Section C.
Region Description

Section C. Region Description

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Section C. Region Description

C.1 Purpose and Organization of Section

The November 2012 State Guidelines for this section include the following elements:

IRWM Plan Standard from November 2012 IRWM Guidelines: ***An IRWM Plan must include a description of the region being managed by the RWMG. This description should include a comprehensive inclusion of the following:***
• *A description of the **watersheds** and the **water systems**, natural and anthropogenic (i.e. "man-made"), including **major water related infrastructure, flood management infrastructure,** and **major land-use divisions.** Also include a description of the **quality and quantity of water resources** within the region (i.e. surface waters, groundwater, reclaimed water, imported water, and desalinated water). As relevant, describe **areas and species of special biological significance and other sensitive habitats,** such as **marine protected areas** and **impaired water bodies** within the region.*
• *A description of **internal boundaries** within the region including the **boundaries of municipalities, service areas of individual water, wastewater, flood control districts, and land use agencies**. The description should also include those not involved in the Plan (i.e. **groundwater basin boundaries, watershed boundaries, county**, State, and international boundaries).*
• *A description of **water supplies and demands for a minimum 20-year planning horizon.** Include a discussion of important **ecological processes and environmental resources** within the regional boundaries and the associated **water demands to support environmental needs**. This includes a description of the **potential effects of climate change** on the region.*
• *A descriptive comparison of **current and future (or proposed) water quality conditions** in the region. Describe any water quality protection and improvement needs or requirements within the area of the Plan.*
• *A description of the **social and cultural makeup** of the regional community. Identify important **cultural or social values**. Identify **DACs** in the management area. Describe **economic conditions and important economic trends** within the region. Describe efforts to effectively **involve and collaborate with Tribal government representatives** to better sustain Tribal and regional water and natural resources (if applicable).*
• *A description of **major water related objectives and conflicts** in the defined management region, including clear identification of problems within the region that lead to the development of the objectives, implementation strategies, and implementation projects intended to provide resolution.*
• *An explanation of **how the IRWM regional boundary was determined** and why the region is an appropriate area for IRWM planning.*
• *Identification of **neighboring and/or overlapping IRWM efforts** (if any) and an explanation of the **planned/working relationship that promotes cooperation and coordination between regions***
• *For IRWM regions that receive water supplied from the Sacramento-San Joaquin Delta, an explanation of **how plan will help reduce dependence on the Sacramento-San Joaquin Delta** for water supply (SB 855 (Committee on Budgets), Section 31.(c)(1)).*

In an effort to fully address each of the State Guideline requirements and maintain a concise amount of section content, thereby minimizing the number of pages, the section relies heavily on providing data in a tabular format; in most cases, a table is used to summarize more detailed information located in the IRWM Plan's Appendices. The following appendices support this section:

- Appendix L – Detailed Description of Groundwater Basins
- Appendix M – Detailed Description of Water Planning Areas and Local Water Districts
- Appendix N – San Luis Obispo County Watershed Management Planning Project Report

Section C is organized to assist in the understanding for splitting the IRWM Region up into three Sub-Regions, 16 Water Planning Areas (WPAs), and 25 watersheds. Completion of the *San Luis Obispo County Watershed Management Planning Project Report* (Coastal San Luis RCD 2014 & Upper Salinas-Las Tablas RCD, January 2014), included as **Appendix N**, provides the first phase of describing the region at the watershed level. The next phase improves this description by populating areas identified in the report as prioritized data gaps. For purposes of the IRWM Plan Update, the WPAs are still the primary boundaries for purposes of water supply planning and summarizing water supplies and demands; whereas, watershed-level descriptive information is provided in **Section C.7** with reference to **Appendix N** if additional details are needed.

C.2 SAN LUIS OBISPO COUNTY RELEVANCE AS AN IRWM PLANNING AREA

The region covered by this San Luis Obispo IRWM Plan is co-terminus with the boundaries of the San Luis Obispo County Flood Control and Water Conservation District (District) and is the same as the County of San Luis Obispo (see **Figure C-1**). The County's 3,304 square miles is broken down further into the North Coast Sub-Region, the North County Sub-Region, and the South County Sub-Region. The 2012 Guideline includes the following regarding the definition of a region:

> *CWC §10541(f) states the guidelines shall include a standard for identifying a region for the purpose of developing and modifying an IRWM Plan, and DWR shall develop a process to approve the composition of a region for the purposes of sections 75026 – 75028 of the PRC. DWR developed the Region Acceptance Process (RAP) to approve region composition for the purpose of developing or modifying an IRWM Plan…Through the RAP, IRWM planning regions are accepted into the IRWM Grant program. IRWM planning regions can then apply for IRWM Grants subject to conditions on the acceptance through the RAP and the criteria and review process set up for each funding cycle.*

The County's boundary encompasses the appropriate geographic region and composition for integrated regional water management planning. As a result, all aspects of water management generally lie within the same physical, political, environmental, social, and economic

boundaries. The County's boundary ensures active stakeholder involvement at the local and sub-region level based on the Region's shared experience and community values. By linking water resources management to local land use planning, local communities can better balance economic well-being, social equity, and environmental protection needs within their respective sub-regions. The larger region defined as the County is the most effective size to integrate these planning efforts within the context of local community shared values and sense of place.

There are no regional water agencies within or overlapping the County. All of the water resources interested entities within the region participate, or are invited to participate, on the Water Resources Advisory Committee (WRAC) or on flood control advisory committees, as described in **Section B – Governance, Stakeholder Involvement, and Outreach**. The relationship between the County and bordering IRWM Regions is described in **Section O – Coordination**.

Defining the IRWM region as the County has enabled the San Luis Obispo County Flood Control and Water Conservation District (District) and stakeholders to use existing infrastructure, management systems, funding mechanisms, partnerships, and planning documents as a scaffold upon which to build the IRWM Plan. This approach has resulted in an effective, synergistic, and efficient approach to regional water resources management that provides an overarching framework for sound and sustainable Water Management Strategies (WMSs).

C.3 IMPORTANCE OF SUB-REGION SEPARATION

The County, split into its three Sub-Regions (see **Figure C-2**), is an appropriately governed region because its boundaries exactly match those of the District. Sub-regionalization facilitates water resources analysis by facilitating integrated water management between jurisdictions that overlie common groundwater basins and watersheds. The Sub-Regions are also grouped to reflect watershed outflow directions and common climatic features. The three Sub-Regions are connected by the District's/County's jurisdiction as well as the regional water projects such as the Nacimiento Water Project (NWP), Salinas Reservoir system, Whale Rock Reservoir system, Lopez Water System and State Water Coastal Branch, which continue to be evaluated for their potential to be optimized to better meet the Region's water needs.

Understanding that regional water planning is a collaborative process of many cultures and socioeconomic backgrounds of urban, rural and agricultural uses, developed and undeveloped lands, the District has found that setting the emphasis of the planning unit boundaries to match three unique and separate Sub-Regions rightfully places the responsibility for leadership at the sub-regional level. Ownership of the IRWM Plan implementation process at the level of each

Sub-Region, where IRWM projects are conceived, will ensure that the project sponsors shape their projects to address the Sub-Regional Priorities selected by the Sub-Region stakeholders for each of the objectives covered in **Section E – IRWM Goals and Objectives**.

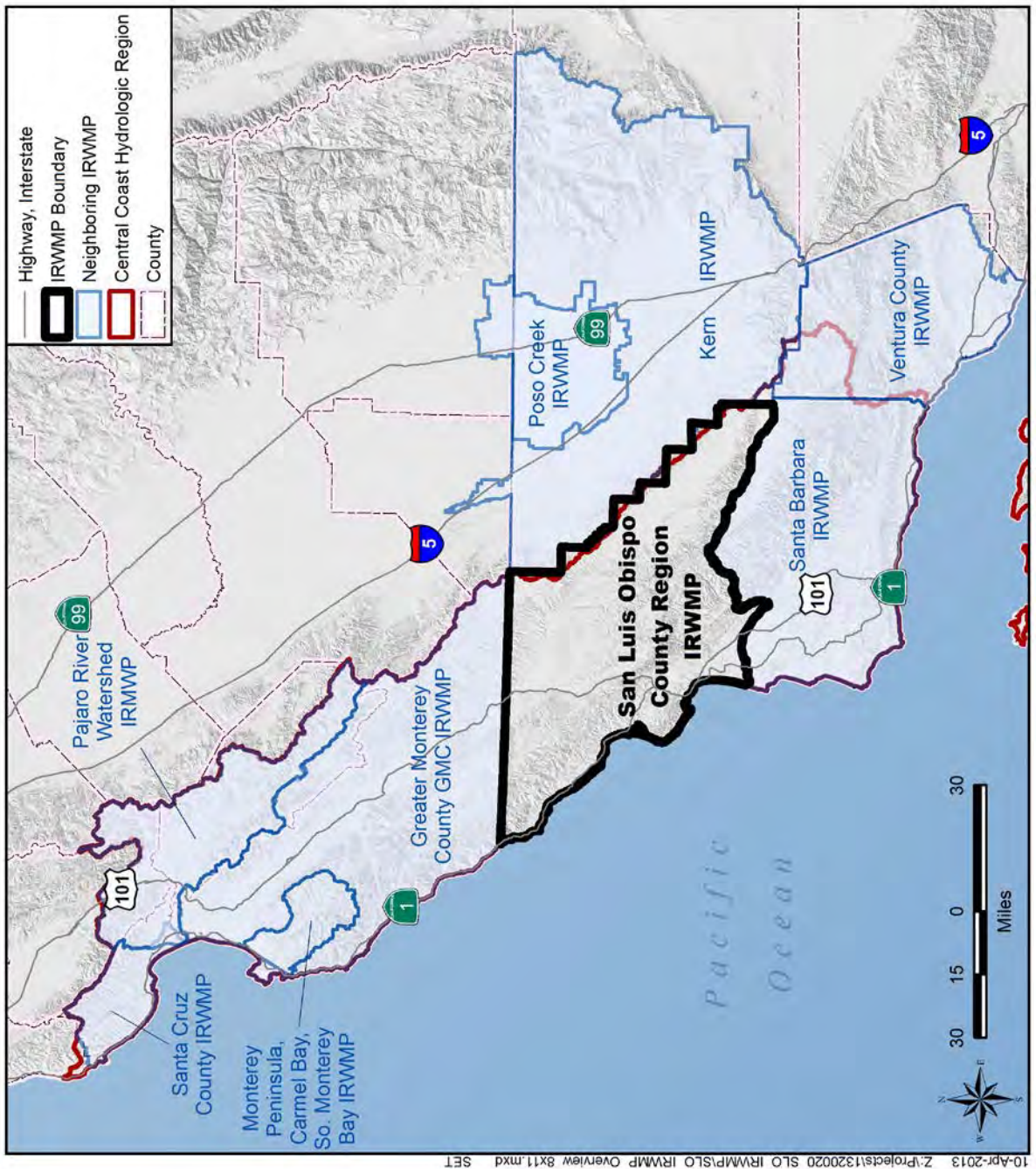


Figure C-1. Regional Setting and Neighboring IRWM Plans

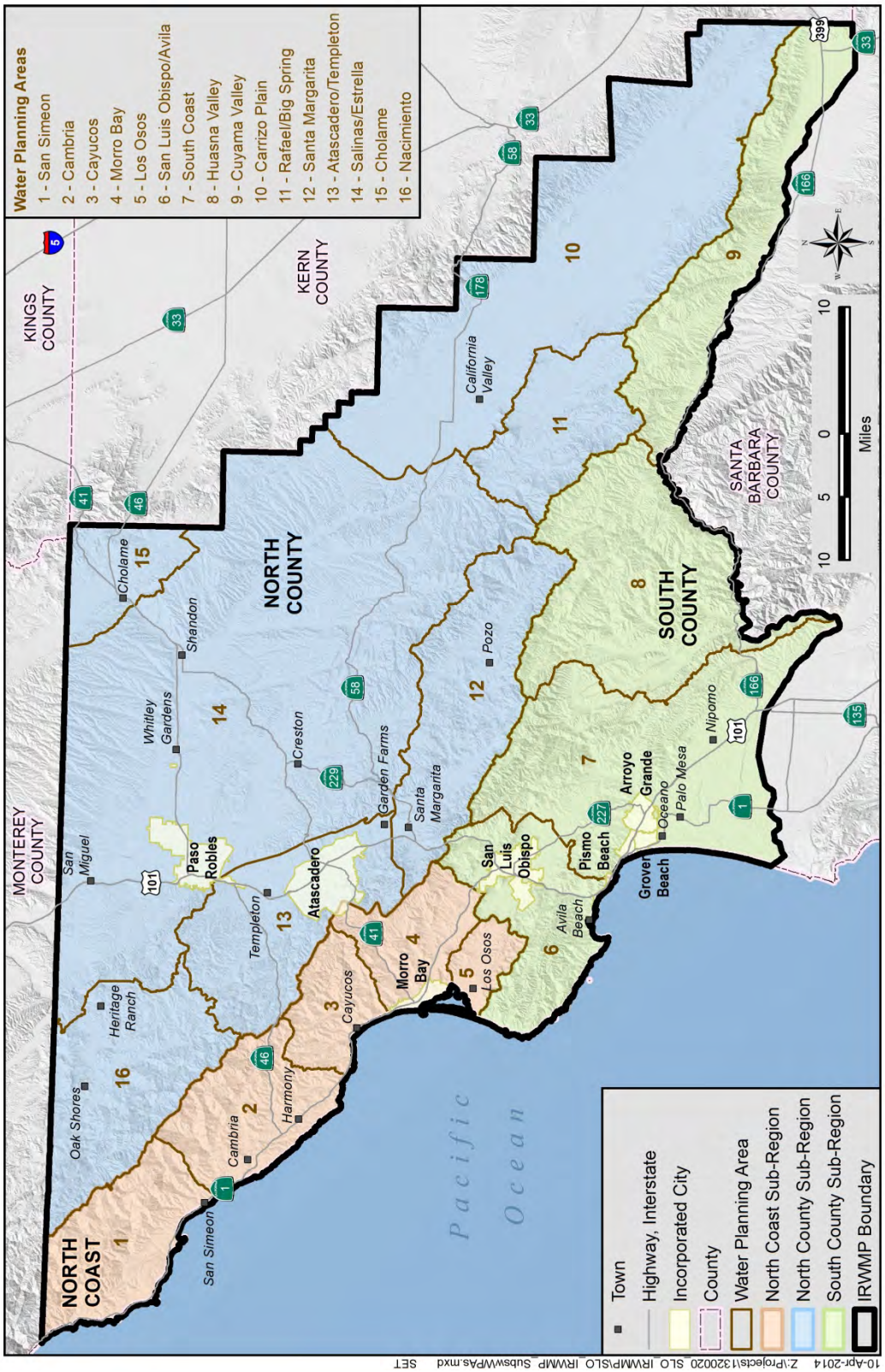


Figure C-2. Sub-Regions and County Overview

The County's three sub-regions are also appropriately sized for the inclusion of environmental values in integrated water resource management because they are neither too small to effectively manage complete ecological systems, nor too large to deal with sometimes complex biological relationships taking place at the local level (e.g., fish passage or non-native plant species on local streams).

The information in this chapter is based primarily on the San Luis Obispo County 2012 Master Water Report. Other sources used include the 2007 San Luis Obispo Region Integrated Regional Water Management Plan, other County documents and plans, and area Urban Water Management Plans, as noted. The 2012 Master Water Report further divides the Sub-Regions into Water Planning Areas (WPA) in order to organize data collection, analysis and reporting.

C.3.1 North Coast Sub-Region

The North Coast Sub-Region spans from the San Luis Obispo/Monterey County line southward to the community of Los Osos, bounded to the west by the Pacific Ocean and to the east by the crest of the Santa Lucia Range (see **Figure C-3**). The North Coast Sub-Region includes San Simeon (WPA 1), Cambria (WPA 2), Cayucos (WPA 3), Morro Bay(WPA 4), and Los Osos (WPA 5).

C.3.2 North County Sub-Region

The North County Sub-Region essentially includes the WPAs that do not drain directly to the ocean through the County's coastal regions, and includes WPAs 10 through 16 (see **Figure C-4**). The North County Sub-Region extends inland from the San Luis Obispo/Santa Barbara County line north to the San Luis Obispo/Monterey County line, bounded to the east by Kern and Fresno Counties, and to the west, in part, by the Santa Lucia range. The North County Sub-Region includes Carrizo Plain (WPA 10), Rafael/ Big Spring (WPA 11), Santa Margarita (WPA 12), Atascadero/Templeton (WPA 13), Salinas/Estrella (WPA 14), Cholame (WPA 15), and Nacimiento (WPA 16). The North County Sub-Region includes, but is not limited to, the larger urban areas of Paso Robles and Atascadero.

C.3.3 South County Sub-Region

The South County Sub-Region spans from the City of San Luis Obispo south to the San Luis Obispo/Santa Barbara County line, east to the Cuyama Valley, and west to the community of Avila Beach. It includes WPA 6 through 9 (see **Figure C-5**). The South County Sub-Region includes the urban areas of San Luis Obispo, Arroyo Grande, Grover Beach, Oceano, and Nipomo.

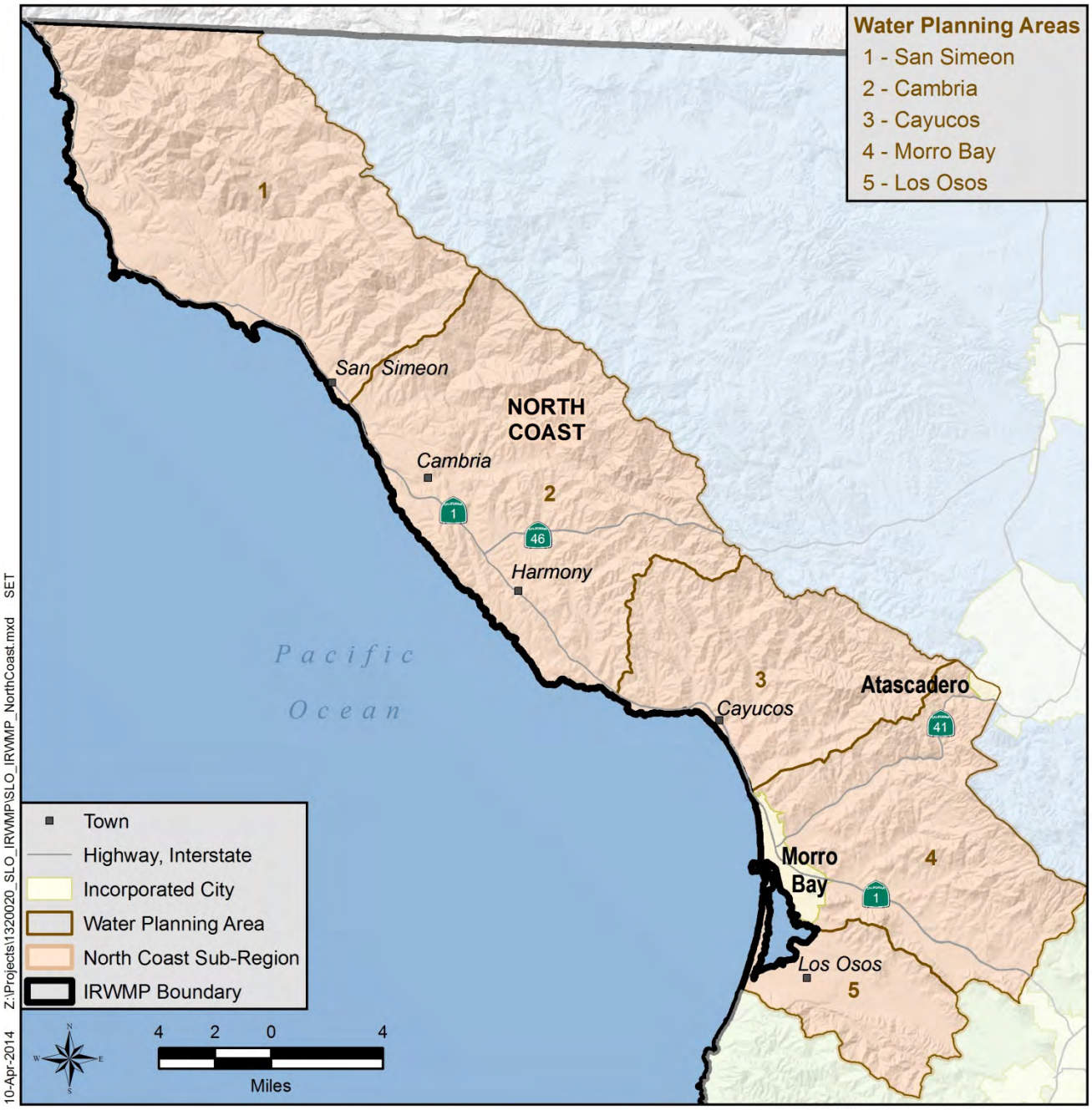


Figure C-3. North Coast Sub-Region

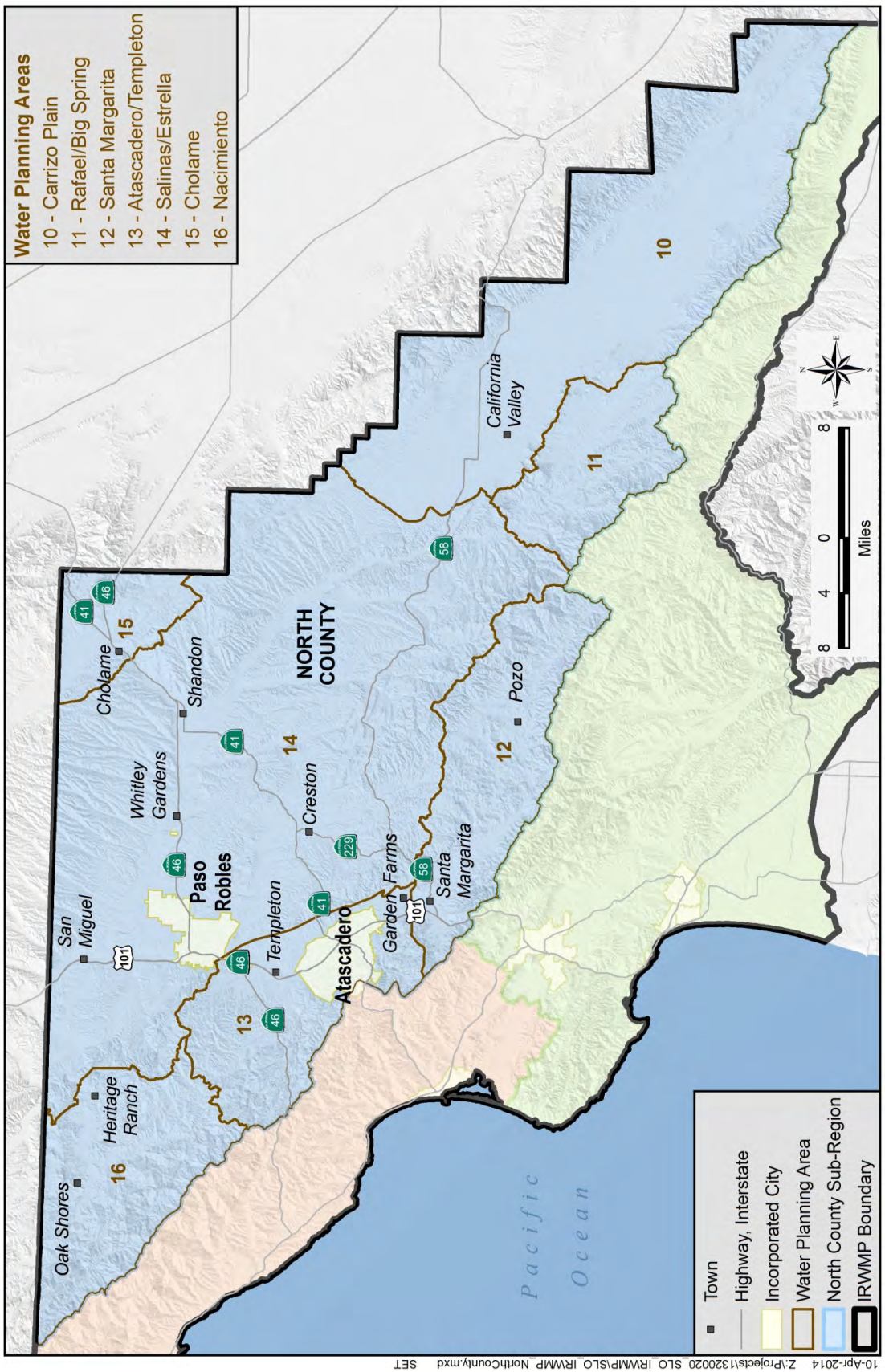


Figure C-4. North County Sub-Region

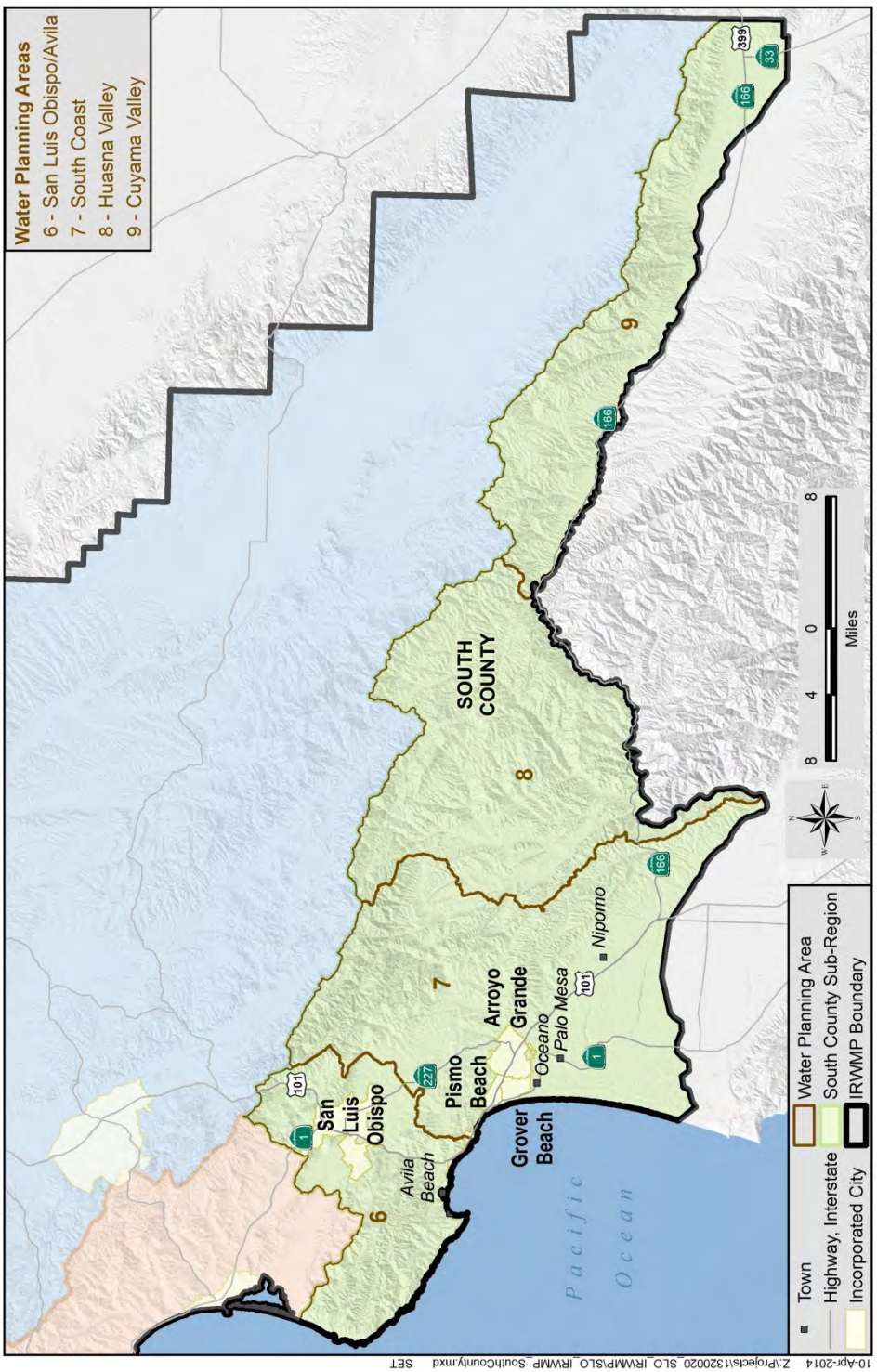


Figure C-5. South County Sub-Region

C.3.4 Internal Boundaries within Each of the Sub-Regions

Table C-1 below summarizes the relationship between the Sub-Regions, the Water Planning Areas and other notable boundaries that assist in defining the IRWM region. Watershed and Water Supplier descriptions follow the brief description of the WPAs.

Table C-1. Internal Boundaries within the San Luis Obispo IRWM Region

Sub-Region	WPA	Local Governments, Communities, Places of Interest	Watersheds	Water Suppliers
North Coast	1. San Simeon	• Community of San Simeon • Hearst Ranch	2. San Simeon-Arroyo de la Cruz	• San Simeon CSD
	2. Cambria	• Town of Cambria	1. Big Creek – San Carpoforo 3. Santa Rosa Creek	• Cambria CSD
	3. Cayucos	• Community of Cayucos	4. Cayucos Creek- Whale Rock Area	• Morro Rock MWC • Paso Robles Beach Water Association • CSA 10A • Cayucos Cemetery District
	4. Morro Bay	• California Men's Colony • Cuesta College • Camp San Luis Obispo (National Guard) • County Office of Education • County Operational Center • City of Morro Bay	4. Cayucos Creek- Whale Rock Area 5. Morro Bay	• California Men's Colony • Cuesta College • Camp San Luis Obispo (National Guard) • County Office of Education • County Operational Center • City of Morro Bay
	5. Los Osos	• Community of Los Osos	5. Morro Bay	• Los Osos CSD • S&T MWC • Golden State Water Company
South County	6. San Luis Obispo/ Avila	• Cal Poly San Luis Obispo • Community of Avila Beach • Port San Luis • City of San Luis Obispo	6. Irish Hills Coastal Watershed 7. San Luis Obispo Creek	• Cal Poly San Luis Obispo • Avila Beach CSD • Avila Valley MWC • San Miguelito MWC • CSA 12 • Port San Luis • City of San Luis Obispo

Sub-Region	WPA	Local Governments, Communities, Places of Interest	Watersheds	Water Suppliers
	7. South Coast	• Community of Nipomo • Community of Oceano • Palo Mesa Village • City of Pismo Beach • City of Arroyo Grande • City of Grover Beach	9. Arroyo Grande Creek 11. Nipomo Suey Creeks 8. Pismo Creek 10. Santa Maria River	• Oceano CSD • City of Pismo Beach • City of Arroyo Grande • City of Grover Beach • Golden State Water Company • Nipomo CSD • Rural Water Company • Woodlands Mutual Water Company • Conoco Phillips
	8. Huasna Valley		13. Alamo Creek 14. Cuyama River 12. Huasna River	
	9. Cuyama Valley		14. Cuyama River	
North County	10. Carrizo Plain	• Community of California Valley	15. Black Sulphur Spring 16. Soda Lake	
	11. Rafael/ Big Spring		17. Upper San Juan Creek 18. Lower San Juan Creek	
	12. Santa Margarita	• Village of Pozo • Community of Santa Margarita • Santa Margarita Ranch	19. Upper Salinas-Santa Margarita Area	• CSA 23 • Santa Margarita Ranch
	13. Atascadero/ Templeton	• Community of Templeton • Community of Garden Farms • City of Atascadero	20. Mid Salinas- Atascadero Area	• Garden Farms CWD • Templeton CSD • Atascadero MWC
	14. Salinas/ Estrella	• Community of San Miguel • Community of Shandon • Village of Whitley Gardens • Village of Creston • Camp Roberts • City of Paso Robles	23. Estrella River 22. Huer Huero Creek 18. Lower San Juan Creek 17. Upper San Juan Creek	• San Miguel CSD • Camp Roberts • CSA 16 (Shandon) • City of Paso Robles
	15. Cholame	• Community of Cholame	24. Cholame Creek	
	16. Nacimiento	• Heritage Ranch • Community of Oak Shores	25. Nacimiento River	• Nacimiento Water Company • Heritage Ranch CSD

C.4 GROUNDWATER BASINS

There are 24 groundwater basins and 10 sub-basins[1] in the San Luis Obispo IRWM Region. See **Figure C-6** for a comprehensive view of both DWR-listed groundwater basins and smaller

[1] The Santa Maria Groundwater Basin was divided into three Management Areas as a result of adjudication

unlisted groundwater basins essential to the region's water supply. This section condenses the highly detailed descriptions of the groundwater resources based on the 2012 Master Water Report and 2014 Watershed Management Planning Project Study (Watershed Snapshot Study).

Groundwater is essential to the region's water supply portfolio, so this IRWM Plan includes discussion of:

- current sustainable yield (if available)
- known active storage volumes
- known water quality
- supply quantity challenges
- on-going management efforts

For additional groundwater basin detail, please see **Appendix L – Groundwater Basin Descriptions**. Additional information of the region's geology can be found in **Section C.7 Watersheds**.

Table C-2 provides a very brief description of the various groundwater basins and sub-basins within the IRWM region, and is organized based on Sub-Region, WPA, and then by Groundwater Basin (or Sub-Basin) listed in the order of each of the WPAs. See larger size groundwater basin delineations in each of the WPA figures in the following section.

Any asterisk following any basin in **Table C-2** indicates the County of San Luis Obispo Planning Department has determined that the basin is currently at a Level III severity rating (resource capacity has been met or exceeded) due to poor water quality, and/or historic groundwater level declines and resulting groundwater storage losses. Consequently, water conservation measures, basin management activities, and new growth restrictions are taking place in those basins. The term "Not Available" is used where information is not available and studies should be done to develop a baseline of information (e.g., current water quality characteristics for each basin). Any listed Sub-Basin's are italicized and indented, and share information with the primary groundwater basin unless a significant separation exists and data is available. A thorough water budget accounting of groundwater, including other water supplies, is provided in **Section D – Water Supply, Demand, and Water Budget**.

proceedings – the Nipomo Mesa Management Area, the Northern Cities Management Area and the Santa Maria Valley Management Area.

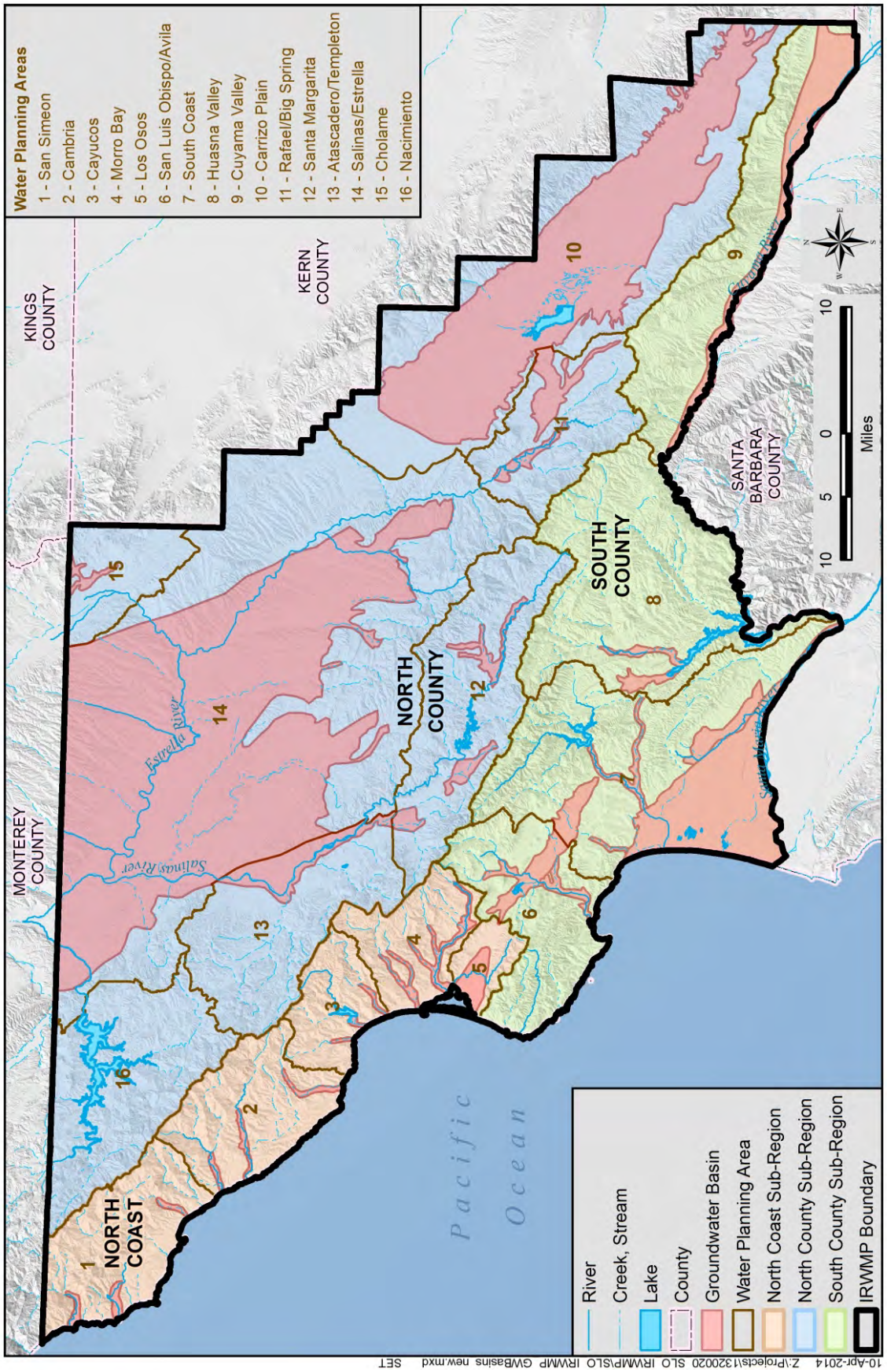


Figure C-6. Groundwater Basins

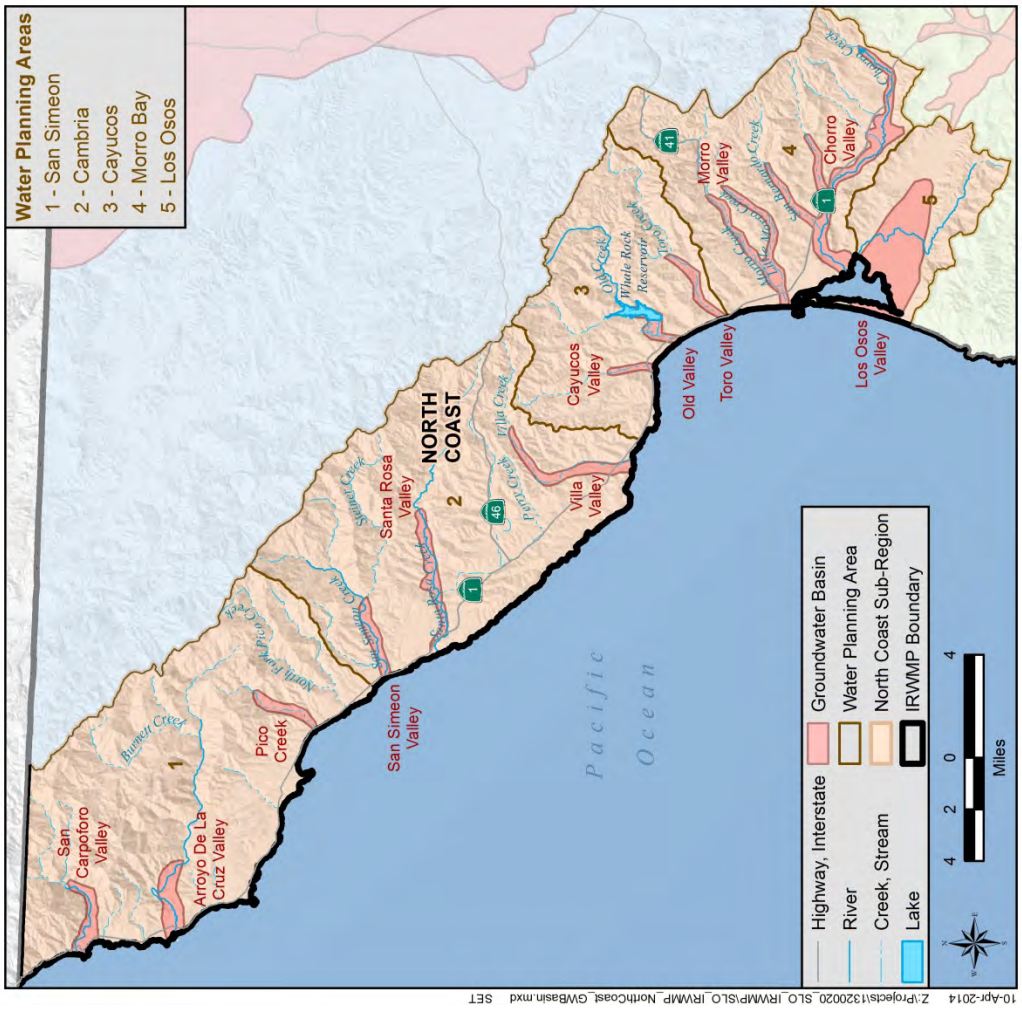


Figure C-7. North Coast Groundwater Basins

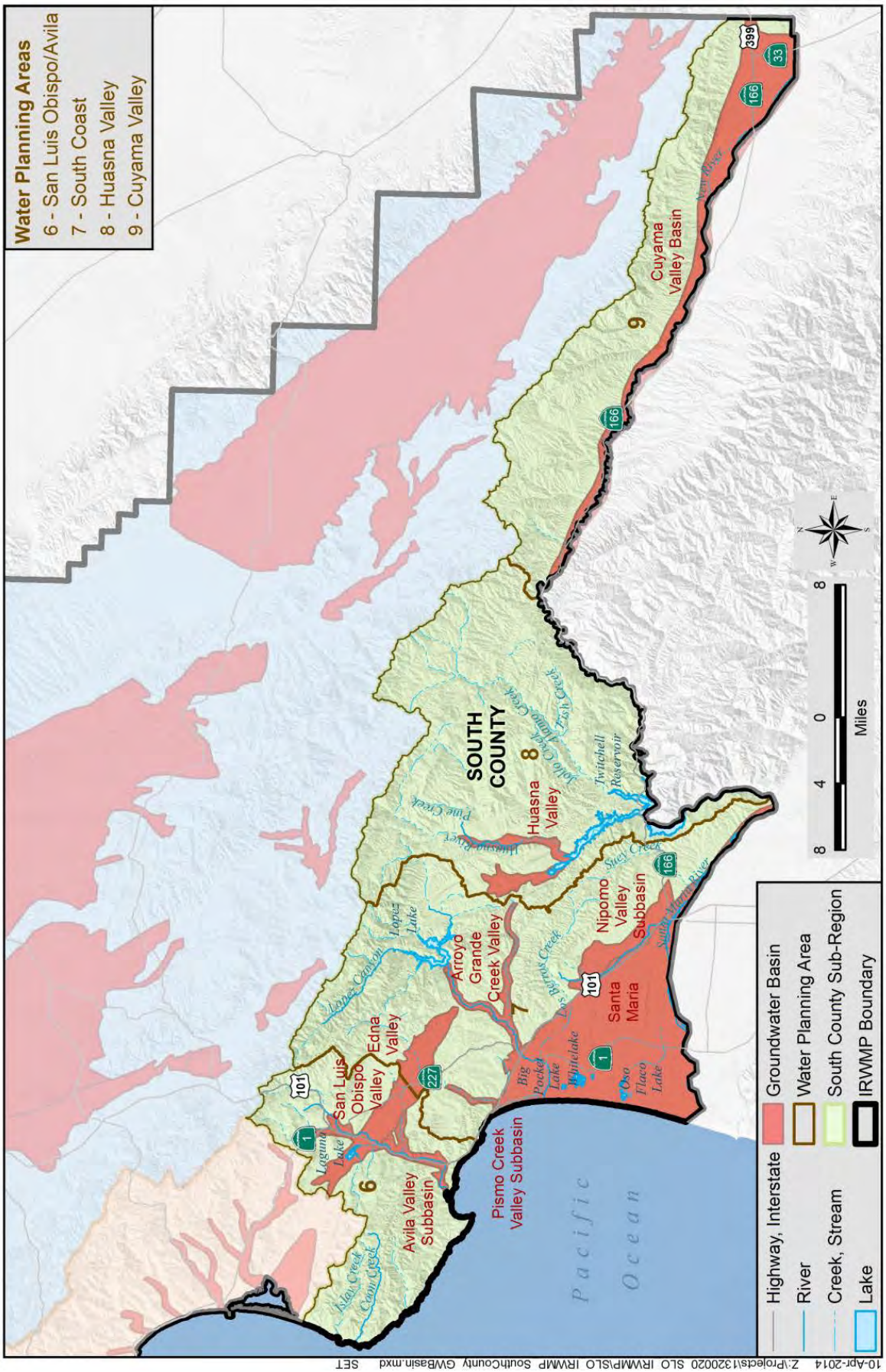


Figure C-8. South County Groundwater Basins

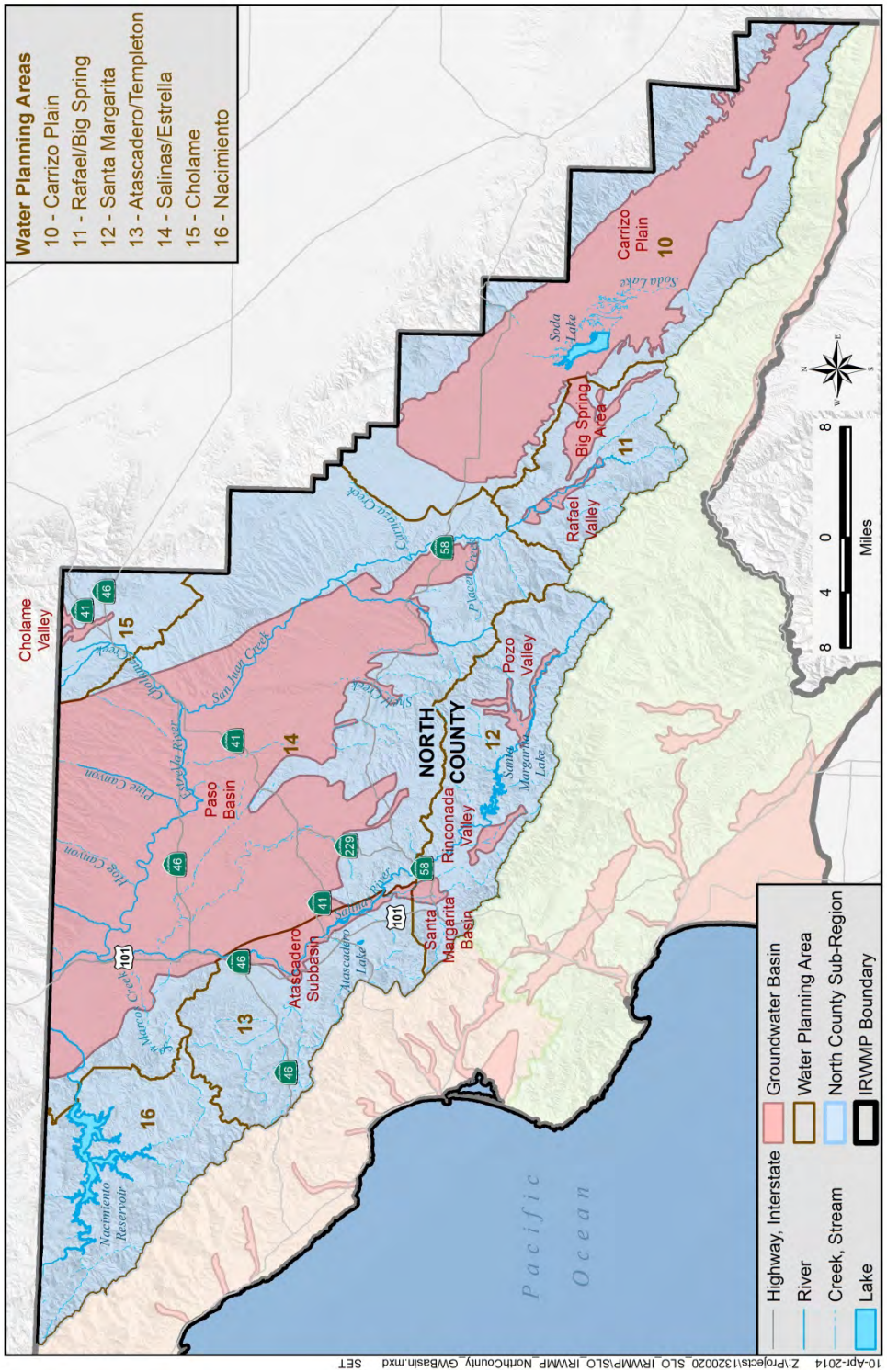


Figure C-9. North County Groundwater Basins

Table C-2. Groundwater Basins within the San Luis Obispo IRWM Region

Sub-Region	WPA	Figure Page Number	Groundwater Basins	DWR Basin ID	Size (Ac)	Long Term Average Sustainable Yield (AFY)	Storage Rating or Value (AFY) and Aquifer Thickness (##ft)	Water Quality (mg/l)	Management Challenges						On-Going Management Efforts					
									Low Storage	Low Recharge	Pesticides/MTBE/PCE	Salinity/Nitrates	Meeting Demands/ Water Rights	Basin Levels	Water Conservation	Growth Restrictions	Treatment Discharges/Environ	GMP BMO Implement/Adjudication	Recycled Water	Reservoir Releases/ Weirs
North Coast	1 – San Simeon		1. San Carpoforo Valley	3-33	200	Not Available	1,800	Not Available	X	X		X				X				
			2. Arroyo De La Cruz Valley	3-34	750	1,244	6,600	Not Available			X	X				X				
			3. Pico Creek Valley*	NA	62.5	120	40 (19)	Not Available	X	X		X		X	X	X	X			
	2 – Cambria		4. San Simeon Valley***	3-35	620	1,040[4]	4,000 (120ft)	TDS[2] – 46 to 2210	X	X		X		X	X	X	X			
			5. Santa Rosa Valley***	3-36	4,480	2,260[1]	24,700	Cl[3]–80 to 933					X	X	X	X	X			
			6. Villa Valley	3-37	980	1,000[4]	Low (50ft)	TDS– 500	X	X		X	X	X	X	X				
	3 – Cayucos		7. Cayucos Valley	3-38	580	600	Low (68ft)	TDS– 500		X		X	X	X	X	X				
			8. Old Valley	3-39	750	505	Low (72ft)	TDS– 440	X			X	X		X	X				X
			9. Toro Valley	3-40	510	532	Low (50-80ft)	Cl–129 TDS–400 to 700	X	X	X[5]	X	X	X	X	X				
	4 – Morro Bay		10. Morro Valley	3-41	1,200	1,500[6]	Low (80ft)	TDS–400 to 800 N[6]–220	X	X		X	X	X	X	X	X		X	
			11. Chorro Valley	3-42	1,900 to 3,200	2,210[7]	Low (50-70ft)	TDS–500 to 700	X	X		X	X	X	X	X	X		X	X
	5 – Los Osos		12. Los Osos Valley*	3-8	6,400	3,200	High with Multiple Aquifer Layers	TDS–200 to 400 N[6]–45	X	X		X	X	X				X		X

Table C-2.Groundwater Basins within the San Luis Obispo IRWM Region, Continued

Sub-Region	WPA	Figure Page Number	Groundwater Basins	DWR Basin ID	Size (Ac)	Long Term Average Sustainable Yield (AFY)	Storage Rating or Value (AFY) and Aquifer Thickness (##ft)	Water Quality (mg/l)	Management Challenges						On-Going Management Efforts					
									Low Storage	Low Recharge	Pesticides/MTBE/PCE	Salinity/Nitrates	Meeting Demands/ Water Rights	Basin Levels	Water Conservation	Growth Restrictions	Treatment Discharges/Environ	GMP BMO Implement/Adjudication	Recycled Water	Reservoir Releases/ Weirs
South County	6 – San Luis Obispo/Avila		13. San Luis Obispo Valley[8]	3-9	13,800	6,000[9]	Low	Not Available	X		X	X		X			X			
			14. ***San Luis Valley Sub-Basin***		8,000	2,000-2,500	Low (60ft)	TDS–320 to 630	X		X	X					X			
			15. ***Avila Valley Sub-Basin***		1,100[10]	Not Available	Low (60ft)	Not Available	X		X	X					X			X
	7 – South Coast		16. ***Edna Valley Sub-Basin***		4,700	4,000-4,500	Low	TDS–630 to 780	X			X		X			X			
			17. Santa Maria River Valley[11]	3-12	184,000	See Note 11	High	Not Available				X	X	X	X	X	X	X		X
			18. ***Arroyo Grande Valley Sub-Basin***		3,860	Not Available	Medium (100ft)	TDS–>1,500[12]	X			X	X				X	X		X
			19. ***Nipomo Valley Sub-Basin***		6,230	Not Available	Not Available	TDS–750 to 1,300 Cl–64 to 130 N–3.4	X			X		X				X		X
			20. ***Pismo Creek Valley Sub-Basin[13]***		1,220	>200 (no max is available)	Low (60 to 70ft)	TDS–620	X					X			X	X		
	8 – Huasna Valley		21. Huasna Valley	3-45	4,700	Not Available	Not Available	Not Available	X					X						
	9 – Cuyama Valley		22. Cuyama Valley Basin*	3-13	147,200	9,000-13,000 (8,000 net consumptive use)	High (150 to 250)	TDS–755 to 1,000 N–400 (shallow wells)				X	X	X	X	X				

Table C-2. Groundwater Basins within the San Luis Obispo IRWM Region, Continued

Sub-Region	WPA	Figure Page Number	Groundwater Basins	DWR Basin ID	Size (Ac)	Long Term Average Sustainable Yield (AFY)	Storage Rating or Value (AFY) and Aquifer Thickness (##ft)	Water Quality (mg/l)	Management Challenges							On-Going Management Efforts						
									Low Storage	Low Recharge	Pesticides/MTBE/PCE	Salinity/Nitrates	Meeting Demands/ Water Rights	Basin Levels	Water Conservation	Growth Restrictions	Treatment Discharges/Environ	GMP BMO Implement/Adjudication	Recycled Water	Reservoir Releases/ Weirs
North County	10 – Carrizo Plain		23. Carrizo Plain	3-19	173,000	8,000-11,000	High (3,000ft)	TDS–161 to 94,750	X			X		X	X	X				
	11 – Rafael/ Big Spring		24. Rafael Valley	3-46	2,990	Not Available	Not Available	Not Available		X										
			25. Big Spring Area	3-47	7,320	Not Available	Not Available	Not Available		X										
	12 – Santa Margarita		26. Pozo Valley	3-44	6,840	1,000	Low (30ft)	TDS–287 to 676	X	X		X		X						
			27. Rinconada Valley	3-43	2,580	Not Available	Not Available	Not Available	X	X										
			28. Santa Margarita	NA	NA	400-600	High (multiple aquifer layers)	TDS–400 to 490		X				X						
	13 – Atascadero/ Templeton		29. Paso Robles*	3-4.06	505,000	97,700	Low to Medium (30 to 130 ft Upper Unconfined)	2008 WQ Report Showed Below Primary Drinking Water Standards. Low to Medium concentrations of Arsenic and Barium are present.	X	X		X	X	X	X	X		X	X
			30. ***Atascadero Sub-Basin****				Medium (100ft)		X	X		X	X	X	X	X				

Table C-2.Groundwater Basins within the San Luis Obispo IRWM Region, Continued

Sub-Region	WPA	Figure Page Number	Groundwater Basins	DWR Basin ID	Size (Ac)	Long Term Average Sustainable Yield (AFY)	Storage Rating or Value (AFY) and Aquifer Thickness (##ft)	Water Quality (mg/l)	Management Challenges						On-Going Management Efforts					
									Low Storage	Low Recharge	Pesticides/MTBE/PCE	Salinity/Nitrates	Meeting Demands/ Water Rights	Basin Levels	Water Conservation	Growth Restrictions	Treatment Discharges/Environ	GMP BMO Implement/Adjudication	Recycled Water	Reservoir Releases/ Weirs
	14 – Salinas/ Estrella		See Paso Robles Above.																	
	15 – Cholame		31. Cholame Valley	3-5	39,800	Not Available	Medium to High (100 to 665ft)	Not Available												
	16 - Nacimiento		No Regional Groundwater Basins																	

* The County of San Luis Obispo Planning Department has recommended that the basin is currently at a Level III severity rating (resource capacity has been met or exceeded) due to either, water quality, historical groundwater level declines and resulting groundwater storage losses.

** The County of San Luis Obispo Planning Department has recommended that the basin is currently at a Level I severity rating (resource capacity has been met or exceeded) due to either, water quality, historical groundwater level declines, and/or resulting groundwater storage losses.

*** The County of San Luis Obispo Planning Department recommended a level of severity, but the level of severity was never certified.

Notes:

1. The State Board allows a maximum extraction of 518 AFY in the Santa Rosa Valley Groundwater Basin and a maximum dry season extraction of 260 AF (Cambria CSD WMP, 2008). The California Coastal Commission Coastal Development Permit defines the Santa Rosa Creek dry period as July 1 to November 20.
2. TDS is typically in the range of 100 to 500 mg/l with an MCL of 500 mg/l

Table C-2. Groundwater Basins within the San Luis Obispo IRWM Region, Continued

3. Chloride (Cl) is typically in the range of 30 to 270 mg/l with an MCL of 250 mg/l
4. The State Water Resources Control Board (State Board) allows 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).
5. Sea water intrusion and petroleum hydrocarbon contamination are the primary constraints.
6. Nitrate MCL is 10 mg/l.
7. Safe yield under drought conditions is estimated at 566 AFY through the State Board.
8. The San Luis Obispo Valley Groundwater Basin is part of WPA 6 and WPA 7 and encompasses approximately 13,800 acres (approx. 21.6 square miles), including the San Luis Valley, Edna Valley, and the newly defined Avila Valley Sub-Basins.
9. The safe yield of the San Luis Obispo Valley Groundwater Basin is estimated at 6,000 AFY, of which 2,000 AFY is assigned to the San Luis Valley Sub-basin, and 4,000 AFY to the Edna Valley Sub-basin (Boyle, 1991; DWR 1997)
10. Estimated based on San Luis Obispo Valley Groundwater Basin area.
11. The Santa Maria Valley Groundwater Basin was adjudicated in 2005 by the Superior Court of California based on 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), the Nipomo Mesa Management Area (NMMA), and the Santa Maria Valley Management Area (SMVMA). The portion of the groundwater basin located in San Luis Obispo County in 1975 was estimated by the Department of Water Resources to contain about 226,000 AF.
12. Downstream sections only. Upstream sections meeting drinking water standards.
13. Pismo Creek Sub-Basin does not lie within the adjudicated areas of the Santa Maria River Valley Basin.

C.5 DESCRIPTION OF WATER PLANNING AREAS (WPAS) AND LOCAL GOVERNMENTS AND COMMUNITIES

The WPAs represent the geographical organization of the County. Water demand, agricultural water needs, sources of supply, and other information are organized by WPA. The WPAs discussed below were intended to recognize important hydrogeologic units or water management areas throughout the County.

In general, the following types of information were used to define the WPAs, but no single approach was followed to delineate every WPA:

- Groundwater basin boundaries
- Watershed boundaries
- Water supplies and management practices
- Urban growth boundaries
- Similar demands and climate
- Similar water supply issues

C.5.1 Reference Information and Level of Detail

This section provides a very brief description of the WPAs and a short statement of continuing issues and concerns (i.e., **Appendix M – Water Planning Area Descriptions** contains the more detailed information for each WPA). The purpose here is to define the WPAs using visual mapping that includes the WPA boundaries, agency locations, groundwater basins, larger infrastructure, sources of water supplies, source of water demands, and general water-related issues.

Understanding that much can be said regarding each of the WPAs, information included in the IRWM Plan for each WPA is summarized from the published 2012 Master Water Report. As stated in **Section C.1 Purpose and Organization**, the descriptive sections following the WPA summaries capture the details at the watershed level (a slightly higher resolution) to better align the reporting data with the defined hydrogeologic features within the three Sub-Regions. As a result, there are 16 WPAs and 25 watersheds to describe San Luis Obispo County's water demand and supply data, and natural watershed characteristics, respectively.

C.5.2 North Coast WPAs

C.5.2.1 WPA 1 – San Simeon

The San Simeon WPA encompasses the community of San Simeon, Hearst Ranch, agricultural, and other rural overlying users in the northern-most area of the North Coast Sub-Region (see **Figure C-10**). The primary groundwater supplies include the San Carpoforo, Arroyo De La Cruz, and Pico Creek Valley Groundwater Basins. The issues in this WPA include seawater intrusion and tidal influences affecting water quality, and limited groundwater basin yield because of a small recharge area.

Community of San Simeon

The unincorporated community of San Simeon is located along Highway 1, north of Cambria. The San Simeon Community Services District (SSCSD) serves an area of about 100 acres, which includes approximately 320 residential dwelling units and over twice that number of hotel/motel units. Though the permanent residential population is estimated at 247, the tourist population can outnumber locals and varies with the season.

The median household income (MHI) is $43,092 (see **Figure C-58**), or 71% of the State MHI and it thereby qualifies as a State-designated Disadvantaged Community (DAC). Motel rooms, restaurants, and other tourist facilities are a major component in the SSCSD water and sewer usage. According to the Draft Community Plan, there were 706 existing hotel/motel units (rooms) in the District service area. The tourist population varies with the season. The majority of jobs for local residents are in the hotel/motel and service industries.

The build-out population is projected to reach 740 residents. The build-out population is the upper range from the San Simeon Community Plan, which assumes 530 dwelling units (DU) and 1.4 persons per DU. The commercial/retail sector constitutes over 70% of the annual demand. Build-out water demand is based on 3,426 gpd/acre for the non-residential sector and 72 gallons per capita per day (gpcd) consumption for residents.

Hearst Ranch

In 2005, the Hearst Corporation created a conservation easement over their lands just north of the community of San Simeon, ensuring that San Simeon's 82,000 acres Hearst Ranch remains a family cattle ranch in perpetuity and largely undeveloped. They also donated thirteen miles of pristine coastline to the people of California, protecting the shoreline from commercial development. Hearst Ranch also includes the well-known Hearst Castle State Park. Their water use is primarily related to the State's maintenance and operations of Hearst Castle and on-site

ranching activities. Historically, Hearst Ranch has also accessed natural spring water sources northeast of the castle's location.

C.5.2.2 WPA 2 – Cambria

The Cambria WPA (see **Figure C-11**) includes the community of Cambria, agricultural, and other rural overlying users between WPA1 to the north and WPA 3 to the south. The primary groundwater supplies include the San Simeon, Santa Rosa, and Villa Valley Groundwater Basins. The issues in this WPA include the potential for seawater intrusion, drought impacts to groundwater supplies, and limited groundwater basin yield.

Community of Cambria

Cambria is an unincorporated town bisected by Highway 1. The Cambria Community Services District (CCSD) provides water and wastewater services to an area of about 4 square miles, including approximately 3900 residential dwelling units and many hotels and other visitor serving businesses. Cambria CSD also provides water and wastewater services to the San Simeon State Park Campground. Tourism is a major contributor to the economy and tends have a greater impact during the summer.

The areas surrounding the Cambria CSD services area are devoted to agricultural uses, primarily grazing. Cambria's existing population is 6,284 residents and the build-out population ranges between 8,257 and 13,547 depending on assumptions.

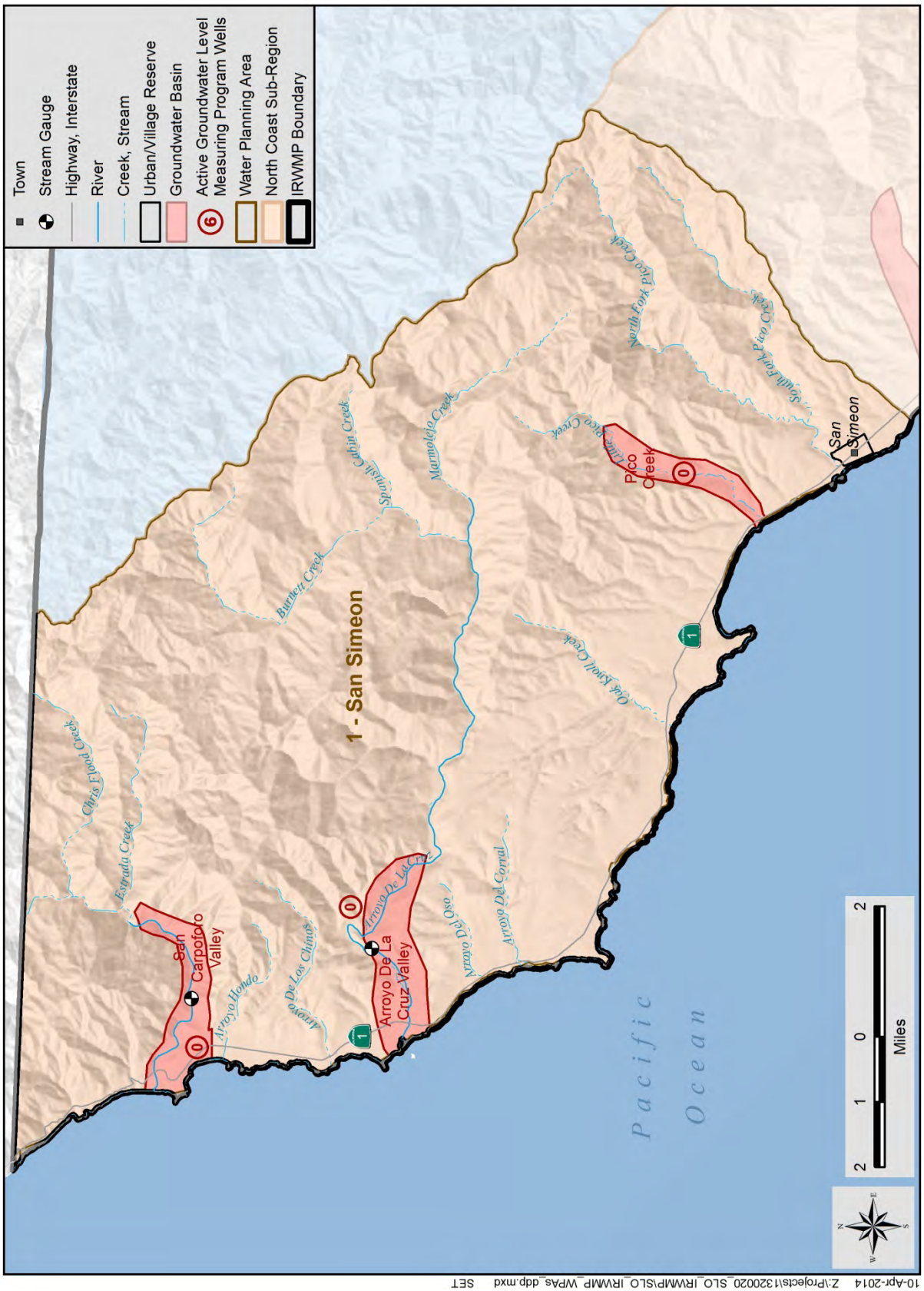


Figure C-10. Water Planning Area No. 1 - San Simeon

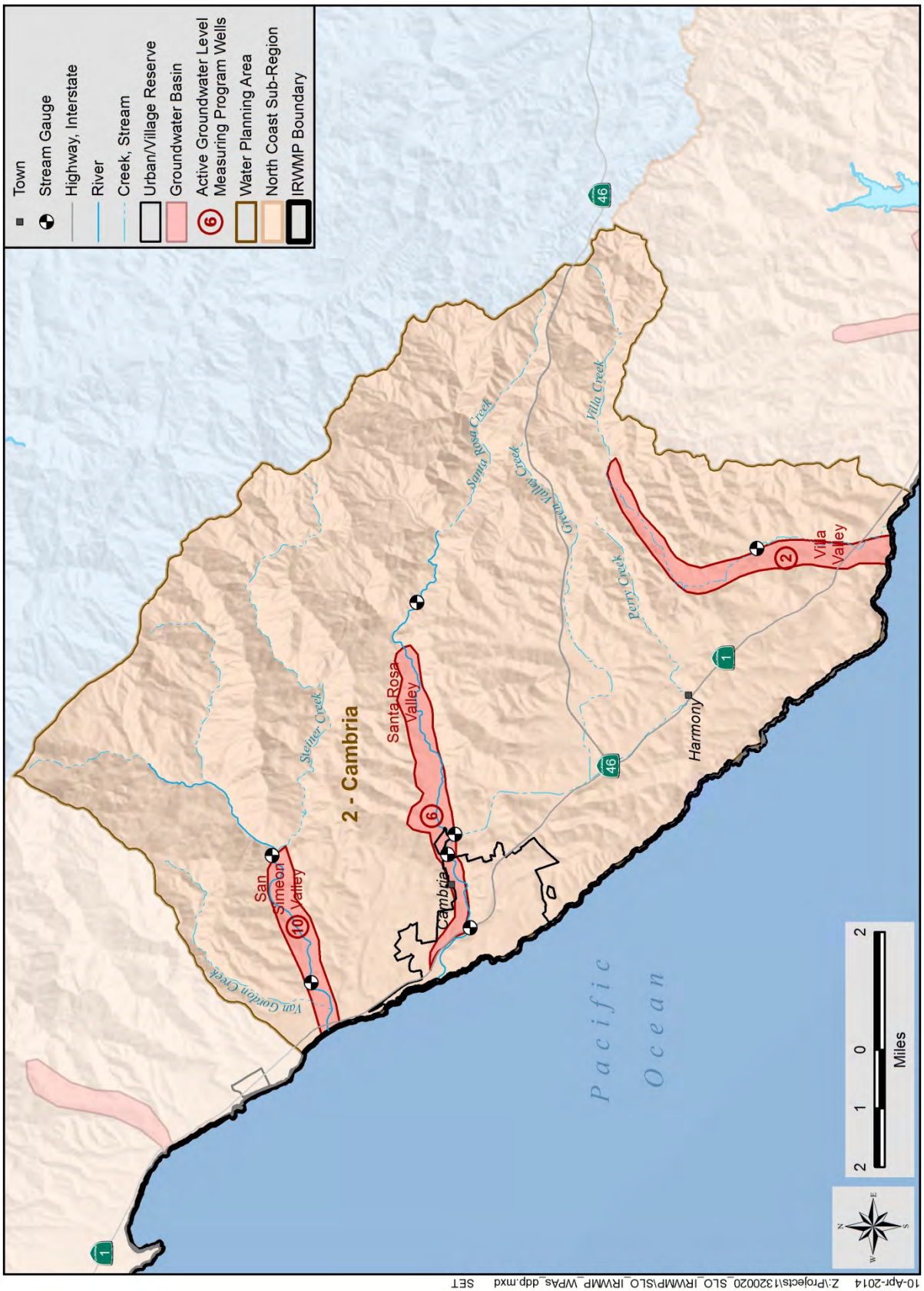


Figure C-11. Water Planning Area No. 2 - Cambria

C.5.2.3 WPA 3 – Cayucos

The Cayucos WPA (see **Figure C-12)** includes the Cayucos Area Water Organization (CAWO) members (Morro Rock Mutual Water Company, Paso Robles Beach Mutual Water Company, County Service Area 10A, and the Cayucos Cemetery District), agricultural, and other rural overlying users. The primary groundwater supplies include the Cayucos, Old and Toro Valley Groundwater Basins. CAWO members receive potable water predominantly from Whale Rock Reservoir. The issues in this WPA include drought impacts to groundwater supplies and limited groundwater basin yield.

Community of Cayucos

Cayucos is a small oceanfront community with a mixture of vacation homes and full-time residences. A commercial sector serves both the residential and tourist population.

C.5.2.4 WPA 4 – Morro Bay

The Morro Bay WPA (see **Figure C-13**) includes the City of Morro Bay, the Chorro Valley Water System (California Men's Colony, Cuesta College, Camp San Luis Obispo (National Guard), County Operations Center/Office of Education), agricultural and other rural overlying users. The only groundwater supplies include the Morro and Chorro Valley Groundwater Basins. Other major supply sources include the State Water Project, ocean water desalination (City of Morro Bay), Whale Rock Reservoir, Chorro Reservoir, and future recycled water from the jointly operated Morro Bay - Cayucos Sanitary District wastewater treatment plant. The issues in this WPA include drought impacts to groundwater supplies and groundwater quality due to high nitrates stemming from private septic systems and salinity intrusion, and availability/reliability of State Water from year to year.

California Men's Colony

The Men's Colony is a medium-security prison north of Highway 1. Including both the East and West Facilities, the total current inmate capacity of the prison is 6,452 persons. Total staff is about 1,700. Significant expansion of the prison is not anticipated.[2]

Cuesta College

The Cuesta College campus on Highway 1 provides community college services and associate of arts degrees. Enrollment in 1994 was 7,880 students. Additional campuses of the college are planned, one in the northern and one in the southern areas of the county. The north county

[2] County of San Luis Obispo, *San Luis Obispo Area Plan*, November 2006.

campus is planned to be established by the year 2002, and the south county campus is planned for the year 2020.[3]

Camp San Luis Obispo (National Guard)

Camp San Luis Obispo provides operational, training and logistical support to a wide variety of civilian and military agencies at federal, state and local levels. These agencies include: 1) the United States Property and Fiscal Office, 2) the California Army and National Guard, 3) the United States Army reserve, 4) the United States Coast Guard Reserve, 5) the California Conservation Corps, 6) the California Specialized Training Institute, 7) Cuesta Community College, and 8) Caltrans. Units of the National Guard, Army Reserve and Active Army occupy facilities at Camp San Luis Obispo for two- to three-week periods of training duty, primarily during the summer months. In the past, the camp has also provided temporary housing and an operational base for firefighting crews during a major wildfire - the Las Pilitas fire. Facilities at the site include training fields, offices, barracks, and a heliport.[4]

County Office of Education

The San Luis Obispo County Office of Education has its administrative office across Highway 1 from the westerly entrance to Cuesta College. The narrow watershed of Pennington Creek contains intensive development near Highway 1 and more extensive outdoor-related educational activities upstream.

County Operational Center

The San Luis Obispo County Operational Center is adjacent to Camp San Luis Obispo. Existing and proposed facilities include: sheriff and county jail complex (including the honor farm), sheriff's pistol range, emergency operations center, storage and maintenance areas for county departments, environmental garage, vehicle maintenance, fuel facility, road yard, animal control center, and a juvenile services center.[5]

City of Morro Bay

The City of Morro Bay provides water service to over 5,500 connections, including over 10,000 residents, businesses, industrial facilities, and public facilities. The population estimate in 2005 was 10,270 according to the 2005 Urban Water Management Plan (2005 UWMP). Its coastal location attracts a large number of tourists during the summer and on weekends. The motels, hotels, restaurants, State Parks, and other facilities serving the tourist population add a

[3] County of San Luis Obispo, *San Luis Obispo Area Plan*, November 2006.
[4] County of San Luis Obispo, *San Luis Obispo Area Plan*, November 2006.
[5] County of San Luis Obispo, *San Luis Obispo Area Plan*, November 2006.

significant water demand to the local population living primarily in single-family residences. The 2005 UWMP assumed a build-out population of 12,900, estimated to be achieved in 2028.

C.5.2.5 WPA 5 – Los Osos

The Los Osos WPA includes the community of Los Osos, agricultural and other rural overlying users (see **Figure C-14**). The primary groundwater supply is the Los Osos Valley Groundwater Basin. The issues in this WPA include drought impacts to groundwater supplies, groundwater quality and documented seawater intrusion.

Community of Los Osos

The unincorporated community of Los Osos is just south of the City of Morro Bay. Los Osos is bordered on the northwest by the Morro Bay Estuary and Morro Bay State Park; to the east by Los Osos Creek and its riparian corridor; and to the south and southwest by the Irish Hills and Montana de Oro State Park. The Los Osos Valley lies to the east of the community.

The community of Los Osos has been subject to a building moratorium since 1988, which has resulted in only limited entitled development since that time. Upon completion of the wastewater project by the County, the moratorium may be lifted (subject to availability of other resource issues such as water supply and habitat conservation).

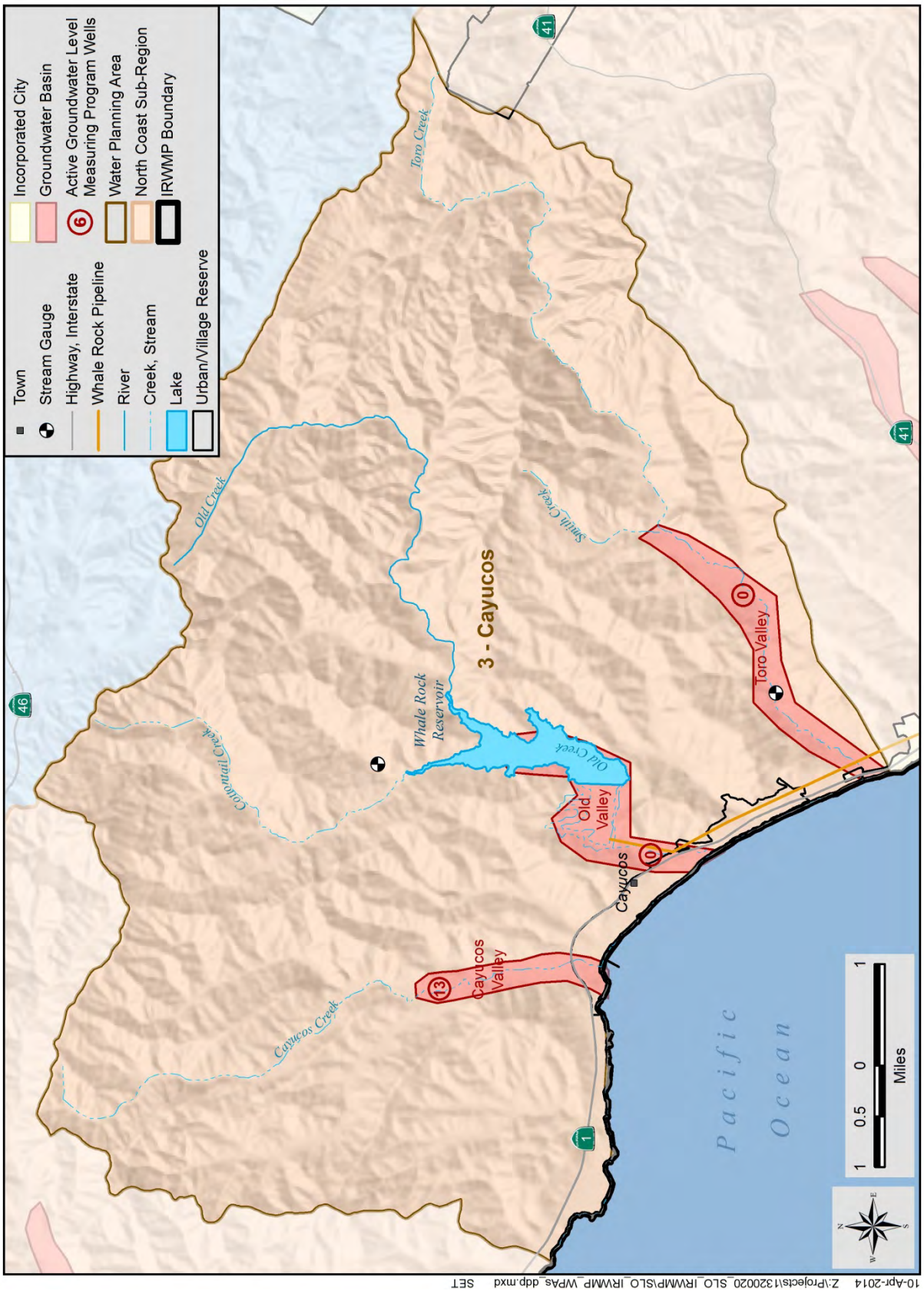


Figure C-12. Water Planning Area No. 3 - Cayucos

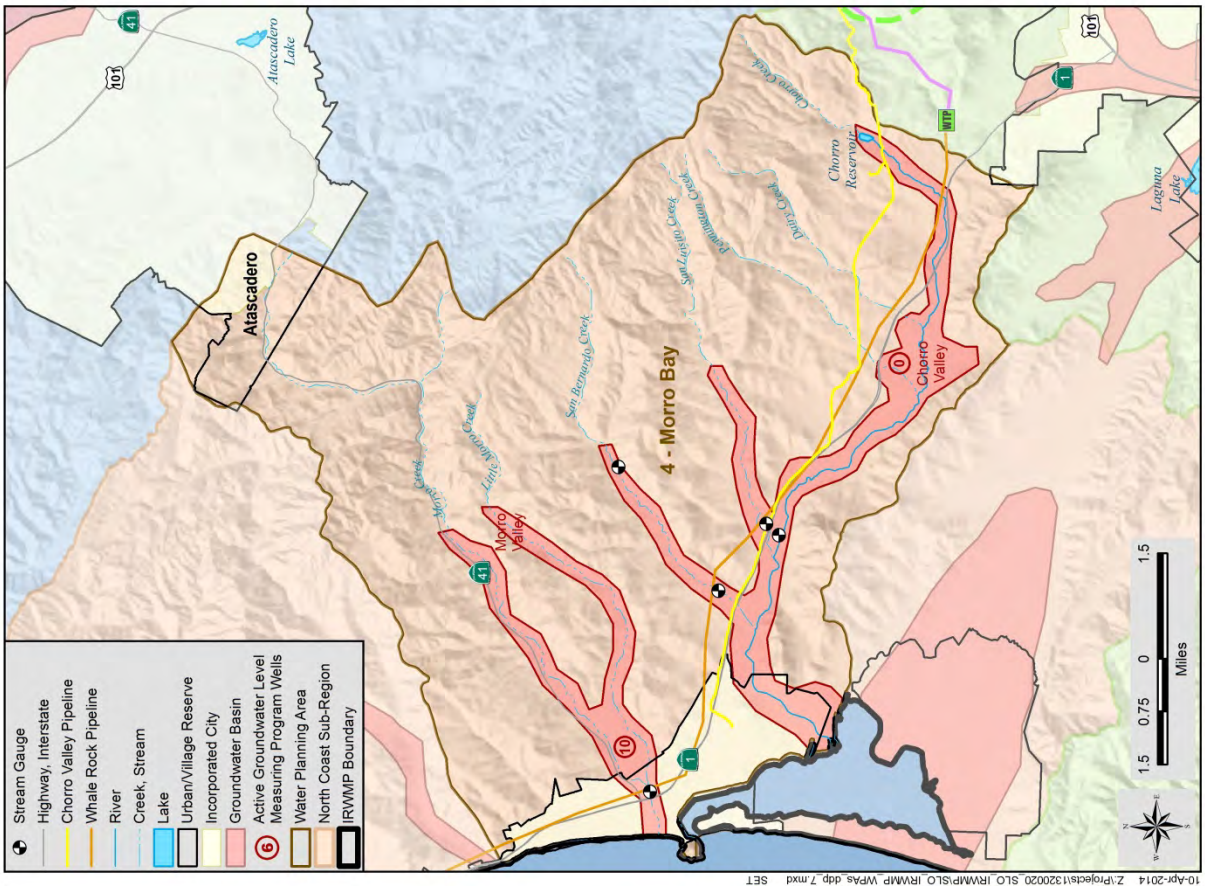


Figure C-13. Water Planning Area No.4 - Morro Bay

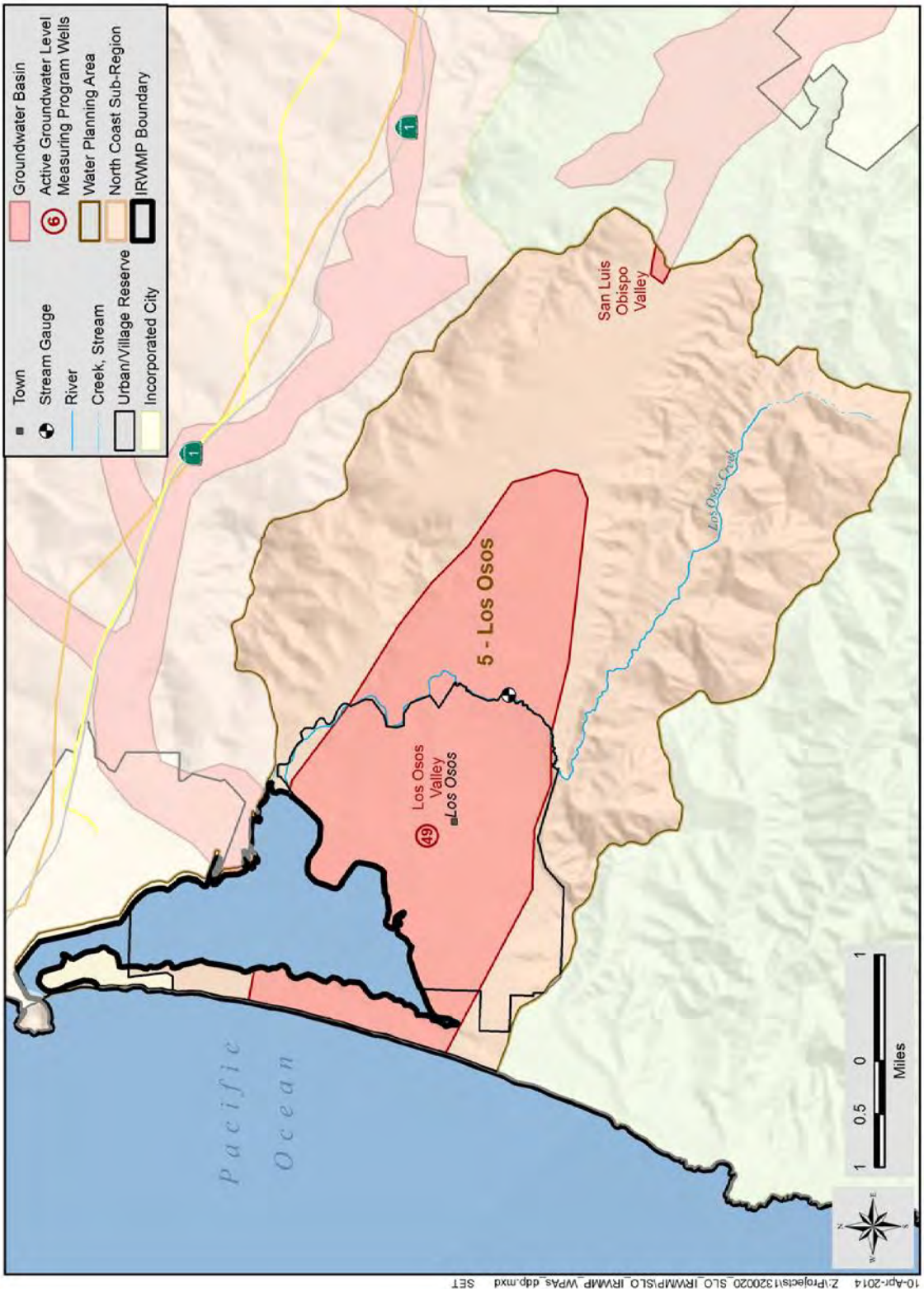


Figure C-14. Water Planning Area No. 5 - Los Osos

C.5.3 South County WPAs

C.5.3.1 WPA 6 – San Luis Obispo/Avila

The San Luis Obispo/Avila WPA (see **Figure C-15**) includes the City of San Luis Obispo, County Airport, Cal Poly, Avila Beach Community Services District (Avila Beach CSD), Avila Valley Mutual Water Company (Avila Valley MWC), San Miguelito Mutual Water Company (San Miguelito MWC), County Service Area 12 (CSA 12), Port San Luis, agricultural, and other rural overlying users. The primary groundwater supplies include the San Luis and Avila Valley Groundwater Sub-basins. Other major supply sources include the State Water Project, Whale Rock Reservoir (located in WPA 3), Salinas Reservoir and the Nacimiento Water Project (see North County Sub-Region WPAs), Lopez Lake Reservoir (located in WPA 3), and recycled water through the City of San Luis Obispo's Water Recycling Program. The issues in this WPA include limited groundwater supplies.

Cal Poly San Luis Obispo

Cal Poly is located to the north of the City of San Luis Obispo. Cal Poly occupies 1,321 acres with a campus core of 155 acres. The university also owns ranches and other outlying properties comprising an additional 8,357 acres. In 2008, Cal Poly's population was:

- Students: 19,471
- Faculty: 1,293
- Staff: 1,752
- Total: 22,516

At build-out, the total population could reach 23,100.

Community of Avila Beach

The unincorporated community of Avila Beach includes an area bounded on the east by Highway 101, the city of Pismo Beach on the south, the coastal zone on the west and the Irish Hills to the north. It includes the Avila Valley area and most of the San Luis Bay Estates residential development. Development in outlying portions of the urban area could lead to substantial population increases that could alter the community character.[6]

[6] County of San Luis Obispo, *Avila Beach Community Plan [Public Review Draft]*, January 2013.

Port San Luis

The Port San Luis Harbor District (Harbor District or District) is the governing agency that provides public services and improvements for the Port and regulates the various commercial and recreational uses at the harbor. The Harbor District shares authority over land uses and development under its ownership with two regulatory agencies: the County of San Luis Obispo and the California Coastal Commission.

City of San Luis Obispo

The City of San Luis Obispo is located in a coastal valley approximately 10 miles inland from the Pacific Ocean. Historically, the City of San Luis Obispo has been the sole water purveyor within its limits. This allowed the city to maintain uniformity of water service and distribution standards, and to be consistent in developing and implementing water policy. The City also serves the County Regional Airport and Cal Poly. Since Cal Poly has its own allocation of water from the Whale Rock Reservoir and has water resources that do not pass through the City's treatment plant, the University is discussed separately.

The City of San Luis Obispo has an existing (2010) population of 44,948 and a 1 percent residential growth cap which assists in projecting future annual water needs. The current General Plan estimates that the build-out population for the City will be approximately 57,200 people.

C.5.3.2 WPA 7 – South Coast

The South Coast WPA (see **Figure C-16**) includes Edna Valley (Golden State Water Company); the Northern Cities Management Area (NCMA), which includes the Cities of Pismo Beach, Arroyo Grande, and Grover Beach, Oceano Community Services District, agricultural and rural overlying users; the Nipomo Mesa Management Area (NMMA), which includes the Golden State Water Company, Nipomo Community Services District (NCSD), Rural Water Company, Woodlands Mutual Water Company (Woodlands MWC), ConocoPhillips, agricultural and rural overlying users; the Santa Maria Valley Management Area (SMVMA), which includes the City of Santa Maria, agricultural, and rural users; and agricultural and rural users outside of the three management areas.

The primary groundwater supplies include the Edna, Pismo Creek, and Arroyo Grande Valley Sub-basins, the Santa Maria Valley Groundwater Basin, and the Pismo Formation. Other major supply sources include the State Water Project, Lopez Lake Reservoir, and recycled water from the City of Pismo Beach Wastewater Treatment Plant. A potential water supply project is the Nipomo Supplemental Water Project. The issues in this WPA include adjudicated groundwater basins, limited groundwater supply, and to some extent groundwater quality.

Community of Nipomo

The town of Nipomo is an unincorporated area located in southern San Luis Obispo County.

Community of Oceano

The community of Oceano is located immediately south of Grover Beach and Arroyo Grande and is about 1,150 acres. Oceano includes residential, commercial, industrial, agricultural, and public facility land uses. Existing population (as of July 2009) is estimated at 8,137 and the forecast population is estimated at 12,855.

The unincorporated community of Oceano qualifies under the State's definition as a disadvantaged community (DAC Block Group MHI = $37,774) (see **Figure C-58**) and consists of predominately Hispanic residents. However, these neighborhoods are contained within a larger community that is clearly not economically disadvantaged. As result, the area has the advantage of equal treatment because of their location within the larger community, but is distinct enough to qualify for various forms of financial assistance to ensure that both basic community infrastructure improvements and community amenities are provided.

Palo Mesa Village

The Palo Mesa village reserve line encompasses approximately 918 acres on the northwest corner of the Nipomo Mesa around the intersection of Halcyon Road and Highway 1.[7]

City of Pismo Beach

The City of Pismo Beach supplies its customers with domestic water service. The dominant economic activity in Pismo Beach is tourism, and as a result, the population of Pismo Beach can more than double during summer holidays. The 2010 population was 7,676 and the forecast build-out population is 11,854.

City of Arroyo Grande

The City of Arroyo Grande supplies its customers with domestic water service. Arroyo Grande is located in the southern portion of San Luis Obispo County along the banks of the Arroyo Grande Creek. Land use is primarily residential and agriculture with a small commercial sector. There are no agricultural or industrial water service connections. In 2010, the service population was 16,901 and the forecast build-out population is 20,000.

[7] County of San Luis Obispo, *South County Villages (Black Lake, Callender-Garrett, Locs Berros, Palo Mesa and Woodlands) [Public Review Draft]*, January 2013.

City of Grover Beach

The City of Grover Beach supplies its customers with domestic water service. Grover Beach is primarily a residential community, with a small commercial/industrial sector. Approximately 80 percent of the water consumers are residents. No agricultural consumers are served by the City water system, though landscape irrigation consumes approximately 90 AFY. In 2010, the population was 13,156. The build-out population is expected to reach 15,000.

C.5.3.3 WPA 8 – Huasna

The Huasna Valley WPA (see **Figure C-17**) includes agricultural and rural users only. There are no large population centers with urban demands in this WPA. The primary groundwater supply is the Huasna Valley Groundwater Basin. The issue in this WPA includes limited available data on the groundwater supply's safe yield.

C.5.3.4 WPA 9 – Cuyama Valley

The Cuyama Valley WPA (see **Figure C-18**) includes agricultural and rural users, and some oil fields. There are no large population centers with urban demands in this WPA. The primary groundwater supply is the Cuyama Valley Groundwater Basin. Twenty-two percent of the groundwater basin is in San Luis Obispo County, and the remainder of the basin resides in the counties of Santa Barbara, Kern, and Ventura. There is no separate yield estimate for the San Luis Obispo County portion. The primary issues in this WPA include critical overdraft of the groundwater basin and degrading water quality.

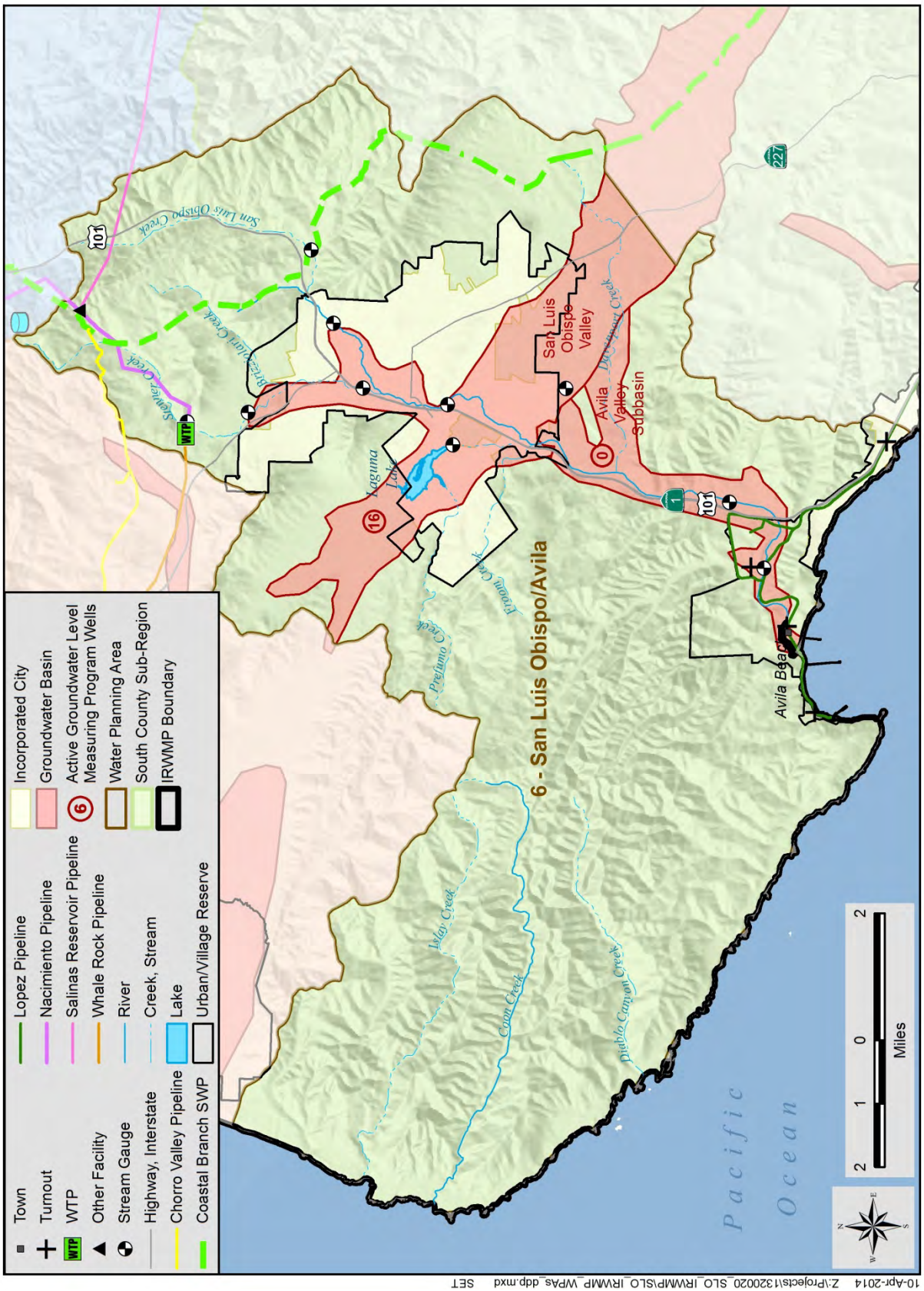


Figure C-15. Water Planning Area No. 6 - San Luis Obispo/Avila

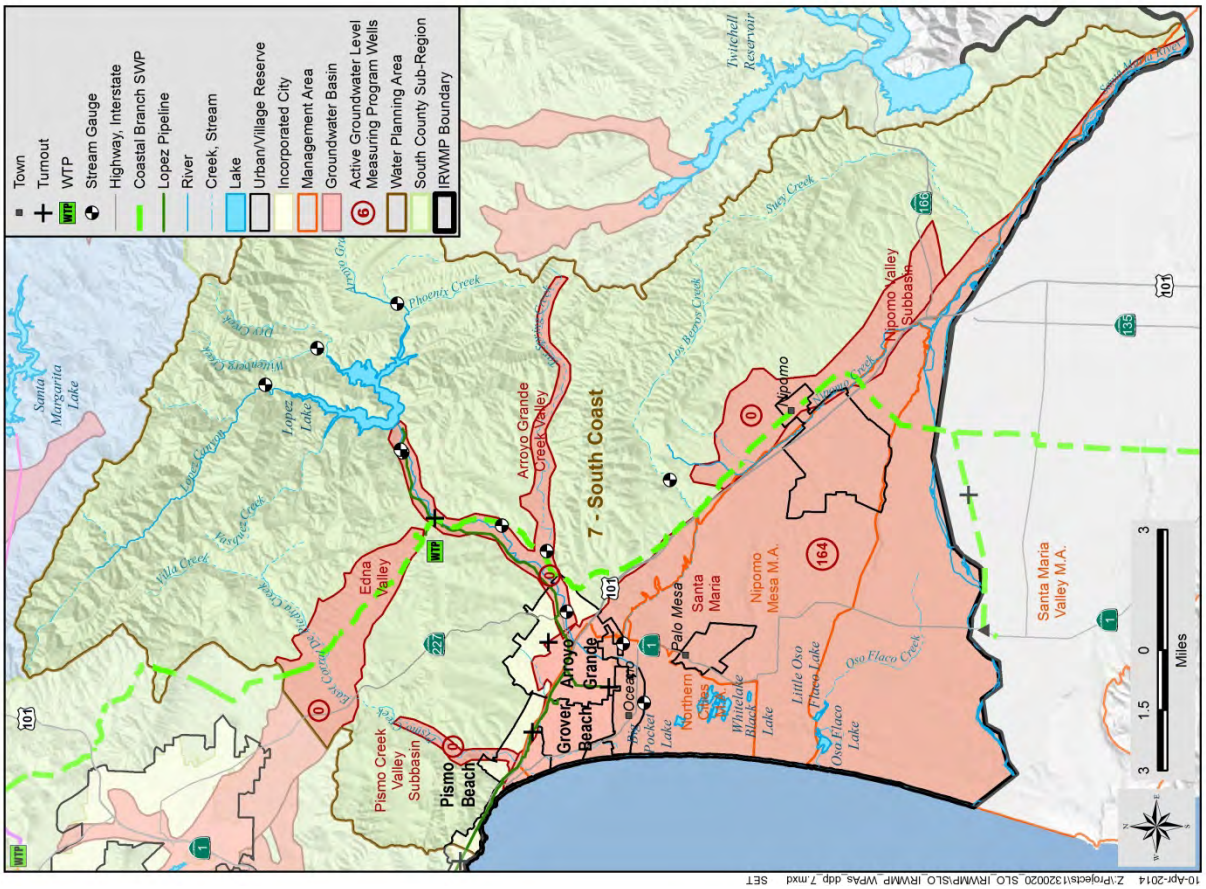


Figure C-16. Water Planning Area No. 7 - South Coast

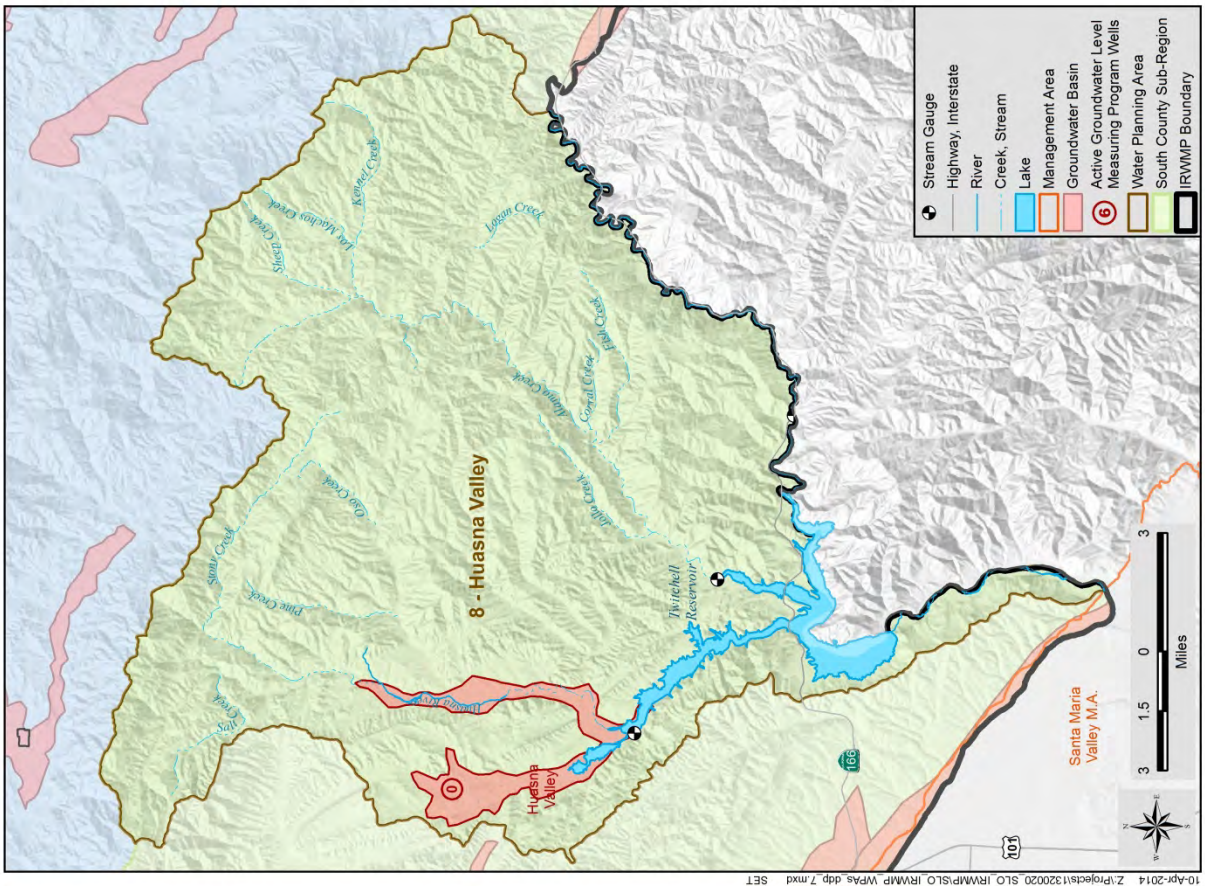


Figure C-17. Water Planning Area No. 8 - Huasna Valley

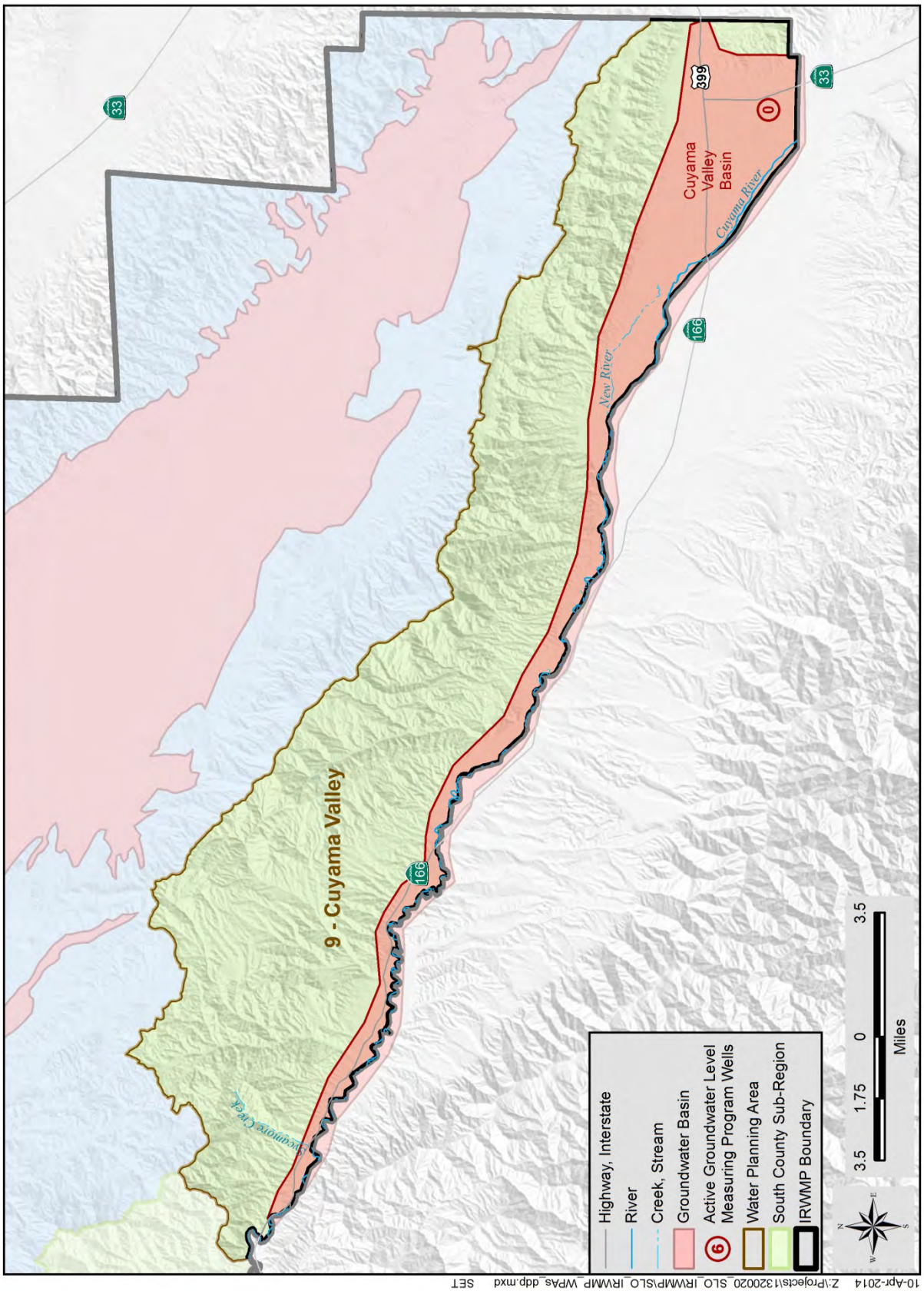


Figure C-18. Water Planning Area No. 9 - Cuyama Valley

C.5.4 North County WPAs

C.5.4.1 WPA 10 – Carrizo Plain

The Carrizo Plain WPA (see **Figure C-19**) includes agricultural and rural users, and potentially future solar farms. There are no large population centers with urban demands in this WPA. The primary groundwater supply is the Carrizo Plain Groundwater Basin. The primary issues in this WPA include water quality and limited groundwater supply.

Community of California Valley

The California Valley village area is home to approximately 2,735 residents (2010) and is located in the Carrizo planning area. It is an undeveloped village settlement encompassing 24,083 acres located on the Carrizo Plain, about 60 miles east of San Luis Obispo. It came into being in 1960, when part of the El Chicote Ranch was subdivided into more than 7,200 2.5 acre "ranchos" and sold through nationwide advertising as "the geographic center of this spectacular California growth area with unbounded future." This proposed new town has never developed and each year many of the subdivided parcels are sold at tax auctions.[8]

C.5.4.2 WPA 11 – Rafael/Big Spring

The Rafael/Big Spring WPA (see **Figure C-20**) includes agricultural and rural users only. There are no large population centers with urban demands in this WPA. The primary groundwater supplies are the Rafael and Big Spring Valley Groundwater Basins. The issue in this WPA includes limited available data on the groundwater basin's safe yield.

C.5.4.3 WPA 12 – Santa Margarita

The Santa Margarita WPA (see **Figure C-21**) includes Santa Margarita Ranch, County Service Area 23, agricultural, and rural users. The primary sources of water supply for this WPA are the Santa Margarita, Rinconada, and Pozo Valley Groundwater Basins, and the Santa Margarita Creek Alluvial Aquifer. The primary issues in this WPA include limited available data on basin safe yield and limited groundwater supply.

Village of Pozo

The village of Pozo consists of approximately 42 acres along Pozo Road in an agricultural area originally known as San Jose Valley.[9]

[8] County of San Luis Obispo, *California Valley Village Plan [Public Review Draft]*, January 2013.
[9] County of San Luis Obispo, *North County Villages Plan (Garden Farms, Pozo and Whitley Gardens) [Public Review Draft]*, January 2013.

Community of Santa Margarita

Santa Margarita has a population of approximately 1,400 and covers an area of approximately 265 acres.

Santa Margarita Ranch

The Santa Margarita Ranch (Ranch) encompasses approximately 14,000 acres and is located immediately east of U.S. Highway 101, and surrounds the community of Santa Margarita. The land currently functions as ranch and vineyard with minimal residential water use. Approximately 96 percent of the water is used by vineyards and other farm operations. An Agricultural Residential Cluster Subdivision (ARCS) is proposed, including 3,778 acres near the middle of the Ranch, southeast of the community of Santa Margarita. A Future Development Program (FDP) is planned in various locations throughout the balance of the property. The proposed ARCS includes 111 large-lot residential units and agricultural reserves. The FDP covers a variety of development types, including 402 residences, a golf course, guest ranch, wineries, and other commercial and recreational facilities.

C.5.4.4 WPA 13 – Atascadero/Templeton

The Atascadero/Templeton WPA (see **Figure C-22)** includes the Templeton Community Services District (Templeton CSD), Atascadero Mutual Water Company, Garden Farms Community Water District, agricultural, and rural users. The primary sources of water supply for this WPA are the Atascadero Groundwater Sub-basin (Paso Robles Formation and Salinas River Underflow), recycled water, and the Nacimiento Water Project. The issues in this WPA include limited basin yield and State managed water rights to the Salinas River underflow (alluvial deposits underlying the Salinas River).

Community of Templeton

Templeton is an unincorporated community located along Highway 101 between the City of Paso Robles and City of Atascadero. Templeton consists of a mix of residential, commercial, agriculture, and recreational areas. The Templeton area has a number of homes on larger lots, and thus exhibits a relatively large per capita water demand as a result.

Community of Garden Farms

Garden Farms is a small residential community of 240 residents with 113 water service connections. Besides two small commercial establishments, all connections are residential.

City of Atascadero

The City of Atascadero is located along Highway 101, between the City of Paso Robles and City of San Luis Obispo. The City of Atascadero consists of a mix of residential, commercial, agriculture, and recreational areas.

C.5.4.5 WPA 14 – Salinas/Estrella

The Salinas/Estrella WPA (see **Figure C-23**) includes the San Miguel Community Services District (San Miguel CSD), Camp Roberts, City of Paso Robles, County Service Area 16 (Shandon), agricultural and rural users. The primary sources of water supply for this WPA are the Paso Robles Groundwater Basin (Paso Robles Formation and Salinas River Underflow) and the Nacimiento Water Project. The issues in this WPA include high increases in water demands, degrading water quality, State-managed water rights to Salinas River underflow, and declining groundwater levels.

Community of San Miguel

San Miguel grew from the founded Mission San Miguel Arcangel in 1797 to a small community in 2010 of 698 households over a 1,705 square mile area. With a 2000 census population of 1,427, San Miguel experienced an annual average 6.4% growth rate to achieve a 2010 population of 2,336. Governance for the small community comes from the San Miguel Community Services District (SMCSD) started by Gregory B. Campbell, a local resident.

The SMCSD is responsible for water, wastewater, fire protection, and street lighting to the community of San Miguel. The majority of the District's residents are low-income households, as shown in Figure C-58, meeting the criteria for federal funding (CDBG, USDA, and others) as a Disadvantaged Community (DAC) by having incomes of $42,176, well below the State's DAC threshold of $48,706. Community of Shandon

Within the existing community of Shandon, build-out service is expected to reach up to 547 service connections. However, the Shandon Community Plan is being updated that could result in a total of 2,200 residential connections and over 50 commercial and public authority service connections. The projected population is approximately 8,125.

Village of Whitley Gardens

The village of Whitley Gardens is a suburban residential settlement located on a relatively flat plain alongside Highway 46 adjacent to the Estrella River. Situated midway between Shandon and Paso Robles, it occupies about 606 acres.[10]

[10] County of San Luis Obispo, *North County Villages Plan (Garden Farms, Pozo and Whitley Gardens) [Public Review*

Village of Creston

Creston is a small community of a 2010 population of less than 100, and is located approximately 12 miles east of Atascadero. Creston (named after Calvin J. Cressy) was founded in 1884 on the Rancho Huerhuero Mexican land grant.

Camp Roberts

Camp Roberts is operated by the California Army National Guard, and covers 42,784 acres. Camp Roberts, located north of the community of San Miguel, is situated in both San Luis Obispo and Monterey Counties. When fully mobilized, the base supports 8,500 people. In the event of a nuclear disaster at Diablo Canyon Nuclear Power Plant, Camp Roberts is an evacuation and staging area for about 23,000 residents within San Luis Obispo County. Base population can be a combination of on-base personnel and civilian personnel that do not live on Base.

City of Paso Robles

The City of Paso Robles is located along Highway 101 in northern San Luis Obispo County. Paso Robles is situated on the upper Salinas River. Paso Robles encompasses a total area of 11,985 acres on both sides of the Salinas River. The City also is situated on the western margin of the Paso Robles Groundwater Basin.

Paso Robles has a strong agricultural base, and remains the major service center for ranching and agriculture in the North County, particularly areas to the east along Highway 46. The City proper is a mix of residential, commercial and industrial land uses, with significant areas devoted to parks and open space. Paso Robles, with a 2005 population of 27,361, is a growing community that could attain a population of 44,000 at build-out.

C.5.4.6 WPA 15 – Cholame

The Cholame WPA (see **Figure C-24**) includes agricultural and rural users only. There are no large population centers with urban demands in this WPA. The primary groundwater supply is the Cholame Valley Groundwater Basin. The issue in this WPA includes limited available data on the groundwater quality and basin safe yield.

C.5.4.7 WPA 16 – Nacimiento

The Nacimiento WPA (see **Figure C-25**) includes Oak Shores, Heritage Ranch Community Services District, agricultural, and rural users. The primary source of water supply for this WPA is Lake Nacimiento. The issue in this WPA is water supply reliability.

Heritage Ranch

Heritage Ranch is an unincorporated community located on the east side of Lake Nacimiento, approximately 15 miles northwest of the City of Paso Robles. Land use at Heritage Ranch consists mostly of residential, recreational, and open space areas with some commercial and public facility areas. A community that was originally started as a remote vacation destination with the vast majority of part-time residents has now become a bedroom community to neighboring cities with full-time residents.

Community of Oak Shores

The Community of Oak Shores is on the banks of Nacimiento Lake with a 2010 population of 337.

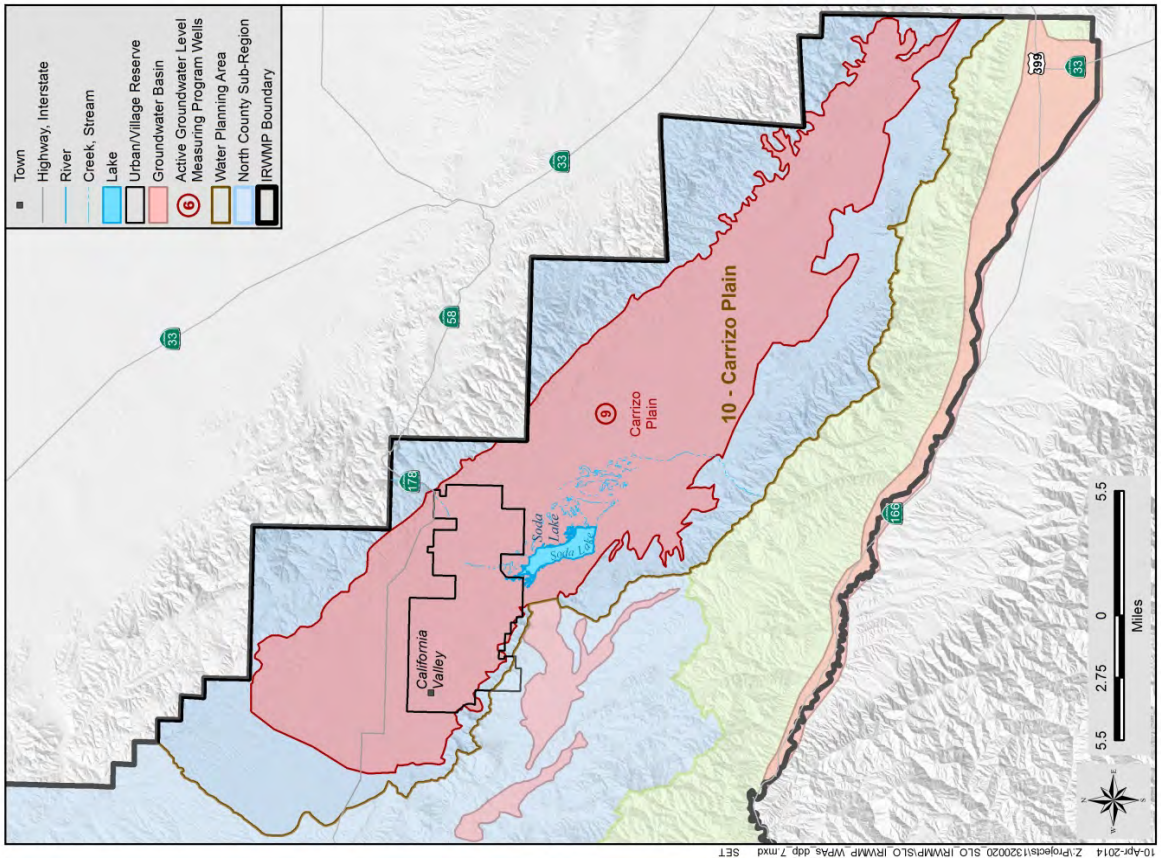


Figure C-19. Water Planning Area No. 10 - Carrizo Plain

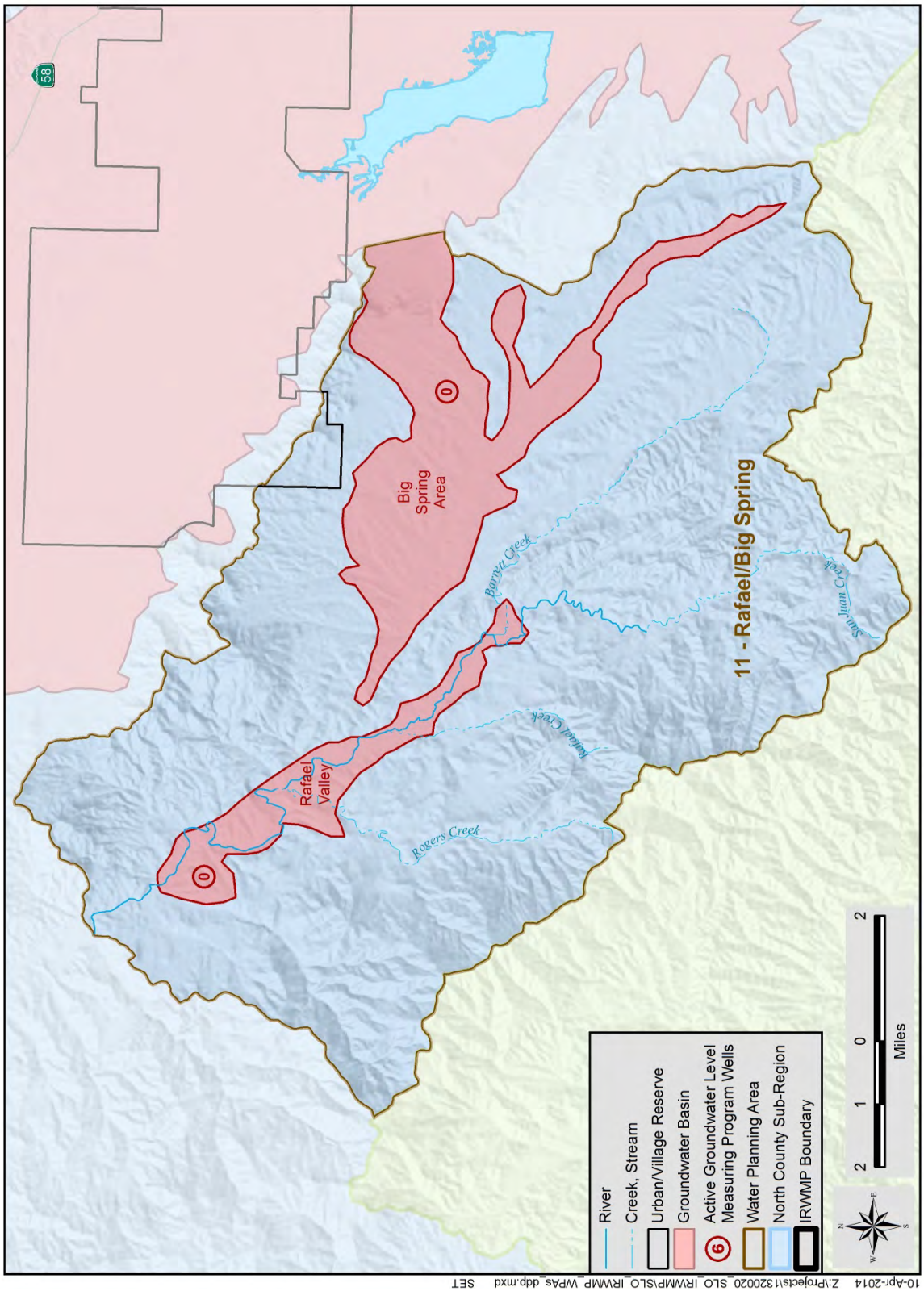


Figure C-20. Water Planning Area No. 11 - Rafael/Big Spring

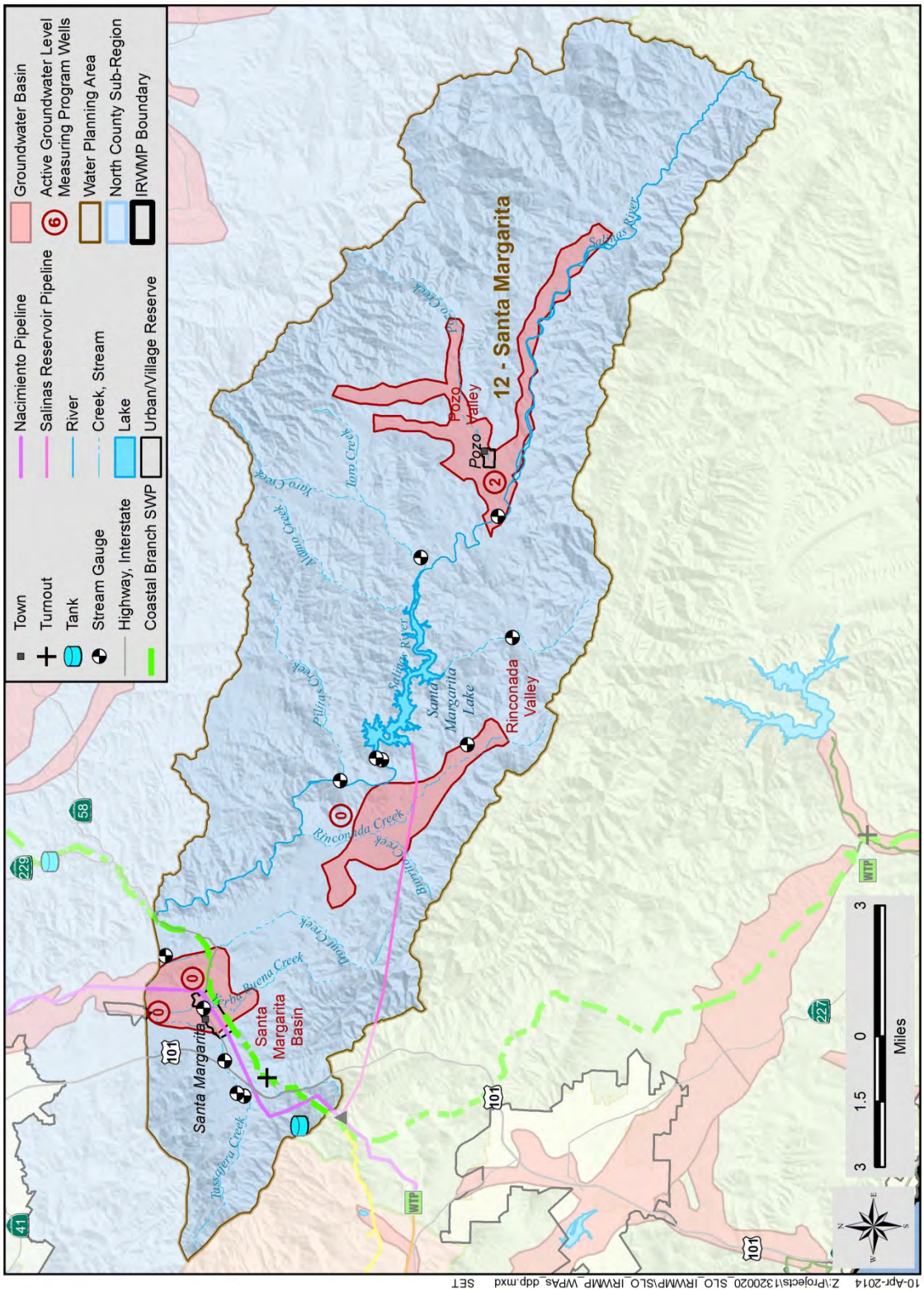


Figure C-21. Water Planning Area No 12 - Santa Margarita

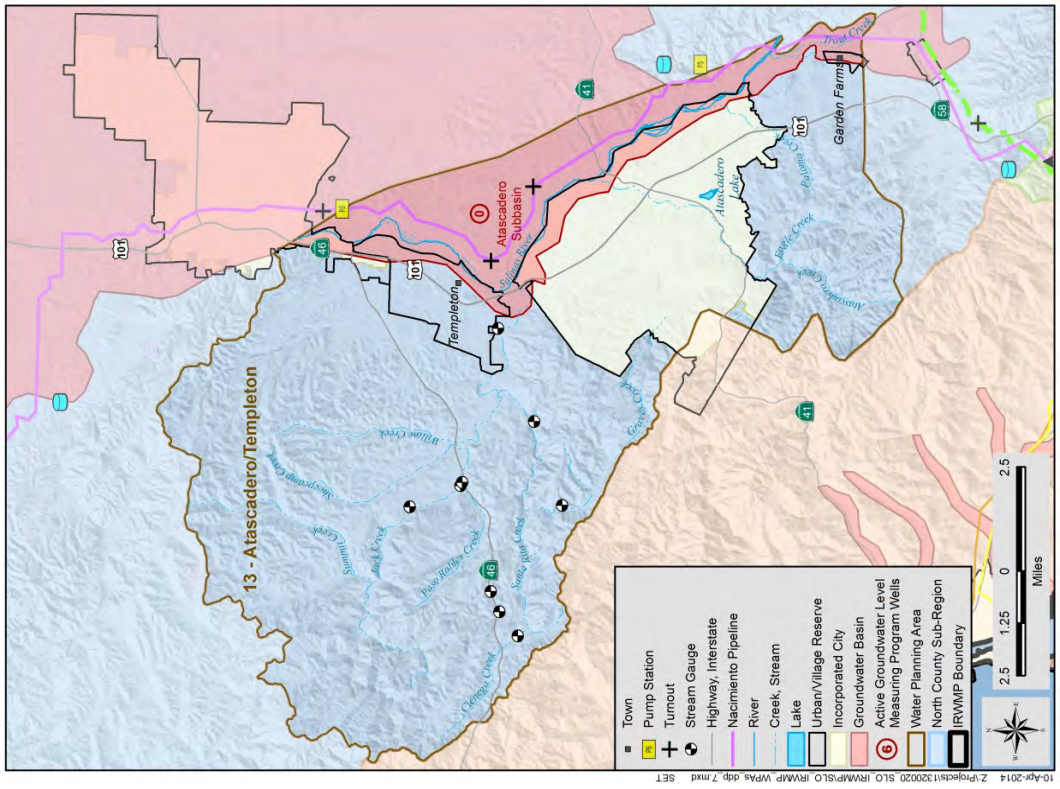


Figure C-22. Water Planning Area No. 13 - Atascadero/Templeton

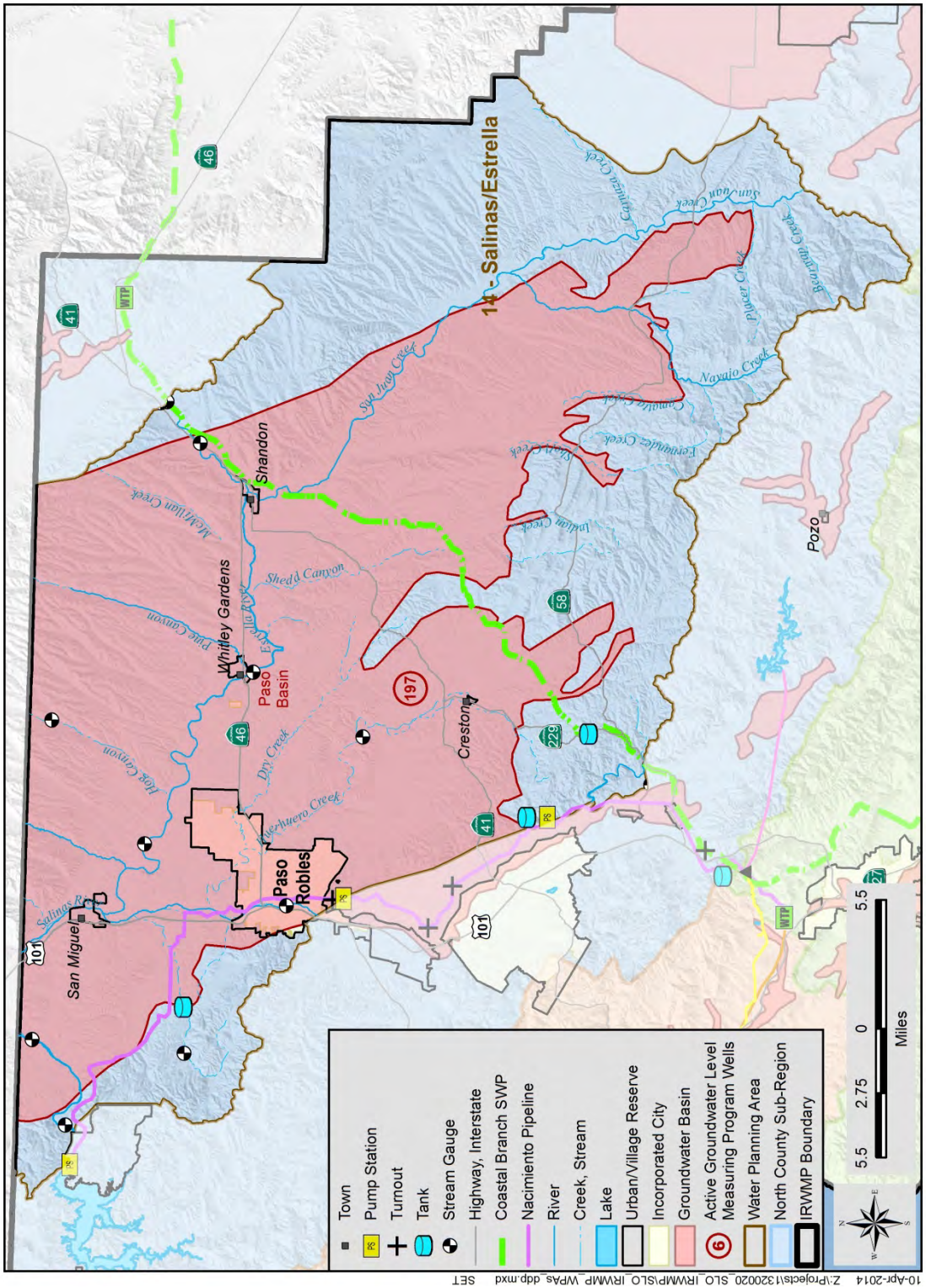


Figure C-23. Water Planning Area No. 14 - Salinas/Estrella

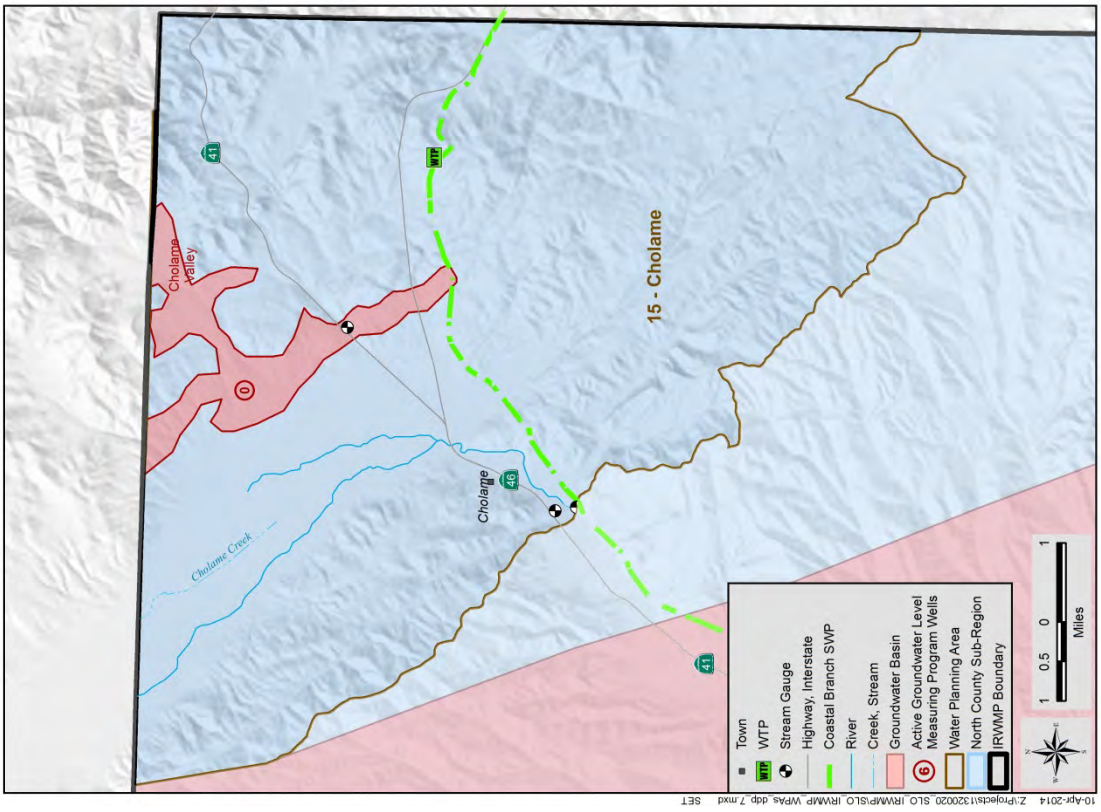


Figure C-24. Water Planning Area No 15 - Cholame

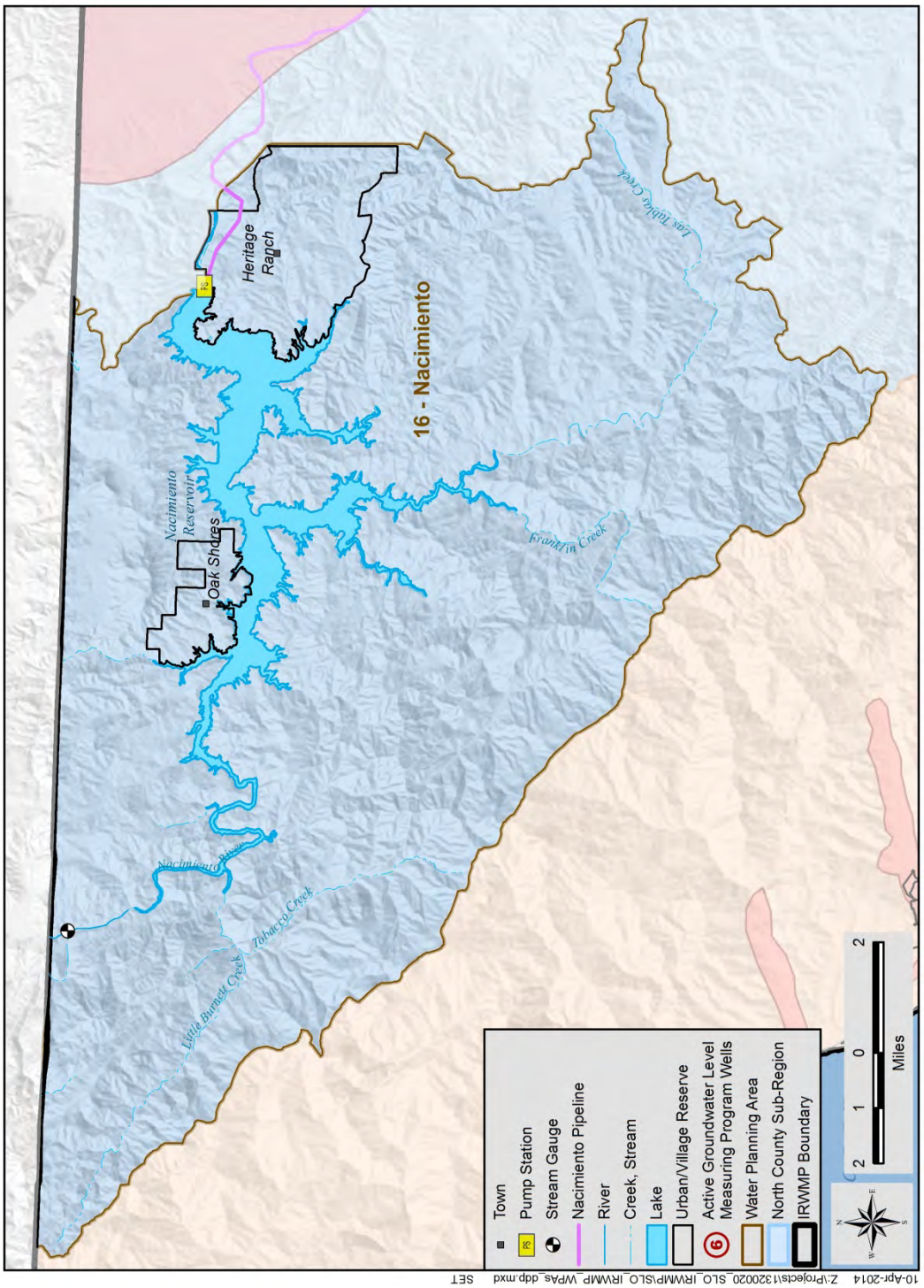


Figure C-25. Water Planning Area No. 16 - Nacimiento

C.4 WASTEWATER SERVICE AREAS

There are seven City Wastewater Service Areas, nine Community Service Districts (CSDs), six Community Service Areas (CSAs) and two Sanitation Districts (SDs) that provide wastewater service in the San Luis Obispo IRWM Plan. **Table C-3** below is a limited summary of the location of these agencies relative to the WPAs:

Table C-3. Wastewater Service Areas

Sub-Region	WPA	Wastewater Districts
North Coast	1 – San Simeon	San Simeon CSD
	2 – Cambria	Cambria CSD
	3 – Cayucos	CSA 10 Cayucos
		Cayucos Sanitary District
	4 – Morro Bay	City of Morro Bay
	5 – Los Osos	Los Osos CSD
South County	6 – San Luis Obispo/Avila	City of San Luis Obispo
		Avila Beach CSD
		CSA 18 Los Ranchos
	7 – South Coast	City of Arroyo Grande
		City of Pismo Beach
		City of Grover Beach
		Nipomo CSD
		Oceano CSD
		CSA 1 Nipomo
		South County Sanitation District
	8 - Huasna Valley	
	9 - Cuyama Valley	
North County	10 - Carrizo Plain	
	11 - Rafael/Big Spring	
	12 – Santa Margarita	CSA 23 Santa Margarita
	13 – Atascadero/ Templeton	City of Atascadero
		Templeton CSD
	14 – Salinas/ Estrella	City of Paso Robles
		San Miguel CSD
		CSA 16 Shandon
	16 - Nacimiento	Heritage Ranch CSD
		CSA 7 Oak Shores

C.5 FLOOD CONTROL DISTRICTS

C.5.1 San Luis Obispo County Flood Control and Water Conservation District

The District was established by the State Legislature in 1945 with the passage of the "San Luis Obispo County Flood Control and Water Conservation District Act". The District is governed by a Board of Supervisors; its boundaries are co-terminus with the County of San Luis Obispo and its

board members and staff are the same as those who act separately on behalf of the County of San Luis Obispo. Pursuant to the 1945 legislation, the primary services of the District include or cover:

1. Flood and storm waters
2. Conserving waters for beneficial purposes
3. Protecting life and property
4. Preventing waste or diminution of the water supply
5. Obtaining, retaining, and reclaiming waters for beneficial use, including the purchase and sale of water within the district
6. Providing for incidental recreation activities

As the primary agency with responsibility for regional water planning and the implementation of regional water supply projects, the District essentially acts in two capacities.

First, District and its Board of Supervisors functions as a regional water resource planning agency to gather data, identify issues, coordinate stakeholder review, and make recommendations on water resource solutions to the San Luis Obispo County Board of Supervisors. Second, it implements specific projects and programs, typically on a sub-regional basis, relating to the services identified above. The general regional data gathering, planning and coordination efforts are funded by the District's budget from its general property tax allocations. The sub-regional projects, programs and services are typically funded by participating agencies, organizations, and other parties benefiting from the services.

In addition to the preparation of this IRWM Plan and leading the RWMG, the District's other regional priorities include the following:

- Groundwater banking feasibility efforts
- Regional environmental permitting
- Hydrological data gap analysis – with special emphasis on environmental needs and natural groundwater recharge areas
- Flood management planning
- Development of a groundwater monitoring agreement with the Paso Robles Groundwater Basin stakeholders
- Optimization of the Nacimiento Water Project
- Ongoing coordination with the County of San Luis Obispo's Resource Management System (RMS) – a component of the County's General Plan
- Digital and electronic conversion of historical hydrological data
- Preliminary efforts on web-based data retrieval
- Stakeholder efforts on Six-Community drainage study
- Monthly Meetings with the Water Resources Advisory Committee to review and develop recommendations on the items listed above, among others

C.6 LAND USE AGENCIES

There are nine land use agencies responsible for the 15 land use planning areas in the San Luis IRWM Plan region as shown in **Table C-4** below. The location of these land use agencies and the corresponding land use planning areas are shown in **Figure C-26** below.

All of the land use agencies, with the exception of the US Forest Service, participate directly in the Water Resources Advisory Committee as noted in the table. Through participation and representation in the WRAC, the land use agencies interests are well represented in the IRWM planning process.

Table C-4. Land Use Agencies

Land Use Planning Area	Unincorporated Communities and Cities	Land Use Agency	WRAC Participation
1 North Coast	San Simeon Cambria	SLO County	✓
2 Nacimiento	Nacimiento Heritage Ranch Oak Shores	SLO County	✓
3 Adelaida	Adelaida	SLO County	✓
4 Estero	Cayucos Morro Bay Los Osos Baywood Park	SLO County Morro Bay	✓ ✓
5 Salinas River	Paso Robles Atascadero Garden Farms Santa Margarita Templeton San Miguel	SLO County Paso Robles Atascadero	✓ ✓ ✓
6 El Pomar/Estrella	Creston Linne	SLO County	✓
7 & 8 San Luis Bay Coastal and Inland	Avila Beach Pismo Beach Arroyo Grande Grover Beach Oceano Halcyon	SLO County Pismo Beach Arroyo Grande Grover Beach	✓ ✓ ✓ ✓
9 San Luis Obispo	San Luis Obispo Los Ranchos/Edna Valley	SLO County San Luis Obispo	✓ ✓
10 Las Pilitas	Pozo	SLO County	✓
11 Los Padres	Los Padres National Forest	US Forest Service	
12 Shandon/Carrizo	Shandon Whitley Gardens Cholame California Valley	SLO County	✓
13 Huasna – Lopez	Lopez Lake Recreation Area	SLO County	✓
14 & 15 South County Coastal and Inland	Nipomo	SLO County	✓

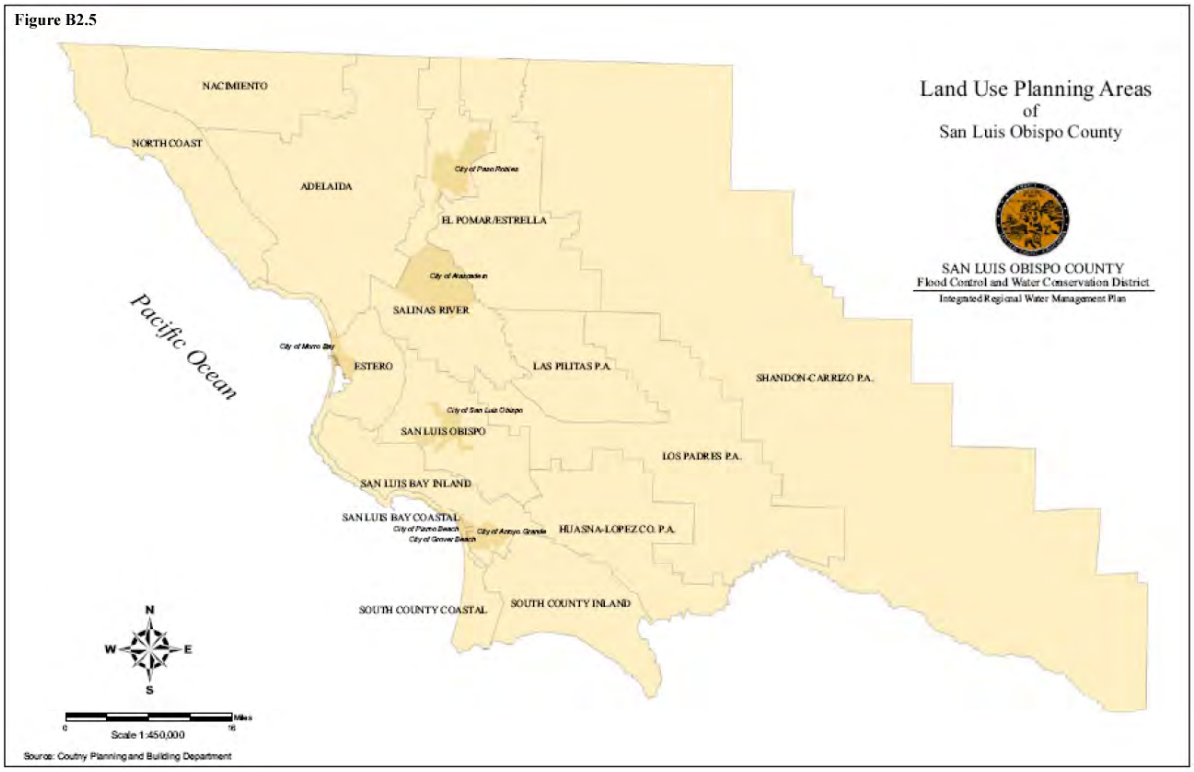


Figure C-26. Land Use Agencies

C.7 WATERSHEDS

The following section provides information on the 25 defined watersheds within the San Luis Obispo IRWM Planning Region. This information was gathered from an extensive effort by the Upper Salinas – Las Tablas and Coastal San Luis Resource Conservation Districts completed in 2013 resulting in the January 2014 final report titled, *San Luis Obispo County Watershed Management Planning Project*. This report is included as **Appendix N** of the IRWM Plan.

The detailed descriptions, called "Watershed Snapshots", provide information relating to area geology, surface and groundwater quality, land use, areas and species of biological significance, areas of cultural significance, water resources management issues, and available hydrologic (i.e., rainfall, streamflow, groundwater, temperature, etc.) information. The Watershed Snapshot information provided below provides the area and description of the watersheds. Important detailed information is listed in **Appendix N**. Future updates to the IRWM Plan will begin incorporating some of the technical information that supports the needs and requirements of the IRWM Plan.

The watersheds are aligned with the Subregions and WPAs as shown in **Table C-5** and **Figure C-28** through **Figure C-30**. In some cases, as Table C-5 indicates, the watershed boundaries do not necessarily follow the WPA boundaries. This is an expected issue due to the many factors, including political and geographic locations, used in defining the WPAs versus the strict hydrogeologic boundaries of the watersheds. Any overlap into multiple WPAs is identified in the table as one watershed being in a portion of two or more WPAs. For purposes of the Region Description, the watershed delineation, is preferred over the WPAs. Likewise, for purposes of water demand and water supply needs, the WPAs are preferred over the watershed. Both co-exist in the IRWM Plan and are used where most appropriate and relevant.

Each of the Watershed Snapshots contains a vast amount of descriptive information regarding the physical, environmental, cultural, and hydrogeologic setting including water supplies and uses taking place for urban, rural, agricultural, and environmental needs. Water budget information is also included in the Water Snapshots but not used for the IRWM Plan. The IRWM defers to the most current and best available information on a WPA basis included in **Section D – Water Supply, Demand, and Water Budgets**.

Beneficial uses see information found on website. Info shown here on each watershed is limited, however, much more information is provided in report.

The information provided below each of the watershed summaries are tabularized data (i.e., data relevant to meeting the State Guidelines) collected for each watershed as part of the Watershed Snapshots. This information comes from the SLO Watershed Database (See **Section K – Data Management**), populated by the Watershed Snapshots and to be maintained over time, and includes the following informational topics:

- Hydrology
- Water Supply
- Water Uses
- Flora and Fauna
- Land Use
- Demographics
- Unique Characteristics
- Climate Change Considerations
- Critical Issues

Other information contained within the Watershed Report includes:

- Geology
- Beneficial Uses
- Flood Management

Watershed-related concerns including surface and groundwater quality, watershed health, and on-going Basin Management Plans are listed in **Section C.9 – Current Water Quality Conditions** by Sub-Region.

Table C-5. Area Watershed Alignment with Sub-Regions and Water Planning Areas

Sub-Region	WPA	Watershed No.	Area Watersheds
North Coast	1 – San Simeon	2	San Simeon-Arroyo de la Cruz
	2 – Cambria	3	Santa Rosa Creek
		1	Big Creek – San Carpoforo
	3 – Cayucos	4	Cayucos Creek- Whale Rock Area
	4- Morro Bay	5	Morro Bay
		4	Cayucos Creek- Whale Rock Area
	5 – Los Osos	5	Morro Bay
South County	6 – San Luis Obispo/Avila	6	Irish Hills Coastal
		7	San Luis Obispo Creek
	7 – South Coast	9	Arroyo Grande Creek
		11	Nipomo Suey Creeks
		8	Pismo Creek
		10	Santa Maria River
	8 – Huasna Valley	13	Alamo Creek
		14	Cuyama River
		12	Huasna River
	9 – Cuyama Valley	14	Cuyama River
North County	10 – Carrizo Plain	15	Black Sulphur Spring
		16	Soda Lake
	11 – Rafael/ Big Spring	17	Upper San Juan Creek
		18	Lower San Juan Creek
	12 – Santa Margarita	19	Upper Salinas -Santa Margarita Area (a.k.a. Santa Margarita Lake-South Salinas River)
	13 – Atascadero/ Templeton	20	Mid Salinas-Atascadero Area
	14 – Salinas/Estrella	23	Estrella River
		22	Huer Huero Creek
		18	Lower San Juan Creek
		17	Upper San Juan Creek
	15 - Cholame	24	Cholame Creek
	16 - Nacimiento	25	Nacimiento River

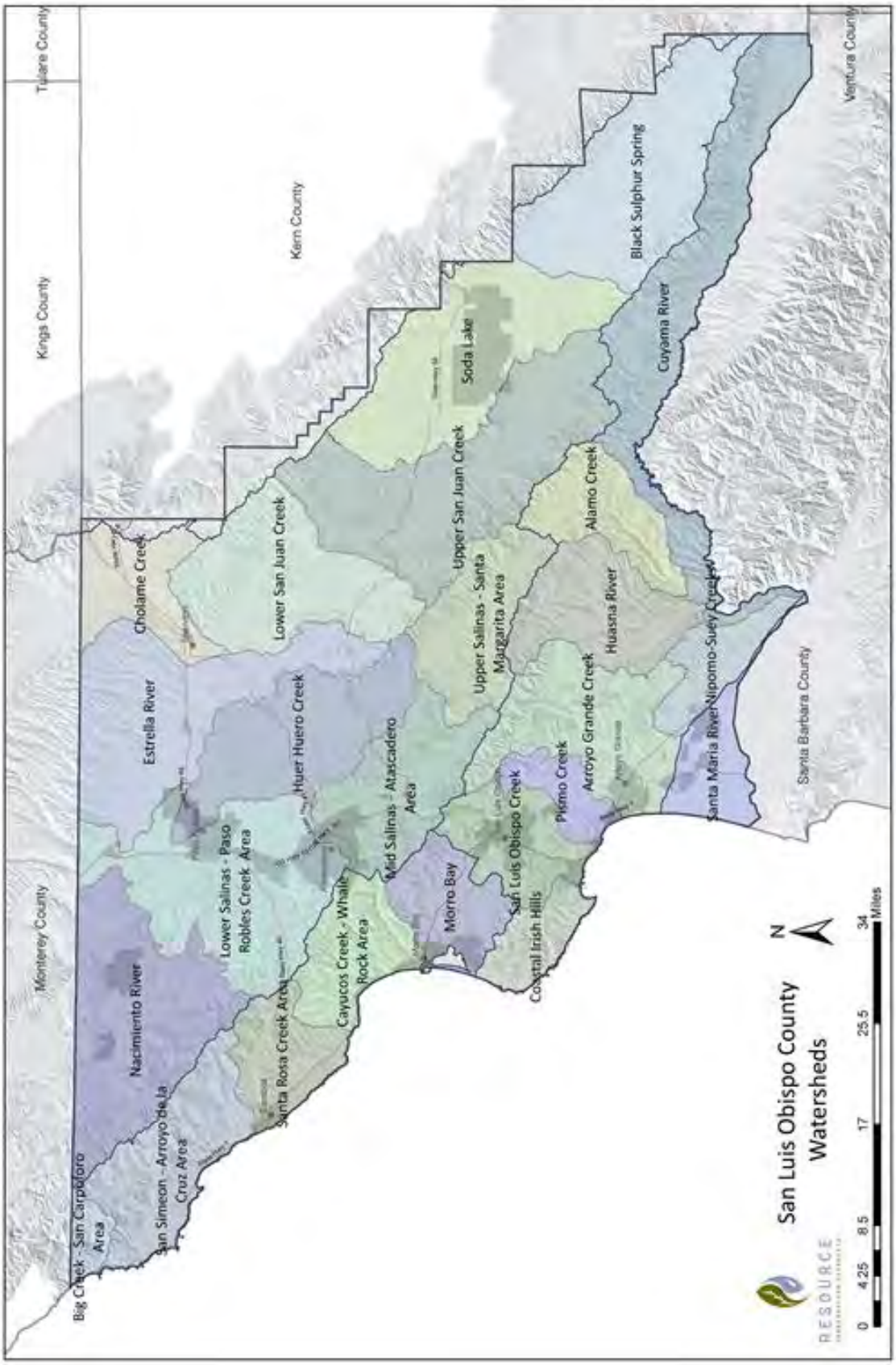


Figure C-27. Watersheds

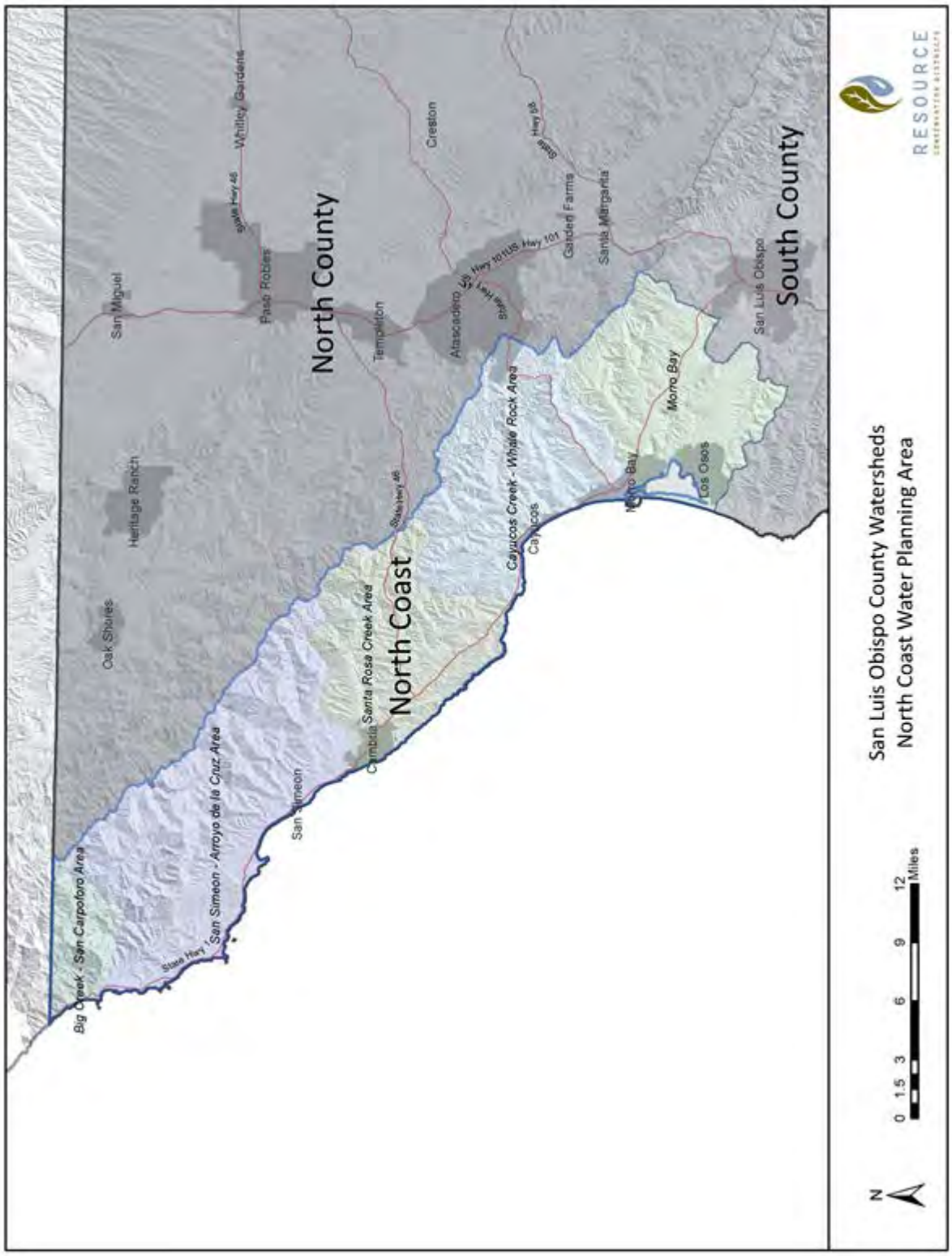


Figure C-28. North Coast Watersheds

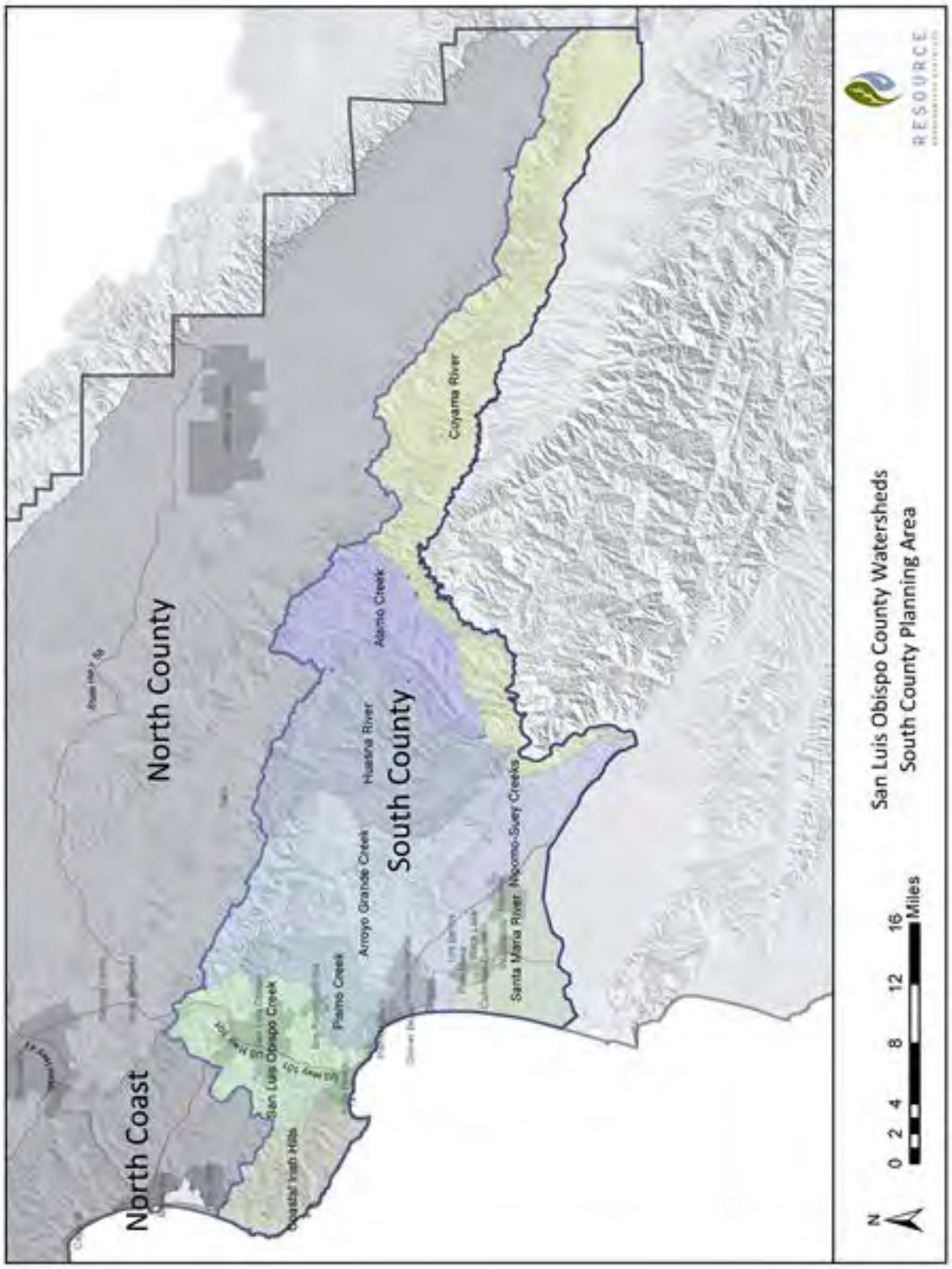


Figure C-29. South County Watersheds

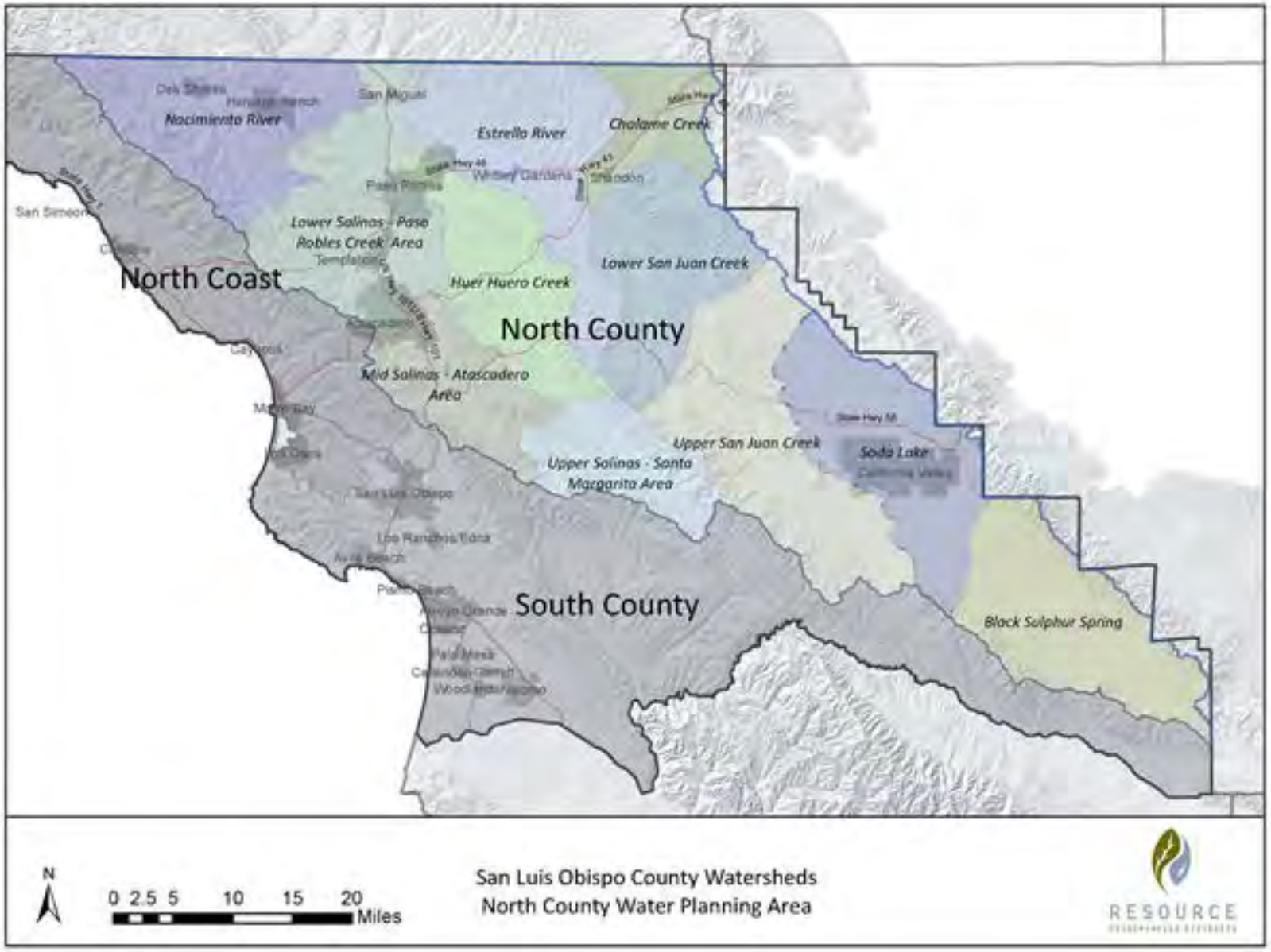


Figure C-30. North County Watersheds

C.7.1 North Coast Watersheds

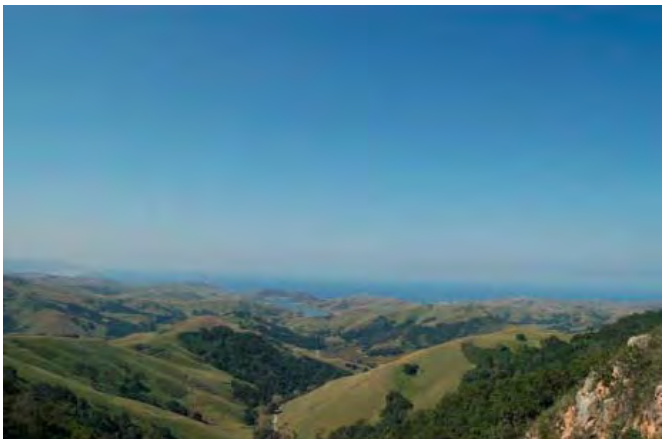
The North Coast Sub-Region is comprised of five watersheds which are summarized below and shown in figures following each Sub-Region.

C.7.1.1 Big Creek - San Carpoforo Creek Area Watershed

The Big Creek – San Carpoforo Creek Area Watershed straddles San Luis Obispo County and Monterey County with 13,046 acres out of 264,552 total acres within SLO County. This snapshot represents data related to those sub-watersheds located within the CalWater HUC[11] 10 watershed grouping in San Luis Obispo County. The watershed lies along the Pacific Ocean with the southernmost outfall at Ragged Point, north of San Simeon. The most notable waterway within the San Luis Obispo portion of the watershed is San Carpoforo Creek, which has its headwaters in the Los Padres National Forest at the Santa Lucia Range in southern Monterey and Northern San Luis Obispo County. Pacific Ocean outfall of San Carpoforo Creek is designated as State Marine Conservation Area and State Marine Reserve within the Monterey Bay National Marine Sanctuary. Mt. Mars Creek also independently drains into the Pacific Ocean just north of the San Carpoforo Creek drainage. Peak elevation for the watershed is approximately 2610 feet high with the low being roughly 16 feet above sea level in Monterey County. A portion of the San Carpoforo Creek drainage is located within the boundaries of the Hearst Ranch property and is currently under the provisions of a conservation easement. The dominant land use is Los Padres National Forest and rangeland agriculture, with a majority of rangeland concentrated in the area of Hearst Ranch. A rugged shoreline and mountainous eastern ridge characterize the northern portion of the watershed. The creek was the route of the historic Portola Expedition and was identified as an area of high ecological significance by the Forest Service.

[11] HUC is an acronym for Hydrologic Unit Codes. HUCs are used to identify all of the drainage basins in the United States from largest (Regions) to smallest (Cataloging Units). A drainage basin is an area that catches precipitation that falls within that area, and funnels it to a creek, stream, river and so on, until the water drains into an ocean.

C.7.1.2 San Simeon - Arroyo de la Cruz Watershed



The San Simeon-Arroyo de la Cruz area watershed grouping (CalWater HUC 10 Scale) is located within the North Coast region of the county. The watershed drains approximately 51,500 acres and originates on the western slopes of the Santa Lucia Mountains, flowing to the Pacific Ocean at San Simeon State Beach. The watershed contains two major drainages – Arroyo de la Cruz and San Simeon Creek. Recharge of the aquifer comes from percolation of stream flow, deep percolation of precipitation and irrigation return flows. San Simeon Creek headwaters occur in the Coast Ranges to the northeast of Cambria. Elevations in the watershed range from 3,559 feet above sea level in the Santa Lucia Range at the eastern most watershed boundary to sea level along the coast. The dominant land use throughout the watershed is agriculture, specifically rangeland. The watershed includes the disadvantaged community of San Simeon, the northern portion of Cambria and the Hearst San Simeon State Historical Monument. San Simeon Estuary is located within San Simeon State Beach and is the home to several biotic communities including salt and freshwater marshes, grasslands, Monterey pine forest, as well as estuarine habitats. The watershed also contains multiple creeks that support critical Steelhead Trout habitat.

C.7.1.3 Santa Rosa Creek Area Watershed

Santa Rosa Creek Watershed lies within the southern portion of the California Coast Ranges. The watershed is bounded to the east by the Santa Lucia Mountain Range and to the west by the Pacific Ocean. The watershed contains two major sub-watersheds: Villa Creek and Santa Rosa Creek, which contains Santa Rosa Creek and Green Valley (Perry Creek). Santa Rosa Creek and its tributaries flow mostly unobstructed down steep hill-slopes, mantled with shallow soils and sparse

shrub vegetation, through agricultural areas and the small town of Cambria before reaching the Pacific Ocean. Villa Creek begins in the Santa Lucia range flowing to the Pacific Ocean, encompassing a majority of the coastal area within the total watershed. The town of Cambria is near the mouth of Santa Rosa Creek, downstream of the confluence with Perry Creek – the largest tributary in the Santa Rosa Creek sub-watershed. Topography includes steep upland areas and low gradient valley bottoms bordering the reaches of Santa Rosa, Green Valley, Perry, and Villa Creeks. Cypress Mountain, the highest peak, lies in the Upper Santa Rosa creek watershed and reaches an elevation of approximately 3,411 feet. At its lowest elevation (sea level), Santa Rosa Creek flows through a lagoon contained by an annually formed sandbar at Moonstone Beach. The dominant land use is agriculture.

C.7.1.4 Cayucos Creek - Whale Rock Area Watershed

The Cayucos Creek – Whale Rock Area Watershed lies within the southern portion of the California Coast Range. The watershed is bounded to the west by Pacific Ocean and the east by the Santa Lucia Mountain Range. Consistent with the CalWater HUC 10 grouping scale, the watershed area contains four major drainages that independently reach the Pacific Ocean: Cayucos Creek, Old Creek, Toro Creek and Morro Creek, the latter of which borders and shares some attributes with the Morro Bay watershed. The headwaters of the watershed are in Santa Lucia Range, reaching a maximum elevation of approximately 2,345 feet with the lowest elevation at around at sea level, draining in to the Pacific Ocean. Whale Rock reservoir is located in the watershed approximately ½ mile east of the community of Cayucos. The dominant land use in the watershed is Agriculture with the sea side town of Cayucos providing an urban core area with tourist oriented opportunities.

C.7.1.5 Morro Bay Watershed

The Morro Bay Watershed is located in the central area of coastal San Luis Obispo County. It is composed of two major sub-watersheds that drain into Chorro and Los Osos Creeks. The Chorro Creek sub-watershed accounts for about 60 percent of the total land area draining into the estuary.

Much of the watershed remains in open space that is used primarily for agriculture and a range of public uses, including parks, golf courses, nature preserves, a military base, and university-owned rangeland. The developed portions of the watershed include the community of Los Osos/ Baywood Park, parts of the City of Morro Bay, Cuesta College, Camp San Luis Obispo, the California Men's Colony, and various facilities of the County of San Luis Obispo.

Due to the uniqueness of Morro Bay, the watershed has been studied since the late 1980's with watershed plans from that era being completed.

C.7.2 South County Watersheds

The South County Sub-Region is comprised of nine watersheds which are summarized below.

C.7.2.1 Irish Hills Coastal Watersheds

The Irish Hills Coastal Watersheds are remote coastal basins located in southern San Luis Obispo County. The drainage rises to a maximum elevation of 1,819 feet above sea level at Saddle Peak. Creeks flow to the Pacific Oceano and has 4 major tributary basins with their headwaters in the Coastal Range Mountains: Hazard Canyon, Islay Creek, Coon Creek, Diablo Creek, Irish Creek, Rattlesnake Creek, Hanford Creek and Wild Cherry Canyon.

The watersheds are dominated by grazing lands some in conservation or agricultural easements and public lands. Other land uses include a regional nuclear power plant, passive recreation, natural resource preservation and limited oil drilling.

C.7.2.2 San Luis Obispo Creek Watershed

The San Luis Obispo Creek Watershed is a coastal basin located in southern San Luis Obispo County. The drainage rises to a maximum elevation of approximately 2,500 feet above sea level in the Santa Lucia Range. San Luis Obispo Creek flows to the Pacific Ocean and has six major tributary basins: Stenner Creek, Prefumo Creek, Laguna Lake, East Branch San Luis Obispo Creek, Davenport Creek, and See Canyon.

The watershed is dominated by agricultural land uses including ranches and open space. The urban core of the City of San Luis Obispo is at the confluences of several tributaries with the mainstem starting in the upper watershed and bisecting the City. The unincorporated community of Avila Beach is adjacent to the mouth of San Luis Obispo Creek at the Pacific Ocean. Other land uses include the California Polytechnical State University, rural residential, a regional airport and two wastewater treatment plants.

C.7.2.3 Pismo Creek Watershed

The Pismo Creek Watershed is a coastal basin located in southern San Luis Obispo County. The drainage rises to a maximum elevation of almost 2,865 feet above mean sea level. Pismo Creek flows to the Pacific Ocean and has three major tributary basins with their headwaters in the Santa Lucia Mountains: West Corral de Piedra, East Corral de Piedra, and Cañada Verde. A fourth significant tributary, Cuevitas Creek, enters Pismo Creek from the west in lower Price Canyon. The mouth of Pismo Creek is in the dune region known locally as Pismo Beach.

The watershed is dominated by agricultural land uses in its upper reaches including vineyards, ranches and row crops. The urban core of the City of Pismo Beach is adjacent to the Pismo Creek Estuary. Other land uses include a regional landfill, oil exploration and a wastewater treatment plant.

C.7.2.4 Arroyo Grande Creek Watershed

The Arroyo Grande Creek Watershed is a coastal basin located in southern San Luis Obispo County. The drainage rises to a maximum elevation of approximately 3,100 feet above sea level. The watershed includes the tributaries of Tally Ho (Corbett), Tar Springs and Los Berros Creeks. Meadow Creek is a remnant marsh drainage system that enters Arroyo Grande Creek, just upstream of the confluence with the ocean. Arroyo Grande Creek empties into an estuary adjacent to the Oceano lagoon.

The watershed is dominated by agricultural land uses including vineyards, ranches and row crops. The urban core of the City of Arroyo Grande is at the confluence of Tally Ho Creek with Arroyo Grande Creek. Other land uses include Lake Lopez Reservoir and a regional airport in Oceano.

C.7.2.5 Santa Maria River Watershed

The Santa Maria River Watershed is located in southern San Luis Obispo County and northern Santa Barbara County. The watershed includes the major tributaries of the Cuyama and Sisquoc Rivers as well as a number of smaller tributaries. The Santa Maria River (downstream of the confluence with Cuyama and Sisquoc Rivers) rises to a maximum elevation of approximately 390 feet and flows to the Pacific Ocean.

Drainage in the watershed is linked to the soils and geology with a dune lake complex, Black Lake Canyon slough, Oso Flaco Creek and portions of the Santa Maria River within the County of San Luis Obispo.

The watershed is dominated by residential and agricultural land uses including ranches, row crops, greenhouses and orchards. Other land uses include recreation and oil refinery.

C.7.2.6 Nipomo – Suey Creeks Watershed

The Nipomo - Suey Creeks Watershed are basins located in southern San Luis Obispo County and northern Santa Barbara County. The watershed rises to a maximum elevation of approximately 1,800 feet above mean sea level. The area includes two tributary basins to the Santa Maria River with their headwaters in the foothills of the Coast Range: Nipomo Creek and Suey Creek.

The watershed is dominated by agricultural land uses including ranches, row crops, greenhouses and orchards. Other land uses include residential.

C.7.2.7 Huasna River Watershed

The Huasna River Watershed is an inland basin located in southern San Luis Obispo County. The drainage rises to a maximum elevation of approximately 3,000 feet above sea level. Huasna River flows to the Cuyama River at the downstream end of the Huasna River watershed above Twitchell Dam, which is in the Cuyama River Watershed downstream. Huasna River watershed has a number of tributary basins with their headwaters in the Santa Lucia and La Panza Mountain Ranges: Huasna Creek, Carrie Creek, Haystack Creek and Arroyo Seco Creek.

Agriculture is the principal land use in the area, ranging from small irrigated farms to large cattle ranches. A substantial portion of the area consists of hilly and mountainous land with

chaparral and oak woodlands, suitable only for limited grazing. Other land uses includes oil exploration and recreation on. the Los Padres National Forest.

C.7.2.8 Alamo Creek Watershed

The Alamo Creek Watershed is an inland basin located in southern San Luis Obispo County. The drainage rises to a maximum elevation of approximately 3,800 feet above sea level. Alamo Creek flows to the Cuyama River at Twitchell Reservoir. Twitchell dam is downstream in the Cuyama Watershed, but its presence affects habitats, hydrology, and land use in Alamo Creek Watershed. Major tributary basins with their headwaters in the La Panza Mountain Range: Little Jollo, Sheep, Kennel, Los Machos, and Branch Creeks.

The watershed is dominated by the Los Padres National Forest which permits recreation including camping, hunting, and off-highway vehicle uses. The watershed also has agricultural land uses.

C.7.2.9 Cuyama River Watershed

The Cuyama River Watershed starts in Ventura County. The river generally flows northward, and then in a westerly direction to a point of confluence with the Sisquoc River near the town of Garey where it joins the Santa Maria River. The San Luis Obispo County line approximately follows the Cuyama River. A portion of the northern tributaries and part of the Cuyama River are within the southwestern part of San Luis Obispo County. These northern tributaries rise to a maximum elevation of almost 4,950 feet above sea level at Caliente Mountain with their headwaters in the La Panza and Caliente Mountain Ranges.

Twitchell Reservoir is near the downstream end of the Cuyama River Watershed, formed behind Twitchell Dam.

The watershed is dominated by rural and agricultural land uses including ranches, orchards, vineyards and row crops. Other land uses include oil and gas production, Los Padres National Forest and Bureau of Land Management lands.

C.7.3 North County Watersheds

The North County Sub-Region is comprised of 11 watersheds which are summarized below.

C.7.3.1 Black Sulphur Spring Watershed

The Black Sulphur Spring Watershed lies in the eastern portion of San Luis Obispo's North County region and includes the southern portion of the Carrizo National Monument. The total watershed area is approximately 143,160 acres with a majority of the acreage located within San Luis Obispo County (137,489 acres). The remaining acreage is located within Kern County to the East. The watershed is bounded by Temblor Range to the east, Caliente Range and San Juan Hills to the west and drains entirely into Soda Lake. The Black Sulphur Watershed contains two major drainages: the Caliente Range and Elkhorn Plain. The highest elevation in the watershed is about 3,411 feet and the lowest elevation is approximately 1,919 feet. The watershed, like the adjacent Soda Lake watershed is an alkali endoheic (closed) basin with no outflow beyond Soda Lake. While the lake once contained higher levels of water and supported recreation and fishing uses, recently the lake has not had enough water flow to support such uses. The watershed is transected by San Andreas Fault. The groundwater basin underlying the watershed is the Carrizo Plain basin which is recharged from percolation of stream flow and infiltration of precipitation. Users of the basin include a small public water system serving local school, agricultural and residential purposes, and solar farms. The dominant land use is rangeland.

C.7.3.2 Soda Lake Watershed

The Soda Lake Watershed lies in the eastern portion of San Luis Obispo's North County region and includes the northern portion of the Carrizo National Monument. The total watershed area is 141,876 acres with a majority of the acreage located within San Luis Obispo County (136,015 acres). The remaining acreage is located within Kern County to the east. The watershed is bounded by Temblor Range to the east, Caliente Range and San Juan Hills to the west and

drains entirely into Soda Lake. The majority of Soda Lake is contained within the watershed, with the other portion contained within the Black Sulphur Springs watershed. The Watershed contains two major drainages: Panorama Hills and West of Soda Lake. The highest elevation in the watershed is approximately 4,100 feet and the lowest elevation is about 1,920 feet. The watershed, combined with the adjacent Black Sulphur Spring watershed, is an alkali endoheic (closed) basin with no outflow beyond Soda Lake. While the lake once contained higher levels of water and supported recreation and fishing uses, recently the lake has not had enough water flow to support such uses. The watershed is transected by San Andreas Fault. The major groundwater basin underlying the watershed is the Carrizo Plain basin which is recharged from percolation of stream flow and infiltration of precipitation. The dominant land use is agriculture.

C.7.3.3 Upper San Juan Creek Watershed

The Upper San Juan Creek Watershed is located in the eastern portion of the County directly adjacent to the Carrizo Plain. The headwaters are located in the La Panza range with the highest point at approximately 3900-feet. The confluence of San Juan Creek with the Estrella River occurs north of Creston. San Juan Creek, a permanent stream, affords recreational possibilities. The mountain slopes are excellent for hiking and riding. Wildlife is abundant, and geology and natural vegetation are of special interest. A spectacular view of the Carrizo Plain is provided from these mountains. The San Juan Creek Valley is g enerally used most intensively because of better soils and water availability. Irrigated production has increased during the last 10 years, particularly in vineyards and alfalfa. Dry farming and grazing operations encompass the rest of the agricultural uses.

C.7.3.4 Lower San Juan Creek Watershed

The Lower San Juan Creek watershed is located in the eastern portion of the county to the north-west of the Carrizo Plains. The headwaters are located in the La Panza range with the

highest point at approximately 3600-feet. The confluence of San Juan Creek with the Estrella River occurs north of Creston. The dominant land use is agriculture. The San Juan Creek Valley is generally used most intensively for agriculture because of better soils and water availability. Irrigated production has increased during the last 10 years, particularly in vineyards and alfalfa. Dry farming and grazing operations encompass the rest of the agricultural uses. The riparian forest and a portion of the adjacent upland areas associated with the Estrella River and San Juan Creek in the vicinity of Shandon are important wildlife habitat for the San Joaquin kit fox, Western burrowing owl and other wildlife species, and serve as important corridors for wildlife movement. Another important wildlife movement corridor is located near the base of the hillside near the eastern edge of Shandon.

C.7.3.5 Upper Salinas River - Santa Margarita Area Watershed

The Upper Salinas River – Santa Margarita Area Watershed is located in northern San Luis Obispo County and includes a portion of the Salinas River and adjacent tributaries. The drainage rises to a maximum elevation of approximately 2,800 feet above mean sea level with steep topography categorizing much of the western portion of the watershed. The watershed contains two major drainages; Atascadero Creek and Parole Canyon. The watershed contains a mix of urban and rural residential land uses as well as agricultural land uses. A portion of the Los Padres National Forest is also contained within the watershed along the western boundary. The City of Atascadero is located at the northern end of the watershed boundary and the community of Santa Margarita is located within the central and southern portions of the watershed. Other land uses include two quarries, Atascadero Lake, and a wastewater treatment plant. Water supply for the watershed area is dominated by wells, including those used by the Atascadero Mutual Water Company to supply urban residents and commercial uses.

C.7.3.6 Mid Salinas - Atascadero Creek Area Watersheds

The Atascadero Creek - Mid Salinas Watershed is located in northern San Luis Obispo County and includes a portion of the Salinas River and adjacent tributaries. The drainage rises to a maximum elevation of approximately 2,800 feet above mean sea level with steep topography categorizing much of the western portion of the watershed. The watershed contains two major drainages; Atascadero Lake and Parole Canyon. The watershed contains a mix of urban and rural residential land uses as well as agricultural land uses. A portion of the Los Padres National Forest is also contained within the watershed along the western boundary. The City of Atascadero is located at the northern end of the watershed boundary and the community of Santa Margarita is located within the central and southern portions of the watershed. Other land uses include two quarries, Atascadero Lake, and a wastewater treatment plant. Water supply for the watershed area is dominated by wells, including those used by the Atascadero Mutual Water Company to supply urban residents and commercial uses.

C.7.3.7 Lower Salinas-Paso Robles Creek Area Watershed

The portion of the Salinas River Watershed classified here is located centrally within San Luis Obispo's North County region and encompasses Paso Robles Creek. Because of the extensive reach of the Salinas River watershed, we have utilized a watershed grouping scale that is consistent with the CalWater hydrologic unit code 10, which separates the River into 3 segments within San Luis Obispo County. We have merged 3 of the Indian Valley subwatersheds into this grouping since the bulk of the Indian Valley watershed is located in Monterey County. A majority of the City of Paso Robles, approximately one-half of the City of Atascadero (northern portion), the town of San Miguel, and the community of Templeton are all located within this watershed. It is within this watershed that most development has occurred along the Salinas River, both urban and rural agricultural. The western portion of the watershed is characterized by higher elevations with more dense oak woodlands whereas east of the Salinas River is characterized by

more rolling hills and terraces. The peak elevation within the watershed occurs at the westernmost boundary reaching approximately 2,460 feet. The sub-watersheds drain toward the Salinas River. The northern portion of the watershed contains the point at which the Salinas River leaves San Luis Obispo County and flows into Monterey County. The headwaters are in the Coast Ranges, east of city of Paso Robles. The dominant land use is agriculture with a strong urban component located adjacent to the Salinas River. As urban uses are located next to the Salinas, multiple river crossings occur in this watershed and the 101 freeway parallels the Salinas River in many locations.

C.7.3.8 Huer Huero Creek Watershed

The Huer Huero watershed is located in the eastern portion of San Luis Obispo's North County region. The Huer Huero creek is an ephemeral underground stream which flows to directly to the Salinas River. The headwaters occur in the Coast Ranges, south of Creston and reach elevations of approximately 3312 feet. The confluence of the Huer Huero with the Salinas River occurs in Paso Robles. The dominant land use in the watershed is agriculture, with vineyards comprising a large percentage. The watershed is divided into two main drainages, the Upper Huer Huero and the Lower Huer Huero. Highway 41 East bisects the watershed. A portion of the Los Padres National Forest is located in the southeast portion of the watershed and contains the highest elevations in the watershed.

C.7.3.9 Estrella River Watershed

The Estrella River watershed is located in the Northern part of the County east of the Salinas River. A portion of the watershed is located in Monterey County with a majority of the acreage located within SLO County. The Estrella River is a perennial underground flowing river that is a tributary of the Salinas River. The Estrella River forms from the confluence of San Juan Creek and Cholame Creek near Shandon, in the foothills of the Coast Ranges. The

confluence of the Salinas and Estrella Rivers occurs in Northern San Luis Obispo County, within the town of San Miguel. The highest elevation in the watershed is approximately 2,854 feet, and the lowest elevation is around 607 feet. Vineyards slightly predominate over oak woodlands and grassland communities. Tree species such as blue oak, and valley oak dominate the oak woodland, while western sycamore, Fremont's cottonwood, and willows are found in the riparian woodlands along the Estrella River. Agriculture is the dominant use. The Estrella River Valley is generally used most intensively for agriculture because of better soils and water availability. Irrigated production has increased during the last 10 years, particularly in vineyards and alfalfa. Dry farming and grazing operations encompass the rest of the agricultural uses.

C.7.3.10 Cholame Creek Watershed

The Cholame Watershed is located in the North easterly portion of San Luis Obispo County and crosses the county line entering Monterey County to the North. 47,300 acres of the total 151,701 acres are located in SLO County. The watershed is drained by Cholame Creek and its tributaries southeastward and westward into the Estrella River (a tributary to the Salinas River) with the confluence of the Estrella River and Cholame Creek occurring at the town of Shandon. The Cholame Creek watershed is a lightly-populated rural setting and drains into an alluvial valley and surrounding mountains within an ecosystem characterized of grassland, chaparral, oak woodland, and sagebrush and minor amounts of cropland, primarily consisting of grain or hay crops. The dominant land use is agriculture. The area around Shandon Valley is generally used most intensively for agriculture because of better soils and water availability. Irrigated production has increased during the last 10 years, particularly in vineyards and alfalfa. Dry farming and grazing operations encompass the rest of the agricultural uses. The highest watershed elevation within the County limits is at approximately 2,476-feet with the lowest elevation occurring at approximately 1,017-feet. The watersheds headwaters are in Diablo Range in Monterey County.

C.7.3.11 Nacimiento River Watershed

The Nacimiento River Watershed is located at the northern boundary of San Luis Obispo County with a few sub-watersheds located in Monterey County. For the purposes of this snapshot, only those sub-watersheds within SLO County are included in this data compilation. This watershed also contains 6,578 acres of land from the San Antonio Watershed, however, the area within the County is relatively small and best categorized with its neighboring Nacimiento

Watershed for the purposes of this project. The Nacimiento Watershed contains Lake Nacimiento, the largest reservoir in San Luis Obispo County totaling 2.26 square miles. The highest elevation in the watershed occurs in the Santa Lucia Range, within the Los Padres National Forest, reaching approximately 3,560 feet above sea level. Lake Nacimiento supplies water to the Salinas Valley and, as of 2010, supplies supplemental water to some communities in San Luis Obispo County. The dominant land use is agriculture with a majority of land used for rural grazing activities.

C.8 MAJOR INFRASTRUCTURE

This section describes the major infrastructure that provides water throughout the San Luis Obispo IRWM Plan Region. Many of the projects covered in this section have been presented in their respective WPA or watershed above. Provided herein is a short description of the larger regional water-related infrastructure, their purpose, and capacity.

This includes raw surface water transmission lines and reservoirs. **Figure C-31** shows the major conveyance and storage facilities.

C.8.1 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 1956. 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.

In 1959, the District 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 in 2004 with the District's Board of Supervisors adopting the Final Environmental Impact Report. The NWP is the single largest project that the District has ever undertaken. The total project cost, including administration, design, construction, construction management, environmental permitting, and right-of-way, was approximately $174 million (project budget was $176 million). Water deliveries began in 2011. The project delivers raw lake water from

Lake Nacimiento to communities within San Luis Obispo County. The current participating entities and their contracted water amounts are listed below in **Table C-32**.

Table C-6. Nacimiento Project Allocations

Nacimiento Water Project Participants	Allocations (AFY)
City of Paso Robles	4,000
Templeton CSD	250
City of San Luis Obispo	3,380
Atascadero Mutual Water Company	2,000
CSA 10 A (via exchange)[1]	25
Total	**9,655**

Notes: 1. See Whale Rock Reservoir Operating Agreements.

Though the participants have contracted for 9,655 AFY, the northern portions of the pipeline and appurtenances have been designed for the maximum allowable withdrawal amount of 15,750 AFY. Decreasing percentages of excess capacity are also designed into the southern reaches of the project. It is expected that additional allocations will be purchased in the future by existing participants or other entities. The mechanism by which the participation requests of other entities are considered varies depending on whether or not the entity was a part of the Final Environmental Impact Report (FEIR). If the entity was a part of the FEIR, it can proceed directly to the District Board of Supervisors for consideration. If it was not a part of the original FEIR, it must consult with the Nacimiento Project Commission and obtain written support from existing participants that represent at least 55 percent of existing subscription amounts before proceeding to the District Board of Supervisors for consideration.

C.8.2 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. Construction 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 the Department of Water Resources, 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. The calculation of the yield available is coordinated with Salinas Reservoir using a safe annual yield computer model. The model also evaluates the effect of siltation. The Whale Rock Commission has budgeted for a siltation study to be undertaken in the near future.

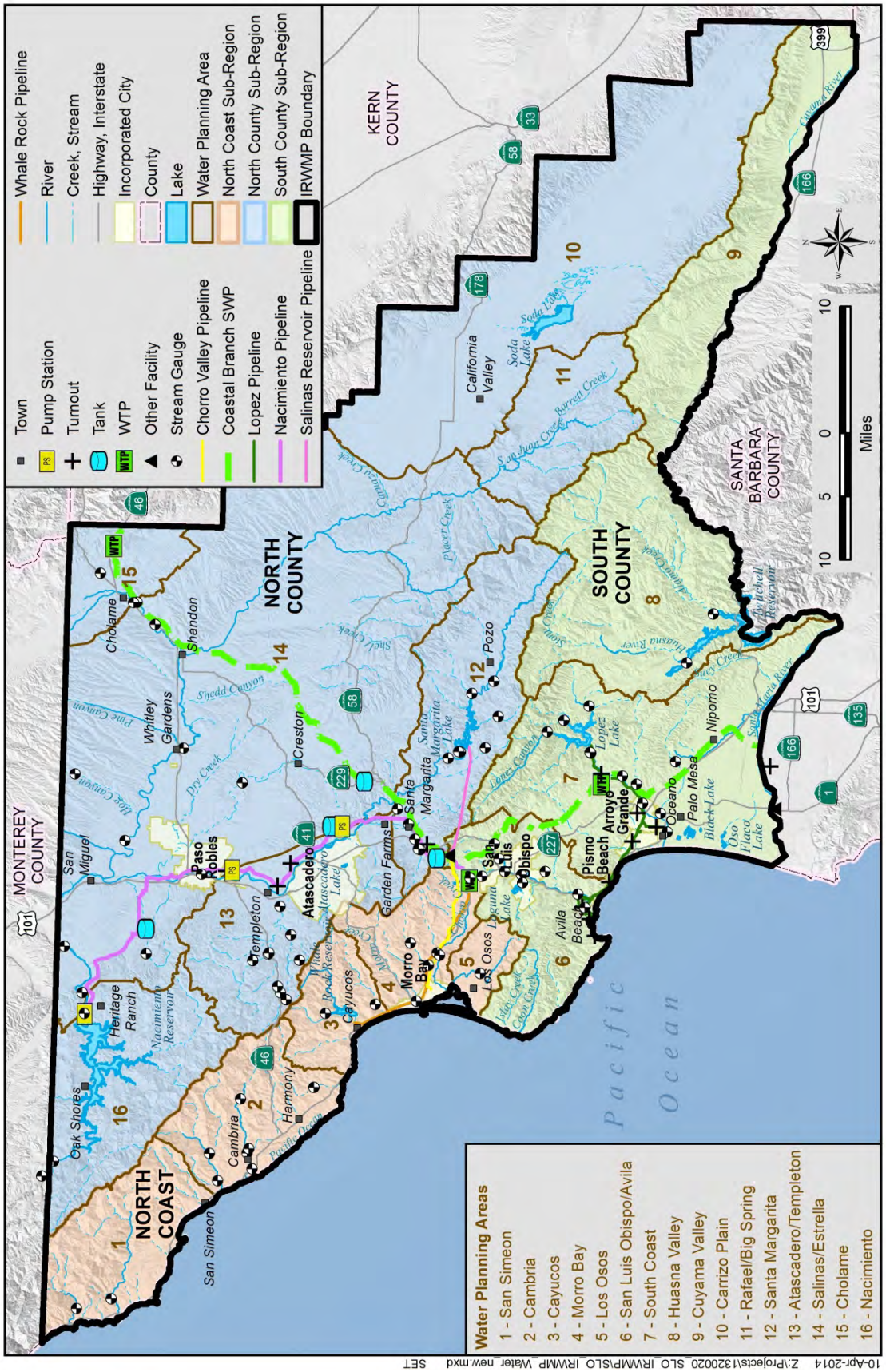


Figure C-31. Major Water Conveyance and Storage

The table below summarizes the current capacity rights for the joint right-holders (downstream water rights are accounted for separately). 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 C-7. Whale Rock Reservoir Allocations

Water Users	Percent	Allocations (Acre-Feet)
City of San Luis Obispo	55.05	22,383
Cal Poly San Luis Obispo	33.71	13,707
California Men's Colony	11.24	4,570
Total	**100**	**40,660**

C.8.2.1 Operating Agreements

Several agreements establish policy for the operation of the Whale Rock system and actions of the member agencies. A brief description of the existing agreements that affect water delivery agreements and water rights are summarized below.

A) Agreement for the construction and operation of the Whale Rock Project, 1957, set forth the project's capital cost distribution to the member agencies.

B) A supplemental operating agreement, 1960, established the Whale Rock Commission and apportioned the operating costs.

C) Downstream water rights agreement (the original 1958 agreement was amended in April 1996) defining water entitlements for adjacent and downstream water users. The Cayucos Area Water Organization (CAWO) affected by 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. Entitlements are as follows:

Table C-8. Whale Rock Downstream Entitlements

Water Users	Downstream Water Entitlements (AFY)
Cayucos Area Water Organization(CAWO)[1]	0
Paso Robles Beach Water Association	222
Morro Rock Mutual Water Company	170
County Service Area 10A	190
Cayucos-Morro Bay Cemetery District	18
Mainini Ranch (Landowner) [2]	50
Ogle (Landowner)[2]	14
Total Downstream Entitlement	**664**

Notes:
1. The referenced agreement in Item C) above 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.

D) An agreement for water allocation and operational policy between the agencies forming the Whale Rock Commission. The agreement established the accounting procedures to allow each agency to carry over excess or deficit water each year.

E) An agreement between the Whale Rock Commission and the California Men's Colony, 1990, to establish maintenance and operation criteria for the Chorro Booster pumps. The Commission installed the Chorro Booster pumps on the California Men's Colony turnout from the Whale Rock line to reduce system pressures required to provide full flow to the California Men's Colony water treatment plant. Pump and pump station maintenance, per the agreement, are the responsibility of the California Men's Colony.

F) An agreement between the Whale Rock Commission and the County of San Luis Obispo for connection to the Whale Rock pipeline, 1995, allowed a pipeline connection to deliver water to the Dairy Creek Golf Course. Typically, the golf course uses recycled water from the California Men's Colony. Under the terms of the agreement, water from Whale Rock Reservoir can be delivered when recycled water is not available.

G) Consent to common use agreement, 1996, between the Whale Rock Commission and the County of San Luis Obispo. The agreement allowed the installation of the State Water pipeline at seven locations within the existing Whale Rock pipeline easement.

H) A mutual aid agreement between the Whale Rock Commission and the City of Morro Bay, 2000, relative to water resources in the event of an emergency.

I) An exchange agreement, 2006, between CSA 10A and the City of San Luis Obispo allowing the delivery of up to 90 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 build-out.

C.8.3 Lopez Lake/Reservoir

The District completed the Lopez Dam in 1968 to provide a reliable water supply for agricultural and municipal needs. Although flood protection was not one of the reasons for the construction of the dam, it has proven its value to that consideration. 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).

The agencies that contract for Lopez water in Zone 3 include the communities of Oceano, Grover Beach, Pismo Beach, Arroyo Grande, and County Service Area (CSA) 12 (including the Avila Beach area). Their allocations are shown in the table below.

Table C-9. Lopez Lake Allocations

Water Users	Allocation (AFY)
City of Pismo Beach	896
Oceano CSD	303
City of Grover Beach	800
City of Arroyo Grande	2,290
CSA 12	241
Total	**4,530**

The District, in coordination with the Zone 3 Advisory Committee, continues to develop a Habitat Conservation Plan for the system and evaluate opportunities to operate more effectively and/or modify the system for water supply, water quality, ecosystem and flood management purposes.

C.8.4 Santa Margarita Lake/Salinas Reservoir

The Salinas Dam was built in 1941 by the War Department to supply water to Camp San Luis Obispo and, secondarily, to meet the water needs of the City of San Luis Obispo. The Salinas Reservoir (Santa Margarita Lake) captures water from a 112 square mile watershed and can currently store up to 23,843 acre-feet (AF). In 1947, the Salinas Dam and delivery system was transferred from the regular Army to the U.S. Army Corps of Engineers. Shortly thereafter, the District began operating this water supply for the City under a lease from the U.S. Army Corps

of Engineers. Water from the reservoir is pumped through the Cuesta Tunnel (a one-mile long tunnel through the mountains of the Cuesta Ridge) and then flows by gravity to the City's Water Treatment Plant on Stenner Creek Road.

The calculation of the yield available is coordinated with Whale Rock Reservoir using a safe annual yield computer model. The City's combined safe yield of the two reservoirs was 6,950 AFY in 2009. The model also accounts for the reduction in storage due to siltation.

The District, in coordination with the City of San Luis Obispo and downstream interests continues to evaluate opportunities to operate the dam more effectively and/or modify the system for water supply, water quality, ecosystem and flood management purposes.

C.8.5 Chorro Reservoir

The Chorro Reservoir is less than one mile northeast of the California Men's Colony in the upper Chorro watershed. The Chorro Reservoir is part of the Chorro Valley Water System operated by CMC. The system provides storage, treatment and distribution to four major users:

- The California Men's Colony
- Camp San Luis Obispo (California National Guard)
- County Operations Center/Office of Education
- Cuesta Community College (Cuesta College)

The reservoir and treatment plant were constructed by the U.S. Army Corps of Engineers to provide water to Camp San Luis Obispo at the beginning of World War II. The net storage capacity of the Chorro Reservoir has decreased since it was constructed due to siltation, and was estimated to be 105 AF, based on a study prepared by DWR in 1989. More recent studies indicate that the capacity is currently closer to 90 acre-feet. Safe annual yield is considered to be 140 AFY, as the watershed provides more than can be stored in the reservoir, even in drought years. It is worth noting that water demand at Camp San Luis Obispo, both during the war and subsequently, has been met almost exclusively through surface flows to the reservoir from the Chorro watershed and from groundwater wells on the Camp property. Although the Salinas Reservoir waterline was extended from the Cuesta Water Tunnel to the Chorro Reservoir as part of the original improvements in World War II, the pipeline has only been used to convey water from the Salinas Reservoir to the Camp twice since construction.

Camp San Luis Obispo has priority rights to water from Chorro Reservoir, with 140 AFY of entitlement. CMC has right to any excess. The Mainini Ranch has an agreement with the Camp for a delivery of up to 25 AFY, but has only used an average of 5 to 7 AFY over the past decade.

For further discussion on agreements related to the Chorro Reservoir, see the description of the Chorro Valley Water System in the Water Planning Area Number 4 discussion below.

C.8.6 State Water Project Facilities

The California Department of Water Resources (DWR) owns and operates the State Water Project (SWP). In 1963 the District contracted with 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, serving Santa Barbara and San Luis Obispo Counties.

The treatment facility for State Water delivered through the Coastal Branch, known as the Polonio Pass Water Treatment Plant (PPWTP), is owned, operated and maintained by the Central Coast Water Authority (CCWA) for users in San Luis Obispo and Santa Barbara Counties. DWR owns the Coastal Branch transmission system, and they operate and maintain the raw water portion of the system. CCWA operates and maintains the treated water portion of the Coastal Branch. Agreements between CCWA, Santa Barbara County Flood Control and Water Conservation District and DWR are in place to establish these roles and relationships.

C.8.6.1 Reducing Reliance on the Delta

The RWMG MOU (Exhibit 4) includes the need to update the Plan to comply with new State guidelines. Since the new State guidelines include eligibility standards for including addressing reduction in dependence on Delta water in the Plan, future updates to the Region's Plan retain applicable goals and objectives.

Additionally, San Luis Obispo County's Conservation and Open Space Element (COSE) of the General Plan includes Water Resources Policy 1.3, which says use of reclaimed water, interagency cooperative projects, desalination of contaminated groundwater supplies, and groundwater recharge projects should be considered prior to using imported sources of water or seawater desalination, or dams and on-stream reservoirs. Per Provision 4 of the MOU, the District is the lead agency for the RWMG, and the WRAC is both the main advisor to the RWMG and made up of RWMG members. The WRAC reviewed and commented on the update to the COSE on September 2, 2009, with no changes recommended. Therefore, updates of the Region's Plan will retain the goals for reducing dependence on imported water independent of State guidelines and eligibility requirements. See **Section D – Water Supply, Demad, and Water Budget** for more information on the Region's use of the State Water Project, and past deficiencies in their water contract in drought years with an allocation of 0% beginning in 2014.

C.8.7 Morro Bay Desalination Plant

In the County, there is only one operating desalination facility for potable water use,[12] that being the City of Morro Bay's desalination plant. In the past, Morro Bay has used the salt water reverse osmosis (SWRO) treatment plant to treat water from saltwater wells and to remove nitrates from fresh water wells. Recently the Morro Bay completed the installation of two 450 gallons per minute (gpm) brackish water reverse osmosis (BWRO) treatment trains. The addition of these treatment processes will enable the Morro Bay to treat both fresh water and salt water wells simultaneously, and will also reduce the energy usage of the facility as well. The SWRO trains are designed to produce approximately 645 AFY of potable water from sea water. The BWRO system is capable of treating the entire 581 AF of Morro Basin groundwater that the Morro Bay can extract by permit.

The original capital cost for the BWRO system in 2003 was about $3.1 million. The operating costs for the facility vary widely depending on the amount the Morro Bay operates the plant. Based on a nearly continuous operation, the costs are about $1,700 per acre foot, including replacement of membranes and some appurtenances on a 5-year cycle. With energy recovery equipment installed at a capital outlay of about $1 million, the operational cost for water would drop into the $1,100 -$1,300 per acre foot range.

C.8.8 Other Desalination Projects

The Cambria CSD has been striving to develop a seawater desalination plant to meet existing and future water demands. This plant, if implemented, is expected to produce up to 602 AFY. This plant will operate during the summer season to augment supply during the summer and high demand period (from summer tourism). A recycled water system is also planned, with an estimated 180 AFY made available for unrestricted irrigation use.

The City of Arroyo Grande, the City of Grover Beach, and the Oceano Community Services District participated in the evaluation of a desalination project to supplement their existing potable water sources. Currently, all three agencies receive water from various sources, including the California State Water Project, Lopez Lake Reservoir, and groundwater from the Arroyo Grande Plain Hydrologic Subarea that is part of the Santa Maria Valley Groundwater Basin. Recent projections of water supply shortfalls in the region motivated the agencies to conduct a more detailed study of desalination as a supplemental water supply. The study focused on utilizing the existing South San Luis Obispo County Sanitation District's (SSLOCSD)

[12] Another RO facility in the Arroyo Grande Oil Field in Price Canyon, is operated for the treatment of produced water (oilfield brine) that is a part of their oil well drilling activities. At the present time, it is discharged into Pismo Creek. However, there is potential that the reclaimed water can be used for agriculture or other purposes.

wastewater treatment plant to take advantage of utilizing the existing ocean outfall, while having the plant located near the ocean seawater source. The feasibility study, completed in 2008, was based on a 2,300 AFY seawater desalination facility. Some of the major points of interest and concern of this study include:

- Some 20 or more beach wells may be needed to provide enough seawater to produce the 2,300 AFY potable water.
- Permitting and environmental issues could be complex, and implementation could take 8 years or longer.

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

C.9 CURRENT WATER QUALITY CONDITIONS

This section summarizes current water quality conditions for surface water and groundwater bodies in the San Luis Obispo IRWM Plan Region. Surface water quality is summarized by the watershed name, timing of conditions, the pollutants that exceed the Total Maximum Daily Load (TMDL) according to Section 303(d) of the California Clean Water Act, potential pollution sources. Groundwater quality is summarized by groundwater basin name, estimated safe basin yield, Federal drinking water standard exceedance, and Central Coast Regional Water Quality Control Board water quality objective exceedance. Finally, summaries of the available basin management plans are provided.

The information presented in this section was gathered and aggregated from the Watershed Snap Shots.

C.9.1 North Coast

C.9.1.1 Watershed Health

Table C-10. North Coast Watershed Health

Watershed	Ephemeral / Perennial	303d Listed/ TMDLs	Pollution Sources
Big Creek	Unknown	None	n/a
San Simeon – Arroyo de la Cruz	Unknown	Escherichia coli (E. coli), Low Dissolved Oxygen, Chloride, Nitrate, Sodium	Agriculture, Natural Sources, Grazing-Related Sources, Unknown Sources, Wastewater - Land Disposal
Santa Rosa Creek	Unknown	Temperature, Water	Water Diversions, Urban Runoff, Agriculture, Disturbed Sites (Land Dev.), Grazing Related sources
Cayucos Creek	Unknown	Enterococcus, Fecal Coliform, Low Dissolved Oxygen	Industrial Activities (Oil), Natural Sources, Agriculture
Morro Bay	Perennial, Ephemeral (Sanford, personal communication, 2013)	E. coli, Fecal Coliform, Nutrients, Sediment, Pathogens, Sediment, Low Dissolved Oxygen, Nitrate	Agriculture, Agricultural Storm Runoff, Channel Erosion, Channelization, Dredging, Erosion/Sedimentation, Habitat Modification, Irrigated Crop Production, Grazing Riparian and/or Upland, Natural, Stream bank Modification/ Destabilization, Major Municipal Point Source, Urban Runoff, Unknown (SWRCB, 2010), Confined Animal Feeding Operation, Removal of Riparian Vegetation

C.9.1.2 Groundwater Quality

Table C-11. North Coast Groundwater Quality

Groundwater Basin	Estimated Safe Yield	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
San Carpoforo Valley	No data available	No.	None. (CCRWQCB, 2011)
Arroyo de la Cruz Valley	1,244 AFY (Envicom, 1982 / SLO County WMP, 2012)	None. (Carollo, 2012)	None. (CCRWQCB, 2011)
Pico Creek Valley	120 AFY (Cleath, 1986 / SLO County WMP, 2012).	None. (Carollo, 2012)	None. (CCRWQCB, 2011)
San Simeon Valley	1040 AFY (IRWM Plan, 2011)	None (Carollo, 2012)	None. (CCRWQCB, 2011)
Santa Rosa Valley	2,260 AFY (Cambria County Water District, 1976; Carollo, 2012)	Chloride content increased more than ten times from 80 ppm in 1955 to 933 ppm in 1975. Background chloride concentrations typically ranged from 30 to 270 ppm. One well had a concentration of 1,925 ppm in November 1961. The Santa Rosa Creek management plan also reports corrosivity effects by water supplies and natural or industrial influenced balance of hydrogen, carbon and oxygen in the water which is affected by temperature and other factors. Groundwater is found in alluvial deposits with an average specific yield of 17%. Groundwater is unconfined and generally flows westward. (Ca. Dept of Water Resources, 2003) Holocene-aged alluvial deposits consist of unconsolidated sand, clay, silt, and gravel of primarily fluvial origin. Commonly, the deposits are about 100 feet thick beneath the center of the valley and more than 120 feet thick at the coast (Ca. Dept. of Water Resources, 2003)	None. (CCRWQB, 2011)
Villa Valley	1,000 AFY (DWR 1958; Carollo, 2012))	None. (Carollo, 2012)	None. (CCRWQB, 2011)
Cayucos Valley	600 AF (Carollo, 2012).	Analysis of groundwater from 32 wells in this basin taken during 1957 through 1993 show TDS content ranging from 346 to 2,462 ppm. Portions of the basin have chloride levels exceeding 100 ppm, indicating seawater intrusion has occurred (Carollo, 2012).	No for basin. No information for subbasin (CCRWQB, 2011)
Old Valley	505 AF (Carollo, 2012)	Analyses of groundwater from 33 wells in this basin taken during 1957 through 1993 show TDS content ranging from 346 to 2,462 ppm. Portions have chloride levels exceeding 100 mg/L. (Carollo, 2012).	No for basin. No information for subbasin (CCRWQCB, 2011)
Toro Valley	532 AF (Carollo, 2012)	None.	No. (CCRWQCB, 2011)
Morro Valley	1,500 AFY(San Luis Obispo County, Master Water Report, 2012)	No. (San Luis Obispo County, Master Water Report, 2012)	Undetermined. (RWQCB, Table 3-8, 2011)
Chorro Valley	2,210 AFY(San Luis Obispo County, Master Water Report, 2012)	Yes; see description below. (San Luis Obispo County, Master Water Report, 2012)	No. (RWQCB, Table 3-8, 2011)
Los Osos Valley Basin	3,200 AFY(San Luis Obispo County, Master Water Report, 2012)	Yes; see description below. (San Luis Obispo County, Master Water Report, 2012)	Undetermined. (RWQCB, Table 3-8, 2011)

C.9.1.3 Basin Plans (By Watershed)

Table C-12. North Coast Basin Plans

Watershed Name	Plan Title	Plan Author	Plan Year
Santa Rosa Creek	Santa Rosa Creek Watershed Management Plan	Greenspace Cambria	2010
	Cambria Forest Management Plan	Greenspace Cambria	2002
Coastal Irish Hills	Irish Hills Coastal Watershed Conservation Plan	Coastal Conservancy	2011
Morro Bay	Morro Bay Comprehensive Conservation Management Plan	MBNEP	2013
San Luis Obispo Creek	San Luis Obispo Creek Watershed Enhancement Plan	The Land Conservancy of San Luis Obispo County	2002
	Prefumo Creek Watershed Management Plan	City of San Luis Obispo	2014

C.9.2 North County

C.9.2.1 Watershed Health

Table C-13. North County Watershed Health

Watershed	Ephemeral / Perennial	303d Listed/ TMDLs
Black Sulfur Spring Watershed	Perennial	None
Soda Lake	Ephemeral (wiki)	Ammonia
Upper San Juan Creek	Unknown	None
Middle Salinas-Atascadeo	Perennial	Chloride, E. coli, Fecal Coliform, Low Dissolved Oxygen, and Sodium. TMDL estimated date of completion 2021.
Santa Margarita Lake – South Salinas	Unknown	Sodium, Chloride
Paso Robles Creek – North Salinas River	Intermittent Perennial	Sodium, Chloride
Cholame Creek	Perennial	Boron, Chloride, Electrical Conductivity, Escherichia coli (E. coli), Fecal Coliform, Low Dissolved Oxygen, Sodium
Estrella River	Ephemeral	Boron, Chloride, Fecal Coliform, Sodium, pH
Huer Huero	Unknown	None
Lower San Juan Creek	Unknown	None
Nacimiento River	Perennial	Mercury, Metals

C.9.2.2 Groundwater Quality

Table C-14. North County Groundwater Quality

Groundwater Basin	Estimated Safe Yield	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
Carrizo Plain	8000-11,000 AF (Carollo, 2012)	Yes; see description below.	Exceeds usable mineral quality for total dissolved solids, chloride, sulfate, boron, sodium, and nitrogen (CCRWQB, 2011).
Paso Robles	97,700 AF (SLO County RCS, 2011).	Yes; see description below.	None (CCRWQCB, 2011
Big Spring Area	None (Carollo, 2012)	None (Carollo, 2012)	None (CCRWQCB, 2011
Rafael Valley	None (Carollo, 2012)	None (Carollo, 2012)	None (CCRWQCB, 2011
Atascadero	None (Carollo, 2012)	The 2008 Water Quality Report for both Templeton CSD and Atascadero MWC found that none of the tested regulated and secondary substances in water samples exceeded their MCL values (Carollo, 2012)	None (CCRWQCB, 2011)
Rinconada	None (Carollo, 2012)	None (Carollo, 2012)	None (CCRWQCB, 2011)
Pozo Valley	1,000 AFY (DWR 1958; Carollo, 2012)	None (Carollo, 2012)	None (CCRWQCB, 2011)
Santa Margarita Basin	400-600AFY (SLO County, 2008)		
Cholame Valley	No data available	None	None (CCRWQCB, 2011)

C.9.2.3 Basin Plans (By Watershed)

Table C-15. North County Basin Plans

Watershed Name	Plan Title	Plan Author	Plan Year
Nacimiento River	San Antonio and Nacimiento Rivers Watershed Management Plan	MCWRA	2008
	Camp Roberts Integrated Natural Resource Management Plan	Camp Roberts JLUS	2013
North Salinas River, Middle Salinas River, South Salinas River	Upper Salinas River Watershed Action Plan	US-LT RCD	2004
	Upper Salinas River Watershed Action Plan	US-LTRCD	2004
	Camp Roberts Integrated National Resources Management Plan	Camp Roberts JLUS	2013

C.9.3 South County

C.9.3.1 Watershed Health

Table C-16. South County Watershed Health

Watershed	Ephemeral / Perennial	303d Listed/ TMDLs
Coastal Irish Hills	No source identified.	Not assessed. (SWRCB, 2010)
San Luis Obispo Creek	Perennial, Ephemeral	Chloride, Chlorpyrifos, Nitrate, Nutrients, Pathogens, Sodium, Fecal Coliform, Low Dissolved Oxygen, Nitrate, Turbidity,
Arroyo Grande Creek	Perennial, Ephemeral	E coli., Fecal Coliform, Chloride, Nitrate, Sodium
Nipomo – Suey Creeks	Perennial	Fecal Coliform, Nitrate, Unknown Toxicity
Pismo Creek	Perennial, Ephemeral	Chloride, E. coli, Fecal Coliform, Low Dissolved Oxygen, and Sodium
Santa Maria River	Perennial, Ephemeral	Ammonia, Chloride, Fecal Coliform, Nitrate, Sediment Toxicity, Sodium, Unknown Toxicity, Chloride, Chlorpyrifos, DDT, Dieldrin, Endrin, E. coli, Toxaphene, Turbidity
Alamo Creek	Perennial	Fecal Coliform
Huasna River	No source identified.	Not assessed. (SWRCB, 2010)
Cuyama River	Ephemeral	for Boron, Chloride, Electrical Conductivity, Fecal Coliform, pH, Sodium

C.9.3.2 Groundwater Quality

Table C-17. South County Groundwater Quality

Groundwater Basin	Estimated Safe Yield	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
San Luis Obispo Valley	6,000 AFY (SLO County, Master Water Report, 2012)	See sub-basins. (SLO County, Master Water Report, 2012)	No.(RWQCB, Table 3-8, 2011)
San Luis Obispo Valley – Avila Valley Subbasin	No basin yield numbers have been published (SLO County, Master Water Report, 2012)	No. (SLO County, Master Water Report, 2012)	No objective for sub-basin. (RWQCB, Table 3-8, 2011)
San Luis Obispo Valley – Edna Valley Subbasin	4,000 AFY (DWR, 1997) (SLO County, Master Water Report, 2012)	No. (SLO County, Master Water Report, 2012)	No objective for sub-basin. (RWQCB, Table 3-8, 2011)
San Luis Obispo Valley – Pismo Creek Valley Subbasin	200 AFY, although this is before any consideration for environmental habitat demand (Fugro, 2009). (SLO County, Master Water Report, 2012)	Yes; see description below. (SLO County, Master Water Report, 2012)	No for basin. No objective for subbasin. (RWQCB, 2011)
San Luis Obispo Valley – San Luis Valley Subbasin	2,000 AFY (DWR, 1997) (SLO County, Master Water Report, 2012)	Yes; see description below. (SLO County, Master Water Report, 2012)	No objective for sub-basin. (RWQCB, Table 3-8, 2011)
Arroyo Grande Valley Subbasin	No estimated safe yield value reported. (San Luis Obispo County, Master Water Report, 2012)	Yes; see description below. (San Luis Obispo County, Master Water Report, 2012)	No. No objective for subbasin. (RWQCB, Basin Plan, Table 3-8, 2011)
Santa Maria Valley – Nipomo Valley Subbasin	No existing yield. (San Luis Obispo County, Master Water Report, 2012)	No. (San Luis Obispo County, Master Water Report, 2012)	No objective for subbasin. (RWQCB, Table 3-8, 2011)
Northern Cities Management Area of Santa Maria Valley Basin	4,000 AFY (DWR, 1997)	Yes; see description below. (San Luis Obispo County, Master Water Report, 2012)	No. No objective for subbasin. (RWQCB, Basin Plan, Table 3-8, 2011)
Santa Maria Valley- Nipomo Mesa Management Area	4,800-6,000 AFY(San Luis Obispo County, Master Water Report, 2012)	No. (San Luis Obispo County, Master Water Report, 2012)	Yes. (RWQCB, Table 3-8, 2011)
Santa Maria Valley - Orcutt Sub-basin	Unknown. (San Luis Obispo County, Master Water Report, 2012)	Unknown. (San Luis Obispo County, Master Water Report, 2012)	*Santa Maria Valley - Orcutt Sub-basin
Santa Maria Valley – Santa Maria Management Area (portion)	124,000 AFY Safe Yield in the San Luis Obispo County portion of the Santa Maria Valley, reported as dependable yield, was estimated between 11,100 AFY and 13,000 AFY prior to the formal establishment of the SMVMA (DWR 2002).	124,000 AFY Safe Yield in the San Luis Obispo County portion of the Santa Maria Valley, reported as dependable yield, was estimated between 11,100 AFY and 13,000 AFY prior to the formal establishment of the SMVMA (DWR 2002).	*Santa Maria Valley – Santa Maria Management Area (portion)

Table C-17. South County Groundwater Quality

Groundwater Basin	Estimated Safe Yield	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
Santa Maria Valley Basin	Adjudicated. (San Luis Obispo County, Master Water Report, 2012)		Yes. (RWQCB, Table 3-8, 2011)
Huasna Valley Basin	No existing data. (San Luis Obispo County, Master Water Report, 2012)	No historical water quality data. (San Luis Obispo County, Master Water Report, 2012)	No objective for the basin. (RWQCB, Table 3-8, 2011)
Cuyama Valley - Cuyama Valley Basin (portion)	10,667 AFY (San Luis Obispo County, Master Water Report, 2012)	10,667 AFY (San Luis Obispo County, Master Water Report, 2012)	Cuyama Valley - Cuyama Valley Basin (portion)
Cuyama Valley Basin	9,000 - 13,000 AFY (San Luis Obispo County, Master Water Report, 2012)	Yes; (San Luis Obispo County, Master Water Report, 2012)	No. (RWQCB, Table 3-8, 2011)
Santa Rosa Valley	2,260 AFY (Cambria County Water District, 1976; Carollo, 2012)	Chloride content increased more than ten times from 80 ppm in 1955 to 933 ppm in 1975. Background chloride concentrations typically ranged from 30 to 270 ppm. One well had a concentration of 1,925 ppm in November 1961. The Santa Rosa Creek management plan also reports corrosivity effects by water supplies and natural or industrial influenced balance of hydrogen, carbon and oxygen in the water which is affected by temperature and other factors. Groundwater is found in alluvial deposits with an average specific yield of 17%. Groundwater is unconfined and generally flows westward. (Ca. Dept of Water Resources, 2003) Holocene-aged alluvial deposits consist of unconsolidated sand, clay, silt, and gravel of primarily fluvial origin. Commonly, the deposits are about 100 feet thick beneath the center of the valley and more than 120 feet thick at the coast (Ca. Dept. of Water Resources, 2003)	None, CCRWQB, 2011
Toro Valley	532 AF (Carollo, 2012)	None.	No (CCRWQCB, 2011)
Villa Valley	1,000 AFY (DWR 1958; Carollo, 2012))	None. (Carollo, 2012)	None, CCRWQB, 2011

C.9.3.3 Basin Plans (By Watershed)

Table C-18. South County Basin Plans

Watershed Name	Plan Title	Plan Author	Plan Year
Suey Creeks	Nipomo Creek Watershed Management Plan	Land Conservancy of San Luis Obispo and CCSE	2005
Santa Maria River	Nipomo Creek Watershed Management Plan	Land Conservancy of San Luis Obispo and CCSE	2005
Arroyo Grande Creek	Arroyo Grande Creek Watershed Management Plan	CCSE	2009
Pismo Creek	Pismo Creek/ Edna Area Watershed Management Plan	CCSE	2009
	Santa Maria River Estuary Enhancement and management Plan	Dunes Center	2004

C.9.4 Water Quality Protection and Improvement Needs

Refer to **Appendix N – Watershed Management Planning Project** for various water quality needs by watershed.

C.9.5 Salt and Nutrient Management Planning Efforts

As part of the Proposition 84 Planning Grant used to support the IRWM Plan Update, funds were also directed at Salt and Nutrient Management Planning (SNMP). These efforts included:

1. Identification and Prioritization of Basins in the Region Requiring SNMPs (**Appendix O-1**)
2. The Paso Robles Groundwater Basin SNMP (**Appendix O-2**)
3. Santa Maria Groundwater Basin Characterization – Phase I for the development of an SNMP (**Appendix O-3**)

C.10 ENVIRONMENTAL RESOURCES

This section summarizes the environmental resources within the San Luis Obispo IRWM Plan Region. These resources are reliant on the quality and availability of water within the Region.

C.10.1 Habitats of Special Concern

A comprehensive summary table of habitats of special concern was prepared by the District and is located at the end of **Appendix N – San Luis Obispo County Watershed Management Planning Project Report Watershed Study**.

C.10.2 Species of Special Concern

A comprehensive summary table including species of special concern was prepared by the District and is located at the end of **Appendix N – San Luis Obispo County Watershed Management Planning Project Report Watershed Study**.

C.10.3 Marine Protected Areas

Table C-42 presents the Marine Protected Areas according to the California Marine Protected Area designation.

Table C-19. Marine Protected Areas in the San Luis Obispo IRWM Plan Region

Marine Protected Areas in San Luis Obispo County
Cambria State Marine Conservation Area
Morro Bay State Marine Recreational Management Area
Morro Bay State Marine Reserve
Piedras Blancas State Marine Conservation Area
Piedras Blancas State Marine Reserve
Point Buchon State Marine Conservation Area
Point Buchon State Marine Reserve
White Rock (Cambria) State Marine Conservation Area
Source: California Department of Fish and Wildlife. <http://www.dfg.ca.gov/m/MPA/ListByCounty?countyID=40>. Accessed 26 Nov 2013

C.10.4 Fisheries (By Watershed)

Table C-43 summarizes the fisheries and potential fish habitats within the watersheds of the San Luis Obispo IRWM Plan Region. The habitats of note are those that support Steelhead Salmon populations. This information was gathered from the Watershed Snap Shots.

Table C-20. Fisheries and Fish Habitat in the San Luis Obispo IRWM Plan Region

Watershed Name	Steelhead Streams
Big Creek	San Carpoforo Creek
San Simeon - Arroyo de la Cruz	Arroyo de los Chinos Creek, Arroyo de la Cruz Creek, Pico Creek, San Simeon Creek, Steiner Creek
Santa Rosa Creek	Santa Rosa Creek Upper, Santa Rosa Creek Lower, Lower Perry Creek
Cayucos Creek	Cayucos Creek, Old Creek, Cottontail Creek, Toro Creek
Morro Bay	Chorro Creek, Los Osos Creek, Chorro Creek tributaries (Dairy Creek, Pennington Creek, San Bernardo Creek, San Luisito Creek, and 2 unnamed tributaries, Walter's Creek
Coastal Irish Hills	Islay Creek, Coon Creek, Diablo Canyon
San Luis Obispo Creek	San Luis Obispo Creek, San Miguelito (See Canyon) Creek, Froom Creek, Prefumo Creek, Stenner Creek, Brizzolari Creek, Unnamed tributary, Dry Creek, Acacia Creek, Reservoir Canyon
Arroyo Grande Creek	Arroyo Grande Creek
Nipomo - Suey Creeks	None
Pismo Creek	Pismo Creek; East and West Corral de Piedra Creeks
Santa Maria River	Santa Maria River
Alamo Creek	None
Huasna River	None
Cuyama River	None
Black Sulpher Spring	None
Soda Lake	None
Upper San Juan Creek	None
Atascadero Creek – Mid Salinas	Atascadero (Hale) Creek, Santa Margarita Creek, Tassajara Creek, Salinas River
Santa Margarita Lake - South Salinas	None
Paso Robles Creek-North Salinas	Paso Robles Creek, Jack Creek, Salinas River, Graves Creek, Santa Rita Creek, Summit Creek, Sheepcamp Creek, San Marcos Creek, Willow Creek
Cholame Creek	None
Estrella River	None
Huer Huero Creek	Huer Huero Creek
Indian Valley	Salinas River
Lower San Juan Creek	None
Nacimiento River	Lower Nacimiento River

C.10.5 Other Environmental Resources

Table C-44 presents the environmental resources significant to the San Luis Obispo IRWM Plan Region. First presented in the 2007 San Luis IRWM Plan, the following information is updated to reflect current conditions.

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

Environmental Resource	Description	Image
San Luis Obispo Coastal Zone spanning 118 miles of coastline with numerous wide sandy beaches, sheltered bays, and vista pints offering scenic views of the Pacific Ocean.	The coastal zone of San Luis Obispo County is known throughout the state for its beauty and diversity. The north coast is characterized by the rugged headlands to Big Sur. The rocky shoreline along the Hearst Ranch is highly valued for offshore views of marine mammals as well as scenic cliffs and rocky points. The beach, sandspit, and extensive wetlands of Morro Bay form a unique setting for wetland habitat study. The sheltered coves and beaches of Avila Beach and Pismo Beach state parks provide a contrast to the marine terrace and offshore rocks of the north coast shoreline.	
80 miles of beaches and more than 50 public coastal access areas	William Randolph Hearst Memorial State Beach San Simeon State Beach Moonstone Beach Cayucos Beach Cayucos State Beach Morro Strand State Beach Atascadero Beach Montano de Oro State Park Port San Luis Pier and Beach Avila State Beach Pismo State Beach Harmony Headlands State Park Oceano Dunes State Vehicles Recreation Area	
Critical Coastal Areas (CCAs)	California's Critical Coastal Area (CCA) Program focuses efforts on coastal zone watershed areas in critical need of protection from polluted runoff. Morro Bay, Chorro Creek, Los Osos Creek, and San Luis Obispo Creek, have been designated as CCAs in the region. The state has selected the Salinas River and San Luis Obispo Creek to be priority CCAs for the Central Coast Region.	 **Mouth of San Luis Obispo Creek**
Morro Rock Ecological Preserve, Bird Sanctuary, and Heron Rookery	Morro Bay is one of the most significant migratory stops on the Pacific Flyway. The City of Morro Bay is a designated bird sanctuary. Morro Rock is one of the few known nesting sites for Peregrine Falcons on the coast north of the Channel Islands. The Heron Rookery is a dense stand of tall eucalyptus trees overlooking Morro Bay and is the biggest great blue heron rookery along the Central Coast.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

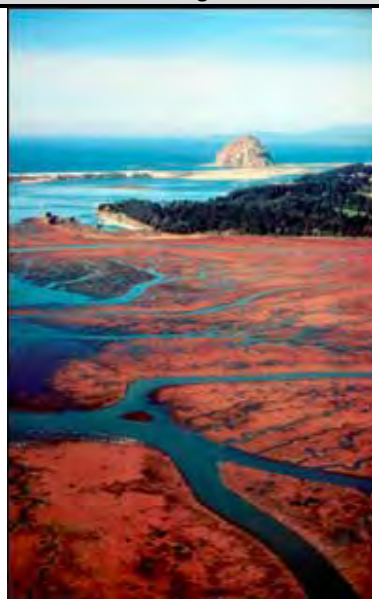
Environmental Resource	Description	Image
Morro Bay National Estuary	The most important wetland on the California central coast. The Morro Bay estuary supports several biotic communities including coastal salt marsh, tidal mudflats, and coastal scrub.	 **From the Morro Bay National Estuary Program**
Monterey Bay National Marine Sanctuary	The Monterey Bay National Marine Sanctuary (MBNMS) is a Federally protected marine area off the shore of California's central coast. Stretching from Marin to Cambria, the MBNMS supports one of the world's most diverse marine ecosystems and is home to numerous mammals, seabirds, fishes, invertebrates and plants in a remarkably productive coastal environment.	
Hearst Ranch Conservation Project	With 82,000 acres reaching from the ocean, over the Santa Lucia Mountain Range and to Lake Nacimiento, the Ranch contains extraordinary natural resources. Its 18 miles of coastline includes the spectacular San Simeon Point, beach habitat for elephant seals, the renowned "Windsurfers" beach, surfing beaches and the Piedras Blancas Light Station. The Ranch is bordered in the north by Los Padres National Forest and Fort Hunter Liggett. The Ranch interior encompasses rolling grasslands, oak and pine forests, and numerous riparian areas including the Arroyo San Carpoforo, Arroyo de La Cruz and its 42 square mile watershed, Pico Creek and Little Pico Creek.	 **From the American Land Conservancy**

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

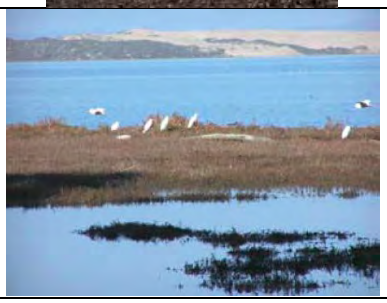
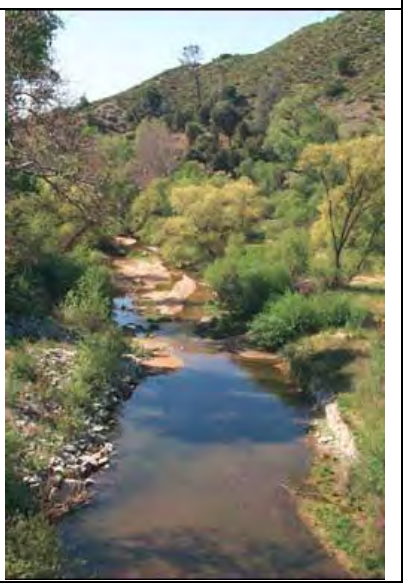
Environmental Resource	Description	Image
Montano de Oro State Park	This state park includes a seven-mile long shoreline made up of sandy beaches along the sand spit to the north and rugged cliffs and headlands to the south. The central and southern part of the park features a number of small coves with sandy beaches. The park includes more than 8,000 acres, is largely undeveloped, and features a wide range of wildlife including rabbits, squirrels, skunks, raccoons, badgers, deer, fox, bobcats, coyote, and even an occasional mountain lion. There are also many kinds of birds, and in the spring and early summer a brilliant display of wildflowers.	
Sweet Springs Ecological Preserve	A saltwater marsh which is an unusual combination of a tidal salt marsh and a freshwater spring which is adjacent to and flows into Morro Bay. The Preserve is used as a feeding and resting area by many species of shorebirds and water fowl.	
Estero Bluffs State Park	The Estero Bluffs State Park is a rich, diverse, and particularly scenic area of the Pacific Ocean coast, with sea stacks and intertidal areas, a substantial area of wetlands, low bluffs and coastal terraces punctuated by a number of perennial and intermittent streams, and containing a pocket cove and beach at Villa Creek. The property's rich diversity of habitat types includes marine, intertidal, estuarine, riverine, coastal salt marsh, freshwater marsh, coastal foredune, coastal and riparian scrub and grassland, collectively providing habitat for a number of endangered species, including the snowy plover.	
Upper Salinas River	The Salinas River has the reputation of being the largest submerged stream in the United States.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

Environmental Resource	Description	Image
Santa Maria River	The Santa Maria River lies in both Santa Barbara and San Luis Obispo County. Though only high tides inundate the estuary, 35 acres of salt marsh are present.	 **Mouth of Santa Maria River**
Guadalupe-Nipomo Dunes wetland complex	The largest Coastal dune ecosystem in the Western US, the Guadalupe-Nipomo Dunes preserve comprises 18 miles of the largest, most biodiverse, coastal dune-lagoon ecosystem on earth. With 1,400 known species of birds, plants and animals and with the highest sand dune on the west coast, it is a place of rare beauty and significance.	
Oso Flaco Lake Natural Reserve, Nipomo Dunes and the Dune Lakes	Oso Flaco Lake is a sensitive coastal dune habitat and wetland area that provides important wildlife habitat including habitat for the rare and endangered Least Tern. The Dune Lakes are a series of ten freshwater lakes located in the hollows of the Nipomo Dunes. These lakes are important to birds in the Pacific flyway and provide important nesting areas for water fowl and other marsh associated species. The area is in agricultural preserve to protect farmland and wildlife habitat.	
Groundwater basins	Paso Robles Groundwater Basin* Morro and Chorro Valley Groundwater Basins* Santa Maria Groundwater Basin* Los Oso Valley Groundwater Basin* Santa Rosa Creek Groundwater Basin* San Simeon Creek Groundwater Basin* San Luis Obispo Creek Groundwater Basin* Cuyama Valley Groundwater Basin*	
Four major drinking water reservoirs	Whale Rock Reservoir*, Salinas Reservoir*, Nacimiento Reservoir*, and Lopez Lake*	
Whale Rock Reservoir	Whale Rock Reservoir is a 40,662 acre foot reservoir created by the construction an earthen dam on Old Creek near the town of Cayucos. The dam was designed and constructed by the State Department of Water Resources in 1961 to provide water to the City of San Luis Obispo, Cal Poly State University and California Men's Colony. The Whale Rock Dam captures water from a 20.6 square mile watershed and water is delivered to the three agencies through 17.6 miles of 30-inch pipeline and two pumping stations.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

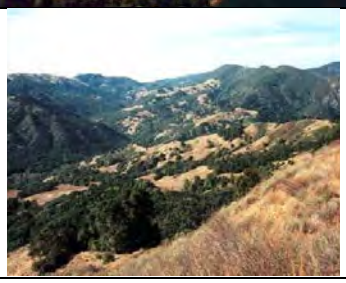
Environmental Resource	Description	Image
Lake Nacimiento	Lake Nacimiento is a water conservation and flood control project and has recreational resource of with inter-regional significance. Bald eagles are often sited here. The Nacimiento Dam was constructed in 1957 by Monterey County Flood Control and Water Conservation District (now known as the Monterey County Water Resources Agency (MCWRA)). The dam and reservoir continue to be operated by MCWRA. The lake has a capacity of 377,900 acre feet and a surface area of 5,727 acres. Water is collected from a watershed that is comprised of grazing lands and rugged wilderness.	
Lopez Lake	The San Luis Obispo County Flood Control and Water Conservation District completed the Lopez Dam in 1968 to provide a reliable water supply for agricultural and municipal needs. Lopez Lake covers 950 surface acres of water and has 22 miles of oak covered shoreline. Bald eagles are sited here.	
Santa Margarita Lake (Salinas Reservoir)	The Salinas Dam was built in 1941 by the War Department to supply water to Camp San Luis Obispo and, secondarily, to meet the water needs of the San Luis Obispo. The Salinas Reservoir (Santa Margarita Lake) captures water from a 112 square mile watershed and can currently store up to 23,843 acre-feet. Bald eagles are often sited here.	
Los Padres National Forest	Los Padres National Forest encompasses nearly two million acres in the coastal mountains of central California. Endangered California condors are found in Los Padres National Forest.	
Carrizo Plains National Monument and Ecological Reserve and Soda Lake	The 180,000 acre Carrizo Plain National Monument is California's largest nature preserve with more endangered vertebrates than any other place in California. In the spring, an amazing display of native wildflower blooms can be seen. Soda Lake is an ephemeral alkaline wetland that is all that remains of a prehistoric sea. One of the largest undisturbed alkali wetlands in the state, the 3,000 acre lake provides important habitat for migratory birds, including shorebirds, waterfowl, and a quarter of the state's wintering sandhill crane population.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

Environmental Resource	Description	Image
Santa Lucia Wilderness	20,412 acres of wilderness located inland from Arroyo Grande and San Luis Obispo include chaparral-covered peaks, stream fed valleys, and the vista of Morro Rock and seven of the nine volcanic morros that mark the region.	
Machesna Mountain Wilderness	Pine crowned peaks, majestic rocky crags and views of the snowcapped Sierras characterize the Machesna Wilderness. The 20,000 acre wilderness became part of the National Wilderness System in 1984. Chaparral oak woodlands and conifer forests blanket its rugged terrain. The Wilderness also contains a 1,500 acre Research Natural Area dedicated to the study of a unique strain of Coulter pine. Prairie falcon, deer, mountain lions, black bear, and tule elk make their home in the undisturbed landscape. Part of the wilderness is designated critical habitat for the California condor.	
Caliente Wildlife Area	Caliente Mountain, the highest peak in the county at more than 5,100 feet, is within the range of the endangered California Condor, the blunt nosed leopard lizard, and the rare San Joaquin kit fox.	 **View of Caliente Mountain proposed wilderness from the Carrizo Plain**
Greenbelts and Open Spaces	San Luis Obispo Greenbelt Program Los Osos Greenbelt	
Irish Hills Natural Reserve	The Irish Hills Natural Reserve contains a coastal terrace, Bishop pine and oak forests, and scenic canyons with waterfalls. The coastal terrace both north and south of Diablo Canyon supports a variety of coastal species that differ from other coastal areas. One of the largest conifer forests and some of the largest oaks in the county are located here. Ruda Ranch is located in the Irish Hills and includes a unique plant community.	
Nine Sisters of San Luis Obispo	Nine volcanic morros spanning from San Luis Obispo to Morro Bay including Morro Rock, Black Hill, Cabrillo Peak, Hollister Peak, Cerro Romauldo, Chumash Peak, Bishop Peak, San Luis Mountain, and Islay Hill. The Morros provide a unique habitat for many animal and plant species. Several plant communities exist along the chain, which, due to its orientation, has micro climates ranging from sea-spray saturated rocks, through moss draped oak forests to parched chaparral slopes.	 **Photo courtesy of Gary Felsman and the Santa Lucia Chapter of the Sierra Club**
San Andreas Fault Zone of Eastern San Luis Obispo County	The sag ponds along the fault have special ecological significance due to the extraordinary preservation of the fault trace in the arid climate and the presence of special status plants.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

Environmental Resource	Description	Image
More than 50 hiking trails	Some examples include the California Coastal Trail (in progress), the East-West Ranch, the Pecho Valley Trail, and Reservoir Canyon Trail.	
Elfin Forest	The Elfin Forest Natural Area on the southeastern shore of Morro Bay is a diverse and complex assemblage of natural plant communities that includes coastal brackish marsh, riparian woodland fringe, pygmy oak woodland, grassland, coastal dune scrub and oak manzanita association. It supports a documented 25 species of mammals, over 110 kinds of birds, and 11 species of reptiles and amphibians.	
Los Osos Oaks State Reserve	85 acre area located near the town of Los Osos that contains a grove of coast live oaks including some mature oaks that are no more than six to eight feet in height. These dwarfed oaks grow in the mineral depleted soil of ancient sand dunes. A wide range of plants and animal diversity can be seen here including three kinds of lichens not found elsewhere.	 **Photo courtesy of Gary Felsman and the Santa Lucia Chapter of the Sierra Club**
Cambria Monterey Pine Forest	Cambria's Monterey pine forest, one of only three native stands left in the state, five in the world	 **Photo courtesy of Greenspace The Cambra Land Trust**
Knobcone Pine Forest	The Knobcone pine (Pinus attenuate) is restricted to an area at the Cuesta summit. Coulter pine (Pinus coulteri) is also in this area.	
Upper Salinas Oak Woodlands	Seven distinct native plant communities provide wildlife habitat. These communities include valley oak woodland, blue oak woodland, Central Coast live oak riparian forest, Central Coast cottonwood-sycamore riparian forest, Central Coast riparian scrub, freshwater seeps, and Claypan vernal pools.	

Table C-21. Environmental Resources within the San Luis Obispo IRWM Plan Region

Environmental Resource	Description	Image
Agricultural preserves	The county's rich agricultural resources are protected through a variety of activities in the Agricultural Resources Program. Nearly 1.3 million acres (over 61%) of the land area of the county is designated for agricultural land use.	
Class I Steelhead Streams	Arroyo Grande Creek Pismo Creek East Corral de Piedra West Corral de Piedra San Carpoforo Creek Santa Rosa Creek	
Black Lake Canyon	One of the few remaining freshwater marshes in this area used by migratory waterfowl. This unique canyon bisects the Nipomo Mesa and was once part of a stream system that flowed directly into the ocean. Over geologic time, however, the Canyon became isolated from its historic basin. Today, the bottom of the Canyon is still home to unique wetland habitats fed by groundwater and rain. The isolation of the canyon habitats has also encouraged the development of a unique set of plant species. Black Lake Canyon is one of the only known habitat areas that supports the endangered marsh sandwort and the Gambel's watercress.	 **Photo courtesy of the Land Conservancy of San Luis Obispo County**
Rocky Butte Botanical Area	This high ridge between Rocky Butte and Monterey County has outstanding botanical value and serves as a valuable scenic backdrop.	
Tierra Redonda Mountain Natural Area	Tierra Redonda Mountain, situated in northwestern San Luis Obispo County between Lake Nacimiento and Lake San Antonio was designated as open space to retain areas with fragile plant or animal communities in a natural or undisturbed state. The dominant plant community is blue-oak woodland. Grassland, chaparral, and unique sand dunes also occur here. One of the largest concentrations of Chorizanthe species in the world is found here. Sensitive plant species include one-awned spineflower, Salinas Valley goldfields, San Luis Obispo County lupine, and ribbonwood. Prairie falcons are also known from this area.	
Cuesta Ridge Botanical Area	Scenic ridge northwest of the Cuesta grade that contains a Sargent cypress grove with a rare local endemic plant, Cuesta Pass checkerbloom (Sidalcea hickmannii ssp. Anomala).	
Rinconada Mine Botanical Area	An outstanding representative foothill woodland community with a wide diversity of species including the rare and endangered Monardella palmeri.	
Fisheries	Morro Bay and Port San Luis are major fishing harbors. Sportsfishing is very popular in Lake Nacimiento, Santa Margarita Lake, and Lopez Lake.	

C.11 MANAGEMENT ISSUES

This section summarizes the known and potential watershed management issues within the San Luis Obispo IRWM Plan Region. The tables contain information collected from the Watershed Snap Shots.

C.11.1 North Coast

Table C-22. Management Issues for the North Coast Sub-Region

Watershed	Issue	Potential Causes
Big Creek	Seawater intrusion into GW basin	Reduced groundwater quantity
	Limited GW basin yield	
	Outdated Groundwater Basin data	
San Simeon - Arroyo De La Cruz	Loss of riparian vegetation	
	Lack of instream flow	Pumping/diversions from water right holders
	Excessive sedimentation	
	Gravel mining	
	Grazing/Cattle	
	Low dissolved oxygen kills fish in the lagoon	
	Water pollution	Sewage leaks/overflow, general agriculture/row crops
	Poaching	
	Sea Water Intrusion	
	Currently the water supply of San Simeon CSD is at a certified Level III severity rating (resource capacity has been met or exceeded) due to unreliability of the groundwater supply to meet existing demands (SLO County, 2008). As a result, a moratorium on development has been in place since 1991.	
	Outdated hydrological studies for area GW basins	
Santa Rosa Creek	Surface flow quantity	Extraction and diversions
	Surface Water Temperature	Limited riparian cover
	Low dissolved oxygen in lagoon	Low instream flows
	Fine sediment in lower reaches	Historical land clearing
	Fish Passage Barriers	Infrastructure changes over time
	Non-native invasive species	n/a
	Sedimentation	Grazing/Cattle
	Water Quantity	Groundwater extraction, low summer flow
	GW basin seawater intrusion	
	GW quality - chloride	
	Outdated basin studies – Villa Valley basin	
Cayucos Creek	Threat to lagoon	Channelization, pollution
	Loss of riparian width	Agriculture
	Lack of enforcement	

Table C-22. Management Issues for the North Coast Sub-Region

Watershed	Issue	Potential Causes
	Water quantity	Agricultural and residential extractions
	Sedimentation	
	Sea Water Intrusion (Cayucos Valley basin)	
	Nitrates	Agriculture
	Outdated Basin study – Cayucos Valley basin	
	Alluvial water deposits subject to drought impacts	
	Outdated groundwater basin analysis – Toro Valley	
Morro Bay	Accelerated sedimentation	Natural, increased impervious area, lack of vegetation due to land management and fire
	Bacterial contamination	Urban runoff, grazing area runoff, waste disposal from boats, domestic and wild animal waste, septic systems
	Elevated nutrient levels	Wastewater treatment effluent from California Men's Colony, cropland runoff, rangeland runoff, and natural
	Toxic pollutants	Historic mining operations, household and agricultural pesticides, detergents, soaps, oils and lubricants from street drainage, and household or commercial cleaning products, non-fouling paints and other chemicals used for boat maintenance, fuel spills, illegal dumping and emerging contaminants
	Scarce freshwater resources	Natural conditions plus use and impacted groundwater water quality
	Preserving biodiversity	species and habitat loss
	Environmentally balanced use	Important human uses necessarily have some impact on natural resources

C.11.2 North County

Table C-23. Management Issues for the North County Sub-Region

Watershed	Issue	Potential Causes
Black Sulphur Spring	Groundwater quality	
	Groundwater Quantity	Physical Limitations
	Outdated Studies of the GW basins	
Soda Lake	Groundwater quality	
	Groundwater Quantity	Physical Limitations
	Outdated Studies of the GW basins	
Upper San Juan Creek	Significant water level declines	
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Atascadero Creek - Mid Salinas River	Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
	Limited Groundwater Basin information (rinconada basin)	

Table C-23. Management Issues for the North County Sub-Region

Watershed	Issue	Potential Causes
Santa Margartia Lake - South Salinas	No comprehensive studies to determine the perennial yield of the Santa Margarita Valley Groundwater Basin are known to exist	
	Outdated information for Pozo GW basin	
Paso Robles Creek - North Salinas River	Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Cholame Creek	Significant water level declines	
	Limited groundwater quality information – Cholame Valley basin	
	No yield information and limited hydrogeologic information for Cholame Basin	
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Estrella River	Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Huer Huero Creek	Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Indian Valley	Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Lower San Juan Creek	Significant water level declines	
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron
Nacimiento	Significant water level declines	
	Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron

C.11.3 South County

Table C-24. Management Issues for the South County Sub-Region

Watershed	Issue	Potential Causes
Coastal Irish Hills	Residential development; loss of habitat	Construction of growth inducing infrastructure
	Agricultural development; loss of habitat	
	Sedimentation and loss of riparian cover	Overgrazing
	Proliferation of non-native species	Recreational uses
	Habitat degradation	Recreational uses

Table C-24. Management Issues for the South County Sub-Region

Watershed	Issue	Potential Causes
San Luis Obispo Creek	Riparian Vegetation / Buffer Quality (Lack of riparian canopy)	Removal of riparian vegetation by landowners and livestock
	Surface Water Nutrients and Dissolved Oxygen	Agriculture, municipal, lack of riparian canopy
	Surface Water Temperature	Lack of riparian canopy
	Surface Water Pathogens	Described in TMDL for Pathogens (RWQCB, 2004)
	Surface Water Treated Effluent	City of San Luis Obispo's Wastewater Facility discharged
	Surface Water Priority Organics	Unknown
	Surface Water Quantity	Natural, diversions (permitted and unpermitted), evaporation, and exotic plants
	Instream Fish Habitat	Lack of riparian canopy and instream shelter, sedimentation of stream cobble
	Fish Passage Barriers	Roads, culverts, other instream structures
	Streambank Stability (Erosion)	Development encroachment, channel incision, vegetation removal, overgrazing, agriculture, roads and utility construction
	Upland Erosion and Sedimentation	Vegetation removal, intensified grazing, unpaved roads, and disturbance associated with construction
	Exotic Plant Species	None identified.
	Non-Native Fish – Carp and Chinook Salmon	None identified.
	Debris Accumulation	garbage, residential, commercial and agricultural products
	Flooding	Natural, increased impervious areas, encroachment on floodplain
Arroyo Grande Creek	Surface Water Temperature	Lack of riparian canopy
	Surface Water Nutrients and Dissolved Oxygen	Increase in urban land use
	Surface flow Quantity	Natural, groundwater diversions, impoundment
	Groundwater Quantity	(Not IDed in WMP but can be inferred)
	Fish Passage Barriers	Road crossings, culverts, dams and other structures
	Erosion and Sedimentation	Natural, "hungry water" from dam release, lowering base flow level of mainstem, increased impervious areas, unvegetated roads and fields
	Flood Management	Loss of floodplain and encroachment of development
Nipomo - Suey Creeks	Flooding	Development in 100 year flood hazard zone, improperly sized culverts, lack of maintenance of existing drainage structures
	Habitat Fragmentation	Development
	Surface Water Quality	Erosion, Sedimentation, bacteria from wildlife, domestic animals/livestock and urban areas, nutrients from
	Invasive species	
Pismo Creek	Surface Water Temperature	Lack of riparian canopy
	Surface Water Nutrients and Dissolved Oxygen	Agriculture, increased runoff due to development
	Ocean Water Quality – Fecal coliform	Birds, domestic animal waste, faulty septic systems, homeless encampments
	Surface flow Quantity	Natural, groundwater diversions, impoundment
	Groundwater Quantity	Physical limitations, production
	Fish Passage Barriers	Multiple sites inaccessible to fish traffic
	Erosion and Sedimentation	Drought/storm years weaken banks, agricultural practices
	Flood Management	Development in floodplains
Santa Maria River	Effects of Cattle grazing Unknown	Limited Study
	Impaired surface water quality	Grazing, crop land
	Occurrence of endangered or threatened species on private land and potential for incidental take.	None

Table C-24. Management Issues for the South County Sub-Region

Watershed	Issue	Potential Causes
	Lack of data on plant and wildlife species.	Limited study
	Vegetation in the channel concentrates and diverts flows, and causes erosion and flooding of low-lying areas.	Vegetation in the channel
	Land use practices on [Santa Maria River] study reach and dune parcels may be incompatible with plan goals	Limited land available for enhancement
	Presence of levees that restrict or otherwise modify flows, flow channels, and sediment transport corridors	Levees along Santa Maria River
	Invasive riparian plant species that establish in the [Santa Maria River] study reach may impede flood flows, interfere with agricultural operations, cause ecological degradation, and spread into adjacent habitats	Invasive riparian plants
	Sediment accretion in the [Santa Maria River] study reach and erosion along the shoreline	Twitchell dam changes to sediment transport
	Run-off from urban areas contributes nitrates and other pollutants into the [Santa Maria River] study reach	Urban
	Oso Flaco Lake – DDT and dieldrin	Undetermined, sediment
Alamo Creek	Erosion – Upland	Not identified.
	Sedimentation of Twitchell Reservoir	Natural and upland erosion primarily from Cuyama River
Huasna River	Sedimentation of Twitchell Dam	Natural and upland erosion primarily from Cuyama River.
Cuyama River	Sedimentation of Twitchell Reservoir	Natural and upland erosion
	Groundwater Supplies	Natural, water extraction

C.12 CLIMATE CHANGE

The following information is based on analysis conducted for the Watershed Snap Shots. Based on a set of climate scenarios prepared for the California Energy Commission, Cayan et al. (2009) project that, under medium to medium-high greenhouse gas emissions scenarios, mean sea level along the California coast will rise from 3 to 5 feet (1–1.4 m) by the year 2100. In the Santa Rosa Creek watershed, such a rise in sea-level would put new areas at risk of flooding, increase the likelihood and intensity of floods in areas that are already at risk, and accelerate shoreline recession due to erosion (Heberger et al. 2009). Many Coastal residents are elderly and depend on transportation (and evacuation) routes that are at risk from erosion, flooding, wildfires, and landslides. Coastal habitats may experience increased sedimentation in marshes, estuaries and

streams, a decline in number of coastal birds, sea water intrusion into estuaries, creeks and wells, decline of rare habitats, marine and nearshore marine species threatened by acidification of ocean waters and changes in ocean currents, changes in fog patterns could lead to loss of coastal oak (elfin) forests. Freshwater and riparian systems will be affected by increased groundwater pumping and dam building (ClimateWise, 2010).

Additional detailed information related to the potential climate change impacts related to the IRWM Plan and Project Implementation can be found in **Section P - Climate Change**.

C.13 IRWM PLAN REGIONAL ISSUES AND CONFLICTS

As discussed in **Section E – IRWM Goals and Objectives**, stakeholders were asked to provide input on their Sub-Region's three most critical water resources issues (i.e. major water related objectives and conflicts). **Section E** also describes how these major water related objectives and conflicts relate to the development of the objectives, implementation strategies, and implementation projects intended to provide resolution. These major water related objectives and conflicts are discussed in more detail herein in the form of a case-study for each Sub Region.

C.13.1 North Coast Sub Region

Figure E-2 indicates water reclamation as the issue of greatest concern for the North Coast Sub-Region due to the small coastal communities not having sufficient groundwater supplies or sea water intrusion (the third most important issue) limiting groundwater basins' safe yield.

For example, the coastal communities of Cambria and San Simeon are 100 percent dependent on their respective local watersheds to capture rainfall for groundwater basin recharge and to sustain continuous flows in creeks to feed municipal underflow wells near the their outlet to the Pacific Ocean. During dry months and extended drought conditions, Cambria and San Simeon lack sufficient water to meet peak water demands, leaving the community without water for outdoor irrigation and adequate fire flow protection. These communities are isolated from regional water supplies, making local recycled water, storage and desalination projects the most feasible projects from a supplemental water supply perspective. From a practical perspective, high cost-to-customer ratios, regulatory permitting challenges, and heated public debate about the appropriate approach to water resources management has historically prevented or slowed project development.

Nevertheless, these two communities (as with all North Coast Sub-region communities) have made conservation and drought response a way of life and have developed comprehensive

water management plans that include the strategic use of recycled water as described in the Regional Recycled Water Strategic Plan (Appendix P). San Simeon currently produces recycled water that is trucked for use in the coastal communities. San Simeon's efforts to develop a recycled water distribution system and Cambria's effort to develop a drought response project that involves treating brackish groundwater are examples of objectives for these communities to address the issue.

C.13.2 North County Sub Region

Figure E-3 indicates the most significant issues for the North County Sub-Region. The most significant example of these issues is the debate over how to manage and stabilize water levels in the Paso Robles Groundwater Basin (Paso Basin)[13] and associated watersheds for human and environmental needs. There is general consensus that developing and implementing a comprehensive management plan to stabilize or improve groundwater levels is needed. However, the questions of who will make decisions, who will use less, what projects to implement, and who will pay are the subjects of current debate. The multiple (namely agricultural, ecosystem, municipal and rural) water users of this finite resource, the multiple legal ways the resource can be used and the multiple associated regulations and laws related to use of the resource creates multiple sets of conflicting answers, which are as diverse as the perspectives of the groundwater basin users. Consequently, multiple approaches to finding the answers are underway for the Paso Basin, and generally fall into three categories of effort - legislative-based, land-use based, and court-based - each with their own set of objectives to address the issue.

Legislative-Based Objectives: The majority of the Paso Basin is overlaid by individual property owners as illustrated in **Figure C-32**. Historically, the San Luis Obispo County Flood Control and Water Conservation District, in coordination with local agencies, local stakeholders and Monterey County agencies, has led the development of regional Paso Basin studies and plans, and Paso Basin-related regional projects, such as the Nacimiento Water Project. Declining water levels in a significant portion of the Paso Basin has led to the recognition by multiple Paso Basin stakeholder groups, most notably the Blue Ribbon Committee formed to implement the AB 3030 Groundwater Management Plan (AB 3030 Plan) for the Paso Basin, that an organized approach to groundwater management via the formation of a water district to unite the individual property owners is needed. These stakeholder groups advocate for an entity

[13] Please refer to Appendix Paso Robles Groundwater Basin Model Update Report (2014) and <www.pasobasin.org> for more information on the condition, current activities, and historical information for the Basin.

independent from the county to implement a groundwater management plan and to "sit at the table" with other agencies that overlay the Paso Basin to manage the basin as a whole. Upon review of the options in the California Water Code for such an entity, two stakeholder groups,[14] after months of debate, reached a compromise on a proposal for special legislation to modify the governing board of a California Water District, should one be formed in the Paso Basin, to better reflect the diversity of entities that rely on the basin. That legislation is currently being vetted through the legislative process, and, if approved, would allow the local stakeholder groups to move forward with a Local Agency Formation Commission-application to hold an election to possibly create a Paso Basin Water District.

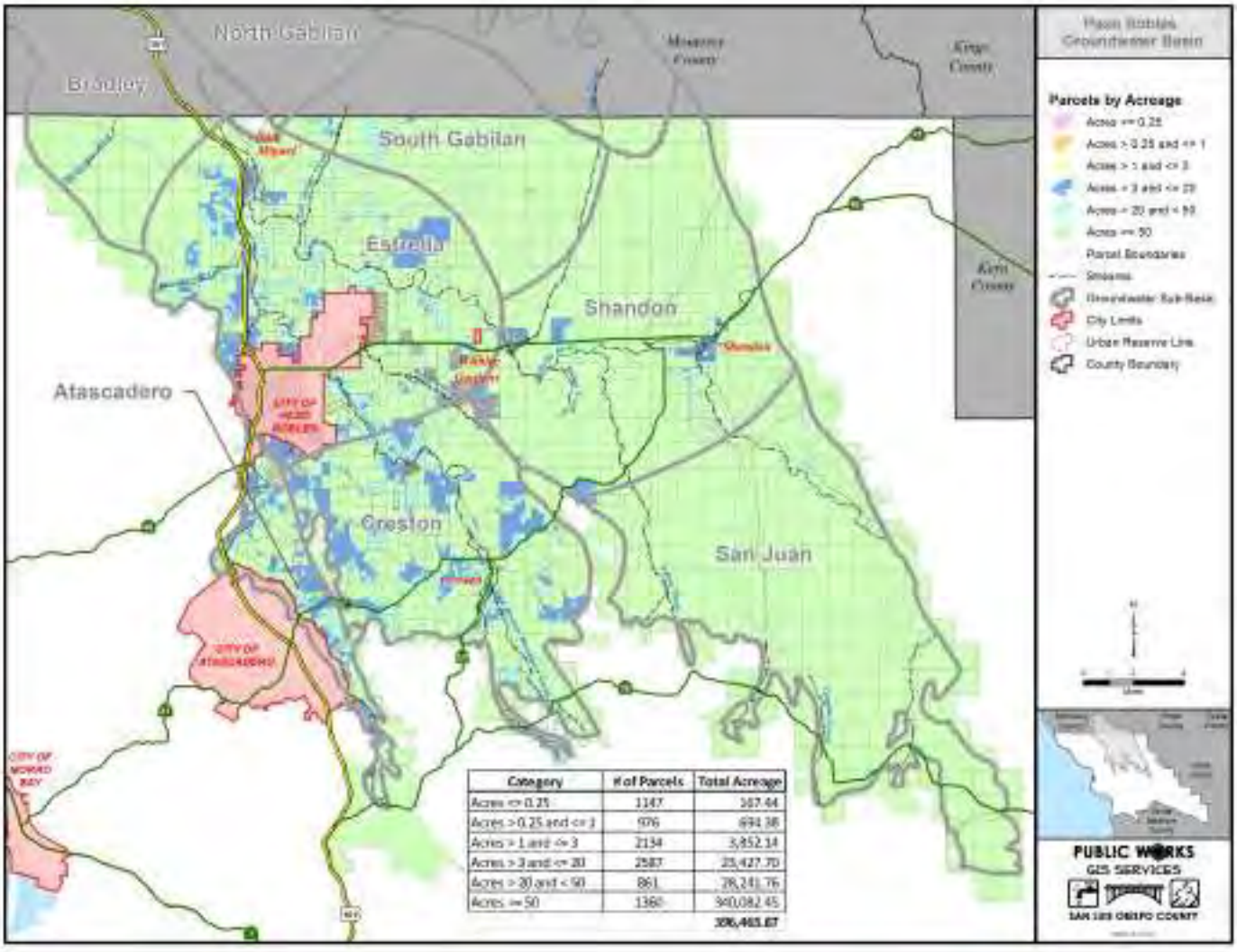


Figure C-32. Paso Basin Overlaid by Individual Property Owners

[14] PRAAGS (www.praags.org) and PWE <www.prowaterequity.org>

Concurrent to this process, the Flood Control District, in coordination with its Paso Basin Advisory Committee, is proceeding with 1) an analysis of water supply options for the Paso Basin, and 2) identifying an approach to update the existing AB 3030 Plan, which is intended to inform and guide the ultimate basin management authority. Issues to be addressed via the AB3030 Plan amendment process include addressing the requirements of any new groundwater legislation, identifying the conditions to achieve and/or maintain in the basin (i.e. Basin Management Objectives), identifying the detailed projects and programs (including conservation and monitoring) needed over time to achieve those conditions, and costs.

Land Use-Based Objectives: In response to declining levels, the County approved an urgency ordinance to establish 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 a well in the Paso Robles Groundwater Basin (Basin) unless such uses offset their total projected water use by a ratio of 1:1. The ordinance also requires the installation of meters on new wells associated with the above uses. The ordinance specifies uses that are not subject to the ordinance and contains exemptions including replacement wells for any of the prohibited uses. The ordinance applies to all properties located within the unincorporated areas of San Luis Obispo County that overlie the Paso Robles Groundwater Basin except those properties that overlie the Atascadero Sub-Basin, and properties served by County Service Area 16 (Shandon) and the San Miguel Community Services District. The ordinance was extended for a full two years on October 8, 2013 (Ordinance 3247). The Urgency Ordinance will expire on August 26, 2015, and County staff has been directed to investigate options for long term ordinances to address land use over the basin and/or groundwater use.

Court-Based Objectives: A quiet title claim lawsuit has been filed by certain stakeholders that asks the court to affirm the rights of overlying property owners to access basin groundwater. The quiet title claim may be the first step towards an adjudication, in which the court decides who has rights to groundwater in the basin and in what quantity since water purveyors currently depend on water from the basin to serve their customers. These stakeholder groups advocate that court-supervised groundwater management is the most fair and beneficial option for landowners who wish to retain their full water rights under California law.

C.13.3 South Coast Sub Regions

Figure E-4 indicates groundwater management as the issue of greatest concern for the South County Sub-Region due to the challenges of managing the adjudicated Santa Maria

Groundwater Basin and water shortage problems, though additional issues of concern relate to flood control (second issue of concern).

The outcome of the adjudication has established certain requirements of the management groups formed, however basin users are still faced with the challenge of increasing competition for a limited resource. Opportunities for integrating water resource management strategies within the Santa Maria Groundwater Basin to address needs exist and are reflected in the various implementation strategies and projects identified in the IRWM Plan for the South County Sub-Region, however funding and affordability remains the major challenge for implementation.

C.14 ECONOMIC CONDITIONS AND TRENDS

Historically, SLO County has moved in tandem with the state in regards to a few key economic indicators. The historic unemployment rate has consistently been approximately two (2) percent below the state unemployment rate over the last 20 years. While SLO County has grown faster than the state since 1990, it has experienced similar trends in terms of job gains and losses over the analyzed time-period.[15] Table C-48. outlines the recent population growth from 2005 through 2012 and the anticipated growth through 2040.

Table C-25. San Luis Obispo County Population Data and Projections

	2005	2010	2012	2015	2020	2025	2030	2035
Cities	143,096	148,307	149,437	151,132	156,145	160,863	166,755	172,712
Unincorporated	98,775	104,324	105,575	107,452	113,789	118,982	125,467	132,023
Countywide	258,159	269,637	272,018	275,590	286,940	296,851	309,228	321,742

Source: AECOM for SLOCOG, July 2011
Note: Population projections include group quarters (estimated at 17,006 for 2010-2040).

The regional, state, and national economic conditions influence migration flows significantly. Furthermore, the perception of the place, housing market, available jobs, etc. will influence people throughout the region, state, and nation to relocate in SLO County. As a result, the economy in SLO County and the state are expected to grow slowly.[16]

[15] AECOM Technical Services, *San Luis Obispo County 2040 Population, Housing, & Employment Forecast*. Prepared for San Luis Obispo Council of Governments (SLOCOG), 11 August 2011.
[16] AECOM Technical Services, *San Luis Obispo County 2040 Population, Housing, & Employment Forecast*. Prepared for San Luis Obispo Council of Governments (SLOCOG), 11 August 2011.

Since 1990, SLO County has averaged approximately 1,450 new dwelling units per year. The medium estimate is below the 20-year average, yielding an average of 1,340 and 1,160 units, respectively.[17]

Table C-49 summarizes the economic conditions for places within the San Luis Obispo IRWM Plan Region.

Table C-26. Economic Characteristics for Selected Places within the San Luis Obispo IRWM Plan Region

Census Designated Place	Median Household Income	Unemployment Rate %	% Below Poverty Level
Morro Bay city	$53,585	3.7	11.6
Cambria CDP	$72066	5.3	5.2
Los Osos CDP	$56918	5.2	8.7
Arroyo Grande city	$58725	7.2	5.9
Grover Beach city	$49010	6	13.1
Pismo Beach city	$63802	5.6	5.5
San Luis Obispo city	$40812	8.5	31.3
Nipomo CDP	$61495	8.7	9.4
Oceano CDP	$39843	7.3	13.2
Atascadero city	$65479	7.6	8.8
El Paso de Robles (Paso Robles) city	$57459	7.6	10
San Miguel CDP (San Luis Obispo County)	$42176	13.9	26.6
Santa Margarita CDP	$60737	13.2	12.7
Shandon CDP	$63920	11.5	21.9
Templeton CDP	$69,426	4.8	4.8
San Luis Obispo County	$56,967	5.1	13.1
Source: United States Census Bureau, American Fact Finder, "2008-2010 American Community Survey 3-Year Estimates". Accessed 06 December 2013.			

C.14.1 State Designated Disadvantaged Communities (DACs)

For the purposes of this IRWM Plan, a DAC is "a community with a median household income less than 80% of the Statewide average", which was $61,632 in 2010 according to the US Census. Eighty percent of this amount equates to approximately $49,000 ($61,632 x .80 = $49,305). San Miguel is a State designated DAC with a median household income (MHI) of $42,176. Likewise, San Simeon is a State designated DAC with a median household income (MHI) of $43,092. **Figure C-58** shows the DACs within the San Luis Obispo IRWM Plan Region, also including the state designated DACs of Oceano and the City of San Luis Obispo, and areas based on U.S. Census Tract information.

[17] AECOM Technical Services, *San Luis Obispo County 2040 Population, Housing, & Employment Forecast*. Prepared for San Luis Obispo Council of Governments (SLOCOG), 11 August 2011.

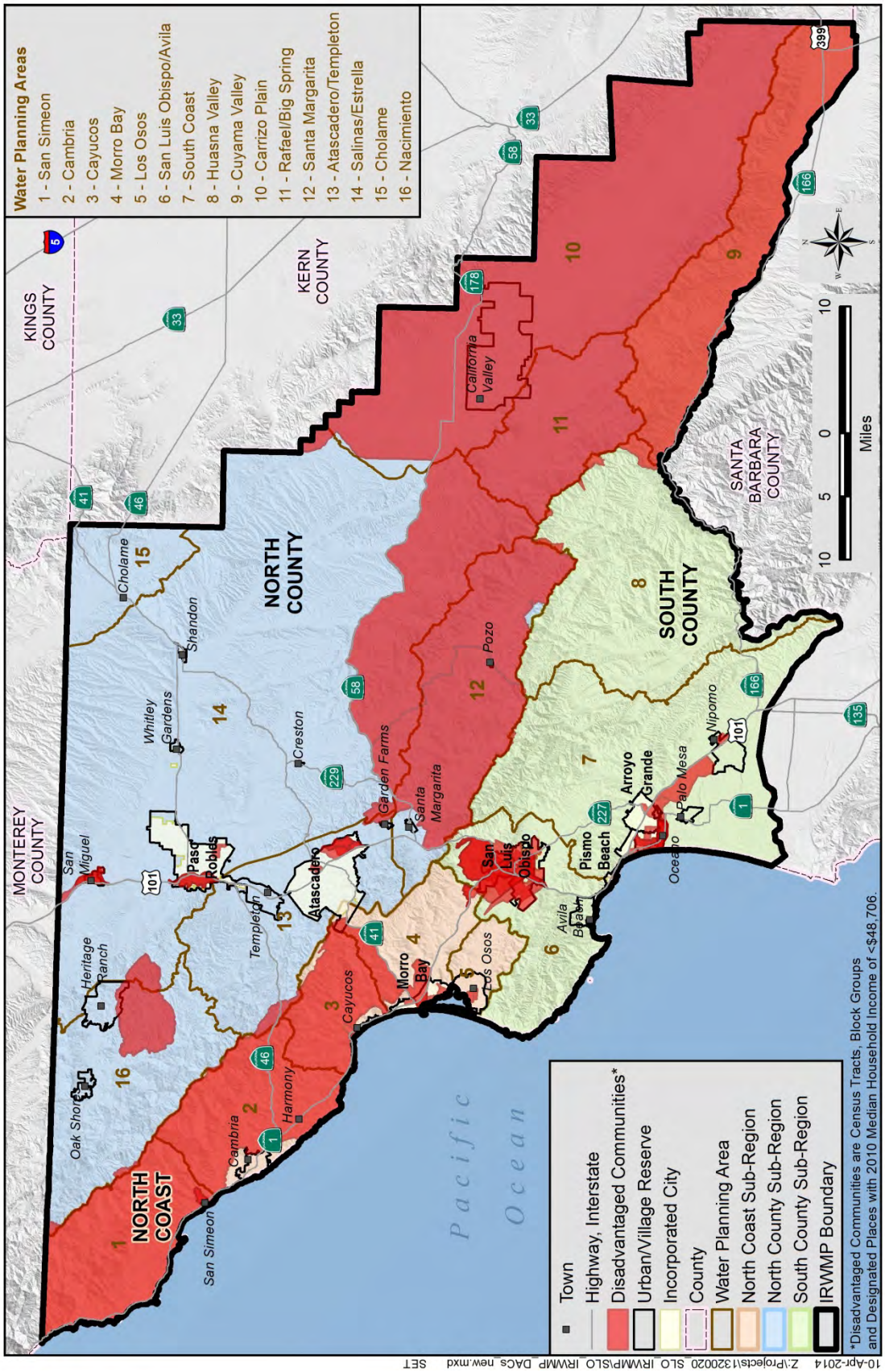


Figure C-33. Disadvantaged Communities by Census Tract and Census Designated Place

C.14.2 Projected Growth

Examining Census data since 1990, growth in SLO County has occurred mostly in Paso Robles and Unincorporated areas of SLO County. These two areas have attracted approximately 75 percent of net new population growth over the last 20 years. Other jurisdictions such as Grover Beach, Morro Bay, and Pismo Beach will continue historic trends of low population growth. Forecast information is based on the work conducted by AECOM, who analyzed California Department of Finance (DOF) data, the UCLA Anderson Forecast, and the Center for Continuing Study of the California Economy (CCSCE) California County Projections (2009/10 Edition).[18]

Based on the projections shown in **Table C-27**, buildout population would be reached sometime after 2035.[19]

The distribution of building permits in the unincorporated areas of the county has averaged 62% urban and 38% rural over the last 12 years. The County General Plan calls for directing development toward existing and strategically planned communities. In addition, a key element of the San Luis Obispo Council of Government's Regional Transportation Plan – Preliminary Sustainable Communities Strategy (RTP-PSCS) is to encourage development in existing urbanized areas with access to existing businesses and services.[20]

A key consideration in integrated regional water resource management planning is understanding the social and cultural makeup of the community. In U.S. EPA's Office of Sustainable Ecosystems and Communities guide, "Community Culture and the Environment: A Guide to Understanding a Sense of Place", EPA recommends profiling the community to understand the community's sense of place and shared community values. By understanding the social and cultural makeup of the community, social equity can be achieved through effective public participation and involvement in IRWM planning and implementation.

[18] AECOM Technical Services, *San Luis Obispo County 2040 Population, Housing, & Employment Forecast*. Prepared for San Luis Obispo Council of Governments (SLOCOG), 11 August 2011.
[19] County of San Luis Obispo, *2010-2012 Resource Summary Report San Luis Obispo County General Plan*, 12 March 2013.
[20] County of San Luis Obispo, *2010-2012 Resource Summary Report San Luis Obispo County General Plan*, 12 March 2013.

Table C-27. San Luis Obispo County Historic and Projected Population

	2000	2005	2010	2012	2015	2020	2025	2030	2035
North Coast Urban Area									
Morro Bay	10,152	10,338	10,073	10,100	10,152	10,244	10,482	10,778	11,078
Cambria	6,230	6,125	6,020	6,051	6,096	6,175	6,251	6,328	6,408
Cayucos	2,926	2,730	2,541	2,548	2,553	2,597	2,680	2,946	3,222
Los Osos	14,277	14,100	13,908	13,930	13,988	14,071	14,158	14,240	14,325
San Simeon	639	550	450	451	452	458	461	466	468
North Coast Total	**34,224**	**33,843**	**32,992**	**33,080**	**33,241**	**33,545**	**34,032**	**34,758**	**35,501**
South County Urban Area									
Arroyo Grande	15,641	16,360	17,078	17,256	17,524	18,407	18,933	19,591	20,256
Grover Beach	12,941	15,954	12,967	13,037	13,142	13,432	13,684	13,999	14,317
Pismo Beach	8,524	8,083	7,642	7,688	7,757	7,954	8,216	8,545	8,876
San Luis Obispo	42,312	43,125	43,937	44,229	44,668	45,969	46,704	47,622	48,550
Avila Beach/Valley	833	1,149	1,464	1,482	1,508	1,624	1,699	1,830	2,020
Nipomo	12,612	13,940	15,267	15,450	15,725	16,752	17,852	18,875	19,926
Oceano	7,244	7,176	7,108	7,194	7,322	7,799	8,153	8,670	9,001
South Coast Total	**100,107**	**105,787**	**105,463**	**106,336**	**107,646**	**111,937**	**115,241**	**119,132**	**122,946**
North County Urban Area									
Atascadero	24,945	25,966	26,986	27,138	27,366	28,003	28,940	30,109	31,292
Paso Robles	23,370	26,497	29,624	29,983	30,522	32,137	33,905	36,112	38,343
San Miguel	1,420	1,879	2,337	2,383	2,451	2,640	2,792	3,045	3,338
Heritage Ranch and Oak Shores	2,166	2,276	2,386	2,424	2,482	2,634	2,723	2,863	2,995
Santa Margarita	1,279	1,269	1,259	1,268	1,281	1,325	1,395	1,410	1,451
Shandon	979	1,137	1,295	1,316	1,347	1,562	2,002	2,630	3,306
Templeton	4,607	5,792	6,976	7,059	7,184	7,739	8,094	8,720	9,128
North County Total	**58,766**	**64,816**	**70,863**	**71,571**	**72,633**	**76,040**	**79,851**	**84,889**	**89,853**
San Luis Obispo County Total	193,097	204,446	209,318	210,987	213,520	221,522	229,124	238,779	248,300

Source: AECOM for SLOCOG, July 2011

Following is a list of community characteristics EPA recommends for consideration. These characteristics are described and considered throughout the IRWM Plan.

Table C-28. Community Characteristics for Community Profiling

- **Community Boundaries**
- **Community Capacity and Activism**
- **Community Interaction and Information Flow**
- **Demographic Information**
- **Economic Conditions and Employment**
- **Education**
- **Environmental Awareness and Values**
- **Governance**
- **Infrastructure and Public Services**
- **Local Identity**
- **Local Leisure and Recreation**
- **Natural Resources and Landscapes**
- **Property Ownership, Management, and Planning**
- **Public Health and Safety**

To understand the future of San Luis Obispo County, it is important to understand its past and its present. A brief history of San Luis Obispo County is presented in Table B6.1 below. Current census information provides a profile of the present.

C.15 A BRIEF HISTORY OF SAN LUIS OBISPO COUNTY AND THE INFLUENCE OF TRIBAL CULTURE

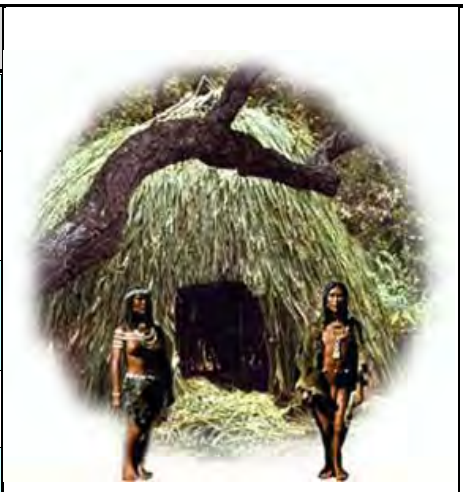
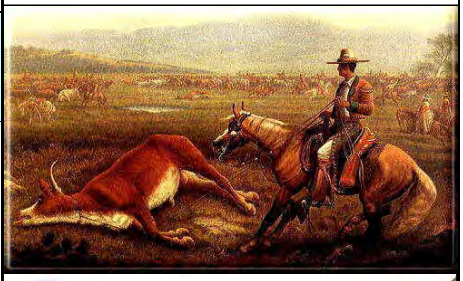
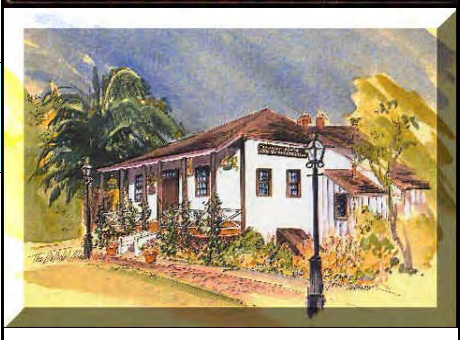
For centuries (see **Table C-52**), San Luis Obispo County was the heart of Chumash and Salinian Native American country. The Chumash and Salinians had a rich culture and were excellent craftspeople and artists. Exploration of the land by Europeans began in 1769 at the command of Gaspar de Portola of Spain. With Portola came the Franciscan friars to begin founding the California missions. Following the independence of Mexico and the secularization of the missions, the Central Coast entered the period of the rancheros. Many names of towns and places derive from these Spanish rancheros. San Luis Obispo was claimed for the United States in 1846. In 1850, California was admitted to the United States, and San Luis Obispo became one of the original counties.

A severe drought gripped the state in 1862 to 1864 resulting in the devastation of much of the region's cattle industry. Several wet seasons followed which prompted immigration to the County and the emergence of the dairy industry. By the 1870's, San Luis Obispo County began to transform from a poor, remote, and sometimes violent outpost of rural California to a locale prized for its diverse and spectacular topography, breathtaking scenery, and rich farms and mines. The 1880s and 1890s brought the railroad that connected San Luis Obispo with San Francisco and Los Angeles.

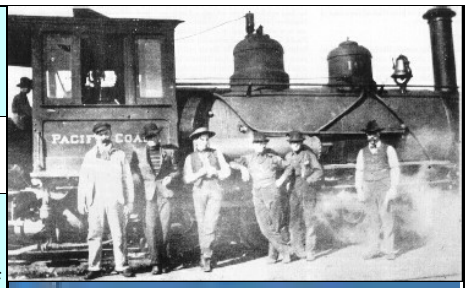
Throughout the 1900's San Luis Obispo County remained largely an agricultural county. The World Wars and the Korean War brought economic growth to San Luis Obispo County as local suppliers supported the war effort. The second half of the century was punctuated with infrastructure projects needed to support post-war population increases.

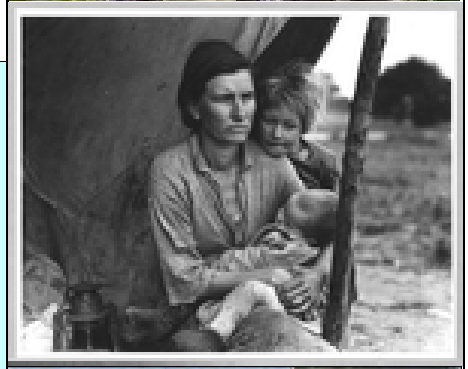
Presently, over 260,000 residents enjoy San Luis Obispo County's central coast location. With the ocean and mountains, the Spanish and historical flavor, and the mild climate, San Luis Obispo County provides an enviable quality of life for residents and tourists.

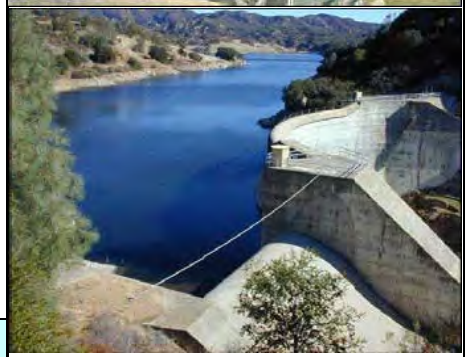
Table C-29. San Luis Obispo County Historical Timeline and Images from the Past

Key Events in History		
10,000 years ago	The area was inhabited by Chumash and Salinan Native Americans.	
1542	The Spanish explorer Juan Rodriquez Cabrillo discovered Morro Rock during his exploration of the California Coast.	
1587-1602	Portuguese explorers Pedro de Unamuno and Sebastian Rodriquez Cermeno and Basque explorer Sebastian Vizcaino came to the county.	
1769	Spanish explorer Gaspar de Portola arrived by land.	
1772	Father Junipero Serra established Mission San Luis Obispo de Tolosa.	
1797	Father Fermin Francisco de Lasuen founded Mission San Miguel Arcangel at San Miquel.=	
1822	Mexico gained possession of all California from Spain beginning the great land grant period that divided the land into huge ranchos.	
1837	Mexican land grants were granted from secularized mission lands and the great adobes were built.	
1846	General John Fremont took the city of San Luis Obispo from the Mexican government and governed briefly with his Bear Flag government.	
1849	During the Gold Rush many people traveled through the county on their way north to the goldfields.	
1850	California was admitted to the United States as the 31st state in the Union. San Luis Obispo became one of the original 27 counties. The population of the county was 336 persons almost all of whom were Spanish speaking and lived on the great ranchos.	
1862-1864	The Great Drought brought mass cattle starvation and ended the cattle industry as it had existed during the Mexican ranchos era.	
1870s	The cinnabar mining rush begins in the Cambria area and dairy farms predominate in Edna Valley and along the coast. The region begins to transform from a poor, remote and sometimes violent outpost of rural California to a locale prized for its diverse and spectacular topography, breathtaking scenery, and rich farms and mines. Dairy and mining commerce generated the need for improved modes of transportation.	

1880s and 1890	The Southern Pacific Railroad was built between San Francisco and Los Angeles. In 1894 San Luis Obispo could be reached by rail.
1901	California State Polytechnic College was established.
1914-1918	During World War I, many County farmers turned to the production of navy beans, since these were subsidized by the War Relief Administration. In those days before reliable refrigeration, beans could be shipped to the troops in Europe without spoiling, and the County's economy boomed.
1919-1947	The Hearst Castle was built.
1923	Highway 1 was completed connecting coastal areas to San Luis Obispo
1925	The Motel Inn in San Luis Obispo, the first motel in the world.
1930s	The County's agricultural diversity shielded it from the worst of the Great Depression of the 1930s. There were difficult times, however, for many of those who came from other areas looking for work. It was near a migrant camp in Nipomo that photographer Dorothea Lange, working for the Farm Security Administration, took her famous photograph entitled "Migrant Mother." The County benefited from such Depression-era federal programs as the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). Through the involvement of these agencies, the County received a new Courthouse, flood-control projects, and highway improvements.
1941-1942	With the onset of World War II, the County's transportation links and open land areas were deemed useful by the U.S. War Department, which located training camps in the area: Camp Roberts and Camp San Luis Obispo, as well as a naval training base at Morro Bay and a Coast Guard station near Cambria. These camps brought into the County nearly 100,000 military personnel.
1942	Santa Margarita Dam was built by the Army Corps of Engineers to supply water for Camp San Luis Obispo. The water from the lake was never used for that purpose however.







1955	Pacific Gas and Electric Power Plant were completed in Morro Bay.
1960	Whale Rock Dam was completed. Whale Rock was the first major dam designed and constructed by DWR.
1968	San Luis Obispo County Flood Control and Water Conservation District completed the Lopez Dam to provide a reliable water supply for agriculture and municipal needs in the south county.
1985	Pacific Gas and Electric Company's Diablo Canyon Nuclear Power Plant begins commercial operations.
1994 - 1995	Morro Bay was designated as the first State Estuary and was accepted into the National Estuary Program.
1997	The 100 mile long Coastal Branch of the State Water Project was completed to transport State Water Project water to Santa Barbara and San Luis Obispo Counties.
2004	The Environmental Impact Report was certified for the Nacimiento Project to bring water from Lake Nacimiento to Paso Robles, Templeton, Atascadero, and San Luis Obispo.

Taken from: The Library Associates, A Vast Pastoral Domain: San Luis Obispo County in the 1870s, Santa Barbara Chumash Museum, Mission San Luis Obispo de Tolosa,<http://www.historyinslocounty.com/Links.htm>, San Luis Obispo County Historical Society

C.15.1 Tribal History

Throughout Section C (i.e., watershed tables and history) mention is made of the two prominent Native American Tribes of San Luis Obispo; the Salinan and Northern Chumash Indian tribes. The Yokut Tribe is also mentioned under the Black Sulpher Spring Watershed **Section C.7.3.1**, but is shown to lie northeast of the IRWM Region. **Figure C-59** is a map of the Indian Tribes in and around the San Luis Obispo County Region.

Figure C-34. Tribal Lands Located Within and Near San Luis Obispo County

Source: Tribal Government Affairs < http://tribalgovtaffairs.ca.gov/pdf/CA_Tribal_Southern_Region.pdf>

C.15.1.1 Salinan Tribe of Monterey and San Luis Obispo[21]

The Salinan Tribe currently has 371 certified ancestors listed with 400 more seeking federal recognition. They have a Tribal Business Council that meets twice a month and a general meeting every second Sunday of the month. As a legal Tribe Government they quality under Senate Bill 18; requiring cities and counties to conduct consultations with California Native American tribes.

[21] <http://salinantribe.com/about.htm>

C.15.1.2 Northern Chumash Tribe of San Luis Obispo

The Northern Chumash Tribal Council (NCTC) is organized as a non-profit corporation under the guidelines of the state of California Senate Bill 18. The NCTC provides a foundation for the Chumash people of San Luis Obispo County to sustain the culture and heritage of the Tribe. The NCTC states that they have "over 20,000 years of habitation in San Luis Obispo County."

Today the NCTC is involved in consultation with County and Local Governments to improve cultural resources, to bring awareness in the need for quality of archaeology in siting and constructing new projects, and to be a part of the decision making process for land use issues in San Luis Obispo County. This offers a more complete project analysis for the protection of "Cultural Places and Sacred Sites". NCTC also works with the development community to assist in the planning process so that we better understand each-others' concerns.

The NCTC is also looking at self-sustainability through working within the community. NCTC has leased land to start organic farming practices and strives to be self-reliant through agriculture and businesses in the community (vs. casino). They are of the belief that property should be preserved in its natural state to tell the story of the Chumash people.

C.16 CULTURAL AND SOCIAL PROFILE OF SAN LUIS OBISPO COUNTY

The arts flourish throughout the county at an exceptional level of quality. Layers of history can be seen in local historical landmarks such as the Spanish missions of Mission San Luis Obispo de Tolosa and Mission San Miguel Arcangel. The region's well-known arts community is filled with many talented artists, arts advocates and supporters. Numerous arts events include a street chalk painting festival, Open Studios Tour and Plein Aire Festival. The region enjoys nearly thirty art galleries and two hundred local artists. For performances, the spectacular Christopher Cohan Performing Arts Center, located on the campus of California Polytechnic State University offers a variety of musical performances, theatrical acts, and local fare every month. The Clark Center in Arroyo Grande also offers stunning performances.

The 2010 Census provides this profile of the current day social characteristics of San Luis Obispo County as shown in **Figure C-60**. **Table C-53** provides a summary of census information identifying the following demographic information:

- Education levels
- Family Status
- Gender
- Length of Residency
- Nativity and Place of Birth

- Language
- Ancestry

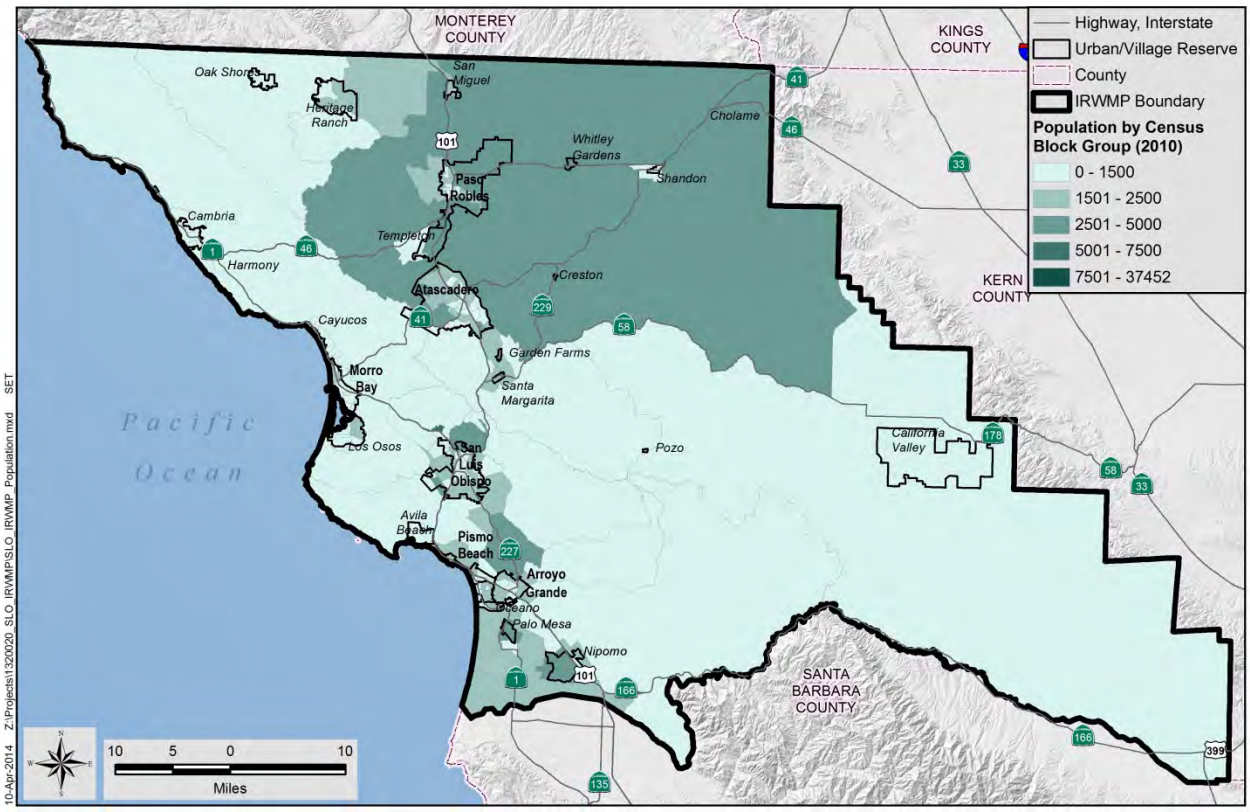


Figure C-35. Population by Census Block

C.16.1 The Arts in San Luis Obispo County

The arts in SLO County have a long history and are best summarized in the pamphlet developed by the Visitors & Conference Bureau, written in 2005, shown in **Figure C-61**. Many venues are available throughout the IRWM Region where arts can be enjoyed and appreciated over time.

The Arts in San Luis Obispo County

Courtesy of the San Luis Obispo County Visitors & Conference Bureau, www.sanluisobispocounty.com. From the San Luis Obispo County 2005 Official Destination Guide

When Juan Bautista de Anza shepherded his expedition of nearly 200 native Mexicans and 1000 head of livestock from Sonora, Mexico to the San Francisco Bay, he blazed a new overland trail. Arriving in San Luis Obispo early in 1776, he found the thriving Mission San Luis Obispo de Tolosa nestled along the creek.

Then and now, the Mission is the public square of San Luis Obispo for locals and tourists alike. Built four years before Anza's arrival, it still serves as a parish church as well as the backdrop for a plaza where an array of festivals and feasts abound year round.

The Mission is an occasional venue for classical choral and orchestral concerts and visitors are welcome to view photo-graphs, artifacts and the original Mission altar in a museum housed in the former padres' residence. The plaza hosts an array of visual and performing arts events such as a summer concert series presenting bluegrass to blues, book, poetry, chalk painting and plein air art festivals.

Visual Arts

The plaza's amphitheater, on the banks of San Luis Creek, is augmented by a metal sculpture backdrop, one of the early public art installations in San Luis Obispo. Nearly 25 years after the first sculpture was installed - the "Tankhead Fish" metal sculpture on the creek walk near the San Luis Obispo Art Center - the downtown now boasts more than two dozen pieces of public art. "Tequshi Wa Suwa" or "Child and Bear" adorns a corner of the Mission plaza as well as a pair of bronze bear cubs nearby by the same local artist.

A self-guided tour of the public art trail from Mission plaza leads to several kinetic sculptures, bronze sculptures "Puck" at the Downtown Centre and "Ironroad Pioneers" in the Railroad District. Two dozen public art installations beautify downtown and surrounding areas.

There are many other opportunities to view original art within San Luis Obispo. The first Friday night of every month, downtown art galleries open their doors to "Art After Dark" with later hours for patrons to appreciate displays of original art and chat with local artists while enjoying refreshments. There are also many fine art galleries north along the coast in Morro Bay, Cayucos and Cambria as well as south in Arroyo Grande and Pismo Beach. Many of the wineries around the County display art in their tasting rooms to better enjoy our award-winning vintages.

As the grape leaves turn golden, San Luis Obispo County celebrates visual arts month in October. The San Luis Obispo Art Center hosts the Plein Air Festival, a week-long outdoor painting extravaganza with 50 artists from around the country capturing on canvas the county's rural and urban landscapes. and culminating in a gala art auction. In addition, the Art Center offers year round gallery exhibitions showcasing national as well as local fine artists in a variety of media.

The breadth and depth of the arts in San Luis Obispo County is even more evident when two week-ends in October are set aside for the annual "Open Studios Tour," sponsored by the San Luis Obispo Arts Council. More than 200 countywide artists invite art aficionados into their work spaces to view and purchase pottery, paintings in a variety of media, photography, sculpture, fiber art, jewelry and more. Artists such as glass blowers and potters demonstrate their crafts.

Performing Arts

October kicks off the San Luis Obispo Symphony's season of five Saturday night concerts at the architecturally evocative and acoustically superior Performing Arts Center on the Cal Poly campus not far from downtown San Luis Obispo. For the more casual-minded, "No Ties Allowed" is Saturday afternoon's free dress rehearsal open to the public.

"Sundays at the Clark" presents ensembles in three chamber music concerts at the Clark Center in Arroyo Grande. The Symphony also makes music for the Civic Ballet's traditional production of The Nutcracker, one of the longest running dance productions in California.

Each summer the Mozart Festival offers ten days of orchestra, choral and chamber music against the backdrop of ocean, mountains, and vineyards as well as at the Performing Arts Center, the Clark Center and the Mission. Nearly a dozen free, informal "Fringe Concerts" are enjoyed around the county in lush gardens, wineries and seaside estates.

Classical music is but one component of the Central Coast music scene. There's an annual Blues Festival at Avila Beach. The Stone Soup Ethnic Faire offers African drummers and Japanese dragon dancers at the Obon Festival contribute to the diversity of Central Coast arts activities.

Theater also flourishes. One of the oldest arts organizations in the county at 57, San Luis Obispo's Little Theater presents six productions annually in an intimate 50-seat theater. Cambria also has a long-standing community theater. Pewter Plough Playhouse began in 1976 and stages seven or more plays and comedies year round at their jewel box theater on Main Street in the West Village.

South in Oceano, the Great American Melodrama and Vaudeville presents classic comedies, melodrama and thrillers to delight all ages. The cabaret setting enhances an entertaining vaudeville revue of lively and often funny song and dance performed at every show. In 2005, they will be celebrating 30 successful years of performances on the Central Coast.

Whether it is a feast for the eyes or ears, the arts are bountiful in San Luis Obispo County. As many arts as microclimates, our culturally-rich communities can satiate even those hungriest for visual and aural treats. Hopefully, we will see you at the public square.

Figure C-36. Exhibit on the Arts in San Luis Obispo County

Table C-30. Profile of Social Characteristics: San Luis Obispo County, 2000 Census

SUBJECT	NUMBER	PERCENT
SCHOOL ENROLLMENT		
Population 3 years and over enrolled in school	**77,496**	**100.0**
Nursery school, preschool	3,387	4.3
Kindergarten	2,910	3.8
Elementary school (grades 1-8)	25,248	32.6
High school (grades 9-12)	14,635	18.9
College or graduate school	31,338	40.4
EDUCATIONAL ATTAINMENT		
Population 25 years and over	**159,196**	**100.0**
Less than 9th grade	7,836	4.9
9th to 12th grade, no diploma	15,129	9.5
High school graduate (includes equivalency)	34,729	21.8
Some college, no degree	44,514	28.0
Associate degree	14,483	9.1
Bachelor's degree	27,648	17.4
Graduate or professional degree	14,859	9.3
MARITAL STATUS		
Population 15 years and over	**203,705**	**100.0**
Never married	56,001	27.5
Now married, except separated	109,818	53.9
Separated	3,885	1.9
Widowed	12,899	6.3
Female	10,096	5.0
Divorced	21,103	10.4
Female	12,171	6.0
RESIDENCE IN 1995		
Population 5 years and over	**234,524**	**100.0**
Same house in 1995	109,441	46.7
Different house in the U.S. in 1995	121,309	51.7
Same county	61,414	26.2
Different county	59,895	25.5
Same state	49,051	20.9
Different state	10,844	4.6
Elsewhere in 1995	3,774	1.6
NATIVITY AND PLACE OF BIRTH		
Total population	**246,681**	**100.0**
Native	224,665	91.1
Born in United States	222,105	90.0
State of residence	153,555	62.2
Different state	68,550	27.8
Born outside United States	2,560	1.0
Foreign born	22,016	8.9
Entered 1990 to March 2000	7,738	3.1
Naturalized citizen	8,924	3.6
Not a citizen	13,092	5.3
REGION OF BIRTH OF FOREIGN BORN		
Total (excluding born at sea)	**22,007**	**100.0**

SUBJECT	NUMBER	PERCENT
Europe	3,789	17.1
Asia	4,283	19.4
Africa	202	0.9
Oceania	146	0.7
Latin America	12,441	56.5
Northern America	1,186	5.4
LANGUAGE SPOKEN AT HOME		
Population 5 years and over	234,524	100.0
English only	200,112	85.3
Language other than English	34,412	14.7
Speak English less than "very well"	13,928	5.9
Spanish	25,089	10.7
Speak English less than "very well"	11,114	4.7
Other Indo-European languages	4,895	2.1
Speak English less than "very well"	993	0.4
Asian and Pacific Island languages	4,022	1.7
Speak English less than "very well"	1,741	0.7
ANCESTRY (single or multiple)		
Total population	246,681	100.0
Total ancestries reported	272,125	110.3
Arab	847	0.3
Czech'	1,366	0.6
Danish	3,311	1.3
Dutch	5,199	2.1
English	34,214	13.9
French (except Basque)'	8,698	3.5
French Canadian'	1,653	0.7
German	41,107	16.7
Greek	929	0.4
Hungarian	1,104	0.4
Irish'	32,202	13.1
Italian	14,632	5.9
Lithuanian	450	0.2
Norwegian	5,905	2.4
Polish	3,958	1.6
Portuguese	4,595	1.9
Russian	2,498	1.0
Scotch-Irish	5,227	2.1
Scottish	7,349	3.0
Slovak	137	0.1
Sub-Saharan African	420	0.2
Swedish	5,001	2.0
Swiss	2,793	1.1
Ukrainian	424	0.2
United States or American	12,135	4.9
Welsh	2,643	1.0
West Indian (excluding Hispanic groups)	217	0.1
Other ancestries	73,235	29.7

San Luis Obispo County benefits greatly from a high level of community participation and involvement. Many influential societal segments of the community are represented by a wide range of active community organizations and associations. The number of active community groups is too numerous to list here; however, in general, these groups along with many others,

represent the economic, environmental, and social equity community interests that characterize the three "E's" of sustainability in the region as shown in Table B6.3. These groups provide a potential source of stakeholders for public participation and involvement. See **Section B – Governance, Stakeholder Involvement, and Outreach** for more information about stakeholder involvement.

Table C-31. Examples of Influential Social Groups in San Luis Obispo County

Societal Segments	Examples of Local Organizations and Associations
Agriculture	Cattleman's Association Vintners Associations Farm Bureau County Cooperative Extension Service
Business, Transportation, and Housing	Chambers of Commerce Economic Vitality Corporation of San Luis Obispo Realtors Associations Contractor and Builders Associations
Cultural	The San Luis Obispo County Arts Council Non-profit Arts Organizations Native American Heritage Commission Historical Societies Art Associations
Education	SLO County Office of Education California State Polytechnic University Cuesta College Local School Boards Private Schools
Environmental	Federal and State Resource Agencies State and Regional Waterboards Land Conservancies Morro Bay National Estuary Program Monterey Bay National Marine Sanctuary Non-profit Environmental Organizations
Health and Community Welfare	Hospitals and Medical Centers Philanthropic and Charity Groups Community Clubs League of Women Voters Youth Organizations Grant Making Foundations
Local Government	County Cities Community Service Districts (CSDs) San Luis Obispo Council of Governments (SLOCOG)
Religion	Churches and Religious Organizations
Tourism and Recreation	San Luis Obispo County Visitors and Conference Bureau Parks Commissions Sportsfishing Associations

The social, economic, and environmental profile of the community and community values and vision were considered while developing the IRWM goals and objectives. Examples of statements of local community values can be seen in the County of San Luis Obispo's Mission and Community Results Vision, which is also the same for the District, as shown below.

Table C-32. County and District Mission and Community Results Vision Statement

The County of San Luis Obispo's Vision and Mission Statements

The County's elected representatives and employees are committed to serve the community with pride to enhance the economic, environmental, and social quality of life in San Luis Obispo County

Community Results

In October of 2000, the Board of Supervisors adopted a set of Communitywide Results (shown below) that simply and succinctly describe the vision for the County – a place that is safe, healthy, livable, prosperous and well governed.

A Safe Community

The County will strive to create a community where all people -- adults and children alike -- have a sense of security and well-being, crime is controlled, fire and rescue response is timely, and roads are safe.

A Healthy Community

The County will strive to ensure all people in our community enjoy healthy, successful and productive lives, and have access to the basic necessities.

A Livable Community

The County will strive to keep our community a good place to live by carefully managing growth, protecting our natural resources, promoting life-4long learning, and creating an environment that encourages respect for all people

A Prosperous Community

The County will strive to keep our economy strong and viable and assure that all share in this economic prosperity.

A Well Governed Community

The County will provide high quality 'results oriented' services that are responsive to community desires.

Community values of regional significance that were considered during development of the IRWM Plan include:

1. Environmental protection;
2. Ecosystem preservation and restoration;
3. Preservation of open spaces, public access, and recreational opportunities;
4. Preservation of the region's rural character and small town atmosphere;
5. Preservation of the region's scenic and aesthetic qualities;
6. Preservation of the region's rich agricultural heritage and resources;
7. Public health and safety protection; and
8. Sustainable growth and economic well-being.

This section reviewed the region's important environmental resources and needs and the social, cultural, and economic profile of the community. **Section E – IRWM Goals and Objectives**, describes the IRWM Plan's goals and objectives that were developed to meet the needs of all three "**E**'s" of sustainable water resource management: **E**nvironmental protection, **E**conomic well-being, and social **E**quity.

C.17 RELATIONSHIP TO OTHER IRWM PLAN EFFORTS

The San Luis Obispo region is participating and coordinating with other IRWM Plan efforts to ensure that overlapping resources and projects are understood and coordinated and to maximize the opportunity for regional and integrated implementation across boundaries, when appropriate.

C.17.1 Central Coast Funding Region

In response to the State's definition of the Central Coast as a funding area for future IRWM grant programs, all six IRWM planning regions within the Central Coast began discussions regarding regional cooperation within the framework of the IRWM process pursuant to Propositions 50 and 84. The six IRWM Plan efforts within the Central Coast are:

- Northern Santa Cruz County
- Pajaro River Watershed
- Salinas River Watershed
- Carmel River Watershed
- San Luis Obispo County
- Santa Barbara County

Some of these sub-regions have common, overlapping water interests, but most water issues are effectively managed within the six geographic sub-regions. Water management interest that may be coordinated across the Central Coast funding area include, but are not limited to, water conservation, water quality monitoring and improvements, fisheries restoration, drought protection, and coastal watershed planning.

Along with the coordination throughout the Central Coast, the San Luis Obispo region has focused coordination efforts with the Salinas River Watershed to the north, Santa Barbara County to the South, and Kern County to the east. San Luis Obispo is committed to continued coordination with these IRWM Plan efforts and their associated agencies. These coordination efforts are further described below.

Northern Region

- The Paso Robles Groundwater Basin is scientifically defined as a hydrogeologically distinct sub-basin of the Salinas Groundwater Basin. At the Northern most edge of the Paso Basin, just south of San Ardo, the basin narrows to less than 3 miles wide. There is a natural bedrock high there that shallows up the basin to just a few hundred feet thick.
- The impact of activity in San Luis Obispo County's portion of the Paso Robles Groundwater Basin is minimal on the northern Salinas Basin and Monterey County's portion of the Paso Basin. The most significant influence on the northern Salinas Basin, and Monterey County's portion of the Paso Basin, is generated from Lake Nacimiento releases, which is operated by Monterey County.
- San Luis Obispo County and Monterey County coordinate on the Nacimiento Lake watershed:
    - The Nacimiento Agreement
    - The Nacimiento Watershed Management Group Agreement
    - Monterey County participation on the District's Paso Robles Groundwater Basin Advisory Committee
    - District participation on Monterey County Water Resources Agency's Reservoir Operations Committee
    - Coordination on Invasive Mussel prevention efforts

Southern Region

- Coordinated planning due to adjudication of the Santa Maria groundwater basin
- Two water management groups are in San Luis Obispo County and one is in Santa Barbara County and all three report to one Water Master.
- Physical solutions must be coordinated between the water management groups and in accordance with Santa Barbara and San Luis Obispo County land use authority.
- Coordination with Santa Barbara and Ventura Counties for the Cuyama Groundwater Basin

Eastern Region

- Due to the proximity of full State Water allocation delivery capacity to the Eastern boundary of San Luis Obispo County and existing infrastructure, opportunities exist for coordinating with both Kern and Santa Barbara Counties on State Water issues.

San Luis Obispo Integrated Regional Water Management Plan