2014 -2016

Resource Summary Report

San Luis Obispo County General Plan

Board of Supervisors

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I. INTRODUCTION

Scope and Purpose

This 2014-2016 biennial edition of the Resource Summary Report (RSR) covers the fiscal years July 1, 2014 through June 30, 2016. The report is based on information gathered from service providers, County agencies, reports from state and regional agencies, environmental impact reports for major projects, research compiled for the ongoing Land Use and Circulation Element Update program, and personal communications with agency staff. Additional resource information is provided by staff of community services districts (CSD), school districts, other special districts, and private water companies.

The primary purpose of the RSR is to provide a comprehensive biennial summary of the state of the County's natural and human-made resources. Recommended actions in the RSR may also address resource use by existing development and recommend improvements to resource infrastructure and efficiencies.

Organization of the Resource Summary Report

The RSR's assessment of resources is divided into the following topics:

- Water Supply (including surface water and groundwater resources)
- Water Systems
- Wastewater Collection and Treatment (including septic systems)
- Roads and US Hwy 101 Interchanges
- Schools
- Parks
- Air Quality

The chapters following this introductory chapter provide an overview of these resources, including a discussion of relevant environmental and regulatory issues and the current status of resources for each service provider. The criteria for assessing the levels of severity are explained, followed by recommended Levels of Severity and recommended actions. In addition, the analysis of resources is based on the following:

- The discussion of resources and Levels of Severity is organized by resource, rather than by areas of the county. Maps and illustrations are provided where necessary for geographic context.

- An analysis of resource constraints affecting the seven incorporated cities is not included. Although certain resources serving the cities also serve the County and its many unincorporated communities, decisions made by the cities are outside the jurisdiction of the County. If an incorporated City impacts a resource such as a groundwater basin, that impact is included in the analysis of that resource.

- Countywide resources associated with motor vehicle miles travelled, fuel and energy use, and greenhouse gas emissions are not included because data used to generate these analyses are no longer available from Caltrans. These issues will continue to be

addressed by the Conservation and Open Space Element of the County General Plan and by the County's EnergyWise Plan (climate action plan).

- In 2015, the Board (the Board) revised the criteria used for assessing the Levels of Severity. The revised criteria are discussed below under *Criteria for Determining Levels of Severity*.

The Resource Management System

The RSR is one of the key parts of the Resource Management System (RMS), which is described in the Framework for Planning, Part I of the Land Use Element of the County General Plan. The RMS provides information to guide decisions about balancing land development with the resources necessary to sustain such development. To accomplish this goal, the RMS focuses on:

- Collecting data;
- Identifying problems; and
- Helping decision-makers develop solutions.

When a resource deficiency becomes apparent, several courses of action are possible to protect the public health, safety and welfare:

- The resource capacity may be expanded;
- Conservation measures may be introduced to extend the availability of unused capacity;
- Resource efficiencies may be introduced;
- Development may be restricted or redirected to areas with remaining resource capacity.

In this way, the RMS addresses development in terms of appropriate distribution, location, and timing rather than growth versus no-growth.

Resource and Infrastructure Needs

San Luis Obispo County faces serious resource and costly infrastructure challenges. These challenges include protecting groundwater levels, securing new water supplies, constructing water distribution facilities, and funding improvements to major circulation facilities such as freeway interchanges. As people continue to be drawn to the Central Coast to enjoy our beaches, rural character and quality of life, a focused effort will continue to be needed to address these resource and infrastructure constraints.

Some of our communities and rural areas have both long and short-term resource and infrastructure needs. In the case of water supply, additional supplies are potentially available to some areas, but are not being used to the fullest extent (water recycling, for example). Providing for resource and infrastructure needs will require both well-considered policy choices and funding of important infrastructure.

How Was Information Gathered for this Report?

The information and data gathered for this report are requested and received from the relevant service providers and agencies and are also derived from various planning documents. Information in this report has been provided on a completely voluntary basis by service providers; as such, the report reflects the most accurate information provided to date.

Population

Population forecasts in the RSR are derived from projections prepared by the San Luis Obispo County Department of Planning and Building (Planning and Building) in July 2016.

Building Permit Data

Information regarding the number, type and distribution of building permits for residential development issued for the past two years are provided by Planning and Building.

Water System, Supply, Usage & Rates

Each July, the County Public Works Department (Public Works) asks water suppliers and water system operators throughout the County to report on water demand and supply for their jurisdiction[1]. Staff contacts service providers who have not submitted the requested information within the requested timeframes.

As the RSR reporting system is voluntary, service providers are not obligated to respond to requests for information; however, many do. As a result, data gaps in the RSR may occur each year if requested information is not provided. The cooperation and participation of the service providers who do respond each year is greatly appreciated.[2] In addition, water usage in areas outside the service area of one or more water purveyors is uncertain and must be estimated. Water usage for rural and agricultural areas was estimated based on methodologies used in the 2012 Master Water Report and 2014 Integrated Water Management Plan.

Wastewater Collection and Treatment (Including Septic Systems)

Information pertaining to wastewater system operations is obtained from the Regional Water Quality Control Board.

Roads and U.S. 101 Interchanges

Public Works provides updated information on roads and U.S. Highway 101 interchanges. In 2009, the Board directed staff to include the condition of interchanges in the unincorporated communities along the U.S. Highway 101 corridor in the RSR. The results of these analyses may be found in the applicable section of this report. Additional interchanges may be evaluated in subsequent years.

[1] Over the years there has been a high level of participation by water providers within the cities and the unincorporated county.

[2] Information on current water use, historical water use and water rates are taken from the Water System Reports submitted to Public Works on a fiscal year basis.

Schools

Planning and Building staff requests each school district to provide enrollment and capacity information for the past two school years.

Parks

Planning and Building staff coordinates with San Luis Obispo County Parks staff in preparing this report. Park acreage and needs are derived from the Parks and Recreation Element of the County General Plan, with updates on current developments provided by Parks staff.

Air Quality

The assessment of air quality is provided by the staff of the San Luis Obispo Air Pollution Control District.

County Population and Building Permit Data

Population and building permit data provide an important context for the consideration of resources and resource constraints. The demand for resources is proportional to the current and future populations to be served, and any estimate of future demand must account for the demand associated with new residential development that has received final building permit approval but has yet to be constructed.

County Population

Table I-1 provides an estimate of the County's current (2016) and projected future population estimated by the San Luis Obispo Council of Governments (SLOCOG) and Planning and Building for regional planning purposes. Future population is provided in five-year increments beginning in 2015 and continuing into the future to the year 2040. The seven incorporated cities in San Luis Obispo County (Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach and San Luis Obispo) account for approximately 55% of the county's total population (2010 Census). The population of the unincorporated County is concentrated in the urban areas of Avila Beach, Cambria, Cayucos, Los Osos, Nipomo, Oceano, Santa Margarita, San Miguel, Shandon, San Simeon and Templeton and in smaller residential areas that include Heritage Ranch, Garden Farms and Edna Valley.

Table I-1 -- Estimate of Present (2016) and Future County Population

	2010 US Census	2015	2016	2020	2025	2030	2035	2040
Cities	148,307	150,924	151,830	155,455	159,548	164,680	169,859	175,179
Unincorporated Areas	104,324	105,734	107,203	108,061	112,565	118,212	123,914	129,768
Population In Group Quarters[1]	17,006	17,006	17,006	17,006	17,006	17,006	17,006	17,006
Total County	**269,637**	**273,664**	**275,035**	**280,522**	**289,119**	**299,898**	**310,779**	**321,953**

Source: Planning and Building, 2016

1. Group quarters include nursing homes, school dormitories, military barracks, prisons, jails, and hospitals.

Building Permits for Residential Development

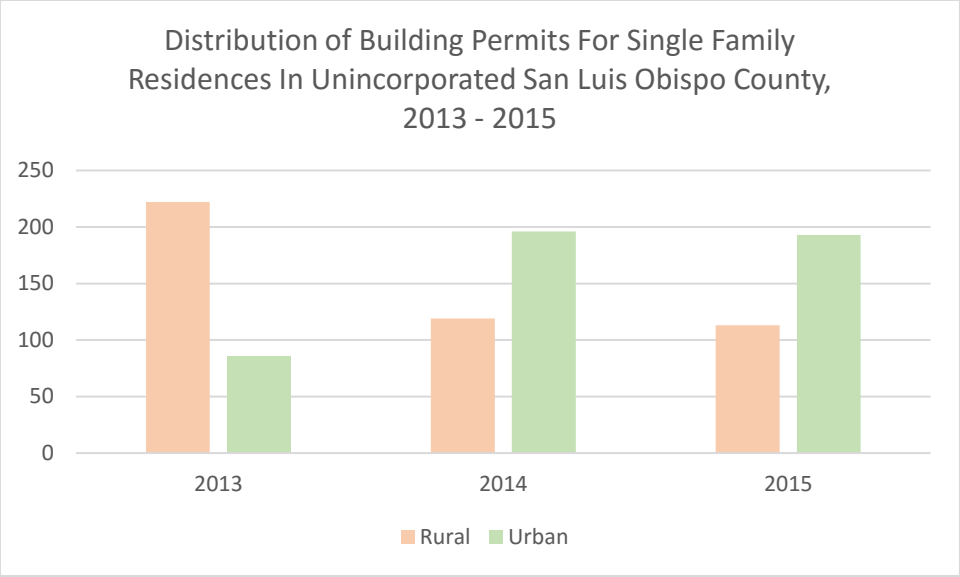
Table I-2 shows the number of building permits 'finaled" for new (or replaced) single family residences in the unincorporated County between 2000 and 2015, divided between those issued in urban versus rural areas. As shown in Table I-2 and Figure I-1, urban areas of the unincorporated County have received the largest proportion of new residences, an average of 61% urban per year versus 38% rural over the past 16 years. The year 2013 appears to be an anomaly with only 28% of new residences constructed in the urban areas.

Table I-2 -- Building Permits "Finaled" For Single Family Residences In the Unincorporated County, 2000 - 2015

Year	Rural	Urban	Total	% of Urban Dwelling Units
2000	277	493	770	64%
2001	230	651	881	74%
2002	366	521	887	59%
2003	327	541	868	62%
2004	437	683	1120	61%
2005	372	661	1033	64%
2006	385	521	906	58%
2007	283	512	795	64%
2008	304	422	726	58%
2009	54	72	126	57%
2010	93	144	237	61%
2011	89	99	188	53%
2012	69	113	182	62%
2013	222	86	308	28%
2014	119	196	315	61%
2015	113	193	306	59%
TOTAL	**3,740**	**5,908**	**9,648**	**61%**

Source: Planning and Building , 2016

Figure I-1 – Distribution of Building Permits for Single Family Residences



Source: San Luis Obispo County Department of Planning and Building, 2016

A key policy of the County General Plan is to direct development to existing and strategically planned communities. In addition, a key element of the SLOCOG's 2014 Regional Transportation Plan – Sustainable Communities Strategy (RTP-SCS) is to encourage development in existing urbanized areas with access to existing businesses and services.

Levels of Severity

The RMS uses three alert levels called *levels of severity* (LOS) to identify differing levels of resource deficiencies.

- **Level I** is the first alert level and occurs when sufficient lead time exists either to expand the capacity of the resource or to decrease the rate at which the resource is being depleted.

- **Level II** identifies the crucial point at which some moderation of the rate of resource use must occur to prevent exceeding the resource capacity.

- **Level III** occurs when the demand for the resource currently equals or exceeds its supply and is the most critical level of concern. Accordingly, the County should take a series of actions to address resource deficiencies before Level III is reached. In the case of water supply, for example, LOS III occurs when either the demand projected over 15 years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply, or the time required to correct the problem is longer than the time available before the dependable supply is reached.

The RMS identifies a variety of steps that can be taken by the Board when it is determined that a resource has reached a particular LOS. Potential solutions to declining resource availability, or "action requirements," are not automatically invoked in response to recommended LOS. If the Board determines that a particular resource situation is not being dealt with adequately, or that a failure to act could result in serious consequences, it sets in motion the certification process. Certification involves the completion of a *Resource Capacity Study* (RCS) which investigates the resource issue in more detail than the preliminary analysis which resulted in the "recommended" LOS. The RCS is the subject of public hearings by the County Planning Commission and the Board. If the Board certifies a LOS, the appropriate “action requirements” are implemented.

It is important to distinguish between "recommended" LOS and LOS that have been certified by the Board. All LOS are initially the recommendations of staff based on information provided by the various service providers or recommendations from the Water Resource Advisory Committee (WRAC)[3]. These recommended LOS should be taken as general indicators of declining resource availability.

Criteria for Determining Levels of Severity

The RMS defines LOS for the following resources:

- Water Supply (including groundwater and surface water)
- Water Systems
- Wastewater Collection and Treatment (including septic systems)
- Roads and Highway Interchanges
- Schools
- Parks
- Air Quality

[3] The WRAC is composed of representatives of the various water resources stakeholders in the County and charged with the responsibility of advising the Board on water-related policy. The WRAC includes appointees from of each of the five supervisorial districts, as well as representatives of each of the seven cities, community services districts, resource conservation districts, agricultural, environmental and development interests, water agencies and institutions.

On December 16, 2014, the Board revised the LOS criteria, including the time frames, for certain resources. In most cases, the revisions reflected changes to the time frames that trigger an LOS to better reflect the County's experience with project development, funding and construction. Other changes were added to clarify the relationship between a LOS and the time needed to implement corrective actions. Lastly, new LOS criteria were added for septic systems, parks and highway interchanges. The LOS criteria for each resource are summarized below.

WATER SUPPLY

Level of Severity	Water Supply Criteria
I	Water demand projected over 20 years equals or exceeds the estimated dependable supply. LOS I provides five years for preparation of resource capacity studies and evaluation of alternative courses of action.
II	Water demand projected over 15-20 years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply.
III	Water demand projected over 15 years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply OR The time required to correct the problem is longer than the time available before the dependable supply is reached.

These criteria do not consider the cyclical effects of drought or above-average rainfall years.

WATER SYSTEMS

Level of Severity	Water System Criteria
I	The water system is projected to be operating at the design capacity within seven years. Two years would then be available for preparation of a resource capacity study and evaluation of alternative courses of action.
II	A five-year or less lead time (or other lead time determined by a resource capacity study) needed to design, fund and construct system improvements necessary to avoid a LOS III problem.
III	Water demand equals available capacity: a water distribution system is functioning at design capacity or will be functioning at capacity before improvements can be made. The capacity of a water system is the design capacity of its component parts: storage, pipelines, pumping stations and treatment plants.

WASTEWATER TREATMENT

Level of Severity	Wastewater Treatment Criteria
I	The service provider or RWQCB determines that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within 4 years. This mirrors the time frame used by the RWQCB to track necessary plant upgrades.
II	RWQCB determines that the monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within 2 years.
III	Peak daily flow equals or exceeds the capacity of a wastewater system for treatment and/or disposal facilities.

WASTEWATER COLLECTION SYSTEMS

Level of Severity	Wastewater Collection Criteria
I	2-year projected flows equal 75% of the system capacity. A 2-year period is Recommended for the preparation of resource capacity study.
II	System is operating at 75% capacity OR The five-year projected peak flow (or other flow/time period) equals system capacity OR The inventory of developable land in a community would, if developed, generate enough wastewater to exceed system capacity.
III	Peak flows fill any component of a collection system to 100% capacity.

1. A wastewater collection system includes facilities that collect and deliver wastewater to a treatment plant for treatment and disposal (sewer pipelines, lift stations, etc.)

SEPTIC SYSTEMS

Level of Severity	Septic Systems Criteria
I	Failures occur in 5% of systems in an area or other number sufficient for the County Health Department to identify a potential public health problem.
II	Failures reach 15% and monitoring indicates that conditions will reach or exceed acceptable levels for public health within the time frame needed to design, fund and build a project that will correct the problem, based upon projected growth rates.
III	Failures reach 25% of the area's septic systems and the County Health Department and RWQCB find that public health is endangered.

1. Includes septic tank systems or small aerobic systems with subsurface disposal. Typical disposal systems include leach fields, seepage pits, or evapotranspiration mounds.

ROADS

Level of Severity	Roads, Circulation Criteria
I	Traffic volume projections indicate that Level of Service "D"* would be reached within five years.
II	Traffic volume projections indicate that Level of Service "D"* would be reached within two years.
III	Traffic volume projections indicate that the road or facility is operating at Level of Service "D."*

*Level of Service "D" is the criteria threshold for urban roads. For rural roads, the criteria threshold is Level of Service "C."

HIGHWAY INTERCHANGES

Level of Severity	Highway Interchange Criteria
I	Traffic volume projections indicate that Level of Service "D" would be reached within 10 years**.**
II	Traffic volume projections indicate that Level of Service "D" would be reached within five years.
III	Traffic volume projections indicate that the interchange is operating at Level of Service "D."

SCHOOLS

Level of Severity	Schools Criteria
I	When enrollment projections reach school capacity within seven years.
II	When enrollment projections reach school capacity within five years.
III	When enrollment equals or exceeds school capacity.

PARKS

Level of Severity	Parks Criteria
I	**Regional Parks**. The county provides between 10 and 15 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has between 2.0 and 3.0 acres of community parkland per 1,000 persons.
II	**Regional Parks**. The county provides between 5 and 10 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has between 1.0 to 2.0 acres of community parkland per 1,000 persons.
III	**Regional Parks**. The county provides less than 5 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has 1.0 acre or less of community parkland per 1,000 persons.

AIR QUALITY

Level of Severity	Air Quality Criteria
I	Air monitoring shows periodic but infrequent violations of a state air quality standard, with no area of the county designated by the state as a non-attainment area.
II	Air monitoring shows one or more violations per year of a state air quality standard and the county, or a portion of it, has been designated by the state as a non-attainment area.
III	Air monitoring at any county monitoring station shows a violation of a federal air quality standard on one or more days per year, and the county or a portion of the county qualifies for designation as a federal non-attainment area.

Summary of Recommended Levels of Severity (LOS) and Recommended Actions for 2014-2016

The LOS recommended for each resource are summarized below along with the recommended actions. There are no LOS established for cities. Table I-3 provides a summary of the recommended changes to the LOS in the 2014-2016 RSR compared to the 2012-2014 RSR.

Table I-3 – Recommended LOS Changes Compared With the 2012-2014 Resource Summary Report

Resource	2012-2014 Level of Severity	2014-2016 Recommended Level of Severity	Discussion
Roads			
Avila Beach Drive	I	None	Reflects a change in the methodology for determining the roadway level of service.
Halcyon Road	II	III	Increased traffic.
Price Canyon Road	I	III	Increased traffic.
Las Tablas Road	II	None	Based on the level of service standard for urban roadways.
Interchanges			
Los Berros Road/ Thompson Blvd.	III	I	Traffic decreased due to traffic now using the Willow Road interchange.
Willow Road	Not Included In RSR	I	The Willow Road interchange was new in 2014 and was added for the 2014-2016 RSR.
SR 166	III	I	Based on the latest update of South County Circulation Study.
Avila Beach Drive	Not Included in RSR	III	The Avila Beach Drive interchange was added for the 2014-2016 RSR.
San Luis Bay Drive	Not Included in RSR	III	The San Luis Bay Drive interchange was added for the 2014-2016 RSR.
Schools			
San Luis Coastal – Elementary Schools	None	II	Increased enrollment.

Water Supply and Systems

Table I-4 -- Recommended Levels of Severity – Water Supply		
Groundwater Basins and Affected Water Purveyors	**Recommended LOS**	**Recommended Actions**
Pico Creek Valley Groundwater Basin *Water Purveyors* San Simeon CSD	**III**	Continue to support San Simeon CSD efforts to improve water conservation, the efficient use of water, and water re-use. Continue to collect development impact fees for the construction of water supply infrastructure. Support San Simeon CSD efforts to develop sustainable supplemental sources of water.
San Simeon Valley Groundwater Basin Santa Rosa Valley Groundwater Basin *Water Purveyors* Cambria CSD	**III** **III**	LOS III to remain in place. Collaborate with the Cambria Community Services District for the issuance of a limited number of intent-to-serve letters and building permits based on the continued use of a demand offset conservation program that offsets new demand from new water connections. Revise the County Growth Management Ordinance in collaboration with the Cambria Community Services District to accommodate the issuance of an allowable number of building permits for new development. Collaborate with the Cambria Community Services District to prepare and obtain a Coastal Development Permit for its recently completed Sustainable Water Facility (SWF) along the lower San Simeon Creek aquifer.
Cayucos Valley Groundwater Basin Old Valley Groundwater Basin *Water Purveyors* CSA 10A Morro Rock Mutual Water Co.	None None	Continue to support efforts to improve water conservation, the efficient use of water, and water re-use. Continue to collect development

Table I-4 -- Recommended Levels of Severity – Water Supply		
Groundwater Basins and Affected Water Purveyors	**Recommended LOS**	**Recommended Actions**
Paso Robles Beach Water Assoc.		impact fees for the construction of water supply infrastructure. Support efforts to develop a reliable water supply reserve as an alternative to groundwater. Recycled water should be considered as an alternative supply.
Los Osos Valley Groundwater Basin *Water Purveyors* Los Osos CSD S&T Mutual Water Co. Golden State Water Co.	**III**	LOS III to remain in place. Continue to support efforts to implement the Basin Management Plan. Implement the water management strategies of the Los Osos Community Plan following adoption.
San Luis Obispo Valley Groundwater Basin – San Luis and Edna Valley Sub-basins *Water Purveyors* Golden State Water Co. San Luis Obispo Valley Groundwater Basin – Avila Valley Sub-basin *Water Purveyors* Avila Beach CSD Avila Valley Mutual Water Co. San Miguelito Mutual Water Co. CSA 12	None None	Support efforts to determine the safe yield of the Avila Valley Sub-basin.
Santa Maria Groundwater Basin – Northern Cities Management Area *Water Purveyors* Oceano CSD Santa Maria Groundwater Basin – Nipomo Mesa Management Area *Water Purveyors*	None **III**	Consider ending the Title 8 retrofit-upon-sale ordinance in the Nipomo Mesa Water Conservation Area. The program has run for four years and approximately 5% of homes sold have needed retrofitting. Support implementation of the recommendations of the NCSD March 15, 2013 Supplemental Water Alternatives Evaluation Committee -- Alternative Evaluation Final Report. Coordinate any needed County actions such as an AB 1600 study to quantify the costs and benefits of the identified supplemental water project for groundwater users outside the Nipomo CSD. Collaborate with the Nipomo CSD, South

Table I-4 -- Recommended Levels of Severity – Water Supply		
Groundwater Basins and Affected Water Purveyors	**Recommended LOS**	**Recommended Actions**
Nipomo CSD Woodlands Mutual Water Co. Golden State Water Co. Rural Water Co.		County Sanitation District and other stakeholders to assist in their efforts to improve water supply reliability, including the use of recycled water. Continue to help fund area wide water conservation through the fee on new construction. Collaborate with NCMA and NMMA to develop a groundwater model for the NCMA/NMMA portions of the Basin as recommended by Board Resolution No. 2014-220.
Santa Margarita Groundwater Basin *Water Purveyors* CSA 23	None	Prepare a Resource Capacity Study to determine the safe yield of the Santa Margarita Groundwater Basin. Support efforts to develop additional sustainable water supplies for CSA 23.
Paso Robles Groundwater Basin *Water Purveyors* San Miguel CSD CSA 16 – Shandon	**III**	LOS III for the Basin outside the Atascadero Sub-basin. Continue to support efforts to complete and implement a Basin Management Plan.
Paso Robles Groundwater Basin – Atascadero Sub-basin *Water Purveyors* Templeton CSD Atascadero Mutual Water Co.	None	Continue to support efforts of the water purveyors, County, District, and local land owners to actively and cooperatively develop a Sustainable Groundwater Management Plan for the Atascadero Sub-basin.
Lake Nacimiento Area *Water Purveyors* Heritage Ranch CSD Nacimiento Water Co.	None	Continue to support efforts to improve water conservation, the efficient use of water, and water re-use. Continue to collect development impact fees for the construction of water supply infrastructure. Support efforts to develop sustainable supplemental sources of water.

Water Systems

No Levels of Severity are recommended.

Wastewater

Table I-5 -- Recommended Levels of Severity – Wastewater Treatment and Septic Systems		
Wastewater Treatment	**Recommended Levels of Severity**	**Recommended Actions**
No Levels of Severity are recommended		
Septic Systems	**Recommended Levels of Severity**	**Recommended Actions**
Santa Margarita	**I**	Monitor septic system failures in the community of Santa Margarita. The carry over of solids from the septic tank to the leach field is the most common cause of absorption system clogging and failure. Encourage property owners to properly maintain their septic systems. Maintain Level of Severity III for Los Osos on-site septic systems in the prohibition zone until all on-site septic systems have been decommissioned. Recommend Level of Severity III for the "prohibition zone" in the Nipomo Area. Consult with County Environmental Health and RWQCB on actions and monitor water quality for communities in which septic systems continue to be used. Evaluate alternatives to septic systems such as a public sewer system, a community septic system maintenance program, or a collection and disposal system to existing onsite treatment tanks in communities in where septic systems continue to be used. Identify funding for communities that have a community wastewater treatment facility identified in an approved Public Facility Financing Plan.
Shandon	None	
Los Osos	III	
Nipomo	III for the "prohibition zone".	

Roads

Table I-6 -- Recommended Levels of Severity – Roads and Interchanges		
Roadway Segment	**Recommended Levels of Severity**	**Recommended Actions**
Los Osos Valley Road west of Foothill Boulevard	**II**	Public Works to monitor Levels of Service on RMS roadways; Continue to use area circulation studies to identify roadway improvements necessary to achieve and maintain Level of Service "C" or better on RMS roadways; Use the area circulation studies to inform the assessment of levels of severity and to recommend action requirements; Continue to establish and collect road impact fees (AB 1600 fees); and Pursue other funding options including (but not limited to) State and federal grants.
Halcyon Road south of Arroyo Grande Creek Price Canyon Road south of Highway 227 South Bay Boulevard south of State Park Road Tank Farm Road west of Santa Fe Road Price Canyon Rod. South of Highway 227	**III**	
Interchanges	**Recommended Levels of Severity**	**Recommended Actions**
Los Berros Road/Thompson Road NB ramps, South County Willow Road NB ramps US HWY 166 SB ramps, South County	**I**	Public Works in conjunction with SLOCOG and Caltrans to monitor Levels of Service on RMS interchanges; Continue to use area circulation studies to identify interchange improvements necessary to achieve and maintain Level of Service "C" or better on RMS interchanges; Pursue other funding options including (but not limited to) State and federal grants.
State HWY 46 West, SB ramps, Templeton area North Main Street SB and NB ramps, Templeton San Luis Bay Drive NB ramps Avila Beach Drive SB ramps Tefft Street SB ramps, Nipomo	**III**	

Schools

Table I-7 -- Recommended Levels of Severity -- Schools			
District	**School Level**	**Recommended Levels of Severity**	**Recommended Actions**
Atascadero Unified School District	Elem.	None	Continue to cooperate with the school districts to investigate ways of using existing regulations to enhance revenues available for school construction, including the formation of community facilities districts. Consult from time-to-time with County Counsel to consider whether new legislation and court rulings regarding school mitigation present the county with additional policy options for helping to address the need for school facilities.
	Middle	None	
	High	None	
Belleview-Santa Fe Charter School	K-6	None	
Coast Unified School District	Elem.	None	
	Middle	None	
	High	None	
Cayucos Elementary School District	Elem.	**I**	
Grizzly Youth Academy Challenge Program	High	**II**	
Lucia Mar School District	Elem.	**II**	
	Middle	**II**	
	High	None	
Paso Robles Joint Unified School District	Elem.	None	
	Middle	None	
	High	None	
	Alt.	None	
Pleasant Valley Joint Union School District	Elem.	None	
San Luis Coastal Unified School District	Elem.	**II**	
	Middle	None	
	High	None	
San Miguel Joint Union School District	K - 8	None	
Shandon Joint Unified School District	Elem.	None	
	Middle	None	
	High	None	
Templeton Unified School District	Elem.	None	
	Middle	None	
	High	None	

Parks

Table I-8 -- Recommended Levels of Severity -- Parks		
Park Type and Location	**Recommended Levels of Severity**	**Recommended Actions**
Regional Parks (countywide)	None	Continue to pursue strategies for the acquisition and development of parks, including the dedication of parkland and the collection of development impact (Quimby) and public facility fees. Collaborate with County Parks to review the Parks and Recreation Project List in the Parks and Recreation Element and make recommendations to the Board regarding which park projects to implement. Collaborate with other potential parks operators such as CSDs and school districts to provide park and recreation opportunities. When preparing Resource Capacity Studies for parks, address the following issues: a. Provide an updated inventory of existing parkland in the affected unincorporated community. b. Document existing shortfalls in park acreage.
Community Parks		
Avila	**III**	
Cambria	**II**	
Cayucos	**III**	
Los Osos	**III**	
Oceano	**III**	
San Miguel	**III**	
Santa Margarita	**III**	
Templeton	**III**	

Air Quality

Table I-9 -- Recommended Levels of Severity -- Air Quality			
Criteria Pollutant	**Area of County**	**Recommended Levels of Severity**	**Recommended Actions**
Ozone	East County	**III**	Support APCD's efforts to address East County non-attainment.
	West County	**II**	
Particulate Matter – $PM_{2.5}$	Nipomo Mesa	**III**	Support implementation of APCD's Particulate Matter Reduction Plan.
	All Other Areas	**II**	
Particulate Matter – PM_{10}	Nipomo Mesa	**III**	Support implementation of APCD's Particulate Matter Reduction Plan.
	All Other Areas	**II**	
Sulfur Dioxide	Nipomo Mesa	**I**	Support APCD's Enforcement of the Federal Consent Decree.
Nitrogen Dioxide, Carbon Monoxide, Lead	All Areas	None	No actions needed.
Toxic Air Contaminants	All Areas	None. LOS for Toxics not evaluated because toxics are not criteria pollutants and strategies are in place to mitigate impacts.	No actions needed.

II. WATER SUPPLY AND WATER SYSTEMS

Level of Severity Criteria

WATER SUPPLY

Level of Severity	Water Supply Criteria
I	Water demand projected over 20 years equals or exceeds the estimated dependable supply. LOS I provides five years for preparation of resource capacity studies and evaluation of alternative courses of action.
II	Water demand projected over 15-20 years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply.
III	Water demand projected over 15 years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply OR The time required to correct the problem is longer than the time available before the dependable supply is reached.

WATER SYSTEMS

Level of Severity	Water System Criteria
I	The water system is projected to be operating at the design capacity within seven years. Two years would then be available for preparation of a resource capacity study and evaluation of alternative courses of action.
II	A five-year or less lead time (or other lead time determined by a resource capacity study) needed to design, fund and construct system improvements necessary to avoid a LOS III problem.
III	Water demand equals available capacity: a water distribution system is functioning at design capacity or will be functioning at capacity before improvements can be made. The capacity of a water system is the design capacity of its component parts: storage, pipelines, pumping stations and treatment plants.

Water Purveyors Serving the Unincorporated County

Water purveyors serving the unincorporated county are summarized on Table II-1 and shown on Figure II-1.

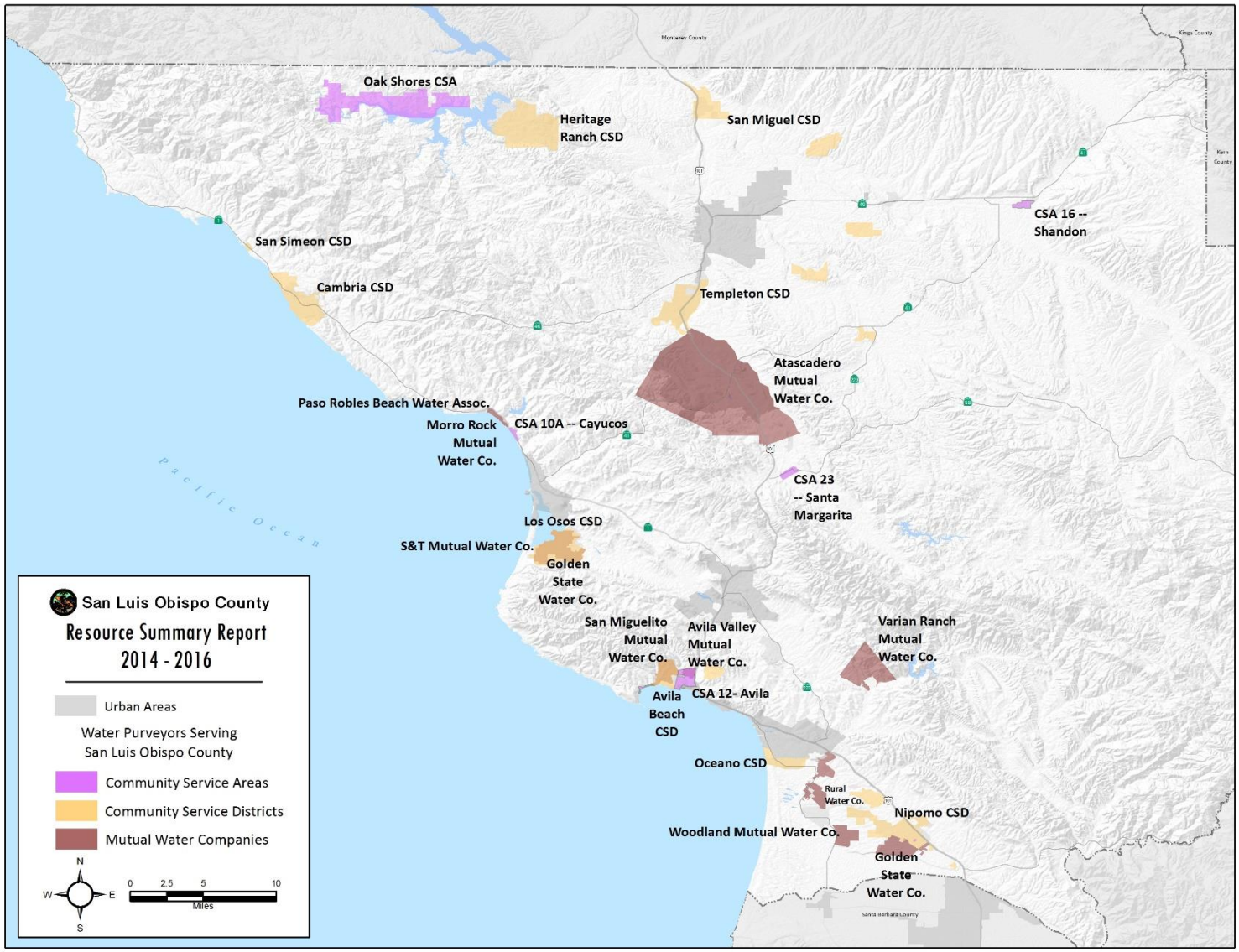
Table II-1 – Water Purveyors Serving the Unincorporated County

Community	Water Purveyors	Approx. Population Served (2016)	2014-15 Water Deliveries[1] (AFY)	2015-16 Water Deliveries[1] (AFY)
Atascadero	Atascadero Mutual Water Co.	31,500	4,926.4	4,001.2
Avila Beach Avila Valley	Avila Beach CSD Avila Valley Mutual Water Co. San Miguelito Mutual Water Co.	875 104 1,400	80.4 31.6 159.1	74.7 27.6 125.5
Cambria	Cambria CSD	6,200	445	476.8
Cayucos	CSA 10A Morro Rock Mutual Water Co. Paso Robles Beach Water Assoc.	1,350 2,125 2,577	96.5 94.6 123.0	91.0 91.5 121.5
Edna Valley	Golden State Water Co.	1,292	230.9	183.0
Garden Farms	Garden Farms CWD	240	45.7	36.4
Heritage Ranch	Heritage Ranch CSD	3,100	403.2	393.4
Los Osos	Los Osos CSD Golden State Water Co. S&T Mutual Water Co.	7,086 5,520 575	547.2 515.5 34.9	445.5 424.0 30.3
Nipomo	Nipomo CSD Woodlands Mutual Water Co. Golden State Water Co.	12,886 1,600 4,904	2,110.1 746.6 832.2	1,773.3 732.1 625.1
Oceano	Oceano CSD	7,543	740.1	630.1
Santa Margarita	CSA 23	1,400	120.2	100.3
San Miguel	San Miguel CSD	2,400	243.3	236.3
San Simeon	San Simeon CSD	462	74.8	76.9
Shandon	CSA 16	1,260	93.2	90.2
Templeton	Templeton CSD	6,885	1,223.9	997.8

Source: San Luis Obispo County Flood Control and Water Conservation District, 2016
Notes:

1. July 1 through June 30. Reflects water conservation and production associated with ongoing drought conditions.
2. The Rural Water Company was acquired by the Golden State Water Company in October, 2015. The Cypress Ridge area is also served by the Golden State Water Company.

Figure II-1 –Water Purveyors Discussed In This RSR



Water Resources

Information regarding water resources serving the unincorporated county was derived from the 2012 San Luis Obispo County Master Water Report and the 2014 Integrated Regional Water Management Plan which are available in their entirety at the following County[4] websites, respectively:

http://www.slocountywater.org/site/Frequent%20Downloads/Master%20Water%20Plan/

http://www.slocountywater.org/site/Frequent%20Downloads/Integrated%20Regional%20Water%20Management%20Plan/IRWM%20Plan%20Update%202014/

Where available, more recent information was used. It should be noted that water demand data for the period covered by this RSR reflects a fourth year of ongoing drought conditions in California[5] and may not be representative of long-term demand.

Groundwater Resources

Groundwater basins are summarized on Table II-2 and shown on Figure II-2. The groundwater basins and sub-basins listed in Table II-2 and shown on Figure II-2 are for water management purposes, only, and do not necessarily correspond precisely to the boundaries of groundwater basins identified by Bulletin 118 of the Department of Water Resources.

Table II-2 – Groundwater Basins

Location	Groundwater Basins/ Sub-basins/ Management Areas	Safe Basin Yield (AFY)	Notes
San Simeon	San Carpaforo Valley	(1)	Rural and agricultural users only.
	Arroyo De La Cruz Valley	1,244	Rural and agricultural users only.
	Pico Creek Valley	120	Users include San Simeon CSD, Hearst Ranch and overlying users.
Cambria	San Simeon Valley	1,040	Users include Cambria CSD and overlying users.
	Santa Rosa Valley	2,260	Users include Cambria CSD and overlying users.
	Villa Valley	1,000	Rural and agricultural users only. Department of Water Resources estimate of safe yield from 1958. There has been no subsequent basin study to confirm or update this estimate.
Cayucos	Cayucos Valley	600	Morro Rock Mutual Water Company and Paso Robles Beach Water Association service areas overlie a portion of the basin; however, these purveyors do not pump from the Cayucos Valley basin. Department of Water Resources estimate of safe yield in 1958. There has been no subsequent basin study to confirm or update this estimate.

[4] "County" as used in this RSR includes the San Luis Obispo County Flood Control and Water Conservation District.

[5] On March 11,2014, the Board of Supervisors adopted a resolution proclaiming a local emergency due to drought conditions in San Luis Obispo County.

Table II-2 – Groundwater Basins			
Location	**Groundwater Basins/ Sub-basins/ Management Areas**	**Safe Basin Yield (AFY)**	**Notes**
	Old Valley	(1)	Within the watershed of Whale Rock Reservoir. Users downstream of Whale Rock reservoir include members of the Cayucos Area Water Organization (CAWO), which include Morro Rock Mutual Water Company (Morro Rock MWC), Paso Robles Beach Water Association (PRBWA), County Service Area 10A (CSA 10A), the Cayucos Cemetery District (CCD), and two landowners.
	Toro Valley	532	Basin water users include Chevron (with agricultural tenants), and overlying residential and agricultural users.
Morro Bay	Morro Valley	1,500	Basin groundwater users include the City of Morro Bay, a cement plant, a small public water system (mobile home park), and residential and agricultural overlying users.
	Chorro Valley	2,210	Users include the City of Morro Bay, San Luis Obispo County, California State Parks, California State Polytechnic University, California National Guard, California Men's Colony, and residential and agricultural overlying users.
Los Osos	Los Osos Valley	3,200 (3)	Users include Golden State Water Company, S&T Mutual, the Los Osos Community Services District, and overlying private well users.
San Luis Obispo/ Edna Valley	San Luis Obispo Valley – San Luis Valley Sub-basin	2,000	A 1991 study reported a sustained yield of the entire San Luis Valley Groundwater Basin under existing conditions at 5,900 AFY. Sub-basin groundwater users include the City of San Luis Obispo; California State Polytechnic University; San Luis Coastal Unified School District; Chevron; close to two dozen small public water systems serving various commercial, industrial, and residential properties; agricultural growers; and private residences.
	San Luis Obispo Valley – Edna Valley Sub-basin	4,000	Users include Golden State Water Company, San Luis Country Club (golf course), a few small public water systems, agricultural growers, and private residences.
Avila Valley	San Luis Obispo Valley – Avila Valley Sub-basin	(1)	Users include Avila Valley Mutual Water Company, Bassi Ranch, Baron Canyon and San Miguelito Mutual Water Company.
South County/ Nipomo	Santa Maria -- Pismo Creek Valley Sub-basin	(1)	Users include residential and agricultural overlying users, as well as the Sentinel Peak Resources Oil Company. The yield of the alluvial basin in the Spanish Spring ranch area has been estimated at 200 AFY, although this is before any consideration for environmental habitat demand (Fugro, 2009). Additional yield would be available from wells tapping the alluvium downstream of Spanish Springs Ranch, below the confluence of Las Cuevitas Creek, which drains the Indian Knob area. There is no estimate of the basin-wide yield.
	Santa Maria -- Arroyo Grande Valley Sub-basin	(1)	Sub-basin groundwater users include small public water systems (residential, commercial, and County park), and agricultural and residential overlying users.
	Santa Maria -- Nipomo Valley Sub-basin	(1)	Sub-basin groundwater users include residential and agricultural overlying users. The Nipomo CSD operates wells within the boundaries of the sub-basin, but these wells tap the deeper fractured rock reservoirs. There is no existing estimate for the perennial yield of this sub-basin. Safe Yield in the San Luis Obispo County portion of the

Table II-2 – Groundwater Basins			
Location	**Groundwater Basins/ Sub-basins/ Management Areas**	**Safe Basin Yield (AFY)**	**Notes**
			Santa Maria, reported as dependable yield, was estimated between 11,100 AFY and 13,000 AFY prior to the formal establishment of the SMVMA (DWR 2002). In 2002, The California Department of Water Resources published a report entitled "Water Resources Of The Arroyo Grande- Nipomo Mesa Area". At page ES-21 this report indicates that the dependable yield of the Nipomo Mesa portion of the basin is estimated to be between 4,800 and 6,000 AF.
	Northern Cities Management Area	9,500	Basin groundwater users in the NCMA include City of Pismo Beach, City of Arroyo Grande, City of Grover Beach, Oceano Community Services District (Oceano CSD), small public water systems (including Halcyon Water System), Lucia Mar Unified School District, and residential and agricultural overlying users.
	Nipomo Mesa Management Area	(1)	Basin groundwater users in the Nipomo Mesa Management Area include Golden State Water Company, Rural Water Company, Woodlands Mutual Water Company (WMWC), Phillips 66, Nipomo Community Services District (Nipomo CSD), Lucia Mar Unified School District, small public water systems (serving residential, industrial and nursery/greenhouse operations), and commercial, agricultural and residential overlying users.
	Santa Maria Management Area	124,000	Users include agricultural and residential overlying users and a small public water system. Safe Yield in the San Luis Obispo County portion of the Santa Maria was estimated between 11,100 AFY and 13,000 AFY prior to the formal establishment of the SMVMA (DWR 2002).
Huasna Valley	Huasna Valley	(1)	Basin water users are residential and agricultural overlying users.
Cuyama Valley	Cuyama Valley	10,000	Basin groundwater users in the San Luis Obispo County portion of the basin include oil field operators and residential/agricultural overlying users. There is no separate yield estimate for the San Luis Obispo County portion of the basin.
Carrizo Plain	Carrizo Plain	8,000 – 10,000	Users include agricultural and residential overlying users.
	Rafael Valley	(1)	Users include agricultural and residential overlying users
	Big Spring Area	(1)	Users include agricultural and residential overlying users
Santa Margarita	Santa Margarita Valley Management Area	(1)	Serves Santa Margarita by way of CSA 23. The average annual yield of the basin in the vicinity of the proposed Santa Margarita Ranch development may be in the range of 400 to 600 AFY.
	Rinconada Valley	(1)	All pumping in the basin is for agricultural purposes and by overlying users.
	Pozo Valley	(1)	All other pumping is for residential and agricultural purposes by overlying users. Department of Water Resources estimate in 1958. There has been no subsequent basin study to confirm or update this estimate.
Atascadero/ Templeton	Atascadero Basin	16,400	Users include the City of Atascadero, Templeton CSD and Garden Farms.
Paso Robles	Paso Robles	89,600 (2)	Water users in the basin include municipalities, communities, rural domestic residences, and agricultural users. The major municipal water purveyors include the

Table II-2 – Groundwater Basins			
Location	**Groundwater Basins/ Sub-basins/ Management Areas**	**Safe Basin Yield (AFY)**	**Notes**
			Atascadero Mutual Water Company, City of Paso Robles, Templeton CSD, CSA 16-1 (Shandon), and San Miguel Community Services District (San Miguel CSD). Includes 16,400 AFY perennial yield from the Atascadero Groundwater Sub-basin.
Cholame	Cholame Valley	(1)	There are some small public water systems in the San Luis Obispo County portion of the basin. All other pumping is for residential and agricultural purposes by overlying users.

Source: San Luis Obispo County Integrated Regional Water Master Plan, 2014

Notes:
(1) No estimate available.
(2) Final Model Update Report dated 1-13-15.
(3) The safe yield of the Los Osos Groundwater Basin could vary from 2,500 AFY to 3,500 AFY depending on the range of management strategies implemented as recommended by the Basin Management Plan.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). The SGMA gives local agencies the authority to manage groundwater in a sustainable manner and allows for limited state intervention when necessary to protect groundwater resources. The SGMA requires the creation of groundwater sustainability agencies to develop and implement local plans allowing 20 years to achieve sustainability. The SGMA provides a state framework to regulate groundwater for the first time in California history.

With limited exception, the SGMA does not modify rights or priorities to use or store groundwater (Water Code Section 10720.5). Rather the SGMA specifically:

- Establishes a definition of sustainable groundwater management
- Establishes a framework for local agencies to develop plans and implement strategies to sustainably manage groundwater resources
- Prioritizes basins with the greatest problems (ranked as high- and medium-priority)
- Sets a 20-year timeline for implementation.

The SGMA includes provisions to promote engagement by interested parties in the formation of a Groundwater Sustainability Agency (GSA) and development and implementation of a Groundwater Sustainability Plan (GSP). GSAs have to identify key parties and maintain records that spell out plans on how to include their interests in GSA operations and GSP development. The Act requires the GSA to provide this information to the California Department of Water Resources (DWR).

The GSA is the primary agency responsible for achieving sustainability within the timeframe. The SGMA includes many new authorities and tools for GSAs. For example, in developing a GSP, a GSA may opt to conduct investigations, measure and limit extraction, require registration of wells or impose fees for groundwater management. Under the Act, DWR has the lead role in working with local agencies in implementing its provisions. DWR is available to provide technical assistance to GSAs.

In January, 2016, DWR published the final list of *Critically Overdrafted Basins*, as mandated by the SGMA. The list includes three basins within San Luis Obispo County: Cuyama Valley, Los Osos and Paso Robles. It should be noted that the criteria used by DWR to rank a groundwater basin as "critically overdrafted" under the SGMA differs from those used to determine Levels of Severity by the Resource Management System. Specifically, the ranking used by DWR is based on data gathered over a 20-year baseline period (1989 – 2009) which included both wet and dry periods but was representative of the long term mean precipitation. DWR then collected available groundwater elevation data and additional information from local agencies to identify basins with obvious evidence of adverse impacts. Importantly, the SGMA excludes the current drought period from the evaluation. By contrast, the RMS determines LOS for water supply by comparing future demand with the dependable supply projected at specified time periods into the future, based on the most recent supply and demand figures provided by the various water purveyors. A groundwater basin is assigned a Level of Severity III if water demand projected over 15 years equals or exceeds the estimated dependable supply.

New Water Conservation Regulations

Executive Orders B-29-15 and B-36-15

In his April 1, 2015, Executive Order, Governor Brown mandated a 25 percent water use reduction by users of urban water supplies across California. In May 2015, the State Water Board adopted an emergency regulation requiring a cumulative 25 percent reduction in overall potable urban water use over the following 9 months. To achieve this goal, the State Water Resources Control Board established a tiered system, in which urban water suppliers who serve more than 3,000 customers or deliver more than 3,000 AF of water per year – which account for more than 90 percent of urban water use – were each assigned a conservation standard. The sliding scale used so that communities that have already reduced their residential gallons per capita per day (R-GPCD) through past conservation had lower mandates than those that had not made such gains since the last major drought. Water suppliers serving fewer than 3,000 connections, and commercial, industrial, and institutional users with independent supplies, are required to achieve a 25 percent conservation standard or restrict outdoor irrigation to no more than two days a week. These smaller urban suppliers serve less than 10 percent of Californians. Enforcement of the supply cuts includes potential fines of up to $10,000 a day.

Conservation tiers for urban water suppliers were set between eight percent and 36 percent, based on residential per capita water use for the months of July - September 2014. During this time, statewide water conservation was unprecedented. In those 10 months alone, the state realized nearly a 24 percent savings in water use as compared to same months in 2013, resulting in some 1.30 million acre-feet of water conserved throughout California, enough to supply 6.5 million people with water for an entire year.

Emergency Regulations

On Feb. 2, 2016, based on Governor Brown's November 2015 Executive Order, the State Water Board approved an updated and extended emergency regulation that continued mandatory reductions through October, 2016. The February 2016 Emergency Regulation responded to calls for continuing the conservation structure that has spurred such dramatic savings, while providing greater consideration of some localized factors that influence water needs around the state: climate differences, population growth, and significant investments in new local, drought-resilient water supplies such as potable wastewater reuse and desalination.

Recognizing persistent, yet less severe, drought conditions throughout California, on May 18, 2016, the State Water Board adopted an emergency water conservation regulation that will be in effect from June 2016 through January 2017. The regulation requires locally developed conservation standards based upon each agency's specific circumstances. It replaces the prior percentage reduction-based water conservation standard with a localized "stress test" approach. These standards require local water agencies to ensure a three-year supply assuming three more dry years like the ones the state experienced from 2012 to 2015. Water agencies that would face shortages under three additional dry years will be required to meet a conservation standard equal to the amount of shortage.

The revised regulation requires individual urban water suppliers to self-certify the level of available water supplies they have assuming three additional dry years. Wholesale water agencies were also required to include documentation about how regional supplies would fare under three additional dry years. Both urban water suppliers and wholesale suppliers are required to report the underlying basis for their assertions, and urban water suppliers are required to continue reporting their conservation levels. The State Water Board has not independently verified the information, but reserves the ability to reject certifications later found to be erroneous.

The new Emergency Regulation continues to require small water suppliers (serving 3,000 or fewer customers) to either achieve a 25 percent conservation standard, or restrict outdoor irrigation to no more than two days per week through October 2016. These suppliers are required to submit a small water supplier report that either (a) identifies total potable water production, by month, from December 2015 through August 2016, or (b) confirms compliance with the maximum two day per week outdoor irrigation restriction. The small water supplier report was due to the State Water Board by September 15, 2016.

The purpose of the three-year "stress test" was to acknowledge both the level of water supplies available to different areas, through improved hydrology and/or significant investments in new supplies, e.g., recycled water, groundwater banking, local surface and groundwater storage, desalination, stormwater capture, or other methods. By choosing a three-year conservative planning horizon, the state could step back this year from its unprecedented specific target setting.

Water suppliers that would experience shortage conditions in 2019 under the three-dry-years assumptions must meet a state-imposed conservation standard equal to the shortage level. For example, a supplier with a 12 percent shortage will now have a 12 percent conservation standard. Water suppliers whose submittals show no shortage conditions are limited to their 2013 water use and are encouraged to conserve more.

Submitting a self-certification was optional. Water suppliers that did not submit self-certifications will retain their conservation standard from March 2016. Others, even if they meet the "stress test," are expected to have retained either a percentage or other requirement-based conservation program. The State Water Board will continue to monitor and require reporting of water use and conservation results monthly throughout the year.

Water purveyors within San Luis Obispo County who have submitted self-certification data to the State as of August 2016 are summarized in Table II-3 which includes the target conservation percentage, the achieved percent cumulative water conservation, and the status of their "stress-test" self-certification. Of the purveyors who elected to submit self-certification data to the State, all exceeded the target conservation standard.

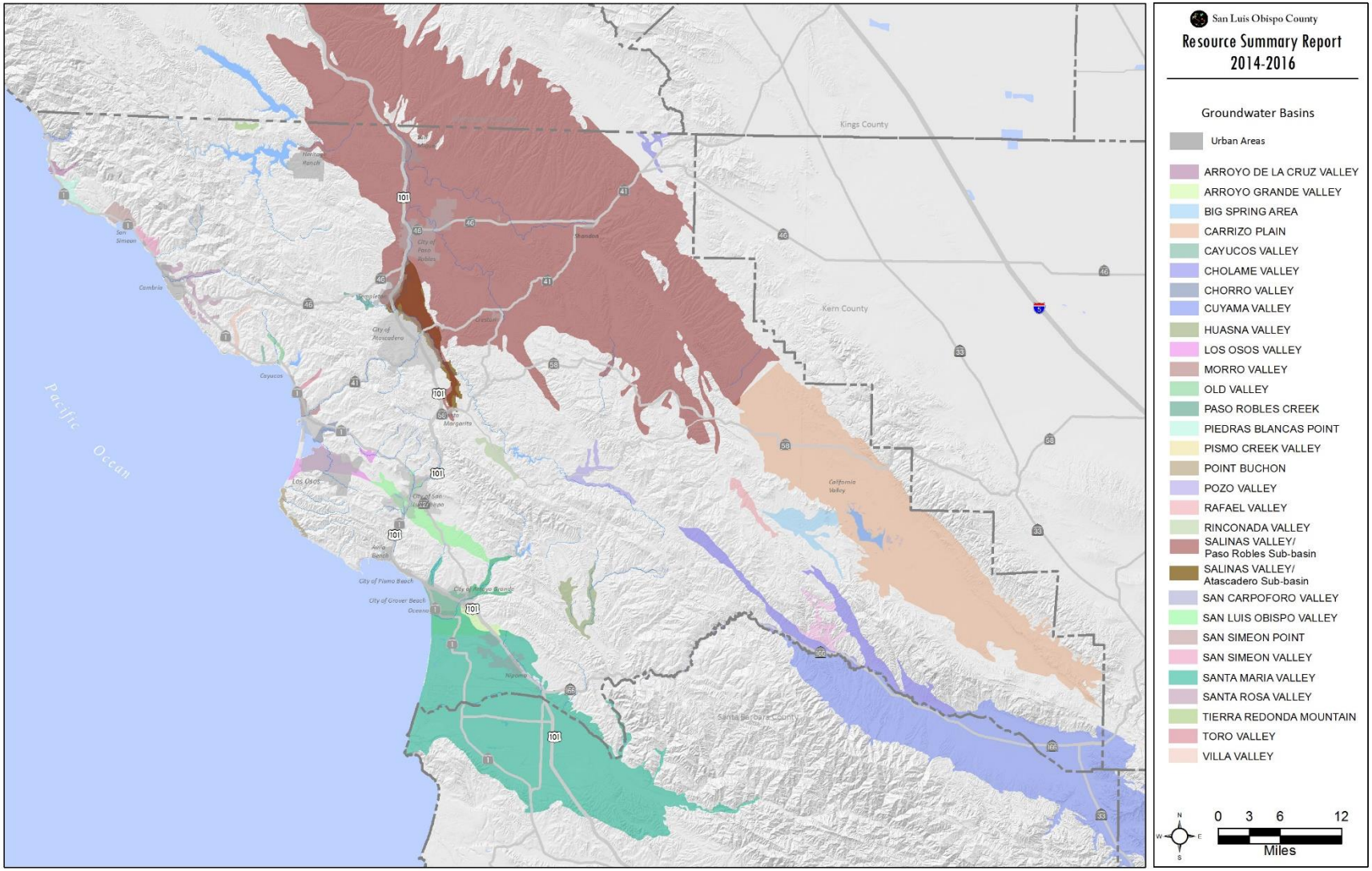
Table II-3 -- Status of Self-Certification "Stress Test" Of Water Purveyors In San Luis Obispo County

Purveyor	March 2016 Conservation Standard (March 2016 – May 2016)	Achieved Cumulative Conservation (June 2016)	Status of Self-Certification[1]
City of Morro Bay	12%	18%	Certified
Nipomo Community Services District	28%	32%	Certified
City of Paso Robles	24%	30%	Certified
City of Pismo Beach	22%	24%	Certified
Atascadero Mutual Water[1] Company	28%	29%	Certified

Notes:

1. Water purveyors who elected to submit self-certification data to the State Board. "Certified" means the submitted data demonstrates to the satisfaction of the State Board the availability of an adequate water supply assuming three more years of drought.

Figure II-2 – Groundwater Basins (Larger scale maps are provided with the discussion of each basin.)



Surface Water Resources Serving the Unincorporated County

State Water Project (SWP)

The DWR owns and operates the State Water Project (SWP). In 1963 the San Luis Obispo County Flood Control and Water Conservation District (District) contracted DWR for 25,000 AFY of State Water. The SWP began delivering water to the Central Coast in 1997 upon completion of the Coastal Branch conveyance and treatment facilities (Figure II-3), serving Santa Barbara and San Luis Obispo Counties. The SWP is considered a somewhat unreliable supplemental source of water supply since hydrologic variability, maintenance schedules, and repair requirements can cause reduced deliveries or temporary shutdowns of the delivery system.

Table II-4 provides a summary of SWP allocations to water purveyors serving the unincorporated county. Table II-4 lists the water service amount (WSA), drought buffer, and total reserve allocations for the County, but it also provides the average, maximum and minimum allocations based on the range of deliveries presented in Table 6.2 from the State Water Project Delivery Reliability Report 2015. The minimum, average, and maximum deliveries were 6, 66, and 100 percent of the maximum SWP Table A allocations for SWP contractors[6], respectively. For long-term planning, it is assumed that SWP contractors will receive 66 percent of the maximum allocation in a given year. Since delivery to the Central Coast began, the SWP has provided between 50 and 100 percent of the contracted allocations, but recently, drought coupled with pumping restrictions in consideration of endangered species habitat have lowered that amount. To receive a greater portion of State Water during times of reduced deliveries, most agencies have entered into "Drought Buffer Water Agreements" with the County for use of an additional portion of the County's excess capacity of SWP allocation, discussed below.

The County has 14,423 AFY of unsubscribed SWP Table A allocation[7], commonly referred to as the "excess allocation." Hydraulics, treatment plant capacity, and contractual terms and conditions limit how the excess allocation can be used. In 2011, the District evaluated the available hydraulic capacity in the treated water portion of the Coastal Branch, and compiled a report in partnership with the Central Coast Water Authority (CCWA) titled, "Capacity Assessment of the Coastal Branch, Chorro Valley, & Lopez Pipelines." This comprehensive report can be found at:

http://www.slocountywater.org/site/Major%20Projects/State%20Water%20Project/pdf/Capacity%20Study.pdf

The following is a list of options for use of this excess allocation:

- Direct delivery after contract-revision negotiation for use of any additional capacity available in the Coastal Branch treatment and conveyance facilities;
- As additional drought buffer water;
- Permanent, multi-year or single year transfer or exchange;
- As a source of either groundwater recharge or surface storage; and/or
- As a source of irrigation supply in lieu of groundwater use in normal/wet year hydrology through extension of raw water conveyance and distribution facilities beginning at the

[6] The SWP Table A allocation for the County is 25,000 AFY.
[7] Maximum Table A amount of 25,000 AFY minus Total Reserved of 10,577 AFY = 14,423 AFY Excess Allocation.

Coastal Branch Water Treatment Plant, where the larger SWP raw water pipeline terminates, and delivering to Paso Robles Basin residents and agricultural lands.

Table II-4 – State Water Project Water Service Amounts (AFY) To Water Purveyors Contracting for State Water Within The Unincorporated County

Contractor	Water Service Amount	Drought Buffer	Total	6 % Allocation Year	66-69% Allocation Year	100% Allocation Year
Oceano CSD	750	750	1,500	90	1,035	1,500
San Miguelito Mutual Water Co.	275	275	550	33	363	550
Avila Beach CSD	100	100	200	12	132	200
Avila Valley Mutual Water Co.	20	60	80	5	53	80
California Men's Colony	400	400	800	48	528	800
County Operations Center	425	425	850	51	561	850
Cuesta College	200	200	400	24	264	400
San Luis Coastal USD	7	7	14	1	9	14
Shandon	100	0	100	6	66	
Total:	**2,277**	**1,185**	**4,494**	**270**	**2,966**	**4,494**

Source: San Luis Obispo Flood Control and Water Conservation District, 2016

Notes:

1. Minimum, average, and maximum allocations established in the State Water Project Delivery Reliability Report, July 2015. This study used 66 percent for the average allocation year.

Many factors will affect future SWP deliveries to the County and SWP subcontractors within the County, including pumping restrictions for the Sacramento Delta and climate change. Since delivery to the Central Coast began, the SWP has provided between 50 and 100 percent of the contracted allocations, but recently, drought conditions coupled with pumping restrictions in consideration of endangered species habitat lowered that amount to 35 percent in 2008, 40 percent in 2009, and 5 percent in 2014. In 2015, the allocation of water from the SWP for long term contractors was 20 percent of their contractual amount.

Estimating the delivery reliability of the SWP depends on many issues, including possible future regulatory standards in the Delta, population growth, water conservation, increased use of recycled water, drought buffer purchases, and water transfers. The DWR State Water Project Delivery Reliability Report 2015 (July 2015) estimates SWP delivery reliability and incorporates the 2008 and 2009 biological opinions issued by the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The 2015 Report shows a decrease in the likelihood that more than 2,000,000[8] AF of Table A water will be delivered to SWP contractors statewide, compared with 2,553,000 AF estimated by the 2013 Report. The potential decreases in deliveries in most years will occur if no actions are taken to address the factors causing the decrease in availability. It is important to recognize that actions to re-establish reliability are

[8] The estimated average delivery of SWP water for 2015 is assumed to be 2,550,000 AF statewide.

being evaluated by DWR, State Water Contractors, and other State and Federal agencies. Future actions may include new environmental efforts as well as infrastructure improvements envisioned when the SWP was originally scoped in the 1960s.

Nacimiento Water Project

The Monterey County Flood Control and Water Conservation District (now known as the Monterey County Water Resources Agency (MCWRA) constructed the Nacimiento Dam in 1957. The dam and reservoir continue to be operated by MCWRA. The lake has a capacity of 377,900 acre-feet (AF) and a surface area of 5,727 acres. Water is collected from a 365 square mile watershed that is comprised of grazing lands and rugged wilderness. Long-term reliability may be adversely affected by siltation and other losses.

In 1959, the County secured the rights to 17,500 AFY from Lake Nacimiento, with 1,750 AFY reserved for lakeside users and the Heritage Ranch Community Services District (Heritage Ranch CSD). After a long series of studies and negotiations, the Nacimiento Water Project (NWP) was initiated. The project is designed to deliver 15,750 acre-feet of water and was completed in 2011 (Figure II-3). The project delivers raw lake water from Lake Nacimiento to communities within San Luis Obispo County. At their April 19, 2016 meeting the Board approved the distribution of all remaining Reserve Water (6,095 AFY) to the Project participants and two new participants which are listed below along with their current contracted water amounts.

Table II-5 – Allocation of Nacimiento Water Project

Participants	Allocations (AFY)
City of Paso Robles	6,488
Atascadero Mutual Water Co.	3,244
City of San Luis Obispo	5,482
Templeton CSD	406
CSA 10A (via exchange)[1]	40
Santa Margarita Ranch Mutual Water Co. [3]	80
Bella Vista Mobil Home Park[3]	10
Total Allocations:	**15,750**
Unallocated[2]:	**0**

Source: San Luis Obispo County Master Water Report, 2012, Table 4.6,
City of Paso Robles, City of San Luis Obispo, Atascadero Mutual Water Co. 2015;

Notes:
1. Discussed below under Whale Rock Reservoir.
2. Based on a project design capacity of 15,750 AFY.
3. New participant as of 2016.

Whale Rock Reservoir

Whale Rock Reservoir is located on Old Creek Road approximately one-half mile east of the community of Cayucos. The State Department of Water Resources supervised the project's planning, design, and construction which took place between October 1958 and April 1961. The reservoir is jointly owned by the City of San Luis Obispo, the California Men's Colony, and Cal Poly. These three agencies, with the addition of a representative from DWR, form the Whale

Rock Commission, which is responsible for operational policy and administration of the reservoir and related facilities. Day-to-day operation is provided by the City of San Luis Obispo.

Whale Rock reservoir is formed by an earthen dam and was able to store an estimated 40,662 acre-feet of water at the time of construction. Calculation of the yield available in the reservoir is coordinated with Salinas Reservoir (operated by the City of San Luis Obispo) using a safe annual yield computer model. The model also evaluates the effect of siltation. In 2013 the Whale Rock Commission commissioned a siltation study of the reservoir. The volumetric study was completed in 2013 and concluded that the current reservoir capacity is 38,967 AF. Since the original capacity was 40,662 AF the loss of capacity due to siltation was determined to be 4.2 percent per year.

Reservoir Rights Holders and Water Allocations

Table II-6 summarizes the current capacity rights for the joint right-holders (downstream water rights are accounted for separately and discussed below). Each rights-holder manages reservoir withdrawals individually from their available water storage allocation. The Whale Rock Commission tracks withdrawals and reports available volume on a monthly basis.

Table II-6 – Whale Rock Reservoir Allocations

Rights Holder	Percent	Allocations (AFY)
City of San Luis Obispo	55.05	22,383
Cal Poly	33.71	13,707
California Men's Colony	11.24	4,570
Total:	100	40,660

Source: San Luis Obispo County Master Water Report, 2012, Table 4.7

Downstream Water Rights

Several agreements establish policy for the operation of the Whale Rock system and actions of the member agencies. The Downstream Water Rights Agreement (the original 1958 agreement was amended in April 1996) defines water entitlements for adjacent and downstream water users, including water purveyors serving the unincorporated County. The Cayucos Area Water Organization, one of the three parties to this agreement, consists of three public water purveyors and the cemetery, all in the Cayucos area. In addition to the agencies, water entitlements were identified for two separate downstream land owners. An exchange agreement between CSA 10A and the City of San Luis Obispo (2005) allows for the delivery of up to 80 AFY of the City's Whale Rock water allocation to CSA 10A in exchange for CSA 10A's purchase of an equivalent amount of Nacimiento Water for delivery to the City. The anticipated need for CSA 10A is 25 AFY at buildout. However, in December, 2015, the Board authorized County staff to initiate the process to acquire an additional 15 AFY allocation of Nacimiento Project water on behalf of CSA 10A, bring their total allocation to 40 AFY. This process was completed on April 19, 2016 when the Board executed a number of contracts that resulted in allocation of the entire 15,750 AFY to the existing Nacimiento Participants.

Total Whale Rock Reservoir entitlements are summarized on Table II-7.

Table II-7 – Whale Rock Downstream Entitlements

Water Users	Downstream Water Entitlements (AFY)
Cayucos Area Water Organization[1]	
Paso Robles Beach Water Association	222
Morro Rock Mutual Water Co.	170
County Service Area 10A	190[3]
Cayucos-Morro Bay Cemetery District	18
Sub-Total for CAWO:	600
Mainini Ranch[2]	50
Ogle[2]	14
Total:	664

Source: San Luis Obispo County Master Water Report, 2012, Table 4.8

Notes:

1. The referenced agreement establishes the amount of 600 AFY to CAWO. The allocations to the CAWO members are part of an internal agreement amongst the members.
2. The agencies generally receive their entitlements via pipeline from the reservoir, while the land owners' entitlement is released from the reservoir.
3. CSA 10A has procured 40 AFY of Nacimiento Water Project via exchange with City of San Luis Obispo for Whale Rock Reservoir water. The original Exchange Agreement provisions allowed for up to 160 AFY of NWP if necessary (80 AFY for CSA 10A, 30 AFY for Morro Rock Mutual Water Company and 50 AFY for the Bella Vista Mobile Home Park (formerly the Lewis Pollard Family Trust.

Lopez Lake/Reservoir

The County completed the Lopez Dam in 1968 to provide a reliable water supply for agricultural and municipal needs as well as flood protection for coastal communities. Lopez Reservoir has a capacity of 49,388 AF. The lake covers 950 acres and has 22 miles of oak covered shoreline.

Allocations for Lopez Lake water are based on a percentage of the safe yield of the reservoir, which is 8,730 AFY. Of that amount, 4,530 AFY are for pipeline deliveries and 4,200 AFY are reserved for downstream releases. The dam, terminal reservoir, treatment and conveyance facilities are a part of Flood Control Zone 3 (Zone 3). Water agencies serving the unincorporated County that contract for Lopez water in Zone 3 include the community of Oceano and CSA 12 (including the Avila Beach area). Lopez Lake allocations to these purveyors are shown in Table II-8.

Two issues could change the amount of water available to contractors and the safe yield. The Arroyo Grande Creek Habitat Conservation Plan (HCP), which is currently being developed (2016), will likely require additional downstream releases. An interim downstream release schedule was prepared to provide guidance regarding releases from the reservoir into Arroyo Grande Creek pending completion of the HCP. In December, 2014, the Low Reservoir Response Plan was adopted to reduce deliveries while reservoir storage is below 20,000 acre feet, and while a Board adopted drought emergency is in effect, which reduces the amount of water

available to municipalities. Changes in operation of the dam are being considered for reducing spills and optimizing future deliveries. Additionally, the City of Pismo Beach, on behalf of the Zone 3 agencies, has taken the lead on conducting a study to consider the feasibility of modifying the dam to augment capacity of the reservoir. However, according to the City[9], this option is no longer being considered.

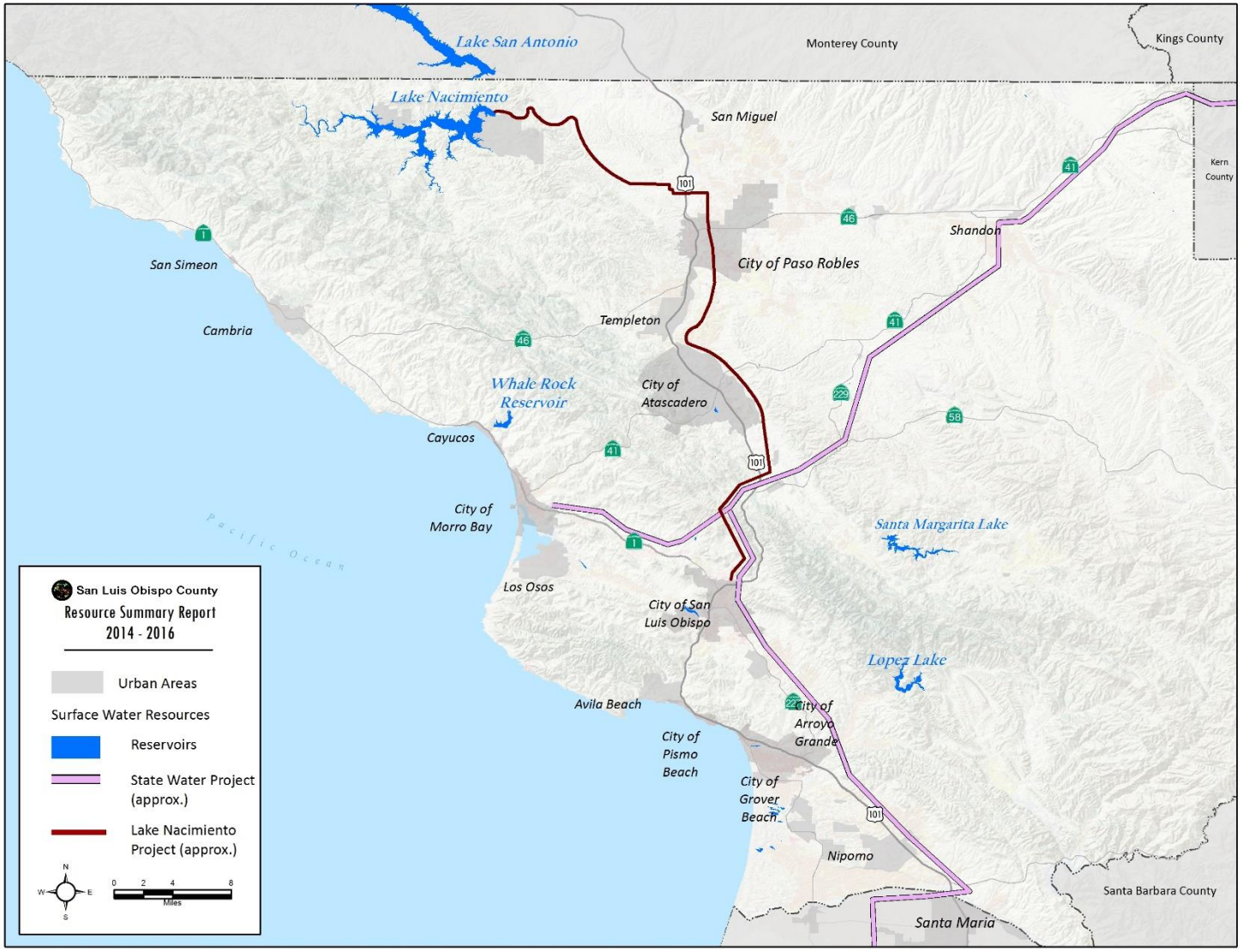
Table II-8 – Lopez Lake Water Allocations to Water Purveyors Serving the Unincorporated County

Water Users	Allocations (AFY)
Oceano CSD	303
County Service Area 12 (Avila Beach area)	241
Total:	544

Source: San Luis Obispo County Master Water Report, 2012, Table 4.9

[9] Eric Eldridge, Senior Engineer, City of Pismo Beach, personal communication August 19, 2016.

Figure II-3 – Surface Water Supplies and State Water Project Conveyance



Recycled Water

Several water purveyors and wastewater agencies in the County recycle municipal wastewater to partly offset potable water production. Recycled water qualities range from secondary quality (as defined by Title 22 California Code of Regulations (CCR) to the highest level of treatment for unrestricted use.

Water recycling projects serving the unincorporated County are listed in II-9. The planned future use of recycled water is included in their forecasted water supply portfolios discussed for each region. It could be that recycled water is used and/or planned to be used by other agencies within the county not listed in Table II-9, which includes only those areas affected by the Resource Management System. For example, the City of Atascadero wastewater treatment plant discharges approximately 1.34 MGD (1,500 AFY) back into the Astascadero Basin.

Table II-9 – Existing and Projected Recycled Water Use Serving the Unincorporated County

Agency	Existing Effluent		Inland Discharge	Ocean/Coastal Discharge	Existing Reuse	Planned Future Reuse
	MGD	AFY	AFY	AFY	AFY	AFY
Cambria CSD	0.50	540	540	--	(1)	--
Cayucos CSD	0.25	275	--	275	--	560
Los Osos WWTP[2]	1.20	1,340	1,340	--	--	--
San Simeon CSD	0.07	80	--	80	(3)	--
Heritage Ranch CSD	0.20	230	230	--	--	--
San Miguel CSD	0.10	130	130	--	--	--
Templeton CSD Meadowbrook WWTP[4]	0.15	170	170[5]	--	--	750
Avila Beach CSD	0.05	50	--	50	--	--
Nipomo CSD Blacklake WWTP	0.05	50	--	--	50	80
Nipomo CSD Southland WWTF	0.60	640	640[6]	--	--	1,900
Rural Water Co.	0.05	50	--	--	50	50
San Miguelito MWC	0.15	170	--	170	--	--
South SLO County Sanitation District	2.60	2,910	--	2,910	--	3,920
Woodlands MWC	0.05	50	--	--	50	50
Total:	**6.02**	**6,685**	**2,510**	**4,025**	**150**	**7,310**

Source: San Luis Obispo County Regional Recycled Water Strategic Plan, 2014

Notes:

1. The CCSD essentially uses all of its wastewater effluent for a seawater intrusion barrier, a sustainable water facility (an indirect potable reuse facility) or as landscape irrigation.
2. Start of operations planned for 2016.
3. Trucking of recycled water for irrigation started in 2014.
4. Templeton CSD is considering diverting existing sewer flows that go to the Paso Robles WWTP (approximately 0.22mgd) and conveying the flow for treatment at the TCSD Meadowbrook WWTP.
5. Templeton CSD retrieves the percolated water at downstream wells.

Recommended Levels of Severity

Methodologies

Water Supply

Groundwater is the principal source of water in the County, and groundwater basins may serve multiple purveyors. Accordingly, the discussion of recommended Levels of Severity has been grouped by regions which generally coincide with the major groundwater basins. Information regarding the current status of each basin was derived from a variety of sources, including:

- The San Luis Obispo County Master Water Report, 2012
- The Updated Basin Plan for the Los Osos Groundwater Basin, January 2015
- The Paso Robles Groundwater Basin Management Plan, 2011
- The Paso Robles Groundwater Basin Computer Model, 2014
- The 2014 San Luis Obispo County Integrated Regional Water Management Plan
- The 2015 Nipomo Mesa Management Area Annual Report
- 2015 Northern Cities Management Area Annual Report
- Recently updated Urban Water Management Plans

A more complete list of sources is provided in the Appendix.

To determine recommended LOS for water supply, forecast demand from urban, rural, and agricultural users over 15 years, 15-20 years, and 20 years was derived from the 2012 Master Water Report and the 2014 San Luis Obispo Integrated Regional Water Management Plan and compared with the safe yield of the groundwater basins serving these users (where known). Levels of Severity were assigned based on whether the projected demand would exceed the dependable supply over these time periods.

Water Systems

To determine recommended LOS for water systems, water purveyors were asked to identify water system improvements necessary to accommodate current and projected water demand and the timeframe for the needed improvements. The timeframe for needed improvements were then compared with the LOS timeframes to assign a recommended LOS.

San Simeon/Cambria Area Water Supply and Systems

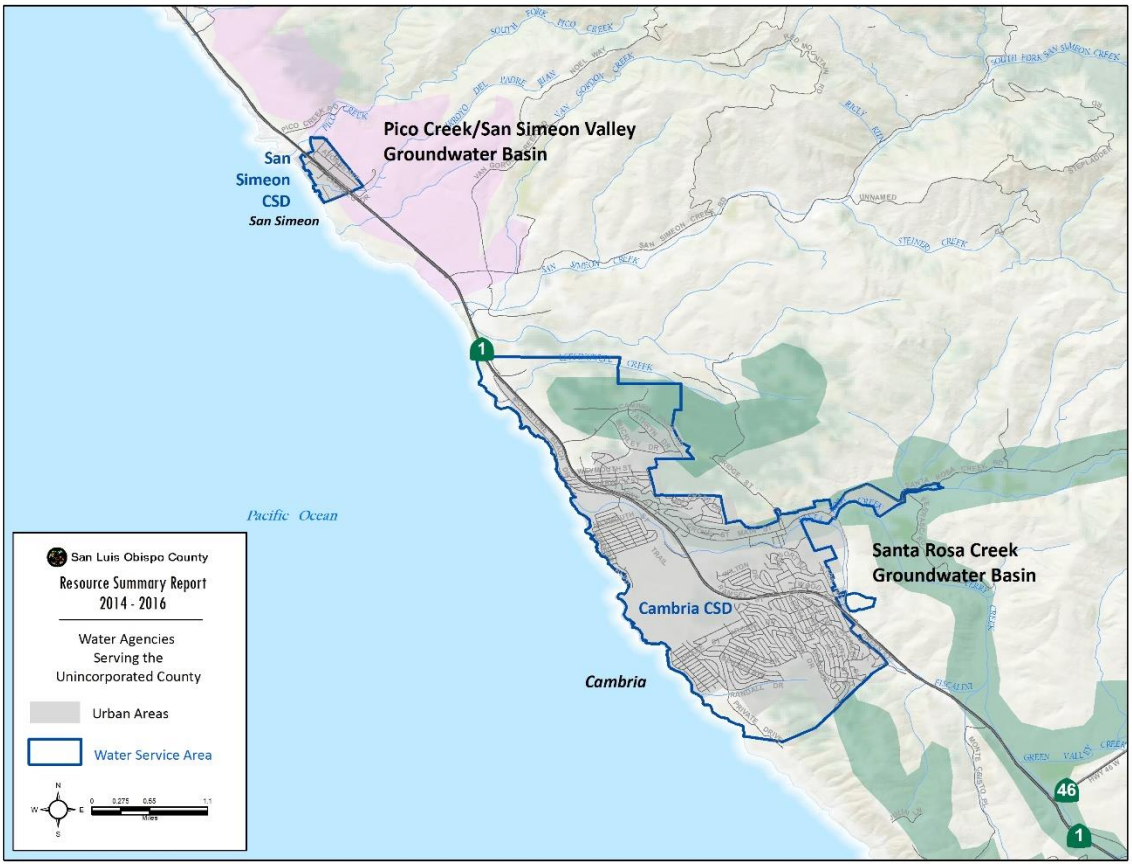


Figure II-4 – Groundwater Basins and Water Purveyors Serving the San Simeon/Cambria Area

Pico Creek Valley Groundwater Basin

According to the 2012 Master Water Report, the basin yield is estimated to be 120 AFY (Cleath, 1986). Contamination of water supply wells due to seawater intrusion is a major water quality concern in the basin (Cleath, 1986). Lowering of groundwater levels below sea level in the basin during the summer months when creek flows are absent and pumping is active can result in the landward migration of the sea water/fresh groundwater interface. Since at least the mid-1980s, sea water intrusion has occurred within the Pico Creek Valley Groundwater Basin (Cleath, 1986). Seawater intrusion occurs routinely and increases chloride levels above secondary drinking water standards. The primary constraints on water availability in the basin include physical limitations and water quality issues.

Users of the basin include the San Simeon CSD, rural and agricultural operations. Seventy percent of water used by the San Simeon CSD is for commercial use (tourist/hotels). Due to the supply limitations of the Pico Creek Valley Groundwater Basin, an alternative supply is necessary to meet future demands. Water conservation and recycling measures have been implemented and there is minimal or no opportunity to further reduce water demands. Three water

management strategies are likely the most feasible options to consider for San Simeon CSD's future water supply:

- Recycled water (trucking of recycled water to offset potable water use for landscape irrigation began in 2014)
- Groundwater supply sources (other than Pico Creek Valley Groundwater Basin)
- Desalination

The Arroyo De La Cruz Groundwater Basin is a possible option for a future water supply. Unfortunately, published hydrogeologic information for this basin is compiled from older reports and may not be representative of current conditions. The safe basin yield should be determined as part of any investigation of this basin as a future water supply.

San Simeon CSD could also implement a desalination project. The implementation challenges would be similar to those experienced by other agencies seeking to desalinate seawater.

Table II-10 – San Simeon Area: Pico Creek Valley Groundwater Basin
Existing and Forecasted Water Supply and Demand

Demand	San Simeon CSD	Agriculture	Rural
FY 2015/2016 Demand (AFY)	76.9[1]	70[3]	20[3]
Forecast Demand In 15 Years (AFY)	222	97	44
Forecast Demand in 20 Years (AFY)	250	38	50
Buildout Demand (30 Or More Years) (AFY)	250[2]	10-60[3]	50[3]
Supply			
Pico Creek Valley Basin (AFY)[8]	130	0[4]	0[4]
Arroyo de la Cruz Valley Basin	0	14[6]	18
Other GW Supplies	0	0	22
Surface Water	0	8[7]	10[7]
Total:	130	22	50
Water Supply Versus Forecast Demand	Water demand projected over 15 years will equal or exceed the estimated dependable supply.		

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016; San Luis Obispo County Master Water Report, 2012, Table 4.54; 2014 Integrated Regional Water Management Plan, Table D-13

Notes:

1. See Table II-1. Demand fluctuates due to changes in tourism. Data for agriculture and rural are from 2012.
2. Most recent master plan forecasts a build-out demand of 224 AFY, but San Simeon CSD's current build-out demand estimate is 250 AFY.
3. Agricultural and rural demand calculations do not account for livestock operations, and likely underestimates actual water demands.
4. Seventy (70) AFY of Pico Creek livestock and domestic usage was reported by Hearst Holdings Inc. to the SWRCB in June 2010.
5. Population within the San Simeon area is expected to decline slightly over the next 30 years.
6. 1,607 AFY of Arroyo De La Cruz Underflow is reported in the State Board diversion database as a permitted appropriative water right for Hearst Holdings Inc. Estimated safe basin yield is 1,244 AFY and all pumping is for agricultural or rural users.
7. Diversions from sources other than the three basins noted above total 238 AFY according to diversion reporting forms to the SWRCB from Hearst Holdings Inc. (June 2010) and the SWRCB diversion database.

8. North Coast Area Plan.

The groundwater basin is considered an unreliable source within the timeframes prescribed by the LOS criteria because:

- Current estimated demand from urban, rural and agricultural users (166.9 AFY) exceeds the safe yield of the basin (120 AFY).
- Forecast demand from all sources in 30 or more years is expected to be between 310 and 360 AFY which exceeds the safe yield of the basin (120 AFY).
- The combination of seawater intrusion along with lowering groundwater levels during the dry season or times of drought.

Water demand projected over 15 years will equal or exceed the estimated dependable supply.
Recommended Level of Severity III.

San Simeon Valley and Santa Rosa Valley Groundwater Basins

San Simeon Valley Groundwater Basin

Water users in the basin include the Cambria CSD (discussed below under the Santa Rosa Valley Groundwater Basin) and overlying rural and agricultural users. The primary constraints on water availability in the basin include physical limitations and potential water quality issues. The State Water Resources Control Board (State Board) allows the Cambria CSD a maximum extraction of 1,230 AFY in the San Simeon Valley Groundwater Basin and a maximum dry season extraction of 370 AF (Cambria CSD Water Master Plan (WMP), 2008). Although the actual dates will vary each year depending on creek flows and rainfall occurrence, the dry season generally spans from May through October. In general, groundwater levels in the basin are typically highest during the wet season, steadily decline from these levels during the dry season, and recover again to higher levels during the next wet season.

The CCSD is in the process of licensing its San Simeon Creek aquifer water rights with the State Water Resources Control Board (SWRCB), which would set its maximum annual San Simeon Creek groundwater aquifer diversion at 798.82 AF. The Sustainable Water Facility (SWF) re-injects the water it produces back into the San Simeon Creek aquifer, which is subsequently extracted by existing CCSD potable wells SS1 or SS2. Therefore, the SWF brackish water extraction would not be subtracted from the 798.82 AF limit that would be licensed by the SWRCB. The CCSD also provides approximately 20 AF per year of agricultural riparian use water from its San Simeon potable wells to a rancher north of San Simeon Creek Road as part of an earlier 2006 settlement agreement. Therefore, the 20 AF provided by the CCSD as riparian agricultural water would also not count towards the licensed diversion limit of 798.82 AF per year.

Santa Rosa Valley Groundwater Basin

Water users in the basin include the Cambria CSD and overlying rural and agricultural users. According to the 2012 Master Water Report, the primary constraints on water availability in the basin include physical limitations and potential water quality issues. The CCSD is in process of licensing its Santa Rosa groundwater aquifer water rights with the State Water Resources Control Board (SWRCB), which would set its maximum annual Santa Rosa Creek groundwater aquifer diversion at 217.92 AF. The CCSD has used the Santa Rosa basin as a means of

augmenting its primary supply from the San Simeon aquifer during the dry season, and as an emergency backup water supply.

In response to the severe drought of 2014, and to improve reliability, the CCSD completed the following:

- The Sustainable Water Facility (a brackish water desalination facility which includes advanced treatment to meet Title 22 indirect reuse regulations;
- Restores its potable Well SR-1 for non-potable use, and
- An aggressive program of water conservation.

As Part of its adopted 2016 Urban Water Management Plan Update, the CCSD commissioned Maddaus Water Management to develop a more aggressive conservation program, which reduced future water demand. This recommended conservation program (Program B) includes measures such as, point of use recycled water (e.g., the Nexus eWater gray water treatment system to allow toilet flushing via a dual plumbed house); and, not allowing the use of potable water on any future home's landscaping.) This resulted in approximately 691 acre-feet per year demand at buildout for existing and future connections (a combined total of 4,650 existing and future residences). Table II-11 shows the demand modeling results under recommended conservation Program B, which is further described within the CCSD's 2016 adopted Urban Water Management Plan Update.

Table II-11 – Cambria Area: San Simeon Valley and Santa Rosa Valley Groundwater Basins Existing and Forecasted Water Supply and Demand

Demand	Cambria CSD	Agriculture	Rural
FY 2015/2016 Demand (AFY)[1]	476.8	521	100
Forecast Demand in 15 Years (AFY)	679[2]	996	184
Forecast Demand in 20 Years (AFY)	691[2]	1,115	205
Buildout Demand (30 Or More Years) (AFY)	691[2]	1,115	205
Supply			
San Simeon Valley Basin (AFY)	519-799[3]	11	2
Santa Rosa Valley Basin (AFY)	170-218[4]	301	55
Villa Valley	0[5]	112	21
Other GW Supplies	0-195[5]	691	127
Other Surface Supplies	0	0	0
SWRCB-WPA 1	0	0	0
Recycled Water	100	0	0
Total Supply:	689-1,017	1,115	205
Water Supply Versus Forecast Demand	Water demand for the basins projected over 15 years will likely equal or exceed the estimated dependable supply.[6]		

Sources: Water System Usage forms: July 2012 – June 2013; July 2013 – June 2014; San Luis Obispo County Master Water Report, 2012, Table 4.55, Cambria CSD 2015; 2014 Integrated Regional Water Management Plan, Tables D-15 and D-16.

Notes:
1. See Table II-1.
2. From Maddaus Water Management Decision Support System (DSS) Modeling, (August 2016) for recommended conservation program B of the 2016 Urban Water Management Plan Update (UWMP). Note that Table 4-2 of the CCSD UWMP used only existing plumbing code updates, and therefore shows higher demand values than conservation Program B.
3. The 519 AF minimum assumes the Sustainable Water Facility is not operating and there is a 15% reduction in supply per Table 7-1a of the 2016 Cambria CSD Urban Water Management Plan. The 799 AF (798.82 rounded) upper range assumes the CCSD licenses its existing diversion permit with the SWRCB at this value.State Board allows Cambria CSD 518 AFY maximum extraction and 260 AF dry season extraction. The table uses a conservative assumption for dry-weather extractions.
4. Alternatives identified in a 2004 Assessment of Long-Term WS Alts included seawater desalination an exchange of buying Nacimiento reservoir water for the use of water stored in the Whale Rock Reservoir direct transmission of Nacimiento reservoir. As of 2016, only an emergency project to desalinate brackish water has been developed which can temporarily produce up to 250 AFY during the dry season.
5. Although the existing annual supply and demand indicates a surplus, the dry season extraction limits create a seasonal supply deficit.
6. It is uncertain whether an agricultural or rural supply deficit exists.

Because of the limitations on dry weather extractions, the San Simeon Valley and Santa Rosa Valley Groundwater Basins are considered an unreliable source within the timeframes prescribed by the LOS criteria. Further, the CCSD declared a Water Code 350 emergency and enacted a moratorium for new connections in 2001. Therefore, water demand projected over 15 years will equal or exceed the estimated dependable supply. **Recommended Level of Severity III**

San Simeon/Cambria Area Water Systems

San Simeon CSD

In 2014, San Simeon CSD received approval from the Department of Public Health to use treated effluent as recycled water for landscape irrigation, decorative fountains, firefighting and for certain construction activities. The facility is authorized to produce 36,000 gallons of Title 22 recycled water per day, but is currently only available to commercial trucks that connect to an on-site tank. The long-term plan is to construct a recycled water distribution system.

No significant water system limitations were identified. **No recommended Level of Severity.**

Cambria CSD

In an effort to enhance Cambria's major water and wastewater infrastructure and other key projects that protect the safety and quality of life for Cambrians, the Cambria CSD has prioritized a number of Capital Improvement Projects (CIP) as well as the non-CIP Buildout Reduction Program (BRP). In 2014, the Cambria CSD completed several significant projects to improve water supply reliability. These included an Emergency Water Supply Project that utilizes brackish water from the lower San Simeon Creek aquifer, rehabilitation of its SR-3 well and associated wellhead treatment plant, and the completion of a non-potable water fill station using well SR-1.

Emergency Water Supply Project. During 2014, the CCSD completed construction of an emergency water supply by treating brackish groundwater. The project's advanced treatment provides several stages of treatment to remove solids, salt, organic chemicals and other

contaminants so that it is safe to drink. To meet Title 22 indirect reuse criteria, the highly treated water is injected into the Cambria CSD's San Simeon well field where it must travel at least 60 days before being pumped by the existing well field pumps. The brackish water being treated is a combination of creek underflow, percolated wastewater treatment plant effluent, and a mix of freshwater and seawater that is within a deeper saltwater wedge. The extracted brackish water will have salt concentrations much lower than that of pure seawater. The project's intake well and treatment plant is located about one-half mile inland from the ocean.

The San Simeon Creek facility is operational and can produce approximately 300 gallons per minute of potable water. This is about 1.32 acre-feet per day or nearly 40 acre-feet per month. The plant is expected to run mainly during the dry months, supplying about 240 acre-feet of water in a six-month dry season, which is about one-third of the community's normal water consumption for a full year. The new facility was built under an Emergency Coastal Development Permit issued by the County, which limits its operation to occur only during a Stage 3 Water Shortage Emergency. The Cambria CSD is currently completing a regular coastal development permitting process with the intention of being able to more proactively operate the facility to prevent such future conditions from occurring.

In addition to the current emergency project, the CCSD and Army Corps of Engineers are completing a longer term supply project through a Water Resources Development Act authorization. An Environmental Impact Statement is currently being completed by the Corps, which will identify a preferred long term water supply alternative. The plant, if implemented, is expected to produce up to 602 AFY, and is planned to operate during the summer season to augment supply during the summer and high demand periods (from summer tourism). A recycled water system is also planned, with an estimated 65 AFY made available for unrestricted outdoor irrigation use.

Well SR-3 Rehabilitation. The Cambria CSD replaced its well pump for SR-3 well along the Santa Rosa Creek aquifer while also separating its discharge piping from its lower SR-1 well system. This allowed for only the SR-3 well discharge to enter into and be treated by the existing Filtronics iron and manganese removal filter. As part of this effort, the CSD's mothballed Filtronics plant was also rehabilitated and made operational. The sole use of SR-3 also placed the potable well water extraction point for the lower Santa Rosa aquifer water more upgradient from an MTBE plume that was discovered in 2000. The operation of SR-3 well, coupled with monitoring for MTBE (which was also found to be non-detectible), allowed access to approximately 114 acre-feet of deeper groundwater that was not otherwise available to the CSD's only other operational Santa Rosa aquifer well (SR-4 Well, which is located much further up gradient along the aquifer).

Conversion of SR-1 Well for Non-potable Use. The Cambria CSD replaced its SR-1 well pump while also separating its discharge from the potable supply system. The SR-1 discharge was rerouted to non-potable polyethylene storage tanks installed at the Cambria CSD's Rodeo Grounds Road facility. Separate fill stations were installed for non-potable water use. The new non-potable fill stations replaced ones that had been previously in use at the CSD's San Simeon Creek Road property.

No recommended Level of Severity.

Cayucos Area Water Supply and Systems

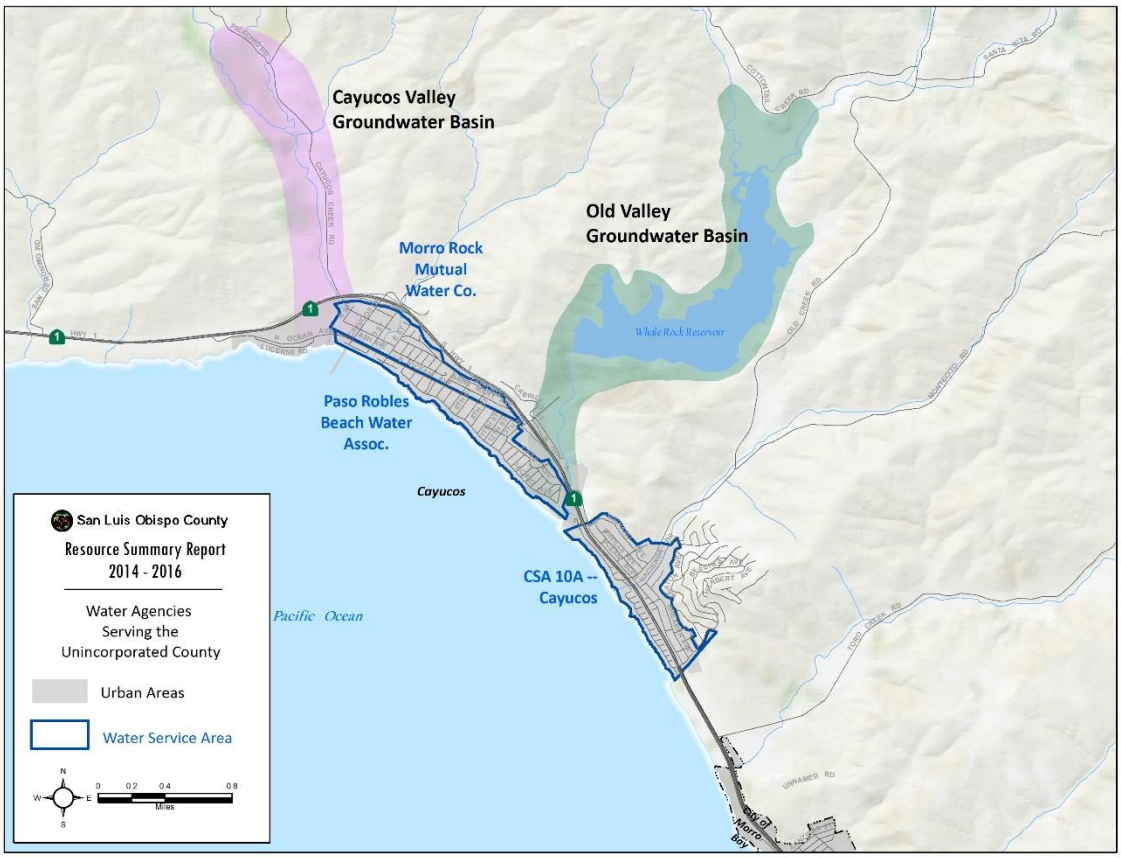


Figure II-5 – Groundwater Basins, Surface Water and Water Purveyors in the Cayucos Area

Cayucos Valley Groundwater Basin

Constraints on water availability in this basin include both physical limitations and water quality issues. Water level and well capacity declines during drought will limit the availability of the resource, while in the lower valley area; sea water intrusion will be the primary constraint.

The Morro Rock Mutual Water Company and Paso Robles Beach Water Association service areas overlie a portion of the basin; however, these purveyors do not pump from the Cayucos Valley basin. **No Recommended Level of Severity.**

Old Valley Groundwater Basin

Basin groundwater users downstream of Whale Rock reservoir include members of the Cayucos Area Water Organization (CAWO), which include Morro Rock Mutual Water Company, Paso Robles Beach Water Association, CSA 10A, the Cayucos Cemetery District, and two landowners. The combined groundwater and Whale Rock Reservoir surface water allocation for CAWO in Old Valley is 664 AFY, distributed as follows:

- Morro Rock Mutual Water Co.: 170 AFY
- Paso Robles Beach Water Authority: 222 AFY

- CSA 10A: 190 AFY (plus 40 AFY of San Luis Obispo's entitlement via exchange for Lake Nacimiento water)
- Cayucos Cemetery District: 18 AFY
- Downstream land owners: 64 AFY

Constraints on water availability in this basin include physical limitations, water rights, and environmental considerations. Shallow alluvial deposits upstream of the reservoir are susceptible to drought impacts, having limited groundwater in storage. For the area below the reservoir, dam underflow may provide a source of recharge. Water agreements limit the amount of groundwater available to the members of CAWO and downstream landowners in Old Valley to the available sources. **No recommended Level of Severity**.

Whale Rock Reservoir allocations to CAWO members are sufficient to provide existing demands and meet forecast buildout demands. CSA 10A has procured an additional entitlement of 40 AFY through the Nacimiento Water Project. This water will be taken from the Whale Rock Reservoir in an exchange agreement with the City of San Luis Obispo. The agreement allows up to 90 AFY to be exchanged, which may be a way to address any future needs of the CAWO. Nacimiento Water Project water could be delivered to Morro Rock MWC or Paso Robles Beach Water Association as part of this arrangement.

Table II-12 – Cayucos Area: Cayucos Valley and Old Valley Groundwater Basins Existing and Forecasted Water Supply and Demand

Demand	Morro Rock MWC	Paso Robles Beach Water Assoc.	CSA 10A	Cayucos Cemetery District	Agriculture	Rural
FY 2015/2016 Demand (AFY)[1]	91.5	121.5[1]	91.0[1]	Not provided	562	91
Forecast Demand in 15 Years (AFY)	159	203	207	17	603	124
Forecast Demand in 20 Years (AFY)	168	212	226	18	617	135
Buildout Demand (30 Or More Years) (AFY)	164-173	207-218	220-232	17-18	430-800	130-140
Supply						
Whale Rock Reservoir (Old Valley Basin)	170	222	190	18	12	3
Nacimiento Water Project	0	0	58[2]	0	0	0
SWRCB Water Diversions	3[3]	0	0	0	0	0
Cayucos Valley Basin	0	0	0	0	49[4]	11[4]
Other GW Sources	0	0	0	0	555	122
Total Supply:	173	222	248	18	617	135
Water Supply Versus Forecast Demand	Water demand for the basin projected over a period exceeding the LOS timeframe of 20 years will not equal or exceed the estimated dependable supply. Whale Rock Reservoir allocations are sufficient to provide for forecast demand.					

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.56; 2014 Integrated Regional Water Management Plan, Tables D-17 and D-18.

Notes:

1. See Table II-1. Current demand data for agriculture and rural are from 2012. All data are as reported separately by purveyors in 2016. Not apportioned.
2. CSA 10A has procured 40 AFY of Nacimiento Water Project via exchange with City of San Luis Obispo for Whale Rock Reservoir water. The original Exchange Agreement provisions allowed for up to 160 AFY of NWP if necessary (80 AFY for CSA 10A, 30 AFY for Morro Rock Mutual Water Company and 50 AFY for the Bella Vista Mobile Home Park (formerly the Lewis Pollard Family Trust.
3. Only 3 AFY is diverted for a school and park irrigation, but up to 56 AFY is the permitted diversion from Little Cayucos Creek underflow. 56 AFY is part of the 600 AFY safe basin yield for the Cayucos Valley Basin. Due to water quality, the remaining 53 AFY could be used for domestic supply following treatment.
4. Estimated safe basin yield is 600 AFY and the majority of pumping is for agricultural or rural users, but a small public water system does serve a mobile home park.

Staff of the Department of Planning and Building estimate that General Plan buildout for Cayucos is likely to be reached by the year 2044 (in 29 years) which is beyond the timeframe of the LOS criteria. Since the forecast buildout demands will push the CAWO members to their supply limit, an alternative supply should be developed as a reliability reserve over the next ten years. The most viable option for a reliability reserve supply is the Nacimiento Water Project (NWP), since the existing agreement with CSA 10A allows up to 90 AFY to be exchanged. In 2016, CSA-10A procured an additional 40 AFY from this source.

The Cayucos Sanitary District (CSD) is pursuing the construction of a wastewater treatment plant separately from the City of Morro Bay (discussed in greater detail in Chapter III, Wastewater). The wastewater recycling and recovery facility (WRRF) will be designed to treat wastewater that meets safe drinking water standards. Accordingly, the project includes a pipeline to be used to convey treated water that meets safe drinking water standards from the WRRF to the CSA 10A water treatment plant where it would augment the existing water supply by about 370 – 560 acre-feet per year (AFY) at such time as the water purveyors deem the supplemental water to be beneficial and implement the necessary improvements to receive and process the supplemental water from the WRRF.

The combination of full 90 AFY NWP exchange, future production of potable water from the CSD wastewater project, and emergency conservation measures would provide the CAWO members with a reliable supply for the next twenty or more years. Therefore, water demand projected over a period exceeding 20 years will not equal or exceed the estimated dependable supply. **No recommended Level of Severity.**

Cayucos Area Water Systems

CSA 10A continues to make improvements to the overall water system to replace deteriorated and substandard waterlines and storage facilities. No significant water system limitations were reported by the other water purveyors. **No recommended Level of Severity**.

Los Osos Water Supply and Systems

Los Osos Groundwater Basin

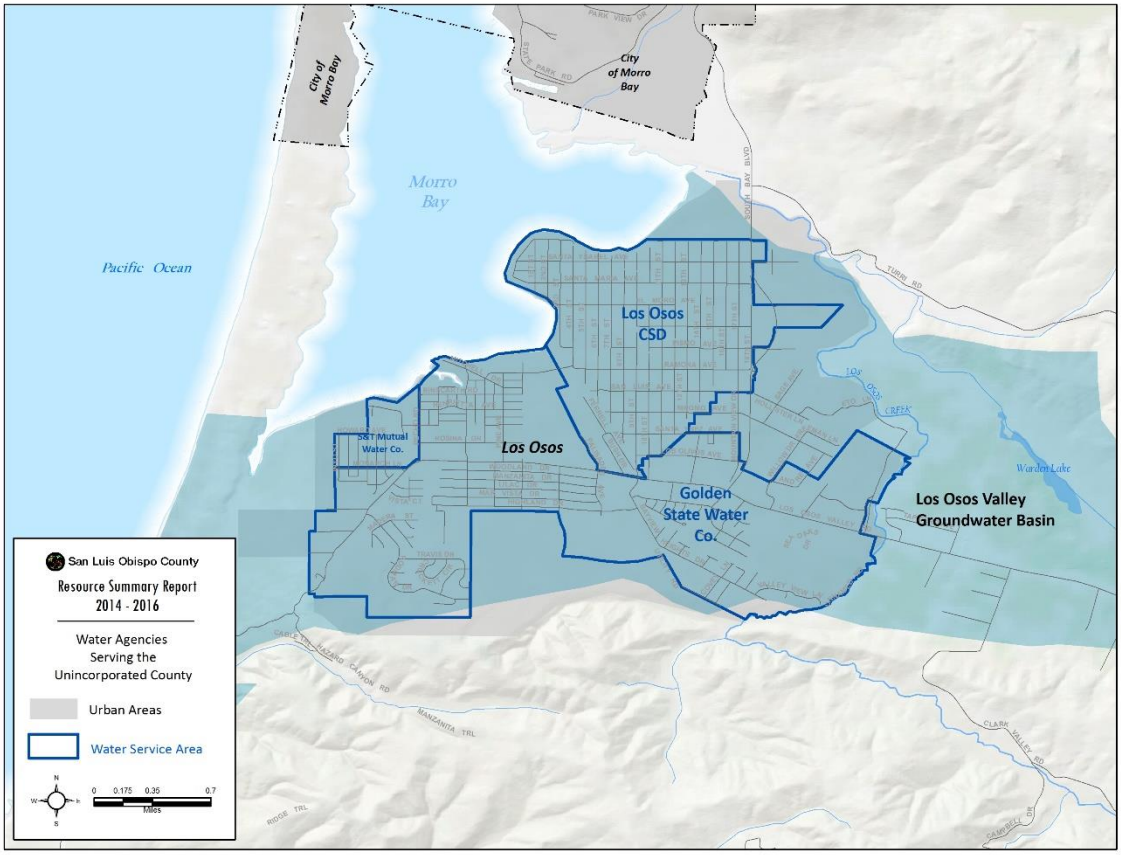


Figure II-6 – Los Osos Groundwater Basin and Water Purveyors Serving the Los Osos Area

Basin groundwater users in the Los Osos Valley basin include Golden State Water Company, S&T Mutual, the Los Osos Community Services District, and overlying private well users. The safe yield of the basin (in 2012) was estimated to be 2,450 AFY. Current (2014) extractions are about 2,610 AFY, or about 107% of the safe yield.

According to the 2012 Master Water Report, the primary constraint on water availability in the Los Osos Valley Groundwater Basin is deteriorating water quality due to sea water intrusion and nitrate contamination. In 2015, a wastewater collection, treatment and disposal system was being completed to address nitrate contamination of the basin. Existing septic systems are being de-commissioned as properties are connected to the community wastewater system, which is discussed in greater detail in Chapter III -- Wastewater.

The three local water purveyors (Golden State Water Company, S&T Mutual, the Los Osos Community Services District), along with the County of San Luis Obispo, prepared an updated Basin Management Plan (BMP) under a court-approved Interlocutory Stipulated Judgment (ISJ Working Group) which was approved by the court in October, 2015. The BMP considers

different scenarios for future water demand. The *Existing Population Scenario* assumes there is no future urban development beyond that which existed in 2010, the year of the most recent federal census. Policies of the County General Plan, the California Coastal Commission and the Regional Water Quality Control Board (RWQCB) will not allow additional development in Los Osos until the Basin is being managed on a sustainable basis. Thus, the occurrence of any additional development is conditioned on implementation of the BMP.

The *Buildout Development Scenario* assumes that future development in Los Osos follows the population projections of the Draft Estero Area Plan (EAP) in 2005 as updated by the Los Osos Community Plan (LOCP) and Los Osos Habitat Conservation Plan (LOHCP) which are currently in draft form. The Basin Plan is based on a buildout population of 19,850. However, the draft LOCP recommends land uses, policies and standards that would accommodate a buildout population of about 18,747. Achieving the vision embodied in the LOCP depends on the implementation of two interrelated programs:

- The sustainable management of limited groundwater resources as outlined in the Basin Plan; and

- The Habitat Conservation Plan.

More specifically, without an expansion of the sustainable yield (discussed below), no new development can occur. And without a mechanism to mitigate for the 'take' associated with new development, new development can only occur through a fairly onerous and time-consuming project-by-project permitting process in accordance with the federal and state Endangered Species Acts. The relationship between land use and the BMP is described in the LOCP in the chapter on Environmental Resources, Planning Area Standards B. and D., and Appendix E.

The Existing Population and Buildout Development Scenarios represent low and high marks for future urban water demand. The actual future demand will likely fall somewhere between these two scenarios and within the safe yield of the Basin as it changes with implementation of the programs recommended by the BMP which include the following:

Groundwater Monitoring Program. A comprehensive groundwater monitoring program is recommended to complete and consolidate data collection on groundwater resources in the Basin. The collected data will be used to inform Basin management decisions.

Urban Water Use Efficiency Program. According to the BMP, improving urban water use efficiency is the highest priority program for balancing water supply and demand in the Basin and preventing further seawater intrusion. More efficient urban water use will allow purveyors and well users to decrease the amount of groundwater extracted from the basin, thus ensuring that a sufficient amount of water remains to stabilize the freshwater-seawater interface.

Water Reinvestment Program. In order to maximize the use of Basin resources, it is imperative that water used by urban consumers be reinvested in the hydrologic cycle in an appropriate manner. Accordingly, the BMP promotes the increased use of recycled water for urban and agricultural water users. One of the key components of this program is implementation of the Los Osos Wastewater Project (LOWWP) which has

been completed. To prevent the LOWWP from harming the Basin through additional seawater intrusion, conditions on the project require the LOWWP to reinvest all treated wastewater back into the Basin.

Basin Infrastructure Improvements. The BMP recommends various infrastructure improvements to better manage the extraction, distribution, treatment and recycling of groundwater resources. The Basin Infrastructure Program is divided into four parts, designated Programs A through D:

> *Program A* -- Program A consists of actions that have already been taken by the purveyors or for which the Purveyors have funding. Those actions are designed to allow the Purveyors to increase groundwater production from the Upper Aquifer to the greatest extent practicable without construction of large-scale nitrate removal facilities.
>
> *Program B* -- Program B improvements would allow the Purveyors to maximize production from the Upper Aquifer. To allow increased use of groundwater from the Upper Aquifer, the Purveyors would need to remove nitrate from water produced by new Upper Aquifer wells, including two for LOCSD, one for GSWC and, potentially, one or two for S&T. The Parties have determined that the necessary quantity of groundwater would be treated most economically and effectively through construction of a single, community nitrate facility rather than two or more separate facilities. Accordingly, Program B includes the construction of a shared nitrate removal facility. The technology for such a facility has not been finally determined, but for purposes of this Basin Plan it is assumed to be ion exchange system. It is possible that an improved technology will emerge before design and construction of the nitrate removal facility, and the Parties will consider all appropriate technologies at that time.
>
> *Program C* -- Program C includes a set of infrastructure improvements that would allow the Purveyors to shift some groundwater production within the Lower Aquifer from the Western Area to the Central Area.
>
> *Program D* -- Program D includes three additional wells that would allow the purveyors to shift some groundwater production into the Eastern Area. Since groundwater production from the Central and Eastern Areas induces less seawater intrusion than the same amount of production from the Western Area, this landward shift increases the Sustainable Yield- of the Basin.

Supplemental Water Program. The Draft BMP explores different options for developing sources of water other than water derived from the Basin. These sources include rainwater harvesting, stormwater capture, greywater reuse, and groundwater desalination.

Imported Water Program. The Basin Plan sets forth several alternatives for the development of an Imported Water Program for the Basin. The purposes of identifying and analyzing potential imported water supplies are to ensure that the Basin Plan does not neglect any potential solution for the Basin and to provide a comparator for other Basin Plan programs. Nonetheless, BMP does not recommend implementation of the

Imported Water Program, based on a water management principle that water supplies and demands in the Basin should be balanced to avoid the need for imported water supplies in the Plan Area.

Wellhead Protection Program. The Wellhead Protection Program is designed to protect water quality in the Basin by managing activities within a delineated source area or protection zone around drinking water wells. This program consists primarily of the purveyors conducting Drinking Water Source Assessment and Protection surveys for each of their wells, as well as construction and operation of the LOWWP.

While the Basin Plan identifies a number of potential programs, not all are necessary or desirable for implementation in Los Osos. The parties to the BMP have analyzed the impacts of implementing various combinations of programs through use of a groundwater model. Based on that analysis, the parties recommend the following programs (and associated costs) for immediate implementation:

Monitoring	$650,000
Urban Water Use Efficiency	$5,500,000
Urban Water Reinvestment	$18,290,000
Infrastructure Program A	$2,835,000
Infrastructure Program C	$6,540,000
Wellhead protection	$0
Total:	$33,815,000

- Infrastructure Program A has been funded and is being fully implemented. This program focuses on actions that can be taken to increase upper aquifer production as much as possible without necessitating a community nitrate removal facility.

- Infrastructure Program C includes a set of infrastructure projects that would allow the purveyors to shift lower aquifer production from the Western Area to the Central Area of the Basin.

Implementation of these programs can support a population of 16,220 which is about 2,500 less than the population holding capacity of the draft LOCP (18,747). As a consequence, the Community Plan recommends implementation of at least one additional infrastructure Program from the Basin Plan to make up the shortfall. These programs are summarized as follows:

  - Program B -- Shift to the upper aquifer and install nitrate removal ($17,250,000).

  - Either Basin Infrastructure Program D or the Agricultural Water Reinvestment Program.

Collectively, implementation of these water management programs are expected to improve the sustainable yield to 3,000 AFY.

Table II-13 – Los Osos Area: Los Osos Groundwater Basin Existing and Forecasted Water Supply and Demand

Demand	Los Osos CSD	S&T Mutual Water Co.	Golden State Water Co.	Agriculture[4]	Rural
FY 2015/2016 Demand (AFY)	445.5[1]	30.3	424.0[1]	2,161	20
Forecast Demand in 15 Years (AFY)	844.6	48	1,189.9	2,984	20
Forecast Demand in 20 Years (SFY)	911	64	1,369.9	3,258	20
Buildout Demand (30 Or More Years) (AFY)	1,557[2]	75[2]	524[2]	3,258	20
Supply					
Los Osos Groundwater Basin	(3)	(3)	(3)	(3)	(3)
Other GW Resources	0	0	0	1,988	0
Total Supply:	(3)	(3)	(3)	(3)	(3)
Water Supply Versus Forecast Demand	Due to seawater intrusion and nitrate contamination, the groundwater basin remains an unreliable source to meet existing demand and water demand projected over 15 years will equal or exceed the estimated dependable supply. [4]				

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.58; San Luis Obispo Integrated Regional Water Management Plan, Tables D-20 and D-21.

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Assumes the programs recommended by the certified Basin Management Plan are implemented and buildout demand from urban uses is 2,100 AFY divided among the three water purveyors in the same proportions as 2015 demand.
3. Safe basin yield is assumed to be 3,000 AFY and assumes the programs recommended by the certified Basin Management Plan are implemented. All pumping is for urban, agricultural or rural users. Purveyors have 2,150 AFY available for their use. The remaining 850 AFY is used for agricultural irrigation, private domestic use, and golf course irrigation.
4. The 2015 Updated Basin Plan for the Los Osos Groundwater Basin assumes agricultural demand within the Plan area to be 750 AFY. For purposes of this RSR, agricultural demand is assumed to include the entire area within Water Planning Area 5 as shown on Figure D-9 on page D-25 which includes lands outside the Updated Basin Plan area.

Through implementation of the programs recommended by the BMP and the draft LOCP and LOHCP, in coordination with the County's wastewater project, conditions in the basin are expected to improve and to become sustainable. However, because of seawater intrusion and nitrate contamination, the groundwater basin remains an unreliable source to meet existing demand and water demand projected over 15 years will equal or exceed the estimated dependable supply. **Recommended Level of Severity III.**

Los Osos Area Water Systems

Los Osos CSD continues to make improvements to the overall water system to replace deteriorated and substandard waterlines and storage facilities. In conjunction with the Los Osos Wastewater Project, the following water system improvements have been completed:

- South Bay Nitrate Removal
- Palisades Well Modifications
- Blending Project
- Water Meters – installation of meters on all S&T connections
- Water Systems Interconnection between LOCSD and GSWC
- Upper Aquifer Well – (LOCSD adopted mitigated negative declaration in May 2015 and is pursuing a coastal development permit)
- Rosina Nitrate Removal (Ion Exchange plant addition to GSWC's Skyline Well – designed and funded)
- Expansion Well 2 (Lower Aquifer D well at GSWC Los Olivos Plant – designed and soon out to bid for construction)

No recommended Level of Severity.

Golden State Mutual Water Co. invested more than $2 million dollars in local infrastructure improvements in 2014. These improvements include water supply enhancements, distribution and ongoing improvements designed to replace old meters, mains and safety equipment. **No recommended Level of Severity.**

Avila Beach and Avila Valley Water Supply and Systems

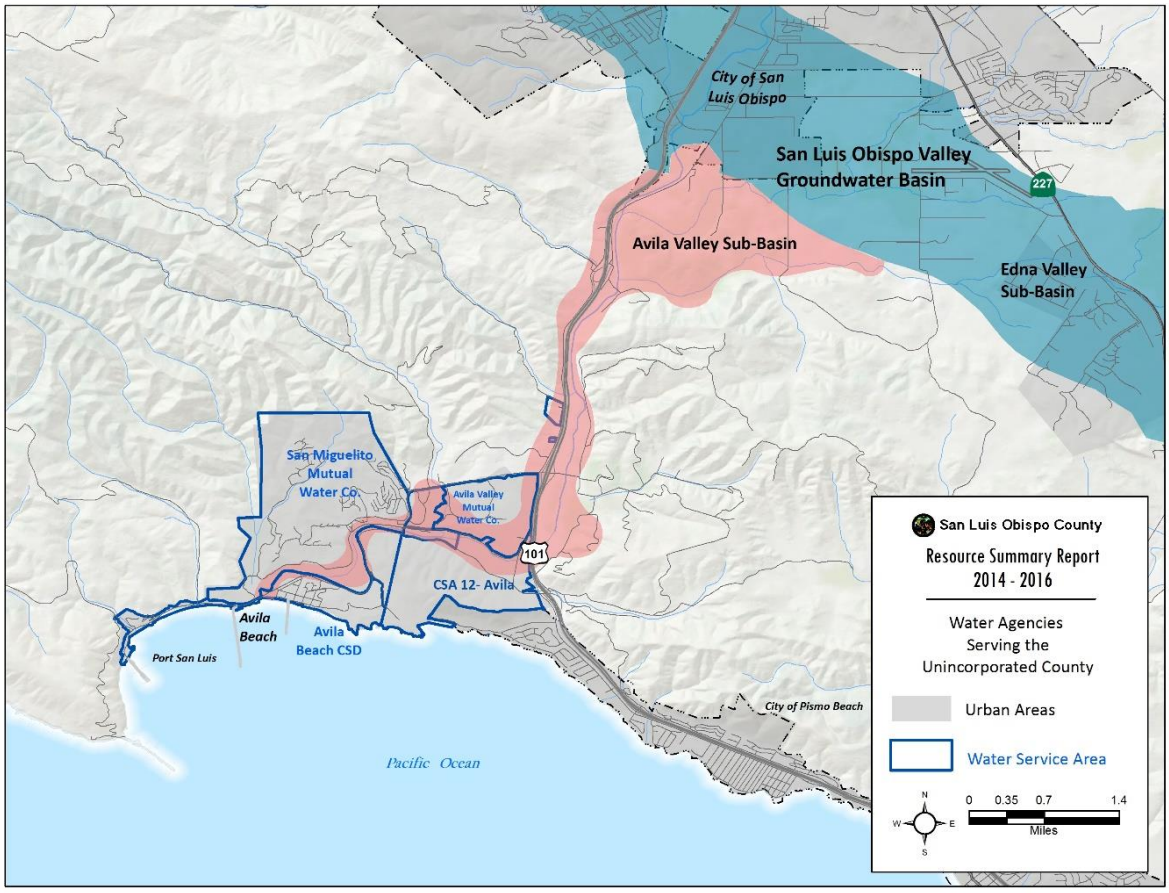


Figure II-7 -- Avila Valley Groundwater Sub-Basin and Water Purveyors

San Luis Obispo Valley Groundwater Basin – Avila Valley Sub-basin

The Avila Valley Sub-basin serves urban development in the Avila Valley as well as overlying private well users. No basin yield numbers have been published for this sub-basin. The primary constraints on water availability in the Avila Valley Sub-basin are physical limitations and environmental demand. Shallow alluvial deposits are typically more susceptible to drought. Releases from the City of San Luis Obispo Water Reclamation Facility into San Luis Obispo Creek significantly offset storage losses during drought, but are also intended to support steelhead habitat. Below the Marre Weir[10], seawater intrusion is the primary constraint to water availability.

Water purveyors serving the area include the Avila Beach CSD, Avila Valley Mutual Water Co., San Miguelito Mutual Water Co., CSA 12 and Port San Luis. The San Luis Valley and Avila Valley

[10] The Marre Weir, located at the San Luis Obispo Creek Estuary is a metal sheet pile structure that spans the width of San Luis Obispo Creek. The purpose of the weir is to prevent saltwater incursion into the groundwater upstream. This groundwater is a principle water source for the adjacent housing development.

Sub-basins do not provide a significant supply to the urban users when compared to surface water supplies. The primary constraints on water availability include physical limitations, water quality issues, and environmental demand.

The State Water Project provides water to the Avila Beach CSD, Avila Valley MWC, San Miguelito MWC, and CSA 12. The SWP is considered a supplementary source of water since hydrologic variability, maintenance schedules, and repair requirements can cause reduced deliveries or complete shutdown of the delivery system. Since delivery to the Central Coast began, the SWP has provided between 50 and 100 percent of the contracted allocations, but recently, the drought coupled with pumping restrictions in consideration of endangered species habitat lowered that amount to 35 percent in 2008 and 40 percent in 2009. In addition to the State Water Project, Avila Beach CSD, Avila Valley MWC, and CSA 12 receive water from Lopez Lake. In December, 2014, the County Flood Control and Water Conservation District Zone 3 adopted The Low Reservoir Response Plan which will help ensure a reliable water supply to Lopez Lake customers, including CSA 12.

According to the 2010 Master Water Report, the Avila Valley Sub-basin does not provide a significant supply to the urban users in the area when compared to surface water supplies (the State Water Project). Elevated nitrates are a constraint for drinking water availability in the Avila Valley Sub-basin. The reliability of the sub-basin to supplement surface supplies is uncertain because:

- The safe yield of the basin is unknown; and
- Considerable variability in water deliveries from the State Water Project.

San Luis Obispo Valley Groundwater Basin – Edna Valley Sub-basin

The Edna Valley Sub-basin serves limited urban development as well as overlying private well users. The single water purveyor in the Edna Valley is Golden State Water Company. The primary constraints on water availability in the Edna Valley portion of the basin are physical limitations and environmental demand. Lowering groundwater levels due to production in the basin may impact base flows to Pismo Creek, which support steelhead habitat.

According to the 2010 Master Water Report, the estimated safe yield of the sub-basin is 4,000 AFY (DWR 1997). Lowering groundwater levels due to production in the basin may impact base flows to Pismo Creek, which support steelhead habitat. The reliability of the sub-basin is uncertain in part because future demand associated with rural and agricultural users in the sub-basin is unknown. However, the relatively small population served when compared with the safe yield of the aquifer suggests that the sub-basin will remain a reliable source. **No recommended Level of Severity.**

Table II-14 – Avila Beach Area – Avila Valley and Edna Valley Sub-basins Existing and Forecasted Water Supply and Demand

Demand	Avila Beach CSD	Avila Valley MWC	San Miguelito MWC	CSA 12	Port San Luis	Golden State Water Co. (Edna Valley)	Agriculture	Rural
FY 2015/2016 Demand (AFY)	74.7[1]	27.6[1]	125.5[1]	68[2]	35	183.0[1]	3,249	495
Forecast Demand in 15 Years (AFY)	143	31	359	67	35	335	3,865	600
Forecast Demand in 20 Years (AFY)	166	31	383	66	67	372	3,950	635
Buildout Demand (30 Or More Years) (AFY)	162-170[3]	30-32[3]	373-393[3]	65-68[3]	67-69[3]	434-482	3,466	635
Supply								
State Water Project[4]	66[5]	20	275	7[6]	0	0	0	0
Lopez Lake Reservoir	68	12	0	61	100	0	0	0
San Luis Valley Sub-Basin	0	0	0	0	0	0	970	178
Avila Valley Sub-Basin[7]	0	20	118	Uncertain[8]	0	0	0[9]	Uncertain[9]
Edna Valley Sub-Basin[10]	0	0	0	0	0	410	Uncertain	Uncertain
Other GW Supplies	0	0	0	0	0	0	2,496	457
Total Supply:	134	52	393	68	100	410	Uncertain	Uncertain
Water Supply Versus Forecast Demand	Water demand projected over 20 years will not equal or exceed the estimated dependable supply. This is due primarily to a lack of information regarding the safe yield of the sub-basin.							

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.59 and Table 4.38; San Luis Obispo Integrated Regional Water Management Plan, Table D-23 and D-24.

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. 2011 data.
3. The low end of the forecast demand range assumes 5% additional conservation (beyond what has already been accomplished) at buildout for all urban users.
4. State Water Project average allocation assumes 66 percent of contract water service amount.
5. Avila Beach CSD has a 100 AFY allocation from the State Water Project, but no drought buffer. Therefore, the 66 percent assumption for State Water Project delivery is 66 AFY.
6. Seven (7) AFY of SWP water allocated to the San Luis Coastal Unified School District.

7. No basin yield numbers have been published for the Avila Valley Sub-basin. However, recharge of the basin is dependent on discharges from the City of San Luis Obispo wastewater treatment plant.
8. Individual water users within CSA 12 boundary could request an exemption to install a private well and pump water from the Avila Valley Sub-basin. It is unknown the number of users with private wells, but it is likely minimal.
9. No basin yield numbers have been published for the Avila Valley Sub-basin.
10. The safe yield of the Edna Valley Sub-basin has been estimated to be 4,000 AFY and all pumping is for urban, agricultural, rural users, golf courses, and CSA 18.

Recommended Levels of Severity:

In 2016 the County initiated a study of the San Luis Obispo Valley groundwater basin to determine, among other factors, the safe yield. In addition, in 2016 the Board initiated completion of an update of the Avila Community Plan. That process is expected to be completed in 5 or more years and will likely recommend policies and programs that could affect water demand.

San Luis Obispo Valley Groundwater Basin – Avila Valley Sub-basin. There is uncertainty regarding the safe yield of the Avila Valley Sub-basin. A conservative forecast of future demand for urban users suggests that the available supply will be equaled or exceeded at General Plan buildout. Staff of the Department of Planning and Building estimate that General Plan buildout is likely to be reached by the year 2047 (in 32 years) which is beyond the 20 year timeframe of the LOS criteria. Therefore, water demand projected over 20 years will not equal or exceed the estimated dependable supply. **No recommended Level of Severity.** However, this is due primarily to a lack of information regarding the safe yield of the sub-basin.

San Luis Obispo Valley Groundwater Basin – Edna Valley Sub-basin. Water demand projected over 20 years will not equal or exceed the estimated dependable supply. **No recommended Level of Severity**.

Avila Beach and Avila Valley Water Systems

No significant water system limitations were reported. **No recommended Level of Severity**.

Oceano/Nipomo Area Water Supply and Systems

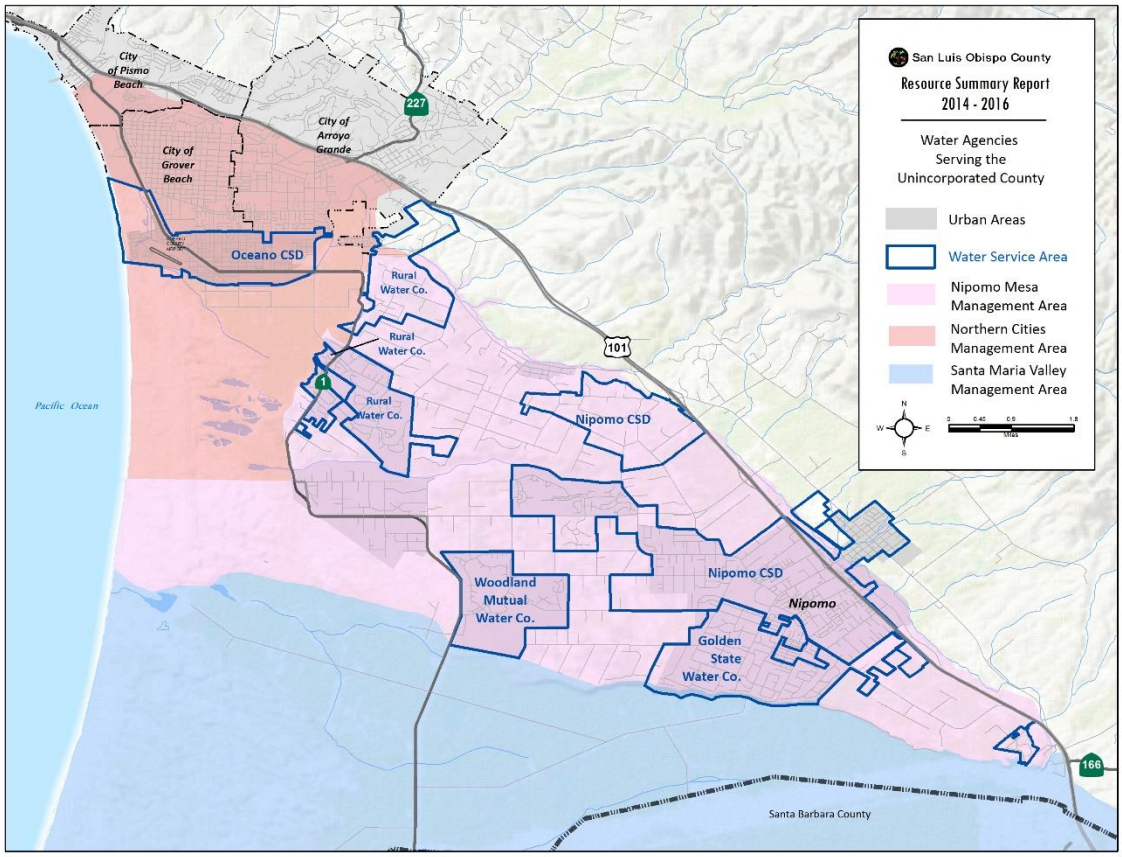


Figure II-8 -- Santa Maria Groundwater Basin, Management Areas and Water Purveyors

Santa Maria Groundwater Basin

The Santa Maria groundwater basin underlies the Santa Maria Valley in the coastal portion of northern Santa Barbara and southern San Luis Obispo Counties and serves urban users as well as overlying well users. The basin also underlies Nipomo and Tri-Cities Mesas, Arroyo Grande Plain (Cienega Valley), and in the Nipomo, Arroyo Grande and Pismo Creek Valleys.

There are two boundaries currently in use for this basin, one defined by the California Department of Water Resources (DWR) and one defined by the Superior Court of California. The court-defined boundary was developed by a technical committee for use in basin adjudication. Three sub-basins have also been identified in San Luis Obispo County that are separated from the main basin by the Wilmar Avenue fault and are outside the area of adjudication. These are the Pismo Creek Valley (1,220 acres), Arroyo Grande Creek Valley (3,860 acres), and Nipomo Valley (6,230 acres) Sub-basins.

The Santa Maria Groundwater Basin has been adjudicated. On January 25, 2008, the Superior Court of California entered a Judgment for a basin-wide groundwater litigation case that defined three basin management areas. These management areas are the Northern Cities Management

Area (NCMA) and the Nipomo Mesa Management Area (NMMA) in San Luis Obispo County, and the Santa Maria Valley Management Area (SMVMA) in Santa Barbara County.

Northern Cities Management Area

The Northern Cities Management Area (NCMA) is part of the Santa Maria Groundwater Basin adjudicated area. The Oceano CSD is the only water purveyor within the NCMA serving the unincorporated County. The 2002 Groundwater Management Agreement (the "gentlemen's agreement") among the Northern Cities which includes the cities of Arroyo Grande, Pismo Beach and Grover Beach, along with the Oceano CSD, allocates an assumed safe yield of 9,500 AFY. The safe yield included subdivisions for agricultural irrigation (5,300 AFY), subsurface flow to the ocean (200 AFY) and urban uses (4,000 AFY). It also provided that urban groundwater allocations can be increased when land within the incorporated boundaries is converted from agricultural uses to urban uses, referred to as an agricultural conversion credit, or "ag credit." The 2013 Annual Monitoring Report for the Northern Cities Management Area (NCMA) summarizes the groundwater allocations for the Northern Cities as follows:

Table II-15 -- Allocation of Water Among Parties to The 2002 Northern Cities Management Agreement

Urban Area	Groundwater Allotment (AFY)	Ag Credit (AFY)	Total (AFY)
Arroyo Grande	1,202	121	1,323
Grover Beach	1,198	209	1,407
Pismo Beach	700	0	700
Oceano CSD	900	0	900
Total:	4,000	330	4,330

Source: San Luis Obispo County Master Water Report, 2012, page 4-30; NCMA 2013 Annual Monitoring Report

The Arroyo Grande Plain Hydrologic Sub-area (part of the Santa Maria Groundwater Basin) provides from 30 to 100 percent of the water supply for the urban users. The range reflects the fact that each NCMA agency also obtains a portion of their water supplies from surface sources such as the SWP and Lopez Lake. The only water purveyor serving the unincorporated areas of the Northern Cities Management Area is the Oceano CSD. However, the urban groundwater extraction allocations are shared by agreement among Pismo Beach, the City of Arroyo Grande, the City of Grover Beach, and the Oceano CSD. As party to the Santa Maria Groundwater Basin litigation, extraction allocations may be increased or decreased at a future date. Groundwater availability in the NCMA is primarily constrained by water quality issues and water rights. The major purveyors have agreed to share the water resources through a cooperative agreement that also sets aside water for agricultural use and for basin outflow, although the amount allocated for basin outflow has been deemed unreasonably low (Todd, 2007).

Following the detection of evidence of seawater intrusion in 2009, the NCMA water purveyors worked cooperatively with each other and the County to reduce groundwater pumping. The improvement of water quality after 2009, however, also coincided with a subsequent average rainfall year (2010) and well head improvements to the monitoring well to reduce possible surface water contamination. As a result, Oceano CSD does not believe that the sea water

intrusion evidence is conclusive and is developing its own groundwater elevation monitoring to more closely evaluate pumping in comparison to groundwater levels and water quality changes.

Water availability in the NCMA is primarily constrained by water quality issues and water rights. Basin sediments in the management area extend offshore along several miles of coastline, where seawater intrusion is the greatest potential threat to the supply. Low coastal groundwater levels indicated a potential for seawater intrusion that was locally manifested in sentry wells 32S/13E 30N02 and 30N03 in 2009 after 3 dry years, with levels and water quality improving after an average rainfall year in 2010. Following the detection of evidence of seawater intrusion in 2009, the NCMA water purveyors worked cooperatively with each other to reduce groundwater pumping. This approach included the following management strategies:

- Increased surface water use through delivery of surplus supplies from Lopez reservoir
- Expanded conservation programs and customer education
- Negotiations to secure an emergency allocation of additional State Water Project supplies, if needed
- Hydraulic evaluation and maintenance of the Lopez pipeline
- Increased groundwater monitoring
- Expanded regional cooperation
- Adoption of the Low Reservoir Response Plan (LRRP) for the Lopez Project

Going forward, the NCMA water purveyors plan to implement several initiatives to improve the long-term management and sustainability of their water supplies. These initiatives could include:

- Development of a groundwater model for the Santa Maria Groundwater Basin
- Enhanced conjunctive use of the groundwater basin
- Regional recycled water projects

Oceano CSD maintains adequate supply to meet existing and forecast buildout demands. With sufficient conservation, Oceano CSD should have adequate supply to not only meet its customer's needs, but also maintain a reliable supply.

Water demand projected over 20 years will not equal or exceed the estimated dependable supply for the unincorporated areas of the Northern Cities Management Area. **No recommended Level of Severity**.

Table II-16 – Santa Maria Groundwater Basin -- Northern Cities Management Area Existing and Forecasted Water Supply and Demand

Demand	Oceano CSD	Agriculture	Rural
FY 2015/2016 Demand (AFY)	630.1[1]	2,056	38
Forecast Demand in 15 Years (AFY)	1,249	2,399	38
Forecast Demand in 20 Years (AFY)	1,348	2,513	38
Buildout Demand (30 Or More Years) (AFY)	1,277 -1,419[2]	2,742	38
Supply			
State Water Project (AFY)[3]	750[4]	0	0
Lopez Lake Reservoir (AFY)	303	0	0
Santa Maria Groundwater Basin -- Arroyo Grande Plain Sub-Area (AFY)[5]	900	5,300[7]	36
Total Supply:	1,953	Uncertain	Uncertain
Water Supply Versus Forecast Demand	Water demand projected over 20 years will not equal or exceed the estimated dependable supply.[8]		

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.60; San Luis Obispo Integrated Regional Water Management Plan Tables D-26 and D-27.

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Ten percent additional water conservation (beyond what has already been accomplished) assumed for the low end of the forecast buildout demand, except for Grover Beach, which assumed 20% additional reduction.
3. State Water Project average allocation assumed 66 percent of contract water service amount.
4. In 2016 the Oceano CSD approved a 750 AFY drought buffer
5. Safe yield of 9,500 AFY with subdivisions for applied irrigation (5,300 AFY), subsurface outflow to the ocean (200 AFY), and urban use (4,000 AFY). The 2002 Groundwater Management Agreement safe yield allotment for urban use is broken down per the number shown.
6. Arroyo Grande had a temporary agreement to purchase 100 AFY of Oceano CSD supplies from groundwater or Lopez Lake water. The temporary agreement expired in 2014.
7. Safe yield of 9,300 AFY with subdivisions for applied irrigation (5,300 AFY, and urban use (4,000 AFY)). Subsurface outflow to the ocean is allocated at 200 AFY. The 2002 Groundwater Management Agreement safe yield allotment for urban use is broken down per the numbers shown.
8. NCMA cities, NMMA water purveyors, County, District, and local land owners actively and cooperatively manage surface and groundwater with the goal of preserving the long-term integrity of water supplies in the NCMA and NMMA.

Nipomo Mesa Management Area

Groundwater is pumped from the Nipomo Mesa Hydrologic Sub-area that is part of the Santa Maria Groundwater Basin. Litigation involving use of this groundwater basin, which began in 1997, has resulted in stipulations and judgments in 2005 and 2008. As party to the Santa Maria Groundwater Basin litigation, extraction allocations for Golden State Water Company, Rural Water Company, Woodlands Mutual Water Co., Phillips 66 and Nipomo CSD may be affected at a future date. In addition, the stipulated judgment required these users (except for Phillips 66) to develop alternative sources to import a minimum of 2,500 AFY

The primary constraints on water availability in the NMMA are physical limitations to the east, water quality on the west, and water rights. According to the NMMA 2015 Annual Report, *"In Fall of 2015 the divide between the pumping depression and Coastal wells directly to the west is largely absent creating a groundwater gradient that is landward from the coast."* This condition increases the risk of seawater intrusion. Because it is "downhill" from the ocean to inland groundwater elevations.

In 2002, The California Department of Water Resources published a report entitled "Water Resources Of The Arroyo Grande- Nipomo Mesa Area". At page ES-21 this report indicates that the dependable yield of the Nipomo Mesa portion of the basin is estimated to be between 4,800 and 6,000 AF. Compared to the actual production in 2015 of 15,249 AF this would seem to indicate that NMMA was pumping at least (6,000 - 15,249 = - 9,249) or 9,000 and as much as 10,200 AF more than the dependable yield.

A review of reports prepared by DWR, NCSD and NMMA over the 50 year period between 1965 and 2015 indicates that groundwater surface elevations under the Nipomo Mesa have been falling for half a century, an example being the area of the pumping depression, where the groundwater ridge between NCMA and NMMA stood 50 feet above sea level in 1995, but had fallen to sea level by 2015, with the deepest portion of the NMMA pumping depression at 13 feet below sea level Calculations which compare the amount of groundwater lost under NMMA over the last 50 years using the conclusion of about a 10,000 AFY overdraft in 2015 in No. 5. above, agree with calculations which use the volume of emptied aquifer in No. 6. above and indicate a cumulative groundwater deficit over the 50 year period of about 50,000 acre feet.

If the DWR (2002) dependable yield figures of 4,800 to 6,000 AFY for NMMA are accepted and then compared to Agricultural pumping of 7,337 AF reported in the NMMA 2015 annual report, it is apparent that there is no surplus available for NMMA purveyors, since overlying land owners (agricultural pumpers) have senior rights to groundwater under their land.

The conditions outlined above place the NMMA's groundwater supply at ever increasing risk from seawater intrusion, but also places the NCMA southwest agricultural area and eventually Pismo Beach and OCSD wells at risk to seawater intrusion in the near term and all NCMA purveyor wells at risk if the trend continues.

In 2006 the County certified a Level of Severity III for the NMMA based on a Resource Capacity Study (RCS) prepared in 2004. The County subsequently adopted ordinance No. 3090 to implement the recommendations of the RCS. The NMMA falls within DWR Bulletin 118 (http://www.water.ca.gov/groundwater/bulletin118/index.cfm) Basin 3-12, the Santa Maria Groundwater Basin, which is a high priority basin in accordance with California's Sustainable Groundwater Management Act

(http://www.water.ca.gov/groundwater/casgem/pdfs/lists/StatewidePriority_Abridged_05262014.pdf). However, because of ongoing court-approved groundwater management activities, the NMMA is exempt from all but certain minimal reporting requirements associated with the Sustainable Groundwater Management Act (http://sgma.water.ca.gov/adjudbasins/signin).

In May, 2015, the Board of Directors of the Nipomo CSD declared a Stage III water shortage and prepared a Water Shortage Management Plan (WSMG). The WSMG is based on five escalating stages of drought. In Stages III through V, there are targeted reductions in water use designed to

protect long-term groundwater supplies. Stage III represents Severe Water Shortage Conditions and sets a goal of reducing District-wide water use by 30%. In July, 2016, the Nipomo CSD Board declared a Stage IV water shortage and began implementing additional mandatory conservation measures that prohibits municipal irrigation, suspends pending applications for water service and requires groundwater pumping to be reduced by 50%.

Even with additional conservation measures in place, Golden State Water Company, Rural Water Company, Woodlands MWC, and Nipomo CSD could experience supply deficits if groundwater is insufficient to meet increases in demands. To address this need, recycled water, investigating other groundwater supply sources, and increasing delivery from the Nipomo Supplemental Water Project (discussed below) are considered the most feasible water management strategy options to consider implementing.

Nipomo Supplemental Water Project. The Nipomo CSD has investigated multiple sources of supplemental water and, as a result, signed an agreement with the City of Santa Maria to pursue an intertie project. The January 5, 2010 Wholesale Water Supply Agreement established the basis for purchase and delivery of water from the City of Santa Maria to the Nipomo CSD. The agreement was updated in May, 2013 to reflect the phased construction of the project. Construction on the project began in late summer 2013 and Phase I was completed in July, 2015.

When all phases are completed, the project will be capable of delivering up to 3,000 AFY, although the mandated minimum water delivery is 2,500 AFY. The Nipomo CSD will be required to purchase 1,667 AFY of the 2,500 AFY minimum supply. NCSD has been charging approximately $14,000 per dwelling unit to help pay for the Nipomo Supplemental Water Project, but has so far had insufficient funding to complete that project. Because of lack of funding, the Nipomo Supplemental Water Project is delivering far less than the mandatory minimum (321 AF in 2015).

Three other water purveyors, Woodlands MWC, Golden State Water Company, and Rural Water Company will also share in the project costs and will together receive one-third of the mandated minimum water delivery (a total of 833 AFY of 2,500 AFY). The additional 500 AFY capacity has been reserved for use by the Nipomo CSD for infill, but no annexations or General Plan Amendments may use this water. Additional water via the City of Santa Maria (if possible), desalination and recycled water are also being considered as a long-term alternative source for the Nipomo CSD and others in the region.

Because of the requirement to bring in water for all new development occurring after January 1, 2005, the Nipomo Supplemental Water Project may have to bring in significantly more than 2,500 AFY. The two water supply requirements in the Stipulation are cumulative. NCSD itself is planning on 3,000 AFY to account for the added development within NCSD since January 1,2005.

Although the Santa Maria Groundwater Basin has been adjudicated, the potential for shortfalls to purveyors and overlying users that continue to rely primarily on groundwater remains. The NMMA water purveyors, the County, and local land owners actively and cooperatively manage surface and groundwater with the goal of preserving the long-term integrity of water supplies in the NMMA. However, uncertainties remain about the reliability of water resources serving the Nipomo Mesa Management Area. The deepening pumping depression within the NMMA and

expansion of the groundwater depression to the west and north, appears to have eliminated the historical groundwater divide between the NCMA and NMMA. Seawater intrusion has not been observed in the NMMA sentry wells but the recent landward gradient along the coast line (NMMA 2015 annual report) could lead to seawater intrusion as has been observed in the NCMA. Consequently, collaboration among NMMA, NCMA and the South County Sanitation District should be pursued in considering recycled water as an option to improve water resource reliability.

Water demand projected over 15 years is projected to equal or exceed the estimated dependable supply. **Recommended Level of Severity III.**

Table II-17 -- Santa Maria Groundwater Basin – Nipomo Mesa Management Area Existing and Forecasted Water Supply and Demand

Demand	Nipomo CSD	Woodlands Mutual Water Co.	Golden State Water Co.	Agriculture	Rural
FY 2015/2016 Demand (AFY)[1]	1,773.3	732.1	625.1	7,337	2,878[2]
Forecast Demand in 15 Years (AFY)	3,995	1,386[6]	1,690	7,575	5,222
Forecast Demand in 20 Years (AFY)	4,103	1520[6]	1,847	8,291	5,661
Buildout Demand (30 Or More Years) (AFY)	4,244[3]	1520[4, 6]	1,944	8,291	5,661
Supply					
Nipomo Supplemental Water Project (AFY)[5]	2,237	417	208	0	0
Santa Maria Groundwater Basin -- Nipomo Mesa Sub-Area (AFY)	1,000	817	852	7,482	2,095
San Luis Obispo Valley Groundwater Basin	0	0	0	809	226
Other GW Supplies	0	0	0	0	0
Recycled Water (AFY)	60-74	200	0	0	0
Total Supply:	3,311	1,434	1,060	8,291	5,661
Water Supply Versus Forecast Demand	Water demand projected over 15 years is projected to equal or exceed the estimated dependable supply. [4]				

Source: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.60; San Luis Obispo Integrated Regional Water Management Plan, Tables D-25 and D-26; Nipomo CSD 2015 Urban Water Management Plan

Notes:

1. See Table II-1. Current year data for agricultureis from the Nipomo Management Area 2015 Annual Report .
2. Nipomo Mesa Management Area 2015 Annual Report
3. Nipomo CSD 2015 Urban Water Management Plan.
4. Ten percent additional water conservation (beyond what has already been accomplished) assumed for the low end of the forecast buildout demand, except for Grover Beach, which assumed 20% additional reduction.

5. Nipomo supplemental water project includes Nipomo CSD, Woodlands MWC, Golden State Water Company, and Rural Water Company. Nipomo CSD will receive approximately 1,667 AFY and has reserved an additional 500 AFY. The other three will receive 833 AFY.
6. The NCMA cities, NMMA cities, County, District, and local land owners actively and cooperatively manage surface and groundwater with the goal of preserving the long-term integrity of water supplies in the NCMA and NMMA.
7. Demands are based on an 18-hole golf course constructed in Phase IIA/IIB. Projected demands may be reduced if the open space is planted with vineyards or drought tolerant landscaping in lieu of the golf course.

Oceano/Nipomo Area Water Systems

Nipomo CSD is currently constructing the Supplemental Water Project, described above. No other significant water system improvements or limitations were reported. **No recommended Levels of Severity.**

Santa Margarita Area Water Supply and Systems

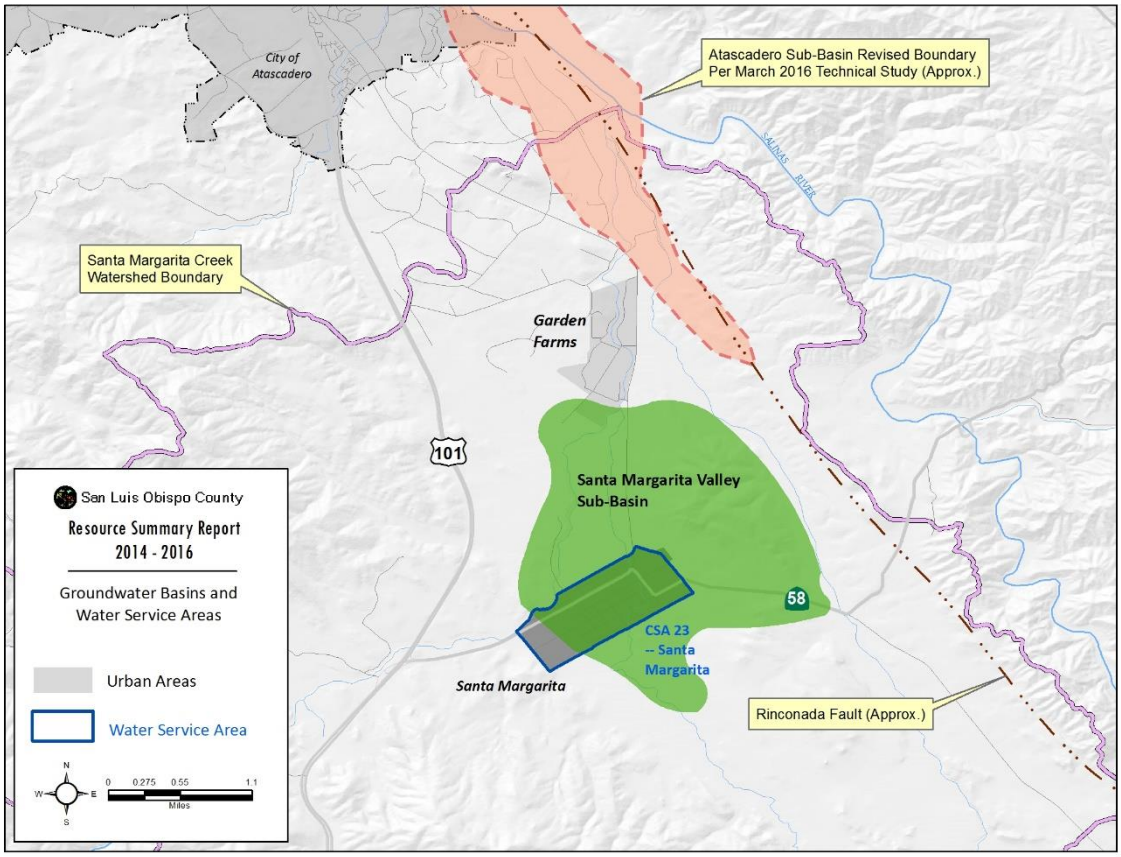


Figure II-9 -- Santa Margarita Valley Groundwater Basin and CSA 23

Santa Margarita Valley Groundwater Basin

The Santa Margarita Valley Groundwater Basin underlies the unincorporated town of Santa Margarita and surrounding rural residences and agricultural fields. The total drainage area associated with the basin consists of four watersheds that collectively drain in the northerly direction into the Salinas River.

Department of Water Resources Bulletin 118 includes the Santa Margarita Valley as part of the Paso Robles Area Sub-basin (Sub-basin No. 3-4.06) of the greater Salinas Valley Groundwater Basin. However, a March, 2016, Technical Report submitted to DWR provides scientific evidence to support of a request for basin boundary modification to establish the "Salinas Valley – Atascadero Subbasin" as a hydrologically distinct subbasin from the Paso Robles Subbasin. The Technical Study recommends boundaries for the Atascadero Subbasin which include the area generally west of the Rinconada Fault and north of the community of Garden Farms (Figure II-9) which lies about two miles north of the community of Santa Margarita. Although the Santa Margarita Valley has been treated as a separate subbasin for water planning purposes by the MWR and the IRWMP, the 2016 Technical Study suggests that it may also be distinct from both the Paso Robles Subbasin because it lies west of the Rinconada Fault and south of the proposed boundary of the Atascadero Subbasin. For purposes of this RSR, the Santa Margarita Valley will continue to be discussed as a separate Subbasin.

Water users in the Santa Margarita area include the unincorporated town of Santa Margarita and overlying users. Santa Margarita Ranch is primarily an agricultural operation, but residential subdivisions are approved on the Ranch.

The primary constraints on water availability in the Santa Margarita Groundwater Basin are physical limitations. No comprehensive studies to determine the perennial yield are known to exist. Based on an evaluation of available data used for the Santa Margarita Ranch Environmental Impact Report, however, Hopkins (2006) indicated that the average annual yield of the basin in the vicinity of the proposed Santa Margarita Ranch development may be in the range of 400 to 600 AFY.

Although the Santa Margarita Creek alluvial aquifer serves as the primary source of water for the town of Santa Margarita, there is no safe yield estimate. Although the alluvial aquifer is considered to be highly productive, it is shallow in vertical extent (i.e., 50 feet thick) and therefore highly susceptible to seasonal fluctuations in groundwater levels of about 15 to 20 feet. During dry water years or extended droughts, well yields may be significantly reduced due to low groundwater levels (Todd, 2004). Recharge in the shallow alluvial deposits for a particular year is dependent on rainfall, creek stream flows, and precipitation runoff generated in the four watersheds. Wells developed in the deeper Santa Margarita Formation generally do not have sufficient yields to reliably replace the wells in the alluvial aquifer. Hydrographs of deep wells in the area indicate that groundwater levels have been trending downward for at least the last decade (Hopkins, 2006). Hopkins provided a conservative estimate of the reliable yield from the Santa Margarita Creek alluvial aquifer of 164 AFY which in turn was taken from an earlier study (Fugro-McClelland, 1997). This is an estimate only, and generally reflects the estimated buildout demand for the community of Santa Margarita. The Hopkins study acknowledges that the analysis of existing groundwater supplies reflects a number of data deficiencies. For example, previous studies in the area did not identify the safe yield and, prior to the expansion of

agricultural activities, groundwater data were scarce. Moreover it is uncertain which basins are used by agriculture and rural users and the quantity of water pumped from each basin.

The Santa Margarita Ranch, which surrounds the community of Santa Margarita and CSA 23, extracts water from the deeper Santa Margarita Formation. Development proposed for the Ranch is expected to generate water demand of about 3,087 AFY (Hopkins, 2006) which includes 1,627 AFY for the agriculture cluster subdivision and future development program, plus 2,642 AFY associated with the planned expansion of orchards and vineyards. Approval of development for Santa Margarita Ranch is subject to the following condition:

> *Annexation to County Service Area 23 to accommodate the community water system that will be used for the proposed residences. Use of imported water (Nacimiento Water Project) at a 1:1 ratio for all residential development shall be provided through an annexation agreement secured through the Santa Margarita Ranch Mutual Water Company allowing land application for agriculture to offset the use of groundwater for residential units and an emergency intertie with the existing CSA 23 system. If this option is not feasible (ie annexation to CSA 23), the land application of Nacimiento water will nevertheless be allowable and the requirement to construct an emergency intertie with the existing CSA 23 system must still be completed.*

Because of uncertainty regarding the safe yield of the underlying aquifer, development approved for the Ranch is required to offset its water demand at a ratio of 1:1 through the importation of water from the Nacimiento Water Project.

Population projections prepared by Planning and Building suggest that the current population of the community of Santa Margarita is about 1,295. Assuming the 2016 per capita demand continues into the future, water demand is estimated to increase by about 80% over the next 20 years. It should be noted that future per capita demand will likely be much greater than in 2016 because of water conservation efforts imposed as a result of drought conditions which have persisted over the past three years. Because of uncertainty regarding the safe yield of the Santa Margarita groundwater basin, it is unknown whether water demand projected over 20 or more years will equal the estimated dependable supply. **No Recommended Level of Severity.**

Table II-18 -- Santa Margarita Groundwater Basin Existing and Forecasted Water Supply and Demand

Demand	CSA 23	Santa Margarita Ranch	Agriculture	Rural
FY 2015/2016 Demand (AFY)[1]	100.3	1,621	1,640	289
Forecast Demand in 15 Years (AFY)	179	4,801	2,061	436
Forecast Demand in 20 Years (AFY)	182	5,596	2,202	485
Buildout Demand (30 Or More Years) (AFY)	173-192[2]	5,301-5,890[3]	1,720-2,680	450-520
Supply				
San Margarita Groundwater Basin (AFY)[4]	164	1,621	Uncertain	Uncertain
Nacimiento Water Project	0	80[5]	0	0
SWRCB Water Diversions	0	22	22[6]	5[6]
Rinconada Valley Groundwater Basin	0	0	308	68
Pozo Valley Groundwater Basin	0	0	110	24
Other GW Supplies	0	0	1,762	388
Total Supply:	Uncertain	1,723	2,202[7]	485[7]
Water Supply Versus Forecast Demand	Because of uncertainty regarding the safe yield of the Santa Margarita groundwater basin, it is unknown whether water demand projected over 20 or more years will equal the estimated dependable supply.			

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.65; San Luis Obispo Integrated Regional Water Management Plan 2014, Tables D-37 and D-38.

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Ten percent water conservation assumed for the low end of the forecast buildout demand. Although the existing annual supply and demand indicates a surplus, the dry season extraction limit creates a seasonal supply deficit
3. Assumes 161 AFY for the agriculture cluster subdivision plus 1,466 AFY for the future development program plus 2,462 AFY associated with the expansion of orchards and vineyards.
4. Although some reports indicate an average annual yield may range between 400 to 600 AFY, no comprehensive studies to determine the perennial yield are known to exist. Estimates of the safe yield of the Santa Margarita Creek alluvial aquifer have been estimated to be 164 AFY.
5. Potential supply. Because of uncertainty regarding the safe yield of the underlying aquifer, development approved for the Ranch is required to offset its water demand at a ratio of 1:1 through the importation of water from the Nacimiento Water Project. According to the FEIR for the project, water demand associated with the agriculture cluster subdivision plus the Future Development Program is estimated to be about 1,627 AFY. In March, 2016, the Board allocated the remaining unallocated water from the Nacimiento Project. The Santa Margarita Ranch received an allocation of 80 AFY.
6. Diversions do not distinguish type of use. Potentially 417 AFY could be diverted for use to either agriculture or rural residential.
7. It is uncertain which basins are used and the quantity of water pumped from each basin. Future studies should invest the resources to quantify the location of and use within each basin.

Santa Margarita Area Water Systems

In 2012, the County considered the construction of a physical connection between an existing water transmission pipeline (the State water pipeline) which is a component of the State Water Project and the existing local water distribution system of CSA 23. The purpose of the project (the Santa Margarita Emergency Intertie Project) was to provide properties within an assessment district access to a reliable supply of water in the event of a drought of sufficient duration and severity which would render the existing groundwater supply insufficient. Environmental review was completed in 2013 and the project went out to bid for construction in June 2015. The project was completed in mid-2016. **No recommended Levels of Severity**.

Templeton/San Miguel/Shandon Water Supply and Systems

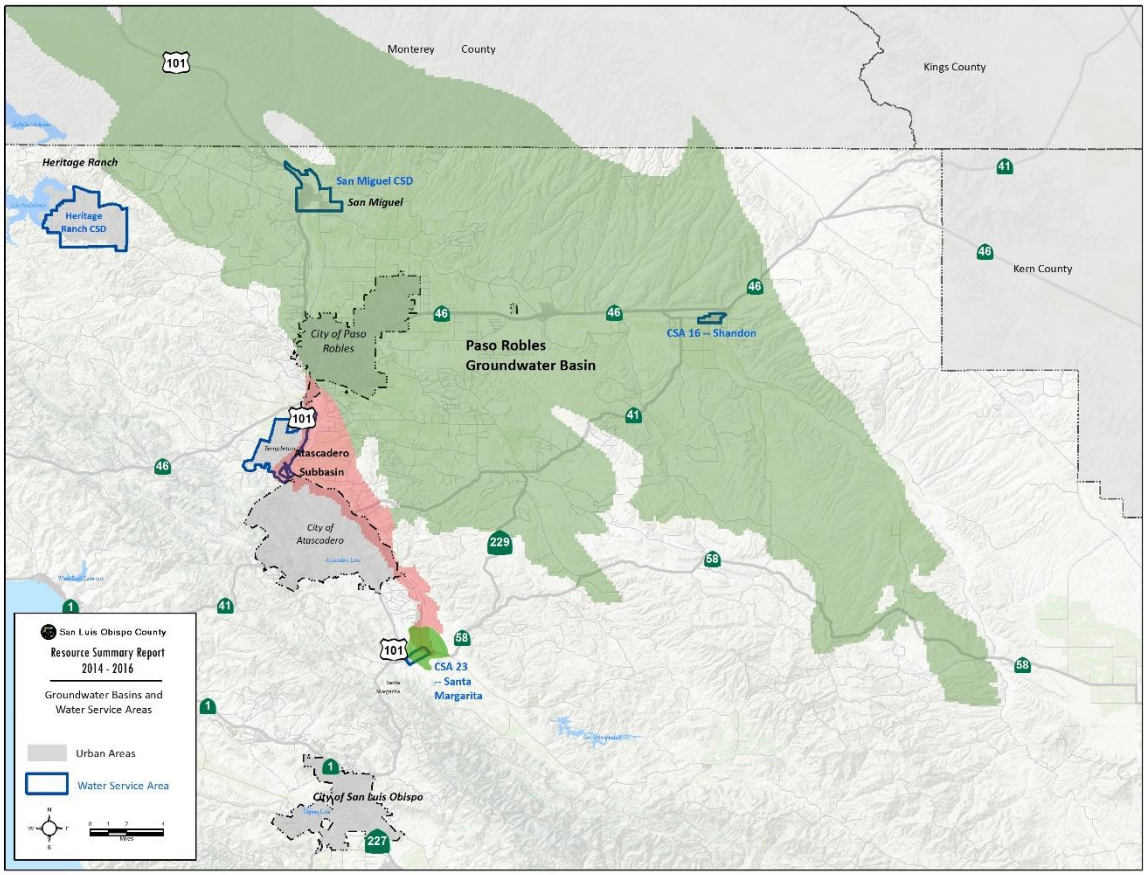


Figure II-10 -- Paso Robles Groundwater Basin, Atascadero Sub-basin and Water Purveyors

Paso Robles Groundwater Basin

The Paso Robles Groundwater Basin is located in both Monterey and San Luis Obispo counties and is 505,000 acres (790 square miles) in size. The basin ranges from the Garden Farms area south of Atascadero to San Ardo in Monterey County, and from the Highway 101 corridor east to Shandon.

Water purveyors serving the unincorporated County include the San Miguel CSD and CSA 16 which serves the Shandon area. Groundwater from the Paso Robles Groundwater Basin is the primary source of water; CSA 16 has an allocation of 100 AFY of State Water Project water (but no drought buffer), but has not developed this supply due to high cost.

In March, 2014, the City of Paso Robles adopted a Recycled Water Master Plan which suggests that as much as 3,300 AFY of recycled water could be used by in-city and out-of-city customers to offset groundwater use. In 2015, the City completed an upgrade of the wastewater treatment plant for compliance with current discharge requirements and for potential future reuse of treated effluent. Also in 2015, the City completed an update of its Urban Water Management Plan.

Portions of the Paso Robles Groundwater Basin have experienced significant water level declines over the past 15 to 20 years (Todd 2007, Todd 2009). The area of particular concern is the Estrella subarea, primarily from the eastern part of the City of Paso Robles, eastward along the Highway 46 corridor to Whitley Gardens.

The following is a chronology of key events in the ongoing management of the Paso Robles Groundwater Basin:

- In 2005, the County, acting solely for and on behalf of CSA 16 (Shandon), the City of Paso Robles (collectively, municipal users), a number of landowners (collectively, landowners) and the County Flood Control District, acting solely as technical adviser, entered into the Paso Robles Groundwater Basin Agreement (Agreement) (the San Miguel CSD joined as a municipal user party in 2010). Key elements of the Agreement are that: (1) each party agrees that as against any other party to the Agreement only, it will not assert that the Basin (as defined therein) was in overdraft as of the date of the Agreement; (2) no landowner parties will commence any court action to establish any priority of groundwater rights over municipal user parties as long as the Agreement is in effect, and no municipal user parties will commence any action affecting groundwater rights as against the landowner parties unless certain procedural requirements are met; and (3) the parties agree to participate in the development of a plan or program for monitoring and evaluating groundwater conditions in the Basin.A Resource Capacity Study was completed by the County in 2011 for the "area of concern" where groundwater levels have experienced significant declines. The RCS concluded that the groundwater basin is approaching or has reached its perennial yield. The RCS recommended groundwater monitoring, water conservation, and land use measures to address groundwater demand. On February 1, 2011, the Board of Supervisors certified a Level of Severity III for the Paso Robles Groundwater Basin, excluding the Atascadero Sub-Basin.

- On August 28, 2012 the Board awarded a contract to Geoscience, Inc. to update the computer model for the Basin. The scope of work for the project includes:

  - Updating the model to extend the period covered from 1981-1997 to 1981-2011

  - Refining the perennial (safe) yield for the Basin

  - Assessing the model input parameters that have the greatest effects on the model's simulation results to determine the certainty of model predictions

  - Evaluating the Basin's response to "growth" and "no-growth" scenarios projected over the period 2011 to 2041 (i.e. simulating how water levels would change)

- Water conservation requirements for discretionary land use permit applications and land divisions and general plan amendments within the rural portions of the Paso Basin, outside of the Atascadero Sub-basin, were adopted by the Board of Supervisors on September 25, 2012.

- The Paso Robles Groundwater Basin Urgency Ordinance (Ordinance) was adopted on August 27, 2013. The emergency ordinance established a moratorium on new or expanded irrigated crop production, conversion of dry farm or grazing land to new or expanded irrigated crop

production, as well as new development dependent upon a well in the Paso Robles Groundwater Basin unless such uses offset their total projected water use by a ratio of 1:1.

- An urgency ordinance (Ordinance No.3246) was adopted by the Board on August 27, 2013 which established a moratorium on new or expanded irrigated crop production, conversion of dry farm or grazing land to new or expanded irrigated crop production and new development dependent upon groundwater within the Paso Robles Groundwater Basin unless such uses offset their total projected water use.

- A quiet title lawsuit was filed in November, 2013 seeking to reaffirm the right of overlying property owners within the Urgency Ordinance Area to continue to pump water from the basin for a beneficial use.

- In September, 2014 Assembly Bill 2453 (Achadjian) was signed into law amending Section 37900 of the California Water Code. The bill provides for the formation of the *Paso Robles Basin Water District* to provide a governmental framework for the management of groundwater resources within the basin. The district would be formed in accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and the boundaries would be established by the San Luis Obispo County Local Agency Formation Commission (LAFCo). The bill authorizes the district to develop, adopt, and implement a groundwater management plan to control extractions from the Paso Robles Groundwater Basin.

- On September 16, 2014, Governor Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). The SGMA requires the creation of groundwater sustainability agencies to develop and implement local plans allowing 20 years to achieve sustainability.

- A Draft Final Report for the Paso Robles Groundwater Basin Computer Model Update was distributed for public review and comment on November 13, 2014. Key outcomes of the model update and calibrations include the following:

  - Updated Perennial Yield Estimate for the Basin. The period of 1982 to 2010 is representative of the historical average rainfall in the Basin area. The updated estimate for the perennial yield based on that period is 89,648 acre-feet per year (AFY). For the period of 1981 to 2011, outflows exceeded inflows to the Basin by 2,473 AF on an average annual basis (i.e. more water left the Basin than was replenished). This is updated from the preliminary results presented in December 2013, which were 89,200 AFY and 2,900 AF, respectively.

  - Future Year Simulations. The model was run to evaluate the Basin's response to "no-growth" and "growth" scenarios projected over a future thirty year period. The no-growth scenario projects that outflows would exceed inflows on an average annual basis over the thirty year period by 5,592 AFY. The growth scenario projects that outflows would exceed inflows on an average annual basis over the thirty year period by 20,900 AFY. However in the Paso Robles Groundwater Basin Computer Model Update Final Report to the San Luis Obispo County Board of Supervisors January 13, 2015, the average deficit was reported to be 2,400 AFY from 1981-2011.

- The Draft Final Report can be downloaded in its entirety from this link:

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCAQFjAA&url=http%3A%2F%2Fwww.slocountywater.org%2Fsite%2FWater%2520Resources%2FWater%2520Forum%2FComputer%2520Modeling%2Fpdf%2FDraft%2520Final%2520Model%2520Update%2520Report.pdf&ei=GK7SVOwhg66CBKfogHg&usg=AFQjCNGID7k4R4EfP9u3l90KpKxbFDQydA

- On November 2, 2015, the provisions of the agricultural offset requirements within the Paso Robles Groundwater Basin as set forth by emergency ordinance No. 3246 were incorporated into the County Land Use Ordinance.

- On November 10, 2015 the County Board of Supervisors initiated the first step toward compliance with the Sustainable Groundwater Management Act (SGMA) within the Paso Robles Groundwater Basin. This action included formation of the Paso Robles Basin Water District, election of a Board of Directors, and a special tax in accordance with Proposition 218.

- On March 8, 2016 an election was conducted to form the groundwater management district, to elect board members and to approve the special tax. Both the formation of the district and the special tax were rejected by the relevant electorate.

- July, 2016 the groundwater model runs were completed.

- On Nov 16, 2016 the Board of Supervisors voted to have San Luis Obispo County act as the Sustainable Groundwater Agency for those areas not covered by other GSAs developed over the basin.

- On December 8, 2016, the County Flood Control and Water Conservation District, published the Refinement of the Paso Robles Groundwater Basin Model and Results of the Supplemental Water Supply Options Predictive Analysis The Report supplements the model update report completed by GEOSCIENCE and Todd Groundwater in 2014. The main purpose of the model refinements was to address the technical concerns of the 2014 updated Basin Model raised by the peer review process. Some of the main conclusions are:

    - The Report provides an updated estimate of groundwater storage as a deficit of 3,184 acre-ft averaged over 1981 to 2011.

    - The Report also provides an updated groundwater budget from 2012-2040. The change in groundwater storage during this period is predicted to be 32,844 acre-ft in deficit on average.

  The Report may be viewed in its entirety by following this link:

  https://www.slocountywater.org/site/Water%20Resources/Water%20Forum/Computer%20Modeling/

A sustainable groundwater management plan is required to be in place by 2020 in accordance with the SGMA. In the meantime, water demand projected over 15 years will equal or exceed the estimated dependable supply. **Recommended Level of Severity III.**

Table II-19 -- Paso Robles Groundwater Basin
Existing and Forecasted Water Supply and Demand

Demand	San Miguel CSD	CSA 16 - Shandon	City of Paso Robles[2]	Agriculture	Rural
FY 2015/2016 Demand (AFY)	236.3[1]	90.2[1]	2,045	76,639	3,590
Forecast Demand in 15 Years (AFY)	466	578	2,602	74,353	5,438
Forecast Demand in 20 Years (AFY)	524	686	2,124	73,782	5,900
Buildout Demand (30 Or More Years) (AFY)	466-582[3]	271-1,100[4]	2,200	60,740-86,820	5,570-6,230
Supply					
Paso Robles Groundwater Basin[5] (AFY)					
Paso Robles Formation (AFY)	524	147	4,100[6]	51,647	4,130
Salinas River Underflow (AFY)	0	0	[7]	14,756[8]	1,180
Other Groundwater Sources (AFY)	0	0	0	3,689	295
State Water Project (AFY)	0	66[9]	0	0	0
Nacimiento Project	0	0	6,488	0	0
SWRCB WPA 14[10]	0	0	0	3,689	295
Total Supply:	524	213	10,588	73,782	5,900
Water Supply Versus Forecast Demand	Water demand projected over 15 years will equal or exceed the estimated dependable supply.[11]				

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.67; City of Paso Robles 2015 Urban Water Management Plan

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Demands for the City of Paso Robles are from the 2015 Urban Water Management Plan. Amounts listed are water demands planned to be served from the Paso Robles Groundwater Basin and account for balancing and management of the City's available supplies. Pumping could increase if shortage is experienced in other supplies.
3. Twenty (20) percent additional water conservation (beyond what has already been accomplished) assumed for the low end of the forecast buildout demand for San Miguel and 10% for Paso Robles.
4. Upper end of the range reflects demand projected in accordance with the draft Shandon Community Plan should it be approved by the Board in the future.
5. The safe yield of the Paso Robles Groundwater Basin is estimated to be approximately 89,648 AFY.
6. Supply amount shown City from the Paso Robles formation is estimated based on historical pumping which is not the maximum supply available but the historical maximum amount used by the City from the basin.
7. The City is permitted to extract up to 8cfs (3,590 gpm) with a maximum extraction of 4,600 AFY. This amount is accounted for in Table II-21 for the Atascadero Basin.
8. It is assumed that the majority of water supply for agriculture and rural users comes from the Paso Robles Groundwater Basin. SWRCB records indicate that 738 AFY could be diverted from the Salinas River (direct diversion or underflow). It is assumed that the entire amount is used for agriculture.
9. CSA 16 has an allocation of 100 AFY of State Water Project (but no drought buffer), but has not developed this supply due to high cost. State Water Project average allocation assumed 66 percent of contract water service amount, which equates to 66 AFY.

10. State Water Resources Control Board Water Planning Area 14.
11. Including demand in the Monterey County portion of the basin, and depending on the estimated use for the Agricultural and Rural sectors and future hydrology, basin studies are indicating that the perennial yield may be exceeded in the future. The agencies, County, District, and local land owners intend to actively and cooperatively manage the groundwater basin via the development of a Groundwater Management Plan. It is possible that a future supply deficit will exist for agriculture and rural users because the forecast agricultural and rural demands, excluding demands in the Monterey County portion of the basin, exceed the basin yield. It is uncertain how much of the rural and agricultural demand is supplied by sources outside the basin.

The Atascadero Basin of the Paso Robles Groundwater Basin

The Atascadero Sub-basin has historically been considered a sub-basin of the Paso Robles Groundwater Basin. The eastern boundary is the Rinconada fault. Because the fault displaces the Paso Robles Formation, the hydraulic connection between the aquifer across the Rinconada fault has been considered sufficient to warrant the classification of this area as a distinct groundwater basin.In March, 2016, a Technical Report was submitted to DWR that provides scientific evidence to support of a request for a basin boundary modification to establish the "Salinas Valley – Atascadero Sub-basin" as a hydrologically distinct subbasin from the Paso Robles Subbasin. The Technical Study recommends boundaries for the Atascadero Sub-basin which include the area generally west of the Rinconada Fault and north of the community of Garden Farms (Figure II-9), about two miles north of the community of Santa Margarita. Accordingly, In its 2016 Bulletin 118 Interim Update, the California Department of Water Resources determined that the Rinconada Fault is a substantial barrier to the flow of percolating groundwater between Groundwater Basin 3.004.06, Salinas Valley, Paso Robles Area ("Paso Basin"), and Groundwater Basin 3.004.11, Salinas Valley, Atascadero Area which will henceforth be referred to as the Atascadero Basin.

Primary constraints on water availability in the sub-basin include water rights and physical limitations. The rights to surface water flows in the Salinas River and associated pumping from the alluvium (Salinas River Underflow) have been fully appropriated by the State Water Resources Control Board (State Board) and no plans exist to increase these rights beyond the current allocations. Full appropriation implies that no additional rights to the Salinas River flows are being issued by the State Board at this time nor is any additional pumping for existing rights being granted. Therefore, the Salinas River does not represent a future source of additional water supply that can be developed beyond its present appropriation. However, pumping from the Salinas River and underflow, has little to no effect on groundwater storage in the Paso Robles formation.

The Templeton Community Services District (CSD) and the Atascadero Mutual Water Company (AMWC) are the water purveyors serving the unincorporated County within the Atascadero Sub-basin. Both purveyor's water supply sources include groundwater from the Paso Robles Formation and the Salinas River Underflow, water from the Nacimiento Water Project (NWP), and treated wastewater effluent percolated into the Salinas River Underflow.

The City of Atascadero discharges approximately 1.34 MGD of treated wastewater (about 1,500 AFY) back into the Atascadero Sub-basin.

Templeton CSD discharges treated wastewater effluent from the Meadowbrook WWTP into discharge ponds where it percolates into the Salinas Underflow and the same amount of water

is subsequently retrieved 28 to 36 months later from the municipal wells downstream. As of March, 2016, the Templeton CSD has an annual allocation of 245 AFY from the NWP which is also discharged into the Salinas River Underflow and retrieved in the same manner. The Atascadero MWC is a major partner of the Nacimiento Water Project, having contracted for an annual allocation of 3,244 AFY which it uses to recharge the Salinas River Underflow. In March, 2016, the Templeton CSD and the AMWC acquired 1,405 AFY of surplus Lake Nacimiento Water (refer to Table II-3) which will be used to provide additional recharge to the Salinas River Underflow.

The perennial yield of the Sub-basin was estimated in 2002 to be 16,400 AFY (Fugro, 2002). The estimated 2016 net groundwater pumping in the Basin (accounting for supplemental recharge with NWP water and recycled water) was estimated to be about 9,896 AFY as shown on Table II-15.

Table II-20 – Estimated 2016 Net Groundwater Pumping From The Atascadero Bbasin

Source	Templeton CSD	Atascadero MWC	City of Paso Robles	Agriculture[3]	Rural[3]	Total By Source
Paso Robles Formation (AFY)	309	1,890	951	605	800	5,180
Salinas River Underflow (AFY)	725	2,598	2,448	745	0	7,377
Treated Wastewater Retrieval/Basin Augmentation (AFY)	(170)[1]	(0)	0	0	0	(170)
Nacimiento Water Project (AFY)	(53)	(1,383)[4]	(660)	0	0	(2,491)
Net Total:	**809.6**	**3,105**	**2,739**	**1,350**	**800**	**9,896**

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.66, City of Paso Robles Urban Water Management Plan, 2011; City of Paso Robles water production records.

Notes:

1. Templeton CSD is considering diverting existing sewer flows that go to the Paso Robles WWTP (approximately 0.22mgd) and conveying the flow for treatment at the TCSD Meadowbrook WWTP.
2. Templeton CSD retrieves the percolated water at downstream wells.
3. 2014 Estimate
4. Water from Lake Nacimiento is used to recharge the groundwater in the Atascadero Sub-basin to offset groundwater pumping.

At buildout, net groundwater pumping is estimated to be 12,660 AFY, or about 77% of the Sub-basin perennial yield of 16,400. This estimate does not account for the additional 1,120 AFY of NWP water that may be acquired by the Templeton CSD and the AMWC in the future. Meanwhile, the water purveyors, County, District, and local land owners intend to actively and cooperatively participate in the development of a Sustainable Groundwater Management Plan for the Atascadero Sub-basin. **No recommended Level of Severity**.

Table II-21 -- Atascadero Basin Existing and Forecasted Water Supply and Demand

Demand	Templeton CSD	Garden Farms	Atascadero MWC	City of Paso Robles	Agriculture[1]	Rural[1]
FY 2015/2016 Demand (AFY)	997.8[1]	36.4	4,001	3,021[2]	8,715	1,558
Forecast Demand in 15 Years (AFY)	2,054	84	8,867	3,800	11,307	1,792
Forecast Demand in 20 Years (AFY)	2,147	93	9,551	4,558	12,170	1,870
Buildout Demand (30 Or More Years) (AFY)	2,034-2,260[3]	93	9,551[1]	4,558	12,170	1,870
Supply						
Atascadero Groundwater Basin (AFY)[4]						
Paso Robles Formation (AFY)[5]	1,050	93	3,193	[6]	(7)	(7)
Salinas River Underflow (AFY)[5]	500	0	4,883	4,600[8]	745[9]	0
Treated Wastewater Retrieval/Basin Augmentation (AFY)	475[10]	0	1,500[10]	0	0	0
Nacimiento Water Project (AFY)[11]	406	0	3,244	[12]	0	0
Other Water Supply Sources (AFY)	0	0	0	0	Uncertain	Uncertain
Total Supply:	2,431	93	12,820	3,728	Uncertain	Uncertain
Water Supply Versus Forecast Demand	Water demand projected over 20 years will not exceed the estimated dependable supply.					

Source: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.66, City of Paso Robles Urban Water Management Plan, 2011; 2014 San Luis Obispo Integrated Regional Water Management Plan, Tables D-39 and D-40; City of Paso Robles 2015 Urban Water Management Plan.

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Demands for the City of Paso Robles are from the 2015 Urban Water Management Plan. Amounts listed are water demand planned to be served from the City's surface water wells and account for balancing and management of City's available supplies. Pumping could increase to maximum amounts if shortage is experienced in other supplies.
3. Ten (10) percent additional water conservation (beyond what has already been accomplished) assumed for the low end of the forecast buildout demand.
4. The agencies, County, District, and local land owners intend to actively and cooperatively participate in the development of a sustainable Groundwater Management Plan.
5. The perennial yield was estimated to be 16,400 AFY. Extractions from the Basin occur solely from the Salinas River Underflow and deeper formations. Atascadero MWC currently has rights to 3,372 AFY from Salinas River underflow. Increased supplies from the underflow are shown due to UWMP showing 4,613 AFY in 2030.
6. Supply amount for the City of Paso Robles from the Paso Robles Formation is accounted for in Table II-9.

7. It is assumed that the majority of water supply for rural users and about 13 percent of the supply for agricultural users comes from the Basin.
8. The City is permitted to extract up to 8cfs (3,590 gpm) of underflow with a maximum of 4,600 AFY.
9. SWRCB records indicate that 745 AFY could be diverted from the Salinas River (direct diversion or underflow). It is assumed that the entire amount is used for agriculture.
10. Percolation of treated wastewater effluent into the Salinas River underflow and extraction of the same amount 28 months later. Currently about 132 AFY is percolated and extracted. This could increase to 475 AFY in the future. The wastewater treatment plant that returns treated wastewater to the Sub-basin is operated by the City of Atascadero, not the Atascadero MWC.
11. In March, 2016, the Templeton CSD and the Atascadero MWC acquired 1,406 AFY of surplus Lake Nacimiento Water.
12. The Nacimiento entitlement for the City is 6,488 AFT and is accounted for in Table II-19.

Templeton/San Miguel/Shandon Water Systems

Future water supply for the Templeton CSD will likely come from the Nacimiento Water Project (NWP). Templeton CSD could increase its NWP allotment. Templeton CSD would percolate raw water from the NWP into the Salinas River Underflow, in a similar manner that they percolate effluent from the Meadowbrook WWTP percolation ponds (Selby Pond site). In addition, the Templeton CSD might divert additional wastewater flows to the Meadowbrook WWTP (which currently flow to the City of Paso Robles WWTP), which will allow them to increase percolation into and extraction from the Salinas River Underflow by as much as 343 AFY. Plans are being developed to use these sources.

No significant water system limitations were reported. **No recommended Levels of Severity**.

Lake Nacimiento Area Water Supply and Systems

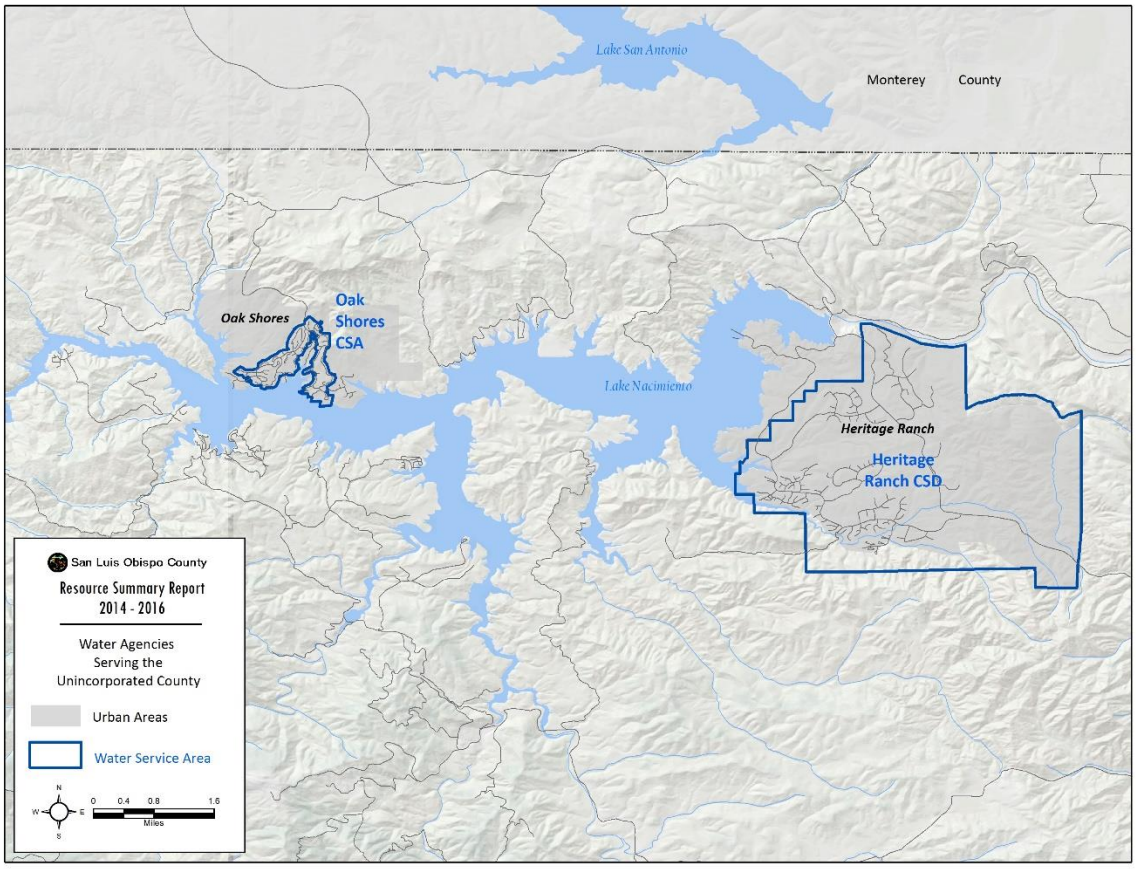


Figure II-11 – Lake Nacimiento Area and Water Service Areas

There are two water purveyors serving the Lake Nacimiento area, the Heritage Ranch CSD and the Nacimiento Water Company which serves the community of Oak Shores. The Heritage Ranch CSD has only one water supply source, the Gallery Well, which is fed via three horizontal wells located in the Nacimiento River bed just downstream of the Nacimiento Dam. Heritage Ranch CSD serves a residential community along the southern shores of Lake Nacimiento. Typically, the Nacimiento River is fed year-round by the release of water through the upper and/or lower outlet works in the dam at Lake Nacimiento. If no water is released from the lake, the Heritage Ranch CSD will not have a water supply. The 1,100 AFY of allocation of Nacimiento Reservoir water designated for use in Heritage Ranch's service area is part of the 1,750 AFY reserved for County residents in the Lake Nacimiento area.

The 1,100 AFY Nacimiento Reservoir allocation for Heritage Ranch CSD is sufficient to provide water for anticipated buildout demand, but the configuration of the delivery system leaves the Heritage Ranch CSD vulnerable to a termination in water supply in an extreme drought. If the lake's water level drops below the dam outlet (has never occurred but came to within two feet of the lower outlet works in October 1989), then Heritage Ranch CSD could temporarily lose its water supply. Alternative sources are under consideration, including taking water directly from

the lake and connecting to the Nacimiento Water Project pipeline. The pipeline intertie was completed in 2016.

The Nacimiento Water Company (NWC) serves the community of Oak Shores, which is on the banks of Nacimiento Lake. The NWC currently serves a population of 275 residents with water drawn from the lake, which is then treated prior to distribution. Plans to develop an additional 345 lots as part of Oak Shores Estates are currently on hold. The water supply allocation for Oak Shores is part of the 1,750 AFY reserved for County residents in the Lake Nacimiento area. The 600 AFY Nacimiento Reservoir allocation for the Nacimiento Water Company is sufficient to provide water for anticipated buildout demand for the Oak Shores Area.

Water demand projected over 20 years is not expected to equal or exceed the dependable supply. **No recommended Level of Severity**.

Table II-22 -- Lake Nacimiento Area
Existing and Forecasted Water Supply and Demand

Demand	Heritage Ranch CSD[1]	Nacimiento Water Company	Agriculture	Rural
FY 2015/2016 Demand (AFY)	393.4	600	2,602	385
Forecast Demand in 15 Years (AFY)	913	600	5,097	700
Forecast Demand in 20 Years (AFY)	987	600	5,928	805
Buildout Demand (30 Or More Years) (AFY)	935 – 1,039[2]	600	4,740-7,120	730-880
Supply				
Lake Nacimiento (AFY)	1,100[2]	600[5]	0	0
Other Groundwater Sources (AFY)	0	0	5,928[5]	805[5]
SWRCB Water Diversions (AFY)	0	0	(6)	(6)
Total Supply:	1,100	600	5,928	805
Water Supply Versus Forecast Demand	Water demand projected over 20 years is not expected to equal or exceed the dependable supply.[3,6]			

Sources: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016, San Luis Obispo County Master Water Report, 2012, Table 4.69; 2014 San Luis Obispo Integrated Regional Water Management Plan, Tables D-45 and D-46

Notes:

1. See Table II-1. Current year data for agriculture and rural are from 2012.
2. Heritage Ranch CSD's allocation of Lake Nacimiento is 1,100 AFY.
3. The Lake Nacimiento supply allocation is sufficient to meet forecast demands. However, if the lake's water level drops below the dam outlet (has never occurred but came to within two feet of the lower outlet works in October 1989), then Heritage Ranch CSD could lose its water supply.
4. No estimate of existing or forecast demand is available.
5. Groundwater supply sources around Lake Nacimiento are the typical sources of supply for wells that serve agricultural and rural users. There is no information describing the yield for these groundwater supplies.
6. Diversions do not distinguish type of use. Potentially 1,048 AFY could be diverted for use to either agriculture or rural residential.

7. It is uncertain whether an agricultural or rural supply deficit exists. Future studies should invest the resources to determine the basin yield for these groundwater supplies and the uses for the creek/river diversions. It is possible that the combined supplies from groundwater and creek diversions are sufficient to meet the agricultural and rural demands.

Lake Nacimiento Area Water Systems

No significant water system limitations were reported. **No recommended Levels of Severity.**

Summary of Recommended Levels of Severity

Water Supply

Table II-23 -- Summary of Recommended Levels of Severity	
Groundwater Basins and Affected Water Purveyors	**Recommended LOS**
Pico Creek Valley Groundwater Basin *Water Purveyors* San Simeon CSD	**III**
San Simeon Valley Groundwater Basin Santa Rosa Valley Groundwater Basin *Water Purveyors* Cambria CSD	**III** **III**
Cayucos Valley Groundwater Basin Old Valley Groundwater Basin *Water Purveyors* CSA 10A Morro Rock Mutual Water Co. Paso Robles Water Assoc.	None None
Los Osos Valley Groundwater Basin *Water Purveyors* Los Osos CSD S&T Mutual Water Co. Golden State Water Co.	**III**
San Luis Obispo Valley Groundwater Basin – San Luis Sub-basin/Edna Valley Sub-basin *Water Purveyors* Golden State Water Co. San Luis Obispo Valley Groundwater Basin – Avila Valley Sub-basin *Water Purveyors* Avila Beach CSD Avila Valley Mutual Water Co. San Miguelito Mutual Water Co. CSA 12	None None

Table II-23 -- Summary of Recommended Levels of Severity	
Groundwater Basins and Affected Water Purveyors	**Recommended LOS**
Santa Maria Groundwater Basin – Northern Cities Management Area *Water Purveyors* Oceano CSD	None
Santa Maria Groundwater Basin – Nipomo Mesa Management Area *Water Purveyors* Nipomo CSD Woodlands Mutual Water Co. Golden State Water Co. Rural Water Co.	**III**
Santa Margarita Groundwater Basin *Water Purveyors* CSA 23	None
Paso Robles Groundwater Basin *Water Purveyors* San Miguel CSD CSA 16 – Shandon	**III**
Paso Robles Groundwater Basin – Atascadero Sub-basin *Water Purveyors* Templeton CSD Atascadero Mutual Water Co. Garden Farms CSD	None
Lake Nacimiento Area *Water Purveyors* Heritage Ranch CSD Nacimiento Water Co.	None

Water Systems

No Levels of Severity are recommended.

Recommended Actions

General Recommendations

- Continue to support efforts to improve water conservation, the efficient use of water, and water re-use.
- Continue to collect development impact fees for the construction of water supply infrastructure.
- Support efforts to complete Basin Management Plans throughout the County.
- Support efforts to develop sustainable supplemental sources of water.

San Simeon Valley and Santa Rosa Valley Groundwater Basins (Cambria)

1. LOS III to remain in place.
2. Collaborate with the Cambria Community Services District for the issuance of a limited number of intent-to-serve letters and building permits based on the continued use of a demand offset conservation program that offsets new demand from new water connections.
3. Revise the County Growth Management Ordinance in collaboration with the Cambria Community Services District to accommodate the issuance of an allowable number of building permits for new development.
4. Collaborate with the Cambria Community Services District to prepare and obtain a Regular Coastal Development Permit for its recently completed Sustainable Water Facility along the lower San Simeon Creek aquifer.

Cayucos Valley and Old Valley Groundwater Basins (Cayucos)

1. Support efforts to develop a reliable water supply reserve as an alternative to groundwater. Recycled water should be considered as an alternative supply.

Los Osos Groundwater Basin

1. LOS III to remain in place.
2. Continue to support efforts to implement the Basin Management Plan.
3. Implement the water management strategies of the Los Osos Community Plan following adoption.

San Luis Obispo Valley Groundwater Basin

1. Support efforts to determine the safe yield of the Avila Valley Sub-basin.

Santa Maria Groundwater Basin

1. Consider ending the Title 8 retrofit-upon-sale ordinance in the Nipomo Mesa Water Conservation Area. The program has run for four years and approximately 5% of homes have needed retrofitting.

2. Support implementation of the recommendations of the NCSD March 15, 2013 *Supplemental Water Alternatives Evaluation Committee -- Alternative Evaluation Final Report*. Coordinate any needed County actions such as an AB 1600 study to quantify the costs and benefits of the identified supplemental water project for groundwater users outside the Nipomo CSD.

3. Collaborate with the Nipomo CSD, South County Sanitation District and other stakeholders to assist in their efforts to improve water supply reliability, including the use of recycled water.

4. Continue to help fund area wide water conservation through the fee on new construction.

5. Collaborate with NCMA and NMMA to develop a groundwater model for the NCMA/NMMA portions of the Basin as recommended by Board Resolution No. 2014-220.

Paso Robles Groundwater Basin

1. LOS III for the Basin.

2. Continue to support efforts to complete and implement a Basin Management Plan.

Paso Robles Groundwater Basin – Atascadero Sub-basin

1. No recommended LOS.

2. Continue to support efforts of the water purveyors, County, District, and local land owners to actively and cooperatively develop a Sustainable Groundwater Management Plan for the Atascadero Sub-basin.

Santa Margarita Groundwater Basin

1. No recommended LOS.

2. Prepare a Resource Capacity Study to determine the safe yield of the Santa Margarita Groundwater Basin.

3. Support efforts to develop additional sustainable water supplies for CSA 23.

Lake Nacimiento Area

1. Continue to support efforts to improve water conservation, the efficient use of water, and water re-use.

2. Continue to collect development impact fees for the construction of water supply infrastructure.

3. Support efforts to develop sustainable supplemental sources of water.

III. WASTEWATER

Level of Severity Criteria

WASTEWATER TREATMENT

Level of Severity	Wastewater Treatment Criteria
I	The service provider or RWQCB determines that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within 4 years. This mirrors the time frame used by the RWQCB to track necessary plant upgrades.
II	RWQCB determines that the monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within 2 years.
III	Peak daily flow equals or exceeds the capacity of a wastewater system for treatment and/or disposal facilities.

WASTEWATER COLLECTION SYSTEMS

Level of Severity	Wastewater Collection Criteria[1]
I	2-year projected flows equal 75% of the system capacity. A 2-year period is Recommended for the preparation of resource capacity study.
II	System is operating at 75% capacity, OR The five-year projected peak flow (or other flow/time period) equals system capacity, OR The inventory of developable land in a community would, if developed, generate enough wastewater to exceed system capacity.
III	Peak flows fill any component of a collection system to 100% capacity.

1. A wastewater collection system includes facilities that collect and deliver wastewater to a treatment plant for treatment and disposal (sewer pipelines, lift stations, etc.)

SEPTIC SYSTEMS

Level of Severity	Septic Systems Criteria[1]
I	Failures occur in 5% of systems in an area or other number sufficient for the County Health Department to identify a potential public health problem.
II	Failures reach 15% and monitoring indicates that conditions will reach or exceed acceptable levels for public health within the time frame needed to design, fund and build a project that will correct the problem, based upon projected growth rates.
III	Failures reach 25% of the area's septic systems and the County Health Department and RWQCB find that public health is endangered.

1. Includes septic tank systems or small aerobic systems with subsurface disposal. Typical disposal systems include leach fields, seepage pits, or evapotranspiration mounds.

Wastewater Collection and Treatment Systems

The service areas of wastewater collection and treatment system operators serving the unincorporated county are listed in Table III-1 and shown on Figure III-1.

Table III-1 – Wastewater Agencies Serving Unincorporated San Luis Obispo County

Agency	Date of Discharge Permit	Design Flow[1] (MGD)[2]	Current Average Daily Flow[3] (MGD)	Current of Design Flow[4]
Avila Beach [5]	12-12-2009	0.2	0.055	27%
Cambria CSD	12-7-2001	1.0	0.401	40%
Cayucos Sanitary [6]	12-4-2008	2.36	0.931	39%
Country Club Estates – CSA 18	10-23-2003	0.12	0.053	44%
Heritage Ranch CSD	5-5-2011	0.4	0.140	35%
Nipomo CSD – Black Lake	3-11-1994	0.10	0.049	49%
Nipomo CSD – Southland Treatment Plant	2-2-2012	0.9	0.558	62%
San Miguel CSD	7-9-1999	0.45	0.109	24%
San Miguelito Mutual Water Co.	7-14-1995	0.15	0.069	46%
San Simeon [7]	12-5-2013	0.2	0.086	43%
South San Luis Obispo County Sanitation District[8]	10-23-2009	3.3	2.177	66%
Oak Shores CSA[9]	12-7-2001	0.1	0.026	26%
Templeton CSD				
Meadowbrook WWTP	5-11-2007	0.600	0.184	30%
Paso Robles WWTP[8]	6-25-2011	0.443	0.239	54%

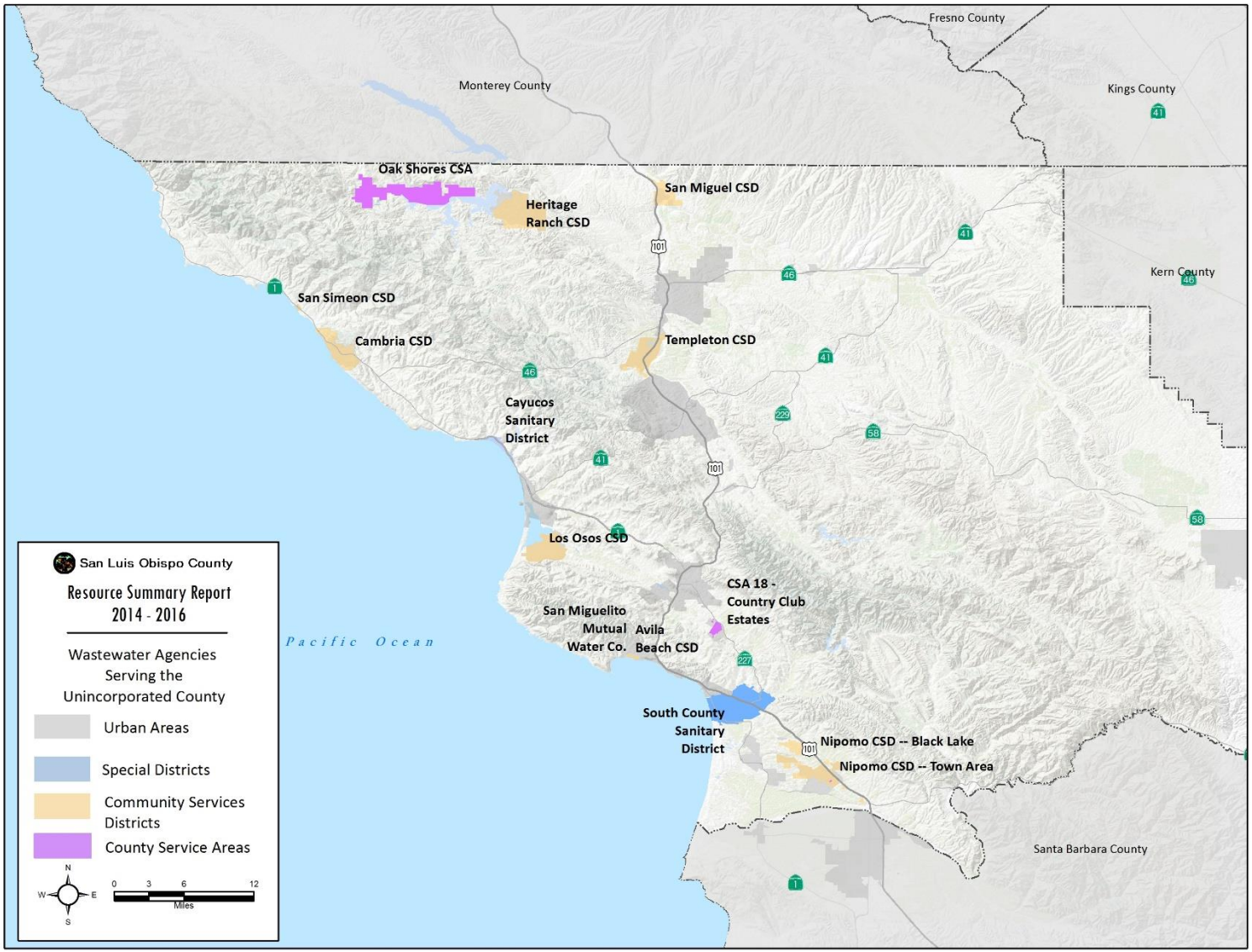
Source: Regional Water Quality Control Board, 2016

Notes:

1. Design Flow = average daily dry weather flow in million gallons per day.
2. MGD = Million gallons per day
3. Average daily flow reported in 2015.
4. Based on average daily flow reported in 2015.
5. CSD = Community Services District
6. The Morro Bay wastewater treatment plant serves the Cayucos Sanitary District and the City of Morro Bay. By agreement, Cayucos SD is allotted 0.721 MGD of Morro Bay treatment plant capacity.
7. By agreement, Hearst Castle is allotted 0.05 MGD of the San Simeon treatment plant capacity.
8. South County Sanitary District serves the cities of Arroyo Grande and Grover Beach and the unincorporated community of Oceano.

9. CSA = County Service Area
10. By agreement, the Templeton CSD is allotted 0.443 MGD of the Paso Robles treatment plant capacity. The average daily flow is reflected as a percentage of the allotted capacity.

Figure III-1 – Wastewater Service Providers Serving Unincorporated San Luis Obispo County



Recommended Levels of Severity for Wastewater Collection and Treatment Service Providers

Methodology

The 2016 per capita wastewater generation for each service provider was determined by dividing the 2016 average daily flow by the 2016 population within each service area. The resulting quotient was then multiplied by the estimated population for each community in four years (2020) (see Table I-1 of Chapter I) to estimate the future average daily flow which was then divided by the design flow to determine the 2016 percentage. The results are presented in Table III-2. Each wastewater service provider is discussed below.

Class I Priority Discharge Violations are provided for each wastewater provider as reported by the Regional Water Quality Control Board for the period of July 1, 2014 to June 30, 2016. As set forth in the 2010 State Water Resources Control Board Water Quality Enforcement Policy, Class I violations "…*pose an immediate and substantial threat to water quality and have the potential to cause significant detrimental impacts to human health or the environment*".

Avila Beach CSD

The Avila Beach CSD operates a wastewater collection, treatment and disposal system that serves the community of Avila Beach and Port San Luis. The treatment plant has a design flow of 0.2 MGD; current (2015) average daily flows are 0.055 MGD, or 27% of design capacity. Based on the projected growth in population within the CSD service area, the plant is expected to operate well below capacity for the next five years or more. There were no Class I violations reported for the period of 2014-2016. **No levels of severity are recommended for either collection or treatment.**

Table III-2 -- Avila Beach CSD -- Recommended Levels of Severity for Wastewater Treatment

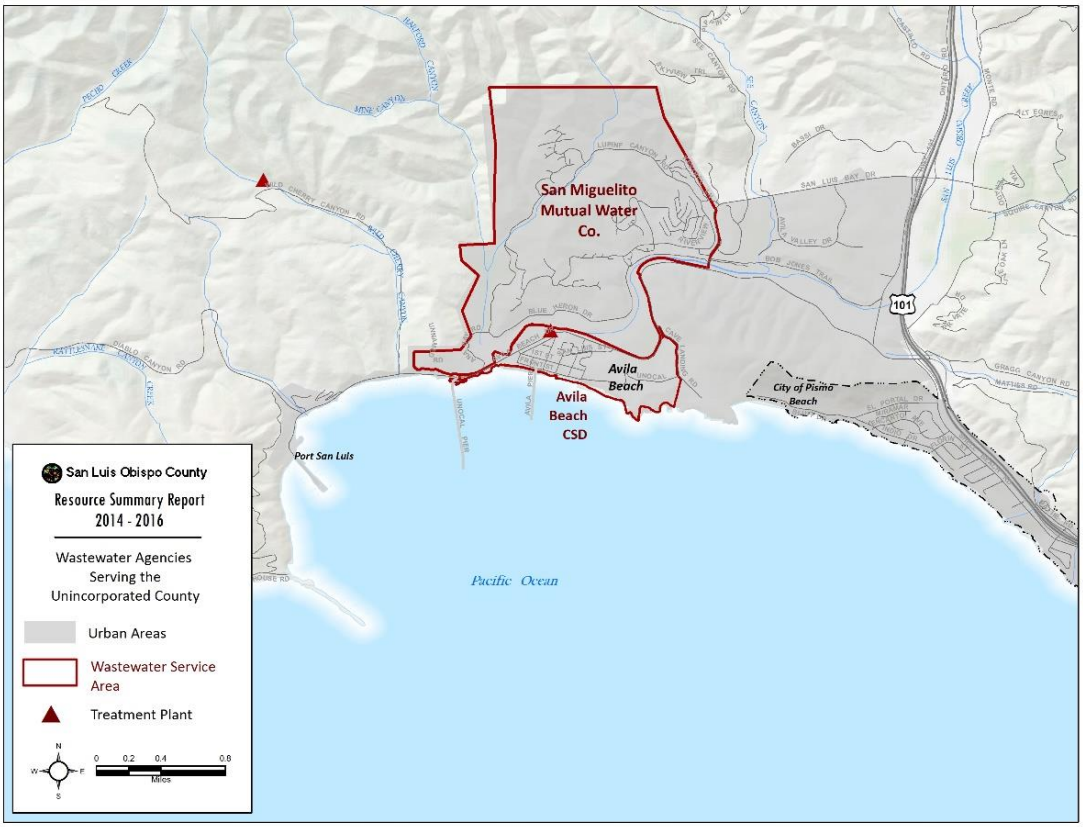
2016 Service Area Population	Current Average Daily Flow (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
1,533	0.055	1,542	0.089	0.2	45%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported for 2015
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-2 – Avila Beach CSD Wastewater Service Area



Cambria CSD

The Cambria CSD operates a wastewater collection, treatment and disposal system that serves 6,000 residents of the community of Cambria. The treatment plant has a design capacity of 1.0 MGD; current (2015) average daily flows are 0.401 MGD, or 40% of design capacity. Based on the projected growth in population within the CSD service area, the plant is expected to operate well below capacity for the next five years or more. The CSD is implementing an ongoing program to improve the efficiency and operation of the collection and treatment systems. There were no Class I discharge violations reported for the period of 2014-2016. **No levels of severity are recommended for either collection or treatment**.

Table III-3 -- Cambria CSD -- Recommended Levels of Severity for Wastewater Treatment

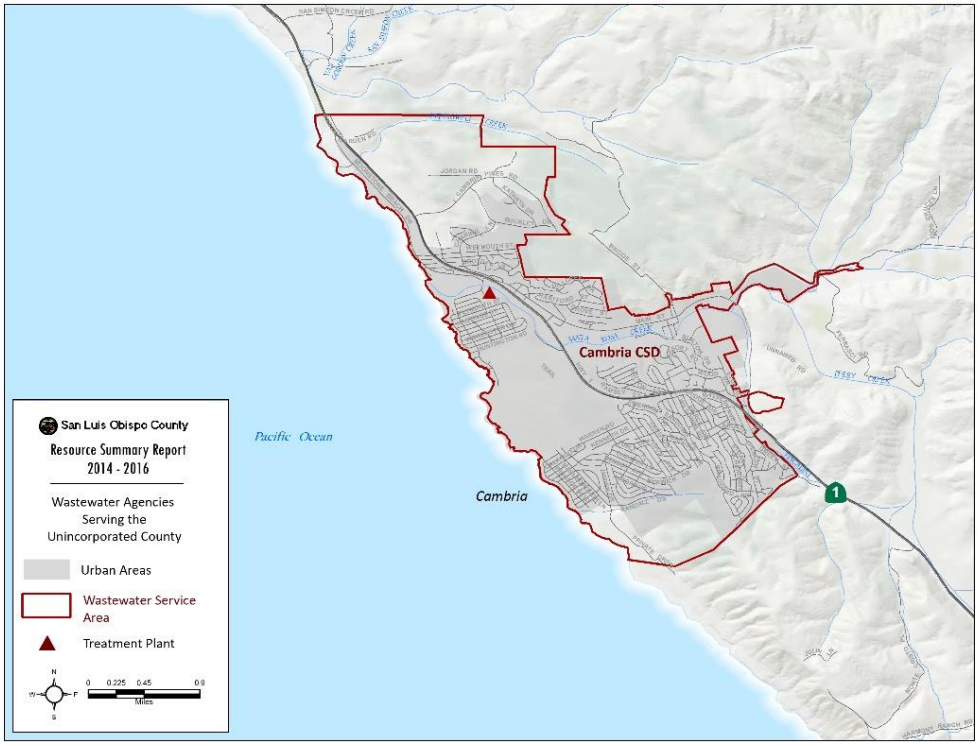
2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
6,049	0.401	6,054	0.401	1.0	40%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-3 – Cambria CSD Wastewater Service Area



Cayucos Sanitary District

The Cayucos Sanitary District (CSD) operates a wastewater collection system that serves the community of Cayucos. By agreement, the CSD is allotted 0.721 MGD of the Morro Bay treatment plant capacity which has a design capacity of 2.36 MGD. Current (2015) average daily flows from the CSD and the City of Morro Bay (combined population 12,686) is 0.931 MGD, or 40% of design capacity.

There were no Class I discharge violations reported for the period of 2014-2016.

The CSD is pursuing construction of a water recycling plant separately from the City of Morro Bay. The preferred project site is located on the south side of Toro Creek Road about 1 mile north of the City of Morro Bay (Figure III-4). The new plant will be designed to treat to tertiary standards and will provide recycled water for beneficial reuse. An environmental impact report is currently being prepared to evaluate the potential environmental impacts associated with construction and operation of the treatment plant on the project site and an alternative site located on Willow Creek Road (Figure III-4). It is anticipated that the plant will be operational by the end of 2018. In the meantime, based on the projected growth in population within the CSD service area, the existing plant is expected to operate well below capacity for the next five years or more. **No levels of severity are recommended for either collection or treatment**.

Table III-4 -- Cayucos Sanitary District -- Recommended Levels of Severity for Wastewater Treatment

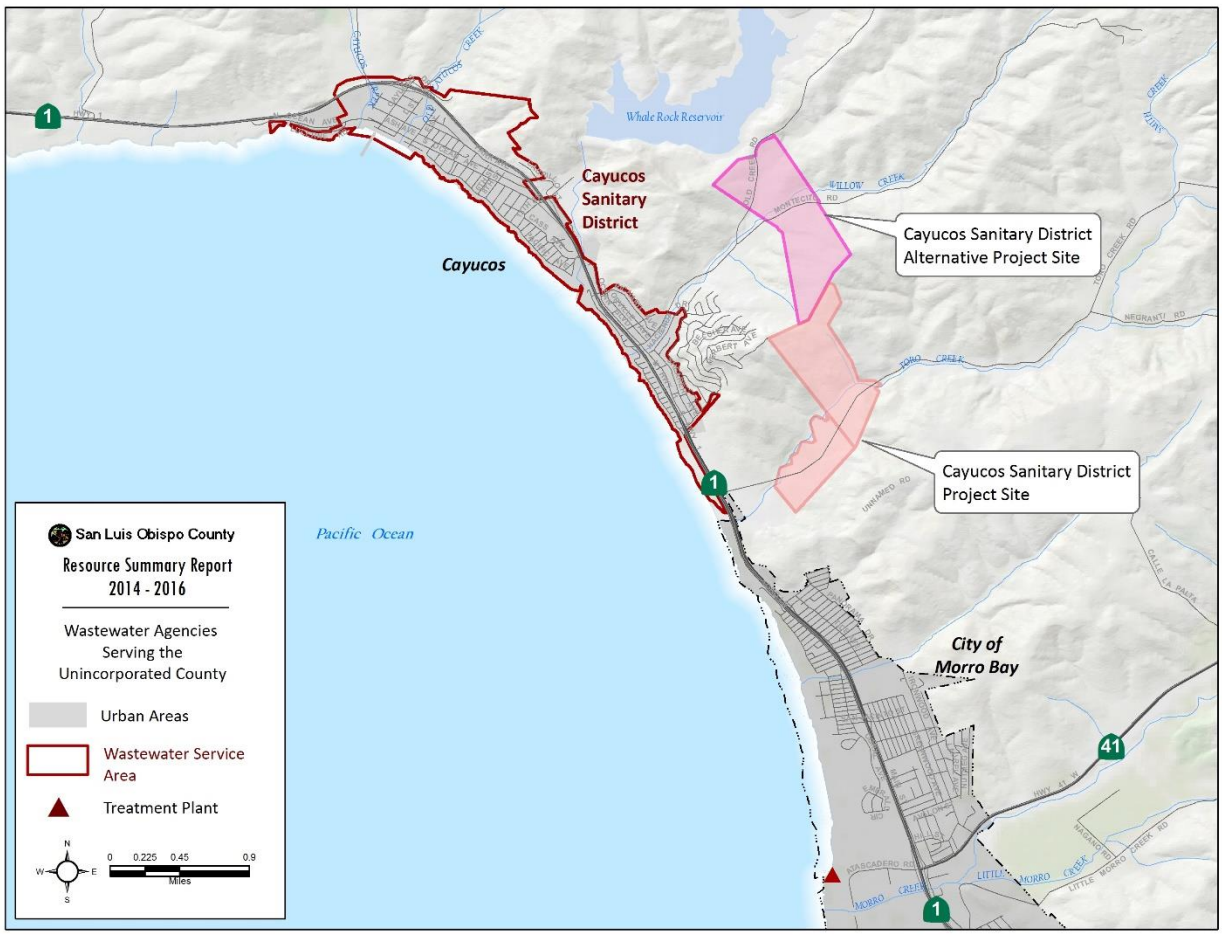
2016 Service Area Population	Current Average Daily Flow (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[1] (MGD)[2]	Percent of Design Flow In 2020	Recommended Levels of Severity
12,686	0.931	12,825	0.941	2.36	40%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day. Represents to combined flow of the CSD and City of Morro Bay.
3. MGD = Million gallons per day

Figure III-4 – Cayucos Sanitary District



County Service Area 18 -- Country Club Estates

County Service Area 18 operates a wastewater collection, treatment and disposal system that serves the Country Club Estates area south of the City of San Luis Obispo. The treatment plant has a design flow of 0.12 MGD; current (2015) average daily flows are 0.053 MGD, or 44% of design capacity. Based on the projected growth in population within the service area, the plant is expected to operate well below capacity for the next five years or more. The County has no plans to expand or upgrade the collection system, treatment plant or disposal system. **No levels of severity are recommended for either collection or treatment**.

There were no Class I discharge violations reported for the period of 2014-2016.

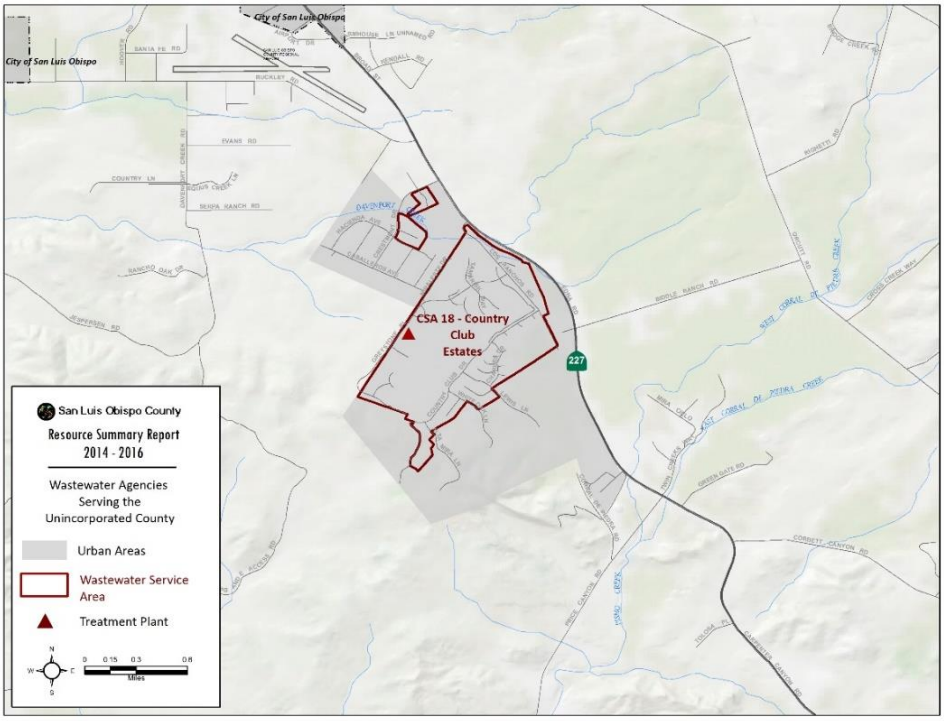
Table III-5 -- CSA 18 Country Club Estates -- Recommended Levels of Severity for Wastewater Treatment

2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
881	0.053	901	0.054	0.12	45%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:
1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-5 – County Service Area 18 - Country Club Estates



Heritage Ranch CSD and Oak Shores CSA

The Heritage Ranch CSD operates a wastewater collection, treatment and disposal system that serves the community of Heritage Ranch at the east end of Lake Nacimiento. The treatment plant has a design flow of 0.4 MGD; current (2015) average daily flows are 0.140 MGD, or 35% of design capacity. Because of more stringent effluent regulations and future population growth, the CSD is investigating the need for improvements to the wastewater treatment system. The first step will involve an analysis of the current treatment plant and recommendations on what upgrades should be made to comply with future discharge regulations and to insure adequate capacity.

There were no Class I discharge violations reported for the period of 2014-2016.

Based on the projected growth in population within the CSD service area, the plant is expected to operate below capacity for the next five years or more. **No levels of severity are recommended for either collection or treatment**.

Table III-6 -- Heritage Ranch CSD -- Recommended Levels of Severity for Wastewater Treatment

2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[1] (MGD)[2]	Percent of Design Flow In 2020	Recommended Levels of Severity
2,578	0.140	2,624	0.143	0.4	36%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

The Oak Shores County Service Area operates a wastewater collection, treatment and disposal system that serves the community of Oak Shores on the northern shore of Lake Nacimiento. The treatment plant has a design flow of 0.10 MGD; current (2015) average daily flows are 0.026 MGD, or 26% of design capacity. Based on the projected growth in population within the service area, the plant is expected to operate well below capacity for the next five years or more. The CSA has no plans to expand or upgrade the collection system, treatment plant or disposal system.

There were no Class I discharge violations reported for the period of 2014-2016.

No levels of severity are recommended for either collection or treatment. See Figure III-6.

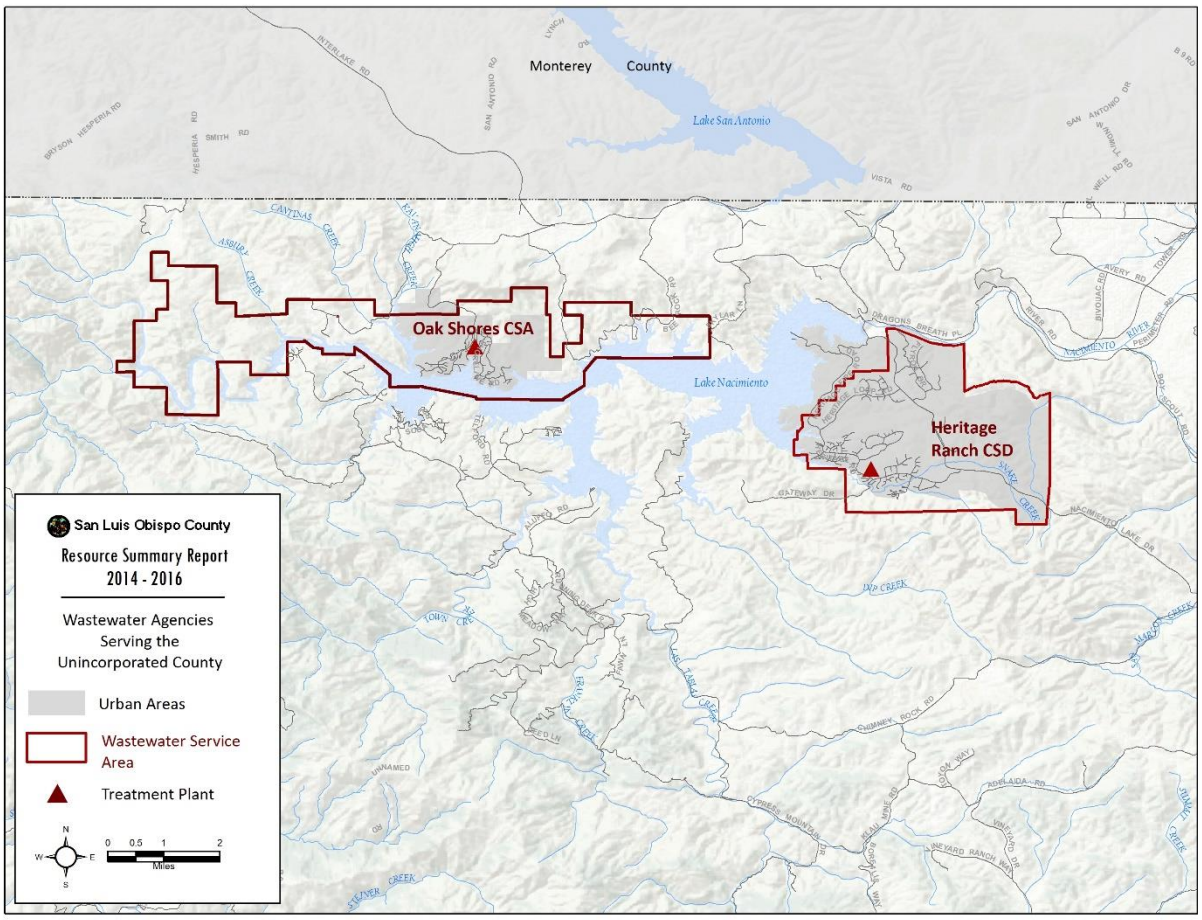
Table III-7 -- Oak Shores CSA -- Recommended Levels of Severity for Wastewater Treatment						
2016 Service Area Population	**Current Average Daily Flow[1] (MGD)**	**2020 Service Area Population**	**2020 Estimated Average Daily Flow (MGD)**	**Design Flow[2] (MGD)[3]**	**Percent of Design Flow In 2020**	**Recommended Levels of Severity**
339	0.026	362	0.028	0.10	28%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-6 – Heritage Ranch CSD and Oak Shores CSA Wastewater Service Areas



Nipomo CSD – Black Lake

The Nipomo CSD operates two wastewater collection and treatment systems: one serving the Black Lake area and one serving the Town Area of the community of Nipomo (discussed below). The Black Lake system has a design flow of 0.10 MGD; current (2015) average daily flows are 0.049 MGD, or 49% of design capacity. Based on the projected growth in population within the Black Lake service area, the plant is expected to operate well below capacity for the next five years or more. The CSD has no plans to expand or upgrade the collection system, treatment plant or disposal system. There were no Class I discharge violations reported for the period of 2014-2016.

No levels of severity are recommended for either collection or treatment.

Table III-8 -- Nipomo CSD Black Lake -- Recommended Levels of Severity for Wastewater Treatment

2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
867	0.049	867	0.049	0.10	49%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:
1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Nipomo CSD – Southland Treatment Plant

The Nipomo CSD operates a wastewater collection, treatment and disposal system that serves the Town Area of the community of Nipomo. The treatment plant has a design flow of 0.9 MGD; current (2015) average daily flows are 0.558 MGD, or 62% of design capacity. In September, 2014, the CSD completed the first phase of a three-phase upgrade to the Southland wastewater treatment plant. Phase I will improve the treatment capability of the plant but will not increase treatment capacity. Completion of all three phases of improvements (tentatively to be completed by 2017, depending on the rate of population growth) will expand treatment capacity to a 1.8 MGD from its current capacity of 0.9 million gallons per day.

There were no Class I discharge violations reported for the period of 2014-2016.

Based on the projected growth in population within the Town Area portion of the CSD service area, along with the planned improvements to the treatment plant, the wastewater system is expected to operate below capacity for the next five years or more. **No recommended levels of severity for either collection or treatment**.

Table III-9 -- Nipomo CSD Southland Treatment Plant -- Recommended Levels of Severity for Wastewater Treatment

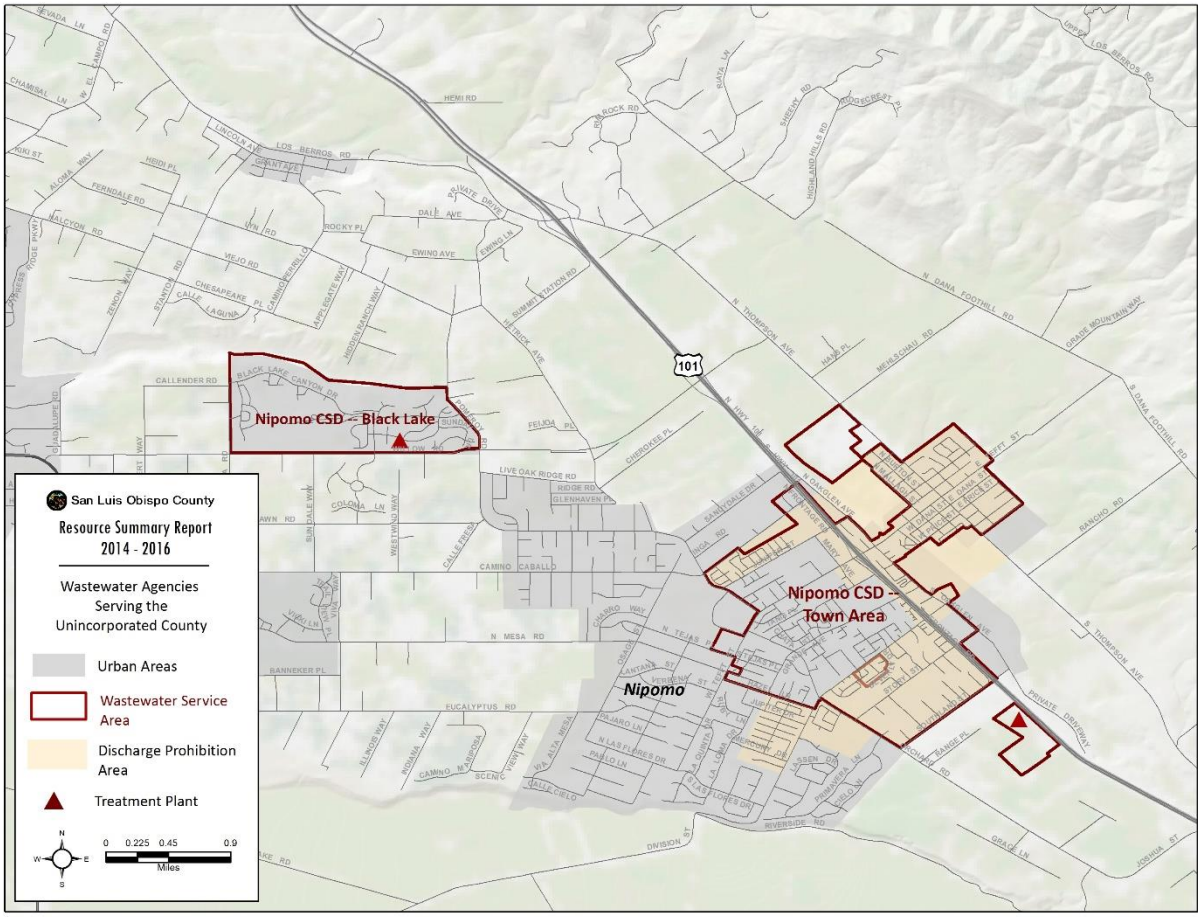
2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
15,652	0.558	15,859	0.565	0.9	63%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-7 – Nipomo CSD Wastewater Service Areas



San Miguel CSD

The San Miguel CSD operates a wastewater collection, treatment and disposal system that serves the community of San Miguel in northern San Luis Obispo County. The treatment plant has a design flow of 0.45 MGD; current (2015) average daily flows are 0.109 MGD, or 24% of design capacity. Based on the projected growth in population within the CSD service area, the plant is expected to operate well below capacity for the next five years or more.

There were no Class I discharge violations reported for the period of 2014-2016.

The CSD has no plans to expand or upgrade the collection system, treatment plant or disposal system. **No levels of severity are recommended for either collection or treatment**.

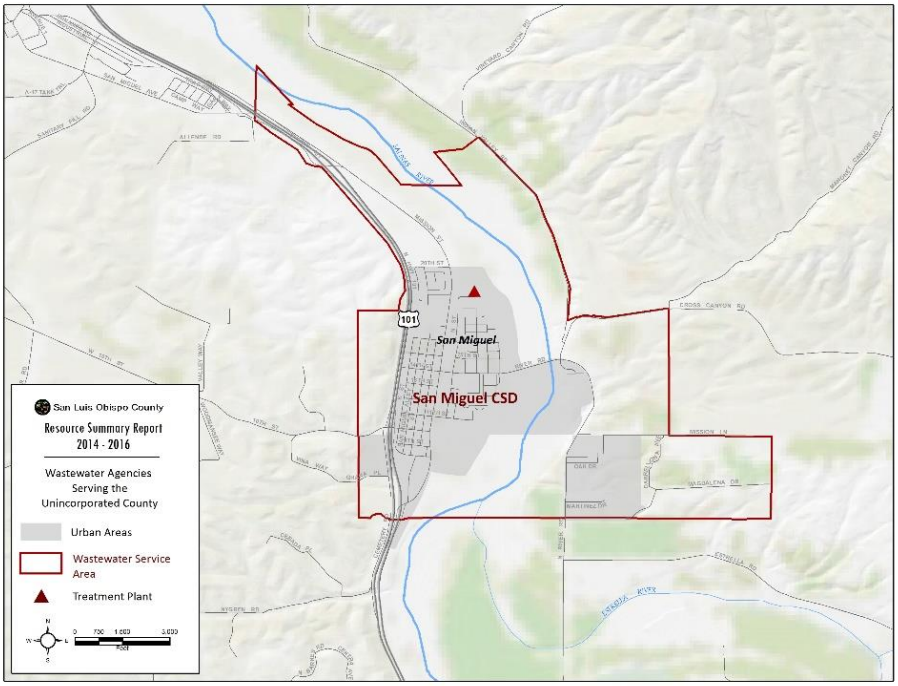
Table III-10 -- San Miguel CSD -- Recommended Levels of Severity for Wastewater Treatment

2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
2,469	0.109	2,650	0.117	0.45	26%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:
1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-8 – San Miguel CSD Wastewater Service Area



San Miguelito Mutual Water Company

The San Miguelito Mutual Water Company (SMMWC) operates a wastewater collection, treatment and disposal system that serves a portion of the Avila Valley north of the community of Avila Beach. The treatment plant has a design flow of 0.15 MGD; current (2015) average daily flows are 0.069 MGD, or 46% of design capacity. Based on the projected growth in population within the service area, the treatment plant is expected to operate well below capacity for the next five years or more.

There were no Class I discharge violations reported for the period of 2014-2016.

Table III-11 -- San Miguelito Mutual Water Company -- Recommended Levels of Severity for Wastewater Treatment

2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
612	0.069	626	0.071	0.15	45%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:
1. Average daily flow reported in 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

San Simeon CSD

The San Simeon CSD operates a wastewater collection, treatment and disposal system that serves the community of San Simeon as well as Hearst Castle. By agreement, Hearst Castle is allotted 0.05 MGD of the San Simeon treatment plant capacity. The treatment plant has a design flow of 0.2 MGD; current (2015) average daily flows are 0.086 MGD, or 43% of design capacity. Based on the projected growth in population within the CSD service area, the plant is expected to operate well below capacity for the next five years or more.

There were no Class I discharge violations reported for the period of 2014-2016.

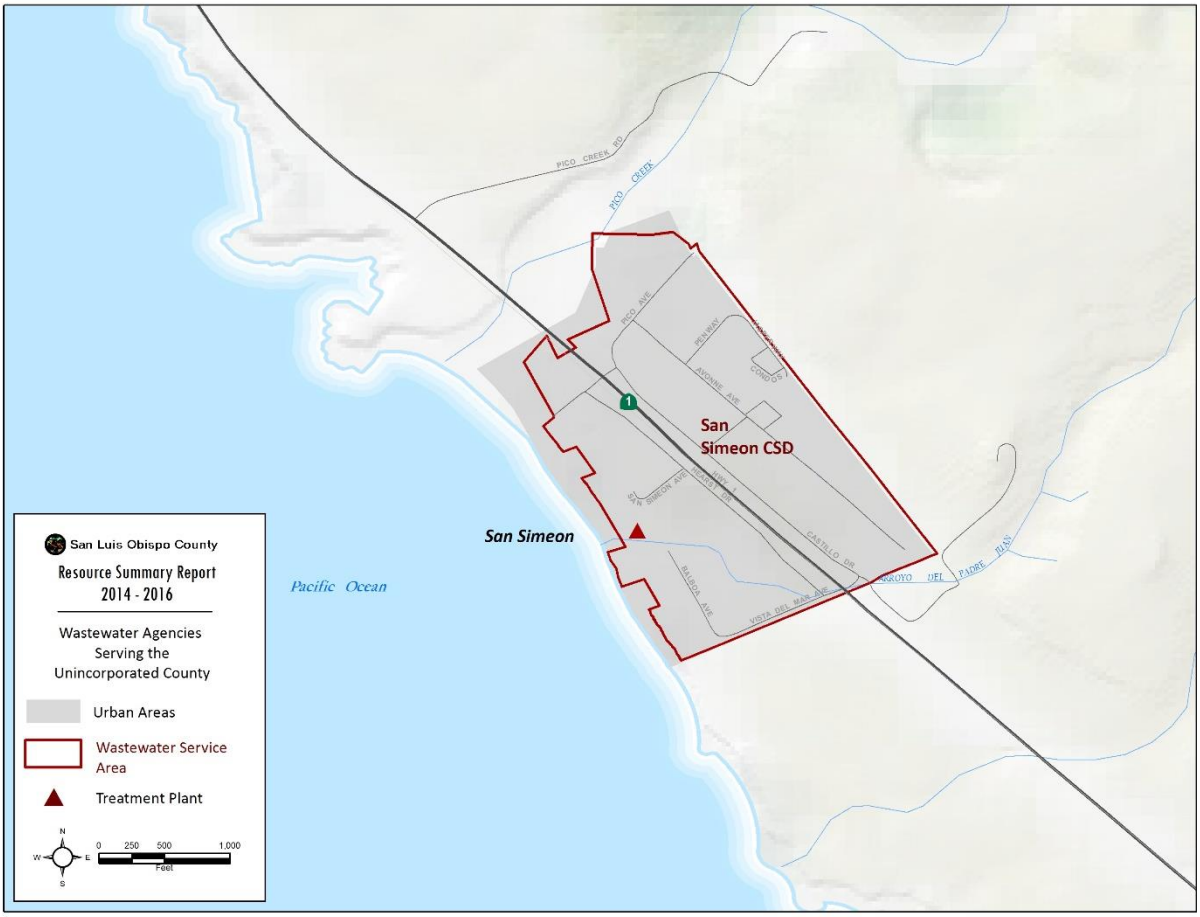
The CSD has no plans to expand or upgrade the collection system, treatment plant or disposal system. **No levels of severity are recommended for either collection or treatment**.

Table III-12 -- San Simeon CSD -- Recommended Levels of Severity for Wastewater Treatment						
2016 Service Area Population	**Current Average Daily Flow[1] (MGD)**	**2020 Service Area Population**	**2020 Estimated Average Daily Flow (MGD)**	**Design Flow[2] (MGD)[3]**	**Percent of Design Flow In 2020**	**Recommended Levels of Severity**
450	0.086	454	0.086	0.2	43%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:
1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-9 – San Simeon CSD Wastewater Service Area



South San Luis Obispo County Sanitation District

The South San Luis Obispo County Sanitation District (SSLOCSD) operates a wastewater collection, treatment and disposal system serving a population of about 40,000 within the cities of Arroyo Grande and Grover Beach, as well as the unincorporated community of Oceano. The treatment plant has a design flow of 3.3 MGD; current (2015) average daily flows are 2.177 MGD, or 66% of design capacity.

The District owns and operates nearly 9 miles of collection sewer referred to as the District Trunk Line. The purpose of this line is to allow for the collective transport of wastewater from the smaller municipal lines of the three member agencies to the final destination of the District's Wastewater Treatment Plant. The Trunk Line was initially constructed as part of the original District design of 1963. It is comprised of sewer pipe ranging in size from 15-30 inches in diameter.

There were no Class I discharge violations reported for the period of 2014-2016.

Based on the projected growth in population within the SSLOCSD service area, the plant is expected to operate well below capacity for the next five years or more. The SSLOCSD has no plans to expand or upgrade the collection system, treatment plant or disposal system. The SSLOCSD has implemented an ongoing program to monitor inflow and infiltration to determine the sources of such flows and to implement corrective measures. N**o levels of severity are recommended for either collection or treatment**.

Table III-13 -- South San Luis Obispo County Sanitation District -- Recommended Levels of Severity for Wastewater Treatment

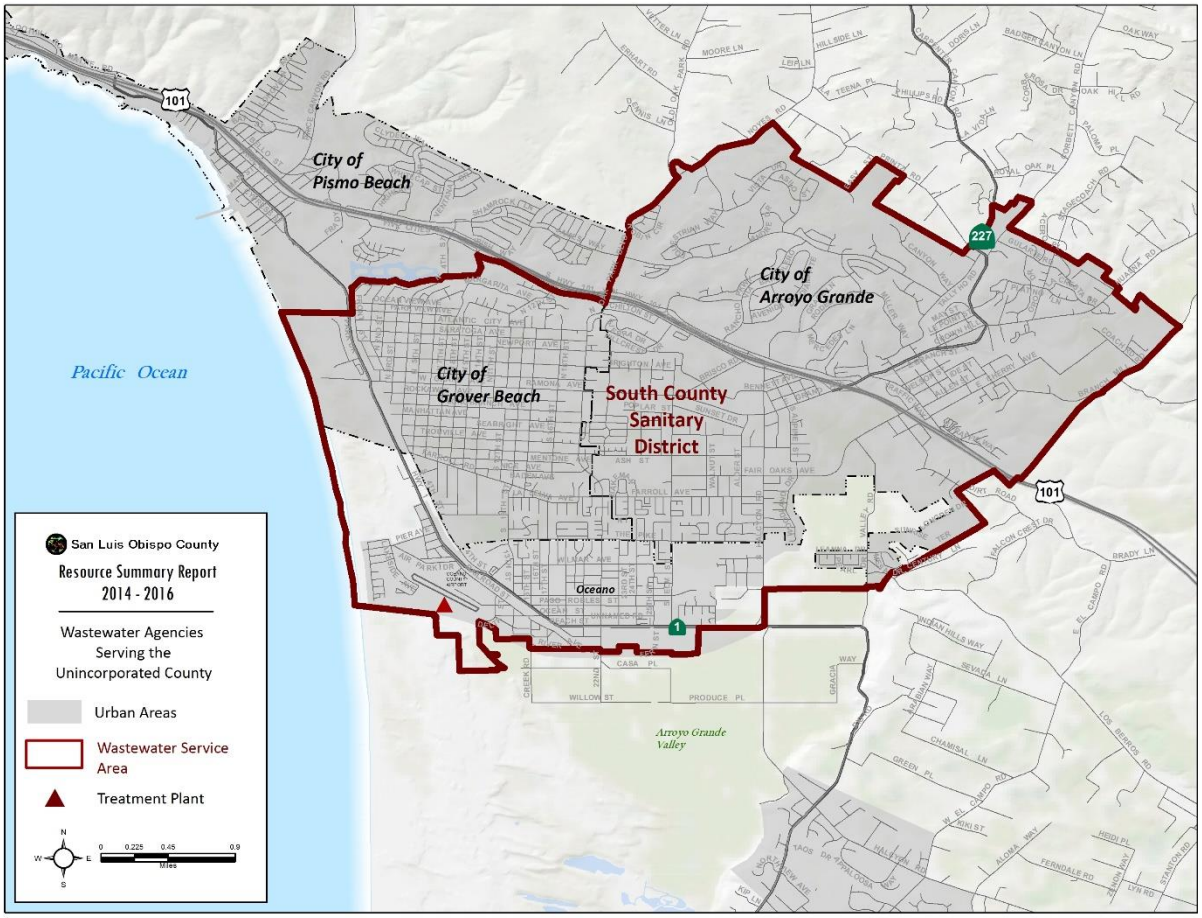
2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
37,997	2.177	38,815	2.22	3.3	67%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day

Figure III-10 – South County Sanitation District



Templeton CSD

The Templeton CSD operates a wastewater collection system that serves the community of Templeton. There are two wastewater tributary areas. The area on the west side of Highway 101 flows to the CSD-owned Meadowbrook Wastewater Treatment Plant. The majority of flows generated by the east side of Highway 101 are sent to the Paso Robles treatment plant. By agreement, the Templeton CSD is allotted 0.443 MGD of the Paso Robles treatment plant capacity.

The Templeton CSD Meadowbrook system has a design flow capacity of 0.60 MGD; current (2015) average daily flows are 0.184 MGD, or 30% of design capacity. Based on the projected growth in population within the CSD service area, the capacity of the treatment plant is not expected to be reached for the next twenty-five years or more. For the portion of the community served by the City of Paso Robles wastewater treatment plant (about 60%) the 2015 estimated average daily flow is about 0.24 MGD or about 54% of the community's allotted capacity. Based on the projected growth in population within the service area, the community's allotted capacity of the treatment plant is not expected to be reached for the next twenty-five years or more.

There were no Class I discharge violations reported for the period of 2014-2016.

In 2012, the Templeton CSD authorized staff to proceed with the design of the East Side Force Main and Lift Station Project. A number of tasks were identified and staff proceeded with the work with the assistance of consultants as required. Several of the tasks are proceeding concurrently. The Paso Robles WWTP was originally constructed in 1954 and though it has been upgraded several times, it is not capable of meeting its Waste Discharge Requirements to the extent that it has incurred significant fines for violations and a replacement of the WWTP is necessary. In 2015 the City completed a major upgrade of the Plant to a Biological Nutrient Removal process. The upgrade project included new headworks, rehabilitation of primary clarifiers, a new pump station, replacement of trickling filters with the Biological Nutrient Removal process, new secondary clarifiers, a chloramination disinfection process, a new effluent polishing channel, and a system that generates power and heat from biogas generated by digestion of sludge. This new treatment process effectively removes all harmful pollutants from the wastewater and is highly energy efficient. The upgraded treatment process enables the City to produce high quality recycled water in the future.

The City is presently designing the additional treatment facilities (filtration + ultraviolet light disinfection) needed to produce tertiary quality recycled water. The City is pursuing low-interest State loans and grants, with intent to begin construction of the tertiary treatment facilities in late 2016.

No levels of severity are recommended for either collection or treatment.

Table III-14 -- Templeton CSD Wastewater Treatment – Recommended Levels of Severity for Wastewater Treatment

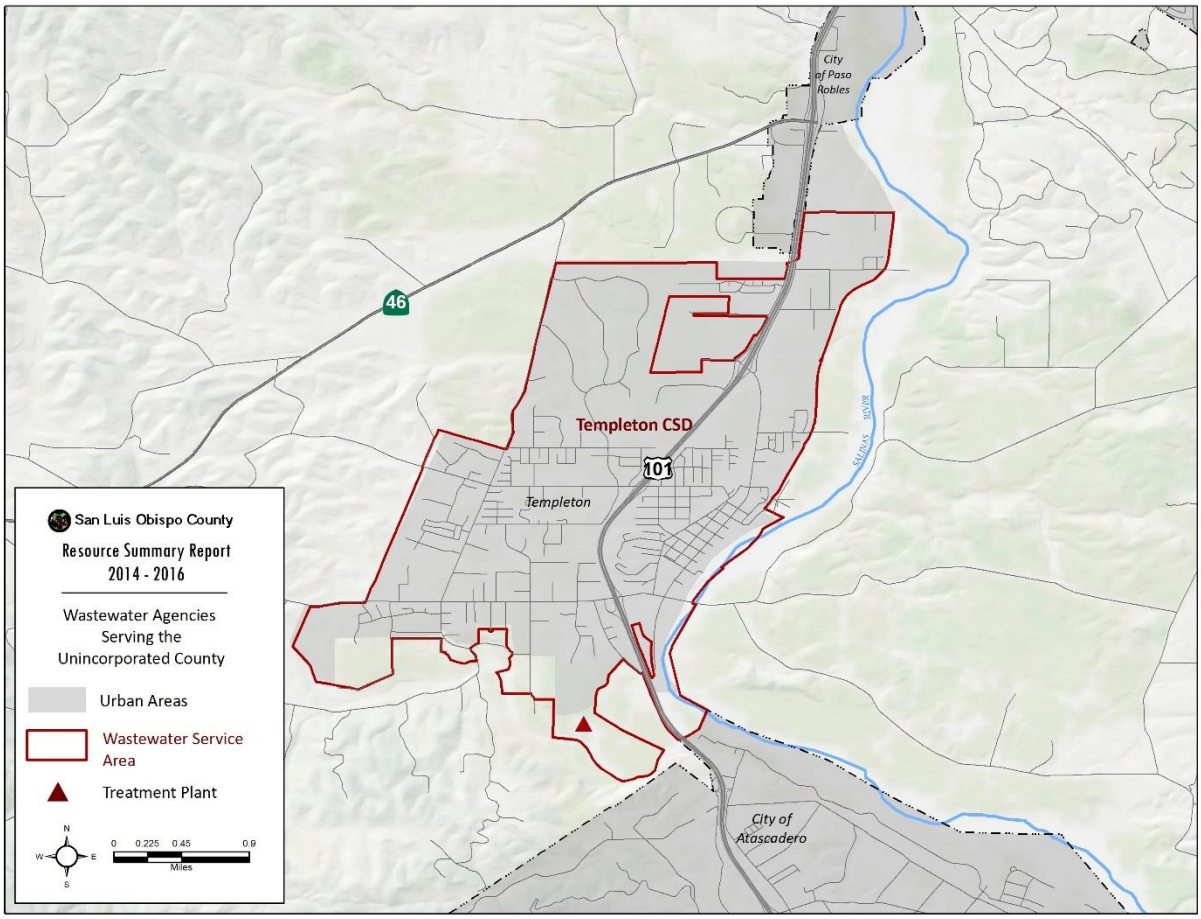
Treatment Plant	2016 Service Area Population	Current Average Daily Flow[1] (MGD)	2020 Service Area Population	2020 Estimated Average Daily Flow (MGD)	Design Flow[2] (MGD)[3]	Percent of Design Flow In 2020	Recommended Levels of Severity
Meadowbrook WWTP	2,889	0.184	2,908	0.0185	0.600	31%	None
City of Paso Robles WWTP – Capacity Allocated to Templeton CSD	4,334	0.240	4,353	0.241	0.443[4]	54%	None
City of Paso Robles WWTP -- Total	33,958	2.40	36,490	2.60	4.9	53%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes:

1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day
4. The portion of the City's wastewater treatment plant allotted to the Templeton CSD (0.443 MGD).

Figure III-11 – Templeton CSD Wastewater Service Area



Summary of Recommended Levels of Severity for Wastewater Treatment

Table III-15 provides a summary of the recommended Levels of Severity for wastewater treatment.

Table III-15 – Recommended Levels of Severity for Wastewater Treatment								
Agency	**2016 Service Area Population**	**Current Average Daily Flow[1] (MGD)**	**2016 Per Capita Average Daily Flow (MGD)**	**2020 Service Area Population**	**2020 Estimated Average Daily Flow (MGD)**	**Design Flow[2] (MGD)[3]**	**Percent of Design Flow In 2020**	**Recommended Levels of Severity**
Avila Beach CSD[4]	1,533	0.055	0.0000578	1,542	0.089	0.2	45%	None
Cambria CSD[5]	6,049	0.401	0.0000662	6,054	0.401	1.0	40%	None
Cayucos Sanitary District/Morro Bay Wastewater Treatment Plant[6]	12,686	0.931	0.0000733	12,825	0.941	2.36	40%	None
Country Club Estates – CSA 18	881	0.053	0.0006015	901	0.054	0.12	45%	None
Heritage Ranch CSD	2,578	0.140	0.0000543	2,624	0.142	0.4	36%	None
Nipomo CSD – Black Lake	867	0.049	0.0000565	867	0.049	0.10	49%	None
Nipomo CSD – Southland Treatment Plant	15,652	0.558	0.0000356	15,859	0.565	0.9	63%	None
San Miguel CSD	2,469	0.109	0.0000441	2,650	0.117	0.45	26%	None
San Miguelito Mutual Water Co.	612	0.069	0.000112	626	0.071	0.15	47%	None
San Simeon CSD	452	0.086	0.0001910	454	0.086	0.2	43%	None
South San Luis Obispo County Sanitation District[6]	37,997	2.177	0.0000572	38,815	2.22	3.3	67%	None
Oak Shores CSA[7]	339	0.026	0.0000766	362	0.028	0.1	28%	None
Templeton CSD – Meadowbrook WWTP	2,889	0.184	0.0000638	2,908	0.185	0.600	31%	None
Templeton CSD – Paso Robles WWTP[8]	4,334	0.240	0.0000553	4,353	0.41	0.443	54%	None
City of Paso Robles -- Total	33,958	2.40	0.000070	36,490	2.57	4.9	53%	None

Sources: San Luis Obispo County Department of Public Works, 2016; Central Coast RWQCB, 2016; SLOCOG, 2016

Notes for Table III-15:

1. Average daily flow reported for 2015.
2. Design Flow = average daily dry weather flow in million gallons per day.
3. MGD = Million gallons per day
4. CSD = Community Services District
5. By agreement, Hearst Castle is allotted 0,05 MGD of the San Simeon treatment plant capacity.
6. The Morro Bay wastewater treatment plant serves the Cayucos Sanitary District and the City of Morro Bay. By agreement, Cayucos SD is allotted 0.721 MGD of Morro Bay treatment plant capacity.
7. South County Sanitary District serves the cities of Arroyo Grande and Grover Beach and the unincorporated community of Oceano.
8. CSA = County Service Area
9. By agreement, Templeton CSD is allotted 0.443 MGD of the Paso Robles treatment plant capacity.

Septic Systems Recommended Levels of Severity

Santa Margarita

The community of Santa Margarita relies entirely on individual septic systems for wastewater disposal. Septic systems have failed in some parts of the community subject to shallow groundwater levels. According to the 2013 Santa Margarita Community Plan, the location of urban densities on clay soils, combined with poor storm drainage, have created problems for successful septic system operation. In the 1970's, septic systems in Santa Margarita had a 19 percent failure rate during periods of seasonal flooding. Since then, engineered septic systems have been required by the County, and they have shown better performance. However, the County Health Department does not administer an annual septic maintenance inspection program, and the current failure rate is not precisely known.

Drainage problems still exist in Santa Margarita. However, with suitable drainage control, the long term use of septic systems could be feasible if the systems are properly maintained by owners. Development of existing lots should provide adequate areas for leach fields and drainage control. Formation of a flood control zone of benefit would enable the community to pay the necessary costs to resolve flooding problems which in turn may help maintain septic systems in the community.

Continued development of the Santa Margarita Ranch will necessitate the construction of a centralized wastewater system. The development plan for the project includes the dedication of land for a potential future sewage treatment facility of up to ten (10) acres. The capacity, features, location and timing of this potential future sewage treatment facility have not yet been determined.

Although no public data are available regarding the failure rate of existing septic systems, previous system failures suggest this is a persistent problem which could worsen over time. **Recommended Level of Severity I.**

Shandon

According to the 2012 Shandon Community Plan, the community is served by individual septic tank and leach field systems with a majority located on small lots. The Community Plan requires

a community wastewater system to be constructed with new development. The wastewater system improvements will consist of a backbone network of gravity sewer pipelines, lift stations, force mains, a waste water treatment facility, and percolation basins. Until a community wastewater system is constructed, existing development may remain on their individual septic systems, as regulated by the RWQCB, where the land uses are not intensified. However, existing development may be required to be connected to the community system in the future as determined by the RWQCB. **No levels of severity are recommended**.

Los Osos

The community of Los Osos utilizes individual septic systems for wastewater disposal which has resulted in the degradation of water quality in the groundwater basin underlying the community. To address the water pollution problem and help provide a sustainable source of potable water for the community, the County began construction of the Los Osos Wastewater Project in 2012. The project will provide wastewater collection, conveyance, treatment and recycled water reuse for Los Osos. As of October, 2016, the collection system and Water Recycling Facility have been completed and about one-third of properties have connected to the system. All properties are expected to be connected to the system by March, 2017.

The project includes nine primary pump stations, 12 pocket pump stations, pump station wet wells, 220,000 feet of gravity sewer and force main, 588 manholes, fiber optic conduit, 35,000 feet of recycled water distribution mains and 4,710 lateral connections. Individual lateral connections to the sewer main will be required after completion of the wastewater project facilities. Until the wastewater system is complete, individual septic systems will remain in use throughout the community and will continue to contribute to the degradation of groundwater quality. **Recommended Level of Severity III.**

Nipomo

Portions of the community of Nipomo are served by on-site septic systems for wastewater disposal. A survey conducted in 1975 found evidence of system failures in 55% of the on-site septic systems within portions of the community. Subsequently the Regional Water Quality Control Board adopted Resolution 78-02 which prohibits waste discharge from individual sewage disposal systems within certain portions of the Nipomo area after July, 1982. Subsequently, all properties within this “prohibition zone” and within 50 feet of the Nipomo CSD sewer main are required to connect to the sewer prior to a change of ownership. In the meantime, these properties may continue the use of on-site septic systems. The discharge prohibition zone lies within the existing wastewater service area. **Recommended Level of Severity III for the “prohibition zone” in the Nipomo area**.

Recommended Actions

- Monitor septic system failures in the community of Santa Margarita. The carry over of solids from the septic tank to the leach field is the most common cause of absorption system clogging and failure. Encourage property owners to properly maintain their septic systems.

- Maintain Level of Severity III for Los Osos on-site septic systems in the prohibition zone until all on-site septic systems have been decommissioned.

- Recommend Level of Severity III for the "prohibition zone" in the Nipomo Area.

- Consult with County Environmental Health and RWQCB on actions and monitor water quality for communities in which septic systems continue to be used.

- Evaluate alternatives to septic systems such as a public sewer system, a community septic system maintenance program, or a collection and disposal system to existing onsite treatment tanks in communities in where septic systems continue to be used.

- Identify funding for communities that have a community wastewater treatment facility identified in an approved Public Facility Financing Plan.

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IV. ROADS AND INTERCHANGES

Level of Severity Criteria

Methodology

The ability of roads to carry vehicular traffic depends on several factors. The number of travel lanes, the nature of topographic features, the presence and width of roadway shoulders, and the number of other vehicles all affect the capacity of roads. The Highway Capacity Manual, published by the Transportation Research Board, sets standards for these and other factors which determine traffic "Levels of Service" (LOS) ranging from level "A" to "F." They are defined as follows:

LOS "A" Free flow: Unlimited freedom to maneuver and select desired speed.

LOS "B" Stable flow: Slight decline in freedom to maneuver.

LOS "C" Stable flow: Speed and maneuverability somewhat restricted.

LOS "D" Stable flow: Speed and maneuverability restricted. Small increases in volume cause operational problems.

LOS "E" Unstable flow: Speeds are low; freedom to maneuver is extremely difficult. Driver frustration is high during peak traffic periods.

LOS "F" Forced flow: Stoppages for long periods. Driver frustration is high at peak traffic periods.

Level of Service is a useful measure of the relationship between the volume of traffic on a given roadway and the capacity of the roadway to operate safely and efficiently. San Luis Obispo County has established LOS “C” as the threshold for the acceptable operation of roadways and interchanges in rural areas and LOS “D” in urban areas. When a roadway or interchange is projected to operate below these Levels of Service, the County initiates a process to identify, design, fund and construct the necessary improvements to ensure an acceptable LOS is achieved and maintained.

Level of Service is used by the RMS to determine the criteria for the recommended Levels of Severity, as follows:

ROADS

Level of Severity	Roads, Circulation Criteria
I	Traffic volume projections indicate that Level of Service "D" would be reached within five years.
II	Traffic volume projections indicate that Level of Service "D" would be reached within two years.
III	Traffic volume projections indicate that the road or facility is operating at Level of Service "D."

INTERCHANGES

Level of Severity	Highway Interchange Criteria
I	Traffic volume projections indicate that Level of Service "D" would be reached within 10 years**.**
II	Traffic volume projections indicate that Level of Service "D" would be reached within five years.
III	Traffic volume projections indicate that the interchange is operating at Level of Service "D."

Recommended Levels of Severity for County Maintained Roads

The RMS considers only those roads under County jurisdiction. State highways, roadways under the exclusive jurisdiction of cities, and private roads are not evaluated in this report.

For County maintained roads, Public Works maintains an ongoing traffic count program to monitor traffic levels of service. The following table summarizes the levels of service for roadways in the RMS.

Table IV-1 -- Existing (2016) and Future Peak Hour Volumes For RMS Roadway Segments

Roadway	Location	LOS Volume Threshold	Peak Hour Volumes[1]		
			2016	2018	2021
Avila Beach Drive	West of San Luis Bay Drive	1280	944	971	1,030
Corbett Canyon Road	North of Arroyo Grande City Limits	909	395	411	436
Halcyon Road	North of Camino del Rey	898	446	483	512
Halcyon Road	South of Arroyo Grande Creek	904	**968**	**1,007**	**1,069**
Las Tablas Road	West of Duncan Road	1850	1,455	1,514	1,606
Lopez Drive	South of Orcutt Road	886	467	505	536
Los Berros Road	South of EI Campo Road	978	768	799	848
Los Osos Valley Road	West of Foothill Boulevard	1475	1,418	**1,475**	**1,566**
Los Ranchos Road	West of Highway 227	968	364	394	418
Main Street (Cambria)	East of Pine Knolls Drive	1600	790	822	872
Mission Street	North of Highway 101	1350	435	453	480
Nacimiento Lake Drive	East of Chimney Rock Road	902	441	459	487
O'Connor Way	North of Foothill Road	1084	245	255	270
Paso Robles Street	East of Highway 1	1050	165	179	190
Price Canyon Road	South of Hiqhway 227	995	**1,027**	**1,112**	**1,180**
Ramada Drive	South of Hichwav 46	1050	604	628	667
South Bay Boulevard	South State Park Road	967	**1,434**	**1,492**	**1,583**
South Ocean Avenue	North of 13th Street	1350	508	529	561
Tank Farm Road	West of Santa Fe Rd	1350	**1,854**	**1,929**	**2,047**
Tefft Street	West of Mary Avenue	2200	1,526	1,488	1,685
Vineyard Drive	West of Highway 46	905	274	285	303
Vineyard Drive	West of Highway 101	1600	1,002	1,042	1,106

Source: San Luis Obispo County Department of Public Works, 2016

1. Volumes that exceed the Level of Service standard (LOS "C" rural; LOS "D" urban) are shown in bold.

Based on the traffic volumes summarized in the table above, the following roads are expected to experience levels of service that meet the RMS criteria for Levels of Severity:

Table IV-2 -- Summary of Recommended Levels of Severity -- Roads		
Roadway Segment	**Community/ Planning Area**	**Recommended Level of Severity**
Los Osos Valley Road west of Foothill Boulevard	San Luis Obispo/Los Osos	**II**
Halcyon Road south of Arroyo Grande Creek	Oceano	**III**
South Bay Boulevard south of State Park Road	Los Osos	
Tank Farm Road west of Santa Fe Road	San Luis Obispo	
Price Canyon Road south of Highway 227	South County Planning Area	

Each of these road segments is discussed below and shown in their regional context on Figures IV-1, IV-2 and IV-3.

Figure IV-1 – RMS Roads Recommended Levels of Severity – Los Osos/San Luis Obispo Area

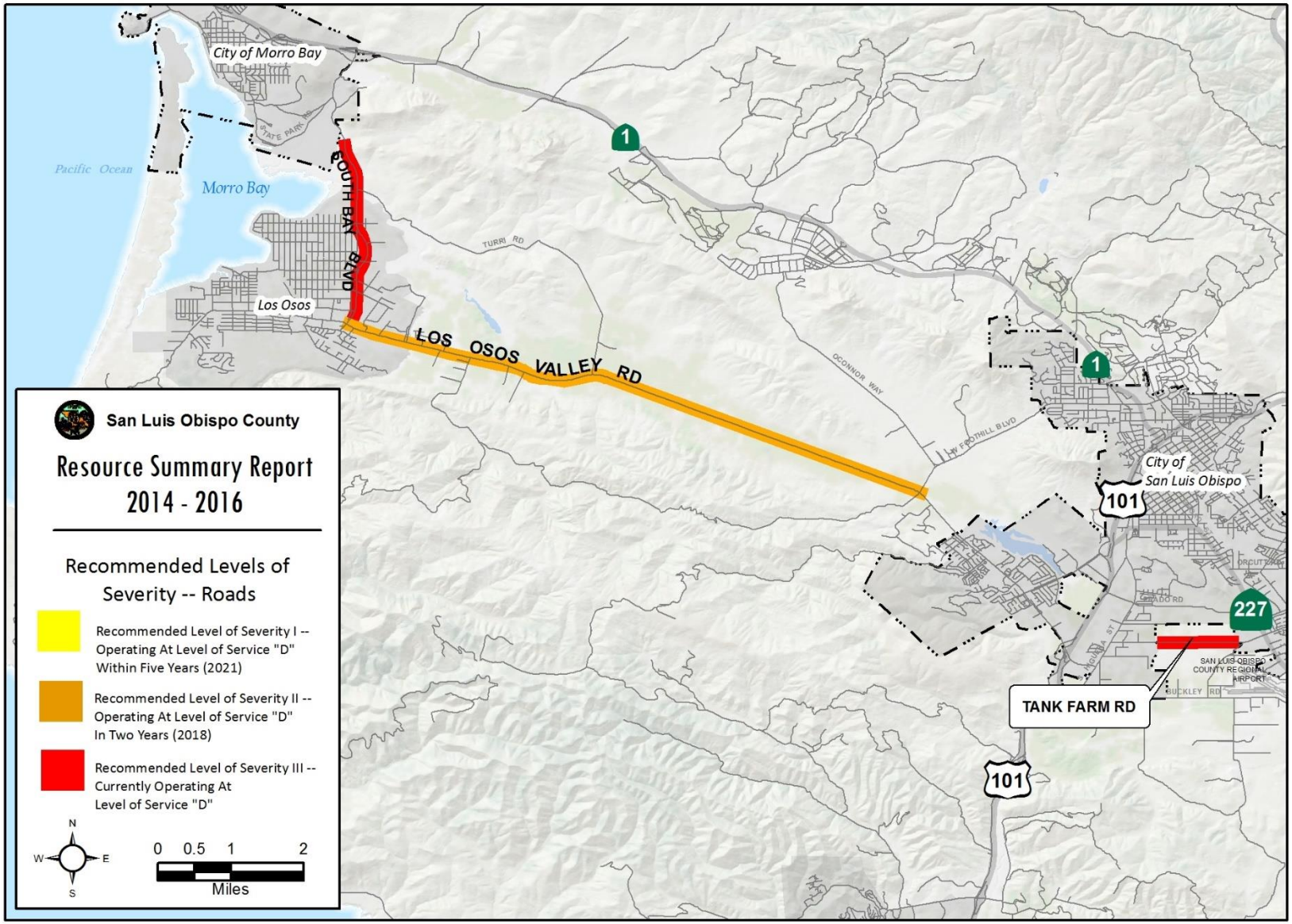
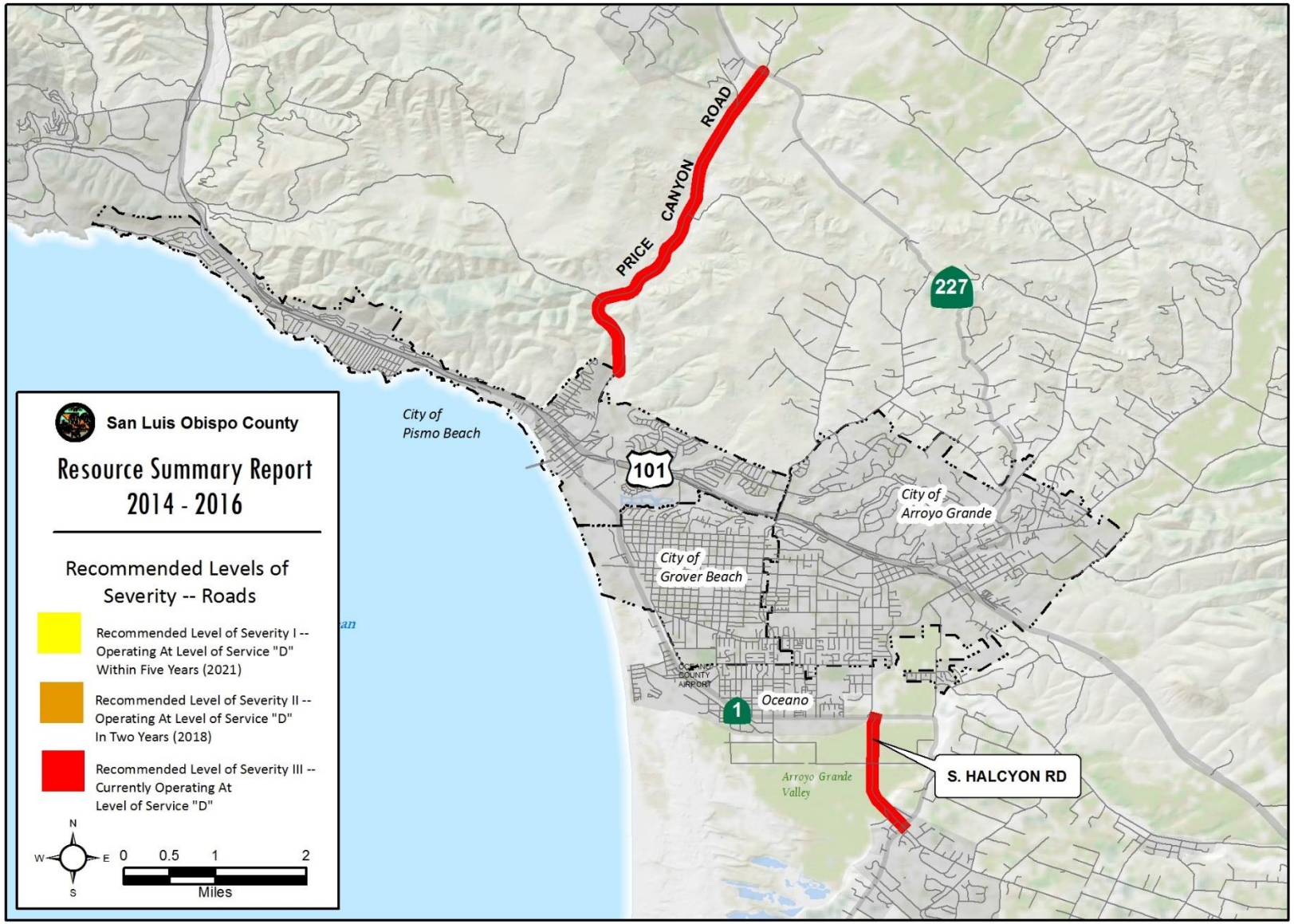
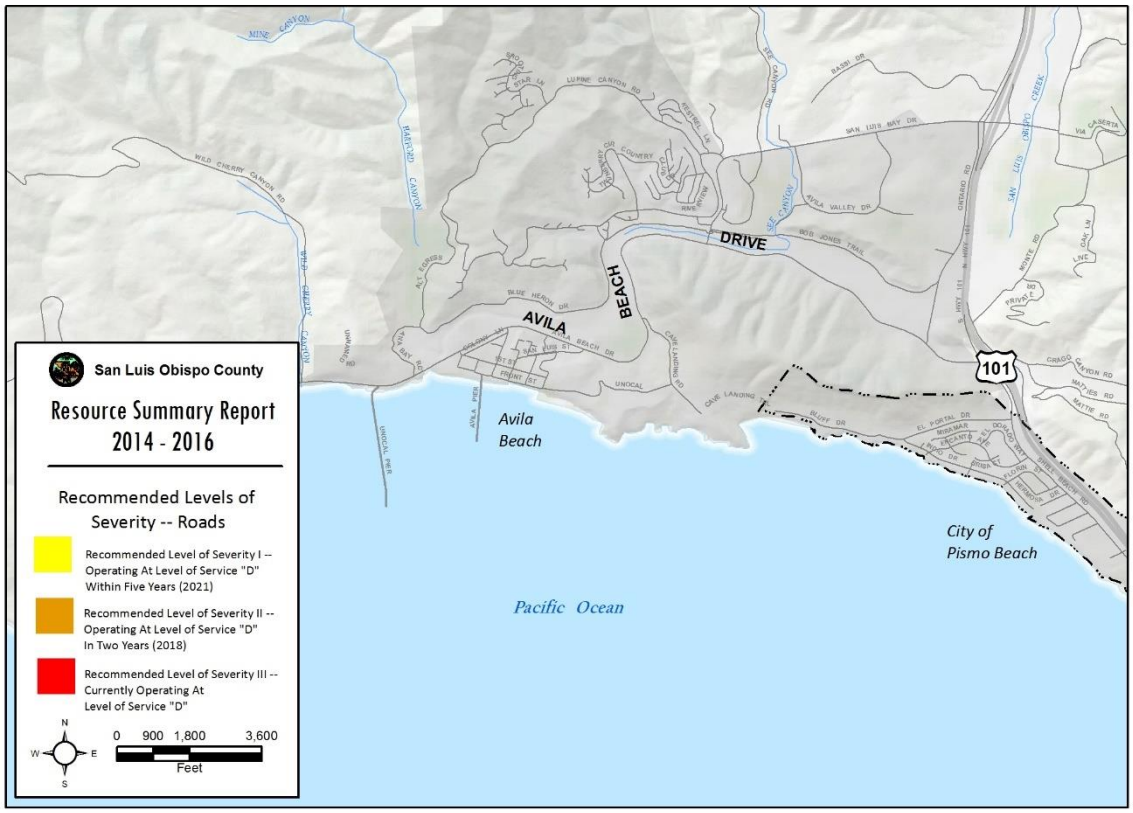


Figure IV-2 – RMS Roads Recommended Levels of Severity – South County



Avila Beach Drive West of San Luis Bay Drive



Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
Avila Beach Drive	West of San Luis Bay Drive	1,280	944	971	1,031

Source: San Luis Obispo County Department of Public Works, 2016

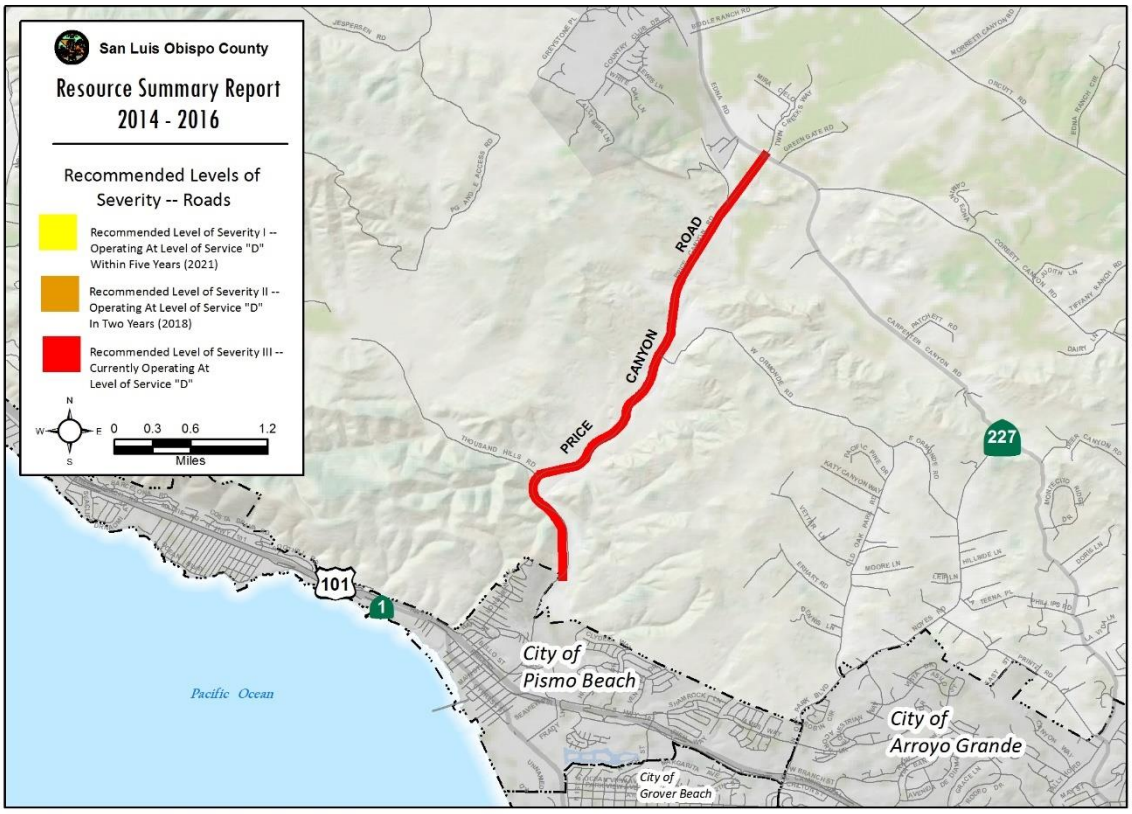
1. Volumes that exceed Level of Service "D" are shown in bold.

Avila Beach Drive traffic volumes rose significantly over previous years, likely due to traffic associated with repair work at PGE Diablo Canyon. Public Works will continue to monitor volumes on the roadway to see if they return to historic levels. The Avila Valley Circulation Study recommends shoulder widening for Avila Beach Drive; however, no funding is currently available for the project. Data collected as part of the 2015 Avila Circulation Study and Traffic Impact Fee Update indicate that traffic volumes on Avila Beach Drive are not expected to reach Level of Service "D" within the next five years. **Therefore, no Level of Severity is recommended.**

Although no Level of Severity is recommended for Avila Beach Drive due to the methodology used in the Local Coastal Plan, the County acknowledges that as a tourist destination spot, there are significant public events and weekends in Avila Beach that heavily impact the roadway during certain times of the year. In 2016, County staff conducted an analysis of traffic management strategies and options for Avila Beach Drive to address (among other things) the methodology for measuring the level of service, emergency access to the Avila Valley, and the

significant constraints to increasing the capacity of the roadway. The Board directed that these issues be addressed as part of the update of the Avila Beach Community Plan which is expected to begin in 2017.

Price Canyon Road South of Highway 227



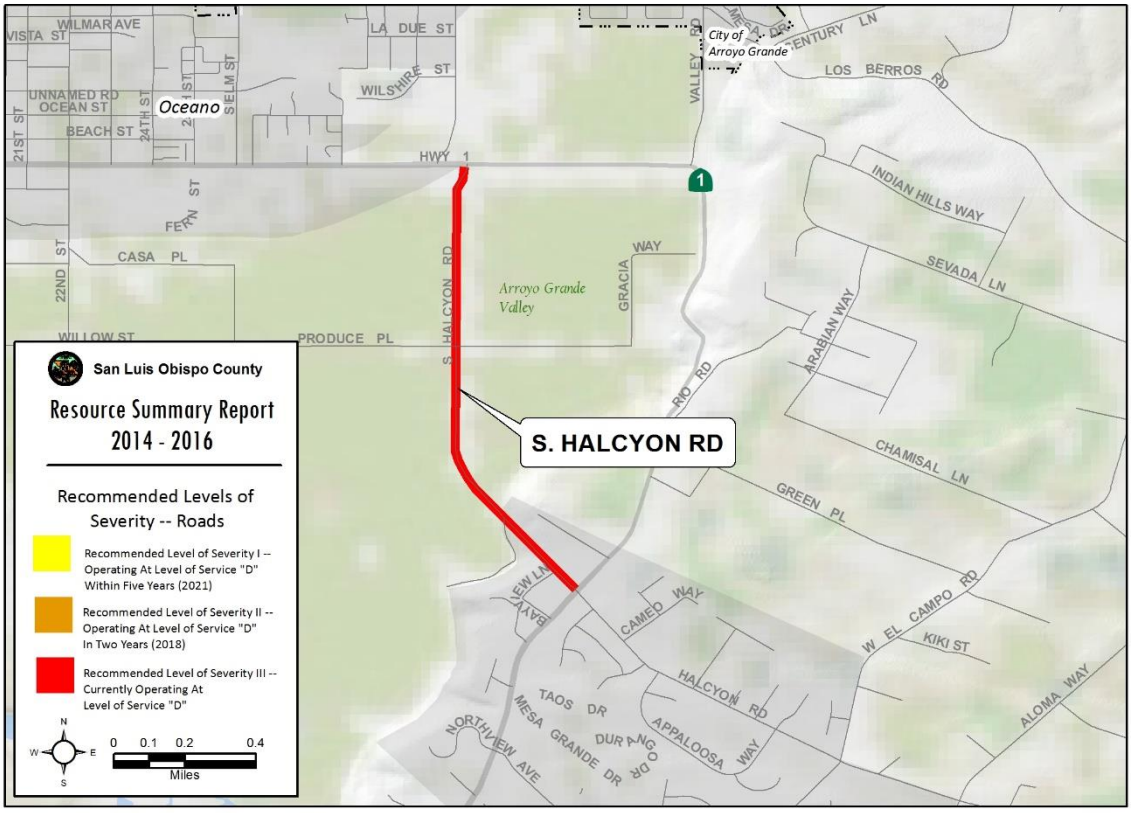
Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
Price Canyon Road	South of Highway 227	995	**1,027**	**1,112**	**1,180**

Source: San Luis Obispo County Department of Public Works, 2014

1. Volumes that exceed Level of Service "D" are shown in bold.

Public Works is currently working on a project to complete shoulder widening of Price Canyon Road between State Highway 227 and the Pismo Beach city limits (Ormonde Road). Construction is expected to be completed in 2017. Traffic volumes for Price Canyon Road measured in 2016 indicate Level of Service "D" has been reached. **Recommended Level of Severity III.**

Halcyon Road South of Arroyo Grande Creek



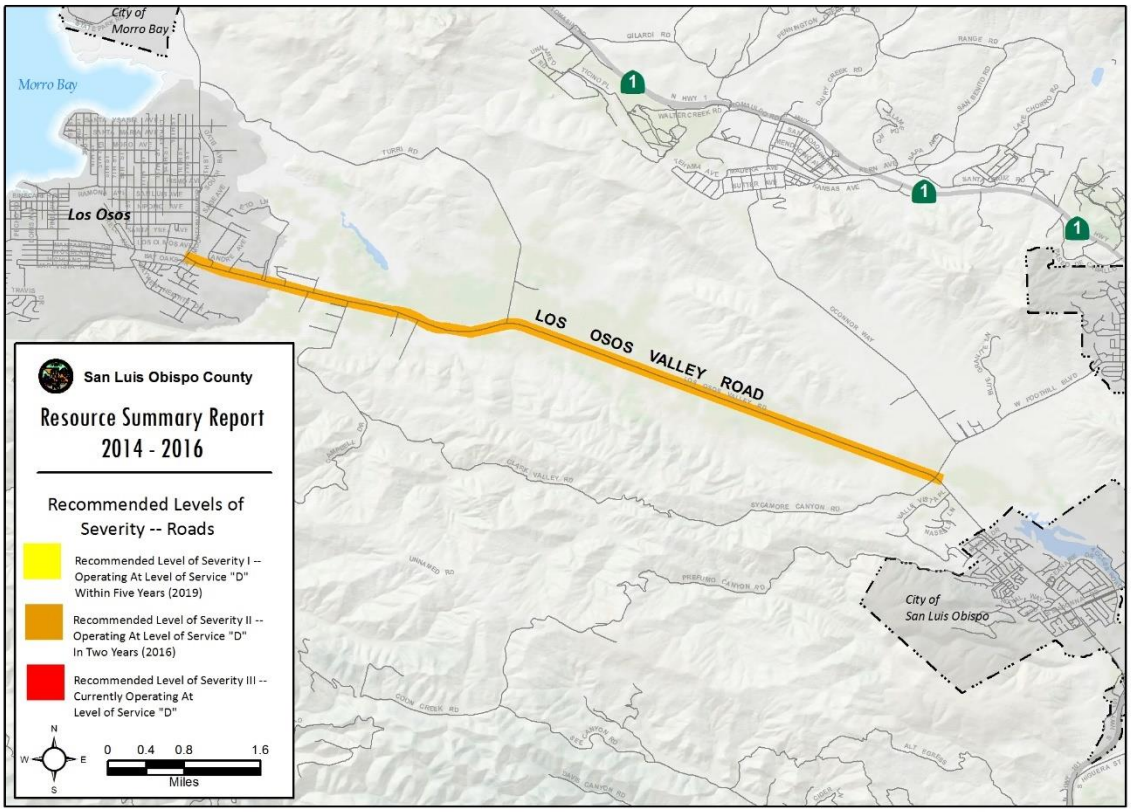
Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
Halcyon Road	South of Arroyo Grande Creek	904	**968**	**1,007**	**1,069**

Source: San Luis Obispo County Department of Public Works, 2014

1. Volumes that exceed Level of Service "D" are shown in bold.

Public Works is pursuing funding for shoulder widening on the grade leading up to the Nipomo Mesa from the Arroyo Grande Valley. Traffic volumes for Halcyon Road have reached Level of Service "D". **Recommended Level of Severity III.**

Los Osos Valley Road West of Foothill Boulevard



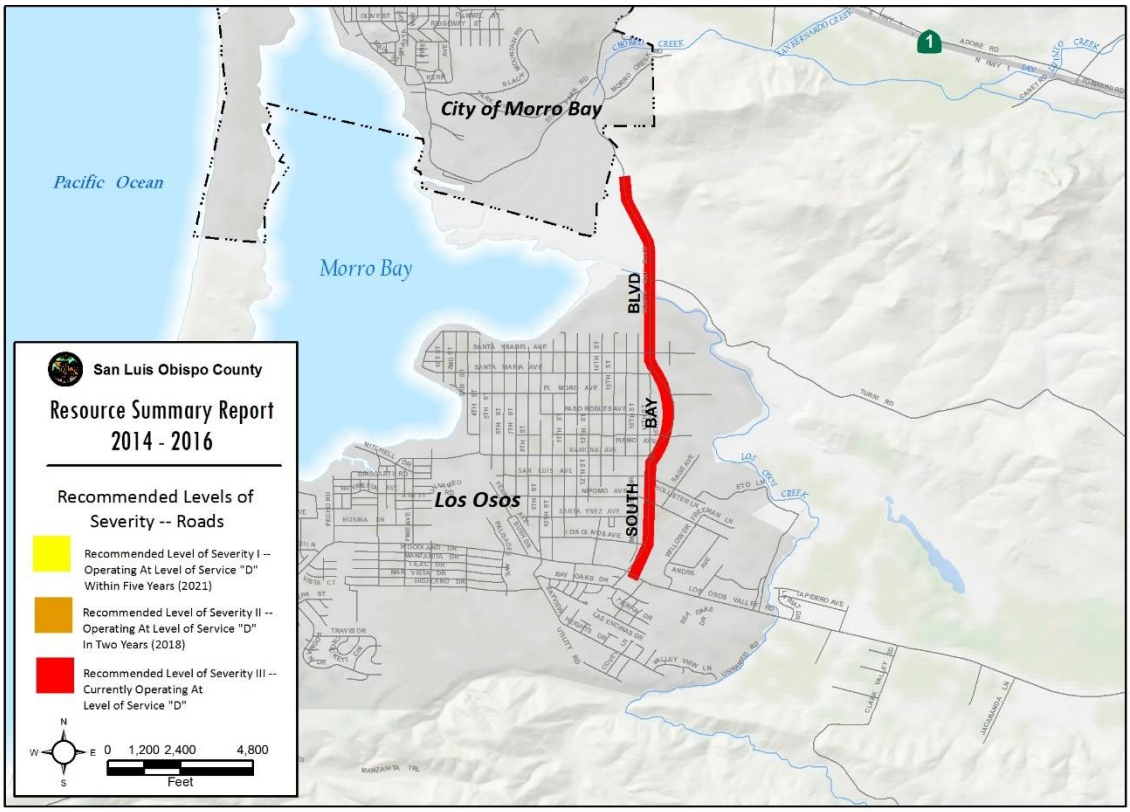
Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
Los Osos Valley Road	West of Foothill Boulevard	1,475	1,418	**1,475**	**1,566**

Source: San Luis Obispo County Department of Public Works, 2014

1. Volumes that exceed Level of Service "D" are shown in bold.

Los Osos Valley Road west of Foothill Boulevard to South Bay Boulevard operates at LOS E when analyzed as a two-lane roadway. However, Los Osos Valley Road has two (2) one (1) mile long passing lanes which provide a LOS benefit, although the magnitude of the benefit is difficult to assess. The Los Osos Circulation Study recommends widening Los Osos Valley Road to four lanes; however, traffic impact fees which would fund the project are not being generated due to the prohibition on new development in much of Los Osos. As a result, there is no funding currently available for the project. The projection of traffic volumes for Los Osos Valley Road indicates Level of Service "D" will be reached in two years. **Recommended Level of Severity II.**

South Bay Boulevard South of State Park Road



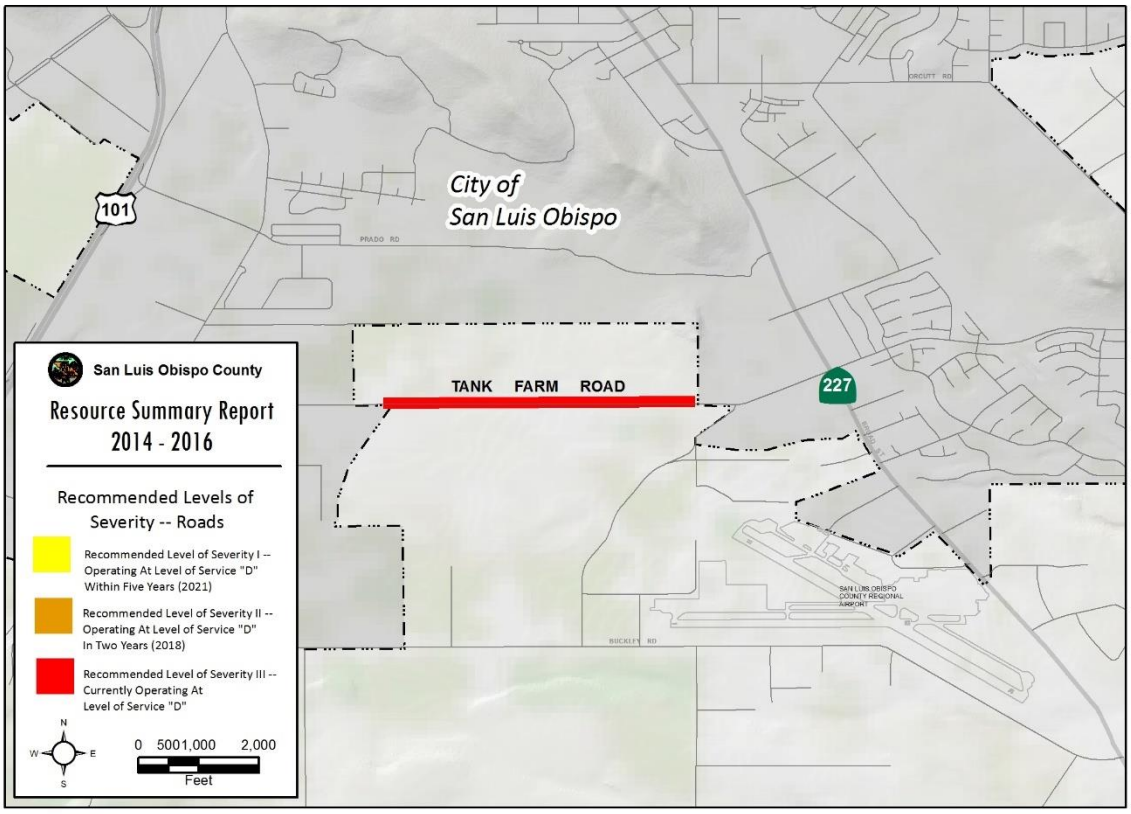
Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
South Bay Boulevard	South State Park Road	967	**1,434**	**1,492**	**1,583**

Source: San Luis Obispo County Department of Public Works, 2014

1. Volumes that exceed Level of Service "D" are shown in bold.

The Los Osos Circulation Study recommends widening South Bay Boulevard from Los Osos Valley Road to the Urban Reserve Line of the City of Morro Bay. Funds from Los Osos Road Improvement Fees are necessary to fund the widening; however, traffic impact fees which would fund the project are not being generated due to the prohibition on new development in much of Los Osos. As a result, there is no funding currently available for the project and the current traffic volumes indicate South Bay Boulevard is currently operating at Level of Service "D". **Recommended Level of Severity III**.

Tank Farm Road West of Santa Fe Road



Roadway	Location	LOS "D" Volume	Peak Hour Volumes		
			2016	2018	2021
Tank Farm Road	West of Highway 227	1,152	**1,854**	**1,929**	**2,047**

Source: San Luis Obispo County Department of Public Works, 2014

1. Volumes that exceed Level of Service "D" are shown in bold.

The City of San Luis Obispo is planning to widen the portion of Tank Farm Road outside the City to four lanes as part of the Airport Area Specific Plan. In the meantime, current traffic volumes indicate Tank Farm Road is currently operating at Level of Service "D". **Recommended Level of Severity III**.

Other Roadways

All other roadway segments monitored for the RMS are expected to operate at acceptable Levels of Service for the foreseeable future.

Levels of Severity for HWY 101 Interchanges

The following table contains Levels of Service for existing conditions (2016) and buildout conditions for Highway 101 interchange operations in the Avila Beach, South County and Templeton areas. The analysis was derived from area Circulation Studies which are typically updated every five (5) years. The objective of the Circulation Studies is to forecast future capacity demands on the transportation system and to identify the roadway improvements necessary to correct deficiencies. A key element of the studies is defining the necessary Capital Improvement Program (CIP) project and development of Road Improvement Fees (RIF) to support the program. The studies are located at:

http://www.slocounty.ca.gov/PW/Traffic/TrafficStudies.htm.

The interchange analysis assesses existing conditions and conditions at buildout, because improvements to the operation or efficiency of an interchange can take between 10 and 20 years in order to coordinate with Caltrans, acquire right-of-way, complete construction documents, secure funding and seek stakeholder buy-in. Therefore, it has been prudent for Public Works to plan for these kinds of improvements under conditions estimated to occur at buildout of the General Plan. County Public Works is currently working on the Avila Valley and Templeton Travel Demand Model and Circulation Study updates which will be completed by December 2016. The South County Travel Demand Model and Circulation Study was updated in 2015.

Table IV-3 -- RMS 2016 Interchanges Levels of Service

US 101 Interchange	Existing Levels of Service[1]		Buildout Levels of Service1		Source
	Southbound (SB) Ramps	Northbound (NB) Ramps	SB Ramps	NB Ramps	
State Highway 46 West	**D**	B	**F**	**F**	2009 Templeton Circulation Study
North Main Street	**F**	**E**	**F**	**F**	
Las Tablas Road	B	B	B	B	
Vineyard Drive	C[2]	C[2]	B	B	
San Luis Bay Drive	B	E	B	F	2016 Draft Avila Valley Circulation Study
Avila Beach Drive	D	A	F	B	
Los Berros/ Thompson	C	**C**	**C**	**E**	2015 South County Circulation Study
Willow Road	B	C	C	D	
Tefft Street	**D**	C	**F**	**F**	
US Highway 166	**C**	B	**F**	**E**	

Source: San Luis Obispo County Department of Public Works, 2016

Notes for Table IV-2:

1. Interchanges that exceed LOS C are shown in bold.

2. The existing Level of Service at the interchanges improved to LOS "C" or better following completion of the Vineyard Interchange Project in 2009.

Based on the traffic volumes summarized above, the following interchanges are expected to experience Levels of Service that meet the RMS criteria for Levels of Severity:

Table IV-4 -- Summary of Recommended Levels of Severity – Highway 101 Interchanges

Highway 101 Interchange	Community/ Planning Area	Recommended Level of Severity
Los Berros Road/Thompson Road NB Ramps	South County	I
Willow Road	Nipomo	
US Highway 166 SB Ramps	South County	
State HWY 46 West, SB ramps	Templeton area	III
North Main Street SB and NB ramps	Templeton	
South Bay Boulevard	Los Osos/Estaero	
Avila Beach Drive	Avila Valley	
San Luis Bay Drive	Avila Valley	
Tefft Street SB ramps	Nipomo	

The following interchanges are projected to operate at LOS C or better for the foreseeable future; therefore, no Level of Severity is recommended:

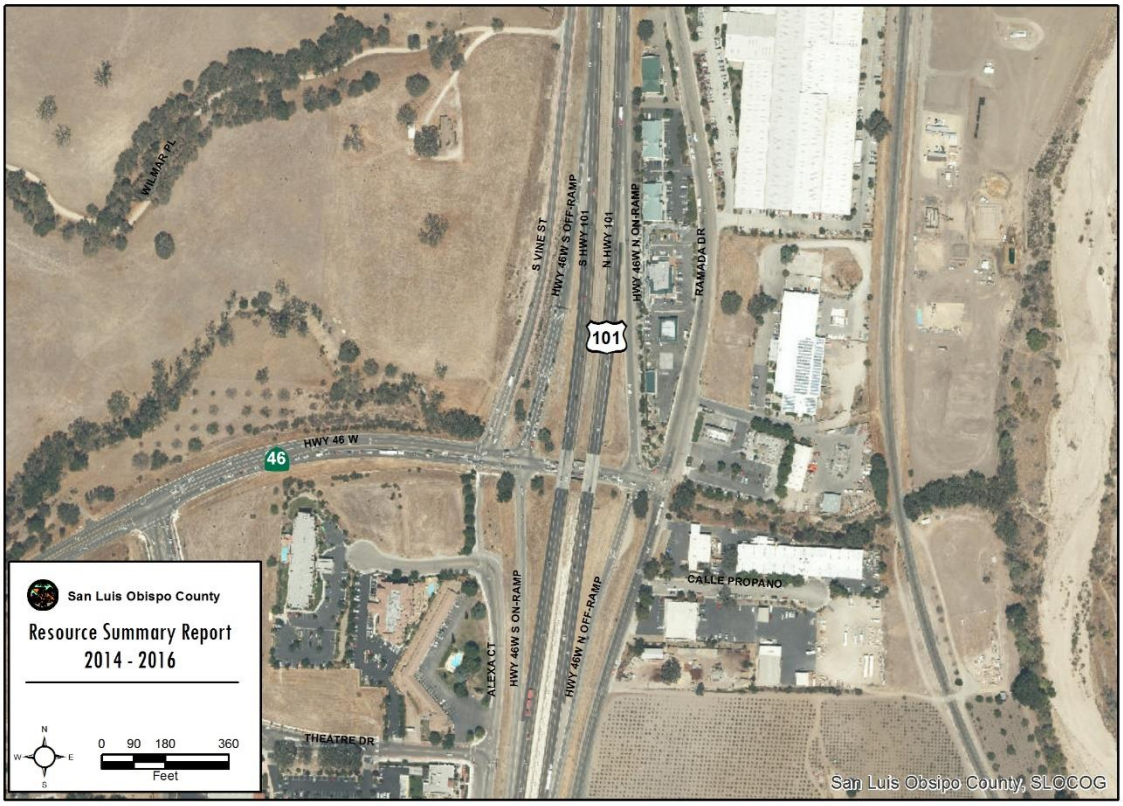
Las Tablas Road

A widening and signalization project was completed at the interchange in 2006. Public Works is currently completing an update to the Templeton Circulation Study.

Vineyard Drive

The existing LOS E/D was mitigated with the completion of the Vineyard Drive Interchange Project in 2009.

US Highway 101/State Highway 46 West



US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
State Highway 46 West	**D**	B	**F**	**F**

Source: San Luis Obispo County Department of Public Works, 2016

The City of Paso Robles relocated Theater Drive, one of the western frontage roads, which has relieved some congestion. The Templeton Circulation Study has identified a CIP to modify the Highway 46 interchange and the program is collecting road impact fees. As part of the updated study, Public Works will be working with Caltrans and the City of Paso Robles to reassess each jurisdiction's fair share of fees. In the meantime, the SB ramps continue to operate at Level of Service "D". **Recommended Level of Severity III**.

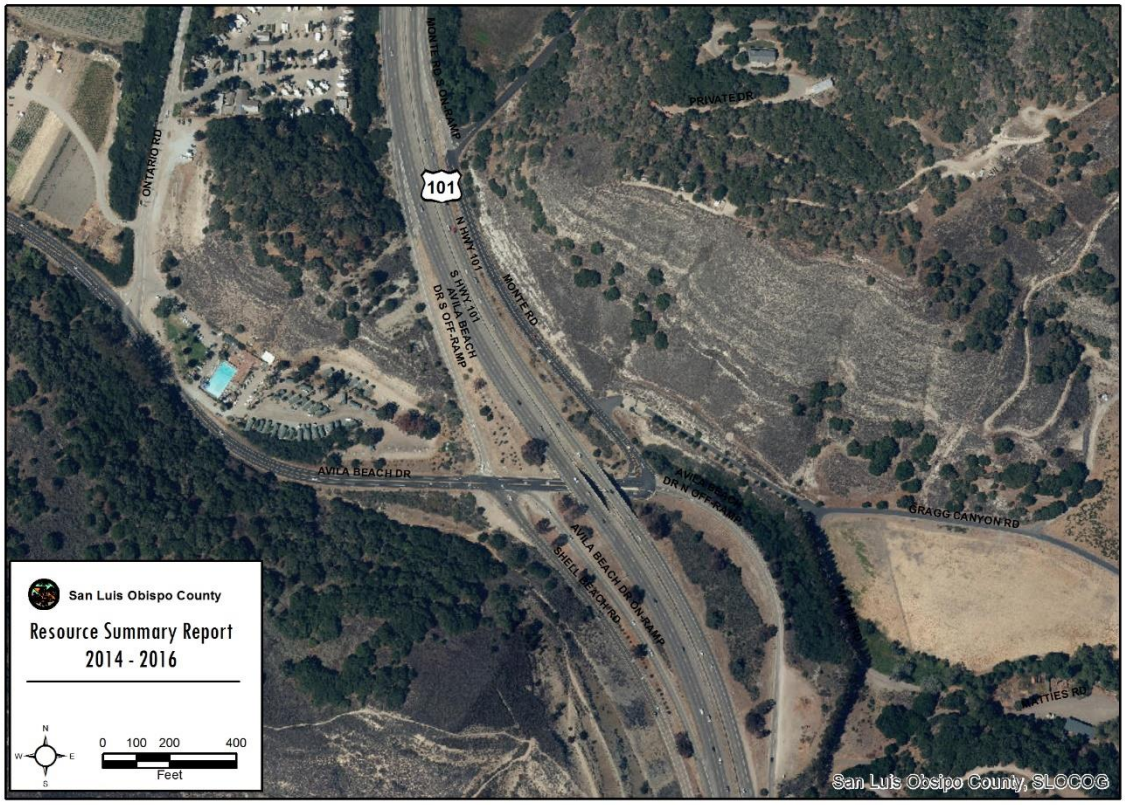
US Highway 101/North Main Street (Templeton)

US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
North Main Street	F	E	F	F

Source: San Luis Obispo County Department of Public Works, 2016

Interchange improvements at this location are included in the Templeton Circulation Study. Public Works is currently completing a project study report with Caltrans to determine the preferred alternative design; however, no funding is currently available for project construction. **Recommended Level of Severity III**.

US Highway 101/Avila Beach Drive



US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
Avila Beach Drive	**D**	A	**F**	B

Source: San Luis Obispo County Department of Public Works, 2016

The Avila Beach Drive/US 101 southbound ramps are configured such that the on-ramp forms a T-intersection in close proximity to the US 101 southbound off-ramp/Shell Beach Road intersection. During peak hour periods, the intersection is severely constrained and extensive queing occurs on the ramps, causing significant delays. Caltrans is in the process of preparing a Project Study Report (PSR) for installing a roundabout at the southbound ramps. **Recommended Level of Severity III**.

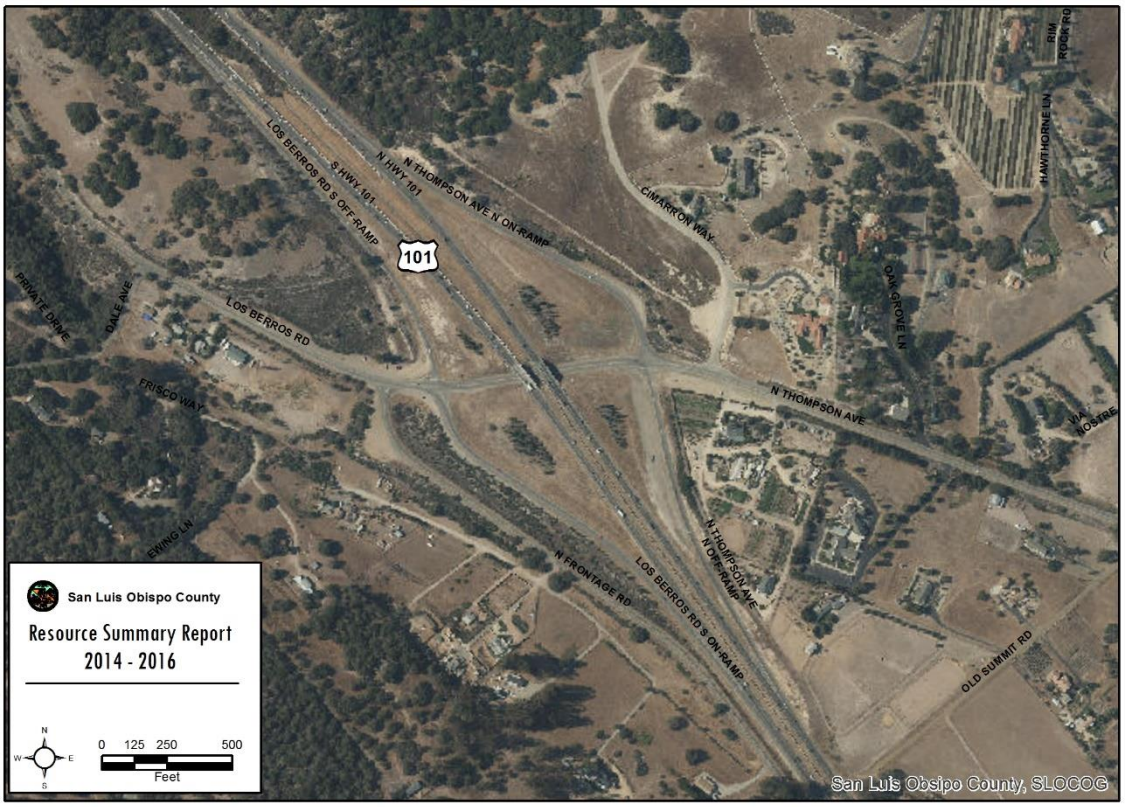
US Highway 101/San Luis Bay Drive

US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
San Luis Bay Drive	B	**E**	B	**F**

Source: San Luis Obispo County Department of Public Works, 2016

The San Luis Bay Drive/US 101 southbound ramps are configured such that the intersections are in close proximity to the Ontario Road intersection. During peak hour periods, the interchanges are severely constrained and extensive queueing occurs on the side-street and ramp approaches. Interchange improvements at this location are included in the Avila Circulation Study. **Recommended Level of Severity III**.

US Highway 101/Los Berros Road



US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
Los Berros/ Thompson	C	C	C	**E**

Source: San Luis Obispo County Department of Public Works, 2016

Signals at the northbound and southbound ramps are included in the South County Circulation Study. **Recommended Level of Severity I.**

US Highway 101/Willow Road

US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
Willow Road	B	C	C	**D**

Source: San Luis Obispo County Department of Public Works, 2016

Traffic signals are included in the South County Circulation Study at the northbound and southbound ramps. **Recommended Level of Severity I.**

US Highway 101/Tefft Street

US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
Tefft Street	**D**	C	**F**	**F**

Source: San Luis Obispo County Department of Public Works, 2016

Public Works will be resurfacing Tefft Street with asphalt in 2017 and is working toward operational improvements. The South County Circulation Study contains additional interchange improvements including possible bridge widening, realigning ramp terminals, modifying Frontage Road access and additional turn lanes. **Recommended Level of Severity III.**

US Highway 101/State Highway 166

US 101 Interchange	Existing Levels of Service		Buildout Levels of Service	
	SB Ramps	NB Ramps	SB Ramps	NB Ramps
US Highway 166	C	C	**F**	**F**

Source: San Luis Obispo County Department of Public Works, 2014

Roundabouts at the northbound and southbound ramps are included in the South County Circulation Study. **Recommended Level of Severity I.**

Summary of Recommended Levels of Severity Summary and Recommended Actions for Roads and Interchanges

The following table provides a summary of the recommended Levels of Severity for roadways and interchanges based on the criteria described above and in Chapter I.

Table IV-5 -- Recommended Levels of Severity For Roads and Interchanges

Roadway Segment	Community/ Planning Area	Recommended Level of Severity	Recommended Actions
Los Osos Valley Road west of Foothill Boulevard	Los Osos/San Luis Obispo	II	Public Works to monitor Levels of Service on RMS roadways; Continue to use area circulation studies to identify roadway improvements necessary to achieve and maintain Level of Service "C" or better on RMS roadways; Use the area circulation studies to inform the assessment of levels of severity and to recommend action requirements; Continue to establish and collect road impact fees (AB 1600 fees); and Pursue other funding options including (but not limited to) State and federal grants.
Price Canyon Road south of Highway 227	South County	III	
Halcyon Road south of Arroyo Grande Creek	Oceano		
South Bay Boulevard south of State Park Road	Morro Bay/Los Osos		
Tank Farm Road west of Highway 227	San Luis Obispo		
Interchanges	**Community/ Planning Area**	**Recommended Level of Severity**	**Recommended Actions**
Los Berros Road/Thompson Road NB ramps	Nipomo area	I	Public Works in conjunction with SLOCOG and Caltrans to monitor Levels of Service on RMS interchanges; Continue to use area circulation studies to identify interchange improvements necessary to achieve and maintain Level of Service "C" or better on RMS interchanges; Use the area circulation studies to inform the assessment of levels of severity and to recommend action requirements; Continue to establish and collect road
Willow Road	Nipomo		
US HWY 166 SB ramps	Nipomo area		
State HWY 46 West, SB ramps	Templeton area	III	
North Main Street SB ramps, NB ramps	Templeton		
San Luis Bay Drive	Avila		
Avila Beach Drive	Avila		

Table IV-5 -- Recommended Levels of Severity For Roads and Interchanges			
Roadway Segment	**Community/ Planning Area**	**Recommended Level of Severity**	**Recommended Actions**
Tefft Street SB ramps	Nipomo		impact fees (AB 1600 fees); and Pursue other funding options including (but not limited to) State and federal grants.

The table below compares the recommended Levels of Severity for roads from the 2012-2014 RSR with those recommended for 2014-2016. Roadways shown in bold italics represent changes recommended in 2014-2016. By applying the criteria for Levels of Severity described in Chapter I, Halcyon Road and Las Tablas Road have moved from a LOS II to a LOS III. Price Canyon Road has been revised upward from LOS I to LOS III. The Levels of Severity for Los Osos Valley Road, South Bay Boulevard and Tank Farm Road are unchanged. Data collected in associated with the Draft Avila Circulation Study conclude that Avila Beach Drive is not expected to reach LOS D until after 2021. **Therefore, no Level of Severity is recommended**.

Table IV-6 -- Comparison of Recommended Levels of Severity For Roadways 2012-2014 RSR and 2014-2016 RSR		
Roadway	**LOS Recommended In 2012-2014**	**LOS Recommended in 2014-2016**
Avila Beach Drive*	I	***None***
Price Canyon Road	I	***III***
Halcyon Road	II	***III***
Las Tablas Road	II	***None***
Los Osos Valley Road	II	II
South Bay Boulevard	III	III
Tank Farm Road	III	III

Changes shown in bold italics.
* No Level of Severity is recommended.

Interchanges were considered for the first time in the 2010-2012 RSR. The assessment was based on the measured *Levels of Service* for selected interchanges because *Level of Severity* criteria had not been adopted prior to publication of the 2010-2012 RSR. Since that time, Level of Severity criteria have been developed and adopted for interchanges and included in the 2012-2014 RSR (described above and in Chapter I).

V. SCHOOLS

Level of Severity Criteria

Level of Severity	Schools Criteria
I	When enrollment projections reach school capacity within seven years.
II	When enrollment projections reach school capacity within five years.
III	When enrollment equals or exceeds school capacity.

Funding for School Construction in California

California's system of financing school facilities is best described as a partnership between the State and local school districts. The State provides local school districts with financial support for new school construction and modernization projects through the School Facility Program (SFP), which was established in 1998 under the Leroy F. Green School Facilities Act of 1998. Under the SFP, new school construction projects are funded on a 50/50 state and local matching basis. Since 1998, voters have approved $35 billion in statewide bond issues to fund the SFP which is administered by the California Office of Public School Construction (OPSC) on behalf of the California Department of General Services and the State Allocation Board.

At the local level, Government Code section 65995 et seq. authorizes school districts to collect development impact fees to help offset the cost of new school facilities needed to serve new development. The fees are levied on a per-square-foot basis of new construction and must be supported by a Fee Justification Study that establishes the connection (or "nexus") between the development coming into the district and the assessment of fees to pay for the cost of the facilities needed to house future students. Three levels of impact fees may be levied:

- Level I is assessed if a Fee Justification Study documents the need for new school facilities and associated costs.
- The Level II fee is assessed if a district makes a timely application to the State Allocation Board for new construction funding, conducts a School Facility Needs Analysis pursuant to Government Code Section 65995.6, and satisfies at least two of the four requirements listed in Government Code Section 65995.5(b)(3) which relate to the characteristics of current enrollment and district efforts to fund school facility construction.
- The Level III fee is assessed when the State bond funds (described above) are exhausted; in this case the district may impose a developer's fee up to 100 percent of the School Facility Program new construction project cost.

School Districts Serving San Luis Obispo County

There are 12 school districts serving San Luis Obispo County[11] (Figure V-1). Current enrollment and school capacity information was provided by the participating school districts on a voluntary basis. California Education Code (EC) sections 41376 and 41378 prescribe the maximum class sizes and penalties for districts with any classes that exceed the limits established in 1964:

- Kindergarten—average class size not to exceed 31 students; no class larger than 33 students
- Grades one through three—average class size not to exceed 30 students; no class larger than 32 students
- Grades four through eight—in the current fiscal year, average number of students per teacher not to exceed the greater of 29.9 (the statewide average number of students per teacher in 1964) or the district's average number of students per teacher in 1964

However, for the purposes of determining levels of severity, this RSR considers the *Maximum Practical Capacity* of school facilities defined as follows:

> **Maximum Practical Capacity --** The maximum number of students each school could theoretically accommodate by adding relocatable classrooms, but without increasing the capacity of core facilities.

Thus, *capacity* is not based on the ratio of students to teachers, which may be set by contractual arrangements among the various districts, nor does it consider the occupancy load (or design capacity) of the facilities.

Table IV-1 compares 2014-15 and 2015-16 enrollment with the maximum practical capacities of school facilities for districts who provided information to the county. The data are aggregated for elementary, middle and high schools; the relationship between enrollment and capacity for each district is discussed in the assessment of Levels of Severity.

Countywide, several school districts have been experiencing significant enrollment declines over the past several years, particularly in elementary schools. The decline may be attributed to high housing costs in some parts of the county which deter families with young children from locating there.

[11] Portions of the San Miguel Joint Union Elementary, Pleasant Valley Joint Union Elementary, Paso Robles Joint Union, Shandon Unified extend into Monterey County. Portions of the Cuyama Joint Unified School District extend into Santa Barbara County.

Figure V-1 – School Districts Serving San Luis Obispo County

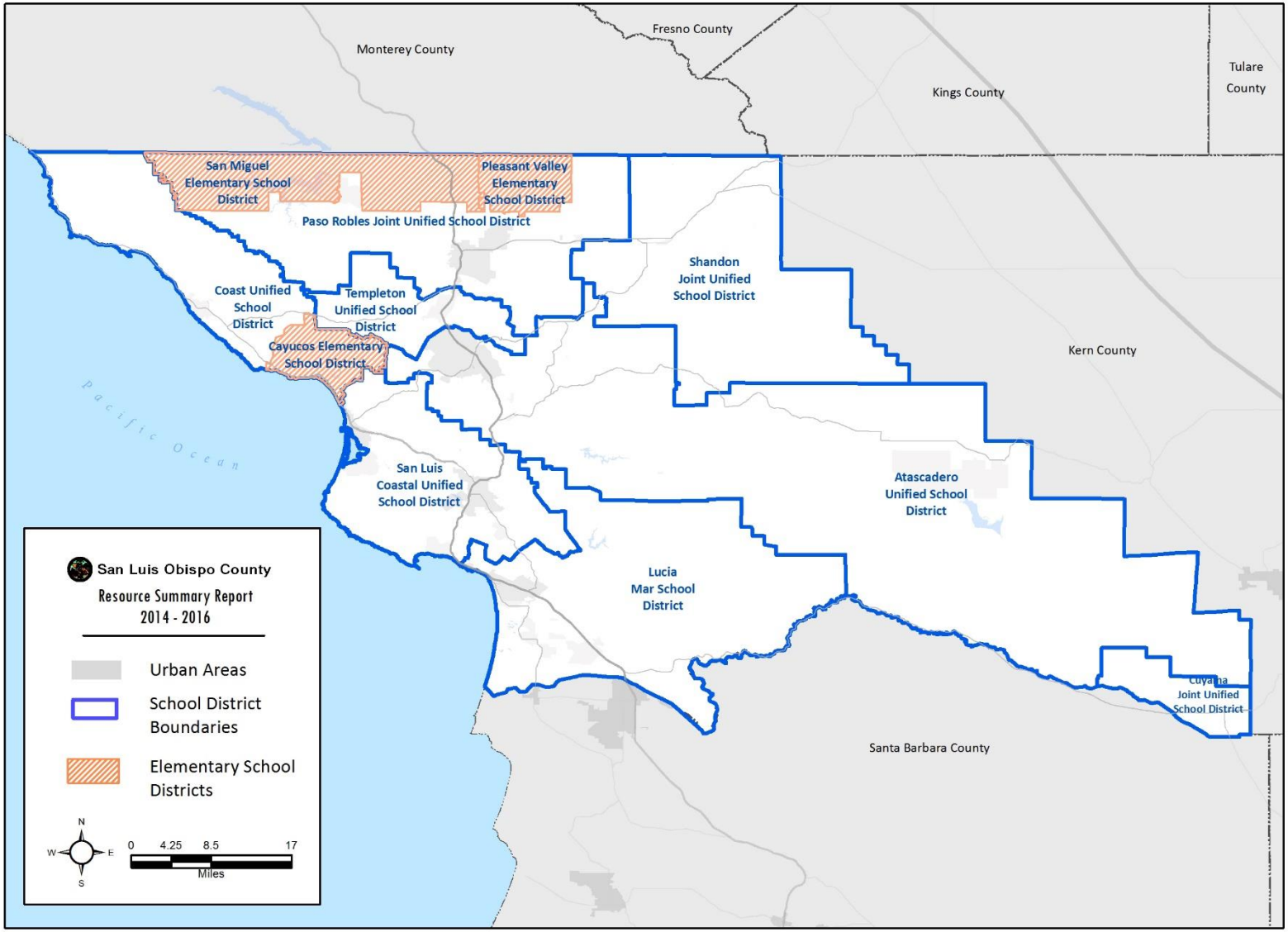


Table V-1 – Comparison of School Capacity and Enrollment For School Years 2014-2015 and 2015-2016

District	School Level	School Year 2014 - 2015			School Year 2015 - 2016		
		Enrollment	Capacity[1]	Percent of Capacity	Enrollment	Capacity[1]	Percent of Capacity
Atascadero Unified School District	Elem.	2,264	3,133	72%	2,203	3,133	70%
	Middle	954	1,516	63%	1,013	1,516	67%
	High	1,418	2,112	67%	1,394	2,112	66%
Belleview-Santa Fe Charter School	K-6	154	210	73%	160	210	76%
Coast Unified School District	Elem.	313	480	65%	265	480	55%
	Middle	157	300	52%	160	300	53%
	High	229	820	28%	240	820	29%
Cayucos Elementary School District	Elem.	193	240	80%	210	240	88%
Grizzly Youth Academy Challenge Program	High	392	400	98%	393	400	98%
Lucia Mar School District	Elem.	5,534	6,143	90%	5,556	6,143	90%
	Middle	1,559	2,156	72%	1,530	2,156	71%
	High	3,616	4,736	76%	2,750	4,836	57%
Paso Robles Joint Unified School District[2]	Elem.	2,852	5,104	56%	2,944	5,104	58%
	Middle	1,457	2,240	65%	1,452	2,240	65%
	High	2,209	4,246	52%	2,275	4,330	53%
	Alt.[3]	342	352	97%	336	352	95%
Pleasant Valley Joint Union School District	Elem.	133	175	76%	110	175	63%
San Luis Coastal Unified School District	Elem.	3,996	4,624	86%	4,021[4]	4,524	87%
	Middle	1,271	2,191	58%	1.295[4]	2,191	59%
	High	2,362	3,574	66%	2,398[4]	3,574	67%
San Miguel Joint Union School District	K - 8	600	945	63%	627	945	66%
Shandon Joint Unified School District	Elem.	13	90	14%	12	90	13%
	K-8	218	500	44%	211	500	42%
	High	61	150	41%	66	150	44%
Templeton Unified School District	Elem.	1,045	1,664	63%	1,047	1,664	63%
	Middle	538	640	84%	522	640	82%
	High	761	1,056	72%	742	1,056	70%

Sources: School Districts

Notes for Table V-1:

1. Maximum Practical Capacity -- The maximum number of students each school could theoretically accommodate by adding relocatable classrooms, but without increasing the capacity of core facilities.

2. For purposes of this RSR, the Paso Robles Joint Unified School District assumes that the "maximum theoretical" capacity of a classroom is a design specification of 20 sq. ft. per student, which is equal to 48 students in a standard 960 sq.ft. classroom. However, this is not a "practical" limit in that there would be conflicts with paths of travel for ADA and contractual violations with the District's unions. Additionally, school classes cannot be evenly balanced at capacity across the site. With these factors in mind, the PRJUSD used a 38 student capacity for each 960 square feet of classroom as a "theoretical" maximum.

3. Independence High School has a greater enrollment than theoretical capacity. This is because the IHS program does not house all of the enrolled students at the same time. This is also true for the programs listed as "Alternative Schools." These are actually not school facilities, but are programs housed within classrooms - Culinary Arts, Endeavour, Independent Studies, Little PEPers, and PRYDE. These programs have multiple enrollees, but all enrollees are not being instructed simultaneously.

4. Projection based on 5-year cohort enrollment projection for 2019/20. From San Luis Coastal Unified School District Enrollment Projections Capacity Analysis 2014/15 Update. Table 5.

Recommended Levels of Severity

Methodology

The Level of Severity criteria for schools are “triggered” when enrollment is projected to exceed school facility capacity in five years (LOS II), or exceed capacity in seven years (LOS I). To determine these relationships, enrollment data for the past 10 years were compiled for each district and graphed. A trend line was then plotted from these data and projected seven years into the future. The trend line provides a reasonable estimate of when (or if) enrollment is likely to exceed capacity. The data were aggregated by elementary, middle and high school enrollment. School districts in which the projected enrollment could exceed capacity within five years were assigned a recommended LOS II. Those projected to exceed capacity within seven years were assigned a LOS I, and those currently exceeding capacity were given an LOS III. Levels of Severity were assigned when one or more school within a given enrollment category (elementary, middle or high school) was projected to exceed the LOS criteria. Information provided by the districts regarding their plans to provide additional capacity were considered in assigning a recommended LOS.

Notes for the graphs:

1. Sources: California Department of Education Data Reporting Office, 2016; all other data were derived from the school districts.

2. The projections are for the purpose of recommending a Level of Severity only. The responsibility for determining the need for school facilities is the sole responsibility of each school district.

3. The projections are based on the *maximum practical capacity* of school facilities as defined above.

4. Trend lines were derived by applying simple linear regression to the historic enrollment data for each district.

Recommended Levels of Severity are summarized in Table V-2.

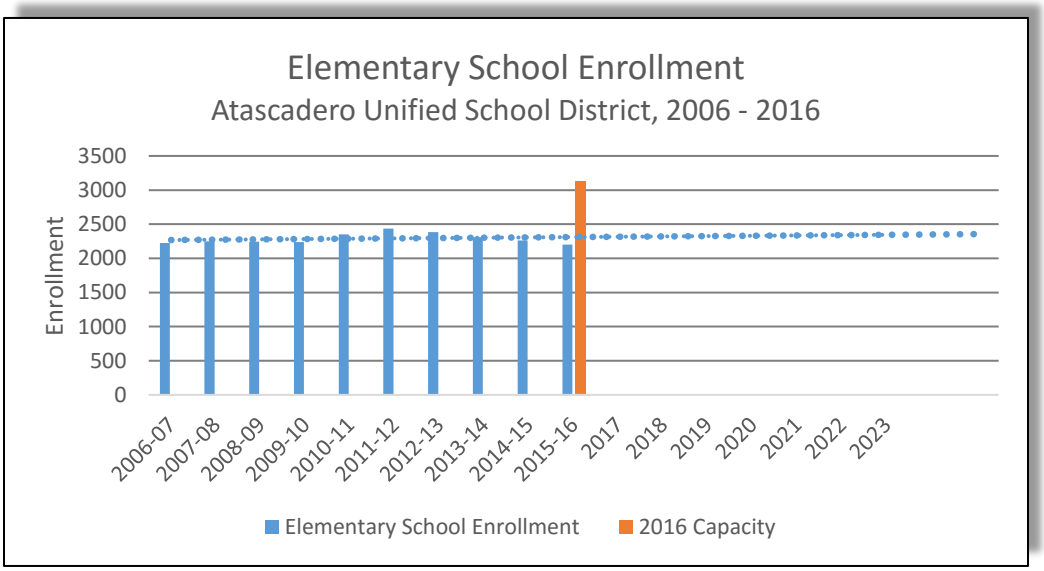
Table V-2 – Recommended Levels of Severity for Schools

District	School Level	Recommended Level of Severity
Atascadero Unified School District	Elem.	None
	Middle	None
	High	None
Belleview-Santa Fe Charter School	K-6	None
Coast Unified School District	Elem.	None
	Middle	None
	High	None
Cayucos Elementary School District	Elem.	**I**
Grizzly Youth Academy Challenge Program	High	**II**
Lucia Mar School District	Elem.	**II**
	Middle	**II**
	High	None
Paso Robles Joint Unified School District	Elem.	None
	Middle	None
	High	None
	Alt.	None
Pleasant Valley Joint Union School District	Elem.	None
San Luis Coastal Unified School District	Elem.	**II**
	Middle	None
	High	None
San Miguel Joint Union School District	K - 8	None
Shandon Joint Unified School District	Elem.	None
	Middle	None
	High	None
Templeton Unified School District	Elem.	None
	Middle	None
	High	None

Atascadero Unified School District

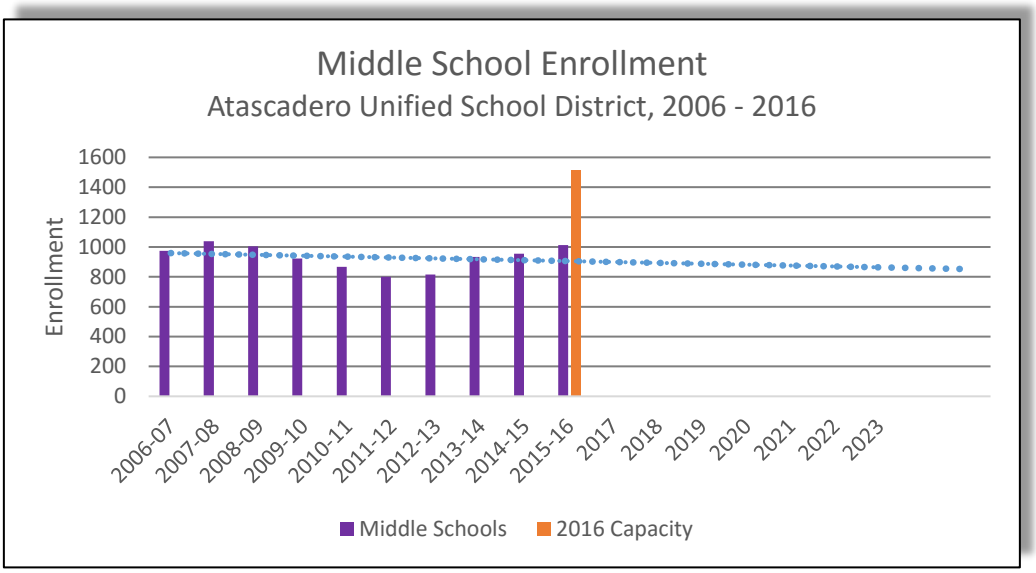
Elementary school enrollment has remained relatively level over the past 10 years, with almost all schools operating below the practical capacity. Although two schools (San Benito Road and San Gabriel Road Elementary Schools) are nearing capacity, the overall trend is for enrollment to stay below capacity over the next seven years. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	2,223	2,246	2,245	2,238	2,352	2,438	2,385	2,308	2,264	2,203



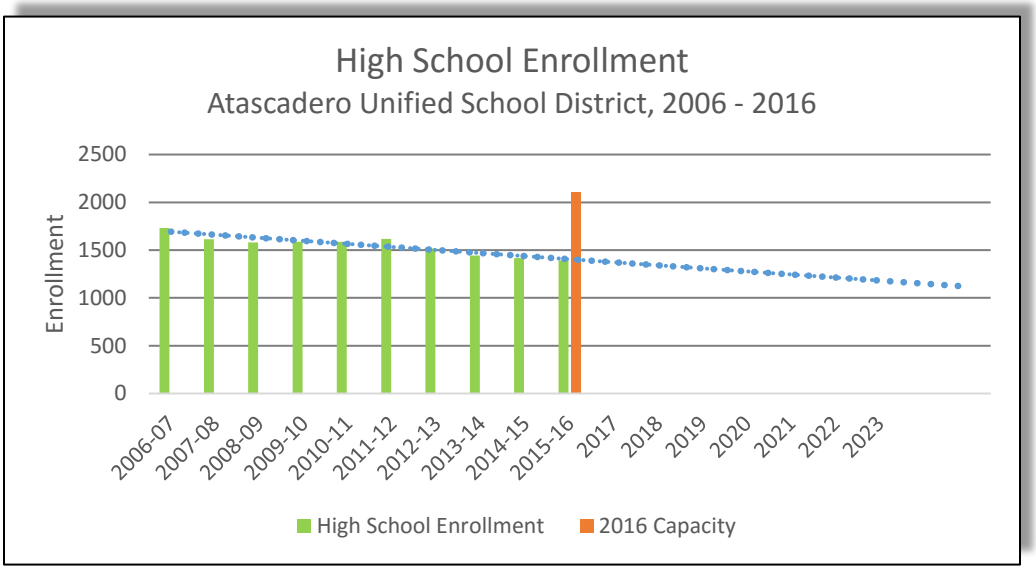
Overall, middle school enrollment has remained below the practical capacity and the trend should continue for the next seven years or more. **No recommended Level of Severity**.

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	974	1039	1004	922	866	800	816	933	954	1,013



Over the past 10 years, high school enrollment has declined steadily. Accordingly, both high schools serving the district continue to operate well below the practical capacity and the downward trend is expected to continue for at least the next seven years. **No recommended Level of Severity.**

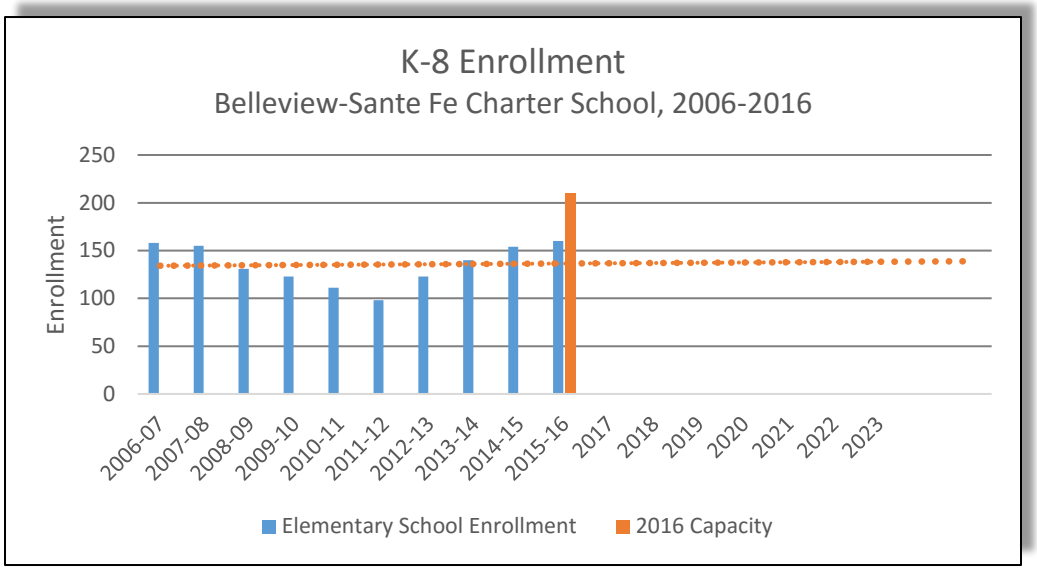
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	1,731	1,614	1,582	1,586	1,587	1,617	1,516	1,444	1,418	1,394



Belleview-Santa Fe Charter School

Enrollment at Belleview-Sante Fe Charter School has fluctuated over the past 10 years; the general trend for the past five years has been upward. However, enrollment is expected to remain below capacity for the next seven or more years. **No recommended Level of Severity**.

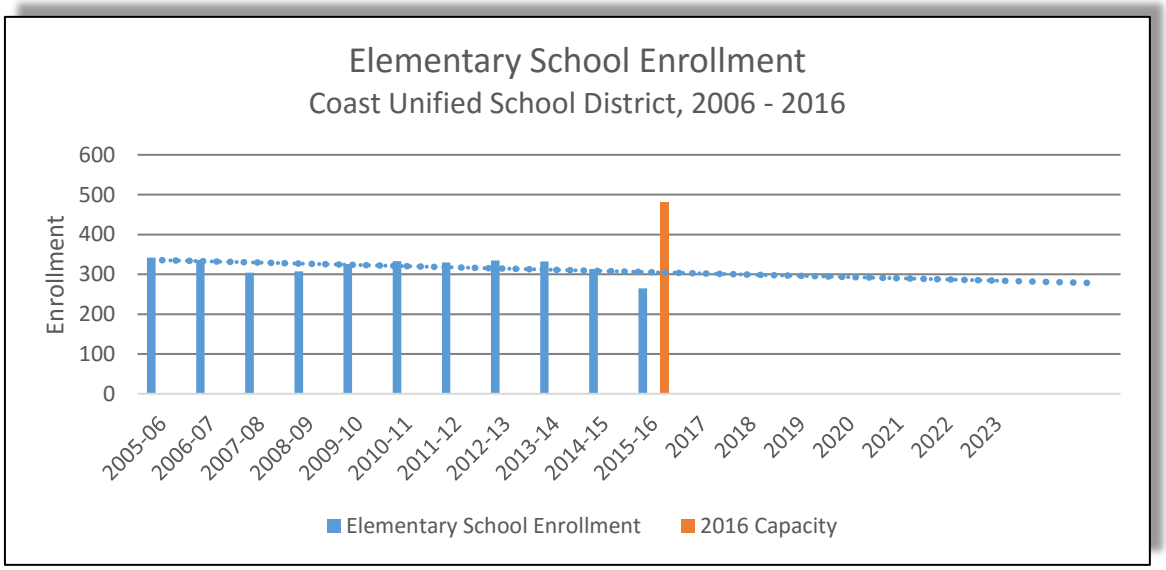
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K-8 Enrollment	158	155	131	123	111	98	123	140	154	160



Coast Unified School District

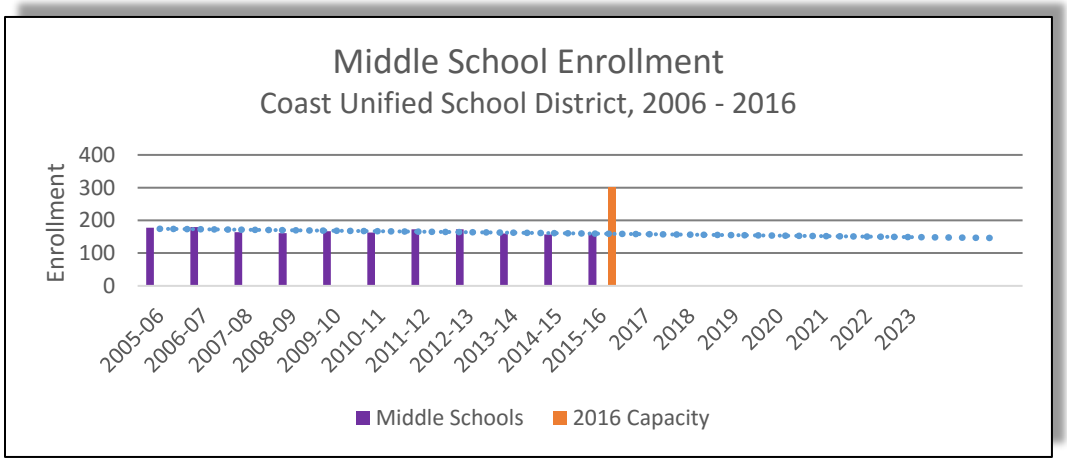
Elementary school enrollment has shown a slight upward trend since the 2007-08 school year but has dropped slightly over the past two years; Cambria Grammar School has operated at about 92% over the past two school years. The overall trend for the past ten years is slightly downward and the elementary schools are projected to continue to operate below the practical capacity for the next seven years. **No recommended Level of Severity**.

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	336	304	307	326	333	330	335	332	313	265



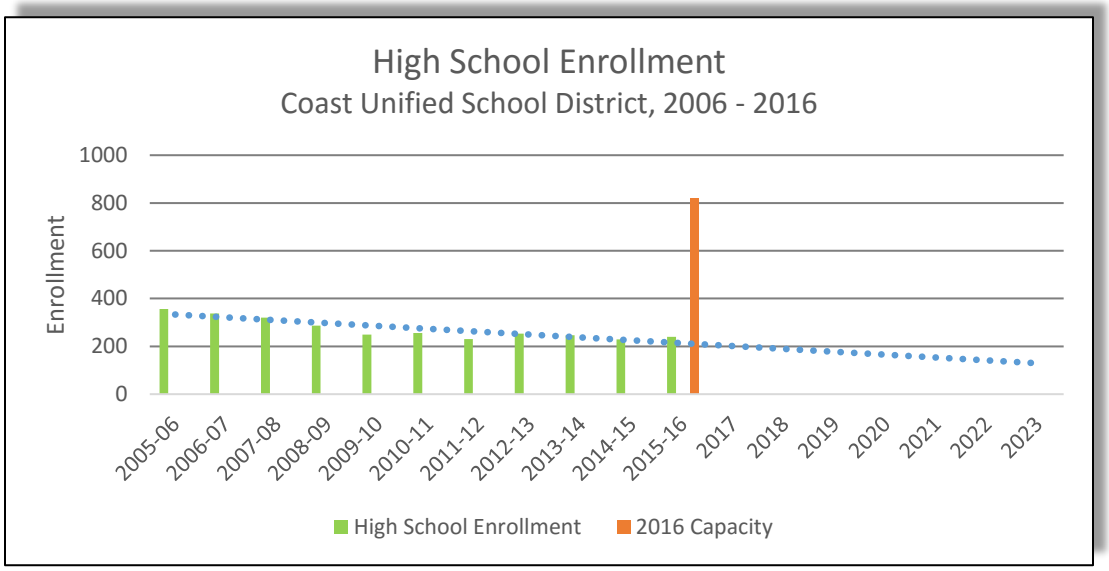
Enrollment at the Santa Lucia Middle school has trended generally downward over the past 10 years and is not expected to reach capacity for the next seven years or more. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	180	164	161	167	163	173	173	160	157	160



Enrollment at the two high schools serving the district has trended general downward over the past 10 years and is not expected to reach the practical capacity for the next seven years or more. **No recommended Level of Severity**.

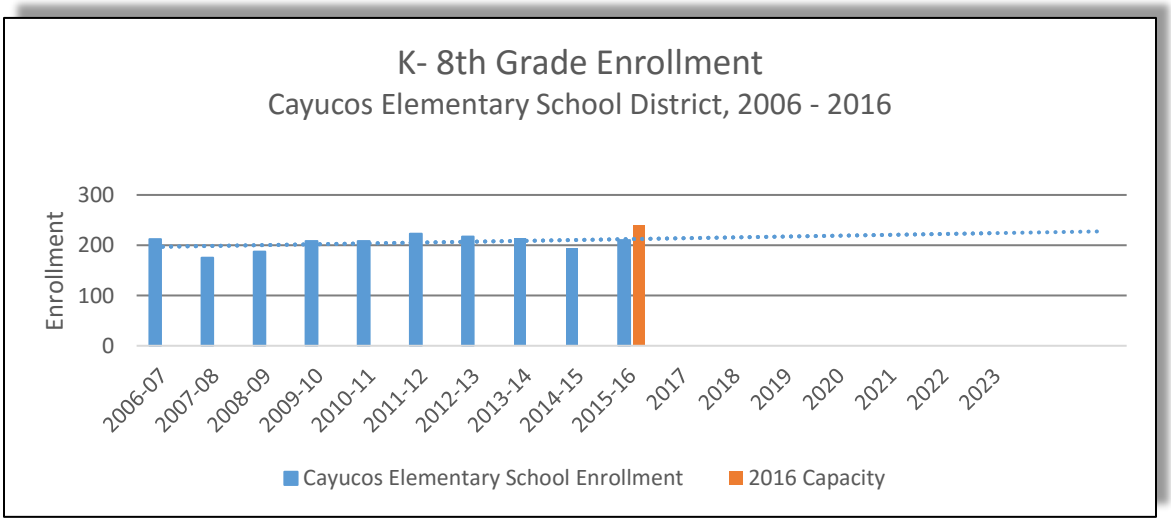
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	338	320	287	249	256	231	253	247	229	240



Cayucos Elementary School District

Enrollment at the Cayucos Elementary School has trended generally upward since the 2007-08 school year. If this trend continues, the practical capacity could be reached within seven years. **Recommended Level of Severity I.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	212	175	187	208	208	223	217	213	193	210

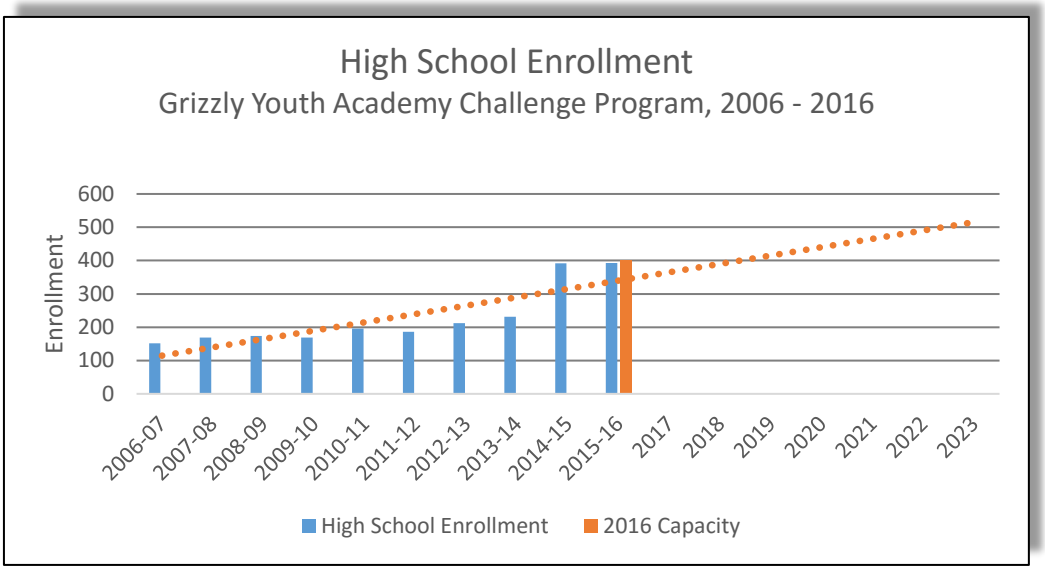


Grizzly Youth Academy Challenge Program

The Grizzly Youth Academy (GYA) provides a structured learning and living environment for students aged 16 to 18 years of age who have either dropped out of high school or are at risk of dropping out. Students must apply to attend the program and capacity is limited by funding provided by the federal and State governments. Accordingly, land use decisions by the County do not directly affect the enrollment or capacity of the program.

Since the 2006-07 school year, enrollment in the GYA has risen steadily. In 2014, the Academy was operating at near capacity If this trend continues, the current (2016) capacity of the current facilities could be reached within 5 years. **Recommended Level of Severity II.**

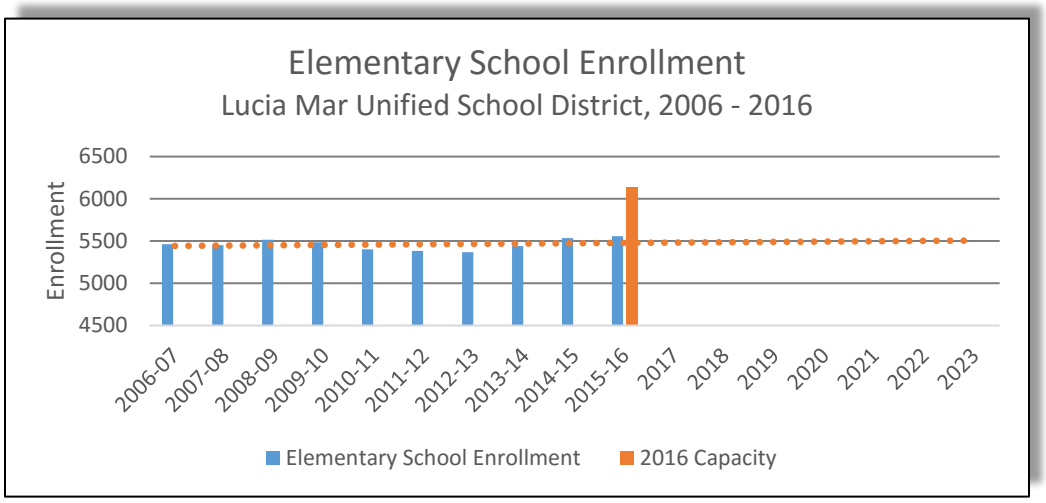
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2015-16	2015-16
High School Enrollment	152	169	174	169	196	186	212	231	392	393



Lucia Mar School District

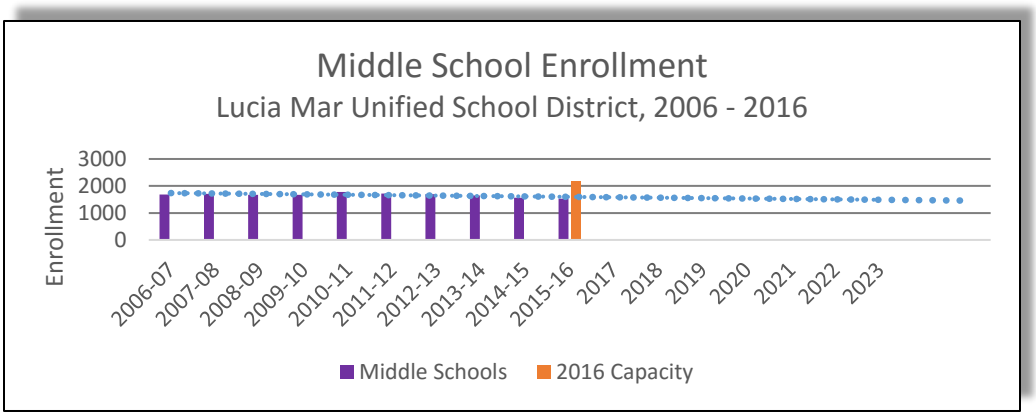
Elementary school enrollment has fluctuated over the past 10 years, but the general trend has been upward. Several elementary schools are nearing capacity in 2016: Dana, (90%), Fairgrove (94%) Grover Heights (92%) Harloe (101%), Ocean View (106%) and Shell Beach (98%). Ocean View and Shell Beach have both added relocatable classrooms for the 2014-15 school year. However, Harloe and Ocean View Elementary have reached the practical capacity and Shell Beach Elementary could reach capacity within the next five years. **Recommended Level of Severity III.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	5,464	5,452	5,515	5,487	5,401	5,383	5,368	5,441	5,534	5,556



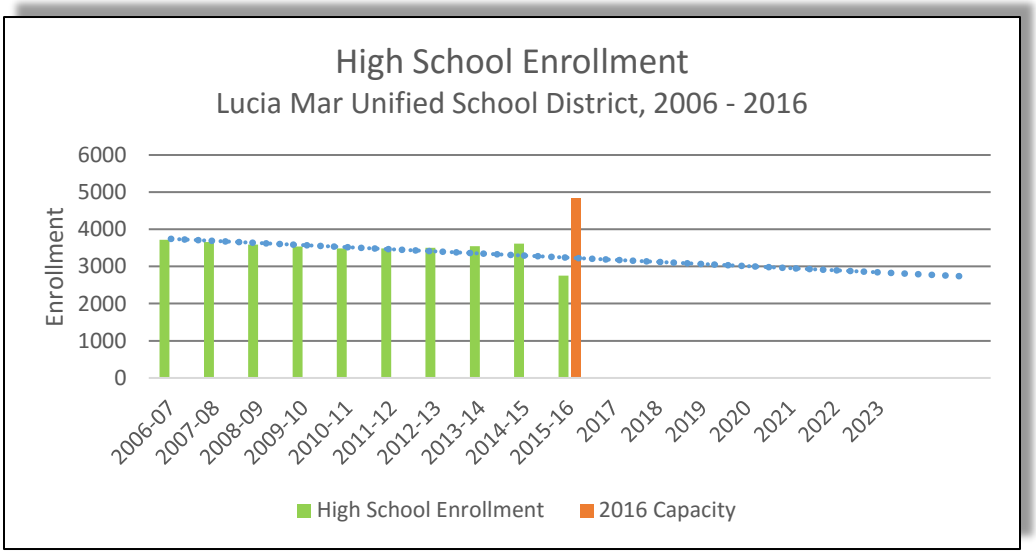
Enrollment in the district's three middle schools has generally trended downward over the past 10 years. The exception is Paulding Middle school which has been operating at or near capacity for the 2012-13 and 2013-14 school years. **Recommended Level of Severity II**.

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	1,686	1,709	1,665	1,675	1,776	1,718	1,694	1,643	1,559	1,530



High school enrollment has generally trended downward over the past 10 years. School capacity is not expected to be exceeded in the next seven years**. No recommended Level of Severity**.

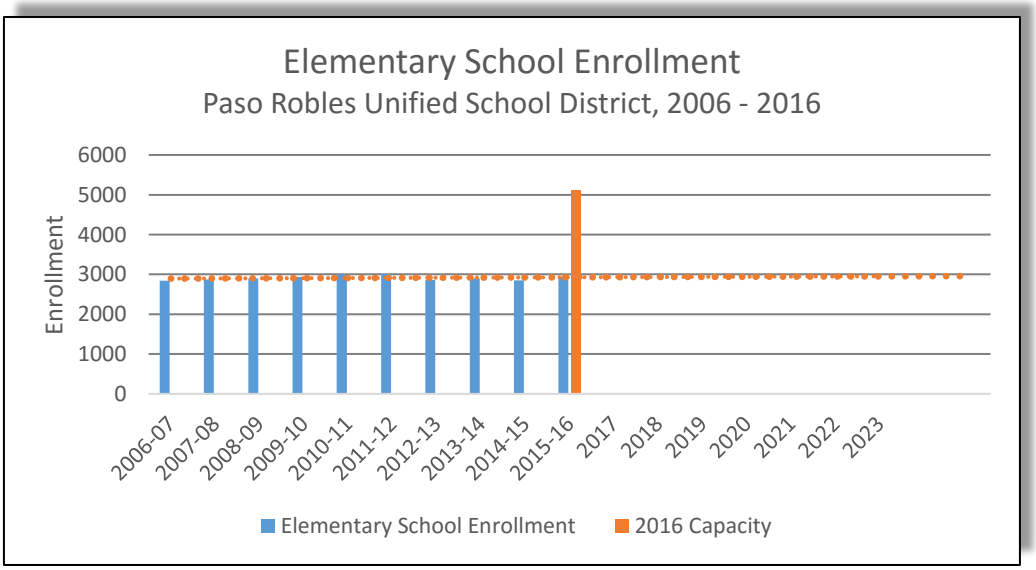
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	3,716	3,659	3,592	3,537	3,484	3,485	3,503	3,549	3,616	2,750



Paso Robles Joint Unified School District

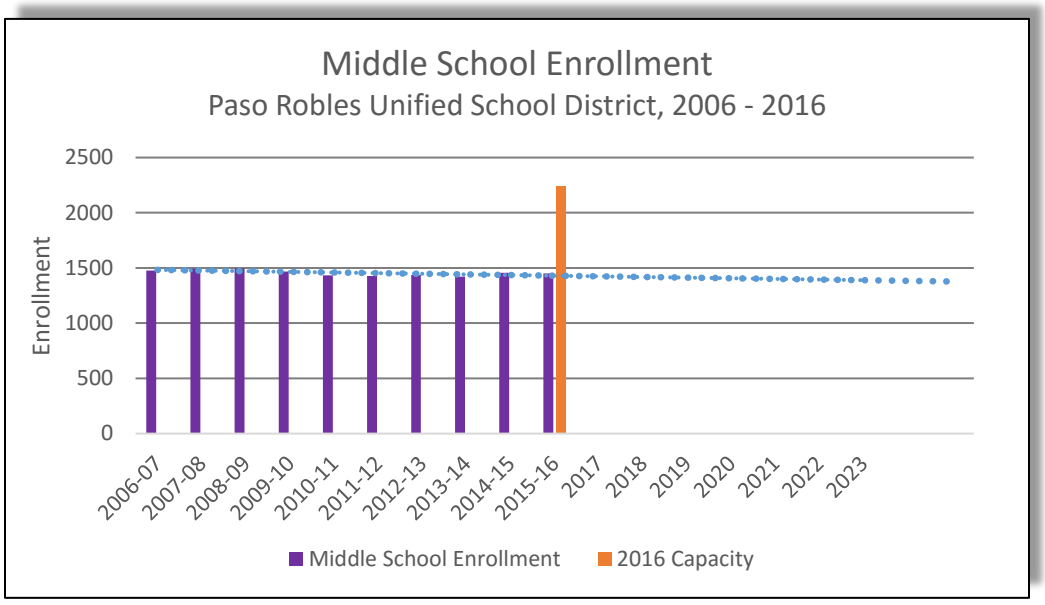
Enrollment in elementary schools has remained fairly stable over the past 10 years and the trend is expected to continue for the next seven or more years. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	3,716	3,659	3,592	3,537	3,484	3,485	3,503	3,549	2,852	2,944



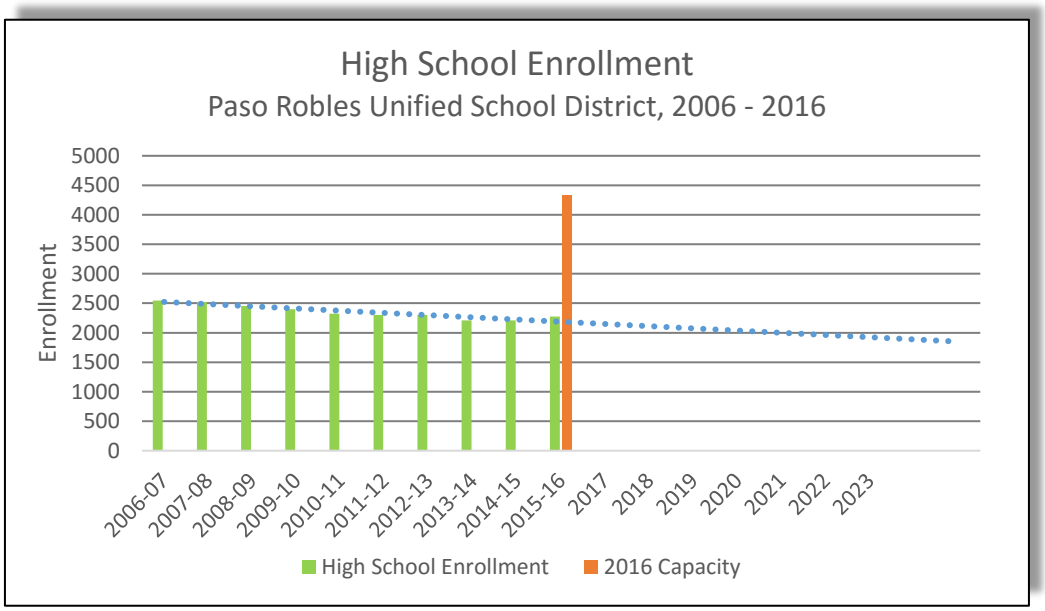
Middle school enrollment has shown a general downward trend in recent years. Enrollment is expected to remain below capacity for the next seven or more years. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	1,477	1,493	1,498	1,468	1,434	1,427	1,435	1,422	1,457	1,452



The trend for high school enrollment has been generally downward over the past 10 years and is expected to remain so for the next seven years. It should be noted that Independence High School (HIS) has a greater enrollment than theoretical capacity. This is because the IHS program does not house all of the enrolled students at the same time. This is also true for the programs listed in Table IV-1 as "Alternative Schools." These are actually not school facilities, but are programs housed within classrooms - Culinary Arts, Endeavour, Independent Studies, Little PEPers, and PRYDE. These programs have multiple enrollees, but all enrollees are not being instructed simultaneously. **No recommended Level of Severity.**

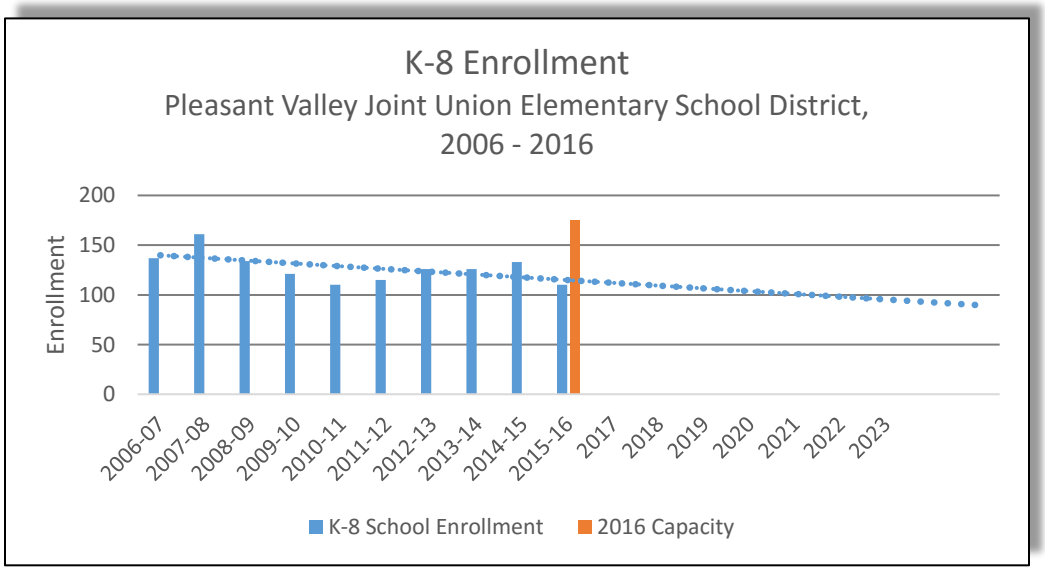
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	2,547	2,521	2,453	2,400	2,324	2,303	2,303	2,207	2,209	2,275



Pleasant Valley Joint Union School District

Enrollment at Pleasant Valley School has fluctuated considerably over the past 10 years, but has generally increased since the 2010-11 school year. Because of these fluctuations, the projection of future trends in enrollment should be considered with caution. However, enrollment is not expected to reach capacity for the next seven years. **No recommended Level of Severity.**

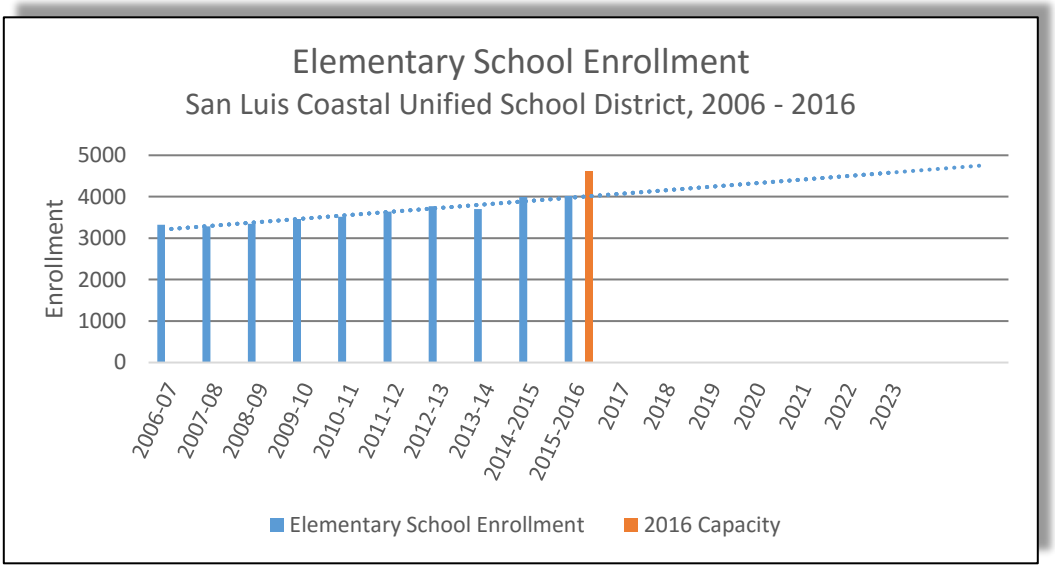
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K-8 Enrollment	137	161	134	121	110	115	126	126	133	110



San Luis Coastal Unified School District

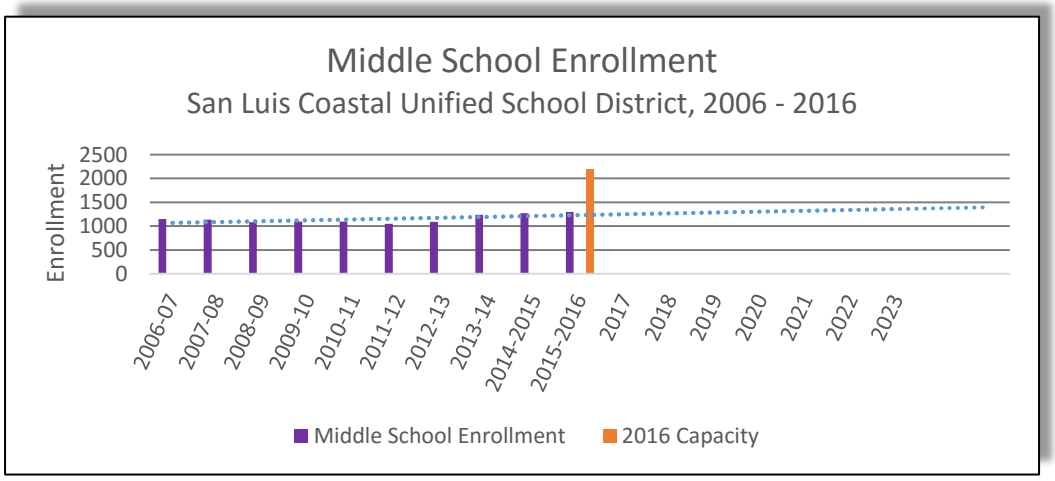
Elementary school enrollment has generally trended upward over the past 10 years but has remained below capacity, except for Bishop Peak School, which has operated near capacity for the 2013-14 and 2014-15 school years and could exceed capacity within five years. In calculating the maximum practical capacity, San Luis Coastal includes all rooms that could be used for classrooms but excludes rooms used for weight training, special education and day care. Morro Elementary and Sunnyside Elementary remain unused as schools. **Recommended Level of Severity II**.

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	3,325	3,283	3,346	3,463	3,519	3,642	3,773	3,703	3,996	4,021



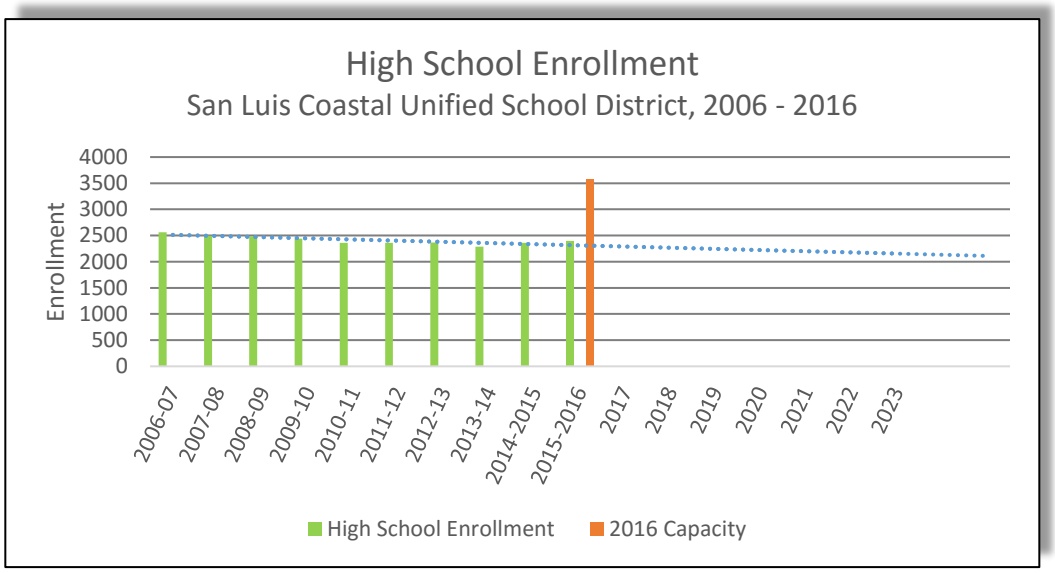
Middle school enrollment has trended slightly upward over the past 10 years and is expected to remain below capacity for the next seven or more years. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	1,148	1,137	1,081	1,093	1,093	1,047	1,090	1,239	1,271	1.295



High school enrollment in the district has trended slightly downward over the past 10 years and is expected to remain below capacity for the next seven or more years. **No recommended Level of Severity.**

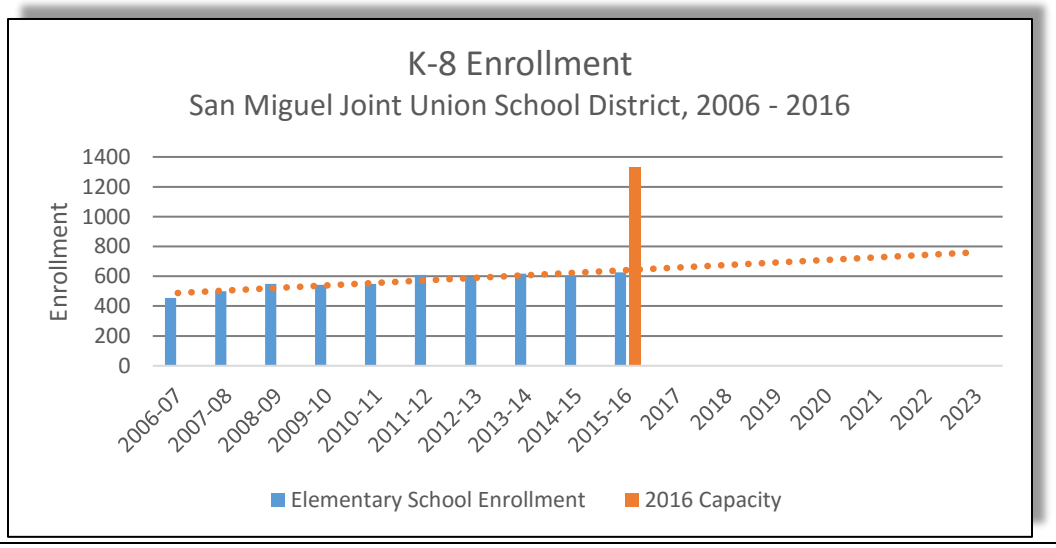
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	2,565	2,496	2,492	2,441	2,358	2,359	2,364	2,288	2,362	2,398



San Miguel Joint Union School District

Enrollment in the district has grown steadily over the past 10 years but is expected to remain well below capacity for the next several years. The district plans to add relocatable classrooms as needed to meet future enrollment. **No recommended Level of Severity.**

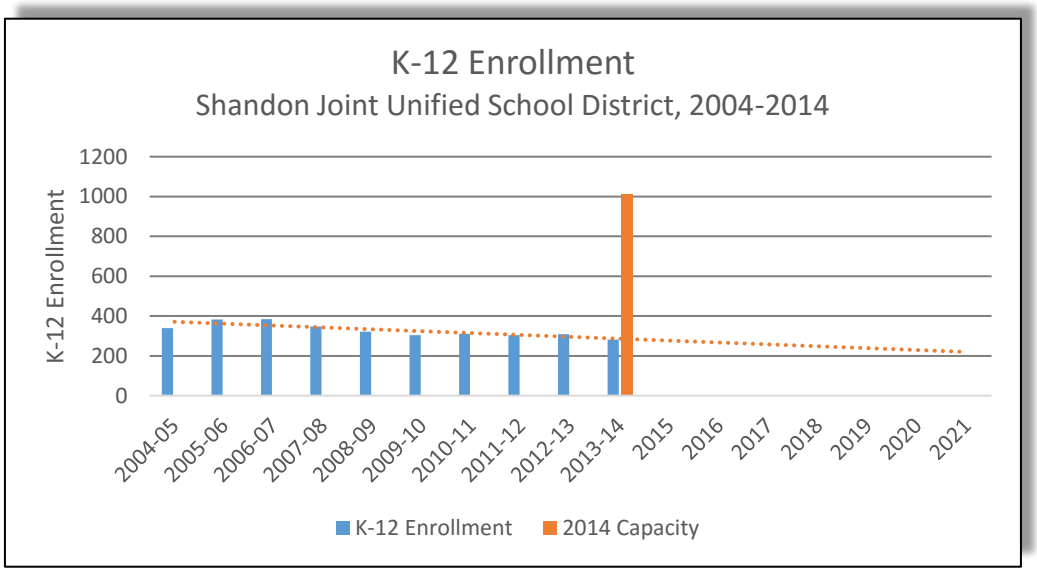
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K-8 Enrollment	454	500	550	543	550	610	596	618	600	627



Shandon Joint Unified School District

The California Department of Education aggregates historic enrollment data for the District for all grades K through 12. These data suggest a general downward trend in enrollment over the past 10 years and well below the capacities of school facilities provided for each grade level. **No recommended Level of Severity.**

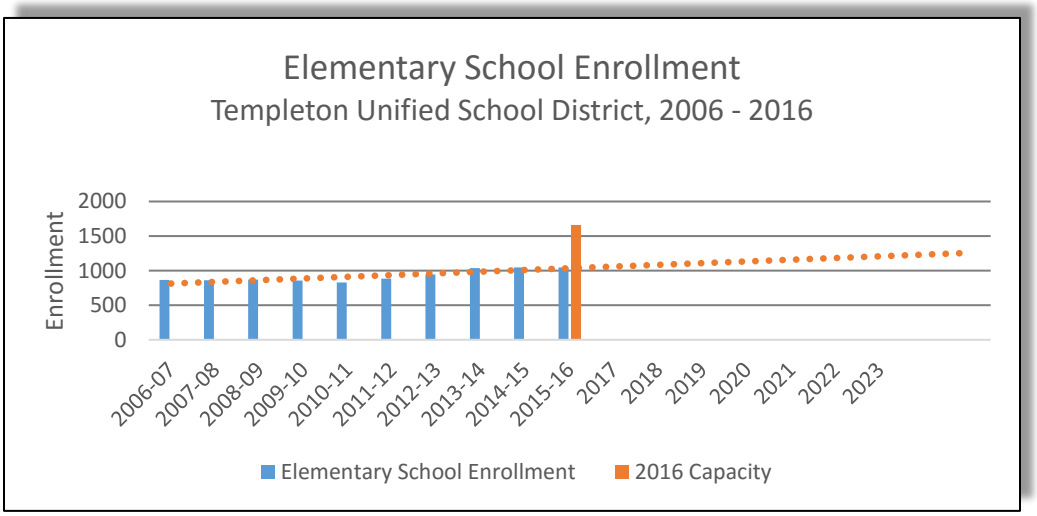
School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K-12 Enrollment	384	347	322	304	310	304	308	282	292	289



Templeton Unified School District

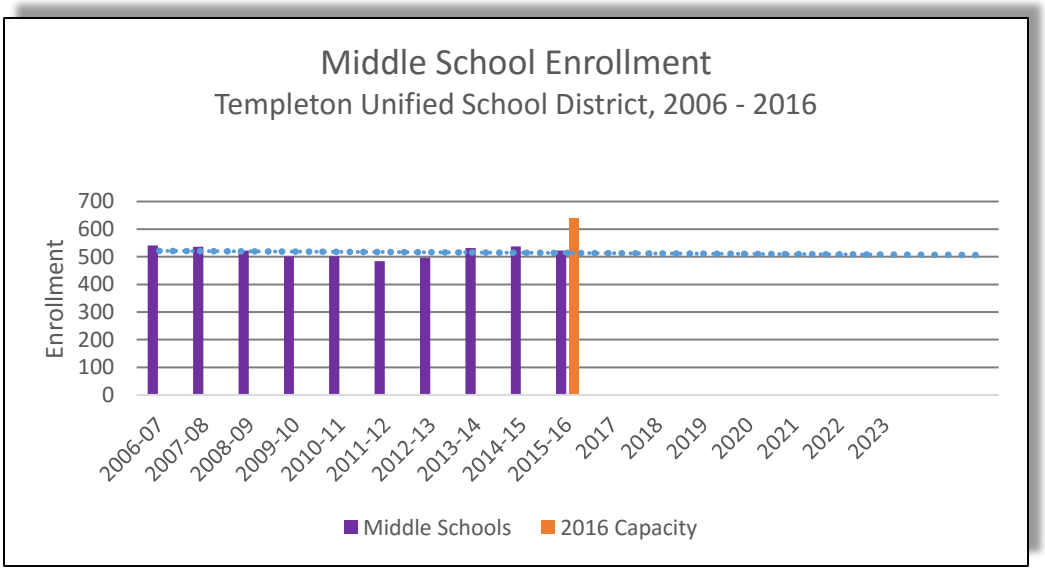
Elementary school enrollment has grown gradually over the past 10 years but remains below the practical capacity of facilities. This is expected to continue for the next seven years or longer. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary School Enrollment	865	860	873	856	831	884	944	1,036	1,045	1,047



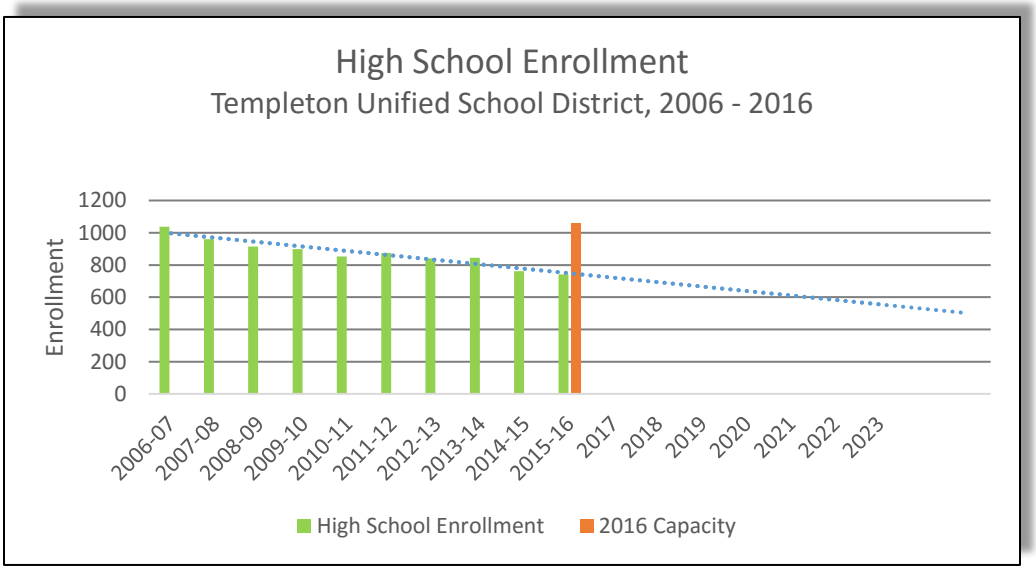
Enrollment at Templeton Middle School has generally declined over the past 10 years and is expected to remain below capacity for the next seven or more years. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Middle School Enrollment	541	536	522	501	502	484	497	532	538	522



High school enrollment has generally declined in recent years and is expected to remain below capacity for the next seven years or longer. **No recommended Level of Severity.**

School Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High School Enrollment	1037	959	915	899	852	875	840	844	761	742



Summary of Recommended Levels of Severity and Recommended Actions for Schools

The County's General Plan requires coordination between school districts and the County Planning and Building Department regarding the location and provision of new school facilities. Proposed school sites and capital projects are reviewed for conformity with the General Plan and school capacity and enrollment are monitored through the Resource Management System. Development impact fees (described above) are collected by the County on behalf of school districts in partial mitigation of potential impacts on school facilities.

The County can also help to facilitate the dedication of school sites through the adoption of specific plans for major new development and it can cooperate with the school districts and private development interests toward the formation of community facilities districts. Such districts permit the financing of school construction from revenues included in the sale price of improved property within the district boundaries.

Table V-3 – Recommended Levels of Severity and Recommended Actions -- Schools

District	School Level	Recommended Level of Severity	Recommended Actions
Cayucos Elementary School District	Elem.	**I**	Continue to cooperate with the school districts to investigate ways of using existing regulations to enhance revenues available for school construction, including the formation of community facilities districts. Consult from time-to-time with County Counsel to consider whether new legislation and court rulings regarding school mitigation present the county with additional policy options for helping to address the need for school facilities.
Grizzly Youth Academy Challenge Program	High	**II**	
San Luis Coastal	Elem.	**II**	
Lucia Mar School District	Elem.	**II**	
	Middle	**II**	
	High	None	

VI. PARKS

Level of Severity Criteria

Level of Severity	Parks Criteria
I	**Regional Parks**. The county provides between 10 and 15 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has between 2.0 and 3.0 acres of community parkland per 1,000 persons.
II	**Regional Parks**. The county provides between 5 and 10 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has between 1.0 to 2.0 acres of community parkland per 1,000 persons.
III	**Regional Parks**. The county provides less than 5 acres of regional parkland per 1,000 persons in the entire county (i.e., incorporated and unincorporated population). **Community Parks**. An unincorporated community has 1.0 acre or less of community parkland per 1,000 persons.

County Parks

Parks are an important part of our communities. The Parks and Recreation Element (PRE) of the County General Plan, adopted in 2006, states:

> *"Recreation and exercise are fundamental to a healthy life. The benefits include greater productivity, less disease, and a brighter future. As the population grows, competition for recreational resources increases. Wide open spaces, once the haven of the equestrian, hiker and poet, are more often fenced and the right of exclusivity enforced. As the development and formality of our area increases, so must the provision of recreation spaces that are available to all people."*

With the acknowledgement of the importance of parks in our lives, the RSR is a useful way to assess our success in providing this important community resource.

Residents of San Luis Obispo County enjoy a diverse array of outdoor recreation opportunities provided by public agencies and non-profit organizations. These resources include:

- County parks (described below)
- State parks and beaches
- City parks
- Parks provided by Community Services Districts
- School district properties

- Federal lands such as the Los Padres National Forest and the Carrizo Plain National Monument
- Natural preserves managed by non-profit organizations

Although County residents use all of these resources regardless of ownership or jurisdiction, this RSR addresses only those parks operated by the San Luis Obispo County Department of Parks and Recreation.

The County provides different types of parks, recognizing the different roles that parks play in the recreational needs of county residents. As discussed in the Parks and Recreation Element, part of this role is related to the size of the park. A community park which tends to be 5 to 25 acres in size cannot provide the same recreational opportunities as a regional park which may consist of hundreds or even thousands of acres.

The types of parks assessed by this RSR are described below and summarized by park type and acreage on Table VI-1. The location of these parks throughout the county is shown on Figure VI-1. Other county park land is summarized in Table VI-2.

Community Parks

By definition, community parks are meant to meet the recreation needs of a community, providing recreation facilities that serve the community and in some cases visitors from outside the local community. For example, a community park with numerous sports fields will draw people from a wide area for tournament play. Community parks also tend to be active in nature and/or provide a mix of active recreation. Typical facilities might include a skate park, sports fields (football, baseball, soccer, and softball), a swimming pool, a sufficient number of tennis courts for tournament play, group picnic areas, and/or a community center as well as facilities for some passive uses such as a trails, scenic overlooks, benches, and interpretive displays.

Although the Parks and Recreation Element distinguishes among mini-, neighborhood, and community parks for planning purposes, they are treated as one category (“community parks”) for the purpose of assessing Levels of Severity.

Regional Parks

Regional Parks are the largest parks provided by the County. According to the National Recreation and Parks Association, there can be two types of regional parks, urban and rural. However, for purposes of assessing Levels of Severity, urban and rural regional parks are treated as one category (‘regional parks”). Regional parks may vary in size from 200 acres to over 1,000 acres. Facilities provided at regional parks may include play areas, picnicking, boating, fishing, swimming, camping and trail use. The larger regional parks may include nature oriented outdoor activities, such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, fishing, boating, camping, and trail use. Because of the types of recreation provided, regional parks not only draw from the County’s population, but also from the economically important tourist population.

Table VI-1 – Developed Regional and Community Park Land Acreage		
Park Type	**Location**	**Total Park Acres[1]**
Regional Parks		
Biddle Park	Arroyo Grande	47
EI Chorro Park	San Luis Obispo	490
Heilmann Park	Atascadero	102
Lopez Lake Recreation Area	Arroyo Grande	4,276
Santa Margarita Lake Park	Santa Margarita	7,122
Total Regional Parks:		12,037
Community Parks		
Avila Park/Plaza	Avila	2.5
C. W. Clarke Park	Shandon	11.5
Hardie Park	Cayucos	4.0
Lampton Cliffs Park	Cambria	2.2
Los Osos Community Park	Los Osos	6.2
Nipomo Community Park	Nipomo	154
Norma Rose Park	Cayucos	1.5
Oceano Memorial Park	Oceano	11.8
Paul Andrew Park	Cayucos	1.0
San Miguel Park	San Miguel	4.3
Santa Margarita Community Park	Santa Margarita	2.0
Shamel Park	Cambria	6.0
Templeton Park	Templeton	3.5
Total Community Parks:		210.5
Total Park Acreage:		**12,247.5**

Source: San Luis Obispo County General Plan Parks and Recreation Element

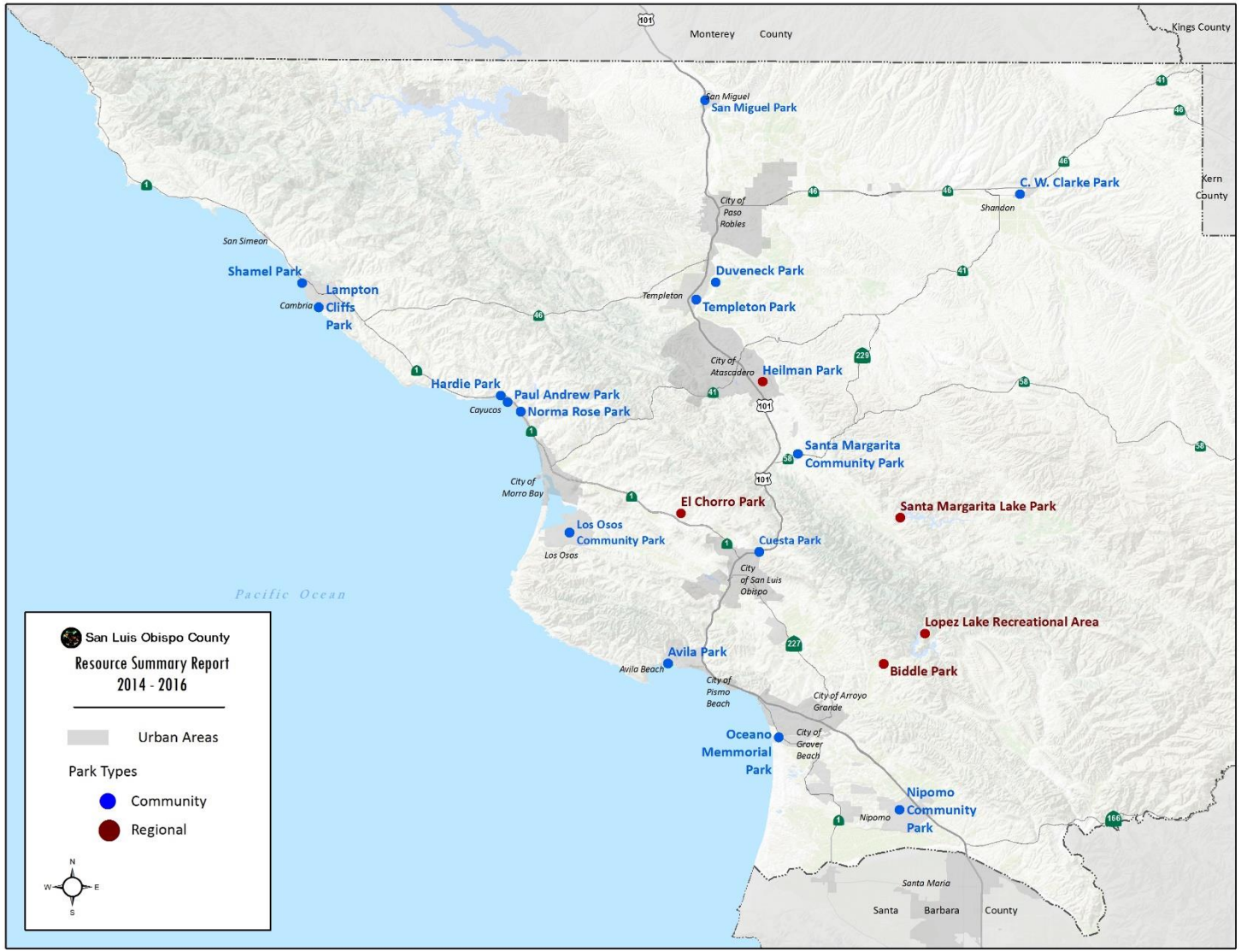
Notes:

1. The list of parks and park acreage is for the purpose of recommending Levels of Severity, only.
2. The table includes “developed” parks only. Land acquired by the County for the purpose of developing parks is not included. However, undeveloped land and natural features within developed parks are included as part of the total acreage.
3. Golf courses, natural areas, linear parks, RV parks and other recreation lands managed by the County are not included.
4. Cuesta Park is not included because it does not serve an unincorporated community.

Table VI-2 – Other County Park Land		
Park Type	**Location**	**Total Park Acres[1]**
Regional Parks		
Duveneck Park (undeveloped)	Templeton	80.0
Community Parks		
Cuesta Park	City of San Luis Obispo	5.0
Jack Ready Park (undeveloped)	Nipomo	30.0
See Canyon Park (undeveloped)	Avila Valley	8.7
Total Additional Park Acreage:		**123.7**

Source: San Luis Obispo County General Plan Parks and Recreation Element

Figure VI-1 – County Parks



Recommended Levels of Severity

Regional Parks

For regional parks, the total acreage was divided by the estimated 2016 total county population (including cities and unincorporated areas). Applying these criteria, the County currently provides well more than 10-15 acres of regional parkland per 1,000 residents. **No recommended Level of Severity.**

Table VI-3 – Recommended Levels of Severity for Regional Parks

Total Acres of Regional Parks[1]	2016 Total County Population	Ratio of Regional Park Acreage Per 1,000 Population	Recommended Level of Severity
12,037	275,035	43.7	None

Source: San Luis Obispo County General Plan Parks and Recreation Element
Notes:

1. See Table VI-1. Total acreage for the purpose of assessing Levels of Severity, only. Does not include undeveloped park land, golf courses, natural areas, linear parks, or other recreational lands managed by the County.

Community Parks

To assess the level of severity for community parks, the population within a five-mile radius of the urban reserve line for the ten unincorporated communities was determined using 2010 census block data. The resulting population was adjusted by applying the population growth rate for 2010 to 2016 to reflect the 2016 population. The total park acreage within the particular unincorporated community was then divided by this population, which in some cases includes residents of incorporated cities, to derive the ratio of parks per 1,000 residents within the five-mile radius and the results are summarized in the following table. Overall, the unincorporated communities provide a ratio of about one acre of developed parkland per 1,000 residents. Nipomo and Shandon provide more than three acres per 1,000 residents.

Figure VI – 2 – Five-Mile Service Areas Around Community Parks

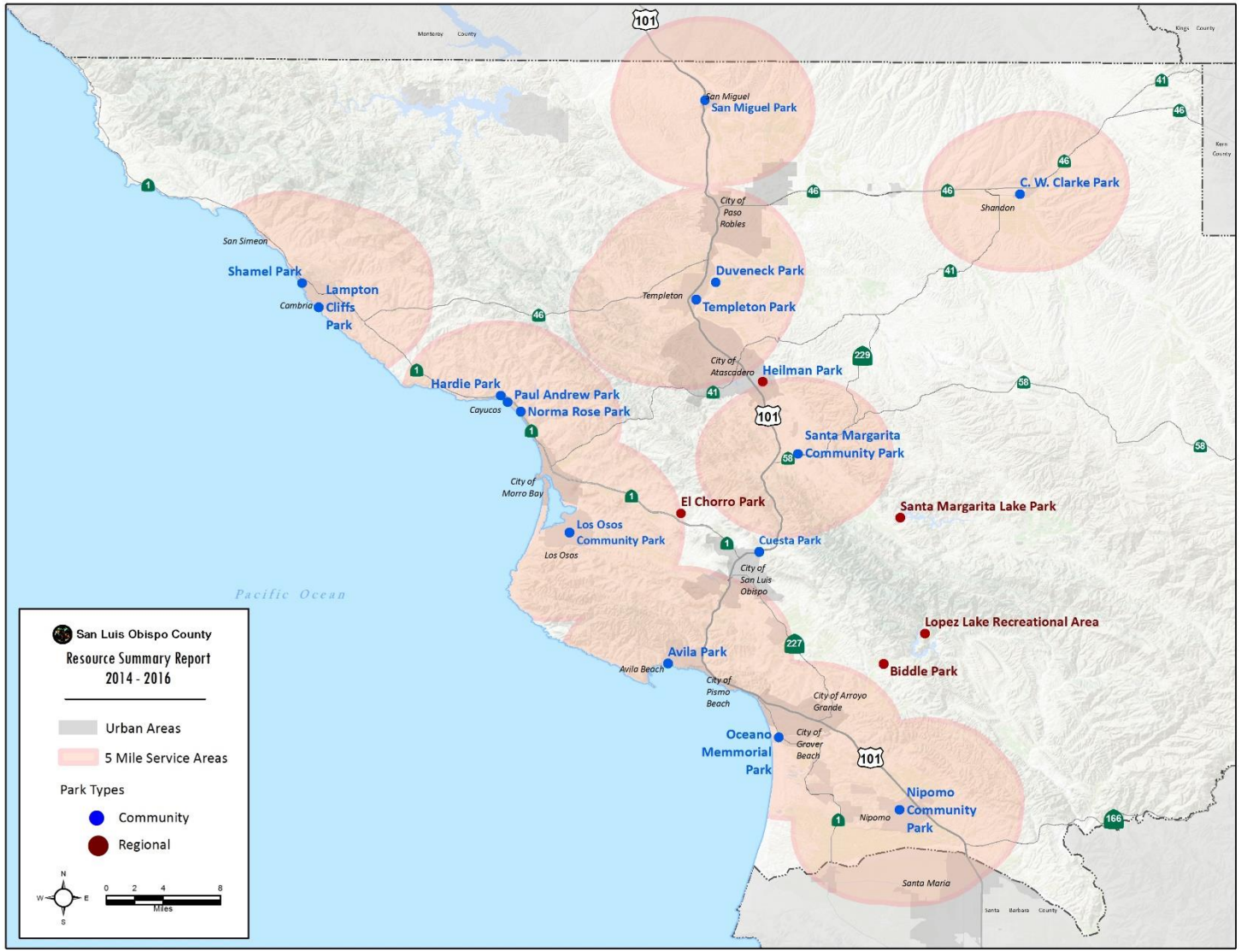


Table VI-4 -- Recommended Levels of Severity for Community Parks				
Community	**Total Community Parkland[1]**	**Total Population Within 5 Miles of Community URLs[2]**	**Acres of Community Parkland Per 1,000 Population**	**Recommended Level of Severity**
Avila	2.5	22,640	0.11	**III**
Cambria	8.2	6,840	1.20	**II**
Cayucos	6.5	3,547	1.83	**II**
Los Osos	6.2	25,457	0.24	**III**
Nipomo	154.0	29,040	5.30	None
Oceano	11.8	42,842	0.28	**III**
San Miguel	4.3	4,475	0.96	**III**
Santa Margarita	2.0	9,884	0.20	**III**
Shandon	11.5	1,558	7.38	None
Templeton	3.5	62,399	0.06	**III**
Overall:	**210.5**	**208,680**	**1.01**	**II**

Sources: San Luis Obispo County General Plan Parks and Recreation Element, 2010 US Census of Population and Housing, SLOCOG 2016

Notes:

1. Total acreage for the purpose of assessing Levels of Severity, only. Does not include undeveloped park land, golf courses, natural areas, linear parks, or other recreational lands managed by the County.
2. Total population within five miles of urban reserve lines for unincorporated communities, including populations within cities. Does not include village areas.

Summary of Recommended Levels of Severity and Recommended Actions

Table VI-5 -- Summary Recommended Levels of Severity and Recommended Actions		
Area/Community	**Recommended Level of Severity**	**Recommended Actions**
Community Parks		
Avila	**III**	Continue to pursue strategies for the acquisition and development of parks, including the dedication of parkland and the collection of development impact (Quimby) and public facility fees. Collaborate with County Parks to review the Parks and Recreation Project List in the Parks and Recreation Element and make recommendations to the Board regarding which park projects to implement. Collaborate with other potential parks operators such as CSDs and school districts to provide park and recreation opportunities. When preparing Resource Capacity Studies for parks, address the following issues: c. Provide an updated inventory of existing parkland in the affected unincorporated community. d. Document existing shortfalls in park acreage.
Cambria	**II**	
Cayucos	**II**	
Los Osos	**III**	
Oceano	**III**	
San Miguel	**III**	
Santa Margarita	**III**	
Templeton	**III**	

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VII. AIR QUALITY

Level of Severity Criteria

Level of Severity	Air Quality Criteria
I	Air monitoring shows periodic but infrequent violations of a State air quality standard, with no area of the county designated by the State as a non-attainment area.
II	Air monitoring shows one or more violations per year of a State air quality standard and the county, or a portion of it, has been designated by the State as a non-attainment area.
III	Air monitoring at any county monitoring station shows a violation of a Federal air quality standard on one or more days per year, and the county or a portion of the county qualifies for designation as a Federal non-attainment area.

The Level of Severity Criteria are based on air quality standards, which are discussed in detail below.

Relationship to the County General Plan and RMS System

The County of San Luis Obispo has the authority to protect the health, safety, and welfare of citizens from such environmental hazards as air pollution. The County General Plan acknowledges the relationship between the San Luis Obispo County Air Pollution Control District (APCD) air quality goals and policies and County General Plan policies. For example, the Conservation and Open Space Element states that the county should amend the General Plan to avoid General Plan Amendments and land use designation changes that are not consistent with the APCD's approved plans (i.e., Clean Air Plan, California Environmental Quality Act (CEQA) Handbook, and Particulate Matter Reduction Plan). The General Plan and regulatory ordinances could be amended where necessary to respond to air quality concerns that may be raised by the RMS procedures. For example, General Plan Amendments should encourage land use patterns that enable efficient development focused in urban areas that reduces vehicle miles traveled and air pollution.

Air Quality Standards and Attainment Status for Criteria Pollutants

The State of California and the U.S. Environmental Protection Agency (USEPA) have adopted ambient air quality standards for six common air pollutants of primary public health concern: ozone, particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), and lead. These are called "criteria pollutants" because the standards establish permissible airborne pollutant levels based on criteria developed after careful review of all medical and scientific studies of the effects of each pollutant on public health and welfare. Air Quality Standards are used to designate a region as either "attainment" or "non-attainment" for

each criteria pollutant. A non-attainment designation can trigger additional regulations for that region aimed at curbing pollution levels and bringing the region into attainment of the standards.

The National Ambient Air Quality Standards (NAAQS or federal standards) are generally less restrictive than California Ambient Air Quality Standards (CAAQS or California Standards). However, the federal standards come with regulatory penalties that the California Standards do not have. For example, federal transportation funds can be withheld as a punitive measure for jurisdictions that do not meet federal standards. For most pollutants, the NAAQS allow a standard to be exceeded a certain number of times each calendar year without resulting in a non-attainment designation. The current SLO County attainment status is provided in the following table.

Table VII-1 – Criteria Pollutants and Attainment Status

Criteria Pollutant	Standards Exceeded 2013-15?	Attainment Status California CAAQS	Attainment Status Federal/US NAAQS
Ozone	Yes	Non-Attainment	Non-Attainment East County Attainment West County
PM2.5	Yes	Pending Non-Attainment	Unclassified/Attainment
PM10	Yes	Non-Attainment	Unclassified/Attainment
SO_2	Yes	Attainment	Unclassified
NO_2	No	Attainment	Unclassified
CO	No	Attainment	Unclassified
Lead	No	Attainment	No Attainment Information

Source: SLO APCD

Notes:

1. Unclassified is the category given to an area with insufficient data.

Factors That Affected Air Quality and Air Quality Measurements in 2014-2016

Smoke from wildfires can have a temporary adverse affect on air quality. The Cuesta Fire began on August 16, 2015 and eventually burned almost 2,500 acres in the area east of the Cuesta Grade on U.S. 101 and south of Santa Margarita. Smoke from several large wildfires in 2016, have had a significant impact on air quality. In addition, there were several notable air quality monitoring network changes in 2015:

- In February, the Atascadero station was relocated from 6005 Lewis Avenue to behind the Colony Park Community Center at 5599 Traffic Way.
- In July, a new PM_{10} monitoring station was established within the Oso Flaco area of the Oceano Dunes State Vehicular Recreation Area (ODSVRA). This monitor fulfills the "Control Site Monitor" requirement of San Luis Obispo County APCD District Rule 1001.

While owned by the California Department of Parks of Recreation, the monitor is operated by the APCD.

- Due to a safety issue, the PM_{10} and $PM_{2.5}$ monitors at the San Luis Obispo station were temporarily shut down from September 2015 through mid-June 2016. This site is run by the California Air Resources Board.

Recommended Levels of Severity

Each criteria pollutant and recommended level of severity is summarized on the following table and discussed in detail below.

Table VII-2 -- Recommended Levels of Severity for Air Quality

Criteria Pollutant	Area of County	Recommended Levels of Severity
Ozone	East County	**III**
	West County	**II**
Particulate Matter – $PM_{2.5}$	Nipomo Mesa	**III**
	Remainder of SLO County	**II**
Particulate Matter – PM_{10}	Nipomo Mesa	**III**
	Remainder of SLO County	**II**
Sulfur Dioxide	Nipomo Mesa	**I**
Nitrogen Dioxide, Carbon Monoxide, Lead	All Areas in SLO County	None
Toxic Air Contaminants	All Areas in SLO County	None. LOS for Toxics not evaluated because toxics are not criteria pollutants and strategies are in place to mitigate impacts.

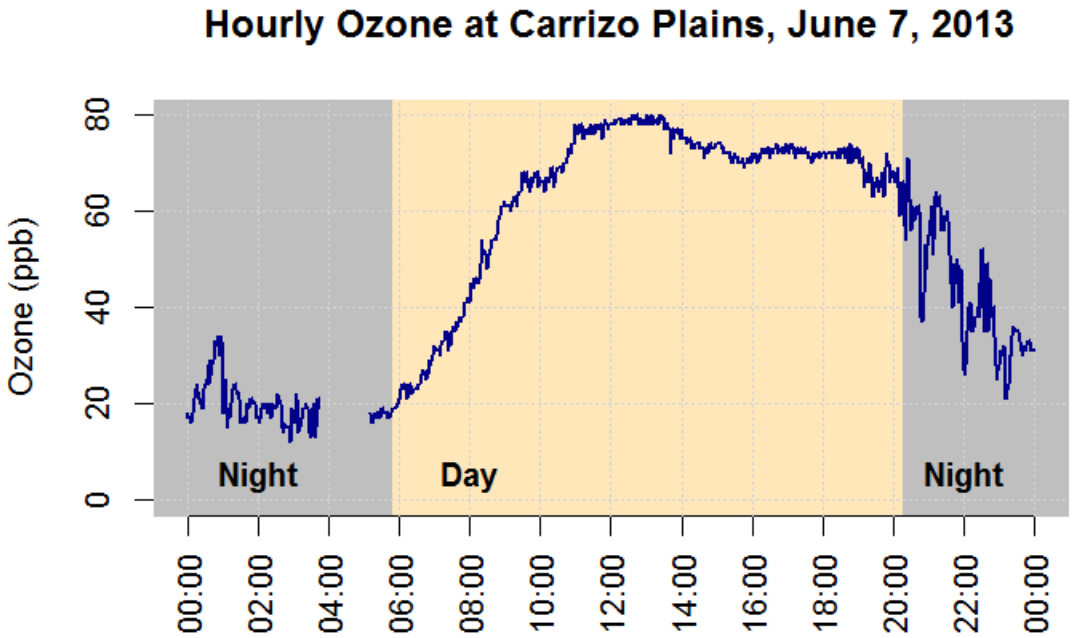
Data in this report is provided thorough 2015, because data has been certified valid through 2015. This report was finalized in December 2016. Data for 2016 is considered preliminary and therefore not included in this report.

Ozone

Ozone is formed in the atmosphere as a byproduct of photochemical reactions between various reactive organic compounds (ROG), oxides of nitrogen (NO_x), and sunlight. The exhaust systems of cars and trucks produce about 50 percent of the county's ROG and NO_x emissions. Other sources include solvent use, petroleum processing, utility and industrial fuel combustion, pesticides, and waste burning.

The chemical processes that impact the concentrations of atmospheric ozone have a distinct diurnal pattern. Ozone concentrations typically increase as sunlight intensity increases, peaking midday or in the afternoon, and approaching the lowest daily concentration in the early morning hours and just before sunrise, as shown in the plot below. In the absence of sunlight, ozone can be destroyed or 'scavenged' by reaction with NO_x molecules. The degree of scavenging depends on the amount of available NO_x. In a polluted environment, with lots of NO_x from vehicles operated during the morning commute, this scavenging can be significant and ozone concentrations can approach zero just before sunrise. After sunrise, ozone concentrations typically increase as sunlight intensity increases and the cycle repeats. Wildfires can also generate precursor gases that create ozone, so wildfire air quality impacts can result in an increase in ozone.

Figure VII-1 – Example of Diurnal Ozone Pattern



Example of Diurnal Ozone Pattern

Ozone is a strong oxidant gas that attacks plant and animal tissues. It can cause impaired breathing and reduced lung capacity, especially among children, athletes, and persons with compromised respiratory systems. It can also cause significant crop and forest damage.

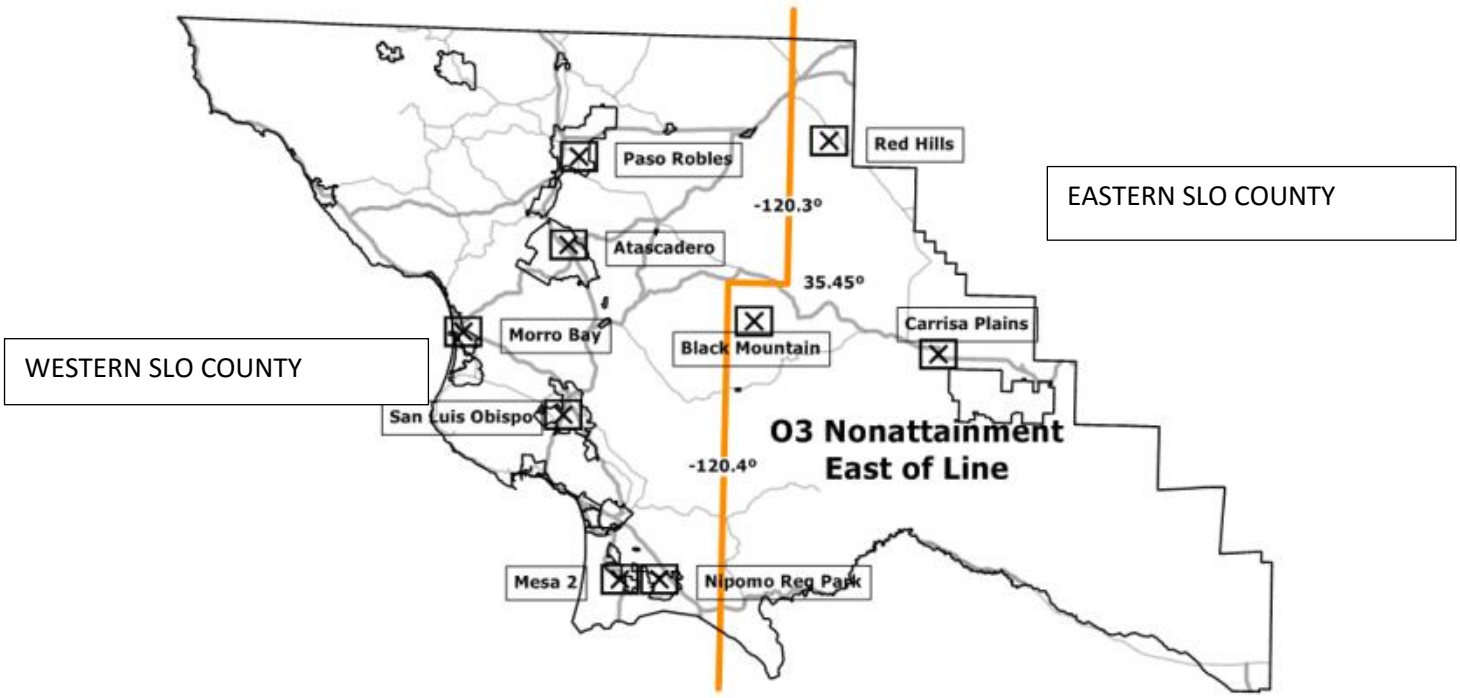
In May 2012, the USEPA designated the eastern portion of SLO County as non-attainment for the 8-hour ozone standard. The western portion of the county retained its attainment status. The map that follows identifies the boundary between the attainment and non-attainment areas, which is defined by the latitude and longitude lines shown on the map (Long. -120.3 deg., north of Lat. 35.45 deg. and Long. -120.4 deg., south of Lat. 35.45 deg.).

On October 1, 2015, USEPA strengthened the National Ambient Air Quality Standards (NAAQS) for ground-level ozone to 70 parts per billion (ppb), based on extensive scientific evidence about ozone's effects on public health and welfare. The updated standards will improve public health

protection, particularly for at-risk groups including children, older adults, people of all ages who have lung diseases such as asthma, and people who are active outdoors, especially outdoor workers. They also will improve the health of trees, plants and ecosystems. Attainment designations for the 70 ppb standard will be made by USEPA in 2017 or 2018. Therefore, SLO County has not been designated attainment or non-attainment of the 70 ppb standard as of the end of 2016.

Ozone design values (see plot on the following page) are used by the USEPA to determine whether an area attains a federal standard. For ozone, the design value is calculated by averaging the 4th highest annual 8-hour average over three consecutive years. For example, a 2015 design value is the average of the 4th highest 8-hour averages from each year for 2013, 2014, and 2015.

Figure VII-2 – Ozone Nonattainment Area



Exceedances of the 8-hour ozone standard for the past ten years are summarized in the following tables:

Table VII-3 -- East County Ozone Non-Attainment Area
Ozone Standard Exceedances (above Federal 8-hour standard, 75 ppb)[1]

Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Carrizo Plains	NA[2]	35	9	22	3	4	5	3	0	0	0
Red Hills	27	44	16	39	7	16	3	10	3	2	1

Source: San Luis Obispo APCD

Notes:
1. Data are based on calendar year.
2. NA – Not operational

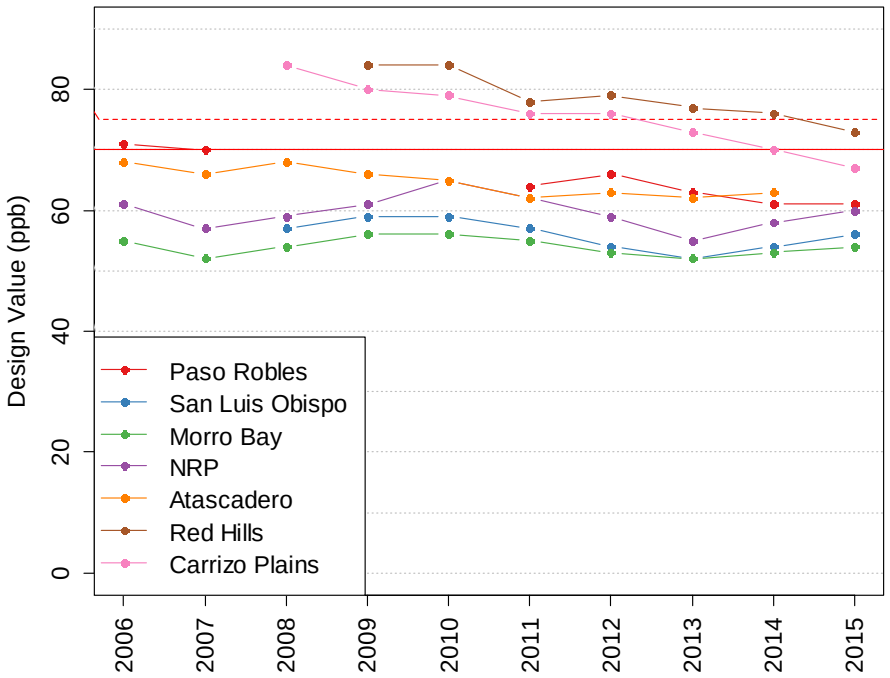
Table VII-4 -- West County Ozone Attainment Area
Ozone Standard Exceedances (above Federal 8-hour standard, 75 ppb)[1]

Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Paso Robles	2	0	0	0	0	0	0	0	0	0	0
Atascadero	2	1	0	1	0	0	0	0	0	0	0
Morro Bay	0	0	0	1	0	0	0	0	0	0	0
San Luis Obispo	0	0	0	1	0	0	0	0	0	0	0
Nipomo - NRP	0	0	0	0	0	0	0	0	0	1	0

Source: San Luis Obispo APCD

Notes:
1. Data are based on calendar year.
2. Data for 2016 is considered preliminary and not included in this report.

Figure VII-3 – Ozone Design Value Trends



Note:

1. The solid red line is the 2015 federal and state 8-hour standard (70 ppb) and the dashed red line is the 2008 federal 8-hour standard, 75 ppb.

Recommended Level of Severity for Ozone, East County -- Level of Severity III

The recommended level of severity for ozone in East SLO County is LOS III because this area is currently designated as non-attainment of the federal 8-hour ozone standard. The APCD is currently working with the California Air Resources Board to develop the State Implementation Plan (SIP) that describes the proposed methods for attaining this standard. In addition, the current APCD Clean Air Plan addresses ozone control measures. The 10-year Design Value Trend Plot above shows a significant improvement in air quality in the non-attainment area (East SLO County, Red Hills and Carrizo Plains). The improvement is demonstrated as a decrease in ozone standard exceedances. Based on the 2013-2015 data, SLO County is eligible to be re-designated as attaining the 75 pbb ozone standard; however, it is likely that SLO County will be designated as non-attainment of the 70 ppb federal standard.

Recommended Level of Severity for Ozone, West County -- Level of Severity II

The recommended level of severity for ozone in West SLO County is considered LOS II because this area is currently designated non-attainment of the state 8-hour ozone standard and exceeds the federal and state standards at times. West SLO County is currently designated attainment of the federal 8-hour ozone standard.

Particulate Matter

Ambient air quality standards have been established for two classes of particulate matter: PM_{10} (respirable particulate matter less than 10 microns in aerodynamic diameter), and $PM_{2.5}$ (fine particulate matter 2.5 microns or less in aerodynamic diameter). Both consist of many different types of particles that vary in their chemical activity and toxicity. $PM_{2.5}$ tends to be a greater health risk because the particles are smaller and can travel deeper into the lungs. Sources of particulate pollution include diesel exhaust; mineral extraction and production; combustion products from industry and motor vehicles; smoke from wildfires and prescribed burning; paved and unpaved roads; condensation of gaseous pollutants into liquid or solid particles; and wind-blown dust from soils disturbed by demolition and construction, agricultural operations, off-road vehicle recreation, and other activities. Wildfire smoke and wind-blown dust can have a significant impact on air quality.

$PM_{2.5}$

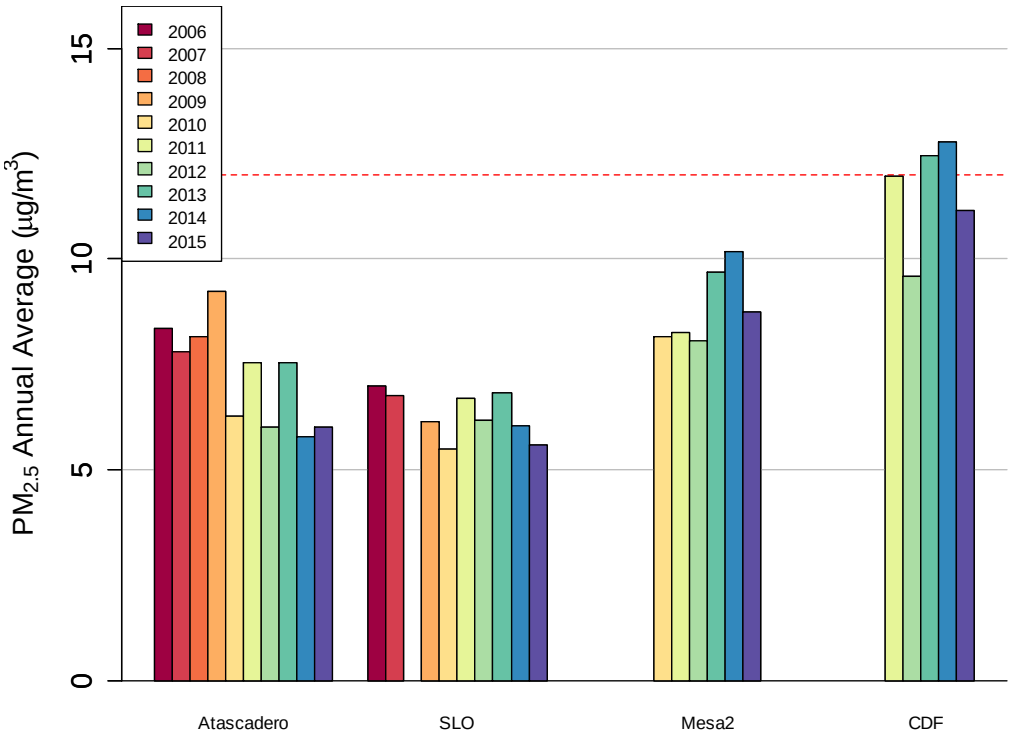
Table VII-5 -- $PM_{2.5}$ Exceedances (above federal 24-hour standard)[1]											
Location	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Atascadero	0[(2)]	0[(2)]	0[(2)]	0[(2)]	2[(2)]	0	0	0	0	2	0
San Luis Obispo	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0	0	0	0
Nipomo/ AG – CDF[(4)]	NA[(3)]	NA[(3)]	NA[(3)]	NA[(3)]	NA[(3)]	NA[(3)]	0	3	2	2	1
Nipomo Mesa 2	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0[(2)]	0	0	1	0	1	0

Source: San Luis Obispo APCD

Notes:

1. Data are based on calendar year.
2. 1 in 6 day sampling for all or part of year, one 24-hour filter sample was obtained every 6 days. Sampling during 2012-2015 was made hourly on all days. Data are based on calendar year.
3. NA – Not operational
4. Located at 2391 Willow Road, Arroyo Grande
5. The San Luis Obispo PM monitors were temporarily shut down from September 2016 through mid-June 2016
6. Data for 2016 is considered preliminary and not included in this report.

Figure VII-4 – $PM_{2.5}$ Annual Averages, 2006-2015



Note: $PM_{2.5}$ federal and state annual standard is 12 ug/m3

PM_{10}

Table VII-6 -- PM_{10} Exceedances (above federal 24-hour standard, 150 ug/m3)[1]											
Location	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Atascadero	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)	0	0	0	0	0
Paso Robles	0(2)	0(2)	0(2)	0(2)	0(2)	0	0	0	0	0	0
San Luis Obispo	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)	0	0	0	0
Nipomo/AG – CDF[4]	NA(3)	NA(3)	NA(3)	NA(3)	NA(3)	1	0	3	2	2	0
Nipomo - Mesa 2	0(2)	0(2)	0(2)	0(2)	0(2)	0	0	0	0	0	0
Nipomo - NRP	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)	0	0	0	0	0

Source: San Luis Obispo APCD

Notes:

1. Data are based on calendar year.
2. 1 in 6 day sampling for all or part of year, one 24-hour filter sample was obtained every 6 days. Sampling during 2012-2015 was made hourly on all days. Data are based on calendar year.
3. NA – Not operational
4. Located at 2391 Willow Road, Arroyo Grande
5. The San Luis Obispo PM monitors were temporarily shut down from September 2016 through mid-June 2016.
6. Data for 2016 is considered preliminary and not included in this report.

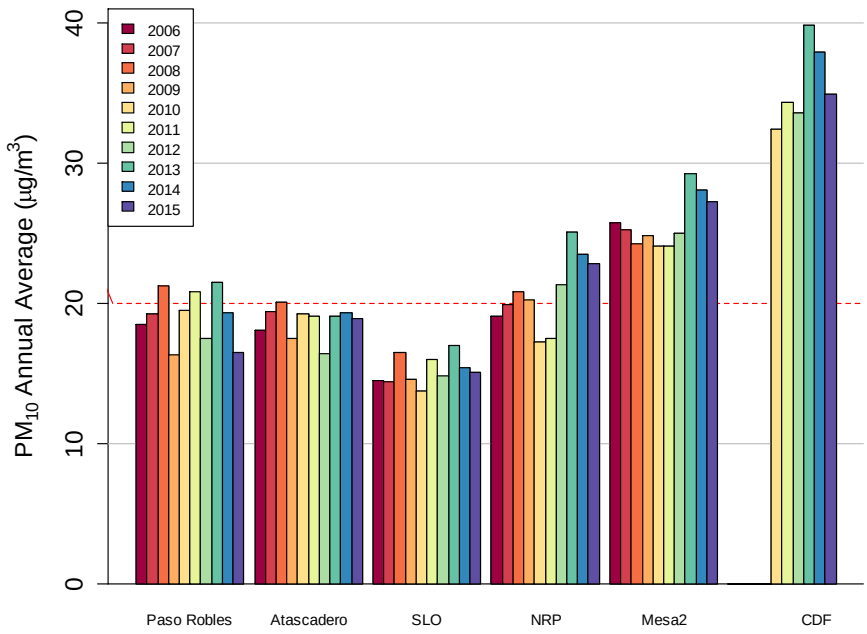
Table VII-7 -- PM_{10} Exceedances (above CA 24-hour standard, 50 ug/m3)[1]											
Location	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Atascadero	0(2)	1(2)	0(2)	0(2)	0(2)	0(2)	2	2	2	6	1
Paso Robles	0(2)	2(2)	0(2)	1(2)	2(2)	0	2	2	2	13	0
San Luis Obispo	0(2)	1(2)	0(2)	0(2)	0(2)	0(2)	22(2)	1	1	0	0(4)
Nipomo/AG – CDF[4]	NA(3)	NA(3)	NA(3)	NA(3)	NA(3))	53	63	70	93	88	68
Nipomo - Mesa 2	1(2)	5(2)	7(2)	5(2)	17(2)	40	32	36	55	43	34
Nipomo - NRP	0(2)	1(2)	2(2)	1(2)	2(2)	0(2)	3	9	20	11	8

Source: San Luis Obispo APCD

Notes:

1. Data are based on calendar year.
2. 1 in 6 day sampling for all or part of year, one 24 hour filter sample was obtained every 6 days Sampling during 2012-2014 is made hourly on all days Data are based on calendar year, not fiscal year.
3. NA – Not operational
4. Located at 2391 Willow Road, Arroyo Grande
5. The San Luis Obispo PM monitors were temporarily shut down from September 2016 through mid-June 2016.
6. Data for 2016 is considered preliminary and not included in this report.

Figure VII-4 – PM_{10} Annual Average, 2006-2015



Note: PM_{10} state annual standard is 20 ug/m3 (there is no federal annual standard for PM_{10})

Particulate Matter Studies

Historical ambient air monitoring on the Nipomo Mesa has documented atypical concentrations of airborne particulate matter compared to other areas of San Luis Obispo County and other coastal areas of California. To better understand the extent and sources of these unusually high concentrations of particulate pollution on the Nipomo Mesa, the APCD conducted several comprehensive air monitoring studies. The studies concluded that off-highway vehicle activity in the Oceano Dunes State Recreational Vehicle Area (SVRA) is a major contributing factor to the high PM concentrations observed on the Nipomo Mesa.

The APCD has been working to evaluate and develop potential solutions to the particulate matter emissions from the SVRA that are impacting downwind neighborhoods. On November 16, 2011, the APCD Board approved the Coastal Dunes Dust Control Rule 1001 to require implementation of dust control measures on coastal dunes where vehicle activity occurs. As of September 2016, as shown in the plots and data tables, ambient PM concentrations on the Nipomo Mesa have not been reduced as a result of Rule 1001. Therefore, the Level of Severity will remain at Level III for both PM2.5 and PM10 until mitigation measures are implemented that reduce ambient concentration to levels that meet health standards.

Recommended Level of Severity for PM_{10} and $PM_{2.5}$, Nipomo Mesa -- Level of Severity III

The level of severity for PM_{10} and $PM_{2.5}$ in the Nipomo Mesa of SLO County is considered LOS III because:

- SLO County is currently designated as non- attainment of the state PM10 standard;
- SLO County is designated attainment of the federal PM standards, but exceeded these standards on a number of days in the last three years;
- SLO County is scheduled to be designated as non-attainment of the state annual PM2.5 standard because the annual standard of 12 ug/m3 is currently exceeded. And,
- SLO County is scheduled to be designated as non-attainment of the federal annual PM2.5 standard because the annual standard of 12 ug/m3 is currently exceeded.

Mitigation measures to address PM issues on the Nipomo Mesa are outlined in APCD's Particulate Matter Reduction Plan.

Recommended Level of Severity for PM_{10} and $PM_{2.5}$, All Areas of the County Outside the Nipomo Mesa -- Level of Severity II

The LOS for $PM_{2.5}$ recommended for areas outside of the Nipomo Mesa of SLO County is LOS II because the federal $PM_{2.5}$ standard has been exceeded in Atascadero. Federal $PM_{2.5}$ standards can be exceeded during winter stagnant periods and during periods of wildfire smoke impacts.

The LOS for PM_{10} in areas outside of the Nipomo Mesa of SLO County is considered LOS II because SLO County is currently designated as non-attainment of the state PM_{10} standard and the standard has been exceeded at all county PM_{10} monitoring stations.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless gas generated by fossil fuel combustion from mobile sources such as vehicles, ships, and aircraft and at stationary sources such as industry, homes, and businesses. SO_2 may also be emitted by petroleum production and refining operations. The state standard for SO_2 was exceeded periodically on the Nipomo Mesa up until 1993. Equipment and processes at the facilities responsible for the emissions were upgraded as a result.

Exceedances of the federal SO_2 standard had never been measured in SLO County until the federal 1-Hour SO_2 standard was exceeded on May 19, 2013.

The exceedance was measured at the Mesa2 monitoring station, located immediately downwind of the Phillips 66 Santa Maria Refinery. The refinery was performing maintenance at the time, and process equipment that would normally control sulfur dioxide emissions was not operating. Releases of this type are unlikely to recur in the future as the refinery is no longer permitted to operate without these emission controls during scheduled maintenance procedures.

Recommended Level of Severity for Sulfur Dioxide, Nipomo Mesa -- Level of Severity I

The LOS for SO_2 in SLO County is considered LOS I for the Nipomo Mesa due to exceedance of the federal SO_2 standard in 2013.

No LOS is recommended for the remainder of SLO County because the state and national standards for SO_2 have never been exceeded.

Nitrogen Dioxide, Carbon Monoxide and Lead

Nitrogen dioxide (NO_2) is a brownish-colored air pollutant that irritates the eyes, nose and throat, and can damage lung tissues.

Carbon monoxide (CO) results from fuel combustion of all types and can cause headaches and fatigue. Motor vehicles are by far the chief contributor of CO in outdoor air.

Lead is extremely toxic. Exposure to high concentrations of lead, particularly in young children, can result in damage to the central nervous system, and may be associated with high blood pressure in adults. Human exposure to lead typically occurs via inhalation of air and ingestion of lead in food, soil, water or dust. Lead was last monitored in SLO County in 1987. Concentrations of lead in the ambient air dropped significantly after unleaded fuel use in vehicles became widespread.

No LOS is recommended for NO_2 in SLO County because the state and national standards for NO_2 have never been exceeded in this county.

No LOS is recommended for CO in SLO County because the state CO standards have not been exceeded in San Luis Obispo County since 1975.

No LOS is recommended for lead in SLO County because the county is in attainment of the state standard for lead.

Toxic Air Contaminants

A toxic air contaminant (TAC) is defined as "*an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health*." Exposure to toxic air contaminants can potentially increase the risk of contracting cancer or result in other adverse health effects (e.g., asthma, birth defects and respiratory disease). TACs can cause health effects through both short-term, high-level or "acute" exposure and long-term, low-level or "chronic" exposure.

TAC's are not considered "criteria pollutants" but are significant in maintaining public health. A characteristic of toxic air pollution, which distinguishes it from criteria pollutants, is that the impact of toxic air contaminants tends to be highest in close proximity to sources and drops off with distance to the affected receptor. The cancer-causing potential of TACs is a particular public health concern because many scientists believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen can pose some risk of causing cancer. Furthermore, many compounds have a synergistic effect where different compounds interact and cause effects greater than that of each individual compound.

The APCD has been successful in reducing levels of criteria and toxic air pollutants from existing sources while limiting impacts from new and modified sources within San Luis Obispo County. Current rules and policies continue to control and reduce toxic impacts; however, continued efforts are needed to protect the health and welfare of the public. The USEPA reported recently that levels of benzene and lead, as well as mercury from man-made sources, are each down more than 50% from 1990 levels (nationally, a 66% drop in benzene, 60% drop in mercury and 84% drop in lead). By 2030, USEPA expects reductions to be 80% of the 1990 levels.

The APCD developed a Toxic Risk Management Plan (TRMP) to provide an overall guidance and planning document that integrates local, state and federal efforts to minimize toxic air pollution impacts. The primary goal of the TRMP is to reduce population exposure to toxic air contaminants to ensure healthful air for all. The TRMP identifies suggested air toxic control strategies and options for stationary and mobile sources that may be implemented in the future to provide additional reductions in air toxics exposure and contaminant levels. In addition, toxics are reduced as part of the APCD CEQA review process as defined in the APCD CEQA Handbook.

There are no NAAQS or CAAQS for toxics so no federal or state standards were exceeded. The TRMP and CEQA Handbook address toxics adequately, so a LOS has not been quantified.

Summary of Recommended Levels of Severity and Recommended Actions for Air Quality

Table VII-8 – Summary of Recommended Levels of Severity and Recommended Actions

Parameter	Recommended Levels of Severity	Applicable Documents & Plans	Recommended Actions
Ozone	III, East SLO County II, West SLO County	Clean Air Plan, CEQA Handbook, State Implementation Plan (SIP) documents (Emission Statement Rule, Conformity Documents, Emissions Inventory)	Support APCD's efforts to address East County Non-attainment.
PM2.5	III, Nipomo Mesa II, Elsewhere	CEQA Handbook, Particulate Matter Reduction Plan	Support implementation of APCD's Particulate Matter Reduction Plan
PM10	III, Nipomo Mesa II, Elsewhere	CEQA Handbook, Particulate Matter Reduction Plan	Support implementation of APCD's Particulate Matter Reduction Plan
SO_2	I, Nipomo Mesa	Federal Consent Decree	Support APCD's Enforcement of the Federal Consent Decree.
NO_2	None Recommended	National and State Ambient Air Quality Standards	No actions needed.
CO	None Recommended	National and State Ambient Air Quality Standards	No actions needed.
Lead	None Recommended	National and State Ambient Air Quality Standards	No actions needed.

Toxics	None Recommended	CEQA Handbook, Toxic Risk Management Plan	No additional actions needed at this time.

VIII. APPENDIX

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Terms and Acronyms

AFY	Acre Feet per Year; an acre-foot contains 325,851.429 gallons
BRP	Buildout Reduction Program
BMP	Best Management Practices
CIP	Capital Improvement Program/Capital Improvement Project
CAWO	Cayucos Area Water Organization
CCD	Cayucos Cemetery District
CDP	Coastal Development Permit
CSD	Community Services District
CSA	County Service Area
District	San Luis Obispo County Flood Control and Water Conservation District
DWR	California Department of Water Resources
EAP	Estero Area Plan
I&I	Inflow and infiltration
ISJ	Interlocutory Stipulated Judgment
LAFCo	Local Agency Formation Commission
LOS	Levels of Severity
LOWWP	Los Osos Wastewater Project
MCWRA	Monterey County Water Resources Agency
MGD	Million gallons per day
MRMWC	Morro Rock Mutual Water Company
NWP	Nacimiento Water Project
NMMA	Nipomo Mesa Management Area of the Santa Maria Groundwater Basin
NCMA	Northern Cities Management Area of the Santa Maria Groundwater Basin
NWC	Nacimiento Water Company

PRBWA	Paso Robles Beach Water Association
Quimby Fees	Fees collected for the acquisition of parkland.
PRIOR	Paso Robles Imperiled Overlying Rights
RCS	Resource Capacity Study
RMS	Resource Management System
RSR	Resource Summary Report
RTP-SCS	Regional Transportation Plan – Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
Safe Yield	The maximum dependable draft that can be made continuously upon a source of water supply over a given period of time during which the probable driest period, and therefore period of greatest deficiency in water supply, is likely to occur.
SSLOCSD	South San Luis Obispo County Sanitation District
SMVMA	Santa Maria Valley Management Area of the Santa Maria Groundwater Basin
SMMWC	San Miguelito Mutual Water Company
SMVGB	Santa Maria Groundwater Basin
SWRCB	State Water Resources Control Board
SLOCOG	San Luis Obispo Council of Governments
SWP	State Water Project
URL	Urban Reserve Line
WMP	Water Master Plan
WMWC	Woodlands Mutual Water Company
WRAC	Water Resource Advisory Committee
WWTP	Wastewater treatment plant

Water Rates and Rate Structure

Table A-1 -- 2015-2016 Water Rates and Rate Structure						
Community	Water Purveyors	Approximate Population Served		2015-2016 Single Family Residence (SFR)		
		Total District Population Served	Single Family Residences (SFR) Metered (hook-ups)	Average Annual Water Use	Water Rate Structure[1]	Average Residence Water Bill[2]
Avila Beach Avila Valley	Avila CSD	875	249	0.09 AFY	Flat Rate	$110.35/mo.
	Avila Valley Mutual Water Co	104	28	0.98 AFY	Tiered	$525.03 for 2 mo. billing cycle
	San Miguelito Mutual Water Co.	1,400	616	0.12 AFY	Tiered	$64.76/mo.
Cambria	Cambria CSD	6,500	3,373	0.07 AFY	Tiered	$45.22 for 2 mo. billing cycle (6)
Cayucos	CSA 10A	1,350	752	0.13 AFY	Tiered	$65.50/mo.
	Morro Rock Mutual Water Co.	2,125	472	0.12 AFY	$48.00 per month, plus $7.17 per 1,000 gallons used	$58.63/mo.
	Paso Robles Beach Water Assoc.	2,577	663	0.12 AFY	$35.00 per month plus $9.30 per 1,000 gallons used	$135.28 for 2 mo. billing cycle
Edna Valley	Golden State Water Co. – Edna Valley	1,292	549	0.25 AFY	Tiered	$206.16 for 2 mo. billing cycle
Garden Farms	Garden Farms CWD	240	115	0.31 AFY	Tiered	$68 for 2 mo. billing cycle
Heritage Ranch	Heritage Ranch CSD	3,100	1,840	0.19 AFY	Three tiers	$34.41/mo. for 7 HCF
Los Osos	Los Osos CSD	7,086	2,459	0.13 AFY	Four tiers	$77.36 for 2 mo. billing cycle
	Golden State Water Co. – Los Osos	5,520	2,508	0.13 AFY	Tiered	$122.91 for 2 mo. billing cycle
	S&T Mutual Water Co.	575	178	0.16 AFY	Tiered	$68 per 2 mo. billing cycle
Nipomo	Nipomo CSD	12,886	3,603	0.42 AFY	Tiered	$155.92 per 2 mo. billing cycle
	Woodlands Mutual Water Co.	1,600	748	0.39 AFY	Flat + tiered	$75.02 per 2 mo. billing cycle
	Golden State Water Co. – Nipomo	4,904	1,412	0.40 AFY	Tiered	$60.22/mo.
Oceano	Oceano CSD	7,543	2,040	0.25 AFY	Five tiers	$180.00 for 2 mo. billing cycle
Santa Margarita	CSA 23 – Santa Margarita	1,400	485	0.29 AFY	Tiered	$59.47/mo.
San Miguel	San Miguel CSD	2,400	733	0.27 AFY	Tiered	$69.34/mo.
San Simeon	San Simeon CSD	462	172	0.07 AFY	Flat	$65.54/mo.
Shandon	CSA 16 -- Shandon	1,260	325	0.26 AFY	Tiered	$91 per 2 mo.

						billing cycle
Templeton	Templeton CSD	6,885	2,425	0.41 AFY	Tiered	$63.00 per mo.
	Atascadero Mutual Water Co.	30,332	9,242	0.32 AFY	Tiered	40.14/mo.

Source: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016

1. Flat, tiered, etc.
2. Dollar amount per billing cycle.
3. Data not provided for FY 2015/2016

Source: Water System Usage forms: July 2014 – June 2015; July 2015 – June 2016

4. Flat, tiered, etc.
5. Dollar amount per billing cycle.
6. Cost shown does not Include the CCSD's waste water billing component, which would add approximately $74.09 per a 2-month billing period.

Conservation Data for Water and Wastewater Agencies

Below is water conservation data from the 23 water purveyors located within the unincorporated County. Golden State provided one completed survey and was counted as one survey response; however, they serve the communities of Los Osos, Nipomo, and Edna Valley.

Table A-2 -- Conservation Data for Water and Wastewater Agencies

1. *Between July 1, 2014 and June 30, 2016 did your agency serve more than 3,000 connections?*			
	Yes	**No**	**Comments**
	19.05%	80.95%	Must purveyors (roughly 81%) have less than 3,000 connections. Golden State (serving Los Osos, Edna Valley, and Nipomo) indicated they had greater than 3,000 connections; however, this total was for all three locations with no individual community having 3,000 connections.

2.Between July 1, 2014 and June 30, 2016 did your agency provide service to:		
	Yes	**Comments**
a. Residential customers?	100%	All purveyors serve residential customers (100%)
b. Commercial customers?	90.5%	Most also serve commercial customers (90.5%)
c. Industrial customers?	19.1%	More than half (57.1%) serve a school or schools (elementary, secondary, college, etc.)
d. Municipal customers?	33.3%	Roughly 1/3 (33.3%) of purveyors serve municipal customers.
e. Schools?	57.1%	A small percentage serve agricultural operations (9.5%).
f. A state or federal facility	14.3%	
g. Agricultural operations?	9.5 %	
h. **Other**: *Answers included*: ❖ Park, Pool, and Sanitary ❖ County restrooms, utilities, emergency Help-BVMHP, Vets Hall ❖ Irrigation ❖ State Parks	23.8%	

3. Between 07/01/2014 and 06/30/2016 how did your agency promote or advertise water conservation?		
	Yes	**Comments**
a. Local newspaper?	23%	Most purveyors do some form of promotion or advertisement for water conservation. The majority (95.2%) promoted water conservation through the customer's monthly bill and agency's website (81%). Slight less than ½ of purveyors (47.6%) had other means of promoting water conservation.
b. Television advertising?	4.8%	
c. Radio advertising?	23.8%	
d. Insert in customer's monthly bill?	95.2%	
e. In the agency's monthly newsletter?	33.3%	
f. Your agency's website?	81%	
g. Other: *Answers included*: ❖ Annual quarterly meetings. ❖ CSAs 10, 16, and 23 promoted water conservation in the annual water quality report that is distributed online to customers, county mailer. ❖ Section within the Consumer Confidence Report. ❖ Water conservation rates – tiers. ❖ Through banners and signs. ❖ County mailer – two. ❖ Social media, tweets on Public Works Twitter Page and posted signs in service area. ❖ Participated with SaveOurWAter.com, USEPA – WaterSense, Alliance for Water Efficiency, California Water Association, CUWCC, MWDSC, RWA, SBC-RWEP and other Wholesale agencies. ❖ Signage & special newsletter.	47.6%	

4. Between 07/01/2014 and 06/30/2016 did your agency's water bill?		
	Yes	**Comments**
a. Contain an insert with water conservation messages?	95.2%	Most purveyors (95.2%) include a water conservation message with their water bill. More than half (71.4%) compare the customer's current water use with the previous year use. Very few agencies (9.5%) compare water use to the community average.
b. Compare the customer's current use with previous year use?	71.4%	
c. Compare the customer's current use with the community-wide average?	9.5%	
d & e. Other: *Answers included:* ❖ Included water saving tips on bill under bill messages. ❖ Tips on conservation directly on the monthly bill. ❖ Compared customer's current usage versus 2013 Customer Baseline. ❖ Newsletter with community averages and target usage goals.	33.3%	

5. Prior to June 30, 2016 *did your agency provide the following service:*		
	Yes	**Comments**
a. Water system audits to customers?	42.9%	71.4% of purveyors provide leak detection assistance to customers and more than half of purveyors (61.9%) provide an on-going leak detection and elimination program for water systems. More than half of purveyors (52.4%) provide water conservation information to applicants obtaining new service. 42.9% of purveyors provide water system audits to customers while less than 1/3 of purveyors (28.6%) provide landscape audits to customers.
b. Incentives for voluntary retrofit of low flow plumbing fixtures (i.e., low-flow toilets, shower heads, and faucets)?	28.6%	
c. Landscape water use audits for customers?	28.6%	
d. Personnel trained in turf management that provides assistance to customers?	9.5%	
e. A rebate program for converting lawns and other high water use landscaping?	19.1%	
f. Water conservation information to applicants for new service?	52.4%	
g. Information to public schools for use in conservation education programs?	28.6%	
h. An on-going leak detection and elimination program for water systems?	61.9%	
i. Leak detection assistance to customers?	71.4%	
j & k. Other: *Answers included:* ❖ Developed and distributed water conservation materials to hotels and vacation rental businesses. ❖ Provided links to the State's Save our Water Rebate Program as well as other water conservation programs. ❖ Initiated a leak detection program. ❖ Information on California's Rebate Program at saveourwater.com. ❖ Leak detection was part of Water Audit Program. ❖ Newsletters, e-news, on-line communications, events, etc.	9.5%	

6. Prior to June 30, 2016 *did your agency:*		
	Yes	**Comments**
a. Require conservation pricing of water (i.e., customers pay a higher rate for higher water use)?	76.2%	Most purveyors (90.5%) limit outdoor water use while 85.7% of purveyors prohibit wasteful outdoor water use. More than three-fourths of purveyors (76.2%) require a higher rate for more water use. 23.8% of purveyors are investing in new water management technologies. Roughly 9.5% of water purveyors mandate water retrofits for new construction and/or upon the transfer of ownership, and 4.8% of purveyors have established a water recycling program.
b. Prohibit wasteful outdoor water uses (e.g., using hoses with no shutoff nozzles to wash cars and/or using potable water to: wash sidewalks or driveways, to irrigate ornamental turf on public street medians, to fill pools or spas, reduce dust from construction sites, etc.)?	85.7%	
c. Limit outdoor water use (such as limiting irrigation/watering to certain days of the week for residential, commercial, industrial, and/or municipal users?	90.5%	
d. Mandate water retrofits for new construction or upon transfer of ownership?	9.5%	
e. Establish or implement a water recycling program (such as purple pipe system, etc.)?	4.8%	
f. Invest in new water management technologies (such as programs that increase local water supplies, water recycling facilities, storm water capture, etc.)? If yes, please indicate the new technologies in the comment box below.	23.8%	
g & h. Other: *Answers included:* ❖ Filtration systems for our older wells. ❖ Participated in leak detection training program, implemented a meter replacement program, worked with a leak detection specialist to identify and repair water system leaks to reduce water losses. ❖ Nacimiento Project. ❖ GSWC adheres to Federal, state, and local codes but does not have enforcement authority to mandate water retrofits for new construction. ❖ GSWC continues to work with Basin Sustainability – SGMA in terms of investing in new water management technologies. ❖ In terms of d, this is a County issue. ❖ We are drilling a new upper aquifer well at our water operations facility in hope to blend with the existing lower aquifer well in service there. Increasing the water supply and shifting from the lower aquifer.	9.5%	

***7. Other Comments**:*
❖ No budget for most water conservation work. No dollars. ❖ In 2015 Oceano exceeded the Governor's 25% conservation target although not legally required since we are a small water system with less than 3,000 connections.

List of Agency Participation

Table A-3 -- Agency Participation		
Agency or Organization	**Provided Data**	**Provided Comments On Draft RSR**
State Agencies		
California Department of Resources, Central Coast Regional Water Quality Control Board	X	X
County Departments and Agencies		
San Luis Obispo Council of Governments	X	
San Luis Obispo County Flood Control and Water Conservation District	X	
San Luis Obispo County Department of Parks and Recreation	X	
San Luis Obispo County Public Works Department	X	X
County Service Areas		
CSA 10A -- Cayucos	X	
CSA 12 – Avila Beach	X	
CSA 23 – Santa Margarita	X	
CSA 16 – Shandon	X	
CSA 18 – Country Club Estates	X	
Community Services Districts		
Avila Beach CSD	X	
Cambria CSD	X	X
Heritage Ranch CSD	X	
Los Osos CSD	X	
Nipomo CSD	X	
Oceano CSD	X	X
San Miguel CSD	X	
San Simeon CSD	X	
Templeton CSD	X	
Special Districts		
Cayucos Sanitary District	X	
San Luis Obispo Air Pollution Control District (APCD)	X	
South San Luis Obispo County Sanitation District	X	
Private Water Purveyors		
Atascadero Mutual Water Co.	X	XX
Avila Valley Mutual Water Co.	X	
Garden Farms	X	
Golden State Water Co.	X	
Morro Rock Mutual Water Co.	X	

Table A-3 -- Agency Participation		
Agency or Organization	**Provided Data**	**Provided Comments On Draft RSR**
Nacimiento Water Co.	X	
Paso Robles Beach Water Assoc.	X	
San Miguelito Mutual Water Co.	X	
Santa Margarita Ranch	X	
S&T Mutual Water Co.		
Woodlands Mutual Water Co.	X	
School Districts		
Atascadero Unified School District	X	
Belleview-Santa Fe Charter School	X	
Coast Unified School District	X	
Cayucos Elementary School District	X	
Grizzly Youth Academy Challenge Program	X	
Lucia Mar School District	X	
Paso Robles Joint Unified School District	X	
Pleasant Valley Joint Union School District	X	
San Luis Coastal Unified School District	X	
San Miguel Joint Union School District	X	
Shandon Joint Unified School District	X	
Templeton Unified School District	X	
Other Organizations		
Economic Vitality Commission	X	
Nipomo Mesa Management Area	X	X
Northern Cities Management Area	X	X
SLO County Water Resources Advisory Committee (WRAC)	X	X
Cities		
City of Arroyo Grande		X
City of Grover Beach		X