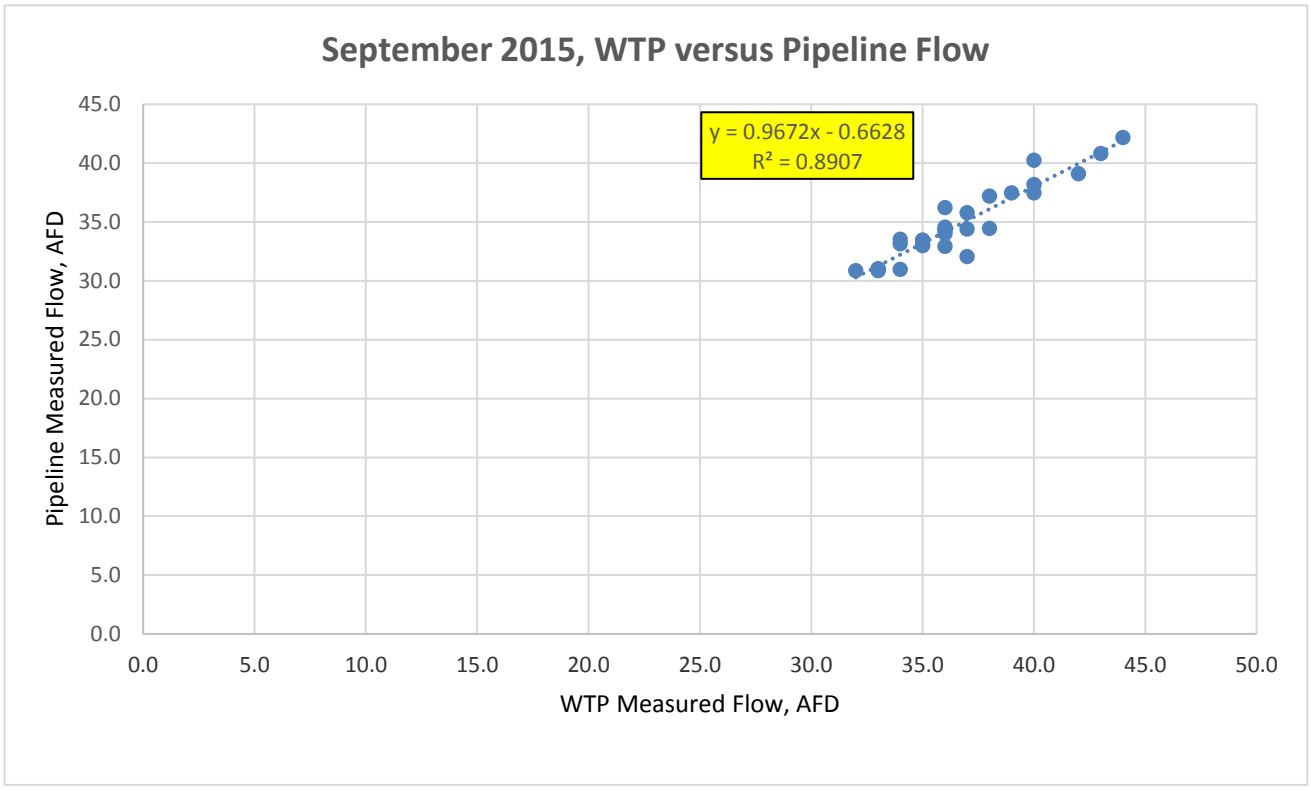

June 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

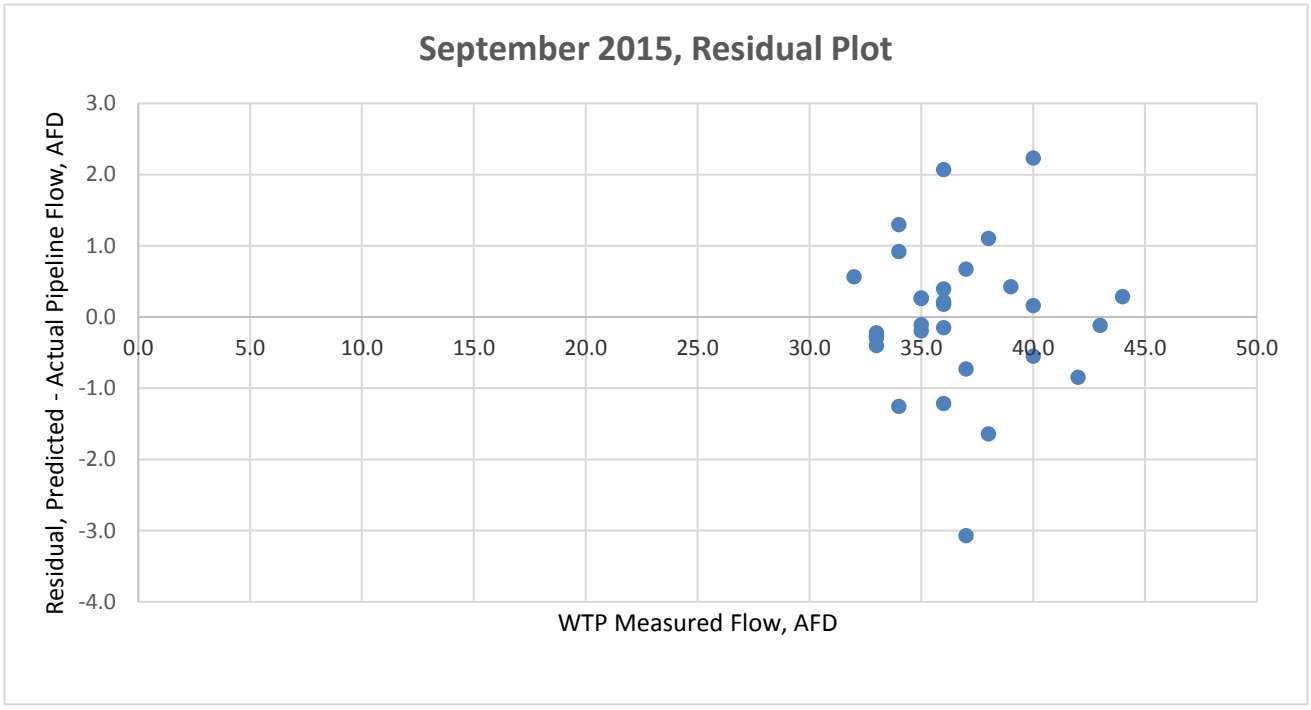

July 2015, WTP versus Pipeline Flow
y = 0.9883x - 2.987
R² = 0.9449
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

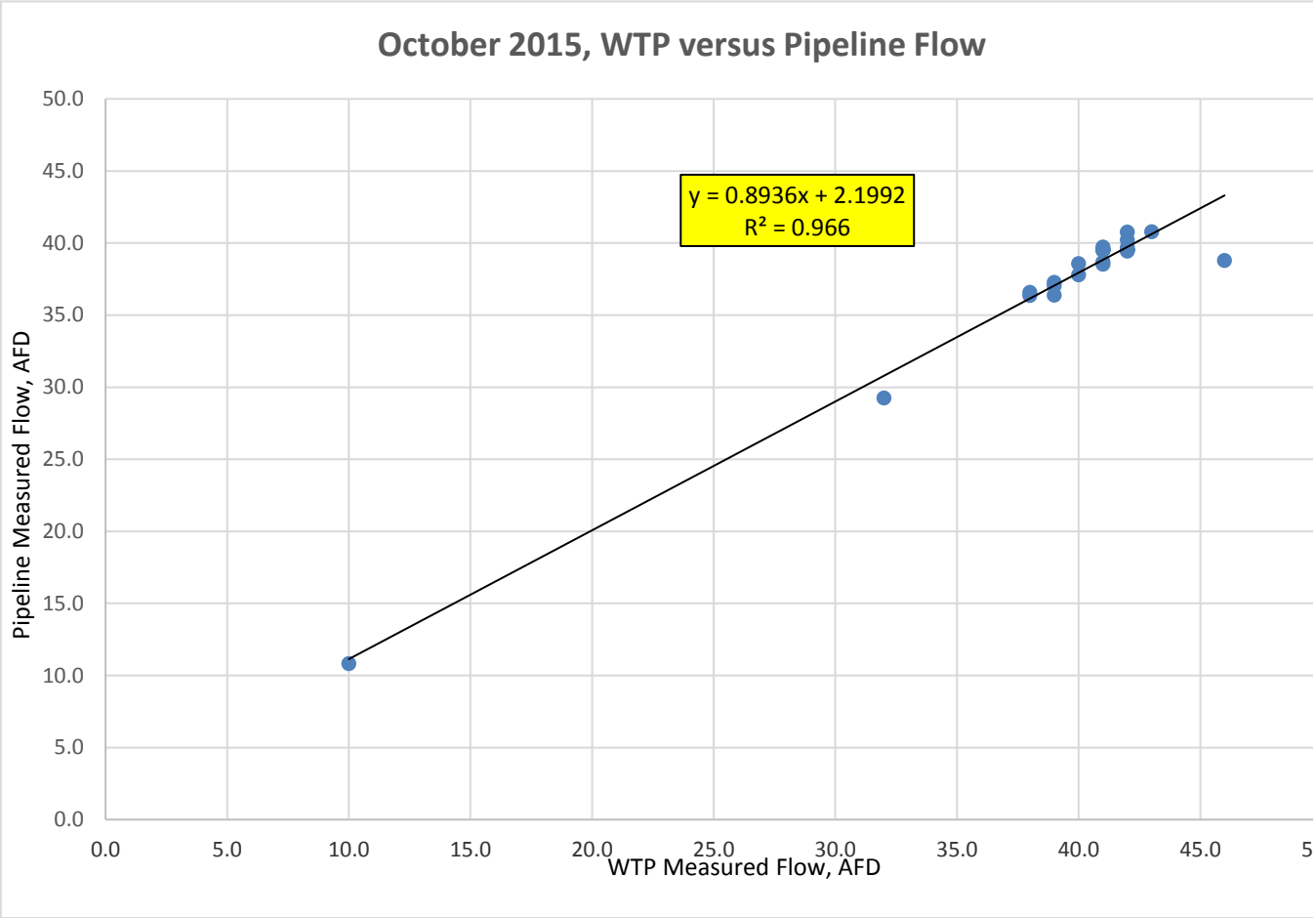

July 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

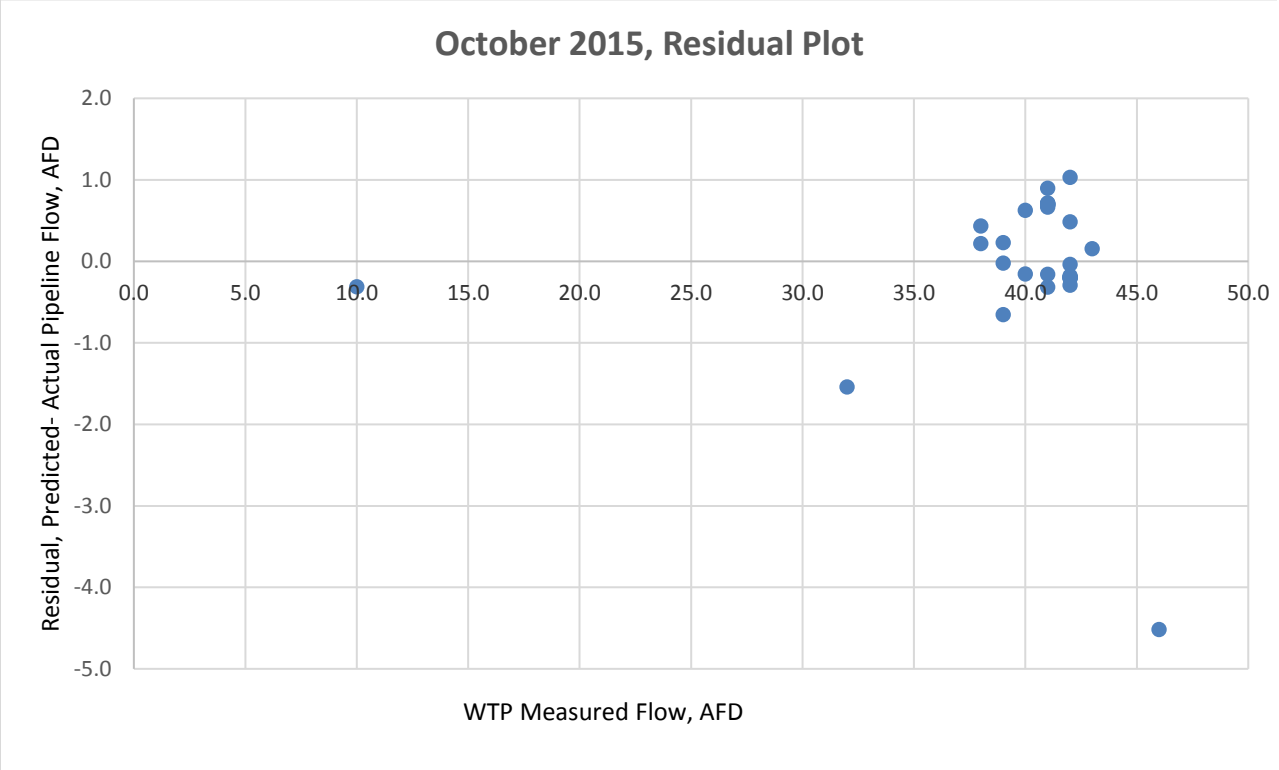

August 2015, WTP versus Pipeline Flow
y = 1.0122x - 4.3405
R² = 0.9734
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0

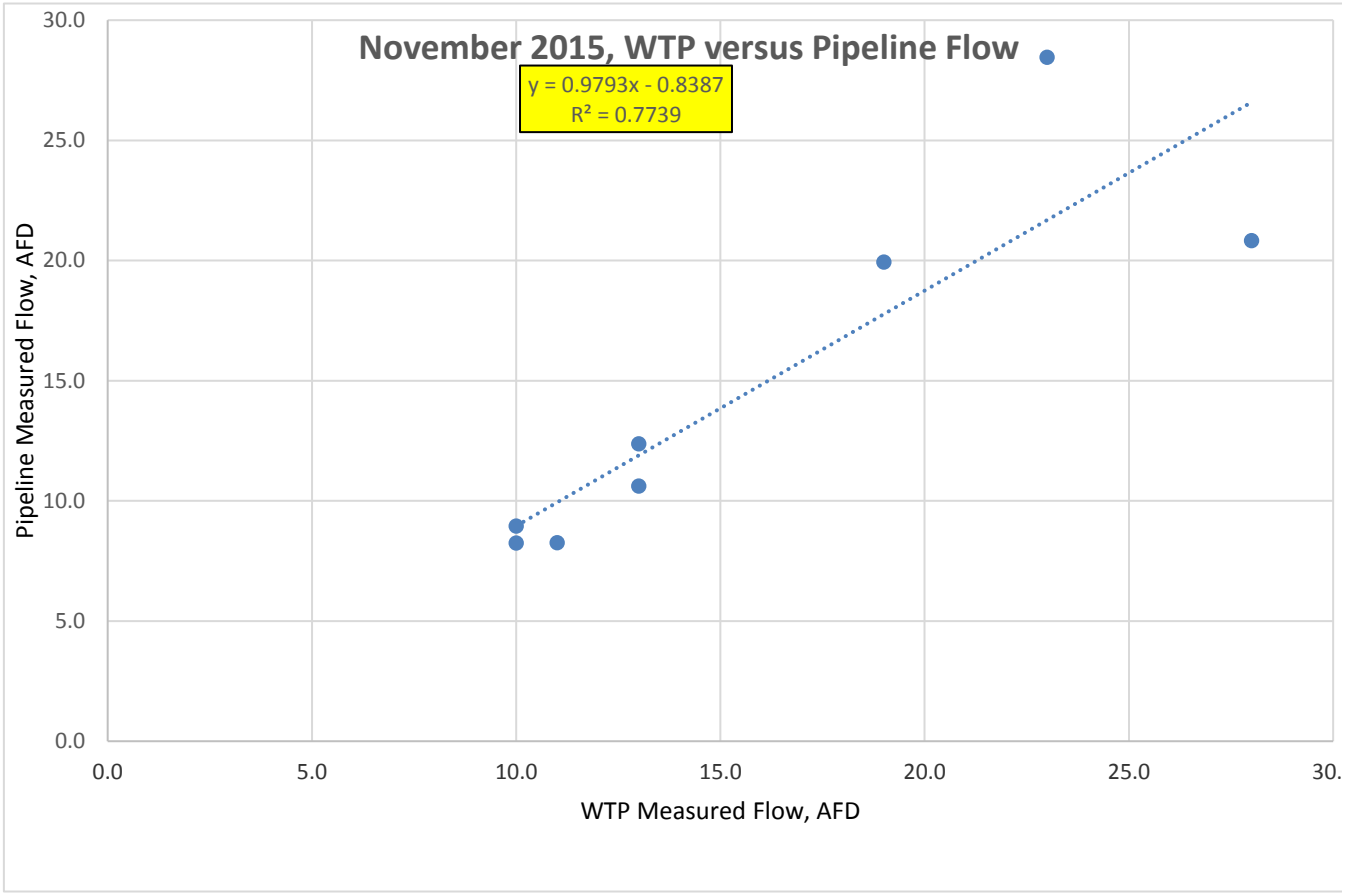

August 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0

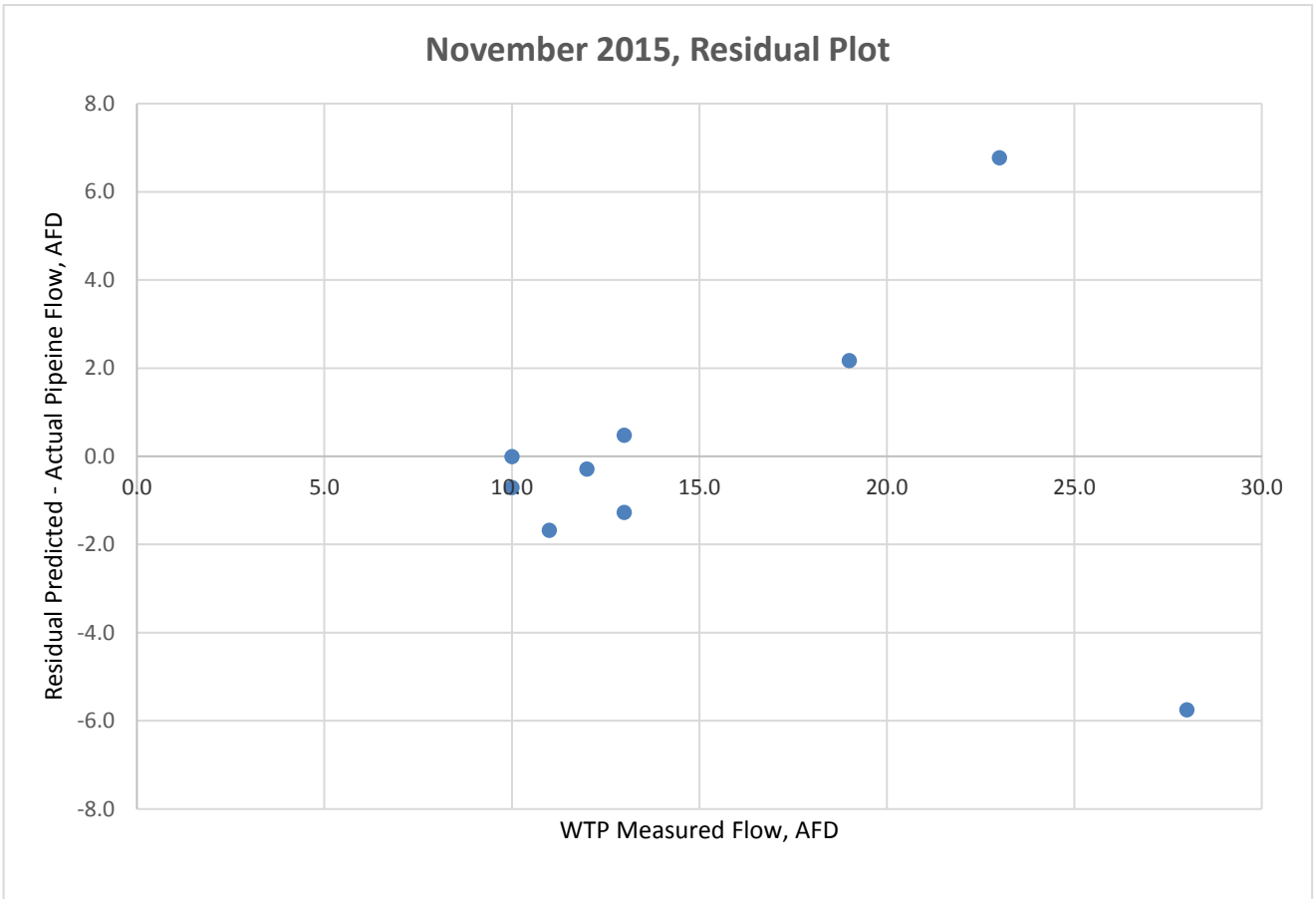

September 2015, WTP versus Pipeline Flow
y = 0.9672x - 0.6628
R² = 0.8907
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

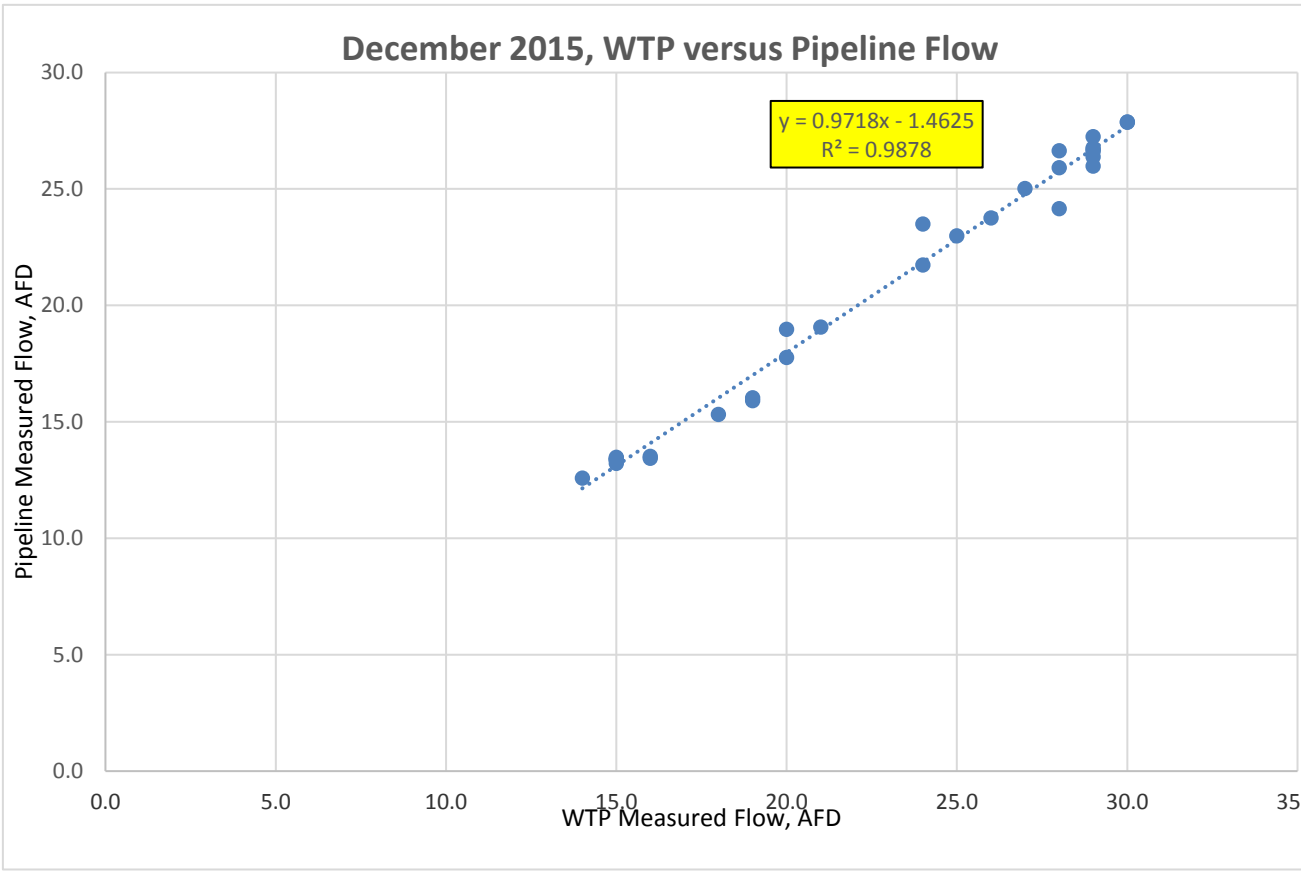

September 2015, Residual Plot
Residual, Predicted - Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

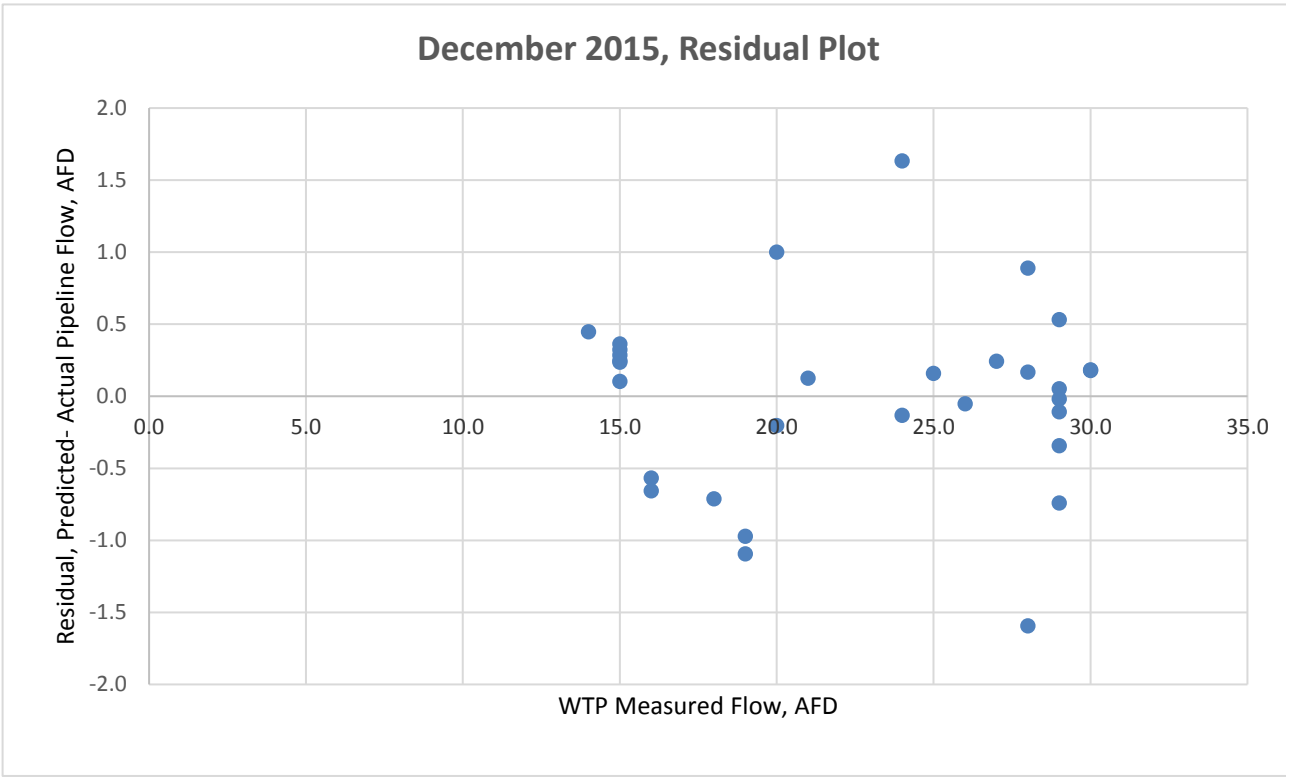

October 2015, WTP versus Pipeline Flow
y = 0.8936x + 2.1992
R² = 0.966
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0


October 2015, Residual Plot
Residual, Predicted- Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0


November 2015, WTP versus Pipeline Flow
y = 0.9793x - 0.8387
R² = 0.7739
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.


November 2015, Residual Plot
Residual Predicted - Actual Pipeine Flow, AFD
WTP Measured Flow, AFD
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0


December 2015, WTP versus Pipeline Flow
y = 0.9718x - 1.4625
R² = 0.9878
Pipeline Measured Flow, AFD
WTP Measured Flow, AFD
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35


December 2015, Residual Plot
Residual, Predicted- Actual Pipeline Flow, AFD
WTP Measured Flow, AFD
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0