Mid Salinas – Atascadero Creek Area Watershed

Hydrologic Unit Name	Water Planning Area	Acreage	Flows to	Groundwater Basin(s)	Jurisdictions
Salinas 9	Santa Margarita WPA 12, Atascadero/ Templeton WPA 13	82,156 acres	Salinas River to Pacific Ocean (Monterey Bay National Marine Sanctuary)	Paso Robles; Atascadero sub-Basin; Rinconada Valley	County of San Luis Obispo, City of Atascadero, Town of Santa Margarita, Los Padres National Forest

Description:

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.

Existing Watershed Plans:

Salinas River Watershed Action Plan

Mid Salinas – Atascadero Creek Area Watershed

	Physical Setting	
	Rainfall	Average annual: 21-37 inches (NRCS shapefile, 2010)
	Air Temperature	Summer Range (August 1990- 2012): 52°-92°F Winter Range (December 1990-2012): 32°-61°F (Paso Robles (*not in watershed*), NOAA National Climatic Data Center, viewed 2013)
	Geology Description	Rincon Creek is composed of flat highly infiltrative Quaternary material. Santa Margarita Creek and Hale Creek sub-watersheds have steep pre-Quaternary non-infiltrative headwaters with steep moderately infiltrative early to mid-Tertiary valleys. Trout Creek has steep pre-Quaternary non-infiltrative headwaters with flat highly infiltrative Quaternary valleys. Calf Canyon, Moreno Creek and Pilitas Creek have steep pre-Quaternary non-infiltrative headwaters. Paloma Creek sub-watershed has moderately infiltrative early to mid-Tertiary headwaters with flat Quaternary highly infiltrative valleys (Bell, pers. comm., 2013). Water Bearing Formations. The principal water-bearing unit is Quaternary age alluvium (Carollo, 2012). The Middle Salinas-Atascadero Watershed is more complex than northern San Luis Obispo Counties other watersheds because it is dissected by the Rinconada Fault. Atascadero draws water from a sub-basin, a pocket located on the western edge of the main basin (just 3 percent of the basin) that is smaller, narrower and replenishes water far more easily with rainfall. The Rinconada Fault separates the two. The local public water utility doesn't need a treatment plant because the natural geology along the Salinas River in Atascadero allows it to treat the water by filtering it through a sandy layer adjacent to the Salinas River (Tribune, 2013). The Santa Margarita Formation in this watershed is present as Miocene aged, nearly white, coarse, arkosic sandstones which are interbedded with small amounts of mudstone, siltstone, diatomite, and conglomerate. The sandstones are commonly massively cross-bedded, indicative of a high energy, shallow marine bottom depositional environment. Minerals indicate a granitic origin for the sands, while the pebbles in the conglomerates appear to have been reworked from older conglomerates. Some beds are tuffaceous, and some diatomaceous beds altered to chert by redeposition of silica. Significant in environmental interpretation of the

		formation are the thick biostromes, consisting of masses of pectin, oyster shells, and broken shell debris. Such masses appear to have been storm constructed masses. They imply shallow water, high energy conditions, as supported by thick shells of many fossils, deposited in a structural trough between the Rinconada and Nacimiento fault zones, reaching 2,000 ft thick northeast of Santa Margarita but 200 feet west of Atascadero (Chipping, 1987). Southern Salinas Valley contains extensive outcroppings of Monterey Formation. The Hames member forms extensive outcrops between Atascadero and Santa Margarita. The Monterey Formation is dominated by thin, siliceous shales, and diatomaceous beds, which contains few, thin phosphatic beds. Sandstones are usually calcareous, well-cemented, and laced with small calcite veins. Some beds, like Graves Creek near Atascadero for example, were buried while still in a slurry-like state, and injected into overlying beds as sandstone dikes. The calcareous nature of the Monterey Formation is due to the high foraminifera content (Chipping, 1987). The Salinas Valley near Santa Margarita is bounded by the Sur-Nacimiento Fault on the east and Rinconada Fault to the west. The Sur-Nacimiento fault marks the boundary between the old oceanic crust of the Franciscan mélange to the west, and the Salinian continental crust made up of granite to the east. The Salinan granite basement extends to the San Andreas Fault to the east. The Salinan Block represents a slice of continental granitic crust sandwiched between two oceanic crustal plates of the younger Franciscan on the west, and the older Franciscan of the San Joaquin Valley to the east. The Rinconada Fault is a branch off the SAF and continues N until it goes offshore N of Monterey. It is a right lateral wrench similar to the San Andreas and forms the mountains on the west side of the Salinas Valley. The fault passes through Paso Robles and is the source of the mineral hot springs in town (Chipping, 1987).
	Hydrology	
	Stream Gage	Yes; USGS 11145500 (Salinas River near CA-58); USGS 11145000 (Salinas River at Las Pilitas Road); USGS 11144600 (Salinas River near Santa Margarita Lake) (USGS, viewed August 2013)
	Hydrology Models	Yes; Klinchuch. 2012. Groundwater model to analyze the sustainability of the Atascadero Sub-basin;

		Montgomery Watson, 1997, Monterey County Water Resource Agency's Salinas Valley Integrated Groundwater and Surface Water Model Update, Final Report; Todd Engineers, Oct 2013, Paso Robles Groundwater Basin Model.
	Peak Flow	16,600 cfs (USGS, viewed August 2013).
	Base Flow	7.5 cfs (USGS, viewed August 2013).
	Flood reports	None
	Flood Control Structures	Bridges: 1 over Rinconada Creek on Pozo Road; 2 over Salinas River on Las Pilitas Road; 3 over Las Pilitas Creek on Las Pilitas Road; 5 over Santa Margarita Creek on El Camino Real, Walnut Avenue, Norte Road, Linden Ave and Tassajara Creek Road; 4 over Yerba Buena Creek on H Street, J Street, I Street and Encina Avenue; 1 over Tassajara Creek on Tassajara Creek Road (PWD Bridges GIS layer)
	Areas of Heightened Flood Risk	Creeks in Atascadero overflow banks and cause local flooding • Major flooding problems in Santa Margarita are caused by inadequate culverts/ bridges, and inadequate channel capacity in Yerba Buena Creek, where water overtops the banks and floods adjacent low topographic areas. • Santa Margarita has a serious lack of sufficient drainage ditches, culverts, and storm drains. These facilities are often under maintained and filled with sediment or debris, which prevents the drainage system from properly conveying urban runoff to Yerba Buena and Santa Margarita Creeks. • Proposed Solutions (2009): Construction of a levee and major retention basins to address frequently recurring flooding problems • Proposed Improvements (2009): The local CSA 23 advisory group has been active in mobilizing community support for the projects and pursuing an easement for the levee and retention basins from the owners of adjacent Santa Margarita Ranch (SLO County Flood Control and Water Conservation District, 2009).
	Biological Setting	
	Vegetation Cover	Primarily chamise-redshank chaparral consisting mainly of continuous chamise; mixed chaparral consisting mainly of continuous buckbrush chaparral; and valley oak woodland

		consisting mainly of intermittent valley oak, blue oak and coast live oak; with non-native annual grassland; coastal scrub consisting mainly of continuous chamise; blue oak-foothill pine consisting of continuous blue oak and coast live oak; blue oak woodland; and cropland. (SLO County vegetation shapefile, 1990) *Data limited by age of shapefile*
	Invasive Species	Star thistle, tocolote, spotted knapweed, Blue gum/Eucalyptus (Althouse and Meade, 2005) *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 Special Species of Concern, CRPR – CA rare plant rank (CNDDB, viewed August 2013) *Data limited to observations, not complete inventory*

Species	Status	ATASCADERO	LOPEZ MTN	SAN LUIS OBISPO	SANTA MARGARITA	SANTA MARGARITA LAKE	TEMPLETON	WILSON CORNER
Animals								
American badger	SSC				x			
Atascadero June beetle	Special Animal	x					x	
California linderiella	Special Animal				x			
California red-legged frog	FT	x	x		x			
Coast Range newt	SSC		x	x				
ferruginous hawk	Special Animal (Wintering)		x		x			
foothill yellow-legged frog	SSC				x			
golden eagle	Fully Protected	x						
grasshopper sparrow	SSC (Nesting)				x			
loggerhead shrike	SSC (Nesting)		x					
merlin	Special Animal (Wintering)		x					
pallid bat	SSC	x						

prairie falcon	Special Animal (Nesting)		x	x	x	X		x
purple martin	SSC (Nesting)	x	x					
San Luis Obispo pyrg	Special Animal			x				
silvery legless lizard	SSC		x					
Townsend's big-eared bat	SSC				x			
western pond turtle	SSC	x	x	x	x			
western spadefoot	SSC				x			x
white-tailed kite	Fully Protected		x		x			
Plants								
Brewer's spineflower	CRPR 1B.3	x		x				
Cambria morning-glory	CRPR 4.2		x	x				
caper-fruited tropidocarpum	CRPR 1B.1		x					
Cuesta Pass checkerbloom	SR	x		x				
Cuesta Ridge thistle	CRPR 1B.2	x		x				
dwarf soaproot	CRPR 1B.2			x				
Eastwood's larkspur	CRPR 1B.2	x					x	
Hardham's evening-primrose	CRPR 1B.2				x			
hooked popcornflower	CRPR 1B.2	x		x				
Hoover's bent grass	CRPR 1B.2		x			x		
La Panza mariposa-lily	CRPR 1B.3				x	x		
mesa horkelia	CRPR 1B.1	x		x			x	
Miles' milk-vetch	CRPR 1B.2	x			x			
most beautiful jewel-flower	CRPR 1B.2	x						
pale-yellow								

	layia	CRPR 1B.1				x				
	Palmer's monardella	CRPR 1B.2	x		x		x			
	Pecho manzanita	CRPR 1B.2		x						
	round-leaved filaree	CRPR 1B.1	x			x		x		
	San Benito fritillary	CRPR 1B.2			x					
	San Luis mariposa-lily	CRPR 1B.2	x		x					
	San Luis Obispo County lupine	CRPR 1B.2		x						
	San Luis Obispo owl's-clover	CRPR 1B.2		x						
	San Luis Obispo sedge	CRPR 1B.2	x		x		x			
	Santa Lucia manzanita	CRPR 1B.2		x	x					
	Santa Margarita manzanita	CRPR 1B.2	x	x	x					
	shining navarretia	CRPR 1B.2				x				
	straight-awned spineflower	CRPR 1B.3	x	x		x				
	yellow-flowered eriastrum	CRPR 1B.2	x			x	x	x	X	
	Steelhead Streams	Yes; Atascadero (Hale) Creek (FR 50) Atascadero (Hale) Creek, Santa Margarita Creek, Tassajara Creek, Salinas River (US-LT RCD, 2002)								
	Stream Habitat Inventory	Yes; DFG, 2005								
	Fish Passage Barriers	PAD ID: 707003– Bedrock waterfall on Atascadero Creek. Total Barrier. 22.565639 miles upstream. PAD ID: 707244- Utility crossing on Atascadero Creek at Curbail Avenue. Temporal Barrier. 25.51314 miles upstream. PAD ID: 719388- Dam at Atascadero Park on unnamed tributary to Atascadero. Unknown Status. PAD ID: 731745- Road crossing at Highway 41 on unnamed tributary to Atascadero Creek. Unknown Status. PAD ID: 732138- Road								

		crossing at Highway 41 on unnamed tributary to Atascadero Creek. Unknown Status. PAD ID: 707246- Culvert under Highway 101 on Santa Margarita Creek. Total Barrier. 5.52855 miles upstream. PAD ID: 712052- Road Crossing at El Camino Real Bridge on Santa Margarita Creek. Partial Barrier.69.42864 miles upstream. PAD ID: 707245- Culvert on Santa Margarita Creek. Temporal Barrier. 7.00901 miles upstream.
	Designated Critical Habitat	Yes; Atascadero (Hale) Creek for Steelhead Trout (NMFS CFR 50 226) Steelhead Trout: Tassajara (trout) creek, Santa Margarita Creek, Salinas River (US Fish and Wildlife – Critical Habitat Mapper) California Red-Legged Frog (USFWS Critical Habitat Portal, viewed 2013)
	Habitat Conservation Plans	Yes; North San Luis Obispo County Habitat Conservation Program – Multiple species, initially San Joaquin kit fox. *HCP general for North County, not watershed specific*
	Other Environmental Resources	Salinas River, Paso Robles Groundwater Basin, Salinas Reservoir/Santa Margarita Lake, Los Padres National Forest, Santa Lucia Wilderness, Cuesta Ridge Botanical Area, Rinconada Mine Botanical Area (SLO County Flood Control and Water Conservation District, 2007)
	Land Use	
	Jurisdictions & Local Communities	County of San Luis Obispo, City of Atascadero, Town of Santa Margarita
	% Urbanized	9.6% in City of Atascadero, 0.05% Commercial (majority in Santa Margarita), 5% residential (majority Santa Margarita and South Atascadero: non-city)
	% Agricultural	42% rangeland, small scale vineyard and crop production.
	% Other	12.6% open space (Los Padres national Forest), 0.04% Public Facilities, 0.2% recreation, 3% rural lands
	Planning Areas	Salinas River Planning Area
	Potential growth areas	Eagle Ranch (South Atascadero); Santa Margarita Ranch; City of Atascadero Urban Core, South Atascadero
	Facilities Present	Atascadero Wastewater Treatment Plant discharges to the Salinas River; Atascadero Lake; Los Padres National Forest, The Garden Farms Water District
	Commercial Uses	City of Atascadero – Urban Core, Santa Margarita Ranch, hobby vineyards, Livestock and Ag – east Salinas River, Kaiser Quarry, Rocky Canyon Quarry (Union Asphalt), Santa Margarita Quarry (Hansen Aggregates), various industrial facilities, agricultural service provides, residential service

		providers, commercial districts, restaurants, wine related tourism
	Demographics	
	Population	24,098 in watershed (U.S. Census Block, 2010). 19,333 in Atascadero (US Census Blocks, 2010) 386 in Garden Farms (US Census Blocks, 2010) 1,259 in Santa Margarita (US Census Blocks, 2010)
	Race and Ethnicity	Watershed: Caucasians representing 76%, Latinos representing 16.3%, Mixed-race individuals representing 2.4%, Asians representing 2.2%, African Americans representing 2.2% of the total population in the watershed. The remaining races include Native American, Pacific Islander, and other. Atascadero: 74% Caucasian; 18% Latino; 2.5% Mixed Race; 2.4% Asian (US Census Blocks, 2010) Garden Farms: 87.3% Caucasian; 10.4% Hispanic or Latino; 1.3% Asian (US Census, 2010) Santa Margarita: 76.5% Caucasian; 16.4% Hispanic or Latino; 3.2% Mixed Race; 2.2% Asian; 1.2% American Indian and Alaska Native (US Census, 2010)
	Income	MHI $60,676 for watershed (U.S. Census Tracts, 2010). MHI $68,502 in Atascadero (US Census, 2010) MHI $49,032 in Santa Margarita (US Census, 2010)
	Disadvantaged Communities	No; 7% of individuals are below poverty level in the watershed (U.S. Census Tracts, 2010). 8.7% of individuals are below poverty level in Atascadero (US Census, 2010) 16.7% of individuals are below poverty level in Garden Farms (2007-2011 American Community Survey 5-Year Estimates) 18.9% of individuals are below poverty level in Santa Margarita (2007-2011 American Community Survey 5-Year Estimates)
	Water Resources	
	Water Management Entities	Atascadero Mutual Water Company, County Waterworks District No. 6 County Waterworks District No. 6: three wells located near the alluvium of Yerba Buena Creek that provide water to residents of Santa Margarita Atascadero Mutual Water Company – Salinas River wells

		located in the Atascadero Sub-basin that provide water to the City of Atascadero and surrounding areas.
	Groundwater	Yes; Paso Robles; Atascadero sub-Basin; Rinconada Valley
	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	Yes; Nacimiento Pipeline (Atascadero Mutual Water Company)
	Recycled/Desalinated Water	Yes; The City of Atascadero uses reclaimed water from the Wastewater Treatment Plant for use at Heilman Regional Park and Golf Course, as well as recharge for the Atascadero Sub-basin of the Paso Robles Groundwater Basin.
	Key Infiltration Areas	No comprehensive study has been completed to date. The main source of recharge in the alluvium is the Salinas River. Recharge to the Paso Robles Formation occurs from the overlying Salinas River alluvium as well as from overlying channel deposits of the Santa Margarita, Atascadero, Graves, and Paso Robles Creeks (Carollo, 2012)
	Water Budget	Yes; Todd Engineers, 2013, Paso Robles Groundwater Basin Model Update *Water budget limited by lacking well data*
	Water Uses	
	Beneficial Uses	*Atascadero Creek* – Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), 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), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), and/or Early Development (SPWN). *Atascadero Lake* - Municipal and Domestic Supply (MUN), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Warm Freshwater habitat (WARM), Cold Fresh Water Habitat (COLD) , Wildlife Habitat (WILD), Navigation (NAV), and/or Early Development (SPWN). *Salinas River (Nacimiento River-Santa Margarita Reservoir)*

		- 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). (CCRWQCB, 2011)
	Other Unique Characteristics	
	Historical Resources	Santa Margarita de Cortona (22515 H Street, Santa Margarita) (PLN_DES_HISTORIC_POINTS GIS layer)
	Los Padres National Monument	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.
	Heilman Regional Park, Santa Margarita Community Park and Chalk Mountain Golf Course	Group day-use facilities owned and managed by the County of San Luis Obispo.
	Atascadero Lake Park	Man-made lake managed by the City of Atascadero. There is a walking path that follows the edge of the lake for a stroll, jog or bike ride lakeside. The park also has a playground, paddle/kayak boats, workout stations, restroom facilities, large and small barbecue areas, horseshoe pits, sand volleyball court and the Charles Paddock Zoo.
	Stadium Park	During the 1920's, Stadium Park was a gathering place for community events, concerts, and theater. Performances were held on a big stage under an Oak tree. That stage was later moved to where the Atascadero Lake Pavilion now stands. Besides being a beautiful park, it is a natural amphitheater with gently sloping hills leading to the basin. Acoustics are ideal just as nature made them.
	Sunken Gardens	Inspired by “The Grand Basin” at the 1904 St. Louis World’s Fair, Atascadero founder E.G. Lewis envisioned a formal Sunken Garden to adorn the civic center in his new colony.

Mid Salinas – Atascadero Creek Area Watershed

		Restored in 2005 as originally designed with walkways crossing the length and width of the gardens and meeting at a central fountain designed by architect Walter D. Bliss of the San Francisco firm of Bliss and Faville.
	Climate Change Considerations	
		See IRWMP, 2014 Section H. Climate Change *Data is general for county, not watershed specific*

Watershed Codes:

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

Calwater / DWR Number	HA	Hydrologic Area Name	HSA	Hydrologic Sub-Area Name	SWRCB Number	CDF Super Planning	CDF Watershed Name
3309.811303	8	Paso Robles	1	Atascadero	309.81	Parole Canyon	Pilitas Creek
3309.811304	8	Paso Robles	1	Atascadero	309.81	Parole Canyon	Rincon Creek
3309.811306	8	Paso Robles	1	Atascadero	309.81	Parole Canyon	Moreno Creek
3309.811401	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Santa Margarita Creek
3309.811402	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Calf Canyon
3309.811403	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Paloma Creek
3309.811404	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Hale Creek
3309.811405	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Henry
3309.811408	8	Paso Robles	1	Atascadero	309.81	Atascadero Lake	Trout Creek

Major Changes in the Watershed

- Since late 1700's Salinas River Valley used for agriculture. After Spanish missionary priests established the mission at San Luis Obispo, they built Santa Margarita de Cortona Asistencia in 1817 to provide crops and livestock.

Atascadero

- First building in the area in 1812. Adobe that served as the southern grazing outpost for Mission San Miguel Portions of the adobe walls stood until late 1900's near Traffic Way.
- 1876 – A. F. Benton purchased the Eagle Rancho, near the headwaters of Atascadero Creek. Uses the land the raise hogs, but as many encounters with grizzly bears that make ranching difficult, but attracts big game hunters to the area (Storke, 1891).
- During 19th century cattle ran in large tracts that had been Mexican land grants. Toward the end of the century, J. H. Henry consolidated a number of tracts into the 23,770 acre Atascadero Ranch.
- During the early 20th century, U.S. Army used the central plains of the ranch for annual encampments and maneuvers and at one time considered the acquisition of the ranch for permanent military camp.
- In 1913, Edward Gardner "E. G. Lewis" selected the Atascadero Ranch as the ideal location for a model colony. Lewis purposely chose a location halfway between major urban center of the state on both a railway and state highway.
- Lewis subdivided the entire 38 square miles, built 100 miles of roads, a water system of tanks, wells and mains, nearly 3,000 acres of orchards, parks, the Sunken Gardens and public buildings.
- A twenty-mile road through the Santa Lucia Mountains connecting the Colony to the 1,000 acre Atascadero Beach properties near Morro Bay which had schools, a community center, hospital and hotel.
- Two important factors that stimulated growth in the 1950's have also significantly affected design and demographics of the community: bisection of the City in 1954 by Highway 101, and the siting of the Atascadero State Hospital on the edge of the community in 1956.
- 2006 – Severely eroded bank on south side of Atascadero Creek repaired. Rock slope protection installed along the bank and heavily vegetated with native riparian species.

Watershed Health by Major Tributary

Tributary Name	**Ephemeral / Perennial**	**303d Listed/ TMDLs**	**Pollution Sources** NP (non-point) MP (Major Point)	**Environmental Flows**
Salinas River	Undetermined	Yes; Sodium and Chloride	Undetermined	Not assessed
Atascadero Creek (Hale)	Perennial	Yes on 303d list for Chloride, E. coli, Fecal Coliform, Low Dissolved Oxygen, and Sodium.	NP: Agriculture, grazing-related, natural sources, resource extraction, petroleum activities,	**Lower**: Spring: 0.99 cfs. Summer: 0.37 cfs.

		TMDL estimated date of completion 2021.	transient encampments MP: None defined as such on 303d list	
Paloma Creek	Undetermined	Not assessed	Undetermined	Not assessed
Santa Margarita Creek	Undetermined	Not assessed	Undetermined	**Upper**: Spring: 0.81 cfs. Summer: 0.32 cfs.
Calf Canyon Creek	Undetermined	Not assessed	Undetermined	**Upper**: Spring: 0.49 cfs. Summer: 0.24 cfs.
Moreno Creek	Undetermined	Not assessed	Undetermined	Spring: 0.53 cfs. Summer: 0.24 cfs.
Trout Creek	Undetermined	Not assessed	Undetermined	**Upper**: Spring: 0.63 cfs. Summer: 0.27 cfs.
Rincon Creek	Undetermined	Not assessed	Undetermined	Not assessed
Pilitas Creek	Undetermined	Not assessed	Undetermined	Spring: 0.65 cfs. Summer: 0.28 cfs.

Watershed Health by Major Groundwater Basin

Groundwater Basin	Estimated Safe Yield	Water Availability Constraints	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
Paso Robles	97,700 AF (SLO County RCS, 2011)	Physical limitations, water rights and water quality issues (Master Water Report).	Yes; see description below.	None (CCRWQCB, 2011)
Atascadero	None (Carollo, 2012)	Water rights and physical limitations (SLO County WMP, 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	None (CCRWQCB, 2011)

			MCL values (Carollo, 2012)	
Rinconada	None (Carollo, 2012)	Physical Limitations (SLO County WMP, 2012)	None (Carollo, 2012)	None (CCRWQCB, 2011)

Groundwater Quality Description:

Paso Robles Groundwater Basin: Based on Todd monitoring report (2007), the Basin was not at the safe yield although some areas were experiencing significant declines in groundwater elevations. A later study completed in 2009 suggests groundwater pumping was approaching the safe yield of the Basin, which led to the recommendation to do a groundwater management plan. The Resource Capacity Study prepared by the San Luis Obispo County Planning Department in November 2010 states that the Basin is near or at perennial yield, and contains land use and water use monitoring and conservation recommendations within the authority of the County and District to help ensure the sustainability of the Basin into the future (Paso Robles Groundwater Basin – Groundwater Advisory Committee, 2011).

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 sub-basin show an average Total Dissoved 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).

Salinas River recharge typically contains calcium and magnesium bicarbonate. Santa Margarita Creek water contains magnesium-calcium-bicarbonate. Atascadero and Paso Robles Creeks have calcium bicarbonate rich waters. Increasing Total Dissolved Solids and chlorine, physical limitations (Carollo, 2012).

Atascadero sub-basin: In terms of physical limitations, Todd (2009) estimated the gross groundwater pumping in the sub-basin during 2006 to be 15,545 AF, which is 95 percent of the sub-basin perennial yield of 16,400 AFY. Ongoing studies may revise the estimated outflow from the sub-basin. According to Fugro (2010), whereas total groundwater in storage in the main part of the Paso Robles Groundwater Basin is predominantly in the Paso Robles Formation, the Salinas River alluvium in the Atascadero Groundwater Sub-basin accounts for a significant percentage of the total groundwater storage in the sub-basin. Pumping from the alluvium should be accounted for separately from pumping from the Paso Robles Formation.

Primary Issues

Issue	***Potential Causes***	***Referenced from***
Significant water level declines	Range of groundwater uses in close proximity, including agricultural irrigation, municipal	Carollo, 2012

	supply wells, golf course irrigation, and a relatively dense aggregation of rural "ranchette") users	
Groundwater Quality	High concentrations of TDS, chlorides, sulfates, and boron	Carollo, 2012
Limited Groundwater Basin information (Rinconada basin)		Carollo, 2012
Atascadero (Hale) Creek 303(d) listed for chloride, Escherichia coli (E. coli), fecal coliform, low dissolved oxygen, sodium	Agriculture, grazing related and natural sources, resource extraction petroleum activities, transient encampments	Carollo, 2012

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.

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