

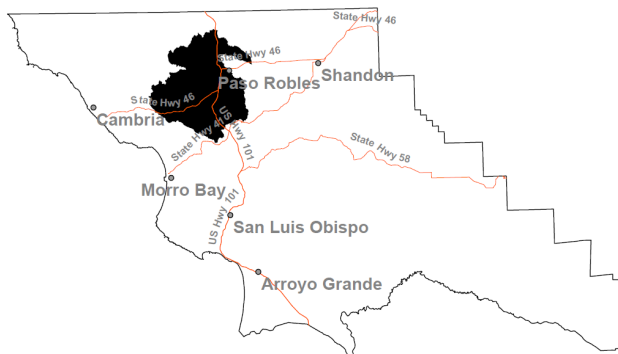
# Lower Salinas - Paso Robles Area Watershed

Hydrologic Unit Name	Water Planning Area	Acreage	Flows to	Groundwater Basin(s)	Jurisdictions
Salinas 9	Atascadero/ Templeton WPA 13 Salinas/ Estrella WPA 14	143,654 acres	Salinas River (to Monterey Bay National Marine Sanctuary)	Paso Robles, Paso Robles Creek	County of San Luis Obispo Paso Robles (ptn), Atascadero (ptn), Templeton, San Miguel, Camp Roberts



## Description:

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 community 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, west of city of Paso Robles. The dominant land use is agriculture with a strong urban component located adjacent to the Salinas. 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.



## Existing Watershed Management Plans:

No existing plans to date

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## Characteristics

	Physical Setting	
	Rainfall	Average Annual: 11-18 in, (northeast portion), 25-33 in. (southwest portion) (NRCS shapefile, 2010)
	Air Temperature	Summer Range (August 1990-2012): 52°-98°F Winter Range (December 1990-2012): 32°-62°F (Paso Robles, NOAA National Climatic Data Center, viewed 2013)
	Geology Description	<p>McKay, Mahoney Canyon, Lower Vineyard Canyon, Fern Canyon, Neals Spring, Templeton (including Toad Creek) and Asuncion sub-watersheds are composed of flat highly infiltrative Quaternary materials – Category #3.</p> <p>Graves Creek and Upper Paso Robles Creek are steep pre-Quaternary non-infiltrative headwaters with steep moderately infiltrative early to mid-Tertiary valleys – Category #5.</p> <p>Sheepcamp Creek and Summit Creek are composed of steep moderately infiltrative early to mid-Tertiary fill – Category #8.</p> <p>Mustard Creek has steep pre-Quaternary non-infiltrative headwaters with flat highly infiltrative Quaternary valley floor – Category #12.</p> <p>Upper San Marcos Creek, San Francisco Canyon, Cienega Canyon and Santa Rita Creek have steep pre-Quaternary non-infiltrative headwaters – Category #13.</p> <p>Lower San Marcos Creek, Bethel School and Lower Paso Robles Creek sub-watersheds have moderately infiltrative early to mid-Tertiary headwaters with flat Quaternary highly infiltrative valleys – Category #14 (Bell, pers. comm., 2013).</p> <p>Groundwater is found in Holocene age alluvium and the Pleistocene age Paso Robles Formation. Specific yield values in the Paso Robles Sub-basin range from 7 to 11 percent, with an average specific yield of 9 percent (Fugro West 2001c). DWR (1958) estimated the average specific yield for the sub-basin at 8 percent. DWR (1999) estimated the average specific yield at 15 percent for the alluvium and 9 percent for the Paso Robles Formation. Holocene age alluvium consists of unconsolidated, fine- to coarse-grained sand with pebbles and boulders. This alluvium provides limited amounts of groundwater and reaches 130 feet thick</p>

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near the Salinas River, but is generally less than 30 feet thick in the minor stream valleys (DWR 1999). Its high permeability results in a well production capability that often exceeds 1,000 gpm (Fugro West, 2001). Groundwater in Holocene alluvium is mostly unconfined. Pleistocene age Paso Robles Formation, which is the most important source of groundwater in the sub-basin, is unconsolidated, poorly sorted, and consists of sand, silt, gravel, and clay (DWR, 1979). This formation reaches a thickness of 2,000 feet and groundwater within it is generally confined (DWR 1958).

Bedrock is composed of granitic and metamorphic materials of the Salinian Block. The Salinian basement block is separated from the adjacent Franciscan basement by the San Andreas Fault in the northeast corner of the area and by the Nacimiento Fault zone in the Southwest corner. Overlying both basement blocks is a sequence of Cretaceous and Tertiary marine deposits and the nonmarine Paso Robles Formation. Serpentine occurs in the area as ultramafic Franciscan Formation. Granite outcrops are typically coarse grained biotites.

The Santa Margarita Formation crops out in the eastern part of the San Miguel quadrangle. The Pancho Rico Formation lies in a broad belt from the northeastern part of the Bradley quadrangle across the San Miguel quadrangle. These two units are exposed in the same stratigraphic sequence. Monterey shale is generally deformed into broad folds where it is thick, but near faults it is commonly tightly folded, contorted and overturned. Sandy and conglomerate units are tilted or warped into broad folds (Burch and Durham, 1970).

	<b>Hydrology</b>	
	Stream Gage	Yes; USGS 11147500 (Salinas River at 13 <sup>th</sup> Street, Paso Robles); USGS 11147070 (Santa Rita Creek near Santa Rita Road); USGS 11147040 (Santa Rita Creek near Old Creek Road); USGS 11147000 (Jack Creek near Highway 46W) (USGS, viewed August 2013)
	Hydrology Models	Yes; SLO County Flood Control and Water Conservation District, 2008, Paso Robles Groundwater Sub-basin Water Banking Feasibility Study. Todd Engineers, 2013, Paso Robles Groundwater Basin Update.
	Peak Flow	Peak flow: 28,400cfs. (USGS, viewed August 2013)
	Base Flow	Salinas River: 600 cfs. (USGS, viewed August 2013)

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	Flood Control Structures	<p>Bridges: 1 over Vineyard Creek on Indian Valley Road; 1 over Salinas River on River Road (PWD Bridges GIS Layer)</p> <p>Caltrans culverts convey HWY 1 stormwater onto road surfaces of 10th, 12th, 14th, and 16<sup>th</sup> Street.</p>
	Flood Reports	<p>The SLO County Flood Control and Water Conservation District commissioned a community wide master drainage study for Templeton. The initial and subsequent phases of the study are intended to characterize existing drainage patterns, analyze flood problems and identify proposed near and short term solutions. The study focussed on a section of Toad Creek with community stakeholders responding (Fugro North Coast Engineering, 2010 2011 draft: SLO County Flood Control and Water Conservation District, 2009; TAAG Toad Creek Watershed Report 2013).</p> <p><i>Data limited by scope of related study, does not address Watershed level flooding, more specific to Templeton area</i></p>
	Areas of Heightened Flood Risk	<p>Templeton lacks a formal drainage system and flood control infrastructure. Tributaries of Toad Creek collect drainage from the west side of the town, and convey them under Highway 101 through densely developed residential neighborhoods between Highway 101 and Main Street. (County of SLO facilities Inventory, draft viewed 2013)</p> <p>The freeway culverts at both the south and middle area are undersized, restricting flow causing potential flooding at the inlets. The length of Toad Creek between Main Street Highway 101 and the Southern Pacific Railroad is susceptible to flooding. Urbanization of the north sub area could have a very significant impact on this flooding. The area west and east of Main Street is currently in a Flood Hazard Zone. The community stakeholders proposed flood control and basin re-charge areas. (Templeton Design Plan, 1990; TAAG Toad Creek Watershed Report, 2013).</p> <p>1.38 square miles of Paso Robles is within an identified floodplain of the Salinas River and its tributaries. San Luis Obispo County has also identified additional areas in the vicinity of Marquita Road, and an area bounded by Herdsman Way to the south, West Bethel Road to the west, and Highway 46 West to the north; and an area north of Highway 46 West, west of Arbor Road, and south of Live Oak Road as flood prone (City of Paso Robles, 2005).</p> <p>Illegal off-road use of the Salinas River causes displacement of the river bed, pollution of the river, and destruction of riparian vegetation along 20 miles of the river (US-LT RCD, 2003).</p>

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		<p>The community of San Miguel lacks formal drainage. Local runoff follows the gentle northeasterly slope of the community and either flows to the Salinas River or infiltrates into the historic flood plain. Low spots cause frequent ponding and shallow flooding at several locations (SLO Flood Control and Water Conservation District, 2009)</p> <p>Abandoned vehicles and illegal dumping in the Salinas River continues to be a problem. (US-LT RCD, 2003)</p> <p>In San Miguel, ponding of stormwater west of Union Pacific Railroad tracks can result in the flooding of Mission Street from 11th to 16th street. The tracks bisect the community and impede flows from reaching Salinas River on the eastside. The primary cause of flooding in San Miguel is due to the absence of a continuous slope and drainage conveyance path from L Street to the Salinas River (SLO County Flood Control and Water Conservation District, 2009).</p>
	<b>Biological Setting</b>	
	Vegetation Cover	<p>Primarily coastal oak woodland consisting mainly of continuous coast live oak; chamise-redshank and mixed chaparral consisting mainly of chamise; orchards and vineyards with non-native annual grassland; oak woodland consisting mainly of continuous coast live oak and blue oak; urban; montane hardwood consisting mainly of continuous coast live oak. (SLO County vegetation shapefile, 1990 and Templeton-Atascadero Bikeway Connector Trail Constraints, 2003)</p> <p><i>Data limited by age of shapefile.</i></p> <p>Bunchgrass grasslands, wetlands, riparian woodlands, seeps, and vernal pools are also present. These habitats support uniquely adapted plants and provide important ecological functions. They also provide habitat for wildlife, including rare and endangered species.</p> <p>The Salinas River Riparian corridor is mature, multi-layered woodland habitat with sycamore (<i>Platanus racemosa</i>), cottonwood (<i>Populus fremontii</i>), and willow (<i>Salix</i> spp.) that provide habitat for many species of songbirds and raptors. Riparian canopy also provides shade that can regulate water temperature (Althouse and Meade, 2013).</p> <p><i>Data limited to observations, not complete inventory</i></p>
	Invasive Species	<p>The following invasive species have been identified in the Lower Salinas-Paso Robles Creek Area Watershed: Giant</p>

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reed grass (*Arundo donax*), tree of heaven (*Ailanthus altissima*), pampas grass (*Cortaderia selloana*), Perennial pepperweed (*Lepidium latifolium*), Skeleton weed (*Chondrilla juncea*), common unicorn (*Proboscidea louisianica*), Russian thistle (*Salsola tragus*), Medusahead (*Taeniatherum caput-medusae*), Tamarisk (*Tamarix* sp.) (Althouse and Meade, 2013). Poison hemlock, yellow star thistle, cheeseweed mallow, black mustard, riggut brome, horseweed, Prickley lettuce and milkthistle have also been identified (Sierra Delta Corporation, 2007)

*Data limited to observations, not complete inventory*

Special Status Wildlife and Plants

Key: FE - Federal endangered, FT - Federal threatened, SE - State endangered, ST - State threatened, SSC - State Species of Special Concern; FP- Fully Protected, SA – Special Animal, CRPR – CA rare plant rank (CNDDDB, viewed August, 2013)

Locations listed refer to USGS 7.5' quadrangle names. Only the portion overlapping the watershed boundary was considered.

*Data limited to observations, not complete inventory*

Special Status Species	Status	ADELAIDA	ATASCADERO	CRESTON	CYPRESS MTN	PASO ROBLES	TEMPLETON	YORK MTN
<b>Animals</b>								
<i>American badger</i>	SSC	x					x	
<i>Atascadero June beetle</i>	SA		x			x	x	
<i>California red-legged frog</i>	FT				x		x	x
Special Status Species	Status	ADELAIDA	ATASCADERO	CRESTON	CYPRESS MTN	PASO ROBLES	TEMPLETON	YORK MTN
<i>Coast Range newt</i>	SSC		x					x
<i>least Bell's vireo</i>	FE; SE					x		
<i>Lompoc grasshopper</i>	SA					x	x	
<i>Monterey dusky-footed woodrat</i>	SSC	x						
<i>Salinas pocket mouse</i>	SSC	x						
<i>San Joaquin kit fox</i>	FE; ST	x				x	x	
<i>San Joaquin pocket mouse</i>	SA					x		

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<i>silvery legless lizard</i>	SSC	x			x
<i>vernal pool fairy shrimp</i>	FT	x			x
<i>western pond turtle</i>	SSC			x	x x
<i>western spadefoot</i>	SSC	x			x

### Plants

<i>Carmel Valley bush-mallow</i>	CRPR 1B.2			x	
<i>Cook's triteleia</i>	CRPR 1B.3	x			
<i>dwarf calycadenia</i>	CRPR 1B.1	x			
<i>Eastwood's larkspur</i>	CRPR 1B.2		x		x
<i>Kellogg's horkelia</i>	CRPR 1B.1				x
<i>Lemmon's jewel-flower</i>	CRPR 1B.2				x x
<i>mesa horkelia</i>	CRPR 1B.1		x		x
<i>most beautiful jewel-flower</i>	CRPR 1B.2		x	x	
<i>round-leaved filaree</i>	CRPR 1B.1				x
<i>Santa Cruz Mountains pussypaws</i>	CRPR 1B.1	x			
<i>Santa Lucia bush-mallow</i>	CRPR 1B.2			x	
<i>Santa Lucia dwarf rush</i>	CRPR 1B.2	x		x	x
<i>shining navarretia</i>	CRPR 1B.2	x			x x
<i>umbrella larkspur</i>	CRPR 1B.3	x			
<i>woodland woollythreads</i>	CRPR 1B.2	x			x
<i>yellow-flowered eriastrum</i>	CRPR 1B.2		x		X

Steelhead Streams	<p>Yes; Paso Robles Creek, Jack Creek (watershed fisheries report)</p> <p>Salinas River, Graves Creek, Santa Rita Creek, Summit Creek, Sheepcamp Creek, San Marcos Creek (US Fish and Wildlife – Critical Habitat Mapper)</p> <p>Likely to be present: Willow Creek (NMFS South-Central California Coast Steelhead Trout Dataset, 2005).</p> <p>Toad Creek is identified as a previous steelhead creek (Watershed Fisheries Report 2002).</p>
Stream Habitat Inventory	Yes; DFG, 1997.
Fish Passage Barriers	<p>No total, partial, temporal or unassessed barriers on Paso Robles Creek (CalFish PAD).</p> <p>PAD ID: 718835- Dam at Hartzell Dam on Santa Rita Creek, Tributary to Paso Robles Creek. Total Barrier. 14.86411 miles upstream.</p>

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		PAD ID: 736536- Culvert at Highway 46 on Sheepcamp Creek, tributary to Paso Robles Creek. Unknown Status
	Designated Critical Habitat	Yes; Salinas River, Paso Robles Creek, Jack Creek, Sheepcamp Creek, Santa Rita Creek, Graves Creek, San Marcos Creek, and Summit Creek for Steelhead trout; South-Central California Coast Steelhead Trout Recovery Plan (50 CFR 226 - National Marine Fisheries Service - NOAA); Vernal Pool Fairy Shrimp (USFWS Critical Habitat Portal, viewed 2013)
	Habitat Conservation Plans	Yes; North San Luis Obispo County Habitat Conservation Program, City of Paso/SLO County, multiple species, initially San Joaquin kit fox <i>HCP general for County, not watershed specific</i>
	Other Environmental Resources	Salinas River, Paso Robles Groundwater Basin (SLO County IRWM, 2007)
	<b>Land Use</b>	
	Jurisdictions & Local Communities	County of San Luis Obispo, City of Atascadero (ptn), City of Paso Robles (ptn), Templeton, the community of San Miguel, Camp Roberts (ptn)
	% Urbanized	6.7% City of Paso; 6.4% City of Atascadero; 1.8% the community of Templeton; 6.2% (0.7% commercial, 5.5% residential), the community of San Miguel; 3% Public Facility; 1.7% Residential Suburban; Less than 1% each Commercial Retail, Industrial, Recreational, Residential Multi-family, Residential Single Family, Office Professional and Commercial Service
	% Agricultural	62.5%; row crops, vineyards, orchards and rangeland
	% Other	73%; row crops, vineyards, forage, and rangeland
	Planning Areas	9.4% Rural Lands; 7.4% Residential Rural
	Potential growth areas	Salinas River, Adelaida, El-Pomar/Estella Planning Areas
	Facilities Present	Adelaida, Olsen Ranch, Chandler Ranch, Beechwood, Borkey, Union Road, Wellsona Area (City of Paso General Plan, 2011), San Miguel Urban Core, San Miguel Freeway Corridor (San Miguel Community Plan, 2013), Templeton.
	Commercial Uses	Mission San Miguel, Rios Caledonia Adobe, County Public [?] Works District 1, Camp Roberts, San Miguel Wastewater Treatment Plant, Paso Robles Waste Water Treatment Plant, Paso Robles Youth Correctional Facility, Mid State Fair Grounds, Templeton Wastewater Treatment Plant, Atascadero Mutual Water Company facilities are found near the Salinas River, at the south end of this watershed.
		Industrial facilities - North River Road Pit operated by Viborg Construction; North River Road Pit operated by County of SLO; Mountain Springs Shale Pit operated by Viborg Construction; Templeton/Ormonde Sand and Gravel Pit operated by Borzini Sand and Gravel; Finley Sand Pit by



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		Weyrick; Smith Sand Pit operated by Paul Viborg; Hartzell Red Rock #1 & Hartzell Red Rock #2 Sand and Gravel Pit operated by Hartzell Ranch; Santa Rita Stone Quarry operated by Santa Rita Quarry, tourism, agriculture: row crops, forage, vineyards, orchards, ranches and Paso Robles Airport; San Miguel commercial core, tourism- mission and wine related; and Templeton downtown and Twin Cities Hospital.
	<b>Demographics</b>	
	Population	54,952 in watershed (US Census Blocks, 2010) 9,078 in the City of Atascadero (US Census Blocks, 2010) 29,524 in the City of Paso Robles (US Census Blocks, 2010) 7,674 in the community of Templeton (US Census, 2010) 2,205 in the community of San Miguel (US Census Blocks, 2010)
	Race and Ethnicity	<p>Watershed: 69.1% Caucasian; 25.1% Latino; 2% Mixed Race; 1.7% Asian; 1.2% African American; Less than 1% each American Indian and Pacific Islander (US Census Blocks, 2010)</p> <p>City of Atascadero: 83.2% Caucasian; 11.4% Latino; 0.4% Black; 0.5% American Indian and Alaska Native; 2% Asian; 2.2% Mixed Race (US Census Blocks, 2010)</p> <p>City of Paso Robles: 58.9% Caucasian; 34.6% Latino; 1.8% Black; 0.5% American Indian and Alaska Native; 1.8% Asian; 2% Mixed Race (US Census Blocks, 2010)</p> <p>Community of Templeton: 79.5% Caucasian; 15.3% Hispanic; 2.2% Mixed Race; 1.6% Asian; 0.7% Black or African American; 0.5% American Indian and Alaskan Native (US Census, 2010)</p> <p>The community of San Miguel: 46% Caucasian; 48.4% Latino; The remaining races each represent less than 6%, including African American, American Indian, Pacific Islander, and Asian. (US Census, 2010)</p>
	Income	MHI \$67,028 in watershed (interpolated from 9 US Census tracts, 2010) MHI \$49,097 in San Miguel (US Census, 2010) MHI \$57,927 in Paso Robles (US Census, 2010) MHI \$70,820 in Templeton (US Census, 2010) MHI \$68,502 in Atascadero (US Census, 2010)
	Disadvantaged Communities	Yes; San Miguel (DWR); 16.8% of individuals are below poverty level

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		<p>6.0% of individuals are below poverty level in the watershed, not including San Miguel (US Census Tracts, 2010) (interpolated from 13 tracts spanning multiple watersheds)</p> <p>8.7% of individuals are below poverty level in Atascadero (2007-2011 American Community Survey 5-Year Estimates)</p> <p>10.2% of individuals are below poverty level in Paso Robles (2007-2011 American Community Survey 5-Year Estimates)</p> <p>4.1% of individuals are below poverty level in Templeton (2007-2011 American Community Survey 5-Year Estimates)</p>
	<b>Water Resources</b>	
	Water Management Entities	Atascadero Mutual Water Company, Templeton CSD, City of Paso Robles, San Miguel CSD, outlying areas served by individual wells
	Groundwater	Yes; Paso Robles Groundwater Basin Natural recharge in the basin is derived from infiltration of precipitation, seepage from streams, and return flow from irrigation and other uses (Ca. Dept. of Water Resources, 2003)
	Surface Water	No public reservoirs.  The rights to surface water flows in the Salinas River and associated pumping from the alluvium have been fully appropriated by the State Board and no future plans exist to increase these demands beyond the current allocations. (Carollo, 2012)
	Imported Water	The cities of Atascadero and Paso Robles, and the Templeton CSD are signors of the Nacimiento Water Project, which allows them to draw supplemental water from Lake Nacimiento for their users (Carollo, 2012).  Atascadero Mutual Water Company – 2,000 afy City of Paso Robles – 4,000 afy Templeton Community Services District – 250 afy
	Recycled/Desalinated Water	The City of Paso Robles has a wastewater recycling plant in planning phase, scheduled for completion in 2015 (City of El Paso de Robles, 2003). San Miguel CSD has a wastewater treatment plant that discharges recycled wastewater into the Paso Robles Groundwater Basin.
	Key Infiltration Zone	No complete study has been performed however the Salinas River/Highway 46 Recharge Area was identified by the SLO County Flood Control and Water Conservation District in 2008.
	Water Budget	Yes; Todd Engineers, 2013. Paso Robles Groundwater Basin Update. <i>Water budget figures are limited by unreported well data.</i>

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	Water Uses	
	Beneficial Uses	<p><i>Paso Robles Creek</i> - Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Wildlife Habitat (WILD), Warm Freshwater habitat (WARM), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Threatened, or Endangered Species (RARE), and Commercial and Sport Fishing (COMM)</p> <p><i>San Marcos Creek</i> - Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Wildlife Habitat (WILD), Warm Freshwater habitat (WARM), and Commercial and Sport Fishing (COMM)</p> <p><i>Salinas River (Nacimiento River-Santa Margarita Reservoir)</i> - Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PRO), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Wildlife Habitat (WILD), Cold Fresh Water Habitat (COLD), Warm Freshwater habitat (WARM), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Threatened, or Endangered Species (RARE) and Commercial and Sport Fishing (COMM).</p> <p><i>Vineyard Canyon Creek</i> - Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Wildlife Habitat (WILD), Warm Freshwater habitat (WARM), and Commercial and Sport Fishing (COMM). (CCRWQCB, 2011)</p>
	<b>Other Unique Characteristics</b>	
	Hot Springs	A geothermal pressure aquifer is located approximately 650 feet below the surface in the Paso Robles and Templeton areas. The water contained in this pressure aquifer is hot (122 degrees +), high in TDS and other minerals including boron. Improper construction of wells in the area may be contributing to contamination of the upper aquifer (CCRWQCB, 2002)
	Historical Resources	Rotta Winery (250 Winery Road, Templeton); York Mountain Winery (7505 York Mountain Rd, Templeton); San Marcos

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		<p>Cemetery (Chimney Rock Road &amp; 24th Street West, Paso Robles); Willow Creek Cemetery (Vineyard &amp; Dover Canyon Roads, Paso Robles); Estrella Adobe Church (Airport Rd, Paso Robles); Bethel Lutheran Church (295 Old County Road, Templeton); Geneseo School (moved in 2004); C.H. Phillips House (91 Main Street, Templeton); San Miguel Mission (775 Mission Street, San Miguel); Rios Caledonia Adobe (700 S. Mission Street, San Miguel) (PLN_DES_HISTORIC_POINTS GIS Layer) (PLN_DES_HISTORIC_POINTS GIS layer)</p> <p>The Juan Bautista de Anza Historic Trail (Anza Trail) is administered by the National Park Services (National Trail System 1990). The trail corridor extends from Atascadero through Paso Robles then northwest towards San Antonio Mission (County Parks and Recreation Element 2006; cities of Atascadero and Paso Robles)</p>
	Camp Roberts	<p>Thirteen ponds and reservoirs (65 acres) which are either natural or artificially created for use as livestock ponds or flood control. A total of 120 aquatic species representing 64 families of organisms were recorded from rivers, ponds, and reservoirs on Camp Roberts. Eight species of fish, 44% of species native to Salinas River drainage, have been recorded at Camp Roberts from Nacimiento River. There are over 100 known archeological prehistoric and historic sites including the Nacimiento Ranch House. 23 animal species designated as California Special Concern Species by CDFW occur at Camp Roberts. There are 32 State-listed species on the special plants list. In process of partnering with Agricultural Land Conservancy to acquire 612-acre Willard property and 1,300-acre Manini property. A population of Tule Elk was established in the early 1980s.</p>
	Jack Creek Reservoir	Over 250 acres of designated Open Space
	Los Padres National Forest	<p>Ecosystems in Los Padres National Forest range from semi-desert in interior areas to redwood forest on the coast. Forest vegetation classified into two major types: chaparral and forested lands. Provides a diverse wildlife habitat with 23 threatened and endangered animals. Member of the California Condor Recovery Program and has been an active player in the reintroduction of California condors in the wild. The Forest has one endangered plant, two threatened plant species and 71 sensitive plant species. Management of riparian vegetation focuses on supporting fish and wildlife populations. There are over 870,000 acres of livestock grazing allotments in the Forest.</p>
	Templeton Park, Duveneck Regional Park (Undeveloped)	County operated day-use recreation areas.

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	Mission San Miguel de Archangel	Established in 1797, designated as State Historical Landmark No. 326.
	Rios Caledonia Adobe	Established between 1830-1846, adjacent to Mission San Miguel de Archangel, this site is considered one of the finest examples of early California architecture in the state. Contains preserves historic building, landscaped grounds, a gift shop and restrooms. Includes a 2.8 acre park and museum. Operated by the County of San Luis Obispo.
	San Miguel Park	Day-use recreation area operated by the County of San Luis Obispo.
	Wolf Property Natural Area	Operated by the County of San Luis Obispo.
	San Miguel Staging Area	Located on the Salinas River at the site of the former Camp Roberts swimming pool. Offers parking facilities for hiking and equestrian use along the Salinas River leading to Big Sandy Wildlife Area. Operated by the County of San Luis Obispo.
	Big Sandy Wildlife Area	850 acre grassland park that provides habitat to various species including California quail and wild boar. Provides season hunting and fishing activities to area residents and visitors. Portions of the riparian growth are virtually pristine; however much of the remaining area is highly disturbed. Habitat restoration activities are underway. The area is managed for hunting by California Department of Fish and Wildlife.
	Tom Jermin, Sr. Park	TCSD operated day-use recreation area.
	Salinas River Trails Master Trail Plan – Santa Margarita to San Miguel (Undeveloped)	SLOCOG 2014
	<b>Climate Change Considerations</b>	
		See IRWMP, 2014 Section H, Climate Change <i>Data is general for County, not watershed specific</i>

## Watershed Codes

Calwater/DWR Number	HA	Hydrologic Area Name	HSA	Hydrologic Sub-Area Name	SWRCB Number	CDF Super Planning	CDF Watershed Name
3309.811406	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Graves Creek
3309.811407	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Asuncion
3309.811701	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	San Francisco Canyon

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3309.811702	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Upper Paso Robles Creek
3309.811703	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Sheepcamp Creek
3309.811704	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Cienega Creek
3309.811705	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Santa Rita Creek
3309.811706	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Lower Paso Robles Creek
3309.811707	8	Paso Robles	1	Atascadero	309.81	Paso Robles Creek	Summit Creek
3309.811801	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Bethel School
3309.811802	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Neals Spring
3309.811803	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Golden Hill
3309.811804	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Fern Canyon
3309.811805	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Mustard Creek
3309.811806	8	Paso Robles	1	Atascadero	309.81	Templeton to Paso Robles	Templeton (aka Toad Creek)
3309.811901	8	Paso Robles	1	Atascadero	309.81	Lower Nacimiento River	Lower San Marcos Creek
3309.811904	8	Paso Robles	1	Atascadero	309.81	Lower Nacimiento River	Mahoney Canyon (majority)
3309.811907	8	Paso Robles	1	Atascadero	309.81	Lower Nacimiento River	McKay (ptn)
3309.811908	8	Paso Robles	1	Atascadero	309.81	Lower Nacimiento River	Upper San Marcos Creek
3309.812105	8	Paso Robles	1	Atascadero	309.81	Portugese Canyon	Lower Vineyard Canyon (ptn)

Source: Excerpt from California Interagency Watershed Map of 1999, Calwater 2.2.1 (CA Resource Agency, 2004 Update)

### *Major Changes in the Watershed*

# Lower Salinas - Paso Robles Area Watershed

- In 1797, Franciscan padres built Mission San Miguel near the Paso Robles hot springs to take advantage of the waters curative powers. They constructed a crude abutment of logs around the edge of the main spring and an aqueduct that brought the water to the mission. Later, the main spring became the center of the town of Paso Robles. With the demise of the Mission, the Mexican government granted the original 10,519 hectare (25,993 acres) of the Rancho de Paso Robles (Ranch of the Pass of the Oaks) to Pedro Narvaez in 1844. In 1857, with the decaying logs of the padres still at the spring, the Blackburn brothers and partner purchased the rancho for \$8,000. A rough bathhouse was built over the main sulphur spring, a stagecoach station was established, and a small hotel was built to accommodate occasional travelers.
- Adelaida area first settled in the 1870's for immigrating European farmers. Included a general store, post office, school, church, and cemetery at its height
- In 1881 a portion of the Atlantic and Pacific Railway is established through San Miguel.
- In 1886, the Southern Pacific Railroad passed the small hotel in Paso Robles, and in 1889, the City of Paso Robles was incorporated. That same year, the Blackburns began construction of the Hotel El Paso de Robles near the main sulphur spring.
- Mining activity important: minerals extracted include cinnabar (mercury-bearing ore), quicksilver, and limestone.
- In 1889 San Miguel Fire District formed as a volunteer fire company
- The Templeton Fire District was formed in 1909 and today remains a volunteer fire company.
- The Templeton Community Services District was formed in 1976.
- San Miguel Community Services District formed (2000)
- On September 3, 1942 construction began on the Airfield, which was to be used as a Marine Corps Bomber Base. On April 8, 1943, the field was dedicated as Estrella Army Airfield to be used by the Army Air Corps. Estrella Army Airfield consisted of 1259 acres of land, two 4,700-foot long runways, an operations building and a small, three bay fire station.
- The Marine Corps Units occupied buildings to the west, across Airport Road in what is now the California Youth Authority. On August 29, 1947 the Federal Government transferred 1,057 acres to the County of San Luis Obispo to be used as a commercial airport, and 202 acres and buildings to the State of California to be used as a Correctional Facility.
- The County of San Luis Obispo extended runway 01/19 from 4,700 feet to 6,009 feet; installed high intensity lights; and built a large hangar, ten T-Hangars and a terminal building between 1949 and 1952. In 1952 commercial air service for San Luis Obispo County began, with Southwest Airways serving the area, became Pacific Airlines, and later yet merged into Hughes Air West. This service continued until 1974.
- On May 7, 1973, the County of San Luis Obispo sold the airport to the City of Paso Robles for \$1.00. At that time the County was unable to derive enough income to support the cost of running the airport. The City subdivided unused land into 81 parcels for commercial development. The City formed an all-volunteer Fire, Crash and Rescue Department to serve the airport and the surrounding area. The City took over the water wells and the sewer treatment plant from the State to serve both the Airport and the Youth Authority. In 1973 there were four businesses employing 22 people on the airport. Today the Paso Robles Municipal Airport houses almost 40 businesses, employing over 700 people.

# Lower Salinas - Paso Robles Area Watershed

## Watershed Health by Major Tributary

Tributary Name	Ephemeral / Perennial	303d Listed/ TMDLs	Pollution Sources NP (non-point) MP (Major Point)	Environmental Flows
Salinas River	Intermittent Perennial	Yes, Sodium and Chloride	Undetermined	Not assessed
Asuncion	Undetermined	Not assessed	Undetermined	Not assessed
Bethel School	Undetermined	Not assessed	Undetermined	Not assessed
Cienega Canyon	Undetermined	Not assessed	Undetermined	Not assessed
Fern Canyon	Undetermined	Not assessed	Undetermined	Not assessed
Graves Creek	Undetermined	Not assessed	Undetermined	<b>Upper:</b> Spring: 0.64 cfs. Summer: 0.28 cfs.
Lower Paso Robles Creek	Undetermined	Not assessed	Undetermined	Spring: 2.3 cfs. Summer: 0.7 cfs
Lower San Marcos Creek	Undetermined	Not assessed	Undetermined	Not assessed
Mustard Creek	Undetermined	Not assessed	Undetermined	Not assessed
Neals Spring	Undetermined	Not assessed	Undetermined	Not assessed
San Francisco Canyon	Undetermined	Not assessed	Undetermined	Not assessed
Santa Rita Creek	Undetermined	Not assessed	Undetermined	Spring: 1.22 cfs. Summer: 0.43 cfs.
Sheepcamp Creek	Undetermined	Not assessed	Undetermined	Not assessed
Summit Creek	Undetermined	Not assessed	Undetermined	Not assessed
Templeton	Undetermined	Not assessed	Undetermined	Not assessed
Upper Paso Robles Creek	Undetermined	Not assessed	Undetermined	Not assessed
Upper San Marcos Creek	Undetermined	Not assessed	Undetermined	Not assessed
McKay	Undetermined	Not assessed	Undetermined	Not assessed
Mahoney Canyon	Undetermined	Not assessed	Undetermined	Not assessed
Lower Vineyard Canyon	Undetermined	Not assessed	Undetermined	Not assessed
Salinas River	Undetermined	Yes, for Sodium and Chloride	Undetermined	Not assessed



# Lower Salinas - Paso Robles Area Watershed

## *Watershed Health by Major Groundwater Basin*

Groundwater Basin	Estimated Safe Yield (Master Water Report)	Water Availability Constraints	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
Paso Robles	97,700 AF	Physical Limitations, Water Rights, Water Quality Issues(Carollo, 2012).	Yes; see description below.	None (CCRWQCB, 2011)

### *Groundwater Quality Description:*

Paso Robles Groundwater Basin: The predominant cations are calcium and sodium and the predominant anion is bicarbonate (DWR 1981; Fugro West, 2001b). Analysis of 48 public supply wells in the subbasin show an average Total Dissolved Solid (TDS) content of 614 ppm and a range of 346 to 1,670 ppm.

In one study, (Fugro West 2001b), 23 of 74 samples collected exceeded one or more drinking water standards. The maximum contaminant level (MCL) for nitrate was exceeded in 4 samples (Fugro West, 2001b). Water quality trends indicate an increasing concentration of TDS and chloride in the deep, historically artesian aquifer northeast of Creston (Carollo, 2012).

Another major problem is the unpredictable occurrence of hydrogen sulfide in the ground water (DWR, 1981).

Increasing amounts of total dissolved solids and chlorides near San Miguel. Increasing nitrates in the Paso Robles Formation in the area south of San Miguel. High nitrates and arsenic, presence of gross alpha emitters (SLO County Public Works Master Water Report, 2012).

### *Primary Issues*

<i>Issue</i>	<i>Potential Causes</i>	<i>Referenced from</i>
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	Carollo, 2012
Groundwater Quality	high concentrations of TDS, chlorides, sulfates, and boron	Carollo, 2012
Salinas River 303(d) listed for sodium, chloride		Carollo, 2012
Steelhead passage	Several tributaries and the	50 CFR 226 - National Marine

# Lower Salinas - Paso Robles Area Watershed

	Salinas are designated critical habitat which must be considered in planning water uses.	Fisheries Service - NOAA
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## **Groundwater:** Paso Robles Groundwater Basin

According to multiple studies of this basin, annual basin pumping is now at or near the basin’s perennial yield (Paso Robles Groundwater Management Plan, 2011). From 1997–2009, water levels declined on average of 2–6 feet per year, depending on the location. A Todd Engineering monitoring report (2007) indicated that the Basin was not approaching the safe yield level and some areas were experiencing significant declines in groundwater elevations. A later study completed in 2009 suggested groundwater pumping was approaching the safe yield level of the Basin. The 2010 Resource Capacity Study prepared by the San Luis Obispo County Planning Department stated that the Basin is now near or at perennial yield levels. The County Board of Supervisors certified a Level of Severity III for the Paso Robles Basin in October, 2012, due to declining water levels. In August 2013, the County Board of Supervisors adopted an urgency ordinance to limit new draws from the Paso Robles Groundwater basin.

The Paso Robles Groundwater Basin encompasses an area of approximately 790 square miles and is the primary, and in many places the only, source of water available to property owners throughout Northern San Luis Obispo County. The basin extends from the Garden Farms area south of Atascadero to San Ardo in Monterey County, and from the Highway 101 corridor east to Shandon. The basin supplies water for 29% of SLO County’s population and an estimated 40% of the agricultural production of the County (Paso Robles Groundwater Basin Blue Ribbon Committee, 2013).

Paso Robles, Atascadero, and Templeton draw their water from the groundwater basin (primarily the Atascadero sub-basin), the underflow of the Salinas River and from the Nacimiento Pipeline Project. The remaining communities (Shandon, San Miguel, Creston, Bradley, Camp Roberts, Whitley Gardens, and Garden Farms) are entirely dependent on the groundwater basin for their water supply.

An established bi-annual well monitoring program overseen by the SLO County Flood Control and Water Conservation District reported these water declines in groundwater dependent communities (Through April, 2013):

- a. Shandon: Water levels have dropped approximately 17 feet from 2011 to 2013.
- b. Creston: Water levels have dropped approximately 25 feet from 2011 to 2013.
- c. Estrella: Water levels have dropped approximately 25 feet from 2011 to 2013.
- d. San Juan: Water levels have dropped approximately 5 feet from 2012 to 2013.

## ***Bibliography***

### **Technical Reports**

Althouse and Meade, Inc. 2000-2013. Biological Reports and Field Data.

# Lower Salinas - Paso Robles Area Watershed

Burch, S. H. and D. L. Durham. (1970). Complete Bouguer Gravity and General Geology of the Bradley, San Miguel, Adelaida, and Paso Robles Quadrangles, California. Geological Survey Professional Paper 646-B. Washington, D.C.

CAL FIRE/San Luis Obispo County Fire. (2013). Unit Strategic Fire Plan.

[http://www.calfireslo.org/Documents/Plans/UnitFirePlan/SLU\\_Unit\\_Fire\\_Plan\\_v13\\_1\\_\(Complete\).pdf](http://www.calfireslo.org/Documents/Plans/UnitFirePlan/SLU_Unit_Fire_Plan_v13_1_(Complete).pdf)

California Department of Water Resources. (2003). California's Groundwater Bulletin 118 Update 2003.

[http://www.water.ca.gov/pubs/groundwater/bulletin\\_118/california's\\_groundwater\\_bulletin\\_118\\_-\\_update\\_2003\\_/bulletin118\\_entire.pdf](http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater_bulletin_118_-_update_2003_/bulletin118_entire.pdf)

California Department of Conservation, Mines, and Geology. (1983). Resource Investigation of Low- and Moderate-Temperature Geothermal Areas in Paso Robles, SLO County, CA.

[http://repository.stategeothermaldata.org/metadata/record/98ddf901b9782a25982e01af3b06fb20/file/ofr\\_83-11\\_report\\_8plates.pdf](http://repository.stategeothermaldata.org/metadata/record/98ddf901b9782a25982e01af3b06fb20/file/ofr_83-11_report_8plates.pdf)

California Department of Water Resources. (2009). San Luis Obispo County Flood Control and Water Conservation District Guide to Implementing Flood Control Projects.

<http://www.slocountywater.org/site/Hydraulic%20Planning/pdf/Guide%20to%20Implementing%20Flood%20Control%20Projects.pdf>

Carollo. (2012). San Luis Obispo County Master Water Report.

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

Chipping, D. H. (1987). The Geology of San Luis Obispo County: A Brief Description and Guide. Cal Poly Press. San Luis Obispo, CA.

City of El Paso de Robles. (2003). City of El Paso de Robles General Plan.

<http://www.prcity.com/government/departments/commdev/planning/general-plan-final.asp>

City of El Paso de Robles. (2005). Hazard Mitigation Plan.

<http://www.prcity.com/government/pdf/LHMP/.pdf>

City of El Paso de Robles. (2011). El Paso de Robles Housing Element.

<http://www.prcity.com/government/departments/commdev/housing/pdf/2011HousingElement.pdf>

Fugro West, Inc. (2010). Paso Robles Groundwater Basin Water Balance Review and Update.

<http://www.slocountywater.org/site/Water%20Resources/Reports/pdf/Paso%20Robles%20Groundwater%20Basin%20Water%20Balance%20Review%20and%20Update.pdf>

Monterey County. (2004). Upper Salinas Watershed Action Plan.

[http://www.mcwra.co.monterey.ca.us/Agency\\_data/USLS%20RCD%20Watershed%20Action%20Plan/Chapter%201%20-%20Introduction.pdf](http://www.mcwra.co.monterey.ca.us/Agency_data/USLS%20RCD%20Watershed%20Action%20Plan/Chapter%201%20-%20Introduction.pdf)

# Lower Salinas - Paso Robles Area Watershed

NOAA Fisheries. (2012). South-Central Ca Coast Steelhead Recovery Plan.

<http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm>

National Marine Fisheries Service. (2005) South-Central California Coast Steelhead Trout Dataset.

National Park Service, Juan Bautista de Anza National Historic Trail [www.nps.gov/juba](http://www.nps.gov/juba)

Surface Water Ambient Monitoring Program. (2013). CalWater 2.2.1

<http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/database-management-systems/swamp-25-database/templates-25/gis-shapefile-layers>

Paso Robles Groundwater Basin – Groundwater Advisory Committee. (2011). Paso Robles Basin Groundwater Management Plan.

<http://www.slocounty.ca.gov/Assets/PL/PR+Groundwater/gwp.pdf>

Regional Water Quality Control Board Central Coast Region 3. (2002). Watershed management Initiative.

[http://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/wmi/docs/wmi2002\\_final\\_document\\_revised\\_1\\_22\\_02.pdf](http://www.waterboards.ca.gov/centralcoast/water_issues/programs/wmi/docs/wmi2002_final_document_revised_1_22_02.pdf)

San Luis Obispo County. (1990). Templeton Community Design Plan.

<http://www.slocounty.ca.gov/Assets/PL/Design+Plans/Templeton+Design+Plan.pdf>

San Luis Obispo County. (2003). Adelaida Planning Area.

<http://www.slocounty.ca.gov/Assets/PL/Area+Plans/Adelaida+Inland+Area+Plan.pdf>

San Luis Obispo County Flood Control and Water Conservation District. (2005). Water Years 2001-02 and 2002-03 Hydrologic Report.

<http://www.slocountywater.org/site/Water%20Resources/Reports/pdf/Hydrologic%20Report%202002.pdf>

San Luis Obispo County Flood Control and Water Conservation District. (2008). Paso Robles Groundwater Subbasin Water Banking Feasibility Study.

<http://www.prcity.com/government/departments/publicworks/water/pdf/GBMP/reports/WaterBankingFeasibilityStudyApr08.pdf>

San Luis Obispo County. (2009). Salinas River Area Plan, SLO County.

<http://www.slocounty.ca.gov/Assets/PL/Area+Plans/Salinas+River+Inland+Area+Plan.pdf>

San Luis Obispo County Board of Supervisors. (2011). Water Supply in the Paso Robles Groundwater Basin. <http://www.slocounty.ca.gov/Assets/PL/PR+Groundwater/rcs.pdf>

San Luis Obispo County. (2013). North County Area Plan.

<http://www.slocounty.ca.gov/Assets/PL/Draft+Plans/North.pdf>

San Luis Obispo County General Plan. (2011).

[http://www.slocounty.ca.gov/planning/General\\_Plan\\_Ordinances\\_and\\_Elements.htm](http://www.slocounty.ca.gov/planning/General_Plan_Ordinances_and_Elements.htm)

# Lower Salinas - Paso Robles Area Watershed

San Luis Obispo County Parks and Recreation Element (2006).  
[http://www.slocountyparks.com/information/prebody\\_appendix52007.pdf](http://www.slocountyparks.com/information/prebody_appendix52007.pdf)

Stillwater Sciences. (2011). Development and Implementation of Hydromodification Control Methodology. Watershed Characterization Part 1: Watershed Characterization Part 1. Precipitation and Landscape.  
[http://www.waterboards.ca.gov/rwqcb3/water\\_issues/programs/stormwater/docs/lid/hydromod\\_lid\\_docs/watershed\\_character\\_part\\_1.pdf](http://www.waterboards.ca.gov/rwqcb3/water_issues/programs/stormwater/docs/lid/hydromod_lid_docs/watershed_character_part_1.pdf)

Titus R. G., D. C. Erman and W. M. Snider. (2013). History of steelhead in California coastal drainages south of San Francisco Bay. *In preparation*.

The Tribune of San Luis Obispo: *Paso sends Nacimiento water to river to help recharge supply*, July 17, 2011:  
<http://www.sanluisobispo.com/2013/07/17/2587046/paso-sends-nacimiento-water-to.html#storylink=cpy>

Upper Salinas – Las Tablas Resource Conservation District. (2002). Upper Salinas and Tributaries Watershed Fisheries Report and Early Actions. [http://www.usltrcd.org/downloads/Watershed\\_Fisheries\\_Report.pdf](http://www.usltrcd.org/downloads/Watershed_Fisheries_Report.pdf)

Upper Salinas – Las Tablas Resource Conservation District. (2004). Upper Salinas River Watershed Action Plan. US-LT RCD.  
[http://www.mcwra.co.monterey.ca.us/Agency\\_data/USLS%20RCD%20Watershed%20Action%20Plan/Chapter%201%20-%20Introduction.pdf](http://www.mcwra.co.monterey.ca.us/Agency_data/USLS%20RCD%20Watershed%20Action%20Plan/Chapter%201%20-%20Introduction.pdf)

U. S. Environmental Protection Agency. (2011). Climate Change Handbook for Regional Water Planning.  
<http://www.water.ca.gov/climatechange/CCHandbook.cfm>

## **GIS Layers**

Aerial Information Systems. (2008). San Luis Obispo County Vegetation Polygons.

National Hydrography Dataset. (2013). San Luis Obispo County Streams.

San Luis Obispo County Environmental Division. (2013). San Luis Obispo County Mines.

San Luis Obispo County Planning and Building Geographic Technology and Design. (2013). Various GIS shapefiles and layers.

State Water Resources Control Board. (2013). Water Rights/Fully Appropriated Streams.

United States Census Bureau Master Address File/Topologically Integrated Geographic Encoding and Referencing Database. (2013). 2010 Census Tracts.

United States Department of Agriculture. (2013). Soil Survey Geographic Database

# Lower Salinas - Paso Robles Area Watershed

## Databases

Department of Fish and Game. (2013). California Natural Diversity Database. <http://www.dfg.ca.gov/biogeodata/cnddb/>

National Atlas of the United States. (2013). Streamer. <http://www.nationalatlas.gov/streamer>

National Oceanic and Atmospheric Administration. (2013). National Climatic Data Center. <http://www.ncdc.noaa.gov/>

NOAA. National Marine Fisheries Service. 50 CFR 226. (2013).

National Marine Fisheries Service. (2005) South-Central California Coast Steelhead Trout Dataset.

U. S. Fish and Wildlife Service. (2013). Critical Habitat Portal. <http://criticalhabitat.fw.gov/crithab>.

U. S. Fish and Wildlife Service. (2013). National Wetlands Inventory. <http://www.fws.gov/wetlands/>

U.S. Geological Survey. (2013). California Water Science Center. <http://ca.water.usgs.gov/>

U.S. Geological Survey. (2013). Protected Areas Database. <http://gapanalysis.usgs.gov/padus/>

## ***Significant Studies in Progress:***

Regional Board Salt Balance Study – define the need and methods of salt reduction