

Nipomo – Suey Creek Watershed

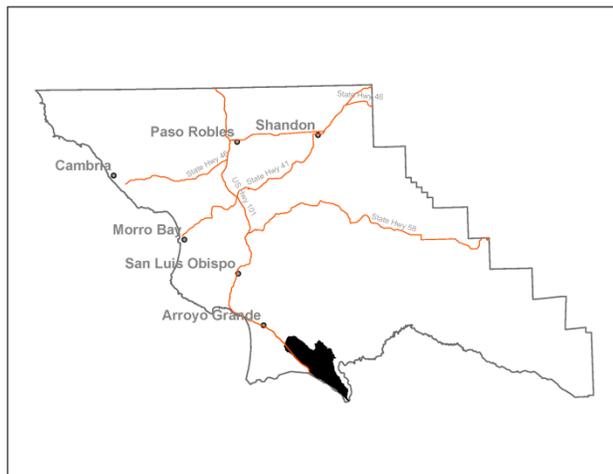
Hydrologic Unit Name	Water Planning Area	Acreage	Flows to	Groundwater Basin(s)	Jurisdictions
Santa Maria HU 12	South County WPA 7	36,912 acres	Santa Maria River	Santa Maria Valley	County of San Luis Obispo Community of Nipomo



Description:

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

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



Watershed Plans:

Nipomo Creek Watershed Management Plan (Land Conservancy of San Luis Obispo and CCSE, 2005)

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Characteristics:

	Physical Setting	
	Rainfall	15 – 20 inches (NRCS Precipitation, 1981-2010) 16-18 inches Mean Annual (SLOCountyWater.org)
	Air Temperature	Summer Range (August 1981-2010): 54°- 73° F Winter Range (December 1981-2010): 39°- 63° F At Santa Maria Public Airport, CA. (NOAA National Climatic Data Center, ncdc.noaa.gov, viewed 2013) Limited data, not watershed specific.
	Geology Description	Nipomo Creek consists of steep pre-Quaternary non-infiltrative headwaters and a flat highly infiltrative Quaternary valley – category #12. Suey Creek consists of moderately infiltrative early to mid-Tertiary headwaters and a flat Quaternary highly infiltrative valley – category #14. (Bell, personal communication, 2013) The bedrock of the watershed is typical of the Monterey and Franciscan formations of the California Coastal Range and is composed primarily of shale, chert, and other mélangé components (Chipping, 1987).
	Hydrology	
	Stream Gage	No source identified.
	Hydrology Models	No source identified.
	Peak Flow	8,000 cfs Nipomo at confluence with Santa Maria River (Land Conservancy and CCSE, 2005, pg. 41); No source identified for Suey Creek Limited data based on FEMA study and not stream gage.
	Base Flow	800 – 925 acre feet average annual base runoff for Nipomo (DWR, 2002); No source identified for Suey Creek Limited data. It is unknown how this estimate was determined as there is no stream gage.
	Flood Reports	Yes; Nipomo Drainage and Flood Control Study (County of SLO, 2004). Areas at risk for flooding are Olde Town Nipomo (Land Conservancy and CCSE, 2005)
	Biological Setting	
	Vegetation Cover	Primarily agricultural land and non-native grassland with some coast live oak forest composed primarily of coast live oak and blue oak, buckbrush chaparral and venturan coastal sage scrub (SLO

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	<p>County, vegetation shapefile, 1990)</p> <p>Oak forest, chaparral, and coastal scrub are more common in the eastern hills than elsewhere in the watershed. Coast live oaks interspersed with willows also line many of the drainages. (Althouse and Meade, Inc. 2013).</p> <p>Limited spatial data. No alliance level vegetation mapping was available for the entire County.</p>																																																	
Invasive Species	<p>Periwinkle (CCSE & Land Conservancy, 2005) English ivy and blue gum eucalyptus in some areas. Veldt grass in sandy soils (Althouse and Meade, 2013)</p> <p>Limited data.</p>																																																	
Special Status Wildlife and Plants	<p>Potential habitat for 14 special status species, [including] American badger, pallid bat, California red-legged frog, coast range newt, southern pacific pond turtle, silvery legless lizard, coast horned lizard, two-striped garter snake, sharp-shinned hawk, burrowing owl, white-tailed kite, southwestern willow flycatcher, prairie falcon and least bell’s vireo is present in this watershed (SLO County, DANA EIR, 2012) Nipomo lupine and pismo clarkia (Althouse and Meade, 2013)</p> <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 (CNDDDB, viewed August, 2013)</p> <p>Locations listed refer to USGS 7.5’ quadrangle names. Only the portion overlapping the watershed boundary was considered.</p> <p>Limited by the type of data collected in the CA Natural Diversity Database.</p> <table border="1"> <thead> <tr> <th><i>Common Name</i></th> <th>Status</th> <th>NIPOMO</th> <th>OCEANO</th> <th>SANTA MARIA</th> <th>HUASNA PEAK</th> <th>TWITCHELL DAM</th> </tr> </thead> <tbody> <tr> <td colspan="7" style="text-align: center;">Animals</td> </tr> <tr> <td><i>American badger</i></td> <td>SSC</td> <td></td> <td>x</td> <td></td> <td>x</td> <td></td> </tr> <tr> <td><i>California black rail</i></td> <td>ST; FP</td> <td></td> <td>x</td> <td></td> <td></td> <td></td> </tr> <tr> <td><i>California least tern</i></td> <td>FE; SE</td> <td></td> <td>x</td> <td></td> <td></td> <td></td> </tr> <tr> <td><i>California red-legged frog</i></td> <td>FT</td> <td>x</td> <td>x</td> <td>x</td> <td>x</td> <td>x</td> </tr> <tr> <td><i>California tiger salamander</i></td> <td>FT; ST</td> <td></td> <td></td> <td></td> <td></td> <td>x</td> </tr> </tbody> </table>	<i>Common Name</i>	Status	NIPOMO	OCEANO	SANTA MARIA	HUASNA PEAK	TWITCHELL DAM	Animals							<i>American badger</i>	SSC		x		x		<i>California black rail</i>	ST; FP		x				<i>California least tern</i>	FE; SE		x				<i>California red-legged frog</i>	FT	x	x	x	x	x	<i>California tiger salamander</i>	FT; ST					x
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Common Name	Status	NIPOMO	OCEANO	SANTA MARIA	HUASNA PEAK	TWITCHELL DAM
<i>coast horned lizard</i>	SSC		x	x		
<i>globose dune beetle</i>	SA		x			
<i>mimic tryonia</i> (=California brackish water snail)	SA		x			
<i>monarch butterfly</i>	SA		x	x		
<i>Morro Bay blue butterfly</i>	SA		x			
<i>Oso Flaco flightless moth</i>	SA		x			
<i>Oso Flaco patch butterfly</i>	SA		x			
<i>Oso Flaco robber fly</i>	SA		x			
<i>prairie falcon</i>	SA (Nesting)	x			x	x
<i>sandy beach tiger beetle</i>	SA		x			
<i>sharp-shinned hawk</i>	SA (Nesting)		x			
<i>silvery legless lizard</i>	SSC		x			
<i>steelhead - south/central California coast DPS</i>	FT	x	x			
<i>tidewater goby</i>	FE		x			
<i>western pond turtle</i>	SSC		x		x	
<i>western snowy plover</i>	FT		x			
<i>western spadefoot</i>	SSC	x		x		x
<i>white sand bear scarab beetle</i>	SA		x			
Plant/Lichen						
<i>beach spectaclepod</i>	ST		x			
<i>Blochman's leafy daisy</i>	CRPR 1B.2		x			
<i>California saw-grass</i>	CRPR 2B.2		x			
<i>coast woolly-heads</i>	CRPR 1B.2		x			
<i>coastal goosefoot</i>	CRPR 1B.2		x			
<i>crisp monardella</i>	CRPR 1B.2		x			
<i>dune larkspur</i>	CRPR 1B.2		x	x		
<i>Gambel's water cress</i>	FE; ST		x			
<i>Hoover's bent grass</i>	CRPR 1B.2		x			
<i>Kellogg's horkelia</i>	CRPR 1B.1		x			

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<i>Common Name</i>	Status	NIPOMO	OCEANO	SANTA MARIA	HUASNA PEAK	TWITCHELL DAM
<i>La Graciosa thistle</i>	FE; ST		x			
<i>La Panza mariposa-lily</i>	CRPR 1B.3					
<i>marsh sandwort</i>	FE; SE		x			
<i>Miles' milk-vetch</i>	CRPR 1B.2	x			x	x
<i>Nipomo Mesa lupine</i>	FE; SE		x			
<i>Pismo clarkia</i>	FE; SR		x			
<i>San Luis Obispo County lupine</i>	CRPR 1B.2	x				
<i>San Luis Obispo monardella</i>	CRPR 1B.2		x			
<i>sand mesa manzanita</i>	CRPR 1B.2	x	x	x		
<i>Santa Margarita manzanita</i>	CRPR 1B.2	x	x		x	
<i>short-lobed broomrape</i>	CRPR 4.2		x			
<i>surf thistle</i>	ST		x			
Steelhead Streams	No. Historical information suggests that the Santa Maria River supported a steelhead run in the early 1900's. There is no evidence suggesting this species has been present for several decades. (CCSE & Land Conservancy, 2005 pg 56)					
Stream Habitat Inventory	None. (CEMAR, 2008)					
Fish Passage Barriers	Hwy 166 culvert at Suey Creek, Unknown Status, PAD # 736549.00000 (CDFW Passage Assessment Database, viewed 2013)					
Designated Critical Habitat	None. (USFWS Critical Habitat Portal, viewed 2013)					
Habitat Conservation Plans	None.(USFWS Critical Habitat Portal, viewed 2013)					
Other Environmental Resources	No source identified.					
Land Use						
Jurisdictions & Local Communities	Town of Nipomo					
% Urbanized	7.3% (6.62% residential and less than 1% commercial, industrial and public facilities)(SLO County LUC)					
% Agricultural	82.7% (SLO County LUC)					

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	% Other	10% (9.71% rural lands and less than 1% open space and recreation) (SLO County LUC)
	Planning Areas	South County Inland
	Potential growth areas	Olde Town Nipomo, Los Berros Village area
	Facilities Present	Private wells and septic systems Limited data.
	Commercial Uses	Proposed oil processing facilities, Agriculture Limited data.
	Demographics	
	Population	4,160 in watershed (US Census Block, 2010); 16,714 in Nipomo (US Census, 2010)
	Race and Ethnicity	50.2% White (2,088), 44.4% Latino (1,845), 3.2% other in the watershed. (US Census Block, 2010) Caucasian, representing 54.3%. Latinos represent 39.8% of the total population in the watershed. The remaining races each represent less than 3%, including African American, American Indian, Pacific Islander, and Asian(US Census, 2010).
	Income	MHI \$99,115 in watershed. (US Census Tract, 2010) MHI \$61,265 in Nipomo (US Census Tract, 2010). Census tract crosses multiple watersheds.
	Disadvantaged Communities	No; 4% in watershed (US Census Tract, 2010); 9.6% of individuals are below poverty level in Nipomo (US Census, 2010). Census tract crosses multiple watersheds.
	Water Supply	
	Water Management Entity	Nipomo Community Services District; A large number of other water purveyors exist in the Nipomo Mesa area, but a source was not identified that records which are specifically in the Nipomo and Suey Creeks area. Limited data.
	Groundwater	Yes; alluvial and Santa Maria River Valley (SLO County, 2012)
	Surface Water	No public reservoirs.
	Imported Water	No; planned supplemental water from Santa Maria.
	Recycled/ Desalinated Water	No source identified.
	Infiltration Zones	No source identified.
	Water Budget	No source identified.

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Water Uses		
	Beneficial Uses	<i>Nipomo Creek</i> –No beneficial uses identified <i>Suey Creek</i> –No beneficial uses identified. (RWQCB, 2011)
Other Unique Characteristics		
	Historic Resources	Dana Adobe Limited data.
	Archeological Resources	There was a Chumash town called Nipumu at the time of European settlement (SB Museum of Natural History, viewed 2013). Limited data.
	Other	No source identified.
Climate Change Considerations		
		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
3312.100104	1	Guadalupe	0	undefined	312.10	Nipomo	Nipomo Valley
3312.100102	1	Guadalupe	0	undefined	312.10	Nipomo	Suey Creek
3312.100103	1	Guadalupe	0	undefined	312.10	Nipomo	South of Twitchell Res.
3312.100101	1	Guadalupe	0	undefined	312.10	Santa Maria Valley	Nipomo Creek

Major Changes in the Watershed

- Nipomo Creek, during the Pliocene Epoch, flowed to the north joining Los Berros Creek and Arroyo Grande Creek. During the Quaternary period of the Holocene Epoch, rapid melting of glaciers caused changes in sea levels and rapid migration of shoreline dunes inland blocking the

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flow of Nipomo Creek. The blockage created shallow lakes which broke through the dunes of the Nipomo Mesa creating Black Lake Canyon. Further encroachment of sand eventually blocked this direct seaward exit of Nipomo. The subsequent build up of water in Nipomo valley found its weakest point to exit through a southern route becoming a tributary of the Santa Maria watershed (Ardoin/Bishop, 2004)

- 9,000 years. Most of the recorded Chumash cultural sites occur on the bluff of the mesa overlooking several creeks and in the foothills near larger tributaries. Sites on the Nipomo Mesa did not support as dense a population as neighboring coastal areas, and represent temporary occupations or small villages (Wheeler, 2005).
- In 1772, a mission was established in San Luis Obispo.
- The watershed is part of the Rancho Nipomo Mexican Land Grant awarded to Captain William Dana in 1835 bringing cattle and sheep to the area.
- In 1878, the Pacific Coast Railway was granted a 14 mile long strip by the Dana Brothers.
- The 1890's brought growth to the area with expanding agriculture and an influx of immigrant families to work the land.
- In 1936, Dorthea Lange chronicled the dire poverty of the migrant "pea pickers" in Nipomo, taking the iconic photo of the depression, Migrant Mother.

Watershed Health by Major Tributary

Tributary Name	Ephemeral / Perennial	303d Listed/ TMDLs	Pollution Sources NP (non-point) MP (Major Point)	Environmental Flows
Nipomo Creek	Perennial	Yes on 303d list for Fecal Coliform, Nitrate, Unknown Toxicity. TMDL estimated date of completion 2013. (SWRCB, 2010)	Agriculture, Collection System Failure, Grazing Related, Natural, Onsite Wastewater Systems (Septic), Urban Runoff(SWRCB, 2010)	No source identified.
Suey Creek	Unknown.	No. (SWRCB, 2010)	Undetermined. (SWRCB, 2010)	Table 3 of Instream Flow Assessment (Stillwater Sciences, 2013)

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Watershed Health by Major Groundwater Basin

Groundwater Basin	Estimated Safe Yield	Water Availability Constraints	Drinking Water Standard Exceedance	Water Quality Objective Exceedance
Santa Maria Valley – Nipomo Valley Subbasin	No existing yield. (San Luis Obispo County, Master Water Report, 2012)	Physical limitations and water quality. (San Luis Obispo County, Master Water Report, 2012)	No. (San Luis Obispo County, Master Water Report, 2012)	No objective for subbasin. (RWQCB, Table 3-8, 2011)
Santa Maria Valley- Nipomo Mesa Management Area	4,800-6,000 AFY(San Luis Obispo County, Master Water Report, 2012)	Physical limitations, water quality, and water rights. (San Luis Obispo County, Master Water Report, 2012)	No. (San Luis Obispo County, Master Water Report, 2012)	Yes. (RWQCB, Table 3-8, 2011)

Groundwater Quality Description: Water quality is variable across the [Nipomo Valley] subbasin, and the available data set does not distinguish between older alluvial wells and fractured rock wells, although most of the water represented is from the fractured rock reservoirs. TDS concentrations in groundwater samples collected from in 22 wells between 1962 and 2000 ranged from 750 mg/l to 1,300 mg/l; sulfate concentrations between 200 and 340 mg/l; chloride concentrations between 64 and 130 mg/l; and nitrate concentrations from non-detected to 3.4 mg/l. Groundwater is classified as suitable to marginal under water quality guideline for irrigated agriculture (DWR, 2002). (San Luis Obispo County, Master Water Report, 2012)

Primary Issues

Issue	Potential Causes	Referenced from
Flooding	Development in 100 year flood hazard zone, improperly sized culverts, lack of maintenance of existing drainage structures	CCSE&LC, WMP, 2005 pg 70 & 71
Habitat Fragmentation	Development	CCSE&LC, WMP, 2005
Surface Water Quality	Erosion, Sedimentation, bacteria from wildlife, domestic animals/livestock and urban areas, nutrients from	CCSE&LC, WMP, 2005 and RWQCB, Santa Maria River Watershed TMDLs, 2012
Invasive Species		CCSE&LC, WMP, 2005 pg 67
Groundwater Quantity	Connection to Santa Maria Groundwater Basin and Nipomo Mesa Management Area	CCSE&LC, WMP, 2005 pg 43 and 89 and NMMA, 2011

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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.

Bibliography

Althouse and Meade, Inc . (2013). Published and unpublished field notes.

Ardoin, C. (2004). *A Natural History of the Nipomo Mesa Region, pp 41-59*. Santa Maria, CA: Field Research of Ralph Bishop .

Bell, E. (. (2013). Based on Tetra Tech and Stillwater Sciences-2011 Development and Implementation of Hydromodification Control Methodology, Watershed Characterization Part 1: Watershed Characterization Part 1, Precipitation and Landscape.

California Department of Fish and Game. (2013). *California Natural Diversity Database*. Retrieved from http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp

California Department of Fish and Wildlife. (2013). *Passage Assessment Database BIOS public viewer*. Retrieved from <https://nrm.dfg.ca.gov/PAD/Default.aspx>

California Department of Water Resources. (2002). *Water Resources of the Arroyo Grande - Nipomo Mesa Area*. Retrieved 2013, from DWR Southern District : http://www.dpla.water.ca.gov/sd/water_quality/water_quality.html

Center for Ecosystem Management and Restoration. (2008). *Steelhead/Rainbow Trout (*Oncorhynchus mykiss*) Resources South of San Luis Obispo County*. Retrieved from Resources South of the Golden Gate, CA: <http://www.cemar.org/ssrp.html>

Chipping, D. (1987). *The Geology of San Luis Obispo County: a Brief Description and Field Guide*. San Luis Obispo, CA.

County of San Luis Obispo. (2004). *Nipomo Drainage and Flood Control Study*. San Luis Obispo, CA: County of SLO, Public Works Department.

Land Conservancy of San Luis Obispo and Central Coast Salmon Enhancement. (2005). *Nipomo Watershed Management Plan*.

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

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Natural Resource Conservation Service. (2010). Precipitation 1981-2010 GIS Data [computer files] Using: ESRI ArcMap GIS Version 9.3.1.

Nipomo Mesa Management Area Technical Group. (2011). *Annual Report*.

Regional Water Quality Control Board. (n.d.). *Central Coast Basin Plan*.

San Luis Obispo County. (1990). Vegetation GIS Data. Using: ESRI ArcMap GIS Version 9.3.1. San Luis Obispo, CA.

San Luis Obispo County. (2012). *Dana Adobe Nipomo Amigos LUO Amendment and CUP, Draft Environmental Impact Report*.

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

San Luis Obispo County Planning and Building Geographic Technology and Design. (n.d.). *County Land Use Classifications*.

San Luis Obispo County Water Resources-Division of Public Works. (n.d.). Retrieved 2013, from SLOCountyWater.org: <http://www.slocountywater.org>

Santa Barbara Museum of Natural History. (2013). *Chumash Towns at the Time of European Settlement*. Retrieved from Santa Barbara Museum of Natural History, The Chumash Region and Beyond: <http://www.sbnature.org/research/anthro/chumash/dirmap.htm>

State Water Resources Control Board. (n.d.). *2010 Integrated Report (Clean Water Act Section 303(d) List/ 305(b) Report*. http://www.swrcb.ca.gov/water_issues/programs/tmdl/integrated2010.shtml.

Stillwater Sciences & Kear Groundwater. (2012). *Santa Maria River Instream Flow Study: flow recommendations for steelhead passage*. Sacramento, CA: Santa Barbara, CA for CA Ocean Protection Council, Oakland, CA & CA Dept of Fish and Game.

U.S. Census . (2010). Census Tract GIS Data.

U.S. Census. (2010). Census Block GIS Data.

U.S. Census Bureau. (2010). *American Factfinder, Community Facts*. Retrieved 2013, from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

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

Wheeler, T. (Nov 2005). *Nipomo Watershed Management Plan*.