

URBAN WATER MANAGEMENT PLAN 2015 UPDATE



Zone 3
A Wholesale Water Agency
SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND WATER CONSERVATION
DISTRICT



Prepared By:
Wallace Group
June 2016

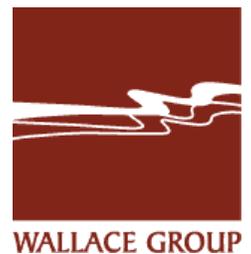


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CHAPTER 1: INTRODUCTION AND OVERVIEW

1.1 Background and Purpose

The San Luis Obispo County Flood Control and Water Conservation District (District) prepared this 2015 Urban Water Management Plan (UWMP) Update for Flood Control Zone 3. Zone 3 of the District funds the operations of the Lopez Project, which includes Lopez Lake and Dam, Lopez Terminal Reservoir, Lopez Water Treatment Plant, and the water transmission system, which conveys wholesale water to its contracting retail water agencies (Contract Agencies).

The Lopez Dam was built to provide recreational opportunities under the Davis Grunsky Act of 1960 and to supplement local groundwater supplies. Figure 1, located at the end of Chapter 1, depicts the boundary of Flood Control Zone 3 (hereinafter referred to as Zone 3), and depicts the Zone 3 water system and Contract Agencies. Staff of the San Luis Obispo County Public Works Department perform the day-to-day operations and maintenance of Zone 3 facilities, and also support other related efforts.

The communities that serve potable water from Lopez Reservoir include the Cities of Arroyo Grande, Pismo Beach, Grover Beach, and communities of Oceano (Oceano Community Services District (CSD)) and Avila Beach (County Service Area (CSA) 12). CSA 12 includes Avila Beach CSD and Port San Luis Harbor District, as well as additional small water systems and individual property owners located in the Avila Beach region.

The normal UWMP submittal cycle requires that the Urban Water Management Plans be prepared and adopted by each urban water supplier, and then submitted to State Department of Water Resources (DWR) for periods ending in years five (5) and zero (0). California Water Code specifically states that the California Environmental Quality Act (CEQA) does not apply to the preparation and adoption of Urban Water Management Plans (Water Code Chapter 10652).

1.2 Urban Water Management Planning and the CWC

This Urban Water Management Plan (UWMP) has been prepared in response to the Urban Water Management Planning Act (Act) of 1983, California Water Code (CWC) Chapters 10610 through 10650.

1.2.1 *Urban Water Management Planning Act of 1983*

Initially, the Urban Water Management Planning (UWMP) Act was proposed and adopted to provide the minimum level of resource assessment and planning by water suppliers. Over the years since its adoption, the UWMP Act has been modified in response to the State's water shortages, droughts and other factors.

The Act was adopted by the California Legislature as Assembly Bill (AB) 797 during the 1983-84 session and signed into law on January 1, 1984. The Act requires that "every urban water supplier shall prepare and adopt an Urban Water Management Plan". Urban water supplier is defined as "a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly (wholesale agencies) to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually". In addition to AB 797, several other regulations impact the development of the UWMP. They include Senate Bill (SB) 610: Water Supply Assessments, SB 221: Written Verifications of Water Supply, AB 1420: Implementation of Water Demand Management Measures, and SBX7-7: Water Conservation Bill of 2009.

To further assist those agencies required to prepare UWMPs, and in response to changing legislative requirements, the California Department of Water Resources (DWR) issues Guidebooks to Assist Urban Water Suppliers every UWMP cycle. The 2015 Guidebook, issued Final in March 2016, was used and referenced in preparation of this UWMP. The formatting and content of this UWMP conform to the suggested format for ease of review by DWR.

1.2.2 Applicable Changes to the Water Code since 2010

Table 1-A provides a summary of the applicable changes per Appendix C of the 2015 UWMP Guidebook Appendices.

1.2.3 Water Conservation Act of 2009 (SBX7-7)

UWMP Guidelines does not require this section to be completed by Wholesale Agencies.

1.3 Urban Water Management Plans in Relation to Other Planning Efforts

The 2015 UWMP is not only a State requirement, but more importantly, it is a planning tool that can be used effectively to better manage water supplies, which is becoming increasingly more critical as we adjust to deal with one of the most severe droughts in California's history. This UWMP is also complementary to the District's County-wide Master Water Plan (completed May 2012) and Integrated Regional Water Management Plan (completed July 2014). Just as water or wastewater master plans provide a "roadmap" for addressing physical capital improvements and corresponding funding needs, the UWMP can provide an effective tool to report on and coordinate local agency land use requirements with projected water supply and demands. Most importantly, the UWMP and corresponding updates are a State requirement for ensuring funding eligibility for Department of Water Resources (DWR) grants and funding assistance. Such funding opportunities can further assist local agencies with urgent water supply and drought related projects.

1.4 UWMP Organization for 2015

The UWMP has been prepared for Zone 3 in accordance with DWR's 2015 UWMP Guidebook, issued Final March 2016. The UWMP includes references to the California Water Code (CWC) similar to the example provided below.

CWC 10644

(a) (2) *The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

Overviews of the Chapters are as follows:

Chapter 1 – Introduction and Overview: In this introductory chapter, agencies provide a discussion on the importance and extent of their water management planning efforts.

Table 1-A: Applicable Changes to the California Water Code (CWC) since 2010

Topic	CWC Chapter	Legislative Bill	Summary	Guidebook Chapter
Demand Management Measures	10631 (f)(1) and (2)	AB 2067 Weber 2014	Requires water suppliers to provide narratives describing their water demand management measures, as provided. Requires retail water suppliers to address the nature and extent of each water demand management measure implemented over the past 5 years and describe the water demand management measures that the supplier plans to implement to achieve its water use targets.	Chapter 9
Submittal Date	10621 (d)	AB 2067 Weber 2014	Requires each urban water supplier to submit its 2015 plan to the Department of Water Resources by July 1, 2016.	Chapter 10
Submittal Format	10644 (a) (2)	SB 1420 Wolk 2014	Requires the plan, or amendments to the plan, to be submitted electronically to the department.	Chapter 10
Standardized Forms	10644 (a) (2)	SB 1420 Wolk 2014	Requires the plan, or amendments to the plan, to include any standardized forms, tables, or displays specified by the department.	CH 1, Chapter 1.4
Water Loss	10631 (e) (1) (J) and (e) (3) (A) and (B)	SB 1420 Wolk 2014	Requires a plan to quantify and report on distribution system water loss.	Appendix L
Voluntary Reporting of Passive Savings	10631 (e) (4)	SB 1420 Wolk 2014	Provides for water use projections to display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans, when that information is available and applicable to an urban water supplier.	Appendix K
Voluntary Reporting of Energy Intensity	10631.2 (a) and (b)	SB 1036	Provides for an urban water supplier to include certain energy-related information, including, but not limited to, an estimate of the amount of energy used to extract or divert water supplies.	Appendix O
Defining Water Features	10632		Requires urban water suppliers to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	CH 8, Chapter 8.2.4

Chapter 2 – Plan Preparation: This section will provide information on their process for developing the UWMP, including efforts in coordination and outreach.

Chapter 3 – System Description: Suppliers may include maps of the service area, a description of the service area and climate, their Public Water System, and agency’s organizational structure and history.

Chapter 4 – System Water Use: Describe and quantify the current and projected water uses within the agency’s service area.

Chapter 5 – Baselines and Targets: Focused on Retail Providers meeting SBX7-7 goals. Discussion provided on support from Wholesale Agency to Contract Agencies to meet goals.

Chapter 6 – System Supplies: Describe and quantify the current and projected sources of water available to the agency. A description and quantification of potential recycled water uses and supply availability is also to be included in this chapter, to the extent that it pertains to each agency.

Chapter 7 – Water Supply Reliability: Water agencies will describe the reliability of their water supply and project the reliability out 20 years. This description will be provided for normal, single dry years, and multiple dry years.

Chapter 8 – Water Shortage Contingency Planning: Provide the supplier’s staged plan for dealing with water shortages, including a catastrophic supply interruption.

Chapter 9 – Demand Management Measures: Water suppliers will communicate their efforts to promote conservation and to reduce demand on their water supply and will specifically address several demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation: Water agencies will describe the steps taken to adopt and submit the UWMP and to make it publicly available. This chapter will also include a discussion of the agency’s plan to implement the UWMP.

Supporting documents are also included in the 2015 UWMP as Appendices or a webpage link has been provided to note where the reader can find the document.

2.4.1 Standardized Tables for Electronic Submittal

For the 2015 UWMP update, the DWR is requiring standardized tables to be electronically submitted to the state. Standardized tables are separated into retail and wholesale specific versions. Within this report, these DWR tables are denoted as “2-1: Title”. Table numbering follows assigned table numbers in the 2015 UWMP Guidebook. Thus, if a table number in sequence is not listed, this means the table is either a retail table, or yields a null result and does not provide any numerical information to the reader of this UWMP update. All wholesale tables will be submitted to the DWR as required. Such inapplicability is also explained in the UWMP where this table would have been referenced or included.

In addition, supplemental tables, denoted as “2-A: Title”, have been provided within this report to provide the Contract Agencies with useful additional information. However, these supplemental tables will not be submitted to DWR as they are not required.

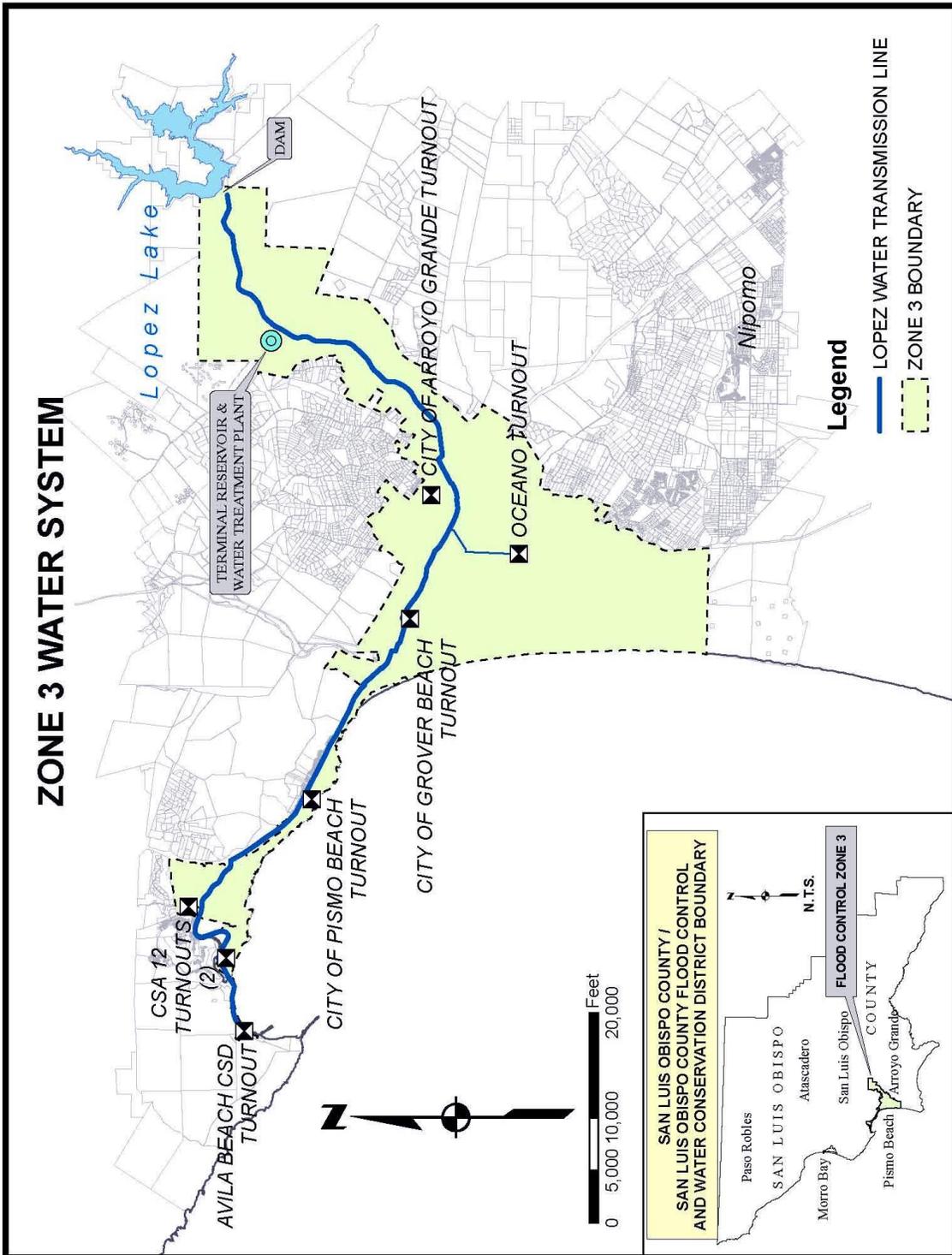
1.5 Funding Eligibility for Wholesale Suppliers

CWC 10608.56

(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

The CWC states that in order for urban water suppliers to be eligible for any water management grant or loan administered by DWR, the agency must have a current UWMP on file that has been determined by DWR to address the requirements of the CWC. A current UWMP must also be maintained by the water supplier throughout the term of any grant or loan administered by DWR.

Figure 1: Service Area Boundary Map



CHAPTER 2: PLAN PREPARATION

Chapter 2 provides information on the process for developing the UWMP, including efforts in coordination and outreach.

2.1 Basis for Preparing a Plan

CWC 10617

“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems...

CWC 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.

CWC 10621

(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).

(d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

The Urban Water Management Planning Act (UWMP Act) and the Water Conservation Act of 2009 (SBX7-7) require all wholesale and retail urban water suppliers (those that directly or indirectly serve more than 3,000 customers or 3,000 acre-feet annually) to prepare an UWMP every five years, specifically in years ending in '5 and '0. The information to be included within UWMPs is summarized within Guidebooks issued by DWR. The 2015 Guidebook Draft-Final was issued in January 2016 and Final in March 2016.

2.2 Regional Planning

Zone 3 is a Wholesale Supplier who provides water supplies to its Contract Agencies. The UWMP was developed as a tool for Zone 3 to coordinate efforts with its Contract Agencies and other Regional planning efforts, which include, but not limited to:

- Northern Cities (groundwater) Management Area
- Nipomo Mesa (groundwater) Management Area
- County Wide Water Master Plan
- Integrated Regional Water Management Plan

2.3 Individual or Regional Planning and Compliance

This UWMP was prepared for Zone 3. The UWMP reports solely on its service area. Each Contract Agency was notified of the preparation of the UWMP and each Contract Agency that is required to prepare an UWMP will do so for their service area. Zone 3 will continue to support each Contract Agency in public outreach and water conservation efforts.

Table 2-2: Plan Identification¹

Table 2-2: Plan Identification (Select One)	
<input checked="" type="checkbox"/>	Individual UWMP
<input type="checkbox"/>	Regional UWMP (RUWMP) <i>(checking this triggers the next line to appear)</i>
Select One:	
<input type="checkbox"/>	RUWMP includes a Regional Alliance
<input type="checkbox"/>	RUWMP does not include a Regional Alliance
NOTES:	

2.4 Fiscal or Calendar Year and Units of Measure

CWC 1608.20

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.

2.4.1 Fiscal or Calendar Year

For purposes of this UWMP, the District will use the calendar year upon which to provide information that will appear within the standardized UWMP tables.

2.4.2 Reporting Complete 2015 Data

As required by the UWMP Act this allows reporting of the entirety of 2015, which ended December 31, 2015.

2.4.3 Units of Measure

The categorization of Zone 3 as an urban water supplier agency and the units that will be used for the 2015 UWMP are included in Table 2-3.

¹ Table 2-1 is not required for a Wholesale Water Provider

Table 2-3: Agency Identification

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input checked="" type="checkbox"/>	Agency is a wholesaler
<input type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins (dd/mm)	
N/A	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

2.5 Coordination and Outreach

CWC 10631

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

2.5.1 Wholesale Coordination

As noted previously, Zone 3 coordinates with its Contract Agencies to project available water supplies in increments of five years, from 2015 through 2035 and for average, single, and multiple-dry years. Table 2-4 provides a list of Contract Agencies served by Zone 3.

Table 2-4: Wholesale Water Supplier Information Exchange

Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
<input type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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 <i>(Add additional rows as needed)</i>	
City of Pismo Beach	
City of Arroyo Grande	
City of Grover Beach	
Oceano CSD	
CSA-12 (Avila Beach CSD/Port San Luis)	
NOTES:	

2.5.2 Coordination with Other Agencies and the Community

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

CWC 10642
Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.

As noted previously, this UWMP is completed in coordination with the Contract Agencies as well as the UWMP is prepared in coordination with the County-wide Water Master Plan and the Integrated Regional Water Management Plan.

2.5.3 Notice to Cities and Counties

CWC 10621(b)

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

On September 5, 2015, the District notified Contract Agencies of their intent to update the UWMP by July 1, 2016. This letter served as the 60-day noticing required by the Water Code, and also to alert the Contract Agencies the District's consultant (Wallace Group) will be contacting the various agencies for coordination and information sharing. A copy of this letter is included in Appendix B to this UWMP. Furthermore, the Draft UWMP was discussed at the April 7, 2016 and May 5, 2016 meeting of the Zone 3 Technical Advisory Committee (officials and representatives of each of the retail water purveyors served by Zone 3) and at the Zone 3 Advisory Committee on May 26, 2016. The 2015 UWMP was adopted by the County of San Luis Obispo Flood Control and Water Conservation District Board of Supervisors on June 7, 2016.

CHAPTER 3: SYSTEM DESCRIPTION

CWC Chapter 10631

Describe the service area of the supplier.

Chapter 3 provides a description of Zone 3's system. Suppliers may include maps of the service area, a description of the service area and climate, their Public Water System, and the agency's organizational structure and history.

3.1 General Description

San Luis Obispo County is located on the Central Coast of California bounded on the north by Monterey County, on the south by Santa Barbara County, on the east by Kern County, and on the west by the Pacific Ocean. The County encompasses 3,300 square miles of land², 100-miles of coastline, and has over 260,000 residents. Agriculture, tourism, and recreation are the principle sectors of the local economy. The County was formed in 1850 as one of California's original counties.

3.1.1 History

During the 1780's, Mission San Luis Obispo de Tolosa priests farmed vegetables and wheat at the mouth of Lopez Canyon. In the 1870's, Jesus Lopez and his wife homesteaded 320 acres, living off the land as a farmer and woodcutter. The current location of the Lopez Reservoir and Recreation area was part of an old Spanish land grant given to Jose Villavicencia. This property was later sold to the Steele brothers in 1871. A number of ranches and dairies, and a schoolhouse were operated on the property thereafter.

The U.S. Army Corps of Engineers first considered a reservoir and water supply project located in Lopez Canyon in 1917. In 1952, the District entered into an agreement with the California Department of Water Resources to investigate the potential water resources of San Luis Obispo County. The conclusions of the six-year water resources investigation, presented in a 1958 Department of Water Resources report, revived interest in the Lopez Project among the South County water agencies.

3.1.2 Service Area

Zone 3 was created to operate Lopez Reservoir, and includes the Cities of Arroyo Grande, Pismo Beach, Grover Beach, and communities of Oceano (Oceano CSD) and Avila Beach CSD/Port San Luis Harbor (CSA 12). Note, CSA 12 also includes additional small water systems and individual property owners located in the Avila Beach region. Please refer to Figure 1, located at the end of Chapter 1. The Lopez Dam was built to supplement the local groundwater supply as well as provide recreation, which was a requirement of the State grant. Zone 3 is part of the County's Flood Control and Water Conservation District, which is administered by the County's Department of Public Works.

Zone 3 operates Lopez Reservoir, in the Arroyo Grande Creek watershed (Figure 1), for municipal and agricultural water supplies, and recreation. Lopez Reservoir provides recreational

² Source: San Luis Obispo Council of Governments, *1999 Regional Profile*, October 1999

opportunities including boating, water-skiing, and recreational fishing. The Arroyo Grande Creek watershed provides habitat for fish and wildlife species including anadromous steelhead (*Oncorhynchus mykiss*) and California red-legged frogs (*Rana aurora draytonii*). Both are listed for protection under the Federal Endangered Species Act. Steelhead habitat is restricted to the reach of Arroyo Grande Creek from Lopez Dam to the Pacific Ocean (Figure 1), a distance of about 13 miles.

Lopez Project operations and maintenance includes:

- Operation of a regional water treatment plant, including filter backwash water disposal and water sampling activities;
- Routine maintenance of the Lopez Dam, Terminal Reservoir, and distribution system, including debris removal and maintenance of channel road crossings, and sediment removal.
- Seasonally varying water releases to Arroyo Grande Creek for groundwater recharge and habitat and wildlife purposes

3.2 Service Area Boundary Map

A map of Zone 3's service area is shown in Figure 1, located at the end of Chapter 1. As noted previously, Zone 3 provides potable water to its Contract Agencies, which distributes water to individual retail customers within their service area.

3.3 Climate

CWC Chapter 10631

Describe the service area of the supplier, including... climate...

The climate of Zone 3 is coastal with mild and dry summers, cool winters, and an annual average of 18.24 inches of precipitation based on data collected at the at Lopez Reservoir (County Rain Station #178.1) at 546 ft. elevation between water year (July/June) 1968/1969 and 2013/2014³. During the summer months, coastal fog helps reduce irrigation requirements by decreasing evapotranspiration. The normal year evapotranspiration rate (Eto) for the Zone 3 area is approximately 40 inches⁴.

3.3.1 Past Drought, Water Demand and Conservation Information

Periodic droughts have occurred in the region since the completion of Lopez Reservoir. However, these past droughts have not caused a shortage of water to Contract Agencies served by Zone 3, until more recently. In the most prolonged drought of 1986-92, all communities within Zone 3 received their full allocation of water from Lopez Reservoir. As of April 2015, due to the latest drought from 2008 to 2015, all communities within Zone 3 have reduced their entitlement by 10% in accordance with the "Zone 3 Low Reservoir Response Plan (LRRP)."

Entitlements to Zone 3 water are based on a percentage of the safe yield of the reservoir. The reservoir's safe yield is 8,730 acre-feet per year (AFY) as discussed in Chapter 4. Of that amount,

³ <http://www.slocounty.ca.gov/planning/CAP>

⁴ www.cimis.ca.gov/UserControls/Reports/MonthlyReportViewer

4,530 AFY are contracted for municipal pipeline deliveries and up to 4,200 AFY are reserved for downstream releases.

As stated, more than 50% of the safe yield is delivered to communities in Zone 3, and the remaining supply is released downstream as required to maintain varying flows in the Arroyo Grande Creek. Historically, not all of the water set aside for the downstream releases was needed for downstream water rights and environmental needs, and actual releases have been managed to prevent excess water wasting to the ocean. In years past, allowing flows to the ocean was considered a waste of water and was therefore discouraged throughout the State. Releases were limited to what was needed to maintain flow in the creek and to provide adequate groundwater recharge for the agricultural interests along Arroyo Grande Creek. In 2007, an Interim Downstream Release Schedule (IDRS) was implemented to augment downstream releases for environmental needs. Any surplus water, either from un-used contract entitlements or un-used downstream release, was banked for the following year; where it could be sold to the Zone 3 communities requesting the banked water. During the drought, Zone 3 communities whose deliveries from other sources were short, were able to purchase surplus Zone 3 Water. In addition to Lopez supplies, local communities have used groundwater to supplement their Lopez water supply.

3.4 Service Area Population

CWC Chapter 10631

Describe the service area of the supplier, including current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The District is a wholesale water provider. Details regarding housing, employment, demographics, etc. will be addressed by the Contract Agencies in their corresponding UWMPs. The following Contract Agencies are responsible to prepare their own UWMPs:

- City of Arroyo Grande
- City of Grover Beach
- City of Pismo Beach

In the past 10 years the County has grown at an annual rate of 2 percent. Much of the new population will occur in the north county, especially in the Atascadero and Paso Robles areas and in Nipomo in the South County where more housing is projected to be built. Estimates of current and projected population within the Zone 3 service area is estimated in Table 3-1.

Table 3-1: Wholesale Population – Current and Projected

Table 3-1 Wholesale: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	46,003	47,250	48,358	49,915	51,677	53,344
NOTES: Based on County of San Luis Obispo (Low) Population Projections						

CHAPTER 4: SYSTEM WATER USE

Chapter 4 describes and quantifies the current and projected water uses within the agency's service area. For purposes of the UWMP, the terms "water use" and "water demand" will be used interchangeably.

4.1 Recycled versus Potable and Raw Water Demand

Raw water from Lopez Reservoir is treated at Lopez Water Treatment plant and potable water is delivered to all of Zone 3's Contract Agencies. Zone 3 does not supply raw water to its Contract Agencies. Zone 3 does discharge raw water to the Arroyo Grande Creek for habitat conservation and groundwater recharge. Zone 3 does not provide recycled or raw water to its Contract Agencies.

4.2 Water Uses by Sector

CWC 10631

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural...

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

The water demand in Zone 3 is equivalent to the water entitlements for each Contracting Agency. For information regarding water demand, by land use category within each Contracting Agency's service area, refer to their individual UWMPs.

Demand for potable and raw water by Use Type for 2015 and projected 5-year increments, as well as total summarized water demands are listed in Tables 4-1, 4-2, 4-3, respectively.

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

Table 4-1 Wholesale: Demands for Potable and Raw Water - Actual			
Use Type (Add additional rows as needed)	2015 Actual		
Use 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 <i>Drop down list</i>	Volume
Sales to other agencies	Low Reservoir Response Plan (LRRP) triggered: 10% reduction	Drinking Water	3,275
Wetlands or wildlife habitat	Low Reservoir Response Plan (LRRP) triggered: 9.5% reduction	Raw Water	3,800
TOTAL			7,075
NOTES: Mandatory drought reductions enacted in April 2015			

Table 4-2: Wholesale Demands for Potable and Raw Water – Projected

Table 4-2 Wholesale: Demands for Potable and Raw Water - Projected					
Use Type (Add additional rows as needed)	Projected Water Use <i>Report To the Extent that Records are Available</i>				
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.	2020	2025	2030	2035	2040 (opt)
Sales to other agencies	4,530	4,530	4,530	4,530	4,530
Wetlands or wildlife habitat	4,200	4,200	4,200	4,200	4,200
TOTAL	8,730	8,730	8,730	8,730	8,730
NOTES:					

Table 4-3: Wholesale: Total Water Demands

Table 4-3 Wholesale: Total Water Demands						
	2015	2020	2025	2030	2035	2040(opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	7,075	8,730	8,730	8,730	8,730	8,730
Recycled Water Demand <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER DEMAND	7,075	8,730	8,730	8,730	8,730	8,730
NOTES:						

4.2.1 Water Demands by Contract Agency

As noted previously, Zone 3 is comprised of the following Contract Agencies:

- City of Pismo Beach
- Oceano Community Services District
- City of Grover Beach
- City of Arroyo Grande
- CSA 12 (Port San Luis Harbor District and Avila Beach CSD)

The contracted volumes of water for each Contract Agency for every year, including 2015, 2020, 2025, and 2030 are as follows:

- City of Pismo Beach 896 AFY
- Oceano CSD 303 AFY
- City of Grover Beach 800 AFY
- City of Arroyo Grande 2,290 AFY
- CSA 12 241 AFY
- Total 4,530 AFY

Supplemental Table 4-A provides a summary of the actual and projected water deliveries to each Contract Agency through 2030. The projected water deliveries are based on each Contract Agency’s entitlement.

Table 4-A: Water Deliveries				
	2015	2020	2025	2030
City of Pismo Beach	219	896	896	896
Oceano CSD	0	303	303	303
City of Grover Beach	791	800	800	800
City of Arroyo Grande	2,152	2,290	2,290	2,290
CSA 12	113	241	241	241
Total	3,275	4,530	4,530	4,530

4.2.2 Additional Demand Sectors Listed in Water Code

The 2015 UWMP Guidebook recommends discussion on several Demand Sector topics.

Transfers

Currently, State Water is conveyed through the Zone 3 system to the City of Pismo Beach, Oceano CSD, and Avila Beach CSD and other portions of CSA 12 whom all have State Water entitlements. Treated State Water enters the Zone 3 system downstream of the Lopez Water Treatment Plant via the Coastal Branch of the State Water Pipeline and is delivered to the aforementioned agencies with service via Zone 3's pipeline.

The District recently completed two separate hydraulic studies to determine if additional capacity exists in the Central Coast Water Authority (CCWA) State Water Pipeline for supplemental water deliveries to CCWA subscribers, including Contract Agencies (served via the Lopez Pipeline). The first hydraulic study focused specifically on the Lopez Pipeline, while the second hydraulic study (report was issued draft in April 2011) modeled the entire CCWA pipeline delivery system. Results indicate the potential for a marginal increase in deliveries of approximately 12% (+/- 300 AFY).

4.3 Distribution System Water Losses

CWC 10631(con't)

(e)(1) Quantify, to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:...

(J) Distribution system water loss

(3) (A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

The past 5 years of Zone 3's meter reading data was reviewed as part of the 2015 Lopez Water Audit. Theoretically, the total water metered at the Water Treatment plant must equal that metered to the individual Contract Agencies. Practically speaking, some degree of discrepancies will exist due to inaccuracies in meter readings and calibration, discrepancies in the time that such meter readings are recorded, and some losses. For the Audit year 2015, the total metered water to customers was within 2 percent of total plant production. In this particular case, the turnout metered totals (to Contract Agencies) were higher than Lopez WTP production by 2% (263 AFY), which is a water gain. It is unknown if the water gain is from the Lopez WTP meter inaccuracies or the State Water pipeline. Recommendations in the Water Audit were identified to re-calibrate all water meters to confirm accuracy. If meters were outside of +/- 6% calibration, the meters were recommended to be replaced. The District does have an on-going meter replacement program. Meters located in the Avila area were replaced in 2015/16; and three meters, one at Oceano and two at Pismo (Vista Del Mar and Bello), are proposed to be replaced in 2016/17.

There are no apparent signs of major loss of water (through transmission main leaks), and the 2% discrepancy between turnout meter readings and Lopez WTP metered readings is low. According to American Water Works Association (AWWA) M32, un-accounted for water can typically range from 10 to 15 percent.

Table 4-4: Wholesale: 12 Month Water Loss Audit Reporting

Table 4-4 Wholesale: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss
01/2015	-263
NOTES: 2015 UWMP Audit resulted in a water gain	

4.4 Estimating Future Water Savings

UWMP Guidelines does not require this section to be completed by Wholesale Agencies.

4.5 Water Use for Lower Income Households

UWMP Guidelines does not require this section to be completed by Wholesale Agencies.

4.6 Climate Change

The County recognizes that global climate change will have significant impacts locally and throughout California unless significant steps are taken to reduce greenhouse gas (GHG) emissions. One of the impacts is anticipated to be disrupted precipitation patterns which may affect water supplies. In May 2010, San Luis Obispo County adopted a Greenhouse Gas Inventory (Inventory) and Forecast as part of the Conservation and Open Space Element of the General Plan. In November 2011, the County Board of Supervisors adopted the Energy Wise Plan (Climate Action Plan)⁵, which contained updates to the Greenhouse Gas Inventory. Both plans demonstrate the County's continued commitment to addressing the challenges of climate change by reducing local GHG emissions and preparing the county to adapt to a changing climate. The plan also outlines the County's approach to reducing GHG emissions through a number of goals, measures, and actions that provide a road map to achieving the County's GHG reduction target of 15% below baseline levels by 2020.

⁵ <http://www.slocounty.ca.gov/planning/CAP>

CHAPTER 5: SB X7-7 BASELINES AND TARGETS

Chapter 5 in the UWMP Guidelines focuses on Retail Providers meeting SBX7-7 goals. Chapter 5 in this UWMP provides a discussion on how Zone 3, as a Wholesale Supplier supports the Contract Agencies to meet their goals.

5.1 Guidance for Wholesale Agencies

CWC 10608.36

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

As a wholesale water agency, the District supplies potable water to retail water suppliers (the Contract Agencies), who in turn distribute water to individual customers for consumptive use. Of the Contract Agencies within Zone 3 that are required to prepare UWMPs (City of Arroyo Grande, City of Pismo Beach, and City of Grover Beach), none of these agencies rely solely on Zone 3 water and all may use a combination of Zone 3 water, State Water, and/or groundwater. As such, per capita baseline data for the Zone 3 water is not available to the District. It is the duty of each Contract Agency to provide this information in their respective UWMP updates. Nonetheless, wholesale agencies are required to provide an assessment of their present and proposed future measures, programs and policies that will help the retail suppliers in their wholesale service area achieve SBX7-7 water use reduction targets.

5.1.1 Water Conservation Programs Available to the Contract Agencies

Within the District, retail water purveyors provide direct outreach programs to their consumers as well as the general public. The District, as a wholesaler, participates in the countywide Partners In Water Conservation Group (PIWC), and through that affiliation proportionally contributes financially to a Water Wise water conservation website <http://www.slowaterwiselandscaping.com/> aimed at increasing the public's water conservation awareness. Additionally, the County conducts public outreach in the press and at Farmers' Markets within Zone 3, and when prudent such as during times of drought, the County contributes financially to promote water conservation through public service announcements and direct mail campaigns.

5.1.2 Policies that Encourage Demand Reduction within the Zone 3 Service Area

Zone 3 supports its Contract Agencies through its own public outreach program and/or assisting in funding or attending the Contract Agencies' outreach programs. On June 28, 2012, The District, by staff assignment in Procedural Memorandum AD-42, designated a conservation coordinator. Funding is allocated during the annual budget process to be used by the Conservation Coordinator to implement Best Management Practices (BMPs) to meet the coverage requirements for maintaining Assembly Bill (AB) 1420 compliance. AB 1420 (Stats. 2007, ch. 628) amended the Urban Water Management Planning Act, Water Code Section 10610 et seq., to require, effective January 1, 2009, that the terms of, and eligibility for, any water management grant or loan made to an urban water supplier and awarded or administered by the Department of Water Resources (DWR), State Water Resources Control Board (SWRCB), or California Bay-Delta Authority (CBDA) or its successor agency (collectively referred to as "Funding Agencies") , be conditioned on the implementation of the water Demand Management Measures (DMMs) described in Water Code Section 10631(f). For the purpose of AB 1420, BMPs are equated with

DMMs. Water management grants and loans include programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability and water supply augmentation. This funding includes, but is not limited to, funds made available pursuant to Public Resources Code Section 75026 (Integrated Regional Water Management Program).

The Public Outreach efforts achieved by Zone 3 in 2015 are listed as follows:

Educational Updates to the County's Water Conservation Website

- Added Statewide and Local Emergency Response information to the Water Conservation web page
- Added link on home page and Water Conservation page to the Save Our Water website
- Added link on home page to the County Drought Update
- Added button on the home page and Water Conservation page that directs users to the Water Wise Landscaping website. Button is an image of a drought tolerant landscape and is intended to improve access to water wise landscaping.

Added links on the water conservation page to retail agency (including Zone 3 Contract Agencies) websites to improve access to their websites. (Wholesale assistance program)

@ <http://www.slocountywater.org/site/Water%20Resources/Conservation/>

The State Link: <http://saveourwaterrebates.com/>

Participation in Various Water Use Reduction Efforts

- San Luis Obispo Buddhist Temple (customer in CSA 12) Women's Association 11/2/2014: Fall Tea; Contact person: Sandy Hongo, Location: City of San Luis Obispo. The County provided handouts and speaker on the topic of water conservation including a discussion of Outdoor/Indoor Water Saving Tips
- Lopez Outdoor Discovery Festival 4/19/2015– The County distributed information on water conservation and sources of water supply for Zone 3 communities
- Participation in Arroyo Grande (Zone 3) Water Symposium 8/13/2015: distributed information on water conservation and sources of water supply for Zone 3 communities, provided flyers on water conservation tips and handed out 5-minute shower timers
- Pismo Beach Farmers Market 11/4/2015: distributed information on water conservation and sources of water supply for Zone 3 communities, as well water conservation tips and 5-minute shower timers
- Water conservation outreach with Pismo Beach (Zone 3) Vacation Rental Property Management 11/2015: delivered water conservation materials and shower timers to place in 150 Pismo Beach (Zone 3) vacation rentals
- Participated in Partners in Water Conservation group (Zone 3 agencies) meeting 11/2015: Discussed updates to Water Wise Landscaping website. Discussed

partnering with Kelly Heffernon, City Planner of City of Arroyo Grande (Zone 3 agency) and future Zone 3 area farmers' market public outreach.

- Presentation on water conservation efforts to Arroyo Grande (Zone 3) third and fifth graders at Ocean View Elementary

5.1.3 Recycled Water Programs within Service Area

The District has identified implementing recycled water projects as one of the key strategies in the 2012 Master Water Plan and Integrated Regional Water Management (IRWM) Plan for providing long-term water reliability and supply for the entire County. The 2014 Regional Recycled Water Strategic Plan (RRWSP) is one component of an update to the SLO IRWMP, and was funded by a Round 2 IRWM Regional Planning Grant from the California Department of Water Resources (DWR). It should be noted though that Zone 3 is not a wholesale supplier of recycled water.

The RRWSP's approach builds upon the technical information developed by each agency. This work also updated relevant information for previously identified projects, and identified potential modifications to those projects to lower cost while maintaining potential benefits. The RRWSP identifies high-priority projects based on costs and benefits, and defines critical next steps for each project. The RRWSP also addresses policy, regulatory, permitting, legal, and funding / financing considerations for different types of recycled water projects. The RRWSP covers region wide recycled water opportunities, and has focused evaluations within four study areas:

1. Morro Bay
2. Nipomo (Nipomo Community Services District (NCSD))
3. Northern Cities (Arroyo Grande, Grover Beach, Pismo Beach, Oceano CSD, and South San Luis Obispo County Sanitation District (SSLOCSD))
4. Templeton (Templeton CSD)

Although currently there are no recycled water programs operating in Zone 3, Contract Agencies are currently working on developing recycled water. The City of Pismo Beach has completed a Recycled Water Feasibility Study and is currently preparing an Environmental Impact Report. The South San Luis Obispo County Sanitation District, which treats wastewater for the Cities of Arroyo Grande and Grover Beach, and the Oceano Community Services District, is preparing a Feasibility study. The Zone 3 Contract Agencies are evaluating separate facilities as well as a combined regional facility for future water supply portfolios. Future recycled water projects may include landscape irrigation for parks, schools, golf courses and other facilities, and possibly agricultural irrigation of local crop lands. Groundwater recharge to establish a seawater barrier and/or inland injection wells to support groundwater resiliency are also being evaluated in current efforts.

CHAPTER 6: SYSTEM SUPPLIES

Chapter 6 describes and quantifies the sources of water available to Zone 3's supply portfolio, and actions that are anticipated to meet future water demands.

6.1 Purchased or Imported Water

Zone 3 was established to operate the Zone 3 water supply system, and is a wholesale supplier with no retail water customers. Surface water from Lopez Reservoir is the sole source of water provided by Zone 3 and no water is currently purchased or imported. Some of the Contract Agencies in Zone 3 have additional sources of water such as State Water and/or groundwater. As stated earlier in this report, State Water is delivered to Contract Agencies through the Zone 3 water transmission system. Zone 3 does not pump groundwater as a source of urban water supply. In addition to Lopez water, other sources of Contract Agency water are as follows:

- City of Pismo Beach: State Water, groundwater
- City of Arroyo Grande: groundwater
- City of Grover Beach: groundwater
- Oceano CSD: State Water, groundwater
- Avila Beach CSD: State Water
- CSA 12: State Water

6.2 Groundwater

The source of water for Zone 3 is exclusively surface water from Lopez Reservoir. The District has no plans to pump groundwater or to develop groundwater supplies as an additional source of water for Zone 3 Contract Agencies. The District supports the efforts of its Contract Agencies to reduce overdraft, by implementing conjunctive use projects and groundwater storage and banking programs to optimize and best manage their groundwater sources. At the same time, the District cannot control how much groundwater particular agencies extract from the groundwater basin and has limited authority in this regard. Several Zone 3 Contracting Agencies (Oceano CSD, City of Grover Beach, City of Arroyo Grande, City of Pismo Beach, and portions of CSA 12) use groundwater as part of their municipal supply portfolio and the District expects that those agencies (that are required to prepare UWMPs) will provide detailed information regarding groundwater resources in their respective UWMPs. District staff will continue to work with its Contract Agencies to promote effective management of groundwater supplies within the region.

In 2012, the District prepared a comprehensive update to the original 1972 Master Water Plan, which had been previously updated in 1986 and 1998. The update highlights major changes in the water resources picture for the County since the completion of this comprehensive document, such as the construction of the State Water and Nacimiento pipelines, groundwater basin litigation, new water users, new water regulations, development of the Integrated Regional Water Management Plan, and the completion of various local and sub-regional water management studies and plans. Development of the updated County Master Water Plan in 2012 has an overall objective of ensuring effective and collaborative management of the County's water resources

now and into the future. The County-Wide Master Water Plan, which includes detailed information regarding local member agencies' efforts to manage the local groundwater supplies, can be referenced at the following web site link:

<http://www.slocountywater.org/site/Frequent%20Downloads/Master%20Water%20Plan/index.htm>

Table 6-1: Wholesale: Groundwater Volume Pumped

Table 6-1 Wholesale: Groundwater Volume Pumped						
<input checked="" type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
TOTAL		0	0	0	0	0
NOTES:						

6.3 Surface Water



Pictured above: Lopez Reservoir, May 2016 (at approximately 29% capacity, 14,300 AF)

Zone 3 is supplied by Lopez Reservoir. Lopez Reservoir has a storage capacity of approximately 49,388 acre-feet (AF) and provides water for municipal supply, recreational and environmental uses. Lopez Reservoir covers an area of about 918 acres, and is located primarily within the Arroyo Grande Creek drainage area consisting of a 67 square mile (43,000 acre) watershed which drains into Lopez Reservoir. The dam and reservoir were constructed on Arroyo Grande Creek, approximately 8 miles upstream from the community of Arroyo Grande and approximately 13

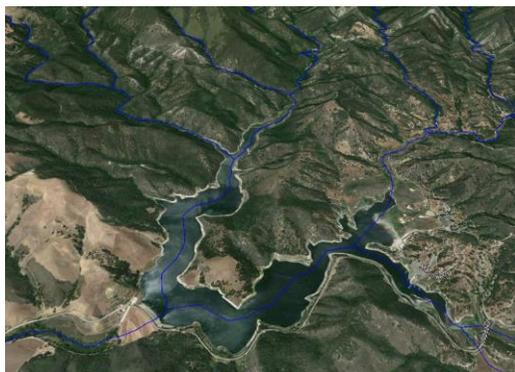
miles from the mouth of the creek (where it discharges to the Pacific Ocean). Construction on the project started in May 1967, and was completed in January 1969. The dam is constructed of select fill materials with a length of 1,120 feet, and a vertical height of 166 feet. A seismic retrofit of the dam was completed in 2002. A 20-inch diameter buried steel transmission main with a total length of 16 miles carries water from the dam to the 844 AF terminal reservoir and then from the water treatment plant to Contract Agencies. The water treatment plant has the capacity to treat up to 6 million gallons per day (mgd).

As previously noted, the safe yield of Lopez Reservoir is 8,730 AFY, which reflects the sustainable water supply during drought conditions. The safe yield is derived from two historical studies: Lopez Project Hydrology Review conducted in June 1962 and Hydrologic Balance of Arroyo Grande Groundwater Basin conducted in November 1962. The reservoir is operated to stay within the safe yield. 4,530 AFY (roughly 52% of the safe yield of the reservoir) has been apportioned by agreements to Contract Agencies. The remaining 4,200 AFY is reserved for downstream users including releases to maintain stream flows and groundwater recharge. The District is currently developing a Habitat Conservation Plan (HCP) to manage the downstream releases from Lopez Dam in a manner to ensure adequate flows for groundwater recharge and for the endangered species in the Arroyo Grande Creek. The releases are adjusted (increased or decreased) as necessary in response to changing agricultural needs and/or changes in weather conditions or other factors that may influence surface flows within the creek system. This management has generally resulted in annual releases less than 4,200 AF; the remaining water has been periodically offered to the Contract Agencies as surplus water. Zone 3's water supplies for past, current and projected demands are shown in Table 6-A.

Table 6-A: Water Supplies – Past, Current (Actual) and Projected (AFY)					
	2010	2015	2020	2025	2030
City of Pismo Beach	842	219	896	896	896
Oceano CSD	203	0	303	303	303
City of Grover Beach	773	773	800	800	800
City of Arroyo Grande	2,246	1,857	2,290	2,290	2,290
CSA 12	125	113	241	241	241
Downstream Releases	3,153	3,800	4,200	4,200	4,200
Available Surplus Water ¹	1,388	1,968	0	0	0
Total	8,730	8,730	8,730	8,730	8,730

¹ As presented in Table 6-A, it is assumed that in the future, 4,200 AFY will be reserved for downstream releases and no surplus water will be available to Contract Agencies. In actuality, when less water is released from Lopez Reservoir for downstream releases, surplus water may be made available to Contract Agencies.

6.4 Storm Water



The District recognizes storm water as the source of water supply for the Lopez Reservoir. Downstream of the Lopez Reservoir, communities are increasingly implementing opportunities to beneficially use storm water to meet local water supply demands. Beneficial reuses typically include blending with other water supplies for groundwater recharge, redirecting it into constructed wetlands or landscaping, or diverting it to a treatment facility for subsequent reuse. Individual Contract Agencies will address in their respective UWMP if they have or are developing beneficial ways to reuse storm

water.

Pictured Above: Lopez Lake and Watershed

A watershed-based approach to storm water management would have multiple benefits for Zone 3 including recharge of groundwater aquifers and enhancement of local water supplies. The City of Arroyo has submitted an application for a grant to complete a Storm Water Resources Plan for the Arroyo Grande Creek Watershed. The Storm Water Resources Plan is estimated to cost \$430,000 to complete. The grant application requested \$180,000 in funding from the Storm Water Grant Program (Prop 1) and was submitted to DWR in March 2016. Zone 3 has committed to funding \$250,000 to complete the Storm Water Resources Plan. The Coastal San Luis RCD will lead the plan development if the grant is awarded.

At this time Zone 3 does not have any plans for additional storm water capture beyond what naturally flows to Lopez Reservoir. The District continues to encourage its Contract Agencies to develop additional reuse opportunities if they become available. There are also new regulations for new development which will require storm water management improvements to retain more storm water on-site for additional percolation. In addition, The County and the City of Arroyo Grande are implementing the Storm Rewards Program, which promotes the capture and retention of rain water on private property through use of rain barrels (<https://www.stormrewards.org/>).

6.5 Wastewater and Recycled Water

Zone 3 does not provide wastewater treatment or recycled water. UWMP standard Table 6-1 notes that Zone 3, as a Wholesale supplier does not provide this source of water supply to its Contract Agencies.

Table 6-3: Wholesale: Wastewater Treatment and Discharge within Service Area in 2015⁶

Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2015										
<input checked="" type="checkbox"/> Wholesale supplier does not provide supplemental treatment to recycled water it distributes. 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 <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
<i>Add additional rows as needed</i>										
Total							0	0	0	0
NOTES:										

6.5.1 Recycled Water Coordination

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.

At this time, none of the Contract Agencies utilize recycled water as a water supply source. Studies are being completed to evaluate the viability of utilizing recycled water as a supply source or to use as a seawater barrier. Please refer to the Contract Agencies' UWMP for more detailed information about the current findings for use of recycled water.

6.5.2 Wastewater Collection, Treatment and Disposal

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

There are three wastewater treatment plants (WWTP) serving Zone 3 Contract Agencies. They are as follows:

- South San Luis Obispo County Sanitation District (SSLOCSD) WWTP: serving the Cities of Arroyo Grande and Grover Beach, and Oceano CSD.
- City of Pismo Beach WWTP: serving the City of Pismo Beach.

⁶ Table 6-2 is not required for a Wholesale Water Provider

- Avila Beach CSD WWTP: serving Avila Beach CSD and Port San Luis.

SSLOCSD Collection System and WWTP. The SSLOCSD trunk sewer system collects wastewater from individual sewer collection systems in the Cities of Arroyo Grande and Grover Beach, and Oceano CSD. The SSLOCSD trunk sewer system is approximately 9 miles long with varying mains between 18" and 30" in diameter. The SSLOCSD Plant is rated at 5 million-gallons-per-day (mgd). The plant provides secondary treatment using a fixed film reactor. The plant is also designed for a 9 mgd peak wet weather flow. Effluent is chlorinated and de-chlorinated prior to discharge. Plant effluent is discharged through the existing joint outfall line (with City of Pismo Beach WWTP) to the Pacific Ocean. Refer to "Methods of Current Wastewater Disposal" discussion later in this Chapter. This plant currently serves a permanent population of approximately 38,000 persons.

City of Pismo Beach Collection System and WWTP. The collection system consists of 35 miles of gravity sewer ranging in diameter from 4" to 16", over 450 manholes, 4.5 miles of sewer force mains, and 9 lift stations. The Pismo Beach wastewater treatment plant is a relatively new plant with a capacity to treat an average of 1.9 mgd to secondary effluent standards. Currently, all effluent is discharged to the Pacific Ocean via the joint outfall shared with the SSLOCSD. The secondary process includes an oxidation ditch extended aeration process, followed by secondary clarification, chlorination and dechlorination. A permanent population of just over 8,600 persons is served by this plant.

Avila Beach CSD Collection System and WWTP. The collection system consists of approximately 9,300 linear feet of gravity sewer ranging in diameter from 4" to 10", 40 manholes, and one lift station. The treatment plant is a 0.2 mgd rated secondary plant using a fixed film reactor or trickling filter. Secondary effluent is chlorinated and dechlorinated prior to discharge through an ocean outfall. Population currently served by this plant is approximately 500 persons.

6.5.3 Wastewater Treatment Plant Capacities, Current and Future Projected Wastewater Flows

Existing and future wastewater flows were referenced from a variety of existing documents. Table 6-B summarizes the existing and future wastewater flows for the three WWTPs in the Zone 3 service area.

6.5.4 Methods of Current Wastewater Disposal

Effluent disposal for the three WWTPs in Zone 3 is described in the following paragraphs.

SSLOCSD WWTP. Treated secondary wastewater is discharged via an ocean outfall. This outfall is a joint outfall shared between SSLOCSD WWTP and Pismo Beach WWTP (56%/44%, respectively). According to the agreement between the City of Pismo Beach and SSLOCSD, the total capacity of the outfall line is contractually defined as follows:

The combined capacity of this outfall is estimated at 16 mgd on a peak flow basis. The outfall extends approximately 4,000 feet offshore into about 60 feet of water depth.

Pismo Beach WWTP. Refer to the discussion above for SSLOCSD WWTP.

Avila Beach CSD WWTP. Treated secondary effluent from the Avila Beach CSD is discharged via an ocean outfall. The outfall is 12" diameter and extends approximately 540 feet beyond the Avila Pier.

Table 6-B: Recycled Water – Wastewater Collection and Treatment

WWTP	Wastewater Flow, mgd						
	2005	2010	2015	2020	2025	2030 ¹	2035 ²
SSLOCSD	2.70 ³	2.64 ⁴	2.86	3.08	3.30	3.5 ⁵	3.5
City of Pismo Beach	1.10 ⁶	1.13 ⁷	1.31	1.49	1.67	2.0 ⁵	2.0
Avila Beach CSD ⁹	0.039	0.048 ⁴	0.055	0.062	0.069	0.078 ⁸	0.078
TOTAL	3.84	3.82	4.23	4.63	5.04	5.58	5.58
TOTAL (AF)	4,301	4,278	4,738	5,186	5,645	6,250	6,250
Volume Wastewater Meeting Recycled Water Standards							
Secondary	3.84	3.82	4.23	4.63	5.04	5.58	5.58
Tertiary (unrestricted)	0	0	0	0	0	0	0

¹Anticipated “build out” of community, on an annual average flow basis.
²Year 2035 projections assumed to not change after anticipated build-out in Year 2030.
³Estimated from 2007 Annual Report.
⁴2010 Annual Report (to Regional Board)
⁵Long-Range Development Plan, Wallace Group-Kennedy/Jenks, 2002.
⁶Sewer Collection System Master Plan, Carollo, 1999 (Year 2005 estimated).
⁷Pismo WWTP Plant Data, 2009.
⁸Sewer Master Plan Update, Wallace Group, 2009.
⁹Combined flow with Port San Luis

6.5.5 Potential Uses of Recycled Water in Service Area

CWC 10633
(d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other

In general, using unrestricted tertiary 22 CCR 2.2 recycled water (criteria defined by Title 22, California Code of Regulations for unrestricted recycled water, meeting a coliform bacteriological quality of 2.2 most probable number) for landscape/turf irrigation is a potential use in all three WWTP service areas. However, studies have shown that the cost of pipeline and pump station infrastructure relative to irrigation demand is high. In order to provide viable reuse programs, the WWTPs would need to upgrade to tertiary treatment. Also of note, a significant portion of the recycled water theoretically could be available for indirect potable use, but would require a very high degree of treatment to reduce TDS and to meet total organic carbon requirements for groundwater discharge. For the SSLOCSD WWTP recycled water study, such opportunity was reviewed through at least three past studies. Due to high costs, concerns over public perception, and other factors, development of recycled water indirect potable use was deferred. However, with the Central Coast enduring one of the most severe droughts in the history of the State, it is expected that indirect potable reuse will be deemed acceptable to the public in future years, and

may become a necessity to meet future water demands. Also, in 2015, the City of Pismo Beach completed the Recycled Water Facilities Planning Study (RWFPS) to investigate alternatives for constructing a recycled water system that will enable the City to produce and beneficially use recycled water to enhance its water supply portfolio. The City of Pismo Beach is currently exploring the use of recycled water to establish a seawater intrusion barrier to protect groundwater supplies in the area. Please see the City of Pismo Beach UWMP or the RWFPS for additional information.

As a wholesale entity, it is difficult to project to what extent a member agency may employ recycled water projects in the coming years. As such, the District is not in a position to forecast the extent and timing of such reuse programs. As stated elsewhere, the District supports and encourages optimization of water resources throughout the County, and would encourage all Contract Agencies to develop recycled water programs where feasible.

6.5.6 Feasibility of Serving Recycled Water for Potential Uses

The feasibility of serving recycled water from the three WWTPs in Zone 3 has been studied by various consultants in recent years, as the need for augmenting potable water supplies has become more apparent. All three plants, in order to consider any viable recycled water program, would need to upgrade the WWTP to tertiary 2.2 quality recycled water.

6.5.7 Recycled Water Financial Incentives

CWC 10633

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

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

As a wholesaler of potable water to Contract Agencies, Zone 3 does not have the authority to provide financial incentives for recycled water programs. Such financial incentives and rates will be determined by each Contract Agency. The Cities of Grover Beach, Pismo Beach, and Arroyo Grande, currently do not have recycled water programs in operation. In the coming years, when recycled water programs are developed, the financial aspects of such recycled water programs will be addressed by the Contract Agencies at that time.

6.5.8 Optimizing Use of Recycled Water

The District does not have any specific plans for optimizing the use of recycled water in the Contract Agencies' service areas. However, the District and the Contracting Agencies are currently evaluating contract modifications that would allow storage in the reservoir. Establishing storage rights for the Contracting Agencies will promote multi-year conjunctive use strategies and promote the use of Recycled Water.

Potential recycled water uses within Contract Agencies includes need for the installation of recycled water distribution systems to promote reuse, including landscape irrigation and toilet

conjunctive use of other sources; groundwater and State Water) is sufficiently adequate to meet contract obligations. At this time, the District is also studying the use of desalinated water (from Diablo Canyon Nuclear Power Plant). Implementing a Diablo Desalination water will help improve the reliability of surface water supplies in Zone 3 and will also require upgrades to the Zone 3 conveyance system. The feasibility study has been completed and on March 22, 2016, the District's Board of Supervisors approved a \$900,000 budget adjustment to carry-out next steps in the project, including preparation of an Environmental Impact Report and a Coastal Development Permit application.

Previously, in 2008, the City of Arroyo Grande, the City of Grover Beach, and the Oceano Community Services District, jointly participated in the detailed evaluation of a potential seawater desalination project to supplement their existing potable water sources. At that time, projections of water supply shortfalls in the region warranted a more detailed study and consideration of desalination (and recycled water) as a supplemental water supply. This 2008 Desalination Funding Study was funded from Proposition 50 grant monies, and was advanced further from a prior February 2006 initial desalination study.

Each of these agencies identified their desired allocation of production water from the desalination facility. The total capacity of the desalination plant studied was for 2,300 AFY yield, with each agency's share in the plant capacity as follows:

- City of Arroyo Grande, 750 AFY
- City of Grover Beach, 800 AFY
- Oceano CSD, 750 AFY

The study revealed a number of opportunities and challenges associated with the development of a desalination facility:

- How seawater would be collected through a series of on-beach gallery wells;
- Impacts of pipeline construction on the beach and through environmentally sensitive areas (such as the Lagoon);
- Site concerns and competing space requirements at the SSLOCSD WWTP;
- Complex permitting process;
- Extensive energy consumption; and
- High cost of water per AF.

After careful consideration of the findings of the Desalination Funding Study, the participating agencies chose to no longer pursue this desalination project as a viable water supply alternative. However, the need for augmenting water supplies for the future is still a key concern, particularly with the City of Arroyo Grande and Grover Beach.

6.7 Exchanges or Transfers

CWC 10631

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

6.7.1 Exchanges

In years that the annual yield of the reservoir exceeds the water deliveries and downstream releases, Contract Agencies have been given the option to purchase surplus water. The District continues to review its policy regarding surplus water which is being considered as part of the draft Arroyo Grande Creek Habitat Conservation Plan (HCP). Currently, the draft HCP is being reviewed by federal and state regulatory agencies. It is anticipated that once approved, this HCP will provide for both a thriving creek habitat and unknown supply of surplus water in most years.

The current policy being implemented for the Lopez Project, is as follows: “Surplus water shall be calculated for each water year by subtracting from the safe yield of the project an amount equal to the sum of the quantity of water released downstream during the immediately prior water year, which shall not exceed 4,200 AF unless legally required. (2007 Interim Downstream Release Schedule Or Article 4(A), September 19, 2000 Water Supply Contracts), and the quantity of entitlement water delivered to Zone 3 Contract Agencies during the immediately prior water year, excluding downstream releases and entitlement deliveries that occur during the period of time that the District determined that continuous spillway flow was occurring at Lopez Dam.”⁷

Upon recommendation by District Staff, the County of San Luis Obispo Flood Control and Water Conservation District Board of Supervisors can declare surplus water available during any given Water Year. Table 6-A shows past, current, and projected available surplus amounts to Contract Agencies. It is important to state that the District provides the entitled amount to the Contract Agencies and surplus water is not a guaranteed source of water from year to year. Ultimately, the Contract Agencies are responsible for obtaining additional water sources when demands exceed their entitlement.

The current contract agreement with the Contract Agencies allows for surplus water to be made available to outside entities. However, selling surplus water to agencies that are not Contract Agencies is not practicable because in any given year, there is typically not enough surplus additional water to warrant a sale. Additionally, there may be hydraulic limitations to the transmission line making it impracticable.

The costs of the surplus water for Contract Agencies is very low compared to other potential water sources, however, surplus water is not guaranteed to be available every year and is unlikely to be available after a succession of dry years.

6.7.2 Transfers

Transfer opportunities within Zone 3 consist of only State Water and conjunctive use of groundwater supplies. One key aspect of taking advantage of state water transfers is the capacity of the Zone 3 pipeline. The District recently completed a hydraulic study to determine if additional

⁷ Source: Contract Amendment between San Luis Obispo County and Contracting Agencies, Executed on September 19, 2000.

capacity exists in this pipeline for supplemental water deliveries to Contract Agencies. Subsequent to this initial study, a hydraulic model and detailed study was conducted by the District, to assess hydraulic capacity in the entire Central Coast Water Authority (CCWA) State Water delivery system. Both studies addressed hydraulic capacity relative to both State Water and Zone 3 Water delivery opportunities in the Lopez pipeline. The most recent CCWA delivery system study and report was completed in 2012. Results indicate the potential for only a marginal increase in capacity for surplus deliveries of approximately 12% (~300 AFY). However, the District is exploring options with CCWA to increase State Water delivery to Contract Agencies via the CCWA delivery system.

6.8 Future Water Projects

CWC 10631

(g) ...The urban water supplier shall include a detailed description of expected future projects and programs... that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

Table 6-7 indicates the District does not expect future water supply projects or programs that provide a quantifiable increase to the agency's water supply, except if the Diablo desalinization project materializes. However, each Contract Agency certainly may be embarking upon projects to augment potable water supply, such as recycled water, storm water recharge, or desalination. When Contract Agencies need water beyond their entitlements, they will have no choice but to develop alternative water source supplies, or manage their existing water supplies better, or both.

Table 6-7: Wholesale: Expected Future Water Supply Projects or Programs⁸

Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs						
<input checked="" type="checkbox"/>	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.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down list User may select more than one.</i>	Expected Increase in Water Supply to Agency
	<i>Drop Down Menu</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						

NOTES: Only possible project is the County's Diabie Canyon Desalinization project. Project is not defined at this time.

6.9 Summary of Existing and Planned Sources of Water

Surface water is the sole source of water for Lopez Reservoir. The reservoir is part of a 67 square mile watershed and has a full storage capacity of 49,388 acre-feet. On average, the reservoir contains 39,000 acre-feet of water. In 2015, following one of the lowest rainfall years in history, the reservoir contained 14,305 acre-feet of storage water. Table 6-8 provides the actual source and volume of water for the year 2015.

Table 6.9 shows the projected water supply which equals the safe yield of the entitlements to the Contract Agencies and that required for downstream releases.

Zone 3 was created to deliver water from Lopez Reservoir to its five contracting retail water agencies. The safe yield of the reservoir matches that of the combination of entitlements held by Contract Agencies, and that required for environmental releases, with ample drought reserves. However, in recent years, several Contract Agencies have identified near-term and future potential shortfalls in water supply. These agencies served by Zone 3 have several other water supply sources, including Zone 3 Water, State Water, and local groundwater.

⁸ Table 6-6 is not required for a Wholesale Water Provider

Table 6-8: Wholesale: Water Supplies – Actual

Table 6-8 Wholesale: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<i>Drop down list</i> <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Surface water	Arroyo Grande Creek & Misc. Watersheds	14,305	Raw Water	8,730
	Total	14,305		8,730

NOTES: 2015 Lopez Reservoir volume, following historic low rainfall year.

Table 6-9: Wholesale: Water Supplies – Projected

Table 6-9 Wholesale: Water Supplies — Projected								
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>						
		2020		2025		2030		2035
<i>Drop down list</i> <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume
<i>Add additional rows as needed</i>								
Surface water	AG Creek & Misc. Watersheds/Lopez Reservoir	8,730	8,730	8,730	8,730	8,730	8,730	8,730
	Total	8,730	8,730	8,730	8,730	8,730	8,730	8,730

In 2008/2009, the Contract Agencies commenced with a study and evaluation to consider raising the spillway elevation of Lopez Reservoir, as a means of increasing the safe yield of the reservoir and thus increasing water supply entitlements to the Contract Agencies. It is emphasized that this effort was funded by the Contract Agencies, not the District. The initial phase of this study was completed in 2009.

The project study considered raising the spillway of Lopez Dam between 3 and 5 feet. This would increase gross reservoir storage by at least 2,850 AF, and annual safe yield was estimated to be increased by 671 to 1,371 AF and this increased yield would only materialize after a full reservoir level was achieved.

The study concluded that there are no obvious technical flaws with the proposed project. However, the costs for further study, and environmental studies and permitting are expected to be extensive. The project also has the potential to delay or significantly impact the draft HCP for Lopez Reservoir.

CHAPTER 7: WATER SUPPLY RELIABILITY ASSESSMENT

This chapter describes the long term reliability of Zone 3's water supplies. Shorter term reliability planning that may require immediate action, such as drought or a catastrophic supply interruption, is addressed in Chapter 8, Water Shortage Contingency Planning.

7.1 Constraints on Water Sources

CWC 10631

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

CWC 10634

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

The Lopez Reservoir is a very reliable source of quality water. The District is responsible for operation and regulatory compliance of the Zone 3 Water Treatment Plant (WTP), which meets all water quality regulatory requirements.

Surface water tributary to the reservoir is provided primarily from Arroyo Grande Creek and several other creek watershed areas. Therefore, continuing droughts are always a potential constraint on the District's water source.

The annual safe yield of the reservoir is 4,200 AFY greater than the entitlements held by Contract Agencies. The 4,200 AFY is required to be released into Arroyo Grande Creek for stream flow/environmental purposes as well as groundwater recharge. Demand within Zone 3 is equivalent to the entitlements held by the Contracting Agencies. The entitlements to Lopez Reservoir will remain constant at 4,530 AFY through the year 2040, unless a future water supply project to raise the reservoir spillway is employed. Historically, during the largest drought years on record (1989/1990 & 2013/2014) since the Reservoir has been in operation, the District has been able to deliver full allocations to contract agencies. In 2015, entitlements were reduced by 10% in response to the on-going drought conditions and declining reservoir levels. The reduced entitlements will remain in effect and be further restricted until the current declared drought emergency is rescinded per the Low Reservoir Response Plan (See 7.1.1).

In years when surplus water is available from Lopez Reservoir, the actual demand may be higher to reflect purchases from the surplus account. In years when surplus water is available, Contract Agencies requesting water beyond their entitlement for that year may be able to receive surplus water in those years to meet such demands beyond their entitlement.

7.1.1 Planned Actions & Water Management Strategies

The District prepared a draft Habitat Conservation Plan (HCP) in 2004 for the Lopez Dam project for the purpose of complying with the Endangered Species Act, and providing incidental take authorization for steelhead and red-legged frog for covered operations and maintenance activities affecting the Arroyo Grande Creek.

In February 2015 a new draft of the HCP was initiated that incorporates an updated model that reflects 11 additional years of current operational data. This work is still underway. It is anticipated that a new downstream release program will be proposed to the environmental regulatory agencies in the near future. The HCP, in conjunction with contractual water supply obligations to the Zone 3 contractors and releases for downstream users, is intended to maintain protection of steelhead, red-legged frog, and habitat enhancement for other environmentally sensitive biota.

In addition, the District is in the process of addressing its existing water rights permit which expired, by filing an extension of time with the State Water Resources Control Board. This will allow the District to then file a change petition to pursue needed changes to the permit that will reflect actual operations of the Dam in terms of direct diversions, diversions to storage and re-diversions.

In 2004 when the initial draft HCP was written, it was uncertain as to when the draft HCP would be approved, and thus the District felt it prudent to prepare an Interim Downstream Release Schedule (IDRS), that optimizes storage and stream/reservoir management, to meet the needs of municipal, agricultural and environmental demands. The IDRS was followed by the development of a Low Reservoir Response Plan (LRRP) consisting of a set of actions that the District will implement when the amount of water storage in the reservoir drops below 20,000 AF. The purpose of the LRRP is to limit both municipal levels and downstream releases to preserve the reservoir above the minimum pool for 3 to 4 years under continuing drought conditions. This Plan is included as Appendix C, however, it should be noted that the IDRS and LRRP are not employed to increase municipal supplies beyond current contractual allocations.

7.1.2 Water Quality

It is not anticipated that water quality will affect water management strategies and/or supply reliability for the water agency except possibly at very low reservoir levels. One of the District's goals is to ensure the safety of the public by meeting current and impending regulations established by the State of California. The WTP meets current standards. The following water quality reports have been conducted:

- In March 2003 the State Water Board Division of Drinking Water assessed the Lopez Project's raw water sources and prepared a Drinking Water Source Assessment of the Lopez Reservoir. The study concluded there have been no contaminants detected in the water supply, however the source was still considered vulnerable to activities located near the drinking water source.
- In July 2015, the State Water Resources Control Board prepared a Sanitary Survey Report for Lopez Project. The study concluded the water system is designed, constructed, operated and managed well and that all sources, storage, tanks, booster stations, and distribution system meet state requirements. Additionally water quality monitoring results indicate that the treated water meets all applicable maximum contaminant levels.

- In 2015, the County issued Waterline Disinfection Procedures which outline minimum requirements to be followed by laboratory personnel, water operators, inspectors and contractors for the disinfection and testing of new and repaired potable water mains, including fire hydrants. These procedures are based on the American Water Works Association (AWWA) Standards for Disinfecting Water Mains (C651).

7.2 Reliability by Type of Year

CWC 10631

(c)(1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) an average water year,***
- (B) a single dry water year,***
- (C) multiple dry water years.***

The Lopez Reservoir is a very reliable source of quality water. During an average water year, the reservoir is reliable to be able to deliver the contract allocations totaling 4,530 AFY and divert 4,200 AFY for downstream release. Historically, even during the largest drought years on record (1989/1990 & 2013/2014) since the Reservoir has been in operation, the District has been able to deliver full allocations to contract agencies. In 2015, entitlements were reduced by 10% in response to the on-going drought conditions and declining reservoir levels. The reduced entitlements will remain in effect and be further restricted until the current declared drought emergency is rescinded and reservoir levels are above 20,000 AF per the Low Reservoir Response Plan (See 7.1.1)

The District maintains a rain gauge station at the Lopez Dam. Figure 2 illustrates Lopez Reservoir annual rainfall data from 1968 through 2015. The District also collects reservoir level data daily. Figure 3 illustrates the Lopez Reservoir Storage from 1968 through 2015.

The amount of water available varies depending on the total amount of water stored in the reservoir. Above 15,000 AF contract allocations are delivered at 100%. However that number decreases by 10% (applied to the agency's contract allocations only) if the reservoir reaches 15,000 AF in storage and 20% when reservoir levels reach 10,000 AF. At the date of this UWMP, the reservoir is just below the 15,000 AF level so contract allocations have been reduced by 10%.

Table 7-1 compares a single dry water year, and multiple dry water years to the average water year, and how such dry years may impact water deliveries.

Figure 2: Lopez Dam Rainfall Data 1969-2015

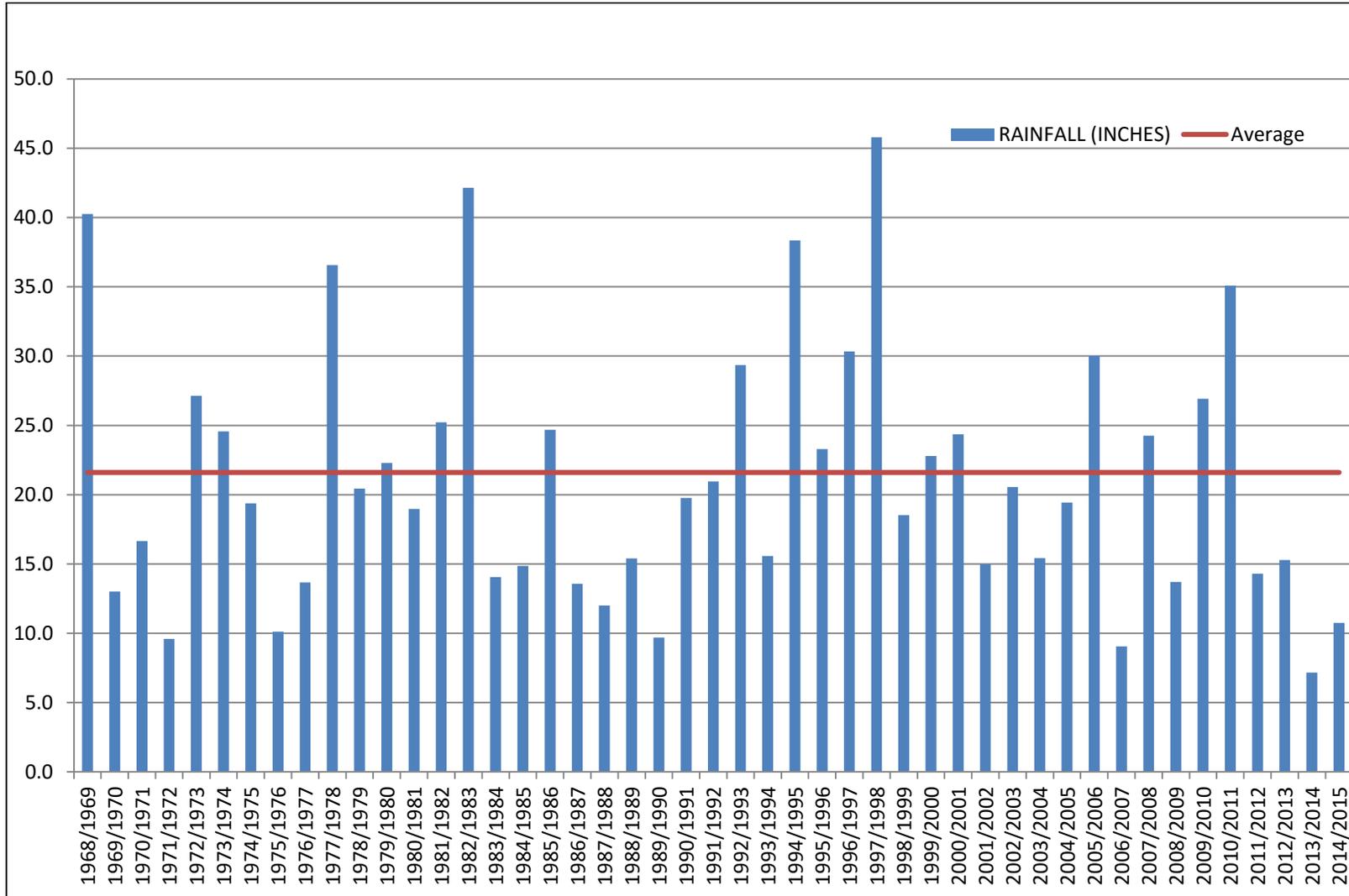


Figure 3: Lopez Reservoir Storage 1968-2015

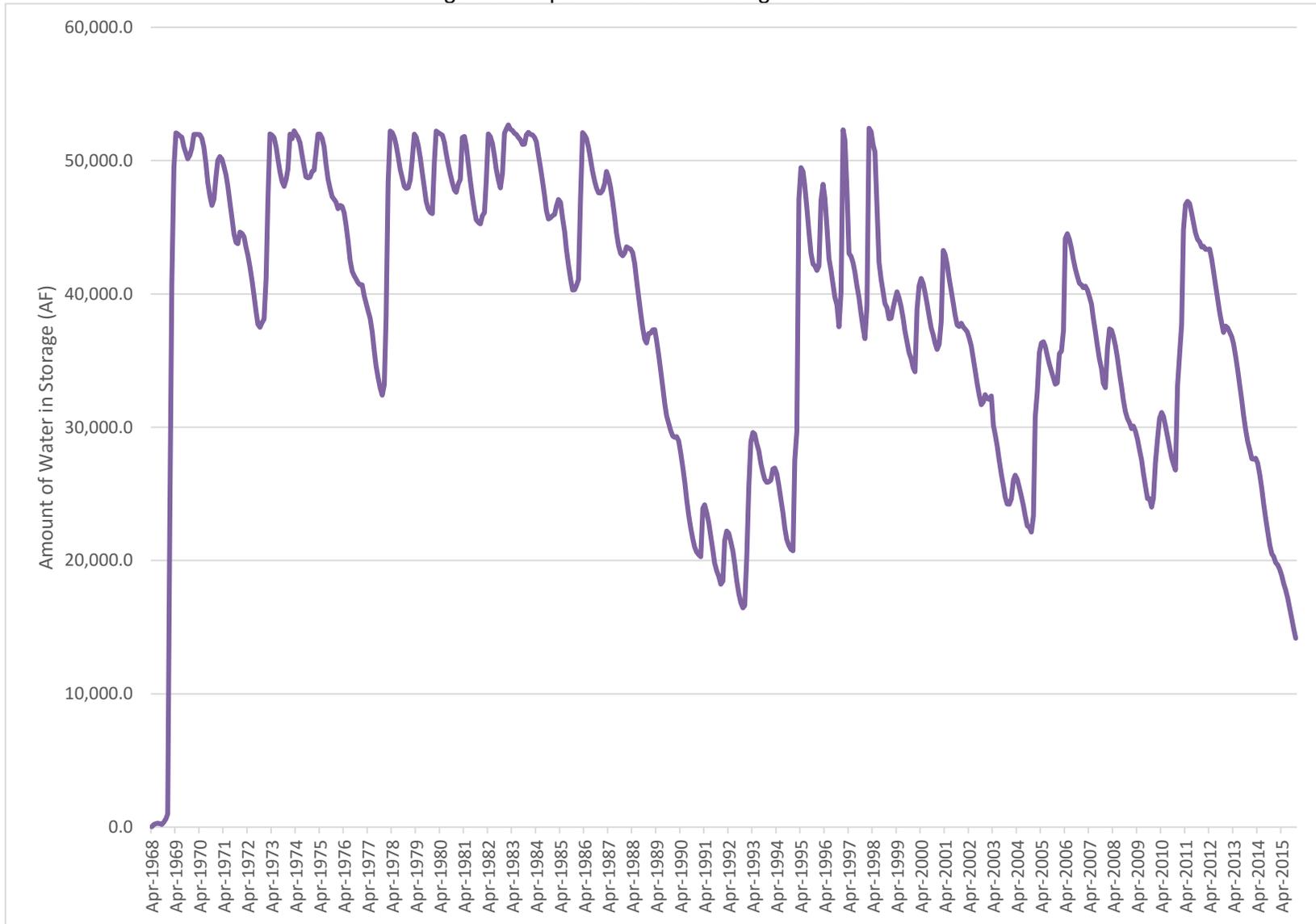


Table 7-1: Wholesale Basis of Water Year Data

Table 7-1 Wholesale: Basis of Water Year Data			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		Agency may provide volume only, percent only, or both	
		Volume Available	% of Average Supply
Average Year	1991/92	8,730	100%
Single-Dry Year	2013/14	8,730	100%
Multiple-Dry Years 1st Year	2012/13	8,730	100%
Multiple-Dry Years 2nd Year	2013/14	8,730	100%
Multiple-Dry Years 3rd Year	2014/15	8,730	100%
Multiple-Dry Years 4th Year	2015/16	7,075	90%
NOTES:			

7.3 Supply and Demand Assessment

CWC 10635

(a)Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water

Demand within Zone 3 is equivalent to the entitlements held by the contracting agencies. The municipal entitlements to Lopez Reservoir will remain constant at 4,530 AFY through the year 2040 unless a future water supply project to raise the reservoir spillway is employed and agency contracts are revised.

Table 7-2 shows the normal year supply and demand comparison, and as stated, Zone 3’s supply and demand are designed and projected to match the safe yield which is a combination of entitlements from the Contract Agencies and that required for downstream releases.

Table 7-2: Wholesale: Normal Year Supply and Demand Comparison

Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	8,730	8,730	8,730	8,730	8,730
Demand totals (autofill fm Table 4-3)	8,730	8,730	8,730	8,730	8,730
Difference	0	0	0	0	0
NOTES:					

Shown in Table 7-3, the single dry year supply and demand comparison matches normal year’s supply and demand as the safe yield does not change. Table 7-4 compares multiple dry years to the demand. Based on historical records, the only limiting factor to the Contract Agencies’ water supply is based on contracted amounts, which are tied to the safe yield of Lopez Reservoir. Although not shown in Table 7-4, conditions arising from a 4 year long drought does impact water entitlements as planned for within the Low Reservoir Response Plan / Water Storage Contingency Plan. The Water Storage Contingency Plan is discussed in Chapter 8.

Table 7-3: Wholesale: Single Dry Year Supply and Demand Comparison

Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	8,730	8,730	8,730	8,730	8,730
Demand totals	8,730	8,730	8,730	8,730	8,730
Difference	0	0	0	0	0
NOTES:					

Table 7-4: Wholesale: Multiple Dry Years Supply and Demand Comparison

Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	8,730	8,730	8,730	8,730	8,730
	Demand totals	8,730	8,730	8,730	8,730	8,730
	Difference	0	0	0	0	0
Second year	Supply totals	8,730	8,730	8,730	8,730	8,730
	Demand totals	8,730	8,730	8,730	8,730	8,730
	Difference	0	0	0	0	0
Third year	Supply totals	8,730	8,730	8,730	8,730	8,730
	Demand totals	8,730	8,730	8,730	8,730	8,730
	Difference	0	0	0	0	0
NOTES:						

7.4 Regional Supply Reliability

CWC 10620

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

As stated, the District cannot project demand for the individual Contract Agencies, and the purpose of the District is to provide a supplemental source of water to agencies. The Contract Agencies rely on multiple sources of water and assess demand through their own models. The District continues to increase implementation of its Demand Management Measures and its conservation policies which encourages the exploration of recycled water, enhanced groundwater management and improvements to regional management and coordination to maximize the use of local water resources.

The District will continue to implement the LRRP and the Water Storage Contingency Plan during drought years to ensure that the Lopez Reservoir continues to be a viable water supply source for the Contract Agencies.

CHAPTER 8: WATER SHORTAGE CONTINGENCY PLANNING

Chapter 8 provides the supplier's staged plan for dealing with water shortages, including a catastrophic supply interruption.

CWC 10632

(a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier.

The District has an Interim Downstream Release Schedule (IDRS) and plan to optimize storage and stream/reservoir management, to meet the needs of municipal, agricultural and environmental demands prior to the approval of the Project's Habitat Conservation Plan (HCP). This Plan includes a Low Reservoir Response Plan (LRRP) to assess near-term reservoir levels and a set of actions to be taken to mitigate the impacts of low reservoir levels (should reservoir levels, reach a threshold of 20,000 AF). In April 2015, reservoir levels fell below 20,000 AF, which triggered LRRP measures and caused municipal deliveries and downstream releases to Arroyo Grande Creek to be reduced by 10%.

Zone 3 is under contractual obligation to supply 4,530 AFY of water to its Contract Agencies. As stipulated in Article 6 (Water Shortages) of the Contract between Zone 3 and its Contracting Agencies⁹, cutbacks may occur during droughts or other shortage conditions. Should such shortages occur, it is the responsibility of the contracting agency to reduce demand and/or secure alternate sources accordingly.

8.1 Stages of Action

CWC 10632

(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

The Low Reservoir Response Plan (see Appendix C) describes a set of actions that are to be taken if the total storage volume in Lopez Reservoir is to fall below 20,000 AF (as measured on April 1 of any given year). The LRRP is automatically enacted if the total volume of water in the Lopez Reservoir falls below 20,000 AF and the District Board of Supervisors has declared an emergency related to Zone 3. The initial prescribed actions, once the LRRP is enacted, are as follows:

- Mandatory reductions in entitlement water deliveries as set forth in Table 8-1 and 8-A;

⁹ Source: Contract Amendment Between San Luis Obispo County Flood Control and Water Conservation District and Contracting Agencies, Executed on September 19, 2000.

- Reductions in downstream releases as set forth in Table 8-B with actual releases timed to best meet the needs of agricultural stakeholders and to address environmental requirements;
- No new allocations of surplus water from unreleased downstream releases; and
- Extension of time that agencies can take delivery of existing unused water by allowing storage throughout the duration that the Drought Emergency Declaration is in effect, subject to evaporation losses if the water is not used in the year originally allocated.

The initial prescribed Municipal Diversion Reduction (Delivery to Contract Agencies) is provided in Table 8-A. The Initial Prescribed Downstream Reduction is provided in Table 8-B. Table 8-1 is the UWMP standard table, which describes the same reduction schedule.

Table 8-A: Initial Prescribed Municipal Diversion Reduction Strategy

Amount of Water In Storage (AF)	Municipal Diversion Reduction	Municipal Diversion (AFY)
20,000	0%	4,530
15,000	10%	4,077
10,000	20%	3,624
5,000	35%	2,941
4,000	100%	0

Table 8-B: Initial Prescribed Downstream Release Reduction Strategy

Amount of Water In Storage (AF)	Downstream Release Reduction	Downstream Release (AFY)
20,000	9.5%	3,800
15,000	9.5%	3,800
10,000	75.6%	1,026
5,000	92.9%	300
4,000	100%	0

8.2 Prohibitions on End Uses

UWMP Guidelines do not require this section to be completed for Wholesale Suppliers.

8.3 Penalties, Charge, Other Enforcement of Prohibitions

CWC 10632

(a) (6) Penalties or charges for excessive use, where applicable.

As a water wholesaler, the District does not have the authority to impose monetary penalties on the sale of allocated water to its Contract Agencies. It is up to each Contract Agency to establish tiered rates, or other financial penalties to best manage their potable water supplies.

Table 8-1: Wholesale: Stages of Water Storage Contingency Plan

Table 8-1 Wholesale Stages of Water Storage Contingency Plan		
Stage	Complete Both	
	*Percent Supply Reduction ¹ Numerical value as a percentage	Water Supply Condition (Narrative description)
Add additional rows as needed		
1	10%	15,000 AF Water in Storage-Municipal
2	20%	10,000 AF Water in Storage-Municipal
3	35%	5,000 AF Water in Storage-Municipal
4	100%	4,000 AF Water in Storage-Municipal
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES:*Mandatory via Low Reservoir Response Plan/Water Shortage Contingency Plan		

8.4 Consumption Reduction Methods by Agencies

CWC 10632

(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

As a wholesale entity, the District does not have the authority to impose consumption reduction methods during water supply shortages. However, the contracts between the District and the Contract Agencies contain a drought clause that provides for the reduction of Zone 3 Water. As

the wholesale agency, it is the responsibility of the District to provide adequate notice to the Contract Agencies regarding any projected reductions in deliveries. It is then the responsibility of the Contract Agency to determine appropriate steps to supplement Lopez supplies with alternate sources, and/or impose water demand restrictions and prohibitions on their customers.

As described in Section 8.1, the District has recently implemented the LRRP to respond to the current drought conditions. The District will automatically reduce the allocations to each Contract Agency by the stage of the LRRP. It is the Contract Agency's responsibility to employ restrictive measures on its customers to reduce water demand. Some of the actions taken by the Contract Agencies during this most recent drought include:

- Mandatory watering restrictions
- Enforcement of watering restrictions
- Penalties for failure to comply with water reduction requirements

For a full list of drought related water reduction actions, please see each Contract Agencies' UWMP or their website. At this time, each agency has declared a water shortage emergency and has enacted their water restriction/water conservation plans.

In San Luis Obispo County and Statewide there continues to be a severe drought. On April 1, 2015, after four years of drought and a winter of record low snow fall, Governor Brown issued an Executive Order directing the State Water Board to impose mandatory water conservation measures intended to achieve a statewide 25% reduction in potable urban water usage through February 2016. In February, the mandate was extended to October 2016. Emergency water conservation regulation implementing mandatory conservation was adopted on May 5, 2015 by Resolution 2015-0032 and became effective June 1, 2015. Smaller suppliers, which are the applicable County Service Areas, must either reduce water use by 25%, or restrict outdoor watering to no more than 2 days per week.

8.5 Determining Water Shortage Reductions

CWC 10632

(a)(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

As a wholesale entity, the District provides allocated water to retail agencies, and as such, cannot quantify actual water use reductions pursuant to Chapter 10632(8) of the Water Code. Such reductions would be implemented by the Contract Agencies. The District will, however, monitor and assess actual metered deliveries relative to each Contract Agency's allocation during drought and normal water years.

8.6 Revenue and Expenditure Impacts

CWC 10632

(a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

As a wholesale entity, the District has established fixed costs for the Zone 3 water allocations to Contract Agencies. It is up to each Contract Agency (retailer) to assess and manage financial impacts resulting from reduced water sales.

All turnouts between Zone 3 and the Contract Agencies are metered. The Zone 3 Contract Agencies also fully meter their customers as well. Zone 3 water rates are flat rates established on the basis of actual capital and operating/maintenance costs associated with Lopez Reservoir, the Water Treatment Plant, and potable water distribution facilities. Also, the water supply to Contract Agencies is fully allocated, and as such, no new transfers will be allowed (unless an existing Contract Agency relinquishes a portion of their allocation to a new Contract Agency). As a wholesale agency, the District does not have the authority to set commodity rates for the purposes of promoting water efficiency and conservation.

8.7 Resolution or Ordinance

CWC 10632

(a)(8) A draft water shortage contingency resolution or ordinance.

As a wholesale entity, the District provides for an allocation of water to each Contract Agency. Whether each individual Contract Agency receives only Zone 3 water, or receives their water supply from several sources, it is the responsibility of each Contract Agency to develop their respective water supply contingency plans. During a drought, the Zone 3 contract between the District and Contract Agencies defines the expected water delivery reductions and corresponding notifications to each Contract Agency of the District's intent to reduce allocations during such drought years. The drought provision in the contract between Zone 3 and Contract Agencies reads as follows:

“Article 5. Water Shortages. From time to time during the term of this Contract, there may occur a shortage in the quantity of Project water available for delivery to the Agency by the District under this Contract, including, without limitation, for the reasons enumerated in Article 4(B). In such event, no liability shall accrue against the District or any of its officers, agents or employees for any damage, direct or indirect, arising from a shortage on account of any reason beyond the control of the District. In any Water Year during which such a shortage has caused a reduction as described in said Article 4(B), so that the total quantity of the Entitlements available for the District to distribute is less than the total established in said Article 4(B), following giving of notice by the District as provided in Article 4(B), the Proportionate Share of the Agency and each Other Agency under its Water Supply Contract shall be applied to such reduced amount in determining the volume

of Project water to be delivered to the Agency and such Other Agencies in such Water Year.”

(Source: Contract between Zone 3 and Contract Agencies, executed on September 19, 2000, adopted by Zone 3, Resolution 2000-390).

On December 16, 2014, the Zone 3 Low Reservoir Response Plan (LRRP) was adopted by the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District (Resolution No. 2014-377). The LRRP lays out a management strategy for water supply scenarios when storage in Lopez Reservoir drops below 20,000 ac-ft and Board of Supervisors has declared a state of emergency due to ongoing drought conditions. Currently, both conditions for activation of the LRRP have been met and the LRRP is in effect. Therefore, deliveries to the Zone 3 agencies are being reduced as specified in the LRRP to allow for the water supply to be managed for the next 3 to 4 years. The LRRP also included an Adaptive Management Strategy so that the Plan’s prescribed reduction can be modified to best reflect current storage in the reservoir along with rainfall and/or drought projections.

District actions that are triggered at this 20,000 AF storage level are as follows:

- Notify Contract Agencies of lower lake levels; invite participation in setting reduced releases to Arroyo Grande Creek.
- Contract Agencies implement additional conservation measures to reduce demand.
- Contract Agencies maximize use of alternative source of water, including groundwater and State Water.
- Contract Agencies access or pursue additional water sources, if available.

8.8 Catastrophic Supply Interruption

CWC 10632

(a)(3)Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

The District recognizes the potential for a catastrophic interruption of supply, which may result from an earthquake, regional power outage or terrorist attack. The water treatment plant is fully automated and equipped with a complete Supervisory Controls and Data Acquisition (SCADA) system to keep the plant processes under control and constantly monitored. However, in the event of a water treatment process disruption at the Zone 3 Water Treatment Plant, the 2.25 MG clearwell provides about 12 hours of storage. Since water deliveries to Contract Agencies is relatively constant throughout the day and night, the estimated 12 hour duration for storage would be similar whether such disruption occurred in the evening or daytime. However, during peak summer days when Contract Agencies are drawing more water, such storage time in the clearwell may be somewhat less. Thus, District staff will work diligently to ensure the plant processes come back on line expeditiously.

In addition, the conveyance line from the treatment plant directly receives State Water which is delivered to State Water Contractors through the Lopez pipeline. During short-term disruptions to treatment at the water plant, State Water continues to supply flow thus providing additional continuity of potable water service to Contract Agencies. It is also noted that each Contract Agency provides their own emergency water storage within their respective water distribution systems.

In the event of a wide-spread power outage, the Lopez WTP is equipped with a 900 kW emergency generator, sufficient to power the entire water treatment plant thus ensuring continued operations at the plant. Delivery of Zone 3 water is by gravity, and thus power is not needed to continue serving water to Contract Agencies.

Earthquakes and other events have the potential to disrupt the Zone 3 water transmission line. Should such disruption or line breakage occur, the District contracts with local contractors to expedite emergency repair as needed. Such contractors are fully equipped with labor, equipment and materials to quickly repair damage to pipelines.

The District has prepared a 5-year capital improvement plan, which includes funding for future SCADA improvements to the Lopez transmission main. It is expected that this SCADA system will be funded and implemented in 2016, and once completed, the system will allow for remote monitoring of the pipeline as well as the water treatment plan to verify any abnormal conditions such as loss of system pressure and leakage from the pipeline. Such improvements will allow for quick response to isolate reaches of pipeline, and provide the ability to notify Contract Agencies should conditions warrant such actions.

During an emergency or major disruption in potable water supply to Contract Agencies, or prolonged shortage due to drought conditions, it will be the responsibility of Contract Agencies (retailers) to notify the public of the water shortage and to mandate such prohibitions. Zone 3 staff notifies all Contract Agencies immediately in the event of an emergency, water quality issue, or water service disruption.

For additional information, refer to the Lopez Project Water System Emergency Response Plan (Revised June 2016).

8.9 Minimum Supply Next Three Years

CWC 10632

(a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

The entire State of California is amidst the worst drought it has ever seen. With below rainfall for the past 4 years, and only normal rainfall to date, water supply will continue to be a major concern for all water suppliers.

The amount of water available varies depending on the total amount of water stored in the reservoir. The LRRP sets the criteria for reducing municipal diversions and downstream releases

during periods of low reservoir storage (i.e. less than 20,000 AF) to preserve water within the reservoir, above minimum pool level for a minimum of 3 to 4 years under continuing drought conditions. Above 15,000 AF contract allocations are delivered at 100%. However that number decreases by 10% (applied to the agency’s contract allocations only) if the reservoir reaches 15,000 AF in storage and 20% when reservoir levels reach 10,000 AF. The LRRP is currently being implemented with 10% reductions to the Contract Agencies occurring. Zone 3 maintains a reservoir storage projection chart that is updated monthly. It is anticipated that the reductions, per the LRRP, to the Contract Agencies will remain in effect until significant rainfall occurs and reservoir levels return to 20,000 AF or higher.

Table 8.4: Wholesale: Minimum Water Supply Next Three Years¹⁰

Table 8-4 Wholesale: Minimum Supply Next Three Years			
	Water Year 2016 (April-March)	Water Year 2017 (April-March)	Water Year 2018 (April-March)
Available Water Supply	3,624	2,941	2,639
Available Downstream Release	3,800	300	0
Total	7,424	3,241	2,639
NOTES: Total water supply anticipated to be available for municipal diversion and downstream release per the LRRP and based on historical hydrology of reservoir for water years 2012-13, 2013-14, and 2014-15.			

¹⁰ Tables 8-2 and 8-3 are not required for a Wholesale Water Provider

CHAPTER 9: DEMAND MANAGEMENT MEASURES

Chapter 9 describes Zone 3's efforts to promote conservation and to reduce demand on its water supply and will specifically address several demand management measures.

CWC 10631

(f) Provide a description of the (wholesale) supplier's water demand management measures. This description shall include all of the following:

(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(ii) Metering.

(iv) Public education and outreach.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Chapter 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

9.1 2015 Demand Management Measures for Wholesale Agencies

Demand Management Measures (DMM) for the 2015 UWMP have been reorganized and wholesale suppliers are required to provide narrative descriptions of four specific measures:

- Metering
- Public education and outreach
- Water conservation program coordination and staffing support
- Other demand management measures

In addition, the Wholesale Supplier shall provide a narrative of asset management and wholesale supplier assistance programs. Wholesale suppliers are also required to address their DMM implementation over the past five years.

9.1.1 Metering

Zone 3 serves 5 Contract Agencies through the Lopez Distribution System which is fully metered. There are 30 meters spread amongst the 5 Contract Agencies located at each turnout. All connections between Zone 3 and the Contract Agencies are metered. The number of meters serving each Contract Agency is as follows:

- CSA 12: 22
- City of Pismo Beach: 4
- City of Arroyo Grande: 2

- Oceano CSD: 1
- City of Grover Beach: 1

As a wholesale agency, the District does not have the authority to set commodity rates for the purposes of promoting water efficiency and conservation. Zone 3 water rates are flat rates established on the basis of actual capital and operating/maintenance costs associated with Lopez Reservoir, the Water Treatment Plant, and potable water distribution facilities. Also, the water supply to Contract Agencies is fully allocated, and as such, no new connections will be allowed (unless an existing Contract Agency relinquishes a portion of their allocation to a new Contract Agency).

Zone 3 completed a Water Audit in 2015. The Water Audit recommended the District re-establish their meter calibration program since water meters had not been calibrated since 2011. In addition, it was noted that all meters +/- 6% out of calibration should be replaced. It was also recommended that the District continue to look at automatic meter reading to replace the manual reading meters. This will increase efficiency of the meter reading process.

9.1.2 Public Education and Outreach

The District continues to provide public education and outreach for water conservation to all areas throughout the county. In addition, Zone 3 directly supports the ongoing efforts of their Contract Agencies' public education and outreach programs to their consumers. The bulleted list below provides a general overview of Zone 3's efforts. Additional examples are provided in Section 5.1.2 and 9.1.3.

- The District, as a wholesaler, participates in the countywide Partners in Water Conservation Group (PIWC), and through that affiliation, proportionally contributes financially to a Water Wise water conservation website aimed at increasing the public's water conservation awareness.
- The District conducts public outreach at Farmers' Markets within Zone 3
- During times of drought, the County and District contributes financially to promote water conservation through public service announcements and direct mail campaigns.
- The District has a designated Conservation Coordinator who is charged with public education.
- The Conservation Coordinator attends functions as well as does social media posts on the Public Works Twitter Page for #waterwisewednesday. The County Administration office posts water conservation tips on Waterwise Wednesdays on their twitter page.

School Education Programs

The District supports the on-going school education programs regarding water resources or water conservation being implemented by many of the Contract Agencies. The school education program distributes materials developed by the state DWR, the AWWA, Water Education Foundation, Water Reuse Association, and some locally developed materials to school aged children. Zone 3 staff will continue to work with Contract Agencies to encourage ongoing education programs for schools.

9.1.3 Water Conservation Program Coordination and Staffing Support

On June 28, 2012, the District (Procedural Memorandum AD-42) designated a conservation coordinator. Funding is allocated during the annual budget process to be used by the Conservation Coordinator to implement BMPs to meet the coverage requirements for maintaining AB 1420 compliance.

The District has budgets for conservation efforts in its Flood Control General fund. The Utilities Division of the Public Works Department is assigned to monitor and participate in the activities of an informal group called Partners in Water Conservation (PIWC), which consists of the conservation coordinators from various water purveyors throughout the County. PIWC jointly sponsors education and outreach programs regarding conservation for the general public including the San Luis Obispo County Parks Outdoor Discovery Festival, radio ads, various demonstration programs like sustainable landscaping tours and fair exhibits, and a joint Water Wise landscaping website: [SLOWaterWiseLandscaping.com](http://www.slowaterwiselandscaping.com). In addition, the County hosts a website dedicated to water conservation:

http://www.slocounty.ca.gov/admin/Drought_Update/water-conservation.htm

In 2015 and beyond, the District will continue to encourage conservation in its policies and will continue to cooperate with its individual Contract Agencies. The District will also continue to investigate new ways to promote water conservation. These efforts in Zone 3 are also described in the District's updated Integrated Regional Water Management Plan and its annual consumer confidence report. The current Conservation Coordinator is:

Water Conservation Coordinator Contact:
Andrea M. Montes
805-781-1046
amontes@co.slo.ca.us

9.1.4 Other Demand Management Measures

The District continues to support its Contract Agencies with activities that allow the Contract Agencies to meet their water use targets. These additional measures may include, but not limited to water surveys and residential plumbing retrofits. However, the District does not directly implement any additional DMMs. The following are a list of ways the County supports the Contract Agencies:

- The County has a Conservation Element of the General Plan which includes various policies and implementation strategies related to water conservation. Various County departments have been identified as responsible for implementing the identified strategies over time.
- The County supports the implementation of programs that have multiple benefits including water conservation programs such as the Storm Rewards Program implemented by the City of Arroyo Grande. This program promotes the use of rain barrels on private properties to capture rain runoff. This keeps water on-site and also reduces the need to use potable water for irrigation.
- The County organized and facilitates a Drought Task Force, which is comprised of County departments and other local agencies that collaborate and share information in dealing with the current drought. This includes developing water conservation programs and incentives.

- The County adopted the county-wide water conservation program, which incorporates the efficient use of water and water saving practices into the County Land Use Ordinance.
- The County adopted the State’s new Model Water Efficient landscape ordinance on November 24, 2015, which applies to new development projects that involve over 500 square feet of landscaping.

9.1.5 Asset Management

The District maintains a GIS database of the Zone 3 assets and completes an annual investigation evaluating the condition of the District’s assets. The District maintains a 5-year capital improvement replacement program, which is provided in Appendix D.

9.1.6 Wholesale Supplier Assistance Program

Zone 3 supports its Contract Agencies with attendance and financial contribution to public outreach and education programs. In addition, the District maintains a water conservation website and funds a Water Conservation Coordinator position that is dedicated to supporting on-going water conservation programs. In addition, Zone 3 has an Advisory Committee, which meets publicly on a quarterly basis, and is comprised of representatives from the retail agencies receiving water from Zone 3. This Advisory Committee discusses the technical aspects of water delivery and current drought related issues as well as upcoming events and the needs of the Contract Agencies.

9.2 Demand Management Measures for Retail Agencies

This section is not required for a Wholesale Supplier.

9.3 Implementation Over the Past Five Years

CWC 10631
(f)Provide a description of the (wholesale) supplier's water demand management measures. This description shall include all of the following:
(1)(A) ...a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

The Following is a description of the 2010 DMMs and the actions taken by the District over the past 5 years.

9.3.1 DMM A – Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers (Applies to retail water agencies)

The District does not have any direct customers, and does not have the authority to conduct water audits/surveys for customers within the Contracting Agencies’ service areas. Therefore, no efforts were completed by the District for DMM A.

9.3.2 DMM B – Residential Plumbing Retrofit (Applies to retail water agencies)

The District does not have any direct customers or the authority to conduct plumbing retrofits for customers within the contracting agencies’ service areas. Therefore, no efforts were completed by the District for DMM B.

9.3.3 DMM C – System Water Audits, Leak Detection and Repair

In 2015, the District completed a water loss audit on the Zone 3, Lopez Distribution System, using the AWWA Water Loss Software. The completed audit was used to determine the current volume of apparent and real water loss and proposed improvements for reducing these system losses. Results of the audit are presented in Chapter 4.3, Distribution System Water Losses, of this UWMP.

Over the last four years, the District implemented a preventative maintenance schedule for annual meter testing and weekly inspections for leaks, and a process for responding to and fixing reported leaks and breaks. The inspections are conducted by each reach of pipeline or “Unit”. The “Units” are segments of delivery pipeline that are divided for retail agency accounting and billing purposes. Expenditures for inspecting for and repairing leaks/breaks are covered by the unit budget allocations.

An estimate of existing conservation savings on water use within the supplier's service area as a result of implementing the demand management measure, and the effect of the savings on the supplier's ability to further reduce demand is not available, or applicable, since contracts with Contract Agencies specify a certain quantity (allocation) of water to be supplied.

The past 5 years of meter reading data was reviewed as part of the 2015 Lopez Water Audit. Theoretically, the total water metered at the Water Treatment plant must equal that metered to the individual Contract Agencies. Practically speaking, some degree of discrepancies will exist due to inaccuracies in meter readings and calibration, discrepancies in the time that such meter readings are recorded, and some losses. For the Audit year 2015, the total metered water to customers was within 2 percent of total plant production. In this particular case, the turnout metered totals (to Contract Agencies) were higher than Lopez WTP production by 2% (263 AFY), which is a water gain. Recommendations in the Water Audit were identified to re-calibrate all water meters to confirm accuracy. If meters were outside of +/- 6% calibration, the meters were recommended to be replaced.

There are no apparent signs of major loss of water (through transmission main leaks), and the 2% discrepancy between turnout meter readings and Lopez WTP metered readings is low. According to American Water Works Association (AWWA) M32, un-accounted for water can typically range from 10 to 15 percent.

The District implemented all applicable aspects of this DMM consistent with the California Urban Water Conservation Council (CUWCC) guidelines (Paragraph 1.2, Water Loss Control). Actions included:

1. Standard Water Audit and Water Balance. The District quantified their current volume of apparent and real water losses. Such losses were calculated as the difference between potable water metered as it enters the transmission main, as compared to the total of potable water metered and sold to Contract Agencies. The District completed the standard water audit and balance using the AWWA Water Loss software and determined their current volume of apparent and real water losses and the cost impact of these losses on utility operations on an annual basis is minimal.
2. Validation. The District reviewed the last four years of data to develop a validated data set for all entries of their water audit and balance. Data validation followed the methods suggested by the AWWA Software to improve the accuracy of the quantities for real and apparent losses.

3. Economic Values. For purposes of this DMM, the economic value of real loss recovery is based upon the District's avoided cost of water treatment as calculated by the Council's adopted Avoided Cost Model or other agency model consistent with the Council's Avoided Cost Model.
4. Component Analysis. A component analysis was conducted as required at least once every four years. The analysis was defined as a means to analyze apparent and real losses and their causes by quantity and type. The goal was to identify volumes of water loss, the cause of the water loss and the value of the water loss for each component. The component analysis model then provided information needed to support the economic analysis and selection of intervention tools. An example is the Breaks and Background Estimates Model (BABE) which segregates leakage into three components: background losses, reported leaks and unreported leaks.
5. Interventions. The District goal is to reduce real losses to the extent cost-effective, by means of implementing needed repairs and proper maintenance of the water transmission system. The District will refer to the AWWA's 3rd Edition M36 Publication, Water Audits and Loss Control Programs (2009) for specific methods to reduce system losses.
6. Customer Leaks. The District does not have authority to address Contract Agencies' customer leaks. Such actions will be addressed by the Contract Agencies. It is expected that Contract Agencies advise their customers whenever it appears possible that leaks exist on the customer's side of the meter.

The District repaired all reported leaks and breaks to the extent cost effective and as promptly as practicable. As stated previously, the amount of water lost was estimated at -263 AF, which is actually a water gain. This could be attributed to discrepancies with the State Water supply. This is well under the average typically seen by the AWWA. However, the District will re-establish its meter calibration program and will re-calibrate all meters every year.

The District also implemented their GIS database where they maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair. The District will evaluate opportunities to include estimated leakage volume from report to repair, and cost of repair (including pavement restoration costs and paid-out damage claims, if any).

9.3.4 DMM D – Metering With Commodity Rates for All New Connections and Retrofit of Existing Connections

All connections between Zone 3 and the Contract Agencies are metered. The District does not have the authority to set commodity rates for the purposes of promoting water efficiency and conservation. Zone 3 water rates are flat rates established on the basis of actual capital and operating/maintenance costs associated with Lopez Reservoir, the Water Treatment Plant, and potable water conveyance facilities. Also, the water supply to Contract Agencies is fully allocated, and as such, no new connections will be allowed (unless an existing Contract Agency relinquishes a portion of their allocation to a new Contract Agency).

9.3.5 DMM E – Large Landscape Conservation Programs and Incentives

Zone 3 assists with public outreach and education, which includes education material dedicated to drought tolerant landscapes and high-efficiency irrigation systems. Zone 3 does not provide incentives or manage these programs as this is the responsibility of the individual Contract Agencies.

9.3.6 DMM F – High Efficiency Washing Machine Rebate Programs (Applies to retail water agencies)

Zone 3 assists with public outreach and education, which includes education material dedicated to high-efficiency washing machines. Zone 3 does not provide rebates or incentives or manage these programs as this is the responsibility of the individual Contract Agencies.

9.3.7 DMM G – Public Information Programs

In cooperation with water retailers in San Luis Obispo County, the District funds and supports many public information programs. Such programs include the spring newsletter prepared by the Partners in Water Conservation and the distribution of pamphlets in various public events. Programs also include participation in low water landscape exhibits at the annual Home Show and Mid-State Fair. The District also participates in a public information program to distribute soil moisture meters to home owners.

The District has a budget for conservation efforts in its Flood Control General fund. The Utilities Division of the Public Works Department is assigned to monitor and participate in the activities of an informal group called PIWC, which consists of the conservation coordinators from various water purveyors throughout the County. PIWC jointly sponsors education and outreach programs regarding conservation for the general public.

Additionally, conservation information is included with the annual consumer confidence reports sent to customers.

9.3.8 DMM H – School Education Programs

The District supports the on-going school education programs regarding water resources or water conservation being implemented by many of the Contract Agencies. The school education program distributes materials developed by the state DWR, the AWWA, Water Education Foundation, Water Reuse Association, and some locally developed materials to school-aged children. Zone 3 staff will continue to work with Contract Agencies to encourage ongoing education programs for schools. The Water Quality Lab for the County also provides materials to school-aged children when the opportunity presents itself.

9.3.9 DMM I – Conservation Programs for Commercial, Industrial and Institutional Accounts (Applies to retail water agencies)

The District does not have any commercial, industrial, or institutional accounts. The District assists its Contract Agencies through public outreach and education, whom do have these accounts and develop their own programs. Otherwise, no efforts were completed by the District for DMM I.

9.3.10 DMM J – Wholesale Agency Assistance Programs

Please refer to 9.1.6.

9.3.11 DMM K – Conservation Pricing

As a wholesaler, the District does not have the authority to set rates for retail water customers. This authority lies with the individual retail water agencies and cities. Therefore, no efforts were completed by the District for DMM K.

9.3.12 DMM L – Conservation Coordinator

Please refer to 9.1.3.

9.3.13 DMM M – Water Waste Prohibition

While, as a wholesaler, the District does not have the authority to implement water waste prohibitions for retail water customers, the District will work with Contract Agencies to develop a model water waste prohibition ordinance if requested by the Contract Agencies. This model ordinance will include standard uses to be prohibited during identified shortage stages and will be shared with all member agencies. Please refer to the Contract Agencies' UWMP for descriptions of their specific water waste prohibitions. Some examples noted include:

- Use of potable water for street cleaning.
- Unauthorized use of water from any fire hydrant.
- Use of potable water to wash sidewalks or roadways where air-blowers or sweeping provides a reasonable alternative.
- Use of potable water for construction purposes, such as consolidation of backfill unless no other source of water or method can be used.
- Restaurant water service to patrons unless upon request.
- Hydrant flushing except where required for public health and safety.
- Refilling existing private pools except to maintain water levels.
- Use of potable water for planting of turf and other new landscaping unless it consists of low water using, drought tolerant plants.
- Use of water for washing cars, boats, sidewalks, driveways or other exterior surfaces without a quick-acting shut-off nozzle on the hose.
- Operation of any ornamental fountains or car washes unless the water is re-circulated.

Depending on the nature of the water shortage and at the discretion of the governing body, the above measures can be modified. Often-used variations include banning water use for planting any new landscaping, limiting landscape watering to specific days of the week, and discontinuing operation of all fountains.

The County has updated its Conservation Element of the General Plan to include various policies and implementation strategies related to water conservation. The County has also implemented additional County-wide conservation programs, which are noted in Section 9.1.4. The County also has a 1990 Water Conservation Policy adopted by the Board. This policy could be updated with specific water waste prohibitions, if necessary.

9.3.14 DMM N – Residential Ultra-low Flush Toilet Replacement Program (Applies to retail agencies)

Zone 3 assists with public outreach and education, which includes education material dedicated to residential ultra-low flush toilet replacement programs. Zone 3 does not provide rebates or incentives or manage these programs as this is the responsibility of the individual Contract Agencies.

Ultra-low flush toilet replacement programs have continued to be implemented by the individual retail water agencies. As a result of past droughts and limits on local water supplies, as well as changes to the plumbing code, many residential toilets have already been replaced. In other parts

of the county, the County Planning Department has implemented ordinances including retrofit-at-time-of-sale, and requirements for new development to retrofit existing homes and businesses to offset new water demands. When appropriate, the District will work with its Contract Agencies to help assure effective implementation of this measure.

9.4 Planned Implementation to Achieve Water Use Targets

This section is not required for a Wholesale Supplier. Estimations of the expected water savings from DMMs from each retail agency's implementation plans for a particular DMM, may be found in the UWMP reporting for each applicable agency.

9.5 Members of the California Urban Water Conservation Council

CWC 10631

(i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

The California Urban Water Conservation Council (CUWCC) was created to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. CUWCC's goal is to integrate urban water conservation Best Management Practices (Demand Management Measures) into the planning and management of California's water resources.

CUWCC developed a Memorandum of Understanding (MOU), with the following objectives:

- to expedite implementation of reasonable water conservation measures in urban areas; and
- pursuant to Chapter 5 of the MOU, to establish assumptions for use in calculating estimates of reliable future water conservation savings resulting from proven and reasonable conservation measures. Estimates of reliable savings are the water conservation savings which can be achieved with a high degree of confidence in a given service area. By entering into the MOU, the signatories will have agreed upon the initial assumptions to be used in calculating estimates of reliable savings. These assumptions are included in Exhibit 1 to this MOU. It is probable that average savings achieved by water suppliers will exceed the estimates of reliable savings.

At this time, the County of San Luis Obispo intends to follow all CUWCC guidelines to the extent practicable, but does not anticipate being a signatory to the MOU in the near future.

CHAPTER 10: PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Chapter 10 describes the steps taken to adopt and submit the UWMP and to make it publicly available. This chapter will also include a discussion of the agency's plan to implement the UWMP.

10.1 Inclusion of All 2015 Data

The water use and planning data within this document includes calendar year 2015, which ends December 31, 2015. This is consistent with the requirement from the UWMP Act to provide the entirety of the agency's 2015 data.

10.2 Notice of Public Hearing

The District provided notice of the preparation of the UWMP as follows:

10.2.1 Notice to Cities and Counties

CWC 10621

(b) Every urban water supplier required to prepare a plan shall...at least 60 days prior to the public hearing on the plan...notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CWC 10642

...The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area...

On September 5, 2015, the District notified Contract Agencies of their intent to update the UWMP by July 7, 2016. This letter served as the 60-day noticing required by the Water Code, and also to alert the Contract Agencies the District's consultant (Wallace Group) will be contacting the various agencies for coordination and information sharing. A copy of this letter is included in Appendix A to this UWMP. Furthermore, the District discussed the UWMP update with the Zone 3 Technical Advisory Committee (TAC) on April 7, 2016 and May 5, 2016 and with the Zone 3 Advisory Committee on May 26, 2016. The TAC is not a public meeting and is comprised of Contract Agency staff. The Advisory Committee is comprised of elected officials from each of the Contract Agencies and their meetings are public. A public hearing was held on June 7, 2016 at the San Luis Obispo County Flood Control and Water Conservation District Board of Supervisors meeting prior to the UWMP adoption. Table 10-1 shows the notification provided to the Contract Agencies.

Table 10-1: Wholesale: Notification to Cities and Counties

Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
<input type="checkbox"/>	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.	
<input checked="" type="checkbox"/>	Supplier has notified 10 or fewer cities or counties. Complete the table below.	
City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
City of Arroyo Grande	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Grover Beach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Pismo Beach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Oceano CSD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CSA12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
San Luis Obispo County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NOTES:	<input type="checkbox"/>	<input type="checkbox"/>

10.2.2 Notice to Public

CWC 10642

...Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection... Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Chapter 6066 of the Government Code...

Government Code 6066

Publication of notice pursuant to this chapter shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

Per Government Code 6066, publication of notice pursuant to this chapter shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

A public hearing to consider adoption of the final UWMP was held by the District at its regularly scheduled Board of Supervisors meeting on Tuesday, June 7, 2016. The meeting was properly noticed per Government Code 6066. See Appendix A for a copy of the public notice.

Outreach to varying interest groups, public and private, were noticed of this UWMP update through the Zone 3 Technical Advisory Committee meetings held April 7, 2016 and May 5, 2016 and the Zone 3 Advisory Committee meeting held May 26, 2016. Interest groups included South San Luis Obispo County Sanitation District, who provides wastewater service to the City of Arroyo Grande, City of Grover Beach, and Oceano CSD.

10.3 Public Hearing and Adoption

CWC 10642

...Prior to adopting a plan, the urban water supplier...shall hold a public hearing thereon.

CWC 10608.26

(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Chapter 10608.20 for determining its urban water use target.

The 2015 Draft UWMP was agendized, noticed, and reviewed in a Public Hearing at the regularly scheduled County of San Luis Obispo Flood Control and Water Conservation District Board of Supervisors meeting on June 7, 2016. This hearing provided the cities and counties and other members of the public a chance to review the staff report and attend the hearing to provide comment. The public hearing took place before the adoption allowing opportunity for the report to be modified in response to public input before adoption. Immediately following the public hearing, the 2015 UWMP was adopted by the County of San Luis Obispo Flood Control and Water Conservation District Board of Supervisors on June 7, 2016.

The 2015 UWMP was submitted to the California Department of Water Resources (DWR) by July 7, 2016 (within 30 days of adoption). A copy of the Resolution of Plan Adoption signed by the San Luis Obispo County Board of Supervisors and attached cover letter addressed to DWR is included as Appendix A of the UWMP. The UWMP includes all applicable information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

10.4 Plan Submittal

CWC 10621

(d) An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

CWC 10644

(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

CEC 10635

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

In addition to submitting this UWMP to DWR (one hard copy and one electronic copy), one hard copy plan was submitted to the California State Library, and an electronic copy was submitted to the County of San Luis Obispo Planning Department and each Contract Agency within the Zone 3 service area (City of Arroyo Grande, City of Grover Beach, City of Pismo Beach, Oceano Community Services District, CSA 12). The Final 2015 UWMP was also posted at the District's web site, and interested parties were notified of this posting.

Additionally, the Final 2015 UWMP and all standardized data tables will be submitted electronically via the new online submittal tool, WUEdata located at <https://wuedata.water.ca.gov/secure/>

10.5 Public Availability

CWC 10645

Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

The Final Zone 3 2015 UWMP was posted at the District's web site (see below) and is made available at the County of San Luis Obispo Public Works Office, between the hours of 8:00 am and 5:00 pm.

[http://www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood_Control_and_Water_Conservation_District_Zones/ZONE_3).

10.6 Amending an Adopted UWMP

CWC 10621

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

CWC 10644

(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

APPENDIX A: REFERENCES AND LINKS

Agency Web Sites:

City of Arroyo Grande Public Works
http://www.arroyogrande.org/public_works/index.php

City of Grover Beach Community Development Department
<http://www.grover.org/commdev.htm>

City of Pismo Beach Engineering Department
<http://www.pismo-beach.org/SITE/index/index.html>

Avila Beach Community Services District
<http://www.slocountywater.org/will-serve/other-providers/avilacsd.htm>

Oceano Community Services District
<http://www.oceanocsd.org>

San Luis Obispo County Flood Control and Water Conservation District Zone 3
http://www.SLOCountyWater.org/site/Flood_Control_and_Water_Conservation_District_Zones/ZONE_3

References:

Arroyo Grande Creek Habitat Conservation Plan
<http://www.slocountywater.org/csa-zones/zone3/agcreek.htm>

San Luis Obispo County Integrated Regional Water Management Plan
<http://www.slocountywater.org/reports/irwm/index.htm>

State of California Natural Resources Agency Department of Water Resources. (2011, March). Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan. Sacramento, CA: Author.

Contract Between San Luis Obispo County Flood Control and Water Conservation District and the City of Arroyo Grande for a Water Supply. (2000, August). San Luis Obispo, CA.

Contract Between San Luis Obispo County Flood Control and Water Conservation District and San Luis Obispo County Service Area #12 for a Water Supply. (2000, August). San Luis Obispo, CA.

Contract Between San Luis Obispo County Flood Control and Water Conservation District and the City of Grover Beach for a Water Supply. (2000, August). San Luis Obispo, CA.

Contract Between San Luis Obispo County Flood Control and Water Conservation District and Oceano Community Services District for a Water Supply. (2000, August). San Luis Obispo, CA.

Contract Between San Luis Obispo County Flood Control and Water Conservation District and the City of Pismo Beach for a Water Supply. (2000, August). San Luis Obispo, CA.

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Carollo Engineers. (2011, March). *San Luis Obispo County Master Water Plan- Draft* (pp. 3-1-3-363). Walnut Creek, CA: Author.

Goldsmith, J.K., (2009, February 23). Memorandum: Issues Related to Rising Lopez Dam, 1-2.

County of San Luis Obispo Department of Public Works. (2007, July). *San Luis Region Integrated Regional Water Management Plan*. CA: Author.

Benedix, D. (2010, May 26). Memorandum: Lopez Plant Efficiency Assessment – Status and Completion Report, 1-21.

Black & Veatch Corporation. (2002, June). Zone 3 of the Flood Control and Water Conservation District of San Luis Obispo County: Lopez Water Treatment Plant Audit. CA: Author.

County of San Luis Obispo Department of Public Works. (2010). *Lopez Project: 2009 Water Quality Report*. CA: Author.

County of San Luis Obispo Department of Public Works. (2009). *Lopez Project: 2008 Water Quality Report*. CA: Author.

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Midcoast Safety. (2004, August). Risk Management Plan for County of San Luis Obispo Lopez Water Treatment Plant and CSA No. 18 – Wastewater Treatment Plant. Templeton, CA: Author.

Benedix, D. (2009, January 7). Memorandum: Lopez Reservoir Expansion – Spillway Raise Project Advisory Group Recommendations, 1-4.

Tough, S., Wong, N. (2008, November 11). Preliminary Program – Level Budget and Schedule for Lopez Reservoir Expansion, 1-30.

County of San Luis Obispo. (2007, February). San Luis Obispo County Flood Control and Water Conservation District Zone 3 Lopez Project: Interim Downstream Release Schedule, 2-23.

City of Pismo Beach. (2010, August). Request for Proposals Lopez Reservoir Spillway Project, 4-18.

Heimel, D. (2010, September 9). Memorandum: Capacity Evaluation of the Lopez Pipeline for Delivery of Additional State Water Project Supplies to the Northern Cities, 1-86.

San Luis Obispo County Water Resources. (2008). *San Luis Obispo County State Water Project*. Retrieved March 17, 2011 from <http://www.slocountywater.org/site/index.htm>

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LAFCO. (2008, December). Municipal Service Review Draft: Avila Beach Community Services District. San Luis Obispo, CA: Author.

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Water Systems Consulting, Inc. (2010, April 15). Capacity Assessment of the Coastal Branch, Chorro Valley and Lopez Pipelines – Draft. San Luis Obispo, CA: Author.

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Wallace Group. (2010, June). Recycled Water Distribution System Conceptual Plan – City of Pismo Beach WWTP. San Luis Obispo, CA: Author.

Wallace Group. (2009, February), Water Recycling Update Report – South San Luis Obispo County Sanitation District. San Luis Obispo, CA: Author.

Wallace Group et.al. (2008, October). *South San Luis Obispo County Desalination Funding Study*. San Luis Obispo, CA: Author.

APPENDIX B: NOTIFICATION AND RESOLUTION

Included in the following pages:

- Copy of 60 Day Contract Agency Notice
- Copy of Public Hearing Notice
- County of San Luis Obispo Board of Supervisors Resolution for Adoption



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us



November 5, 2015

Wade Horton, Director of Public Works (County Service Area 12)
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Horton:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

Sincerely,

A handwritten signature in blue ink, appearing to read 'DEAN BENEDIX', with a stylized flourish extending to the left.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

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email address: pwd@co.slo.ca.us



November 5, 2015

Andrea Lueker, Interim Harbor Manager
Port San Luis Harbor Office
PO Box 249
Avila Beach, CA 93424

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Ms. Lueker:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

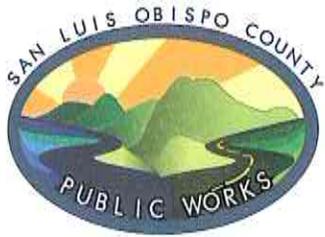
Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Benedix', with a stylized flourish at the end.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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November 5, 2015

Paavo Ogren , General Manager
Oceano Community Services District
1655 Front Street
Oceano, CA 93445

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Ogren:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
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nengelskirger@co.slo.ca.us

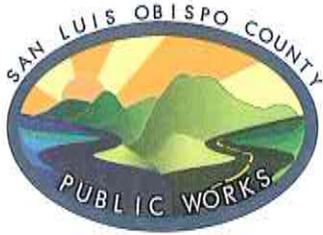
Sincerely,

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DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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email address: pwd@co.slo.ca.us



November 5, 2015

John Wallace, District Engineer
Avila Beach Community Services District
612 Clarion Court
San Luis Obispo, CA 93401

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Wallace:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Benedix', with a stylized flourish at the end.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

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email address: pwd@co.slo.ca.us



November 5, 2015

Geoff English, Director
City of Arroyo Grande Public Works Department
1375 Ash Street
Arroyo Grande, CA 93420

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. English:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Benedix', with a stylized flourish at the end.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

L:\Utilities\2015\November\2015 UWMP Notification Letter.docxNEmj



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us



November 5, 2015

Greg Ray, Director / City Engineer
City of Grover Beach Public Works Department
154 S. Eighth Street
Grover Beach, CA 93433

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Ray:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

The District would like your comments and feedback for incorporation into the Final Draft and adopted Final UWMP, which is due to the Department of Water Resources by July 1, 2016. The Public Review Draft, is anticipated to be available on the District's website in February 2016:

[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

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DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us



November 5, 2015

Ben Fine, Director
City of Pismo Beach Public Works Department
760 Mattie Road
Pismo Beach, CA 93449

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Fine:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

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[www.SLOCountyWater.org/site/Flood Control and Water Conservation District Zones/ZONE 3](http://www.SLOCountyWater.org/site/Flood%20Control%20and%20Water%20Conservation%20District%20Zones/ZONE%203)

This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dean Benedix', with a stylized flourish at the end.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

L:\Utilities\2015\November\2015 UWMP Notification Letter.docxNEmj



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us



November 5, 2015

James Bergman, Director of Planning & Building
County of San Luis Obispo, Planning and Building Department
County Government Center, Room 200
San Luis Obispo, CA 93408

Subject: 2015 Urban Water Management Plan Update for Zone 3 (Lopez)

Dear Mr. Bergman:

Zone 3 of the Flood Control and Water Conservation District (District) is in the process of preparing its 2015 Urban Water Management Plan (UWMP) as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that retail water suppliers document water supply, supply reliability, demand, and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

As you may be aware, Zone 3 of the Flood Control and Water Conservation District encompasses all of the area served by the Lopez water system. This includes the Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Avila Beach.

You are being contacted because the District is required to notify cities and agencies within its service area of the preparation of the 2015 UWMP update at least 60 days before the public hearing and adoption take place.

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This letter serves as your official notice of preparation and intent to adopt the Zone 3 2015 UWMP Update. We encourage you to review the draft document when it becomes available and offer your feedback and comments. If you have questions or comments please contact Nola Engelskirger (contact information below):

Nola Engelskirger
County of San Luis Obispo, Public Works Department
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 788-2100
nengelskirger@co.slo.ca.us

Sincerely,

A handwritten signature in blue ink, appearing to read 'DEAN BENEDIX', with a stylized flourish at the end.

DEAN BENEDIX
Utilities Division Manager

File: CF 340.142.01 Zone 3 Urban Water Management Plan

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**NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT THE
URBAN WATER MANAGEMENT PLAN 2015 UPDATE FOR ZONE 3,
LOPEZ RESERVOIR**

Pursuant to the Urban Water Management Planning Act (UWMP)

- Who:** County of San Luis Obispo Flood Control and Water Conservation District
- What:** An Urban Water Management Plan (UWMP) 2015 Update has been prepared in response to the Urban Water Management Planning Act (Act), California Water Code Sections 10610 through 10650. The San Luis Obispo County Flood Control and Water Conservation District prepared the UWMP 2015 Update for Flood Zone 3, which operates Lopez Reservoir and provides wholesale water to its contracting retail water agencies. The communities served by water from Lopez Reservoir include the communities of Oceano, Grover Beach, Pismo Beach, Arroyo Grande, Avila Beach Community Services District, and County Service Area (CSA) 12 (which includes Port San Luis). The Lopez Dam was built to supplement local groundwater supplies.
- Where:** Copies of the proposed Urban Water Management Plan 2015 Update for Zone 3, Lopez Reservoir are available for review at the San Luis Obispo County Department of Public Works, 976 Osos Street, Room 206, San Luis Obispo, CA 93408. The Plan may also be reviewed on line at:

<http://www.slocountywater.org>
- Comment:** Written comments on the plan will be accepted through June 7, 2016. Comments should be addressed to: Nola Engelskirger, Utilities Division Staff Engineer, County Government Center, Room 206, San Luis Obispo, CA 93408.
- Public Hearing:** The San Luis Obispo County Flood Control and Water Conservation District will hold a Public Hearing at the regularly scheduled Board of Supervisors meeting on Tuesday, June 7, 2016, at 9:00 a.m., Board of Supervisors Chambers (1055 Monterey Street, Room D120, San Luis Obispo, CA).
- Plan Adoption:** The plan is scheduled to be adopted immediately subsequent to the public hearing on Tuesday, June 7, 2016, by the San Luis Obispo County Flood Control and Water Conservation District Board of Supervisors.

THE *Newspaper of the Central Coast*
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COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

AD # 2449943
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS

STATE OF CALIFORNIA

ss.

County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; MAY 24, 31, 2016, that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

James E. Durand

(Signature of Principal Clerk)

DATED: MAY 31, 2016
AD COST: \$361.92

*2nd copy
to Yolanda
6/7/16*

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT THE URBAN WATER MANAGEMENT PLAN 2015 UPDATE FOR ZONE 3, LOPEZ RESERVOIR Pursuant to the Urban Water Management Planning Act (UWMP)

Who: County of San Luis Obispo Flood Control and Water Conservation District

What: An Urban Water Management Plan (UWMP) 2015 Update has been prepared in response to the Urban Water Management Planning Act (Act), California Water Code Sections 10610 through 10650. The San Luis Obispo County Flood Control and Water Conservation District prepared the UWMP 2015 Update for Flood Zone 3, which operates Lopez Reservoir and provides wholesale water to its contracting retail water agencies. The communities served by water from Lopez Reservoir include the communities of Oceano, Grover Beach, Pismo Beach, Arroyo Grande, Avila Beach Community Services District, and County Service Area (CSA) 12 (which includes Port San Luis). The Lopez Dam was built to supplement local groundwater supplies.

Where: Copies of the proposed Urban Water Management Plan 2015 Update for Zone 3, Lopez Reservoir are available for review at the San Luis Obispo County Department of Public Works, 976 Osos Street, Room 206, San Luis Obispo, CA 93408. The Plan may also be reviewed on line at:

<http://www.slocountywater.org>

Comment: Written comments on the plan will be accepted through June 7, 2016. Comments should be addressed to: Nola Engelskirger, Utilities Division Staff Engineer, County Government Center, Room 206, San Luis Obispo, CA 93408.

Public Hearing: The San Luis Obispo County Flood Control and Water Conservation District will hold a Public Hearing at the regularly scheduled Board of Supervisors meeting on Tuesday, June 7, 2016, at 9:00 a.m., Board of Supervisors Chambers (1055 Monterey Street, Room D120, San Luis Obispo, CA).

Plan Adoption: The plan is scheduled to be adopted immediately subsequent to the public hearing on Tuesday, June 7, 2016, by the San Luis Obispo County Flood Control and Water Conservation District Board of Supervisors.
May 24, 31, 2016 2449943

BEFORE THE BOARD OF SUPERVISORS

of the

SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Tuesday, June 7, 2016

PRESENT: Supervisors Frank R. Mecham, Bruce S. Gibson, Adam Hill, Debbie Arnold, and
Chairperson Lynn Compton

ABSENT: None

RESOLUTION NO. 2016-157

RESOLUTION ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN FOR THE SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ZONE 3 (LOPEZ RESERVOIR) AS REQUIRED BY THE CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT, CALIFORNIA WATER CODE DIVISION 6, PART 2.6

The following resolution is hereby offered and read:

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 subsequently amended, 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 (UWMP), the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the San Luis Obispo County Flood Control and Water Conservation District Zone 3 (Zone 3) is an urban water wholesaler providing water to more than 3,000 customers or supplying more than 3,000 acre feet of water annually; and

WHEREAS, the UWMP must be adopted by July 1, 2016, after being made available for public inspection and after a noticed public hearing; and

WHEREAS, the District has therefore contracted with a consultant to prepare a draft UWMP for Zone 3; and

WHEREAS, the District circulated the UWMP among the local retail water suppliers contracted to receive water from the Lopez Reservoir; and

WHEREAS, the District conducted a properly noticed public hearing regarding said UWMP on Tuesday, June 7, 2016; and

WHEREAS, the UWMP must be submitted to the California Department of Water Resources, the California State Library and any city or county within which Zone 3 provides water within thirty (30) days of adoption.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Flood Control and Water Conservation District of the County of San Luis Obispo, State of California, hereby:

1. Adopts the 2015 Urban Water Management Plan; and
2. Authorizes and directs the Manager of the Utilities Division of the San Luis Obispo County Public Works Department to submit the 2015 Urban Water Management Plan to the Department of Water Resources, the California State Library and any city or county within which Zone 3 provides water by July 7, 2016.

Upon motion of Supervisor Hill, seconded by Supervisor Mecham, and on the following roll call vote, to wit:

AYES: Supervisors Hill, Mecham, Gibson, Arnold and Chairperson Compton

NOES: None

ABSENT: None

ABSTAINING: None

the foregoing Resolution is hereby adopted on the 7th day of June 2016.

Lynn Compton
Chairperson of the Board of Supervisors

ATTEST:

TOMMY GONG
Clerk of the Board of Supervisors

By: Annette Ramirez
Deputy Clerk

(SEAL)

APPROVED AS TO FORM AND LEGAL EFFECT:

RITA L. NEAL
County Counsel

By: /s/ Erica Stuckey
Deputy County Counsel

Dated: May 12, 2016

STATE OF CALIFORNIA, }
County of San Luis Obispo, } ss.

I, TOMMY GONG, County Clerk and ex-officio Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, do hereby certify the foregoing to be a full, true and correct copy of an order made by the Board of Supervisors, as the same appears spread upon their minute book.

WITNESS my hand and the seal of said Board of Supervisors, affixed this 8th day of June, 2016.

(SEAL)

TOMMY GONG
County Clerk and Ex-Officio Clerk of the Board
of Supervisors

By *Annette Ramirez*
Deputy Clerk

APPENDIX C: LOW RESERVOIR RESPONSE PLAN

Low Reservoir Response Plan

for the

**San Luis Obispo County Flood Control and Water Conservation District
Zone 3**

December 16, 2014

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- 1 Introduction, Purpose and Plan Adoption 1
- 2 Background 1
- 3 LRRP Elements..... 2
 - 3.1 Enacting the LRRP and Initial Prescribed Actions 2
 - 3.2 Adaptive Management 3
 - 3.3 Reduction & Recovery Triggers..... 3
 - 3.4 Municipal Diversion Reductions 4
 - 3.5 Downstream Release Reductions 4
 - 3.5.1 HCP Reduction Strategy 5
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 - 3.6.1 Evaporation Losses..... 6
- Appendix A. LRRP Enactment & Adaptive Management Flow ChartA
- Appendix B. Reduction Strategy Evaluation..... B

1 INTRODUCTION, PURPOSE AND PLAN ADOPTION

The Low Reservoir Response Plan (LRRP) describes a set of actions that the San Luis Obispo County Flood Control and Water Conservation District (District) Zone 3 will implement when the amount of water in storage within the Lopez Reservoir drops below 20,000 Acre-Feet (AF) provided that the District's Board of Supervisors has declared an emergency related to Zone 3. The purpose of the LRRP is to limit downstream releases and municipal diversions from Lopez Reservoir during periods of low reservoir storage (i.e. less than 20,000 AF) to preserve water within the reservoir, above the minimum pool level, for a minimum of 3 to 4 years under continuing drought conditions. The criteria for reducing municipal diversions and downstream releases are summarized in Section 3.

Droughts have unpredictable impacts on water supplies. The duration of droughts and the actual amount of rainfall and run-off during droughts can differ significantly. As a result, the LRRP has been developed to provide an initial set of prescribed actions combined with an adaptive management approach. The purpose of the LRRP is to act as the guiding document during drought emergencies, as outlined in the Interim Downstream Release Schedule (IDRS). The initial prescribed actions establish baseline actions, and several adaptive management scenarios are included so that actual hydrological conditions can be evaluated during a drought. In summary, ongoing evaluation of actual hydrological conditions is needed during a drought, and through the adaptive management approach, prescribed actions can be modified, if needed, so that the 3-4 year target can be achieved.

The District's Board of Supervisors (BOS) is responsible for final adoption of the LRRP. Prior to adoption by the Board of Supervisors, the following steps are necessary:

1. Development of the draft LRRP guided by the Zone 3 Technical Advisory Committee (TAC).
2. Review of the draft LRRP with Zone 3 agricultural stakeholders.
3. Consideration of policy direction that may be provided by any of the governing boards of the Zone 3 agencies as the draft LRRP is being developed.
4. Review and approval by the Zone 3 Advisory Committee (AC).
5. Formal approval by the governing boards of the Zone 3 member agencies, by resolution, with appropriate findings to address the following:
 - a. The California Environmental Quality Act (CEQA).
 - b. Emergency provisions that are unique and necessary to the LRRP, but which may differ from contract provisions that control Zone 3 operations and deliveries during normal operating conditions.
6. Final approval by the BOS.
7. Enacting the LRRP as described in this document and outlined in Appendix A.

2 BACKGROUND

Since completion of its construction in 1969, the Lopez reservoir has experienced extended periods of low reservoir inflow that have led to decreased storage levels within the lake. Analysis of historical storage data from Lopez Reservoir identified that the lowest storage water level (16,455 AF) within the reservoir

occurred in November of 1992. Figure 1 shows monthly storage levels within Lopez Reservoir since April 1969. Since 1992, there have been significant changes in dam operations, (e.g. Interim Downstream Release Schedule (IDRS) implementation) that affect the amount of water that is released and diverted from the reservoir on an annual basis. Modified operations and historic drought conditions have highlighted the need for evaluation of LRRP reduction scenarios.

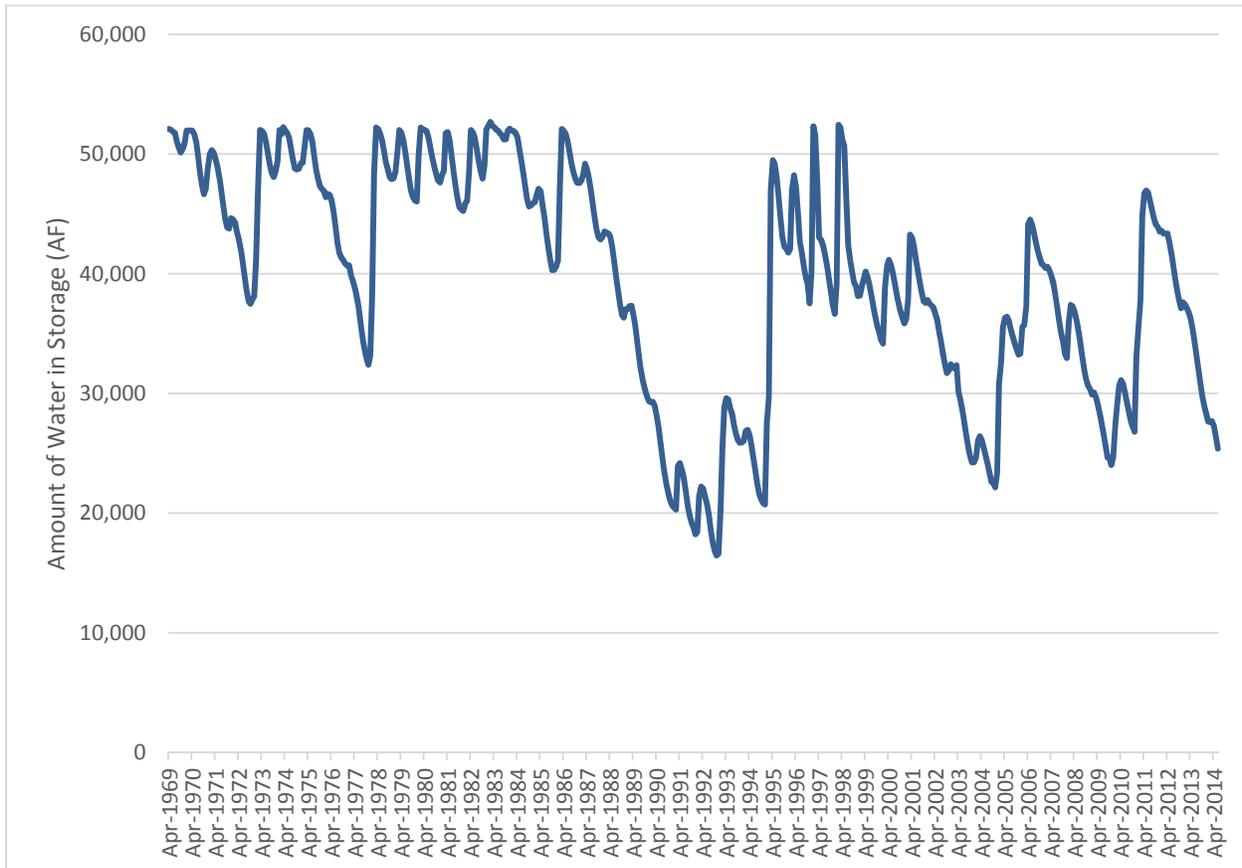


Figure 1. Lopez Reservoir Storage

3 LRRP ELEMENTS

3.1 ENACTING THE LRRP AND INITIAL PRESCRIBED ACTIONS

The LRRP is automatically enacted if the total volume of water in the Lopez Reservoir falls below 20,000 AF and the BOS has declared an emergency related to Zone 3. The initial prescribed actions, once the LRRP is enacted, are as follows:

- Reductions in entitlement water deliveries as set forth in Table 1; and
- Reductions in downstream releases as set forth in Table 2, with actual releases timed to best meet the needs of agricultural stakeholders and to address environmental requirements; and
- No new allocations of Surplus Water from unreleased downstream releases; and

- Extension of time that agencies can take delivery of existing unused water; throughout the duration that the Drought Emergency is in effect, subject to evaporation losses if the water is not used in the year originally allocated.

3.2 ADAPTIVE MANAGEMENT

To provide the District, the Zone 3 agencies and agricultural stakeholders with sufficient flexibility to adapt to changing drought conditions and to address the environmental requirements, the LRRP includes an adaptive management component that allows the initial prescribed actions to be modified and adapted to the specific drought conditions. The steps for modifying the initial prescribed actions are outlined below and are show in Appendix A.

1. The TAC will review several factors including the time of year that the LRRP is enacted, when the reservoir level drops to lower triggers, and Hydrologic Conditions including but not limited to: predicted climatic conditions; anticipated reservoir inflow; and the availability of the Zone 3 agencies' other water supplies.
2. If determined to be necessary, the TAC will make a recommendation to the AC on a strategy for modifying the initial prescribed actions, hereafter referred to as an Adaptive Management Strategy.
3. Upon review of the TAC's recommendation, the AC will vote to approve, deny, modify or continue consideration of the Adaptive Management Strategy for a period not to exceed 30 days, at which time the AC will act to approve, deny or modify. If approved by the AC, the Adaptive Management Strategy will be implemented 14 days following its approval. If the Adaptive Management Strategy is approved, denied, or modified by the AC, AC members, Zone 3 member agencies, and other 3rd parties in interest may appeal to the BOS, within 14 days. If no appeal is made to the BOS, the AC action will be final.
4. If appealed to the BOS, the BOS action shall be final.

3.3 REDUCTION & RECOVERY TRIGGERS

To provide the District, Zone 3 agencies and the agricultural stakeholders with an initial framework for water supply planning, Reduction & Recovery Triggers, tied to the amount of water within the reservoir, were developed for the LRRP. Under the initial prescribed actions the Reduction & Recovery Triggers were set for the following storage levels: 20,000; 15,000; 10,000; 5,000; and 4,000 AF. As the amount of water in the reservoir drops below or rises above these triggers, the TAC will review the hydrologic condition and if necessary, utilize adaptive management to modify municipal diversions and downstream releases to meet the objectives of the LRRP.

Example scenarios provided in Appendix B show how the reservoir would respond to the implementation of the initial prescribed actions and an alternate reduction strategy under various historical hydrological patterns.

3.4 MUNICIPAL DIVERSION REDUCTIONS

Upon enactment of the LRRP, the initial prescribed actions dictate that municipal diversions are to be reduced according to the reduction strategy described in Table 1, which includes Reduction Triggers, reduction percentages and resulting municipal diversions. This municipal diversion reduction strategy may be modified through adaptive management, following the protocol outlined in Section 3.2.

Table 1. Initial Prescribed Municipal Diversion Reduction Strategy

Amount of Water In Storage (AF)	Municipal Diversion Reduction	Municipal Diversion (AFY) ¹
20,000	0%	4,530
15,000	10%	4,077
10,000	20%	3,624
5,000	35% ²	2,941
4,000	100%	0

3.5 DOWNSTREAM RELEASE REDUCTIONS

Upon enactment of the LRRP, the initial prescribed actions dictate that downstream releases are to be reduced according to the reduction strategy described in Table 2, which includes Reduction Triggers, reduction percentages and resulting downstream releases. The Initial Prescribed Downstream Release Reduction Strategy was developed through a collaborative process that included input from the District and agriculture and municipal stakeholders. The resulting downstream releases represent the maximum amount of water that can be released. The District will control the timing of the reduced releases to meet the needs of the agricultural stakeholders and to address environmental requirements. This downstream release reduction strategy may be modified through adaptive management, following the protocol outlined in Section 3.2.

¹ The actual amount of water diverted may vary as agencies extend the delivery of their Lopez Entitlement, as described in Section 3.6.

² The 35% reduction provides sufficient water to supply 55 gallons per capita per day (GPCD) for the estimated population of the Zone 3 agencies (47,696 in 2010 per the 2010 Zone 3 UWMP). 55 GPCD is the target residential indoor water usage standard used in California Department of Water Resource’s 2010 UWMP Method 4 Guidelines.

Table 2. Initial Prescribed Downstream Release Reduction Strategy

Amount of Water In Storage (AF)	Downstream Release Reduction	Downstream Releases (AFY) ³
20,000	9.5%	3,800
15,000	9.5%	3,800
10,000	75.6%	1,026
5,000	92.9%	300
4,000	100.0%	0

3.5.1 HCP Reduction Strategy

An alternate downstream reduction strategy that could be implemented through adaptive management includes the Habitat Conservation Plan (HCP) Reduction Strategy. Under the HCP Reduction Strategy, downstream releases would be reduced according criteria outlined in the proposed HCP Water Release Program for consecutive low inflow years. Under this strategy, downstream releases would be either 3 cfs or equal to the average inflow over the previous 14-day period, whichever is less.

3.6 EXTENDED DELIVERY PROVISIONS

Once the LRRP is enacted, and in order to promote conservation and a reduction in the demand on Zone 3 water, Zone 3 member agencies will be provided the ability to extend the time that they may have water delivered, while the BOS drought emergency is in effect. The following is how water allocations to Zone 3 member agencies will be determined at the beginning of each water year while the LRRP is in effect. It is important to note that during a water year, increases and decreases in allocations are possible as a result of adaptive management strategies.

1. At the end of each Water Year (WY) (March 31st), the amount of unused Lopez water from the previous WY will be calculated and documented for each member agency for later use.
2. On April 1st, the quantity of Entitlement Water for the new WY will be documented for each agency in accordance with the LRRP determinations. Unused water from the prior WY is subject to evaporation losses, which are further described in Section 3.6.1.

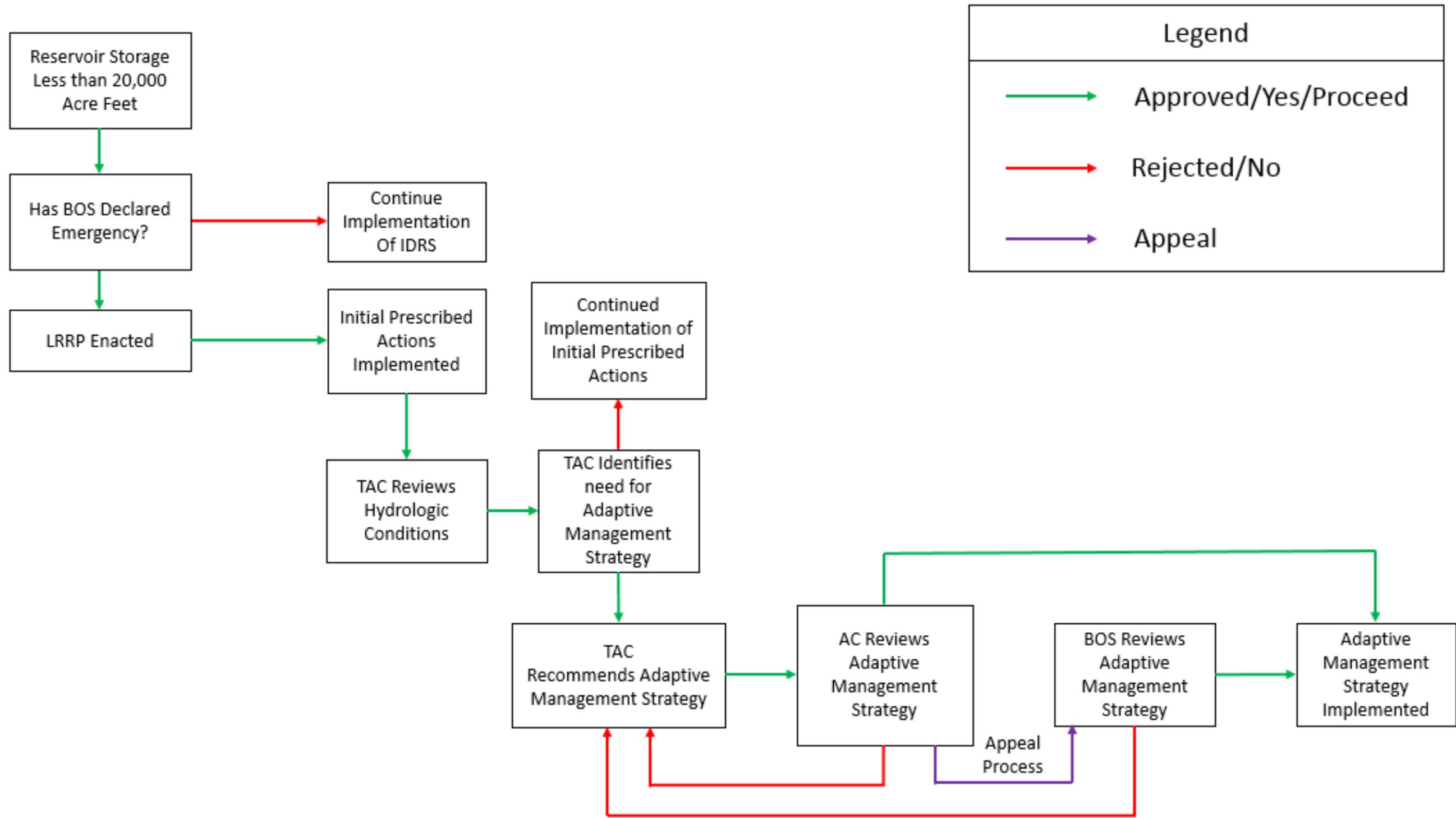
³ These downstream releases represent the maximum amount of water that can be released. Actual releases may be less if releases can be reduced while still meeting the needs of the agricultural stakeholders and addressing the environmental requirements.

3.6.1 Evaporation Losses

While unused water from the prior WY is retained within the Lopez Reservoir, it is subject to evaporation losses. Evaporation losses are to be calculated quarterly and applied to the total amount of unused prior WY water retained by each agency at the end of the quarter. Evaporation losses will be calculated by comparing the surface area of the reservoir with the unused water against what the surface area would be if there were no unused water retained in the reservoir. Evaporation estimates from the District's weather station would then be applied to the difference in surface area to calculate the increased evaporation losses due to the storage of the unused water. The unused water evaporation losses will be subtracted from each agency's unused water at a rate proportional to the amount of unused water retained by each individual agency.

APPENDIX A. LRRP ENACTMENT & ADAPTIVE MANAGEMENT FLOW CHART

LRRP Enactment & Adaptive Management Flow Chart



APPENDIX B. REDUCTION STRATEGY EVALUATION

Scenario A-1-Water
Year 1989/90 Inflow &
Rainfall

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	3,440	465	2,240	0%	4,530	3,800	-6,666	13,334
2	3,440	465	1,691	10%	4,077	3,800	-5,664	7,671
3	3,440	465	1,260	20%	3,624	1,026	-2,006	5,665
4	3,440	465	1,077	20%	3,624	1,026	-1,823	3,842

¹ Value assumed to be same as Water Year 1989/90 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

Scenario A-2-Water
Year 1989/90 Inflow &
Rainfall

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	3,440	465	2,240	0%	4,530	2,060	-4,926	15,074
2	3,440	465	1,808	0%	4,530	2,060	-4,493	10,582
3	3,440	465	1,494	10%	4,077	2,060	-3,726	6,856
4	3,440	465	1,188	20%	3,624	2,060	-2,968	3,888

¹ Value assumed to be same as Water Year 1989/90 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

Scenario B-1- Water Year 2013/14

Inflow & Rainfall

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	1,519	337	2,240	0%	4,530	3,800	-8,714	11,286
2	1,519	337	1,546	10%	4,077	3,800	-7,567	3,719
3	1,519	337	870	100%	0	0	986	4,705
4	1,519	337	980	35%	2,941	300	-2,364	2,340

¹ Value assumed to be same as Water Year 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

Scenario B-2- Water Year 2013/14

Inflow & Rainfall

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	1,519	337	2,240	0%	4,530	1,253	-6,167	13,833
2	1,519	337	1,725	10%	4,077	1,253	-5,199	8,633
3	1,519	337	1,341	20%	3,624	1,253	-4,362	4,272
4	1,519	337	933	35%	2,941	1,253	-3,271	1,001

¹ Value assumed to be same as Water Year 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

**Scenario C-1- Average of Water Years
 2012/13-2013/14 Inflow & Rainfall**

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	2,176	806	2,240	0%	4,530	3,800	-7,588	12,412
2	2,176	806	1,627	10%	4,077	3,800	-6,522	5,890
3	2,176	806	1,099	20%	3,624	1,026	-2,767	3,123
4	2,176	806	798	100%	0	0	2,184	5,307

¹ Value assumed to be same as 2 year average from Water Year 2012/13 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

**Scenario C-2- Average of Water Years
 2012/13-2013/14 Inflow & Rainfall**

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	2,176	806	2,240	0%	4,530	1,435	-5,223	14,777
2	2,176	806	1,788	10%	4,077	1,435	-4,318	10,458
3	2,176	806	1,484	10%	4,077	1,435	-4,014	6,444
4	2,176	806	1,151	20%	3,624	1,435	-3,228	3,216

¹ Value assumed to be same as 2 year average from Water Year 2012/13 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

**Scenario D-1- Average of Water Years
 2011/12-2013/14 Inflow & Rainfall**

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	4,305	827	2,240	0%	4,530	3,800	-5,438	14,562
2	4,305	827	1,774	10%	4,077	3,800	-4,519	10,044
3	4,305	827	1,453	10%	4,077	3,800	-4,197	5,847
4	4,305	827	1,095	20%	3,624	1,026	-612	5,235

¹ Value assumed to be same as 3 year average from Water Year 2011/12 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

**Scenario D-2- Average of
 Water Years 2011/12-
 2013/14 Inflow & Rainfall**

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	4,305	827	2,240	0%	4,530	1,681	-3,318	16,682
2	4,305	827	1,878	0%	4,530	1,681	-2,956	13,726
3	4,305	827	1,718	10%	4,077	1,681	-2,343	11,383
4	4,305	827	1,553	10%	4,077	1,681	-2,178	9,205

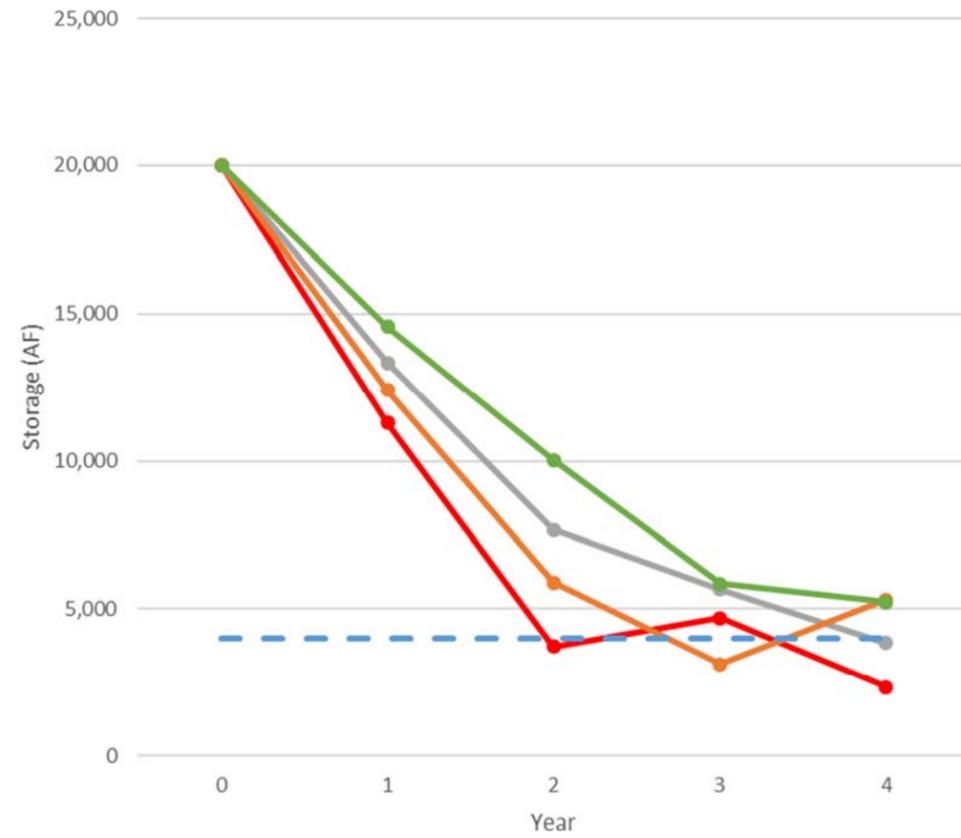
¹ Value assumed to be same as 3 year average from Water Year 2011/12 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

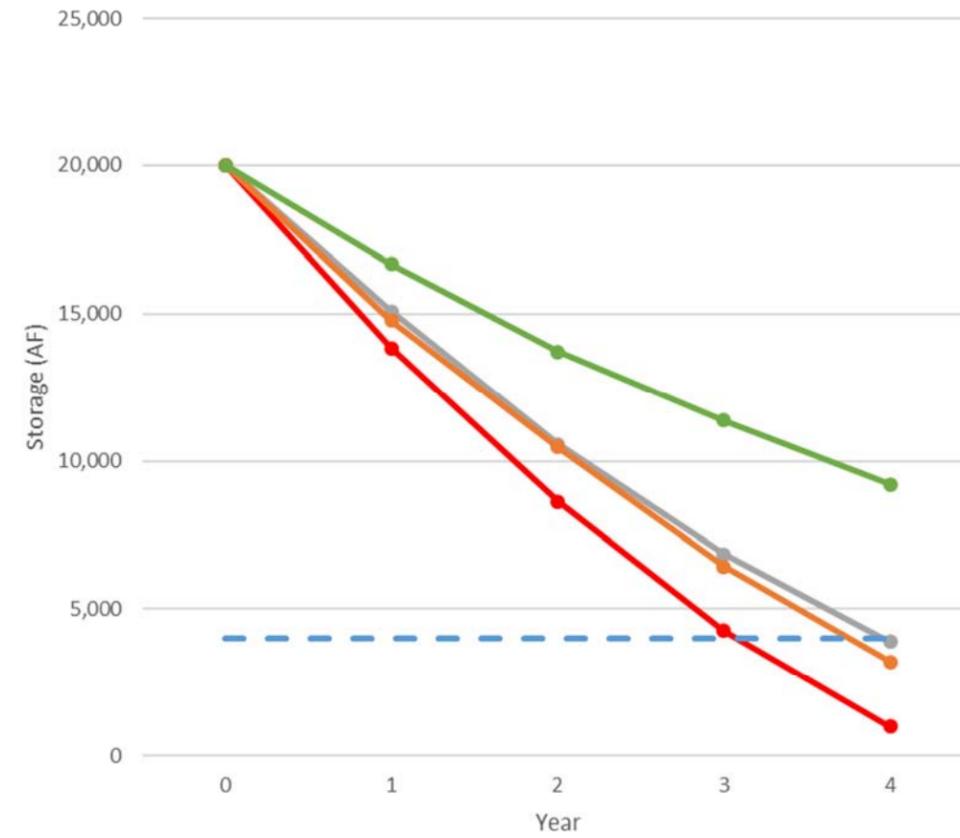
⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

Scenario 1- Initial Prescribed Reduction Strategy



- Scenario A-1- Water Year 1989/90 Inflow & Rainfall
- Scenario B-1- Water Year 2013/14 Inflow & Rainfall
- Scenario C-1- Average of Water Years 2012/13-2013/14 Inflow & Rainfall
- Scenario D-1- Average of Water Years 2011/12-2013/14 Inflow & Rainfall
- Minimum Pool

Scenario 2- Potential Adaptive Management Scenario - HCP Reduction Strategy



- Scenario A-2- Water Year 1989/90 Inflow & Rainfall
- Scenario B-2- Water Year 2013/14 Inflow & Rainfall
- Scenario C-2- Average of Water Years 2012/13-2013/14 Inflow & Rainfall
- Scenario D-2- Average of Water Years 2011/12-2013/14 Inflow & Rainfall
- Minimum Pool

APPENDIX D: ZONE 3 5 YEAR CIP SCHEDULE

Flood Control Zone 3 (Lopez Project)

5-Year Capital Outlay Plan

FY 2016-2017

PROJECT	IO/WBS	NOTES	TOTAL	PREVIOUSLY APPROVED			NEXT YEAR	FUTURE YEAR - ANTICIPATED BUDGETS						
				Total Project Expenses thru 6/30/15	Budget Carryovers	Budget Approved 2015/16	2016/17	2017/18	2018/19	2019/20	2020/21			
Lopez Turnouts SCADA System	300500	1	\$ 415,000	\$ 105,461	\$ 234,539	\$ 75,000	Complete							
WTP 6th Membrane Filtration Rack Addition	300503	2	\$ 958,000	\$ 666,054	\$ 291,946		Rollover							
Terminal Reservoir Intake Repair	552R235644	3	\$ 30,000		\$ 30,000		Complete							
WTP Perimeter Security Fencing - Phase I	300291		\$ 230,000	\$ 222,652	\$ 7,349		Rollover							
WTP Perimeter Security Fencing - Phase II		4	\$ 240,000									\$ 240,000		
Equipment Audit Project	552R235691	5	\$ 60,232	\$ 35,232		\$ 25,000	Rollover							
VFD Replacement Project	300539	6	\$ 45,000			\$ 45,000	Rollover							
Power Monitoring Project	300540	7	\$ 30,000			\$ 30,000	Rollover							
PLC Replacement & Programming	300541	8	\$ 25,000			\$ 25,000	Rollover							
WTP Resurface Parking Lot	300543	9	\$ 81,500			\$ 81,500	Rollover							
Lopez Dam - Repair V-Ditch adjacent to spillway	300542	10	\$ 50,000			\$ 25,000	\$ 25,000							
Ammonia Analyzer Replacements (qty 2)	300569		\$ 30,000				\$ 30,000							
Coagulant Feed Alarm System	Fixed Asset		\$ 25,000				\$ 25,000							
Pressure Transducers at Turnouts (qty 11)	552R235650		\$ 35,000				\$ 35,000							
Dam Intake Facility and Operations Assessment	552R235646		\$ 25,000				\$ 25,000							
Structural Assessment of Terminal Reservoir Dam	552R235647		\$ 50,000				\$ 50,000							
Lab Equipment: Water Purification System (Milli-Q Double DI)	Fixed Asset		\$ 14,000				\$ 14,000							
Water Treatment Barge	Fixed Asset		\$ 28,000				\$ 28,000							
Cathodic Protection Survey	552R235616		\$ 140,000				\$ 140,000							
Service Membrane Strainer (qty 3)	Fixed Asset		\$ 126,000				\$ 40,000	\$ 42,000	\$ 44,000					
Equipment Storage Garage Design	552R235648	11	\$ 15,000				\$ 15,000	TBD	TBD	TBD	TBD	TBD		
Improved Boat Access at Terminal Reservoir	300658	12	\$ 50,000				\$ 50,000	TBD	TBD	TBD	TBD	TBD		
Unanticipated Equipment Purchases		13	\$ 25,000				\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000		
Pigging Unit B (aka 33" Pigging Project: Clearwell to Wesley St)	552R235699	14	\$ 1,032,026	\$ 5,009	\$ 99,517	\$ 17,500	Rollover	\$ 485,000	\$ 425,000					
Sludge Bed Upgrades (Beds 1 & 2)		15	\$ 650,000							\$ 261,983	\$ 388,017			
WTP Washwater Tank - Interior Repair & Recoat		16	\$ 287,000									\$ 287,000		
Fiber Optic Connectivity Project			\$ 100,000									\$ 100,000		
Tow-Behind Air-Vacuum System (Vac truck)			\$ 97,000									\$ 97,000		
WTP PAC Enclosure		17	\$ 150,000									\$ 150,000		
Repair fault zone issue at left abutment per M. Boyce (Feb 2016), needs to be addressed in 17-18														
Orcutt Road Drainage Diversion		18	\$ 453,000							\$ 221,000	\$ 232,000			
SUBTOTAL								\$ 324,000	\$ 502,000	\$ 552,000	\$ 494,000	\$ 507,983	\$ 1,519,017	
Increase of reserves														
- Contributed by agencies for Equipment Replacement								\$ 140,000	\$ 50,000	\$ 48,000	TBD	TBD	TBD	TBD
Use of reserves														
- Adjustment for advance for 6th rack Addition								\$ 176,000	\$ -	\$ -	\$ -	\$ -	\$ -	
- Future Projects								\$ -	TBD	TBD	TBD	TBD	TBD	
BILLING TO AGENCIES								\$ 550,000	\$ 550,000	\$ 552,000	\$ 494,000	\$ 507,983	\$ 1,519,017	

NOTES:

- Inflation is 5% per year after original estimate unless noted otherwise
- Upgrade Lopez turnouts & WTP SCADA to include control and monitoring of turnouts.
- Install a sixth membrane filtration rack at the Lopez WTP to add plant capacity.
- Authorized by the Advisory Committee on 9/17/15
- Install and replace security fence around west side of terminal reservoir and water treatment plant property. Phasing dependent upon available funding.
- Completion of plant system audit to determine scope of replacement/upgrades and costs. The estimate is based upon prior years expenses and the FY1516 budget allocation of \$25,000.
- Based on plant audit; project replaces outdated VFDs with current models and technology. Estimate from preliminary costs by audit consultant.
- Transfer of IQ Analyzer at the LWTP to the SCADA system to evaluate the power quality and system health. Estimate from preliminary costs from consultant
- Replacement of PLCs in existing Pall Membrane Racks; estimate based on preliminary costs from Pall and discussions with plant staff
- Micro-Surface parking lots and all access roads around Lopez WTP. Prep. Work to be completed by County crews. Budget estimate 12/18/14. Project Savings (credits) of \$7,349 to be included in FY1415 final billings.
- "Investigate and repair the spillway drain system that appears to be causing seepage originating in the concrete V-ditch near Sta. 7+80 of the spillway" (PER DWR/DSOD letter, dated 1/1/14). Cost estimated
- Design and initial permitting planned for FY 2016/17. Total project cost to be determined during design phase, and construction to be scheduled in subsequent year.
- Design and initial environmental studies and permitting planned for FY 2016/17. Unspent funds will roll forward for construction.
- For unanticipated purchases of equipment that fail during the fiscal year. Including this line item in the budget allows for immediate purchase of critical equipment that unexpectedly fails during the fiscal year.
- Pig 33"/30" pipe per WSC's recommendations. Valve removal and pipe assessment in Year 1, valve replacement and pig launch installation in Year 2, pigging in Year 3, and complete in Year 4. Budget estimate, 1/9/12. (Includes 552R235686,87,88,99.)
- Upgrade sludge bed #1 & #2 with liner and new piping. Trott budget estimate (Jan 2011) based on Sludge Beds Upgrade (Beds 3 & 4). Project pending on observed efficiency of upgraded sludge beds #3 and #4.
- Recoat/repair of washwater tank interior. Operator request; 2006 budget estimate of \$160,000. 5% inflation added per year after FY 07-08
- Metal building enclosure. Dean Benedix budget estimate 1/08 for \$80,000.
- Install drainage improvements to capture and divert Orcutt Road runoff to prevent contamination of Lopez Terminal Reservoir. Project dependent upon available external/grant funding.
- Contributions toward the Agency Funded Reserves accumulate for the purpose of funding replacement of equipment and capital outlays at the treatment plant. Recommended use of these Reserves are determined by the plant system audit replacement schedule, for which annual
- funding is insufficient. Recommended use of these Reserves are coordinated with the Technical Advisory Committee and the Advisory Committee prior to inclusion in the budget.