

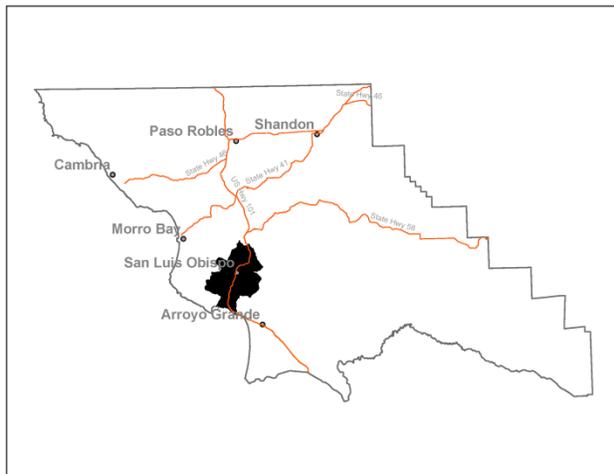
San Luis Obispo Creek Watershed

Hydrologic Unit Name	Water Planning Area	Acreage	Flows to	Groundwater Basin	Jurisdictions
Estero Bay HU 10	San Luis Obispo/Avila WPA 6	53,271 acres	Pacific Ocean	San Luis Obispo Valley; Avila Valley subbasin	County of San Luis Obispo City of San Luis Obispo Town of Avila Beach Port San Luis Harbor District



Description:

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.

Watershed Plans:

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, expected 2014)

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Characteristics:

	Physical Setting	
	Rainfall	17 – 33 inches (NRCS Precipitation 1981-2010) 24 – 29 inches, Mean Annual (SLO County Water.org)
	Air Temperature	Summer Range (August 1981-2010): 55° - 77° F Winter Range (December 1981-2010): 43° - 61° F At Cal Poly San Luis Obispo, CA. (NOAA National Climatic Data Center, viewed 2013)
	Geology Description	<p>Stenner Creek consists of steep pre-Quaternary non-infiltrative headwaters and a flat Franciscan low infiltrative valley – category #2.</p> <p>Reservoir Canyon Creek consists of steep moderately infiltrative early to mid-Tertiary headwaters and a flat pre-Quaternary moderately infiltrative valley – category #11.</p> <p>Prefumo Creek consists of steep moderately infiltrative early to mid-Tertiary headwaters; flat youngest Tertiary highly infiltrative valley – category #15. (Bell, personal communication, 2013)</p> <p>East Branch SLO Creek and Davenport Creek consist of flat Franciscan headwaters and flat Quaternary valley.</p> <p>Rock types in the SLO area are mainly comprised of volcanic, metavolcanics and mélanges of serpentinite and greywacke sandstone. These rocks are highly fractured and are part of the Mesozoic aged Franciscan Formation. Intrusive and extrusive volcanic deposits of Tertiary age and marine sedimentary deposits of the Miocene aged Monterey Formation are also found in the area. The most distinctive geomorphological feature of the San Luis Obispo area is the series of Tertiary aged volcanic plugs (remnants of volcanoes) which extend from the City of San Luis Obispo to Morro Bay. Hollister Peak, Bishop Peak, Cerro San Luis Obispo, Islay Hill and Morro Rock are all comprised of these volcanic plugs. (City of SLO, 2010)</p>
	Hydrology	
	Stream Gage	Yes; USGS 11142000 Steiner Creek near San Luis Obispo, CA (no data online for this site, inactive) (USGS NWIS, viewed 2013). Andrews Street at San Luis Obispo Creek (2001-present, active); Stenner Creek at Nipomo Street (2001 -present, active); Elks lodge bridge and San Luis Obispo Creek (2001 -present, active); Laguna Lake outflow at Madonna (2001 -present, active); East Fork at Jespersen Bridge (2001 -present, active) (SLOCountyWater.org, viewed 2013). City of SLO Los Osos Valley Road at San Luis Obispo

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		<p>Creek (2004/5, status unknown) (Otte, personal communication, 2013).</p> <p>Historically, at least two stream gauges existed in the San Luis Obispo Creek Watershed that would have been capable of recording flood peaks. One was located on lower San Luis Obispo Creek near Avila, and the other was located on Upper San Luis Obispo Creek, in San Luis Obispo. Unfortunately, both of these gauges were put out of service in 1992. Since that time, the City of San Luis Obispo has re-installed a gauge on Upper San Luis Obispo Creek. However, there is no gauge record for the 1995 water year (Questa Engineering, County of San Luis Obispo, 2003 p C-19).</p>
	Hydrologic Models	Yes; Questa Engineering for San Luis Obispo Creek Watershed Waterway Management Plan, 2003.
	Peak Flow	19,800 cfs San Luis Obispo Creek above See Canyon (FEMA Flood Insurance Study, 1978); 22,000 cfs San Luis Obispo Creek at Squire Canyon (Questa/Zone 9 Model); "..., the Corps/Nolte/FEMA study used an actual recorded rainfall event (in this case, the January 19, 1973 event) to define a storm that theoretically represented the maximum precipitation possible for a given part of the watershed." (Questa Engineering, County of San Luis Obispo, 2003, pC-28).
	Base Flow	<p>No source identified for measured summer base flows.</p> <p>City of San Luis Obispo Wastewater Treatment Plant is required to discharge a minimum of 2.5 cfs into San Luis Obispo Creek.</p> <p>"A conservative estimate was made by assuming that base flow in the creek during a large storm would be similar to the base flow in the creek that was observed over the week following the storm of March 2, 1983. The average base flow for this time period, omitting days when rainfall occurred, was approximately 14 cms (500 cfs). Divided over the upstream area of 207 km² (80 mi²) this gives an average base flow rate of 0.067 cms/km² (6.3 cfs/mi²), which was then applied to each [of 61 individual] sub-basin [formed for the watershed model]. This base flow rate is significantly higher than the long term average winter-season flow rate in San Luis Obispo creek, and is intended to represent the base flow in the creek during a series of wet storms. It is much greater than any likely winter time releases from the City of San Luis Obispo Water Reclamation Facility, which discharges into San Luis Obispo Creek downstream from the Prado Road Bridge." (Questa Engineering, 2003, pC-8)</p>
	Flood Report	<p>Yes; San Luis Obispo Creek Waterway Management Plan (Questa Engineering, 2003).</p> <p>The City manages several flood by-pass channels along SLO Creek</p>

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		<p>and Laguna Lake for flood control. (Otte, personal communication, 2013)</p> <p>Areas of flood risk include Highway 101 near Los Osos Valley Road (LOVR) and extends up Prefumo Creek to Calle Joaquin; San Luis Obispo Creek near Elks Lane; between Marsh Street and Madonna Road; San Luis Obispo Creek above Cuesta Park; across Santa Rosa Street and through a residential neighborhood toward Chorro Street and Old Garden Creek; East Fork of SLO Creek at Buckley Road.(Questa Engineering, 2003, p78-84)</p>
	Biological Setting	
	Vegetation Cover	<p>Primarily non-native grassland with some chaparral (chamise, leather oak, mixed serpentine), coastal scrub, coastal live oak forest, agricultural land and urban land. (SLO County, vegetation shapefile, 1990)</p> <p>SLO Creek is dominated by a willow (<i>Salix spp.</i>) riparian canopy with a mixture of oaks, sycamore, and cottonwood trees making up the rest of the native canopy. The understory consists of blackberry vines, coyotebrush, sage species, coffee berry, toyon, elderberry and a large number of ornamental non-native species (Questa Engineering, 2003).</p> <p>Mixed chaparral found near Cuesta grade contains several species of manzanita, many of which are endemic and rare. (Althouse and Meade, Inc, 2013)</p> <p>Limited current spatial data. No alliance level vegetation mapping was available for the entire County.</p>
	Invasive Species	<p><i>Arundo donax</i> (Giant Reed), <i>Delairea oderata</i> (Cape Ivy), poison hemlock (<i>Conium maculatum</i>), tree of heaven (<i>Ailanthus altissima</i>), several species of eucalyptus, and castor bean (<i>Ricinus communis</i>). Other various weeds including anise, cocklebur, yellow star thistle, milk thistle and Italian thistle (Land Conservancy, 2002). There are non-native palm trees and myoporum and other ornamental escapee’s which have colonized the creek channel. Himalayan blackberry, kikuyu grass, vinca, pampas grass, French and Spanish broom, English ivy, and bullfrogs. (Otte, personal communication, 2013)</p> <p>Limited spatial data.</p>
	Special Status Wildlife and Plants	<p>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 (CNDDB, viewed August, 2013)</p> <p>Locations listed refer to USGS 7.5’ quadrangle names. Only the</p>

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portion overlapping the watershed boundary was considered.

Limited by the type of data collected in the CA Natural Diversity Database.

<i>Common Name</i>	Status	ARROYO GRANDE NE	LOPEZ MTN	PISMO BEACH	PORT SAN LUIS	SAN LUIS OBISPO
Animals						
<i>American badger</i>	SSC	x		x		x
<i>Atascadero June beetle</i>	SA					x
<i>black legless lizard</i>	SSC				x	
<i>California red-legged frog</i>	FT	x	x	x		x
<i>coast horned lizard</i>	SSC	x		x		
<i>Coast Range newt</i>	SSC		x			x
<i>ferruginous hawk</i>	SA (Wintering)					x
<i>foothill yellow-legged frog</i>	SSC		x			x
<i>globose dune beetle</i>	SA			x		
<i>loggerhead shrike</i>	SSC (Nesting)	x				x
<i>monarch butterfly</i>	SA			x		x
<i>pallid bat</i>	SSC					x
<i>prairie falcon</i>	SA (Nesting)	x	x	x		x
<i>San Luis Obispo pyrg</i>	SA		x			x
<i>sandy beach tiger beetle</i>	SA			x		
<i>silvery legless lizard</i>	SSC		x			
<i>steelhead - south/central California coast DPS</i>	FT	x	x	x		x
<i>tidewater goby</i>	FE			x		
<i>vernal pool fairy shrimp</i>	FT			x		x
<i>western mastiff bat</i>	SSC					x
<i>western pond turtle</i>	SSC	x	x	x		x
<i>western snowy plover</i>	FT			x		

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Common Name	Status	ARROYO GRANDE NE	LOPEZ MTN	PISMO BEACH	PORT SAN LUIS	SAN LUIS OBISPO
<i>western yellow-billed cuckoo</i>	Federal Candidate; SE					x
<i>white-tailed kite</i>	FP		x			x
Plants/Lichen						
<i>adobe sanicle</i>	SR					x
<i>Arroyo de la Cruz manzanita</i>	CRPR 1B.2					x
<i>beach spectaclepod</i>	ST	x		x		
<i>Betty's dudleya</i>	CRPR 1B.2					x
<i>black-flowered figwort</i>	CRPR 1B.2	x		x		
<i>Blochman's dudleya</i>	CRPR 1B.1			x		x
<i>Blochman's leafy daisy</i>	CRPR 1B.2			x		
<i>Brewer's spineflower</i>	CRPR 1B.3	x	x	x		x
<i>Cambria morning-glory</i>	CRPR 4.2	x	x	x		x
<i>chaparral ragwort</i>	CRPR 2B.2		x			x
<i>Chorro Creek bog thistle</i>	FE; SE		x	x		x
<i>Congdon's tarplant</i>	CRPR 1B.1	x		x		x
<i>Cuesta Pass checker-bloom</i>	SR					x
<i>Cuesta Ridge thistle</i>	CRPR 1B.2		x			x
<i>dune larkspur</i>	CRPR 1B.2		x			
<i>dwarf soaproot</i>	CRPR 1B.2		x			x
<i>Eastwood's larkspur</i>	CRPR 1B.2	x	x		x	x
<i>Hoover's bent grass</i>	CRPR 1B.2	x	x	x	x	
<i>Hoover's button-celery</i>	CRPR 1B.1			x		x
<i>Indian Knob mountain-balm</i>	FE; SE			x		
<i>Jones' layia</i>	CRPR 1B.2		x	x		x
<i>La Panza mariposa-lily</i>	CRPR 1B.3			x		x

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Common Name	Status	ARROYO GRANDE NE	LOPEZ MTN	PISMO BEACH	PORT SAN LUIS	SAN LUIS OBISPO
marsh sandwort	FE; SE	x		x		
<i>mesa horkelia</i>	CRPR 1B.1	x		x		x
<i>Miles' milk-vetch</i>	CRPR 1B.2					x
Morro manzanita	FT			x	x	x
<i>most beautiful jewel-flower</i>	CRPR 1B.2		x		x	x
<i>mouse-gray dudleya</i>	CRPR 1B.3	x	x	x		x
<i>Palmer's monardella</i>	CRPR 1B.2		x			x
<i>Pecho manzanita</i>	CRPR 1B.2		x	x	x	
Pismo clarkia	FE; SR	x		x		
<i>saline clover</i>	CRPR 1B.2					x
<i>San Benito fritillary</i>	CRPR 1B.2					x
<i>San Luis mariposa-lily</i>	CRPR 1B.2	x	x	x		x
<i>San Luis Obispo owl's-clover</i>	CRPR 1B.2		x			
<i>San Luis Obispo County lupine</i>	CRPR 1B.2	x		x		
<i>San Luis Obispo owl's-clover</i>	CRPR 1B.2	x	x	x		x
<i>San Luis Obispo sedge</i>	CRPR 1B.2		x			x
<i>Santa Lucia manzanita</i>	CRPR 1B.2	x	x			x
<i>Santa Margarita manzanita</i>	CRPR 1B.2	x	x	x	x	x
<i>straight-awned spineflower</i>	CRPR 1B.3	x				
surf thistle	ST	x		x		
Steelhead Streams	San Luis Obispo Creek, San Miguelito (See Canyon) Creek, Froom Creek, Prefumo Creek, Stenner Creek, Brizzolari Creek, Unnamed tributary (NMFS, 2005). Dry Creek, Acacia Creek, Reservoir Canyon (Otte, personal communication, 2013).					
Stream Habitat Inventory	Yes; Completed in 1995 by Paul Cleveland on mainstem San Luis Obispo Creek. (Land Conservancy, 2002)					
Limited data that does not include major tributaries. Last data collected in mid 1990's.						

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	<p>Fish Passage Barriers</p>	<p>Cuesta Park Fishway at Concrete Ford on SLO creek, Temporary Barrier, PAD # 700062.00000; Golf cart route on Prefumo Creek, Temporary Barrier, PAD # 700045.00000; Los Osos Valley Road Culvert and ladder on Prefumo Creek, Temporary Barrier, PAD # 700046.00000; Stenner Creek Road Bridge Apron on Stenner Creek, Temporary Barrier, PAD # 700069.00000; Railroad Crossing Culvert at Stenner Creek, Total Barrier, PAD # 700071.00000; Highland Drive Dam at Stenner Creek, Partial Barrier, PAD # 700072.00000; Cheda Reservoir Diversion Dam for Reservoir, Temporary Barrier, PAD # 700073.00000; Stenner Glen Dam at Stenner Creek, Temporary Barrier, PAD # 700074.00000; Cormorant Way Marre Dam and Denil Ladders at SLO Creek, Temporary Barrier, PAD # 700056.00000; Stagecoach rd. bridge apron on SLO creek, Temporary Barrier, PAD # 700057.00000; Reservoir Canyon Dam, Total Barrier, PAD # 700060.00000; End of Oceanair Blvd. Drop structure at Prefumo Creek, Temporary Barrier, PAD # 700049.00000; Rip Rap dam at Laguna Lake Golf Course on Prefumo Creek, Temporary Barrier, PAD # 700051.00000; Concrete Dam at Stenner Creek, Temporary Barrier, PAD # 707022.00000; Hwy 227 Culvert at Davenport Creek, Unknown Status, PAD # 731372.00000; Highland Drive Fish Ladder at Brizzolari Creek, Partial Barrier, PAD # 707004.00000; Blacksmith Road Culvert at Brizzolari Creek, Temporary Barrier, PAD # 707005.00000; Culvert at Poly Canyon rd. on Brizzolari Creek, Temporary Barrier, PAD # 707006.00000; Concrete Spillway at Laguna lake on Prefumo Creek, Unknown Status, PAD # 707014.00000; Rock Weir at Laguna Lake Golf Course, Unknown Status, PAD # 707015.00000; Hwy 101 Culvert at Castro Canyon, Unknown Status, PAD # 731538.00000; Hwy 101 Culvert at SLO creek, Unknown status PAD #731909.00000; Hwy 101 culvert at Stenner Creek, Unknown Status PAD #731962.00000; Hwy 101 culvert at Froom Creek, Unknown Status PAD # 732077.00000; Marsh St. Culvert on SLO creek, Partial Barrier, PAD # 712028.00000; Murray St. on Stenner Creek, Temporary Barrier, PAD # 712030.00000; Stenner Creek Rd. Bridge at Stenner Creek, Partial Barrier, PAD # 712031.00000; Unnamed Cal poly road at Brizzolari Creek, Total Barrier, PAD # 712037.00000; Black Walnut Road at See Canyon Creek, Total Barrier, PAD # 712038.00000; Santa Fe. Rd at Dry Creek, Total Barrier, PAD # 712047.00000; Diversion Weir at Stenner Creek, Unknown Status, PAD # 707023.00000; Black Walnut Road at See Canyon Creek, Partial Barrier, PAD # 712039; Fish Passage Facility at Loomis St. on SLO creek, Temporary Barrier, PAD # 700062. (CDFW Passage Assessment Database, 2013)</p>
	<p>Designated Critical Habitat</p>	<p>Yes; Steelhead Trout and California red-legged frog (USFWS Critical Habitat Portal, viewed 2013)</p>
	<p>Habitat Conservation Plans</p>	<p>None. (USFWS Critical Habitat Portal, viewed 2013)</p>

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	Other Environmental Resources	Critical Coastal Area, San Luis Obispo Greenbelt Program, Nine Sisters of San Luis Obispo, Cuesta Ridge Botanical Area, Serpentine outcrops and related endemic species
	Land Use	
	Jurisdictions & Local Communities	City of San Luis Obispo; unincorporated Avila Beach; Avila Beach Community Service District; Port San Luis Harbor District
	% Urbanized	25% (15.27% urban, 2.22% commercial, industrial and public facility, 7.69% residential) (SLO County LUC)
	% Agricultural	49% (SLO County LUC)
	% Other	26% (4.07% open space, 20.3% rural lands, 1.67% recreation)(SLO County LUC)
	Planning Areas	San Luis Obispo, San Luis Bay Inland, San Luis Bay Coastal, Salinas River, Los Padres
	Potential growth areas	Los Ranchos/Edna Village area; Margarita Area; Orcutt Area; Airport Area (City of San Luis Obispo Specific Plans,) and the Dalidio Ranch (County of San Luis Obispo Land Use Ordinance, 2013)
	Facilities Present	San Luis Obispo Wastewater Treatment Plant with discharge to San Luis Obispo Creek; Country Club Wastewater Treatment Plant; Avila Beach Wastewater Treatment Plant with discharge to the ocean; Stenner Creek Water Treatment Plant; San Miguelito Mutual Water Company percolation beds; other private water systems; San Luis Obispo County Regional Airport; San Luis Obispo Tank Farm; former Avila Tank Farm; Harford Pier; Avila Pier.
	Commercial Uses	Agricultural production, recreation and tourism in City of San Luis Obispo and community of Avila Beach; golf courses; wineries in Edna Valley; regional airport; commercial and sport fishing at Harford Pier in Port San Luis, Froom Ranch Pit for Stone, Alberti Ranch Quarry for stone. (SLO County, extractive resources)
	Demographics	
	Population	56,220 in watershed (US Census Block, 2010) San Luis Obispo: 45,119 in City (US Census, 2010); Avila Beach: 1,627 in Avila Beach (US Census, 2010)
	Race and Ethnicity	Watershed: 42,827 or 76.2% white, 3198 or 5.7% Asian, 1.7% other, 1701 or 3% two or more, 7636 or 13.6% Latino. San Luis Obispo: Caucasian, representing 75.8%. Latinos represent 14.7% of the total population in Grover Beach. The remaining races each represent less than 5%, including African American, American Indian, Pacific Islander, and Asian(US Census, 2010). Avila Beach: Caucasian, representing 88.7%. Latinos represent 6.8% of the total population in Grover Beach. The remaining races each represent less than 2%, including African American, American Indian, Pacific Islander, and Asian(US Census, 2010).

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	Income	MHI \$55,352 in watershed (US Census Tract, 2010) MHI \$42,528 in San Luis Obispo (US Census, 2010) Census tracts cross multiple watersheds.
	Disadvantaged Communities	Yes; 7% of individuals are below poverty level in watershed. 31.5% of individuals are below poverty level in San Luis Obispo. Census tracts cross multiple watersheds.
	Water Supply	
	Water Management Entities	City of San Luis Obispo, Avila Beach Community Services District, San Luis Obispo County Flood Control and Water Conservation District, Zone 3 (to CSA 12).
	Groundwater	Yes; alluvial and San Luis Obispo Valley (SLO County, 2012)
	Surface Water	No public reservoirs in the watershed. Identified as fully appropriated stream system for entire year according to the SWRCB's Water Code 1205-1207.
	Imported Water	Yes; State Water Project and County Service Area 12 (Avila CSD, viewed 2013); South San Luis Water Corporation to Avila Beach (Avila CSD, 2013); from Salinas Reservoir in Santa Margarita; from Whale Rock in Cayucos; from Nacimiento Reservoir near Paso Robles. (City of SLO, 2013)
	Recycled/Desalinated Water	Yes; Recycled water is produced from San Luis Obispo Wastewater Treatment Plant. At build out, the system will provide its customers approximately 1,000 acre feet per year of recycled water (City of SLO, viewed 2013)
	Infiltration Zones	The alluvial deposits are underlain by hard Franciscan rocks, which are exposed in the lower creek banks and creek bed in the northern part of the City, and by reddish brown siltstones, claystones, and conglomerate of the Paso Robles Formation (older Pleistocene) throughout much of the central and southern part of the City. This weakly to moderately consolidated rock is also exposed in the channel bottom and lower bank slopes along much of the middle reaches of SLO Creek, and along the southern side of Los Osos Valley. Locally it may form a subsurface barrier or retardance layer to water infiltration and groundwater recharge (Questa Engineering, SLO Waterway Management Plan, 2003 p14). Limited data.
	Water Budget	None to date.
	Water Uses	
	Beneficial Uses	<i>SLO Creek above W. Marsh St.</i> – Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Warm Fresh Water Habitat (WARM), Cold Fresh

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Water Habitat (COLD) , Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN).

SLO Creek below W. Marsh St. – Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Warm Fresh Water Habitat (WARM), Cold Fresh Water Habitat (COLD) , Wildlife Habitat (WILD), Preservation of Biological Habitats of Special Significance (BIOL), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN).

SLO Creek East Fork– Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Cold Fresh Water Habitat (COLD) , Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN).

Stenner Creek – Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Cold Fresh Water Habitat (COLD) , Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN).

Prefumo Creek – Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Ground Water Recharge (GWR), Freshwater Replenishment (FRSH), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Cold Fresh Water Habitat (COLD) , Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN).

SLO Creek Estuary – Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Cold Fresh Water Habitat (COLD), Estuarine Habitat (EST), Wildlife Habitat (WILD), Preservation of Biological Habitats of Special Significance (BIOL),

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		Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Shellfish Harvesting (SHELL) (RWQCB, 2011)
	Other Unique Characteristics	
	Historical Resources	A number of buildings in the City of San Luis Obispo are on the National Register of Historic Places. (NRHP, viewed 2013)
	Archeological Resources	At least one Chumash towns named Tsipxatu was in the watershed at European settlement. (SB Natural History Museum, 2013) Limited data.
	Other	No source identified.
	Climate Change Considerations	
		State climate change maps show sea level affecting portions of the town of Avila Beach with inundation along the lower reach of San Luis Obispo Creek (USGS,Cal-Adapt, viewed 2013). See IRWMP, 2014 Section H. Climate Change Limited data and not watershed specific.

Watershed Codes

Calwater / DWR Number	HA	Hydrologic Area Name	HSA	Hydrologic Sub-area Name	SWRCB Number	CDF Super Planning	CDF Watershed Name
3310.240103	2	Point Buchon	4	San Luis Obispo Creek	310.24	Upper San Luis Obispo Creek	Stenner Lake
3310.240101	2	Point Buchon	4	San Luis Obispo Creek	310.24	Upper San Luis Obispo Creek	Reservoir Canyon
3310.240102	2	Point Buchon	4	San Luis Obispo Creek	310.24	Upper San Luis Obispo Creek	Laguna Lake
3310.240202	2	Point Buchon	4	San Luis Obispo Creek	310.24	Lower San Luis Obispo Creek	Perfumo Canyon
3310.240201	2	Point	4	San Luis	310.24	Lower San	See Canyon

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Calwater / DWR Number	HA	Hydrologic Area Name	HSA	Hydrologic Sub-area Name	SWRCB Number	CDF Super Planning	CDF Watershed Name
		Buchon		Obispo Creek		Luis Obispo Creek	
Source: Excerpt from California Interagency Watershed Map of 1999, Calwater 2.2.1 (CA Resource Agency, 2004 Update)							

Major Changes in the Watershed

- In 1772, Mission San Luis Obispo was established bringing ranching to the area.
- By 1846 mission lands were transferring to private ownership establishing land grants or ranchos.
- In 1897, Laguna Lake was smaller in size, with open water and a large wetland surrounding it.
- In 1884, Southern Pacific Railroad completed its line from San Francisco to San Luis Obispo.
- In 1897, a large tidal marsh was present to the east of the lagoon [estuary], under present location of western Avila Beach. At that time the lagoon mouth was substantially larger and wider (about 1/3 larger than current size). (SLO WaterwayMP, 2003).
- Damaging floods have occurred in 1868-62, 1884, 1897, 1911, 1948, 1952, 1962, 1969, 1973, 1983, 1995, and 1998. (SLO County FCWCD, 2009)
- In 1911, Stage Coach Dam and Reservoir Canyon Dam were constructed for water supply.
- In 1926, a lightning strike caused fire at the Union Oil Tank Farm sending a stream of burning oil down East Branch Creek to San Luis Obispo Creek and to the ocean.
- In the 1950's through today numerous sections of creek were straightened removing natural meanders.
- In 1960's Prefumo Creek was rerouted into Laguna Lake which was expanded to outlet under Madonna Road.
- In 1969 the Luigi Marre Land and Cattle Company constructed a dam across the lower SLO Creek to halt saltwater intrusion.
- In early 1970's flood control levees were constructed along various sections of channel.
- In 1977, the San Luis Obispo Creek lagoon is constrained by Avila Bay Drive, similar to its present configuration.
- In 1994, the Avila Beach Golf Course displaced the historic meander loop and sand bar. It appears that the original migration of the bend to the north was natural but golf course construction made significant alterations.
- In 1994, a major fire burned portion of the Upper Stenner, Brizzolari and SLO Creeks west of Cuesta pass.
- The 1995 Flood was reportedly caused by the wettest three month period in 116 years of record.

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- In 1996, the Natural Resources Program is formed at the City of San Luis Obispo. Habitat improvements, barrier removal, invasive species control, erosion control, open space protection and acquisition.

Watershed Health by Major Tributary

Tributary Name	Ephemeral / Perennial	303d Listed/ TMDLs	Pollution Sources	Environmental Flows
San Luis Obispo Creek (below Osos Street)	Perennial	Yes on 303d list for Chloride, Chlorpyrifos, Nitrate, Nutrients, Pathogens, Sodium. Approved USEPA TMDLs for Pathogens in 2004, for Nutrients in 2007 and for Nitrates in 2007. TMDL estimated date of completion 2021. (SWRCB, 2010)	Agriculture, Grazing Related, Natural, Major Municipal Point Source, Transient Encampments, Urban Runoff, Upstream Impoundment (SWRCB, 2010)	Table 3 of Instream Flow Assessment (Stillwater Sciences, 2013)
San Luis Obispo Creek (above Osos Street)		Yes on 303d list for Fecal Coliform. TMDL estimated date of completion 2021. (SWRCB, 2010)	Unknown (SWRCB, 2010); Pigeons, Transients, Cattle grazing, Natural sources, Urban Runoff (Otte, personal communication, 2013)	Table 3 of Instream Flow Assessment (Stillwater Sciences, 2013)
Stenner Creek	Partially Perennial	Yes on 303d list for Fecal Coliform. TMDL estimated date of completion 2021. (SWRCB, 2010)	Agriculture, Grazing Related, Natural, Urban Runoff (SWRCB, 2010)	Table 3 of Instream Flow Assessment (Stillwater Sciences, 2013)
Davenport Creek	Ephemeral	No. (SWRCB, 2010)	Undetermined.	No source identified.
East Fork San Luis	Ephemeral	No. (SWRCB,	Undetermined.	Table 3 of

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Tributary Name	Ephemeral / Perennial	303d Listed/ TMDLs	Pollution Sources	Environmental Flows
Obispo Creek		2010)		Instream Flow Assessment (Stillwater Sciences, 2013)
Prefumo Creek	Partially Perennial	Yes on 303d list for Fecal Coliform, Low Dissolved Oxygen, Nitrate, Turbidity. TMDL estimated date of completion 2021. (SWRCB, 2010)	Agriculture, Urban Runoff, Unknown (SWRCB, 2010); Grazing related, Transients (Freddy Otte, 2013, personal communication)	No source identified.
See Canyon/ San Miguelito Creek	Perennial	No. (SWRCB, 2010)	Undetermined.	Table 3 of Instream Flow Assessment (Stillwater Sciences, 2013)

Watershed Health by Major Groundwater Basin

Groundwater Basin	Estimated Safe Yield	Water Availability Constraints	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
San Luis Obispo Valley Basin	6,000 AFY (SLO County, Master Water Report, 2012)	See sub-basins. (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 – San Luis Valley Subbasin	2,000 AFY (DWR, 1997) (SLO County, Master Water Report, 2012)	Physical limitations, water quality issues, and environmental demand. (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)
San Luis Obispo Valley – Edna Valley Subbasin	4,000 AFY (DWR, 1997) (SLO County, Master Water Report, 2012)	Physical limitations and environmental demand. (SLO County, Master Water Report, 2012)	No. (SLO County, Master Water Report, 2012)	No objective for sub-basin. (RWQCB, Table 3-8, 2011)

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Groundwater Basin	Estimated Safe Yield	Water Availability Constraints	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
San Luis Obispo Valley – Avila Valley Subbasin	No basin yield numbers have been published (SLO County, Master Water Report, 2012)	Physical limitations and environmental demand. (SLO County, Master Water Report, 2012)	No. (SLO County, Master Water Report, 2012)	No objective for sub-basin. (RWQCB, Table 3-8, 2011)

Groundwater Quality Description: Water quality problems vary by location within the [San Luis Valley sub-basin, with nitrates, salinity, hardness, and perchloroethylene (PCE) historically being the constituents of greatest concern. PCE contamination was a major issue for two wells used by the City of San Luis Obispo during the period from 1987-91. Two high capacity wells were also shut down in the 1990's due to elevated nitrate concentrations. Hardness and TDS/chloride are more of a concern in the airport area (Cleath, T. S., 1987, 1988; Boyle, 1991). (SLO County Public Works Master Water Report, 2012)

The general mineral character of groundwater in the Edna Valley sub-basin is magnesium-calcium bicarbonate with a TDS range of 630-780 mg/l (average 690 mg/l), based on public water company testing during 2008. This is consistent with surface water samples collected in 2007 from tributaries to Pismo Creek in the Edna Valley, where the water was magnesium-calcium bicarbonate with 500-800 mg/ TDS (Balance Hydrologics, 2008; GSWC, 2009). (SLO County Public Works Master Water Report, 2012)

The alluvium [in the Avila Valley sub-basin] extends out to the ocean but the fresh water portion of the alluvium is upstream of the Marre weir at San Luis Bay Estates. Prior to installation of this weir in the early 1970's, seawater intrusion had occurred as far up the valley as the confluence with See Canyon Creek. Since the installation of the weir and with the supplemental flow from the City of San Luis Obispo wastewater treatment plant, there has not been any seawater intrusion documented upstream of the weir. General mineral character in the alluvial groundwater upstream of the Marre weir is sodium-magnesium bicarbonate, with TDS concentrations averaging close to 700 mg/l in the late 1970's (J.M. Montgomery, 1982). (SLO County Public Works Master Water Report, 2012)

Primary Issues

Issue	Potential Causes	Referenced from
Riparian Vegetation / Buffer Quality (Lack of riparian canopy)	Removal of riparian vegetation by landowners and livestock,	Land Conservancy, 2002
Surface Water Nutrients and Dissolved Oxygen	Agriculture, municipal, lack of riparian canopy	Land Conservancy, 2002
Surface Water Temperature	Lack of riparian canopy	Land Conservancy, 2002
Surface Water Pathogens	Described in TMDL for Pathogens (RWQCB, 2004)	Land Conservancy, 2002

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Issue	Potential Causes	Referenced from
Surface Water Treated Effluent	City of San Luis Obispo's Wastewater Facility discharged	Land Conservancy, 2002
Surface Water Priority Organics	Unknown	Land Conservancy, 2002
Surface Water Quantity	Natural, diversions (permitted and unpermitted), evaporation, and exotic plants	Land Conservancy, 2002
Instream Fish Habitat	Lack of riparian canopy and instream shelter, sedimentation of stream cobble	Land Conservancy, 2002
Fish Passage Barriers	Roads, culverts, other instream structures	Land Conservancy, 2002
Streambank Stability (Erosion)	Development encroachment, channel incision, vegetation removal, overgrazing, agriculture, roads and utility construction	Land Conservancy, 2002 and Questa Engineering, 2003
Upland Erosion and Sedimentation	Vegetation removal, intensified grazing, unpaved roads, and disturbance associated with construction	Land Conservancy, 2002
Exotic Plant Species	None identified.	Land Conservancy, 2002
Non-Native Fish – Carp and Chinook Salmon	None identified.	Land Conservancy, 2002
Debris Accumulation	garbage, residential, commercial and agricultural products	Land Conservancy, 2002
Flooding	Natural, increased impervious areas, encroachment on floodplain	Questa Engineering, 2003

The issues described above are in no way an exhaustive list but were identified by entities working in the watershed. Additional research would be needed to flush out all the issues facing the watershed. Issues were vetted by the community to various degrees based on the individual document. There was no countywide vetting process to identify the relative priority of each issue.

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