



San Lorenzo River Watershed

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
88,763 Acres	18060001	3304120101	Kings Creek (7770 Acres)
35,920 Hectares	4th Field HUC	3304120102	Castlerock Falls (7371 Acres)
139 Square Miles		3304120201	Love Creek (6606 Acres)
	3304	3304120202	Lorenzo River (10612 Acres)
Location	4th Field Calwater	3304120203	Boulder Creek (7342 Acres)
Santa Cruz County		3304120300	Bear Creek (10379 Acres)
		3304120401	Bean Creek (6661 Acres)
		3304120402	Zayante Creek (10728 Acres)
		3304120501	Branciforte Creek (6276 Acres)
		3304120502	Pasatiempo Creek (514 Acres)
		3304120503	Mouth of San Lorenzo (3755 Acres)
		3304120504	Carbonera Creek (4530 Acres)
		3304120600	Newell Creek (6220 Acres)

Species Potential	Miles of Streams with Species Present
Central California Coast Steelhead Santa Cruz Mountains Diversity Stratum - Independent Population	<u>Steelhead</u> 98 NOAA Fisheries, Critical Habitat Redesignation, 2005
Central California Coast Coho Santa Cruz Mountains Diversity Stratum - Independent Population	<u>Coho</u> 22 CDFG, Coho Distribution, May 2007

Critical Habitat	
Central California Coast Steelhead	98 Miles of Stream
Central California Coast Coho	All accessible river reaches between Punta Gorda & San Lorenzo River including 2 San Francisco Bay streams: Arroyo Corte Madera del Presidio and Corte Madera Creek (64 FR 24049)

Coho Intrinsic Potential	
Km of Historical Coho IP (21.5 C mask)	135
% of IP (21.5 C Mask) with Current Coho Distribution	35%

Spence, B. C., et al., 2008. A framework for assessing the viability of threatened and endangered salmon and steelhead in the North-Central California Coast Recovery Domain. NOAA Tech Memo NMFS-SWFSC-423.

Miles of Waterway ^A	Miles	Number of Dams ^C
Naturally Occurring Waterways		64
Intermittent Stream	73	8 - Impassable
Perennial Stream	194	18 - Not a Barrier
Artificial Path	11	37 - Partial &/or Temporal Barriers 1 - Unknow Barrier Status

^CPassage Assessment Database, Pacific States Marine Fisheries Commission, 2008

^AUSGS National Hydrography Dataset, High Resolution, 2004. 1:24,000



USGS Gaging Stations ^B	Number of Barriers ^C
11160020	397
San Lorenzo River near Boulder Creek	64 Dams
11160030	258 Road Crossings (24 Impassable, 48 Temp. &/or Partially Impassable)
San Lorenzo River Trib near	65 Natural Barriers (Chutes, Falls, Log Jams, etc. (26 Impassable))
11160036	
Kings Creek near Boulder Creek	
11160045	^C Passage Assessment Database, Pacific States Marine Fisheries Commission, 2008
San Lorenzo River at Boulder Creek	
11160055	
Bear Creek near Boulder Creek	
11160065	
Boulder Creek above Jaminson	
11160150	
Love Creek at Ben Lomond	
11160230	
Fall Creek below Bennett Creek	
11160250	
Fall Creek at Felton	
11160300	
Zayante Creek at Zayante	
11160450	
Zayante Creek at Felton	
11160500	
San Lorenzo River at Big Trees	
11161400	
Carbonera Creek at Santa Cruz	
11161500	
Branciforte Creek at Santa Cruz	

EPA Total Maximum Daily Load Classification (TMDL)^I

Nutrients, Pathogens, Sediment

Sources: Nonpoint Sources, Septage Disposal, Urban Runoff/Storm Sewers, Construction/Land Development, Silviculture

^IState Water Resources Control Board, 2006

Appropriated Waterways^J

San Lorenzo River is Fully appropriated (6/1 to 10/31)

Love Creek is Fully appropriated (7/01 to 10/31)

^JCalifornia State Water Resources Control Board, 1998.

Average Annual Precipitation^E

47.1"

Average Annual Precipitation Range^E

22.5 - 65"

^ECalifornia Mean Annual Precipitation Zones, 1900-1960, CA Department of Forestry, 1990

Roads ^A	Miles
Roads in Watershed	
Primary Road / Highway	9
Secondary and connecting road, state highways	41
Local, neighborhood, and rural road, city street, unseparated	641
Vehicular trail, 4WD	25
Driveway or service road	23
Total Miles	739

Road Density

Miles of Roads per SqMi of Watershed	5.3
Miles of Roads per SqMi of 100m Riparian Buffer*	6.2

*Buffer is 100 meters on either side of the stream centerline

^AU.S. Census Bureau - Tiger 2000, 2002. 1:24,000



Slope^D	Acres	Percent of watershed
Lands of 0-2 percent slope	2,010	2%
Lands of 2-4 percent slope	1,909	2%
Lands of 4-10 percent slope	6,640	7%
Lands of 10-15 percent slope	6,113	7%
Lands of 15-30 percent slope	22,140	25%
Lands of 30-60 percent slope	40,616	46%
Lands of 60-100 percent slope	9,143	10%
Lands of 100-186 percent slope	199	0%

Elevation Range	0 - 3225 ft.	0 - 983 m
------------------------	--------------	-----------

^DSlope derived from USGS 10 meter Digital Elevation Models (DEM's)

Vegetation^G	Acres	Percent of watershed
Agriculture	551	1%
Annual grassland	1,048	1%
Conifer Forest		
Douglas Fir	768	1%
Montane Hardwood-Conifer	7	0%
Redwood	51,094	58%
Unknown Conifer	2,832	3%
Hardwood Forest		
Montane Hardwood	163	0%
Hardwood Woodland		
Coastal Oak Woodland	7	0%
Shrub	18,254	21%
Urban	13,890	16%
Water	190	0%

^GMulti-source Land Cover Data (2002 v2), CA Department of Forestry, 2002. 100 meter Grid

Erodability of Watershed^F	Acres	Percent of watershed
Rank of 7	41,946	47%
Rank of 8	31,722	36%
(Remained unranked)		

^FDepartment of Conservation, Division of Mines and Geology; minimum mapping unit: approx. 8000 acres

Watersheds were rated based on slope, precipitation, and lithologic susceptibility to failure. Total erosion potential is based on a combination of the landslide potential, debris slide potential, and the surface erosion potential. Rating 0-10 [0 = Low slide potential, 10 = High slide potential]

Land Ownership^H	Acres	Percent of watershed
Private	79,833	90%
Local (City / County Park)	184	0%
State (Fish & Game)	63	0%
State (Parks & Recreation)	7,737	9%
State (Univ. of CA)	942	1%

^HManagement Landscape, CA Department of Forestry, 2002



Area Under a Timber Harvest Plan^A past 10 years		Area Under a Timber Harvest Plan^A past 13 years	
7,703 Acres	9% of watershed	5,024 Acres	6% of watershed
^California Department of Forestry, Timber Harvest Plans for Region 1, 2006		(1994-2006)	

Population¹	Housing¹
Total Population within the watershed -- 84,586 People	Total Housing Units within the watershed -- 33,834 Houses
	Housing Density
	0 to Less than 1 Housing Unit / 160 Acres 15%
	1 Unit / 160 Acres to 1 Unit / 20 Acres 11%
	1 Unit / 20 Acres to 1 Unit / 5 Acres 51%
	1 Unit / 5 Acres to 2 Units / Acre 19%
	2 Units / Acres to Greater than or Equal to 5 Units / Acre 4%

¹Census 2000 Block Data (Migrated), CA Department of Forestry, 2003



San Lorenzo River

Vegetation density and age class in the entire watershed

California Department of Forestry and Fire Protection; fveg02_2. Vector digital dataset. 100m Grid, 2002.

Acres													
Size	Density	Agriculture	Barren	Conifer Forest	Conifer Woodland	Hardwood Forest	Hardwood Woodland	Herbaceous	Shrub	Urban	Water	Wetland	Grand Total by Size class
Not Determined	Not Determined	558		213				1050	12244	13818	193		
	S												
	P			193									
	M			1376									
	D			51020									
	Total	558		52802				1050	12244	13818	193		80665
Seedling	S												
	P												
	M												
	D												
	Total												0
Sapling	S												
	P												
	M												
	D												
	Total												0
Pole	S												
	P												
	M												
	D												
	Total												0
Small Tree	S												
	P			121									
	M			225									
	D			1539	173	10		6076					
	Total			1885	173	10		6076					8144
Medium/Large Tree	S												
	P												
	M												
	D												
	Total												0
Multi Layered	D												
	Total												0
Grand Total by Species Type		558		54687	173	10	1050	18320	13818	193			88809

SIZE	Description	Diameter at Breast Height (DBH)
Not Determined		N/A
Seedling		Less Than 1 inch
Sapling		1 to 6 inches
Pole		6 to 11 inches
Small Tree		11 to 24 inches
Medium/Large Tree		Greater Than 24 inches
Multi Layered		Size 5 Over Size 4 Or 3; Total Tree Crown Closure Greater Than 60%

Percent													
Size	Density	Agriculture	Barren	Conifer Forest	Conifer Woodland	Hardwood Forest	Hardwood Woodland	Herbaceous	Shrub	Urban	Water	Wetland	Grand Total by Size class
Not Determined	Not Determined	1%		0%				1%	14%	16%	0%		
	S												
	P			0%									
	M			2%									
	D			57%									
	Total	1%		59%				1%	14%	16%			91%
Seedling	S												
	P												
	M												
	D												
	Total												0%
Sapling	S												
	P												
	M												
	D												
	Total												0%
Pole	S												
	P												
	M												
	D												
	Total												0%
Small Tree	S												
	P			0%									
	M			0%									
	D			2%	0%	0%		7%					
	Total			2%	0%	0%		7%					9%
Medium/Large Tree	S												
	P												
	M												
	D												
	Total												0%
Multi Layered	D												
	Total												0%
Grand Total by Species Type		1%		62%	0%	0%	1%	21%	16%	0%			100%

SIZE (SHRUB)	Desc.	Crown Decadence	DENSITY	Description
Not Determined		N/A		None
Seedling Shrub		Seedlings or sprouts < 3 years	S	10 to 24%
Young Shrub		None	P	25 to 39%
Mature Shrub		1 - 25%	M	40 to 59%
Decadent Shrub		> 25%	D	60 to 100%

San Lorenzo River

Vegetation within Riparian Buffer (100 meter on either side of stream)

California Department of Forestry and Fire Protection; fveg02_2. Vector digital dataset. 100m Grid, 2002.

Acres

Size	Density	Agriculture	Barren	Conifer Forest	Conifer Woodland	Hardwood Forest	Hardwood Woodland	Herbaceous	Shrub	Urban	Water	Wetland	Grand Total by Size class
Not Determined	Not Determined	72.0		86.0				74.0	2177.0	#####	5.0		
	S												
	P			52.0									
	M			430.0									
	D			12825.0									
	Total	72.0		13193.0		0.0	74.0	2177.0	#####	5.0		19186	
Seedling	S												
	P												
	M												
	D												
	Total												0
Sapling	S												
	P												
	M												
	D												
	Total												0
Pole	S												
	P												
	M												
	D												
	Total					0.0							0
Small Tree	S												
	P			20.0									
	M			89.0									
	D			190.0	12.0				672.0				
	Total			299.0	12.0				672.0				983
Medium/Large Tree	S												
	P												
	M												
	D												
	Total												0
Multi Layered	S												
	P												
	M												
	D												
	Total												0
Grand Total by Species Type		72	0	13492	0	12	0	74	2849	3665	5	0	20169

SIZE	Description	Diameter at Breast Height (DBH)
Not Determined	N/A	
Seedling	Less Than 1 inch	
Sapling	1 to 6 inches	
Pole	6 to 11 inches	
Small Tree	11 to 24 inches	
Medium/Large Tree	Greater Than 24 inches	
Multi Layered	Size 5 Over Size 4 Or 3; Total Tree Crown Closure Greater Than 60%	

Percent

Size	Density	Agriculture	Barren	Conifer Forest	Conifer Woodland	Hardwood Forest	Hardwood Woodland	Herbaceous	Shrub	Urban	Water	Wetland	Grand Total by Size class
Not Determined	Not Determined	0%		0%				0%	11%	18%	0%		
	S												
	P			0%									
	M			2%									
	D			63%									
	Total	0%		65%		0%	0%	11%	18%	0%		95%	
Seedling	S												
	P												
	M												
	D												
	Total												0%
Sapling	S												
	P												
	M												
	D												
	Total												0%
Pole	S												
	P												
	M												
	D												
	Total												0%
Small Tree	S												
	P			0%									
	M			0%									
	D			1%	0%				3%				
	Total			1%	0%	0%			3%				5%
Medium/Large Tree	S												
	P												
	M												
	D												
	Total												0%
Multi Layered	S												
	P												
	M												
	D												
	Total												0%
Grand Total by Species Type		0%	0%	67%	0%	0%	0%	0%	14%	18%	0%	0%	100%

SIZE (SHRUB)	Desc.	Crown Decadence	DENSITY	Description
Not Determined	N/A			None
Seedling Shrub	Seedlings or sprouts < 3 years		S	10 to 24%
Young Shrub	None		P	25 to 39%
Mature Shrub	1 - 25%		M	40 to 59%
Decadent Shrub	> 25%		D	60 to 100%

San Lorenzo River Watershed

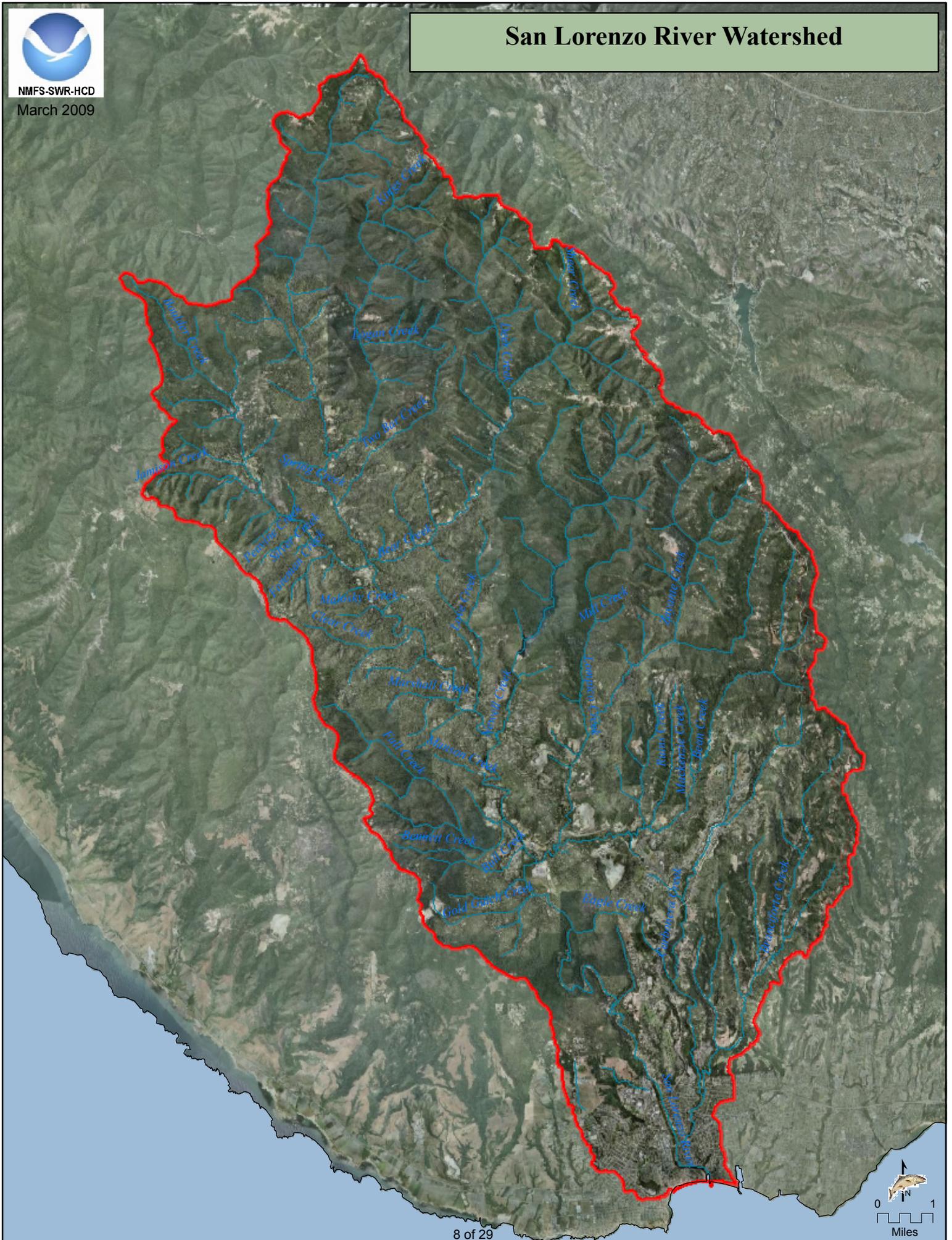




NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed





NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed CalWater Planning Watersheds

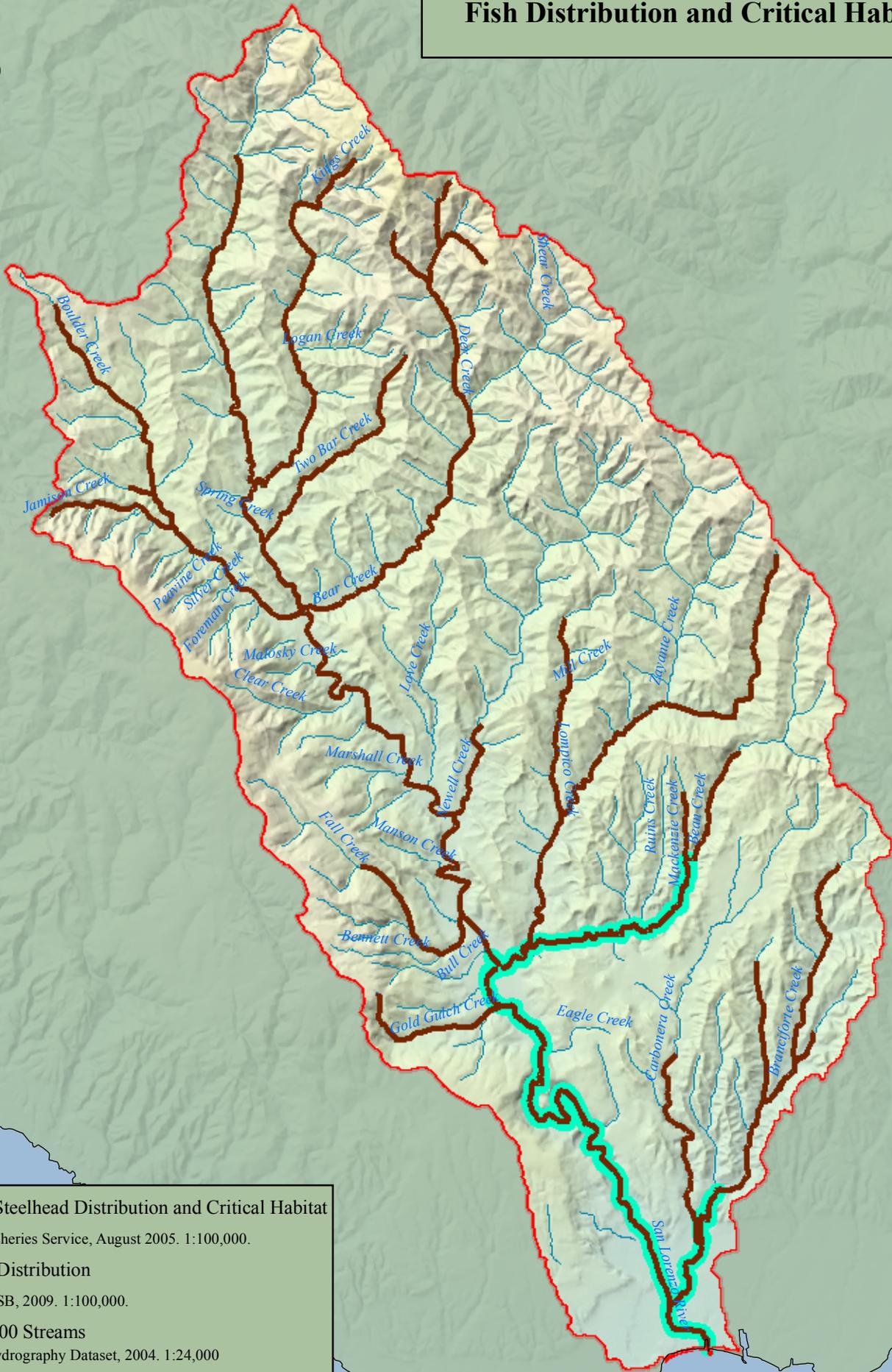




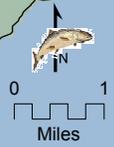
NMFS-SWR-HCD

September 2009

San Lorenzo River Watershed Fish Distribution and Critical Habitat



-  CCC Steelhead Distribution and Critical Habitat
National Marine Fisheries Service, August 2005. 1:100,000.
-  Coho Distribution
CDFG - NCNCR-ISB, 2009. 1:100,000.
-  1:24,000 Streams
USGS National Hydrography Dataset, 2004. 1:24,000
-  San Lorenzo River Watershed





NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed Steelhead Current vs. Historical



-  Current CCC Steelhead Distribution
National Marine Fisheries Service,
August 2005. 1:100,000.
-  Steelhead Intrinsic Potential
NMFS SWR Fisheries Science Center, 2005.
Potential historical suitable habitat
-  1:24,000 Streams
USGS National Hydrography Dataset, 2004. 1:24,000
-  San Lorenzo River Watershed

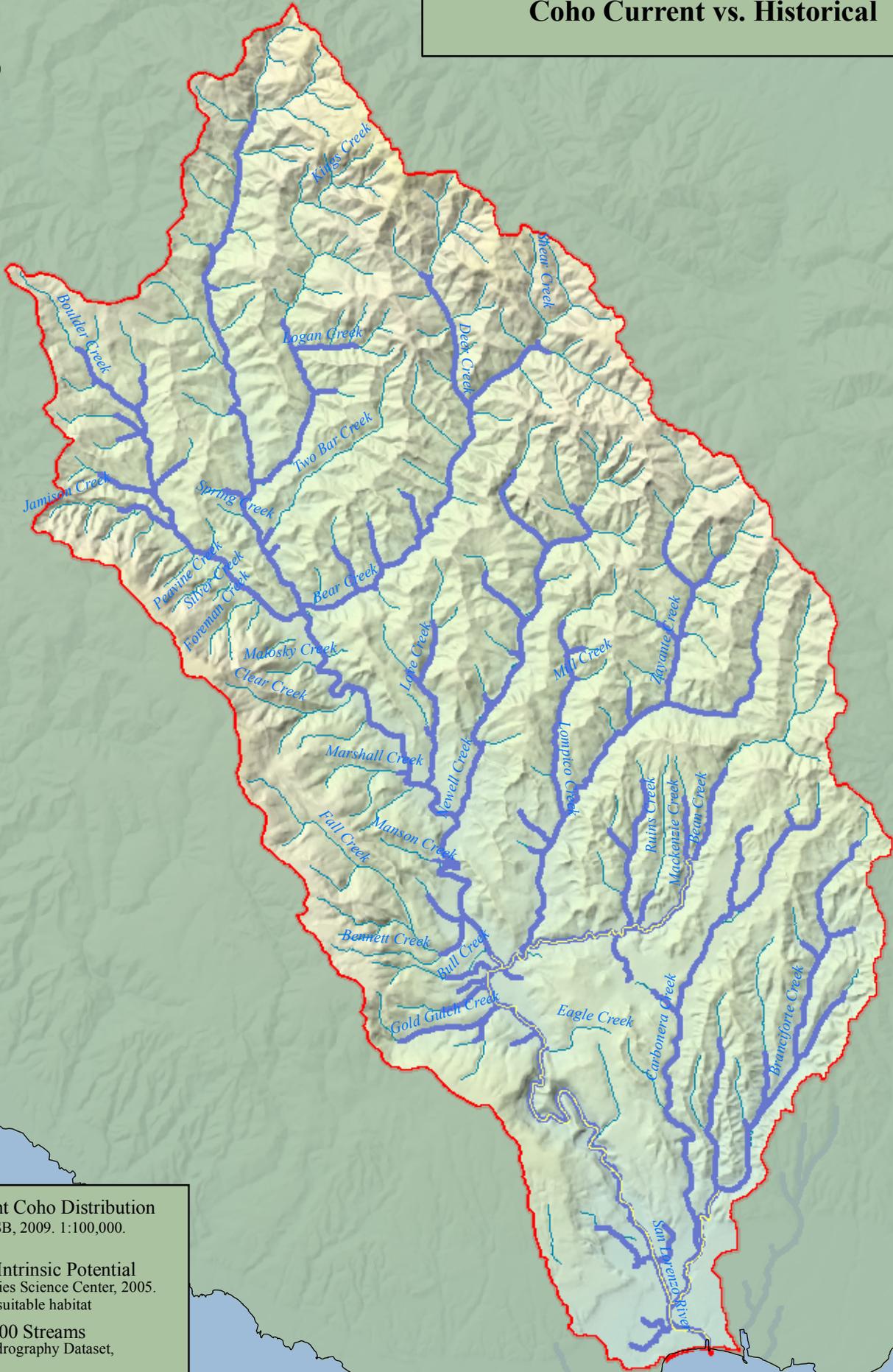




NMFS-SWR-HCD

September 2009

San Lorenzo River Watershed Coho Current vs. Historical



- Current Coho Distribution**
CDFG - NCNCR-ISB, 2009. 1:100,000.
- Coho Intrinsic Potential**
NMFS SWR Fisheries Science Center, 2005.
Potential historical suitable habitat
- 1:24,000 Streams**
USGS National Hydrography Dataset,
2004. 1:24,000
- San Lorenzo River Watershed**





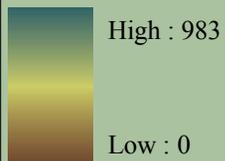
NMFS-SWR-HCD

March 2009

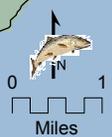
San Lorenzo River Watershed Elevation



San Lorenzo River Elevation (Meters)



USGS
10 Meter Digital
Elevation
Model (DEM)

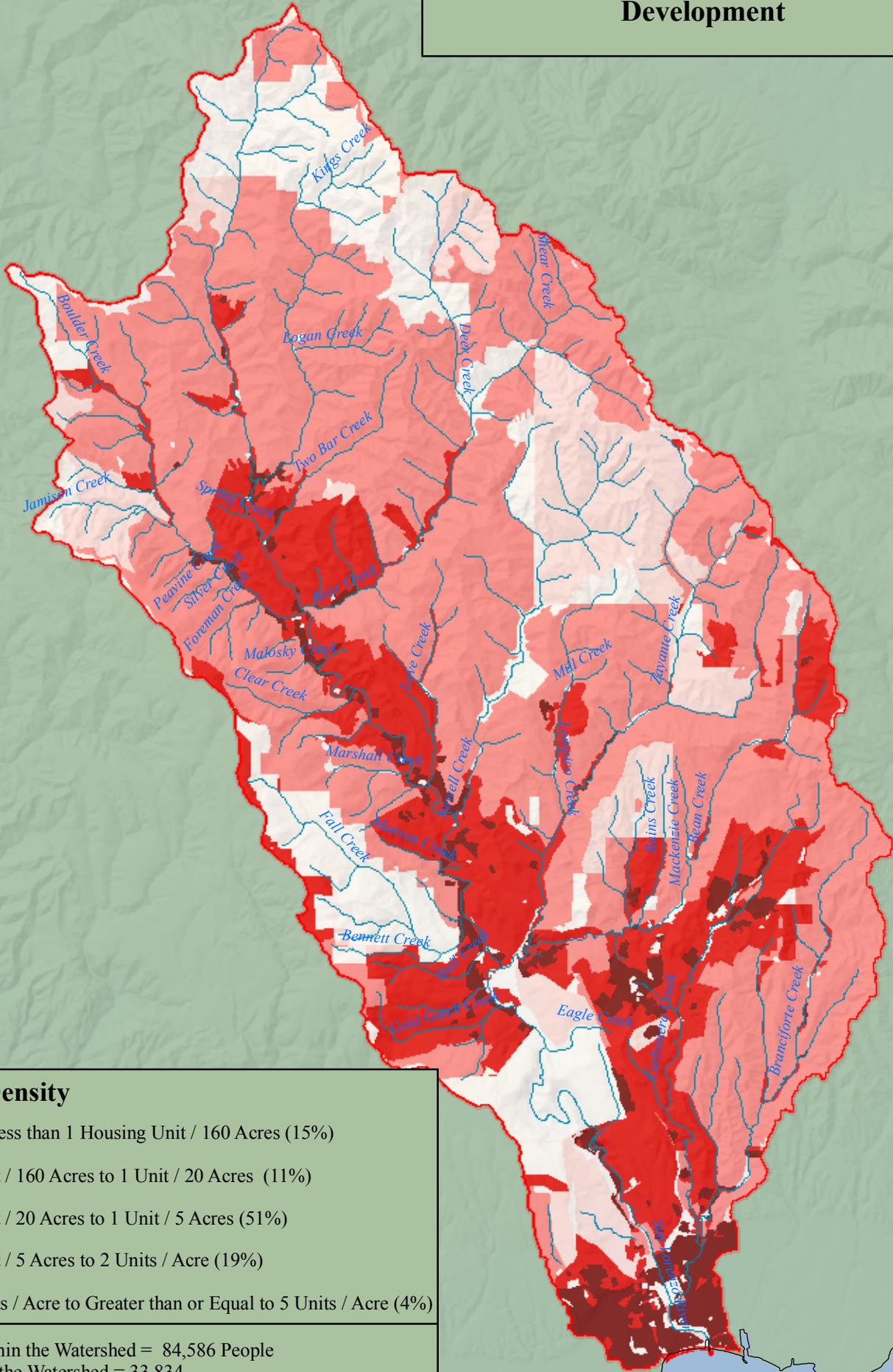




NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed Development



Housing Density

- 0 to Less than 1 Housing Unit / 160 Acres (15%)
- 1 Unit / 160 Acres to 1 Unit / 20 Acres (11%)
- 1 Unit / 20 Acres to 1 Unit / 5 Acres (51%)
- 1 Unit / 5 Acres to 2 Units / Acre (19%)
- 2 Units / Acre to Greater than or Equal to 5 Units / Acre (4%)

Population within the Watershed = 84,586 People

Houses within the Watershed = 33,834

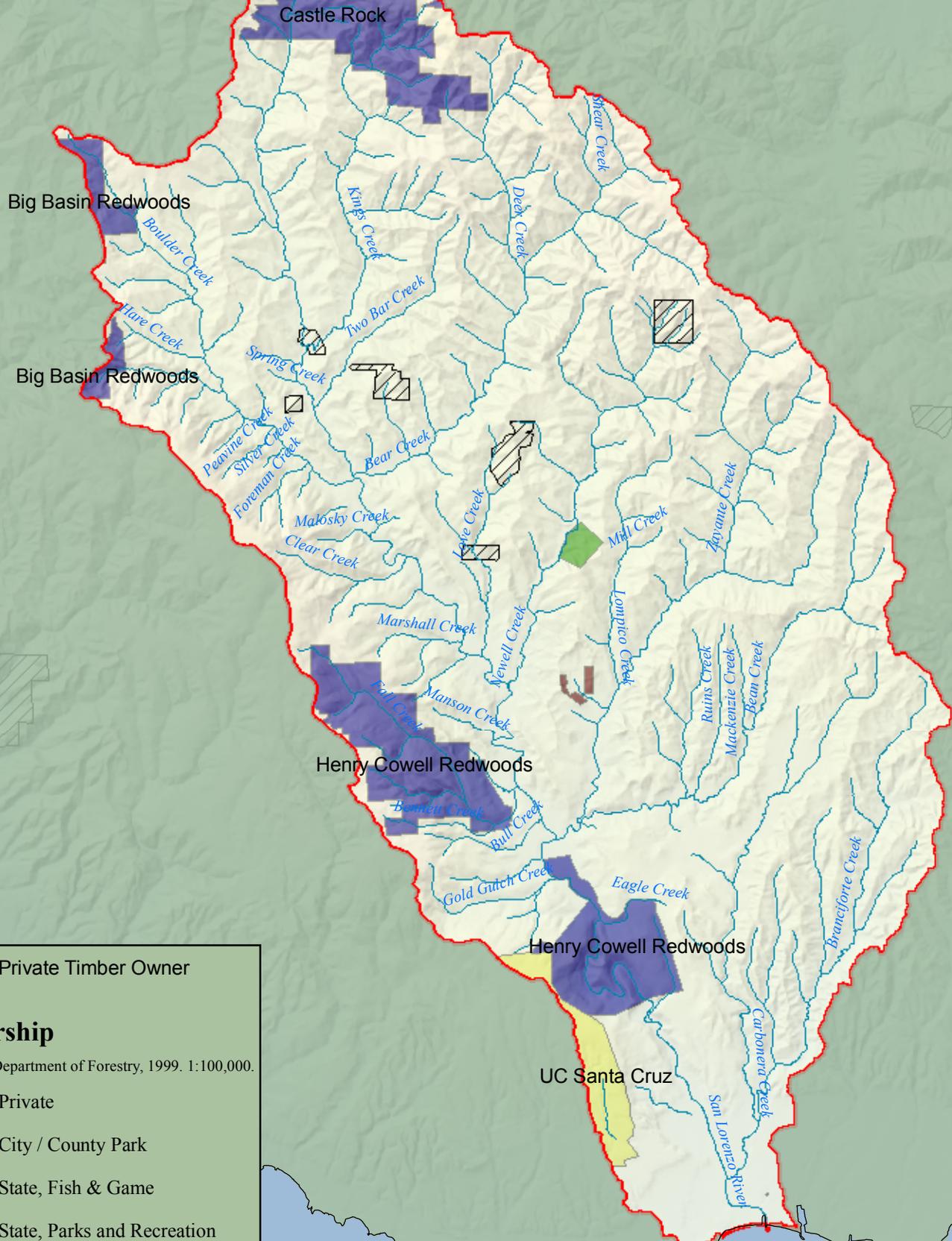
California Department of Forestry, 2003. 1:100,000.





NMFS-SWR-HCD
March 2009

San Lorenzo River Watershed Ownership



 Private Timber Owner

Ownership
California Department of Forestry, 1999. 1:100,000.

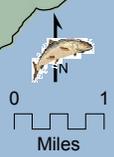
 Private

 City / County Park

 State, Fish & Game

 State, Parks and Recreation

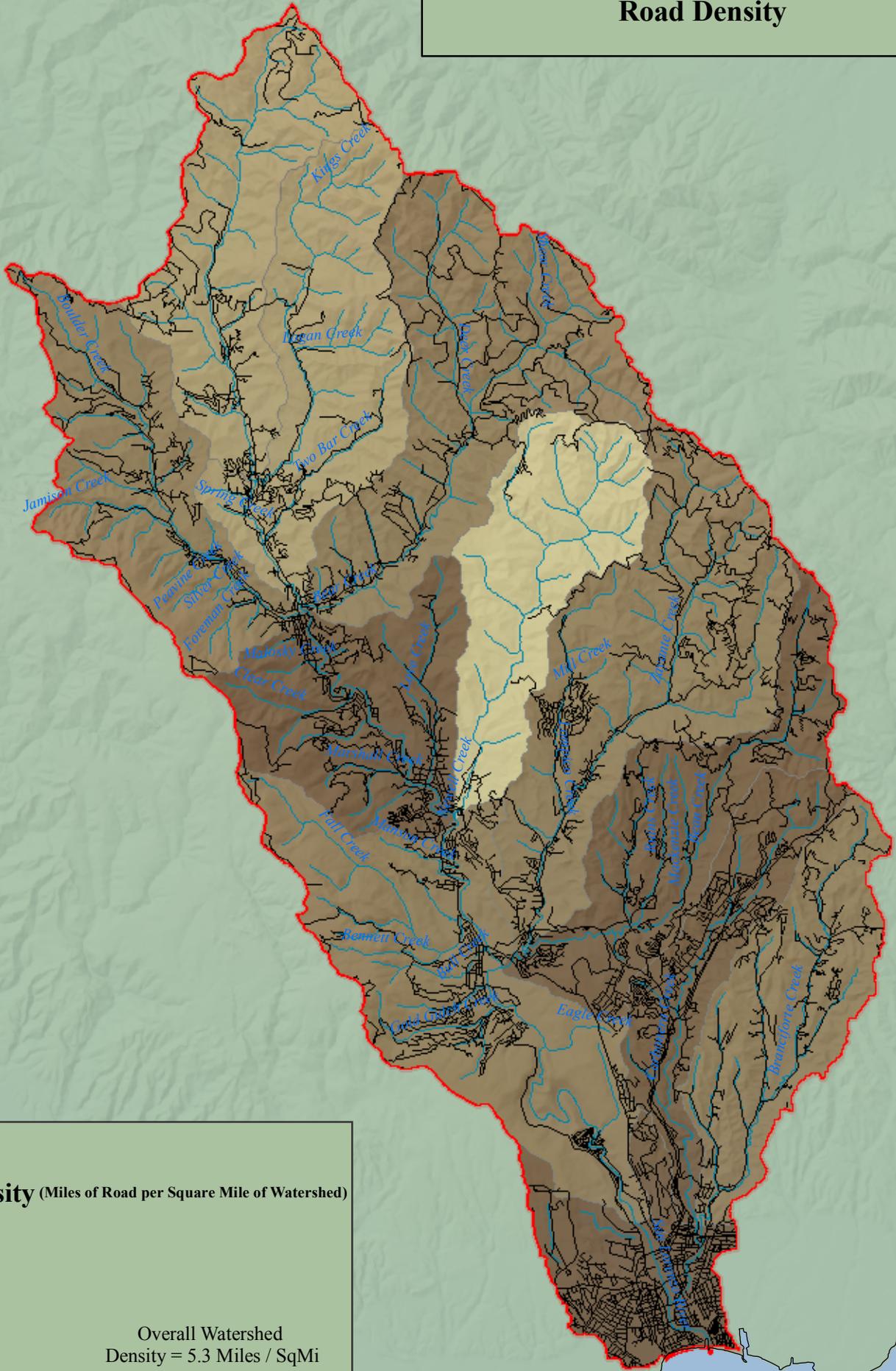
 State, University





NMFS-SWR-HCD
March 2009

San Lorenzo River Watershed Road Density

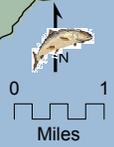


Road

Road Density (Miles of Road per Square Mile of Watershed)

0 - 1
1 - 3
3 - 4
4 - 6
6 - 16

Overall Watershed
Density = 5.3 Miles / SqMi

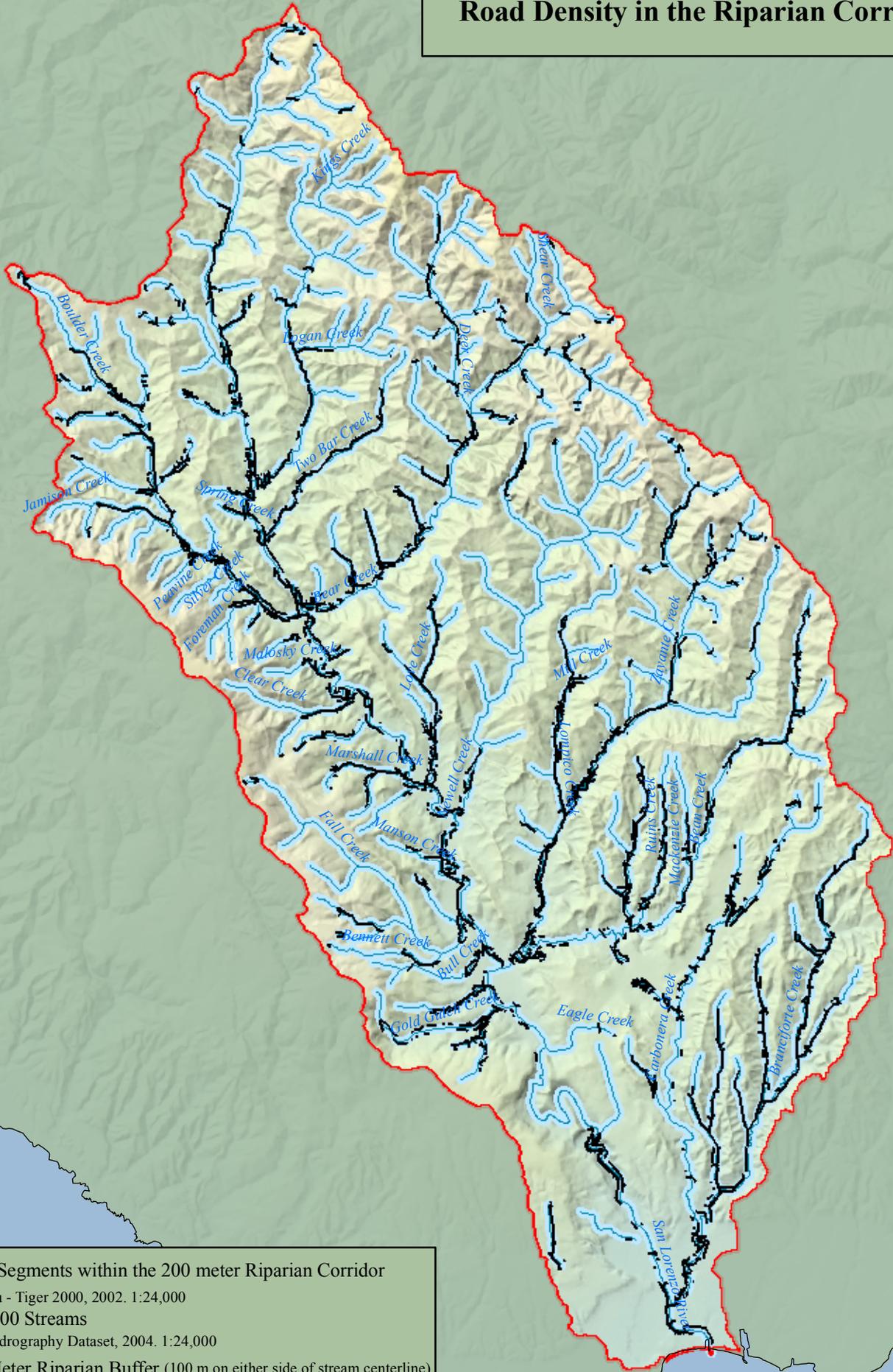




NMFS-SWR-HCD

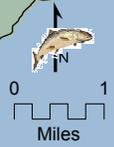
March 2009

San Lorenzo River Watershed Road Density in the Riparian Corridor



-  Road Segments within the 200 meter Riparian Corridor
U.S. Census Bureau - Tiger 2000, 2002. 1:24,000
-  1:24,000 Streams
USGS National Hydrography Dataset, 2004. 1:24,000
-  200 Meter Riparian Buffer (100 m on either side of stream centerline)

Overall Riparian Corridor Density = 6.2 Miles / SqMi of Corridor 17 of 29

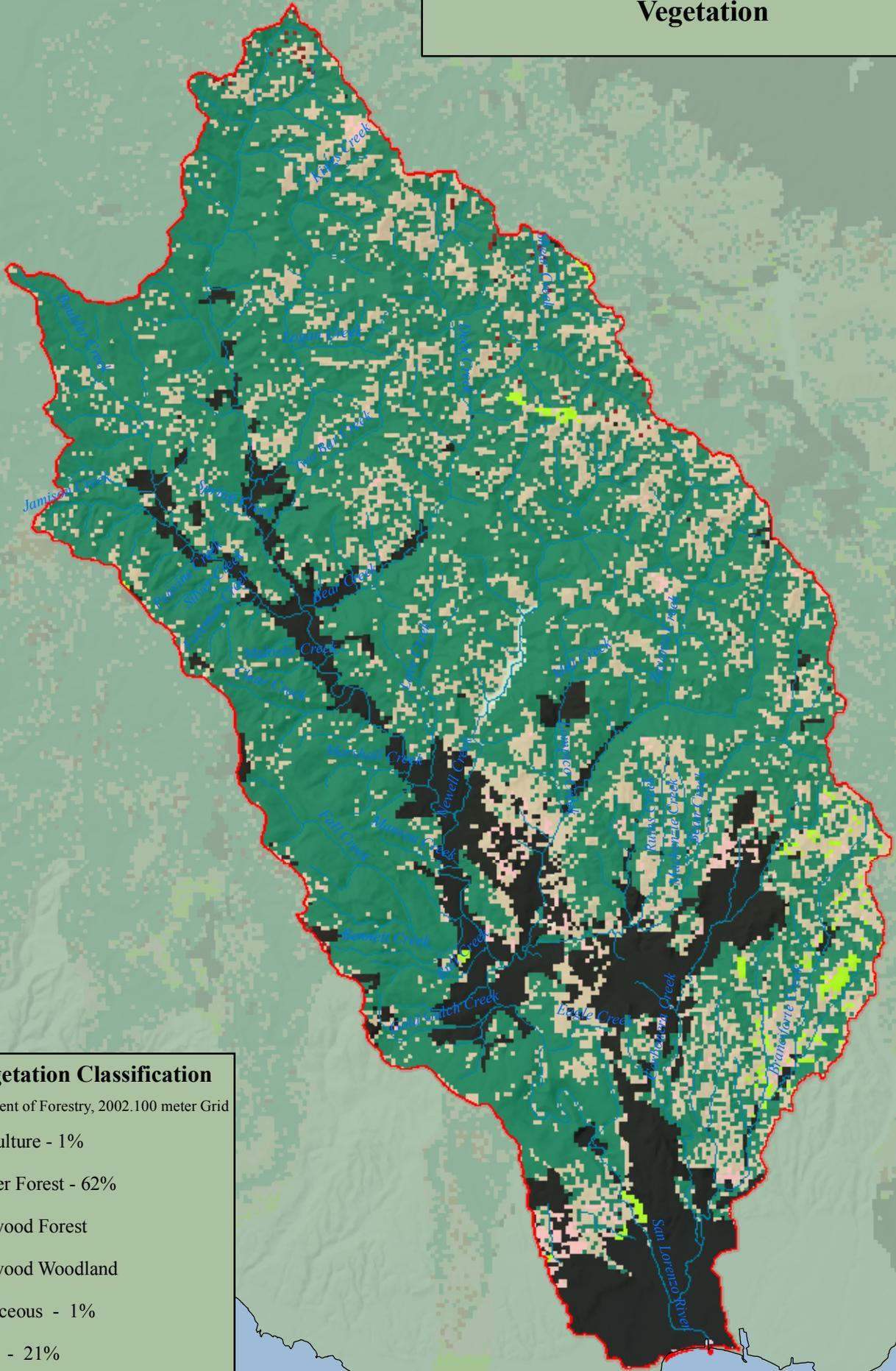




NMFS-SWR-HCD

March 2009

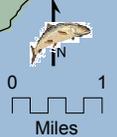
San Lorenzo River Watershed Vegetation



WHR13 Vegetation Classification

California Department of Forestry, 2002. 100 meter Grid

-  Agriculture - 1%
-  Conifer Forest - 62%
-  Hardwood Forest
-  Hardwood Woodland
-  Herbaceous - 1%
-  Shrub - 21%
-  Urban - 16%

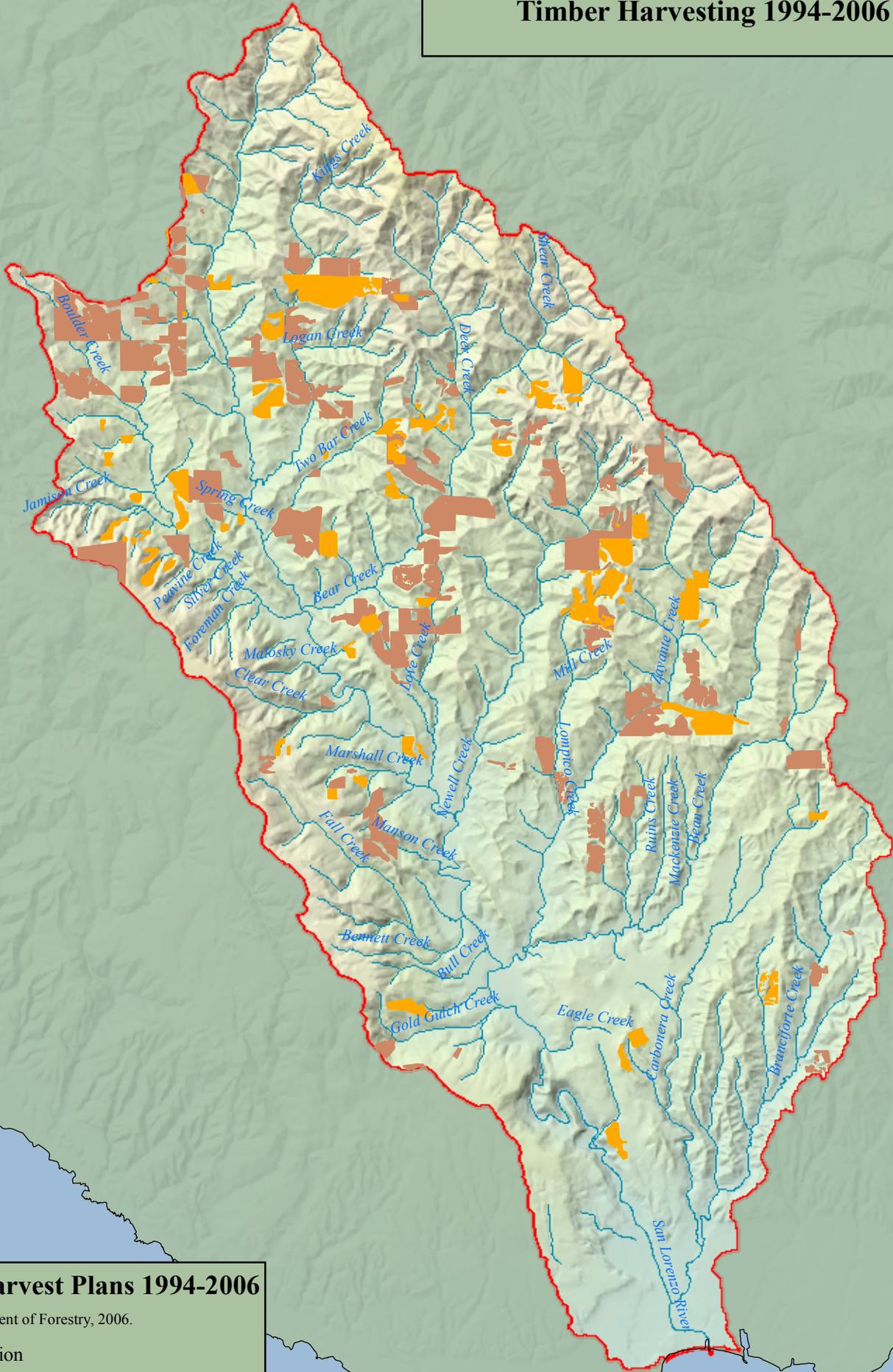




NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed Timber Harvesting 1994-2006



Timber Harvest Plans 1994-2006

California Department of Forestry, 2006.

-  Selection
-  Not Coded

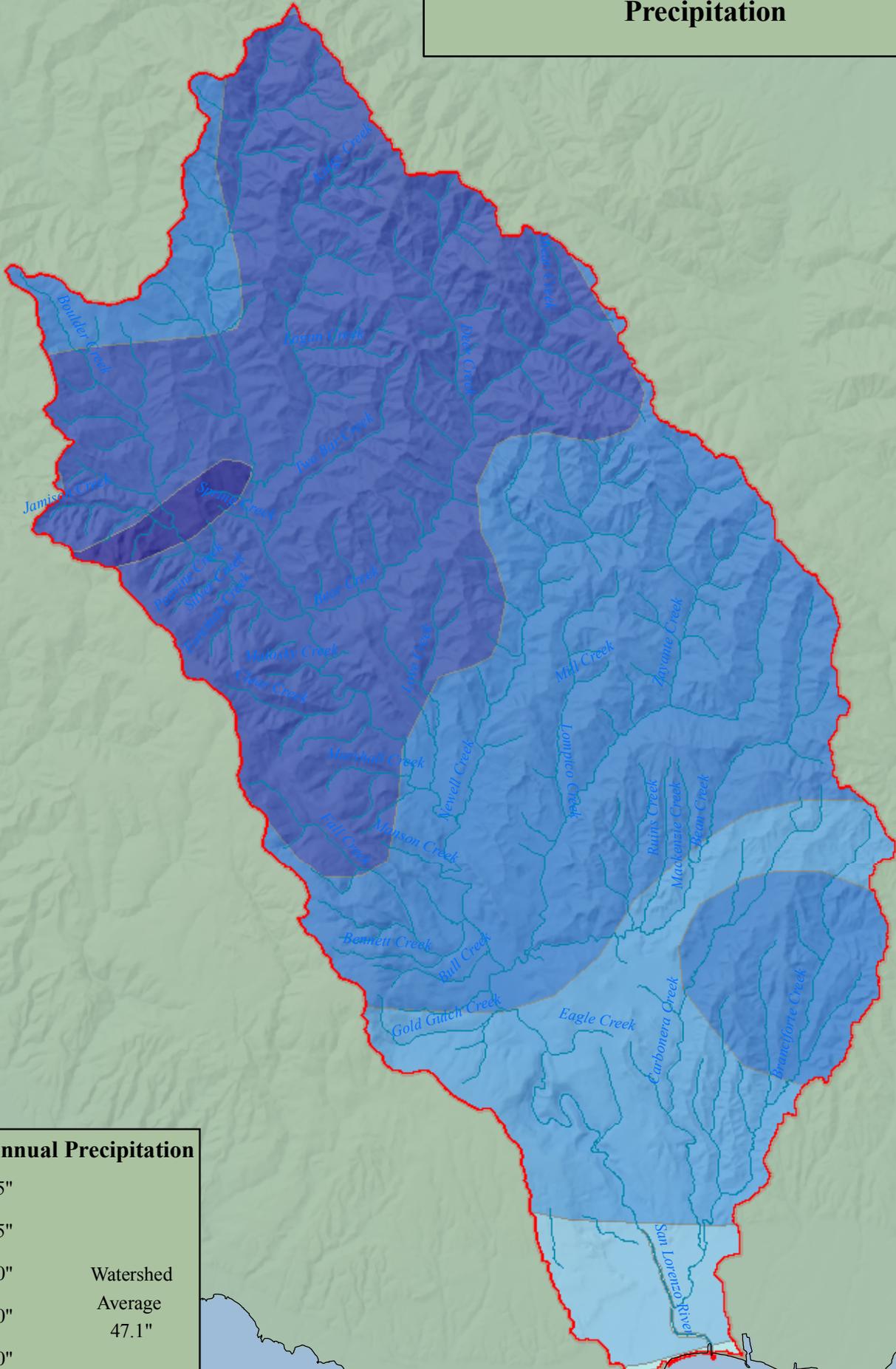




NMFS-SWR-HCD

March 2009

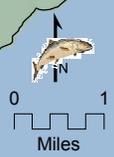
San Lorenzo River Watershed Precipitation



1900-1960 Annual Precipitation

Lightest Blue	to 22.5"
Light Blue	to 27.5"
Medium Blue	to 35.0"
Dark Blue	to 45.0"
Very Dark Blue	to 55.0"
Darkest Blue	to 65.0"

Watershed Average
47.1"

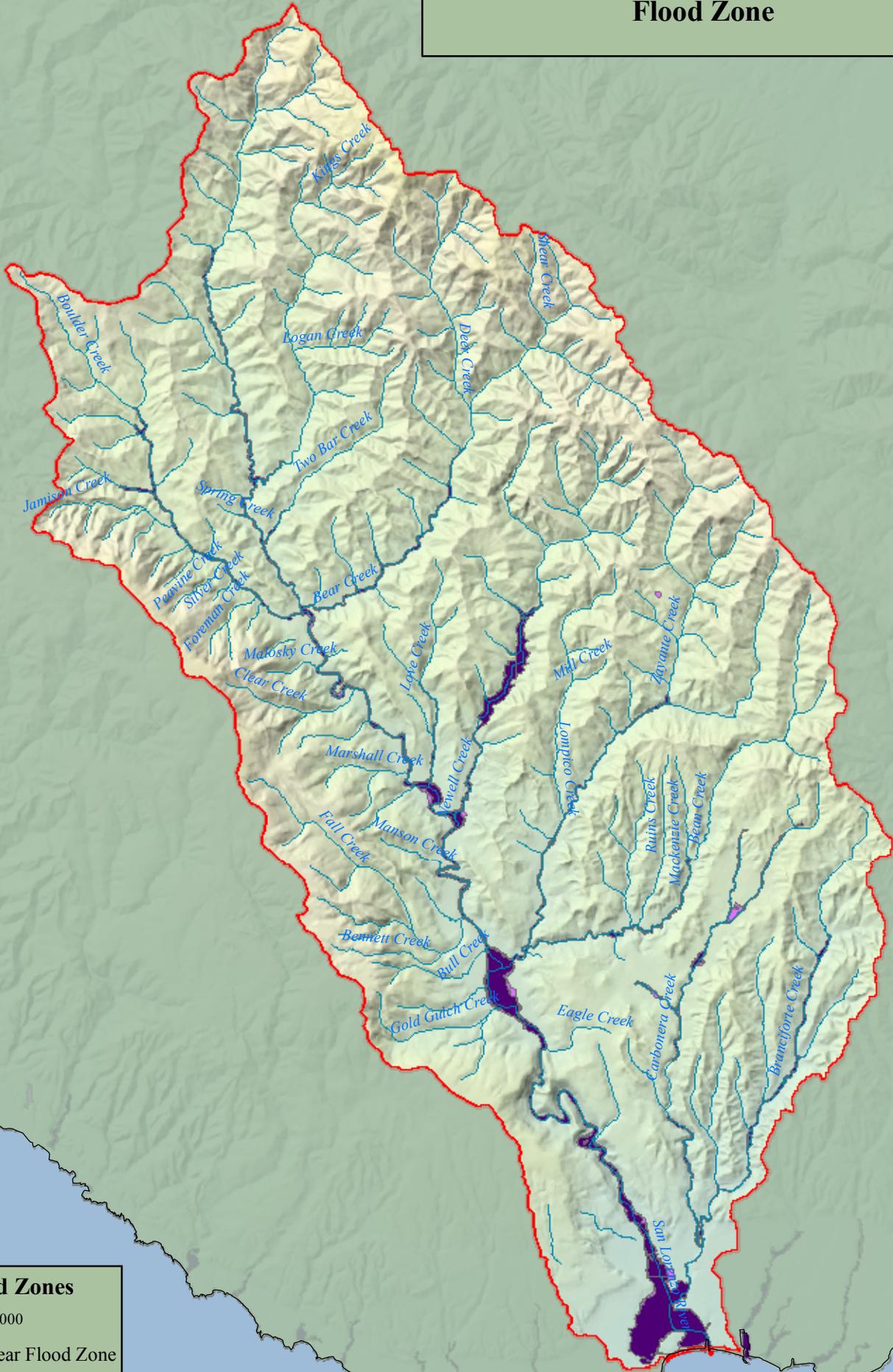




NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed Flood Zone



FEMA Flood Zones

FEMA, 1996. 1:24,000

 100 Year Flood Zone

 500 Year Flood Zone





NMFS-SWR-HCD

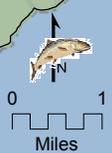
March 2009

San Lorenzo River Watershed Geologic Features



- Debris-flow Sources (mapped after 1/82 storm)
- Surficial Deposits
- Few Landslides
- Mostly Landslide

Circuit Rider
Productions, 2004.

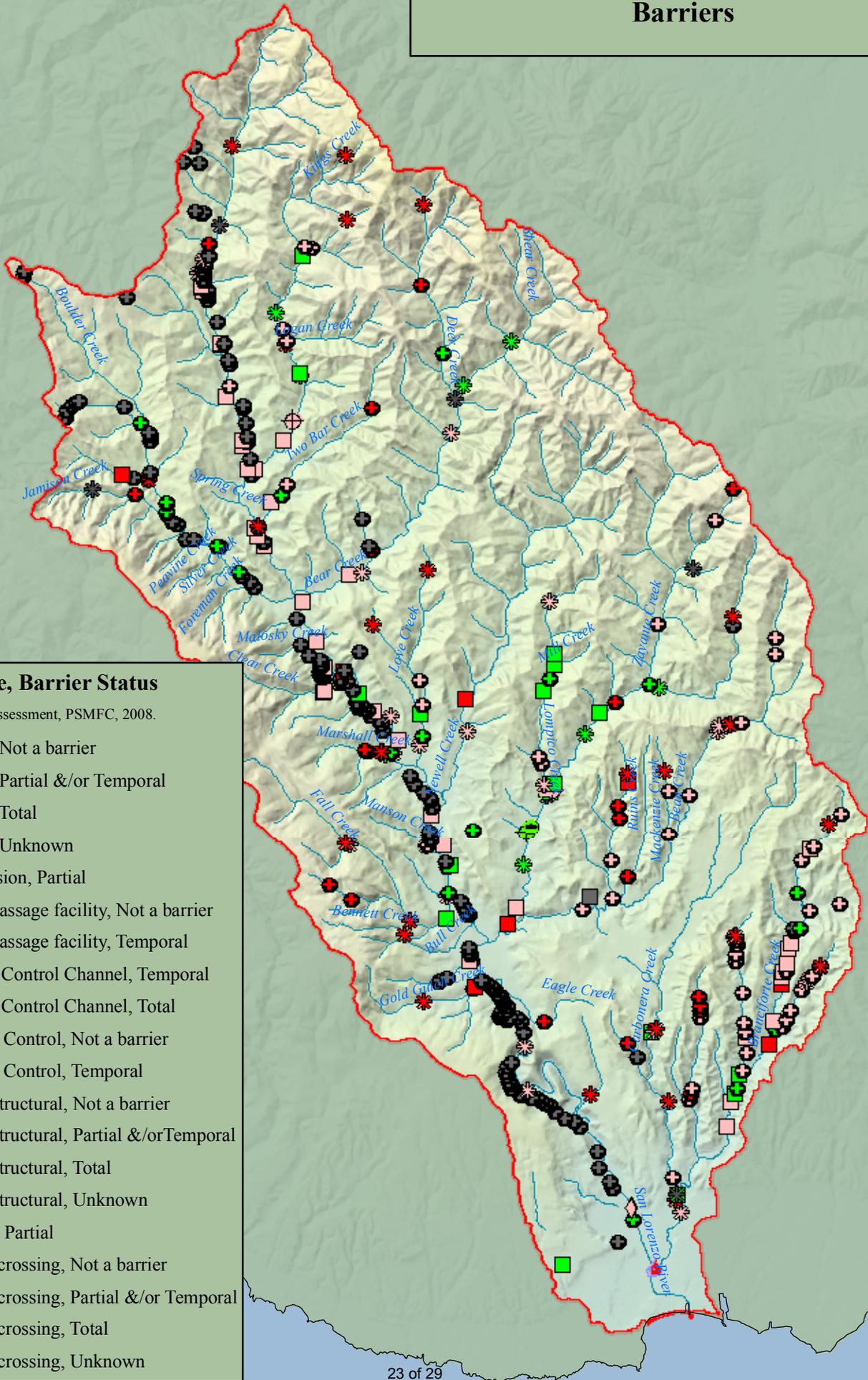




NMFS-SWR-HCD

March 2009

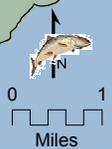
San Lorenzo River Watershed Barriers



Barrier Type, Barrier Status

CA Fish Passage Assessment, PSMFC, 2008.

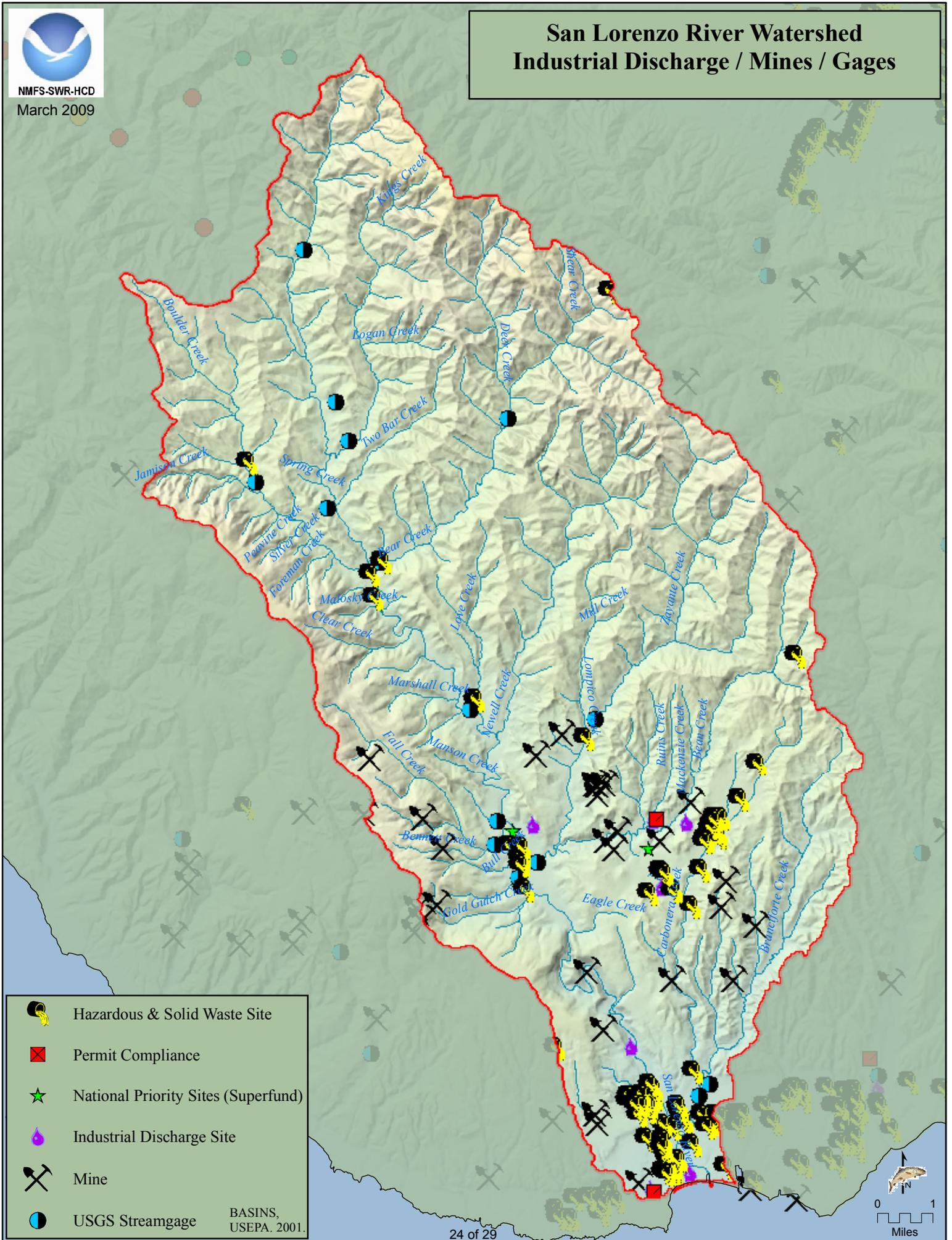
- Dam, Not a barrier
- Dam, Partial &/or Temporal
- Dam, Total
- Dam, Unknown
- ◇ Diversion, Partial
- ⊖ Fish passage facility, Not a barrier
- ⊖ Fish passage facility, Temporal
- ⊖ Flood Control Channel, Temporal
- ⊖ Flood Control Channel, Total
- ⊕ Grade Control, Not a barrier
- ⊕ Grade Control, Temporal
- ✱ Non-structural, Not a barrier
- ✱ Non-structural, Partial &/or Temporal
- ✱ Non-structural, Total
- ✱ Non-structural, Unknown
- ⊙ Other, Partial
- ⊕ Road crossing, Not a barrier
- ⊕ Road crossing, Partial &/or Temporal
- ⊕ Road crossing, Total
- ⊕ Road crossing, Unknown





NMFS-SWR-HCD
March 2009

San Lorenzo River Watershed Industrial Discharge / Mines / Gages

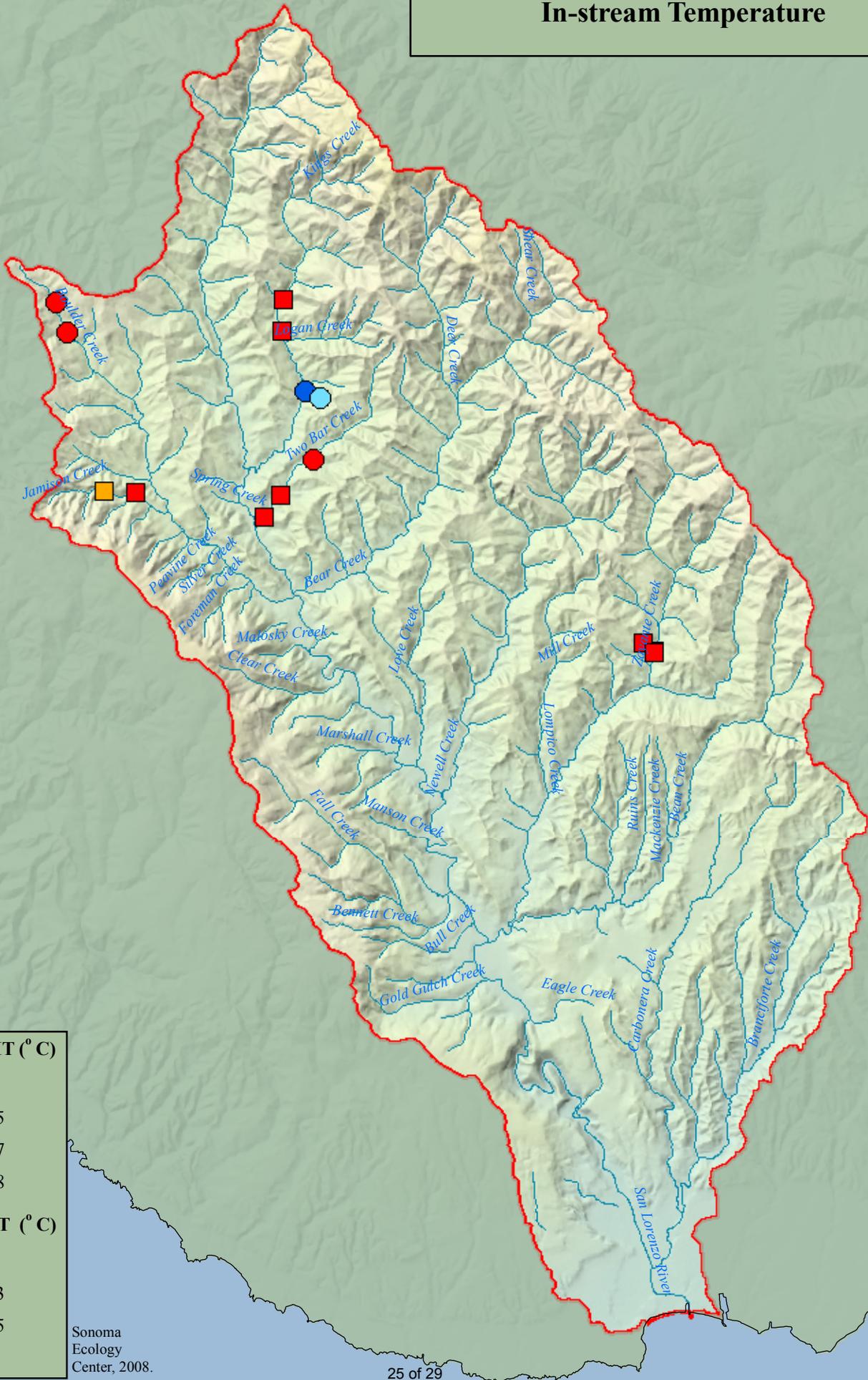




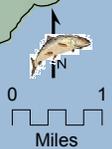
NMFS-SWR-HCD

March 2009

San Lorenzo River Watershed In-stream Temperature



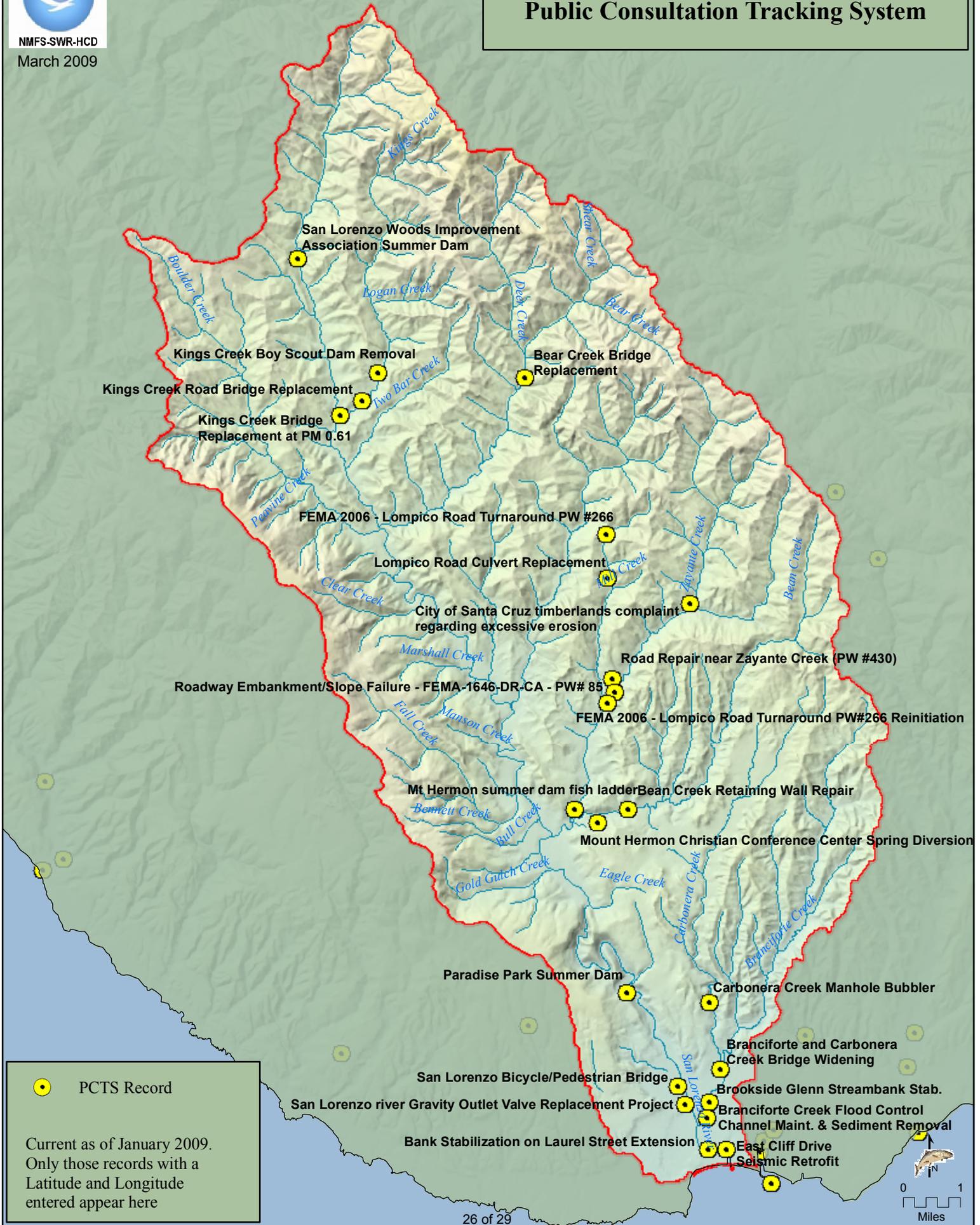
Sonoma Ecology Center, 2008.





NMFS-SWR-HCD
March 2009

San Lorenzo River Watershed Public Consultation Tracking System



References

Watersheds

calwater_ver2_2
vector digital data
California Watersheds (CALWATER 2.2)
California Department of Forestry and Fire
Protection
1:24,000
1999
<http://www.ca.nrcs.usda.gov/features/calwater/>

Distribution

Coho_Distribution
vector digital data
Eric Haney - CDFG - NCNCR-ISB
1:100,000
2006
Draft
<http://www.calfish.org/>

CCC_Steelhead_Distribution_06_2005
vector digital data
National Marine Fisheries Service (NOAA
Fisheries)
1:100,000
August 2005
<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm>

Critical Habitat

CCC_Steelhead_ch_06_2005
vector digital data
National Marine Fisheries Service (NOAA
Fisheries)
1:100,000
August 2005
<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm>

Hydrology

1806 NHD Flowline
vector digital data
National Hydrography Dataset High Resolution
United States Geological Survey
1:24,000
2004

Dams

Dams_2005
vector digital data

Goslin, M.,
Santa Cruz Fishery Science Center
National Marine Fisheries Service
2005
<http://swfsc.noaa.gov/>

Barriers and Diversions

pad_september2006
vector digital data
California Fish Passage Assessment Database
Pacific States Marine Fisheries Commission
September 2006
<http://www.calfish.org/>

Gaging Stations

gages
vector digital data
Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)
United States Environmental Protection Agency
2001
<http://www.epa.gov/waterscience/basins/>

Total Maximum Daily Load (TMDL)

R2_rivers_2002_303d
vector digital data
State Water Resources Control Board (SWRCB)
California Environmental Protection Agency
2002

Precipitation

California Mean Annual Precipitation Zones, 1900-
1960
Vector digital data
California Department of Forestry and Fire
Protection 1990
1:100,000
<http://frap.cdf.ca.gov/data/frapgisdata/select.asp>

Roads

TGRR00
vector digital data
Roads
United States Census Bureau
1:100000
2000
<http://www.census.gov/geo/www/tiger/>

Elevation

USGS DEM

10 Meter Digital Elevation Model (DEM)

Earth Resources and Science (EROS)

United States Geological Survey

<http://edc.usgs.gov/products/elevation/dem.html>

Vegetation

fveg02_2

raster digital data

Multi-source Land Cover Data

California Department of Forestry and Fire
Protection

100 meter Grid

2002

<http://frap.cdf.ca.gov/data/frapgisdata/select.asp>

Erodability

Highly Erodible Watersheds

vector digital data

Dept. of Conservation, Division of Mines &
Geology

Minimum Mapping Unit: Approximately 8000

Acres (20,000 Hectares)

1994

<http://gis.ca.gov/catalog/BrowseRecord.epl?id=380>

Land Ownership

GOVTOWNA

vector digital data

California Department of Forestry Forest and
Rangeland Resources Assessment Program
Bureau of Land Management Surface Management

1:100,000

September 1999

<http://old.casil.ucdavis.edu/casil/gis.ca.gov/teale/govtowna/>

Developed Area and Population

Census 2000 Block Data (Migrated)

vector digital data

California and the Department of Forestry and Fire
Protection, FRAP

2003

1:100,000

<http://frap.cdf.ca.gov/data/frapgisdata/select.asp>

Imagery

Google Maps

remote-sensing image

raster digital data

2008

Historic Suitable Habitat (Coho, Steelhead)

Intrinsic Potential Model

vector digital data

NOAA Fisheries

Santa Cruz Laboratory, Santa Cruz, CA

2005

<http://swfsc.noaa.gov/>

Toxins

Hazardous_&_solid_waste_sites

Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)

vector digital data

United States Environmental Protection Agency
2001

<http://www.epa.gov/waterscience/basins/>

mines

vector digital data

Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)

United States Environmental Protection Agency
2001

<http://www.epa.gov/waterscience/basins/>

Industrial_discharge_sites

vector digital data

Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)

United States Environmental Protection Agency
2001

<http://www.epa.gov/waterscience/basins/>

Permit_compliance

vector digital data

Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)

United States Environmental Protection Agency
2001

<http://www.epa.gov/waterscience/basins/>

Priority_list_sites

vector digital data

Better Assessment Science Integrating point and
Nonpoint Sources (BASINS)

United States Environmental Protection Agency
2001

<http://www.epa.gov/waterscience/basins/>

Records Management System (RMS)

Public Consultation Tracking System (PCTS)

National Marine Fisheries Service

Oracle Databases

2008

Flood Zones

FEMA Flood Insurance Maps 1996

Vector digital data

Federal Emergency Management Agency

Q3 Flood Data Program

1996

<http://www.fema.gov/>

Fully Appropriated Streams

Declaration of Fully Appropriated Stream Systems

State Water Resources Control Board

State of California

November 19, 1998

<http://www.waterrights.ca.gov/html/faslist.htm>