



*Waddell Creek Watershed*

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
15,426 Acres	1806001	3304110101	Waddell Creek (7824 Acres)
2822 Hectares	4th Field HUC	3304110102	East Waddell Creek (7602 Acres)
24 Square Miles			
3304			
<b>Location</b>			
Santa Cruz County			
San Mateo County			

Species Potential	Miles of Streams with Species Present
Central California Coast <b>Steelhead</b> Santa Cruz Mountains Diversity Stratum - Potentially Independent Population	<u>Steelhead</u> 9 NOAA Fisheries, Critical Habitat Redesignation, 2005
Central California Coast <b>Coho</b> Santa Cruz Mountains Diversity Stratum - Dependent Population	<u>Coho</u> 7 CDFG, Coho Distribution, May 2007

Critical Habitat	Miles of Stream
Central California Coast Steelhead	9 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)

Miles of Waterway <sup>A</sup>	Miles	Number of Dams <sup>C</sup>
Naturally Occurring Waterways		<u>2</u>
Intermittent Stream	6	1 - Impassable
Perennial Stream	39	1 - Not a Barrier
Artificial Path	1	

<sup>C</sup>Passage Assessment Database,  
Pacific States Marine Fisheries Commission, 2008

<sup>A</sup>USGS National Hydrography Dataset, High Resolution, 2004. 1:24,000

USGS Gaging Stations <sup>B</sup>	Number of Barriers <sup>C</sup>
	<u>26</u>
	2 Dams
	11 Road Crossings
	12 Natural Barriers (Chutes, Falls, Log Jams, etc. (6 Impassable))

<sup>C</sup>Passage Assessment Database,  
Pacific States Marine Fisheries Commission, 2008

EPA Total Maximum Daily Load Classification (TMDL) <sup>1</sup>
Low Priority - Nutrients (East Branch Waddell Creek)
Sources: Municipal point sources

<sup>1</sup>State Water Resources Control Board, 2003

Average Annual Precipitation <sup>E</sup>	Average Annual Precipitation Range <sup>E</sup>
42.4"	27.5 - 55"

<sup>E</sup>California Mean Annual Precipitation Zones, 1900-1960, CA Department of Forestry, 1990



<b>Roads<sup>A</sup></b>		Miles
Roads in Watershed		
Secondary and connecting road, state highways		6
Local, neighborhood, and rural road, city street, unseparated		41
Vehicular Trail, 4WD		0
Total Miles		48

<b>Road Density</b>		
Miles of Roads per SqMi of Watershed		2.0
Miles of Roads per SqMi of 100m Riparian Buffer*		2.3

\*Buffer is 100 meters on either side of the stream centerline  
<sup>A</sup>U.S. Census Bureau - Tiger 2000, 2002. 1:24,000

<b>Slope<sup>D</sup></b>	Acres	Percent of watershed
Lands of 0-2 percent slope	146	1%
Lands of 2-4 percent slope	94	1%
Lands of 4-10 percent slope	540	4%
Lands of 10-15 percent slope	736	5%
Lands of 15-30 percent slope	3,714	24%
Lands of 30-60 percent slope	7,311	47%
Lands of 60-100 percent slope	2,774	18%
Lands of 100-117 percent slope	109	1%

<b>Elevation Range</b>	0 - 2487 ft.	0 - 758 m
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<sup>D</sup>Slope derived from USGS 10 meter Digital Elevation Models (DEM's)

<b>Vegetation<sup>G</sup></b>	Acres	Percent of watershed
Agriculture	10	0%
Annual grassland	49	0%
Conifer Forest		
Closed Cone-Pine-Cypress	1,443	9%
Redwood	11,626	75%
Unknown Conifer	91	1%
Shrub	2,145	14%
Urban	37	0%
Water	10	0%

<sup>G</sup>Multi-source Land Cover Data (2002 v2), CA Department of Forestry, 2002. 100 meter Grid

<b>Land Ownership<sup>H</sup></b>	Acres	Percent of watershed
Private	2,222	14%
State (Parks & Recreation)	13,203	86%

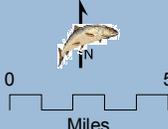
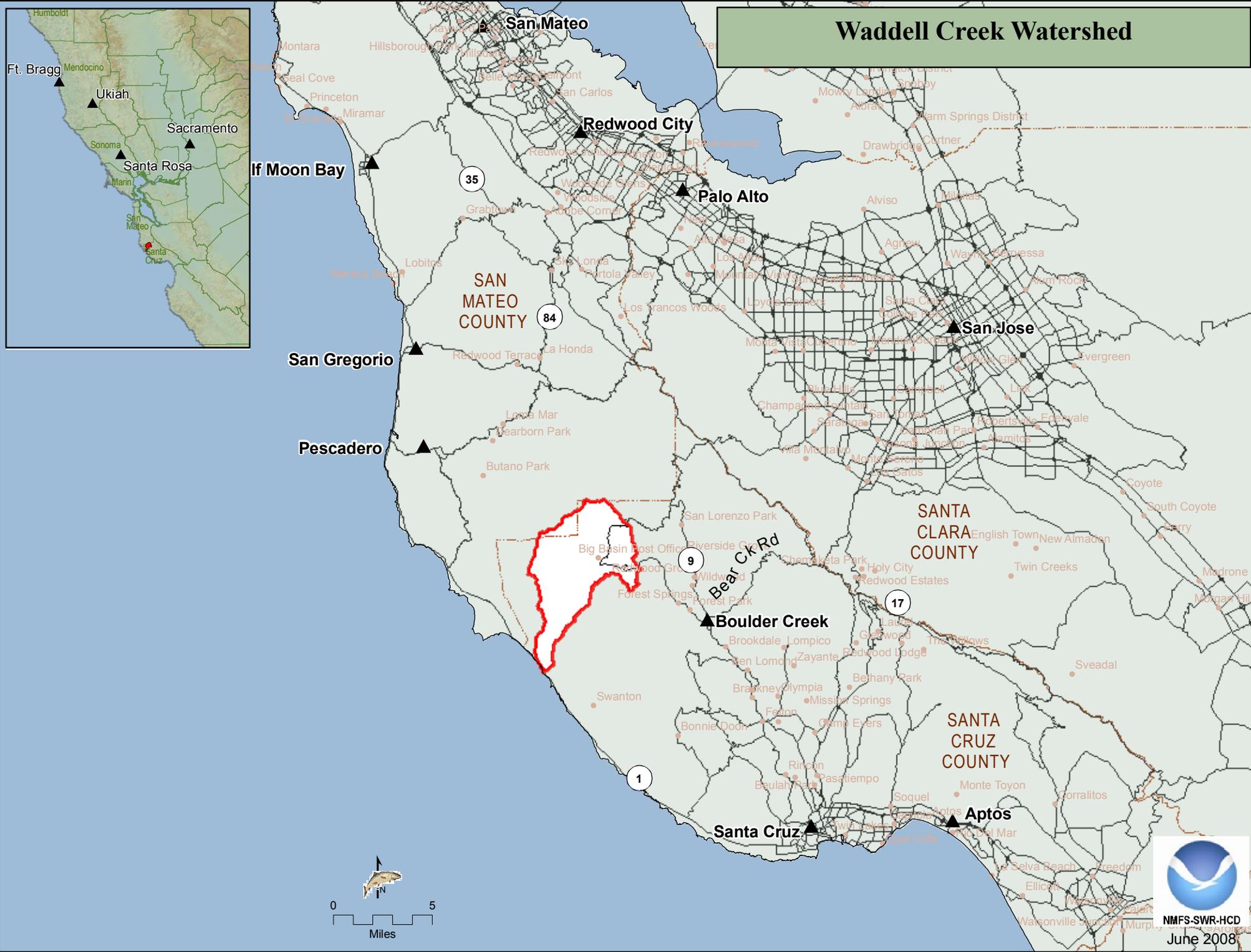
<sup>H</sup>Management Landscape, CA Department of Forestry, 2002

<b>Population<sup>I</sup></b>	<b>Housing<sup>I</sup></b>
Total Population within the watershed -- 119 People	Total Housing Units within the watershed -- 59 Houses
	Housing Density
	0 to Less than 1 Housing Unit / 160 Acres 88%
	1 Unit / 160 Acres to 1 Unit / 20 Acres 11%
	1 Unit / 20 Acres to 1 Unit / 5 Acres 1%
	1 Unit / 5 Acres to 2 Units / Acre
	2 Units / Acres to Greater than or Equal to 5 Units / Acre

<sup>I</sup>Census 2000 Block Data (Migrated), CA Department of Forestry, 2003



# Waddell Creek Watershed

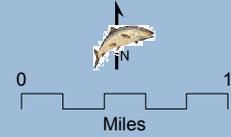




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# Waddell Creek Watershed

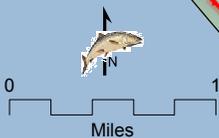
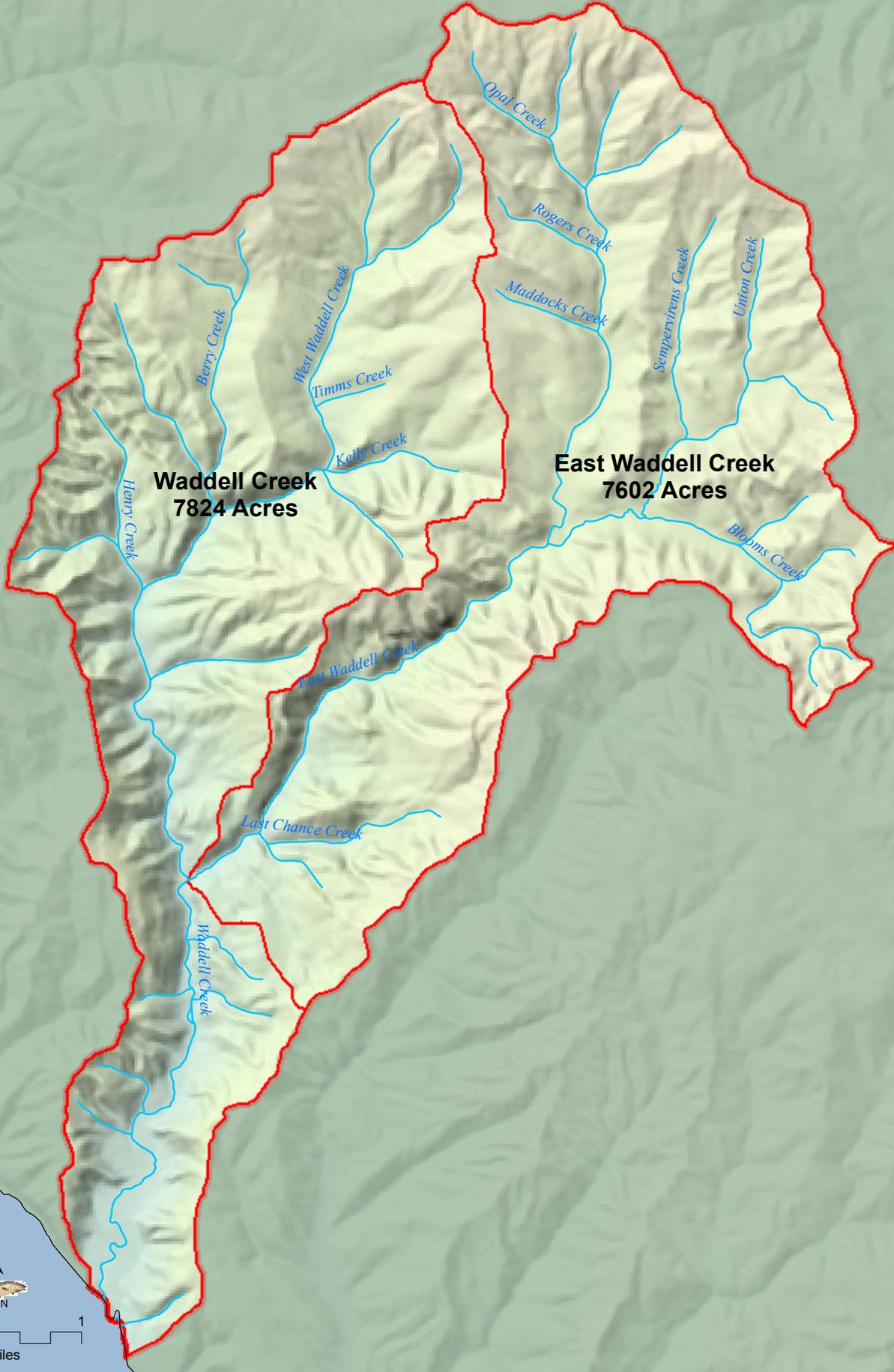




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# Waddell Creek Watershed CalWater Planning Watersheds

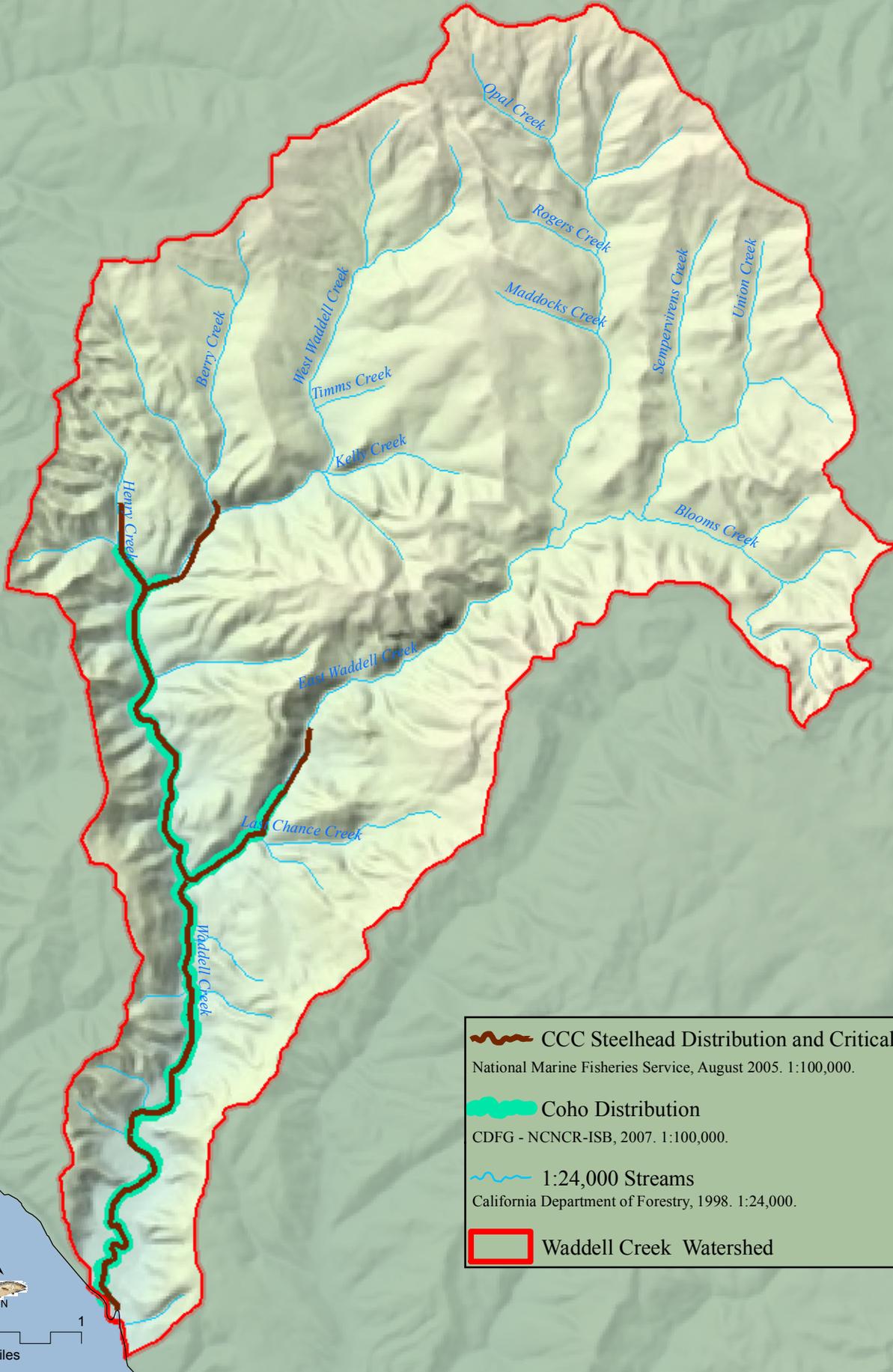




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# Waddell Creek Watershed Fish Distribution and Critical Habitat

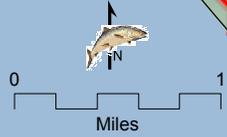


 CCC Steelhead Distribution and Critical Habitat  
National Marine Fisheries Service, August 2005. 1:100,000.

 Coho Distribution  
CDFG - NCNCR-ISB, 2007. 1:100,000.

 1:24,000 Streams  
California Department of Forestry, 1998. 1:24,000.

 Waddell Creek Watershed

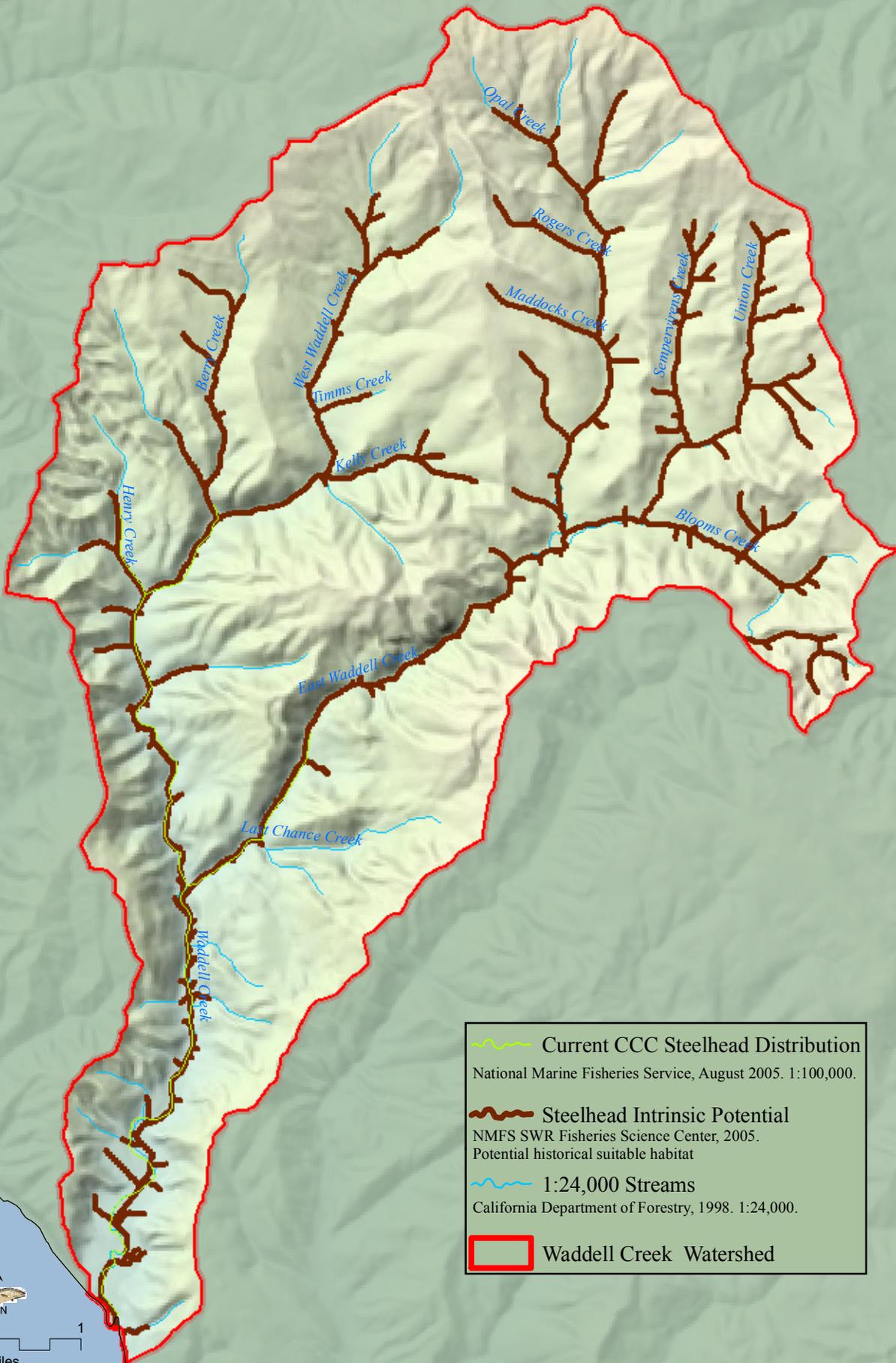




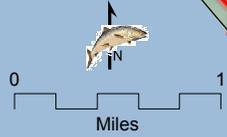
NMFS-SWR-HCD

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# Waddell Creek 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  
California Department of Forestry, 1998. 1:24,000.
- Waddell Creek Watershed

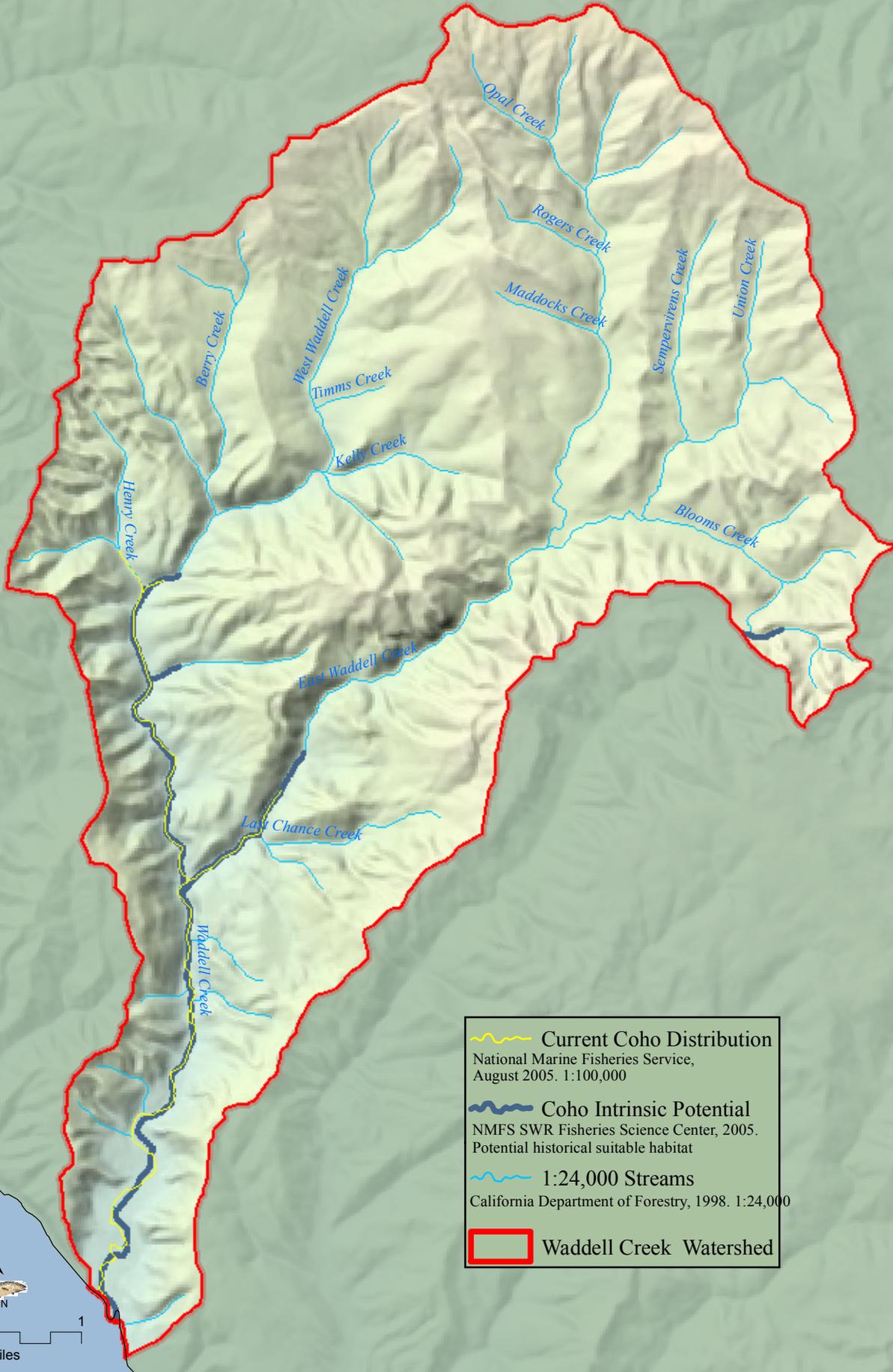




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# Waddell Creek Watershed Coho Current vs. Historical

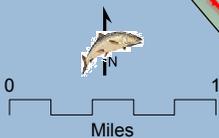


 Current Coho Distribution  
National Marine Fisheries Service,  
August 2005. 1:100,000

 Coho Intrinsic Potential  
NMFS SWR Fisheries Science Center, 2005.  
Potential historical suitable habitat

 1:24,000 Streams  
California Department of Forestry, 1998. 1:24,000

 Waddell Creek Watershed

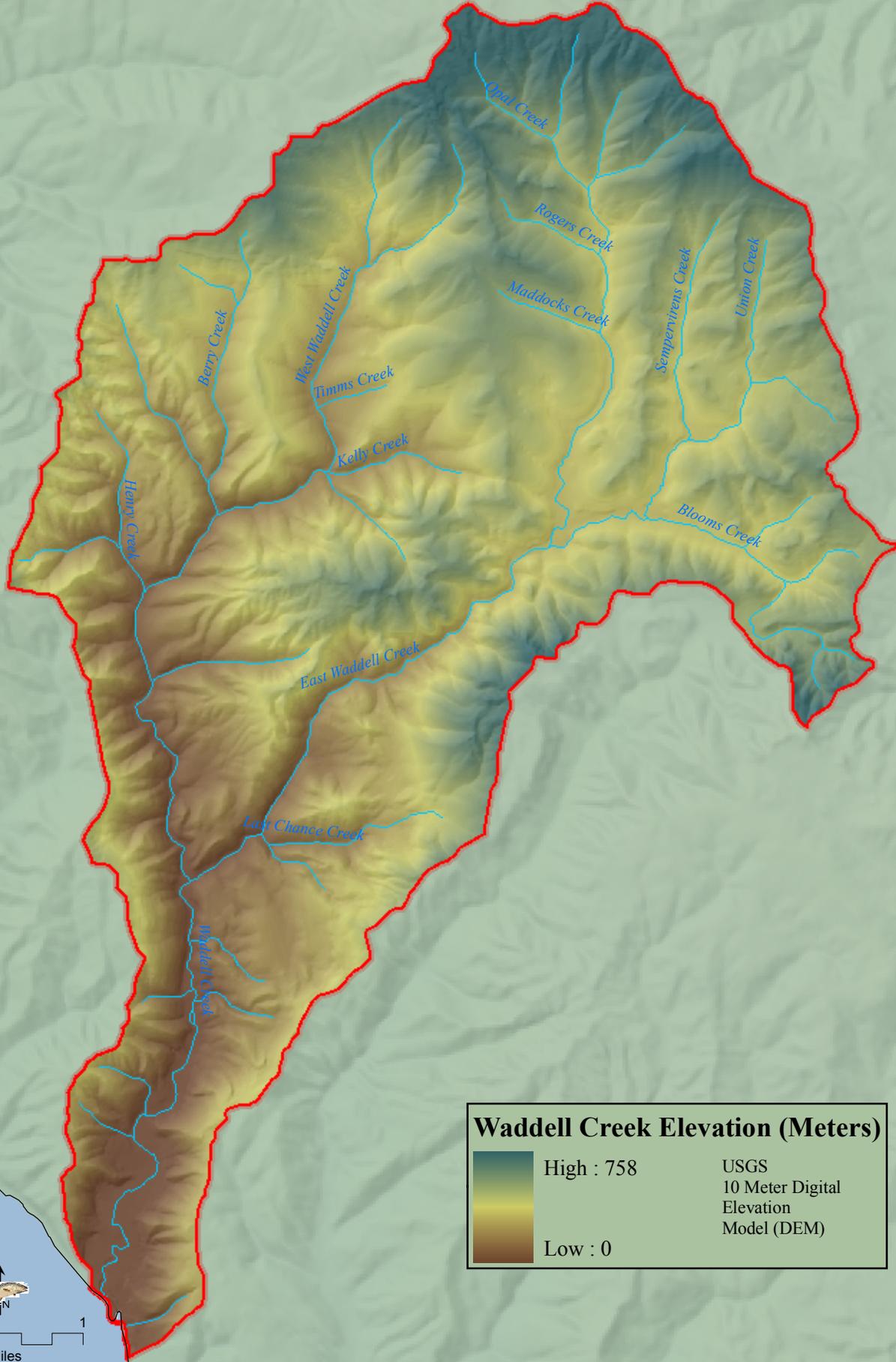




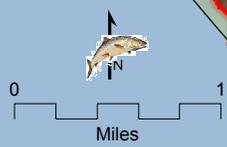
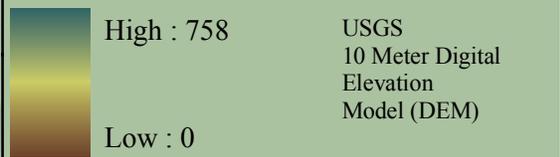
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# Waddell Creek Watershed Elevation



## Waddell Creek Elevation (Meters)

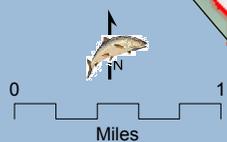
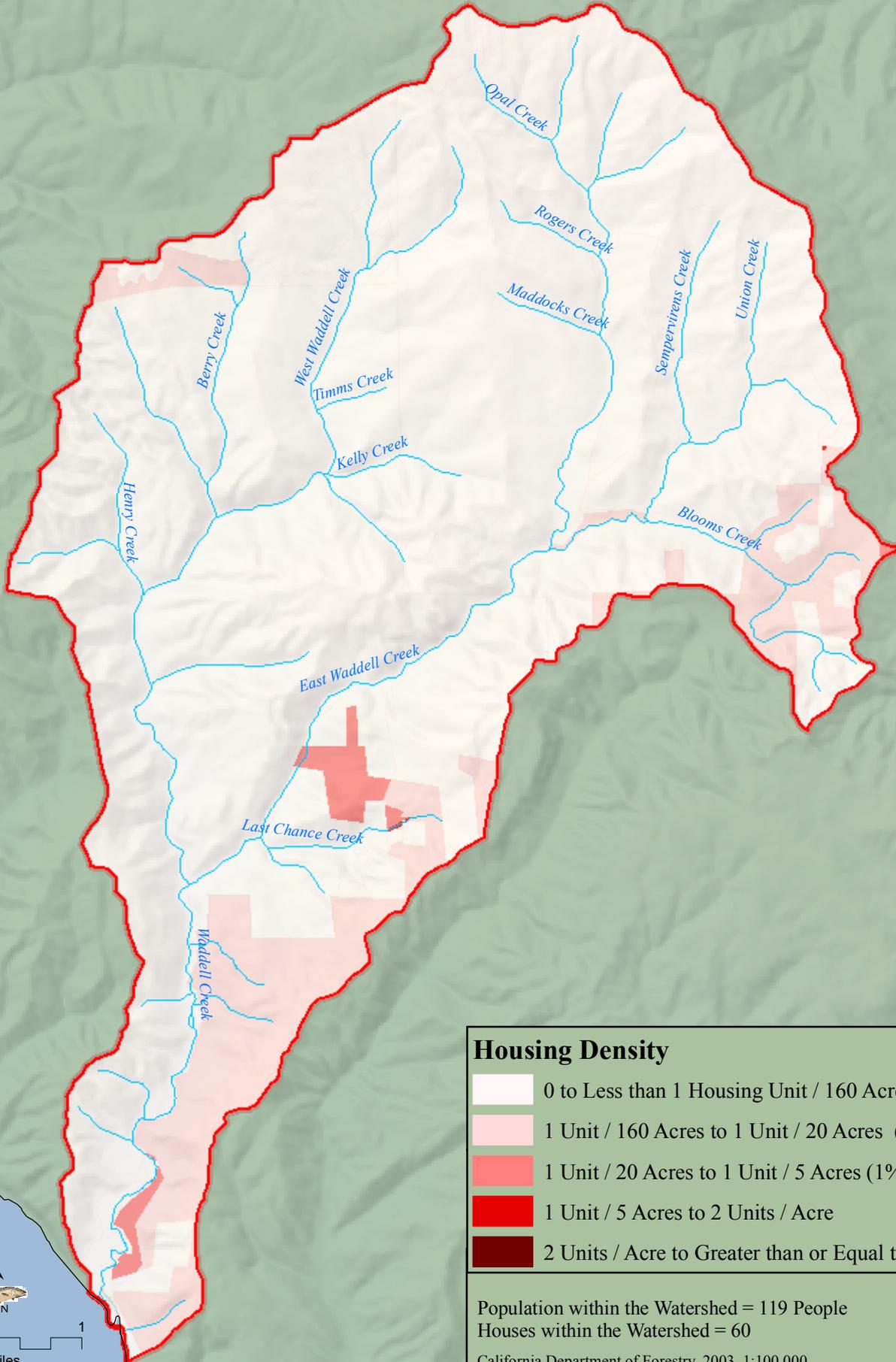




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# Waddell Creek Watershed Development

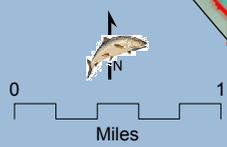
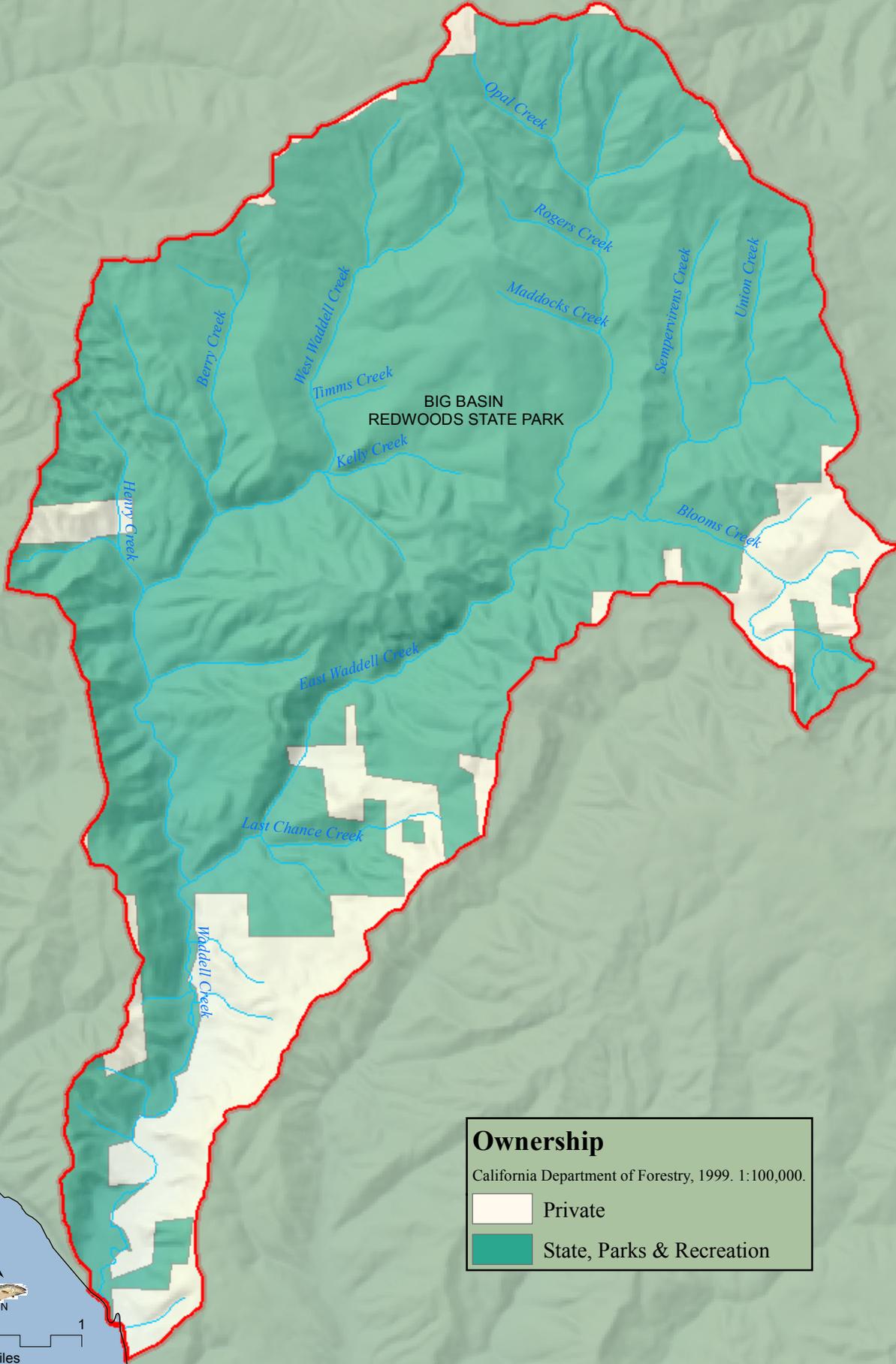




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# Waddell Creek Watershed Ownership

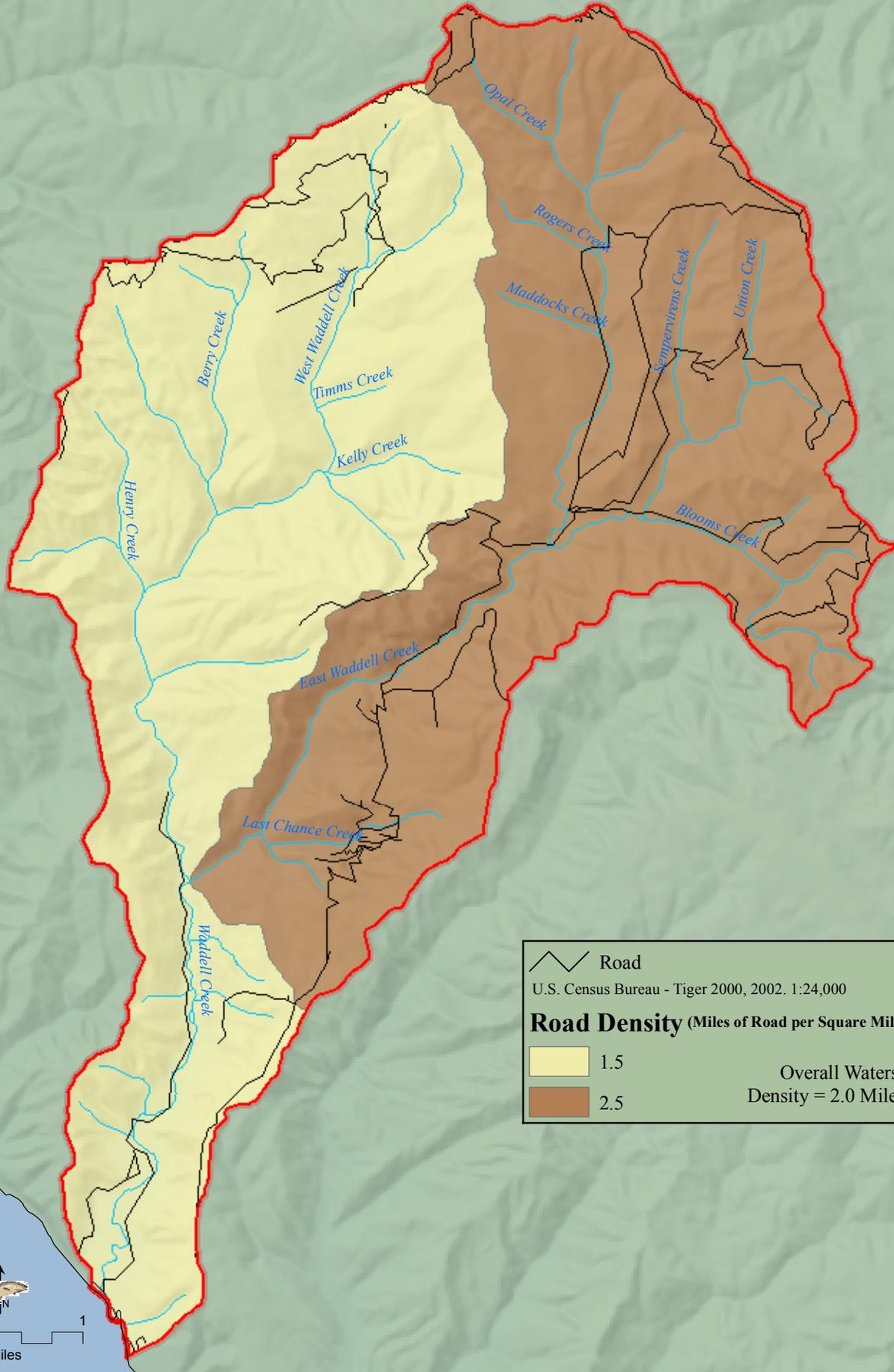




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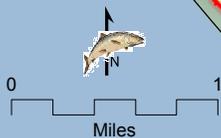
# Waddell Creek Watershed Road Density



 Road  
U.S. Census Bureau - Tiger 2000, 2002. 1:24,000

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

	1.5	Overall Watershed Density = 2.0 Miles / SqMi
	2.5	

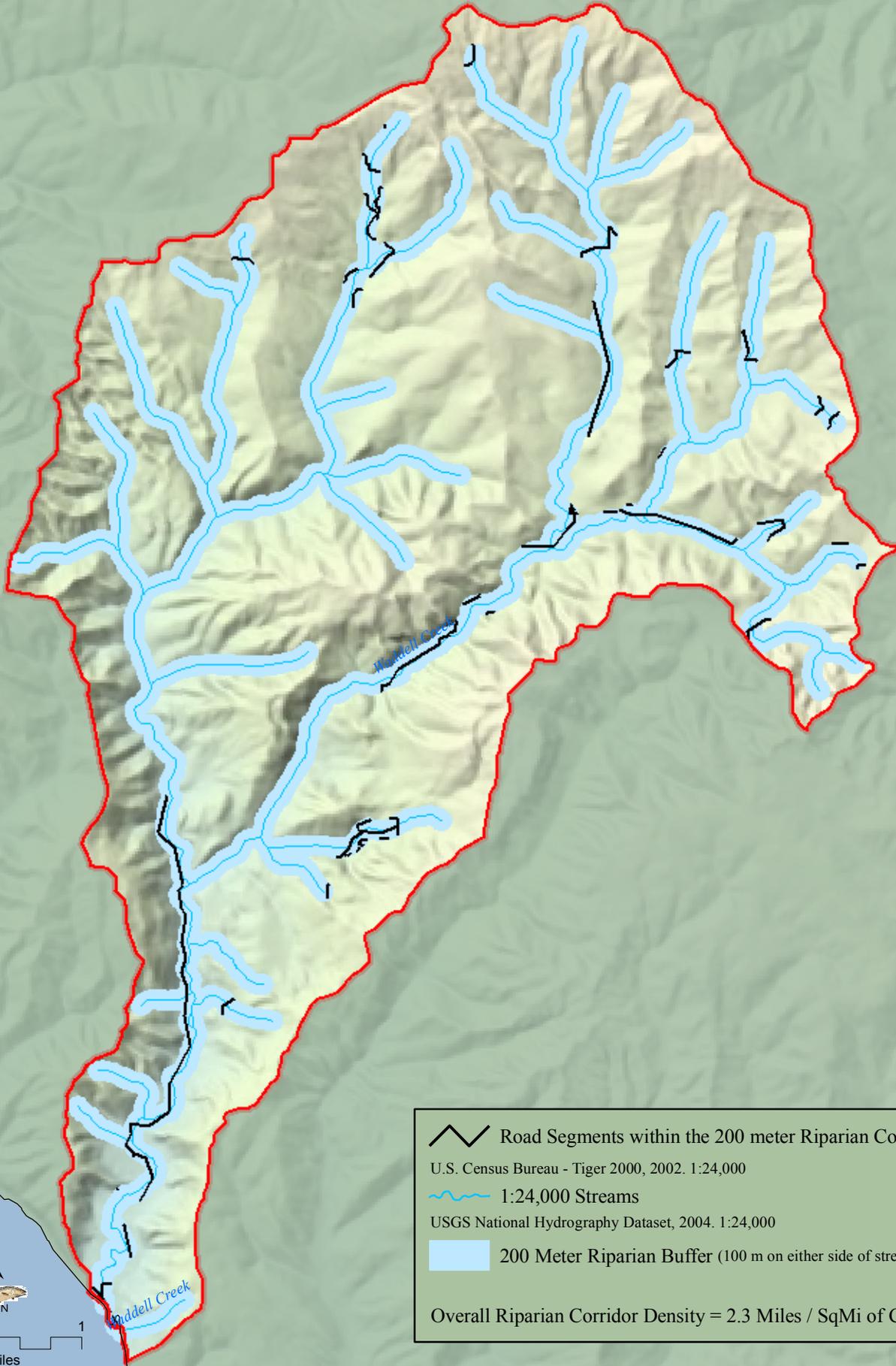




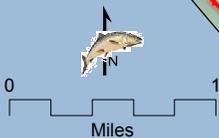
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# Waddell Creek Watershed Road Density in the Riparian Corridor



-  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 = 2.3 Miles / SqMi of Corridor

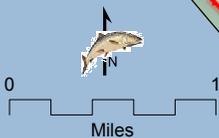
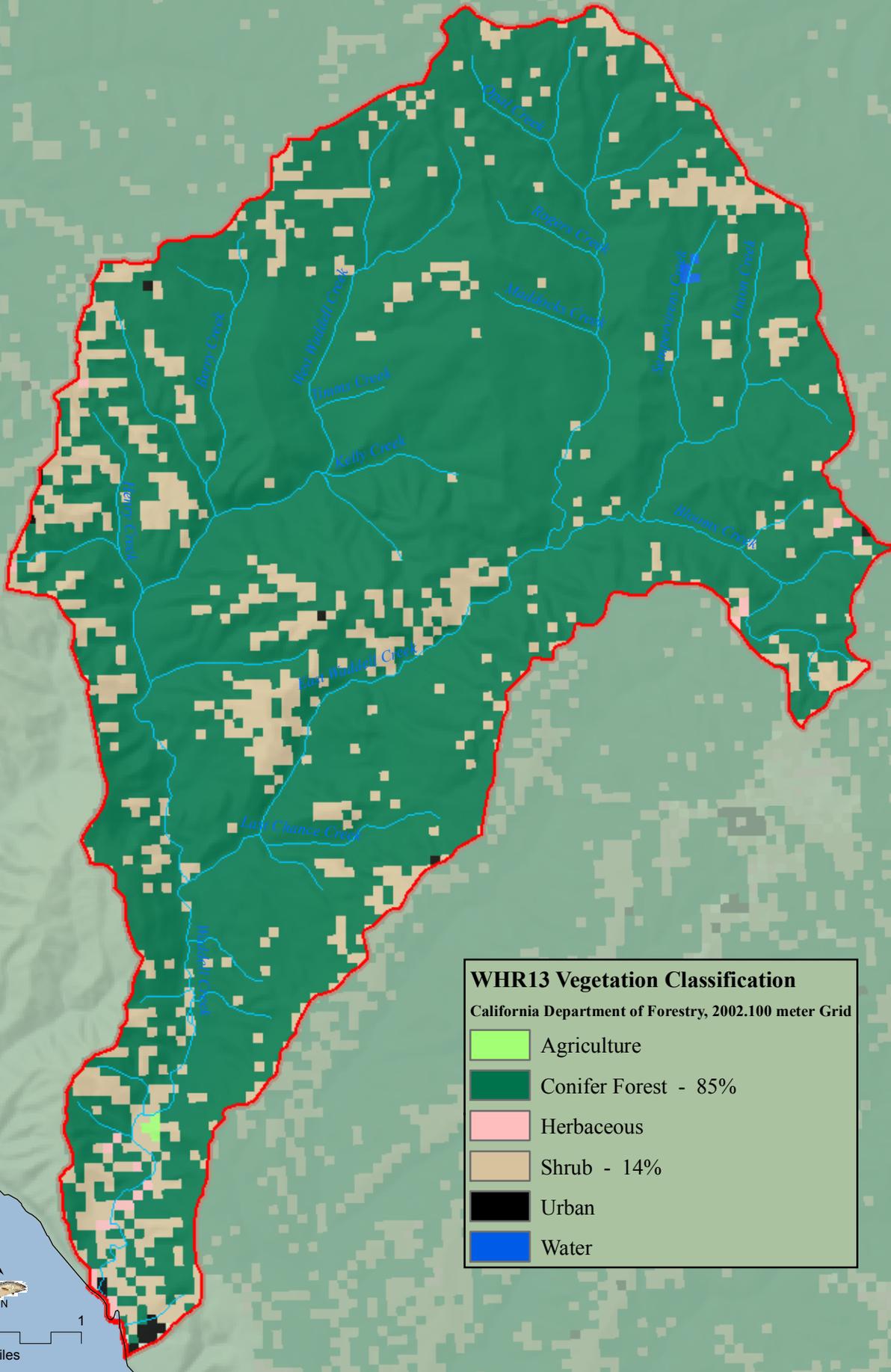




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# Waddell Creek Watershed Vegetation

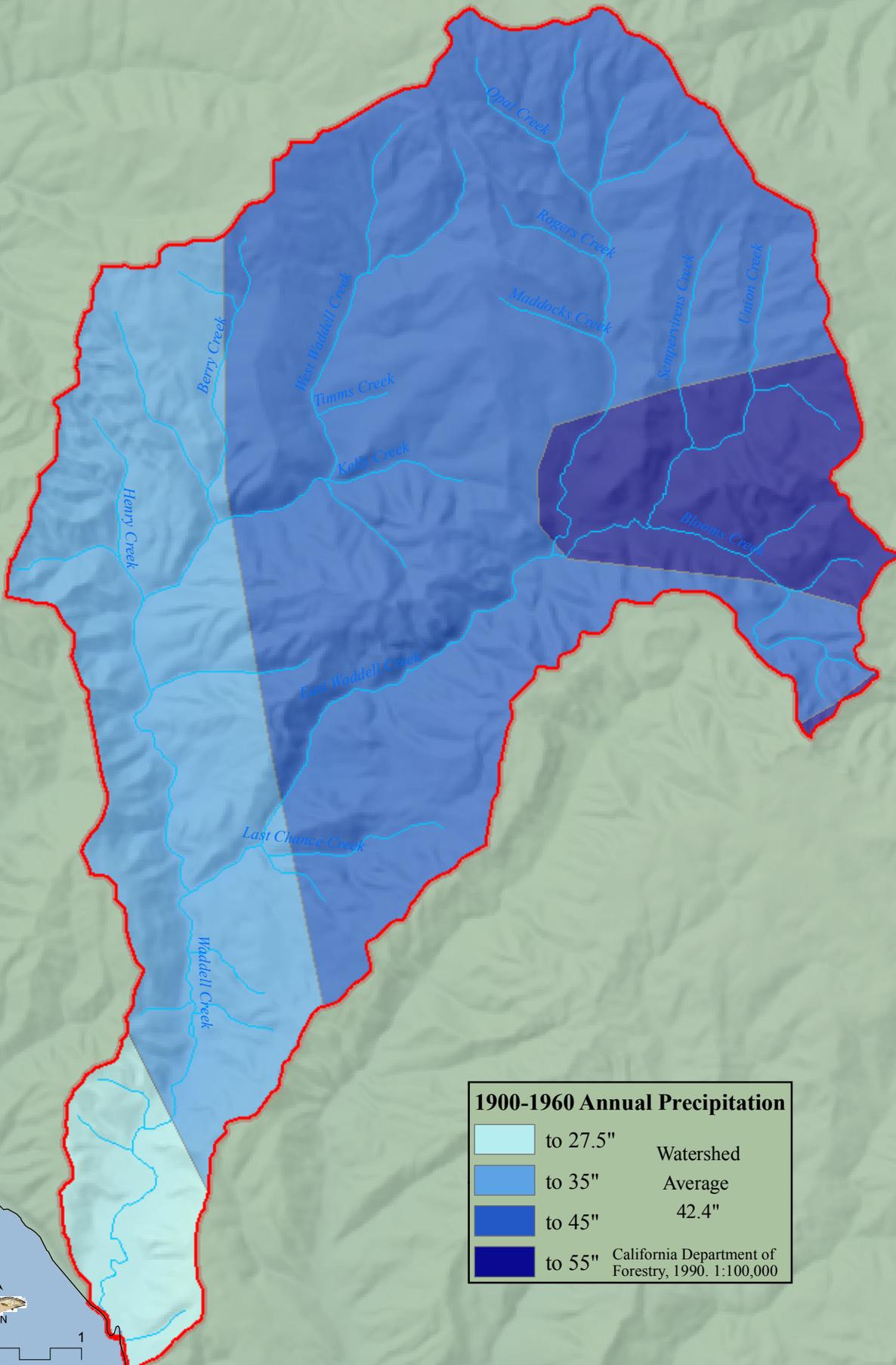




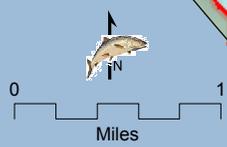
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# Waddell Creek Watershed Precipitation



1900-1960 Annual Precipitation		
	to 27.5"	Watershed
	to 35"	Average
	to 45"	42.4"
	to 55"	California Department of Forestry, 1990. 1:100,000





NMFS-SWR-HCD

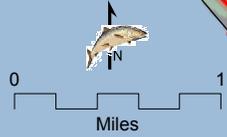
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# Waddell Creek Watershed Flood Zone



**FEMA Flood Zones**  
FEMA, 1996. 1:24,000

	100 Year Flood Zone
	500 Year Flood Zone

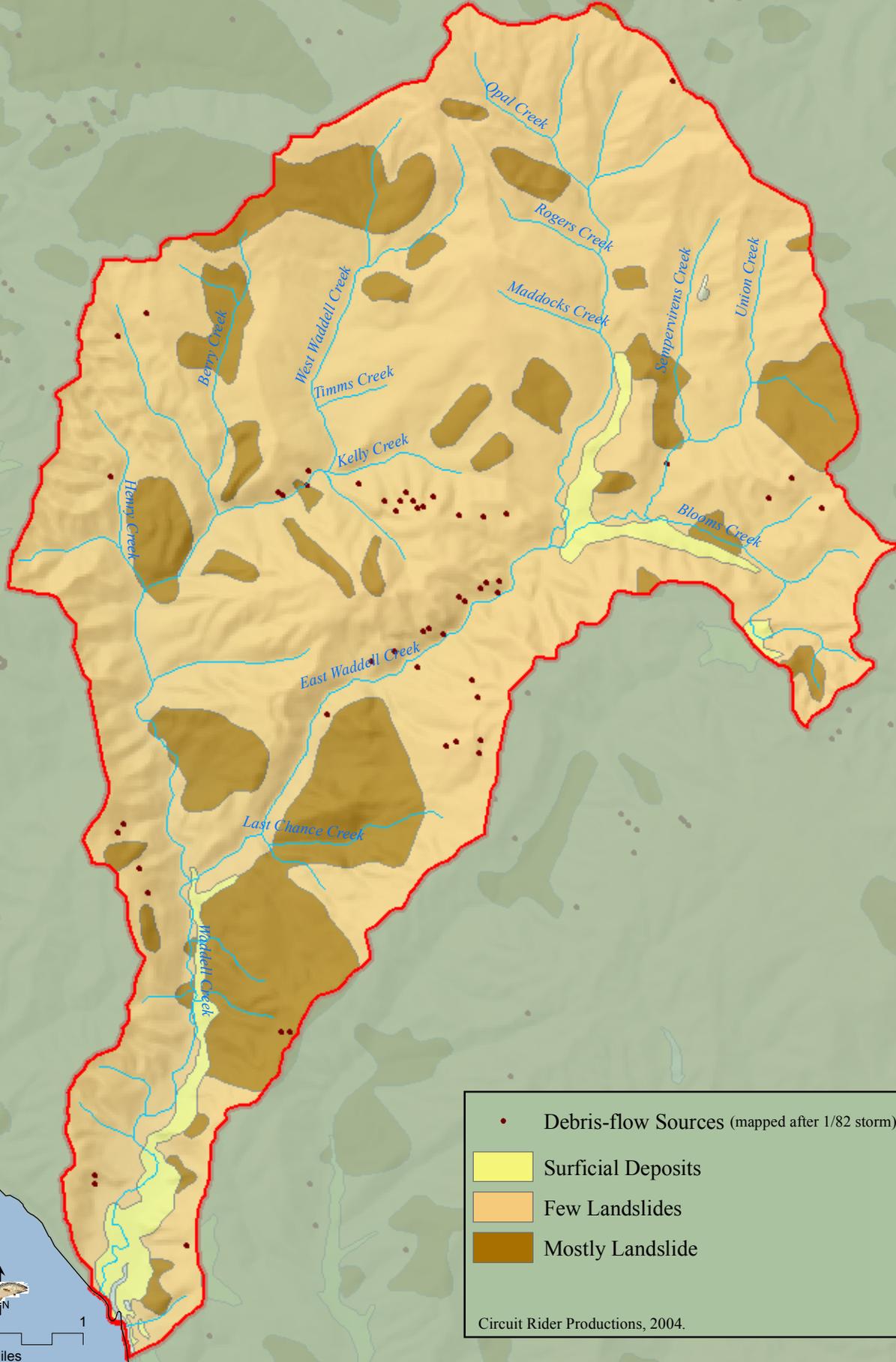




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# Waddell Creek Watershed Geologic Features



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

Circuit Rider Productions, 2004.

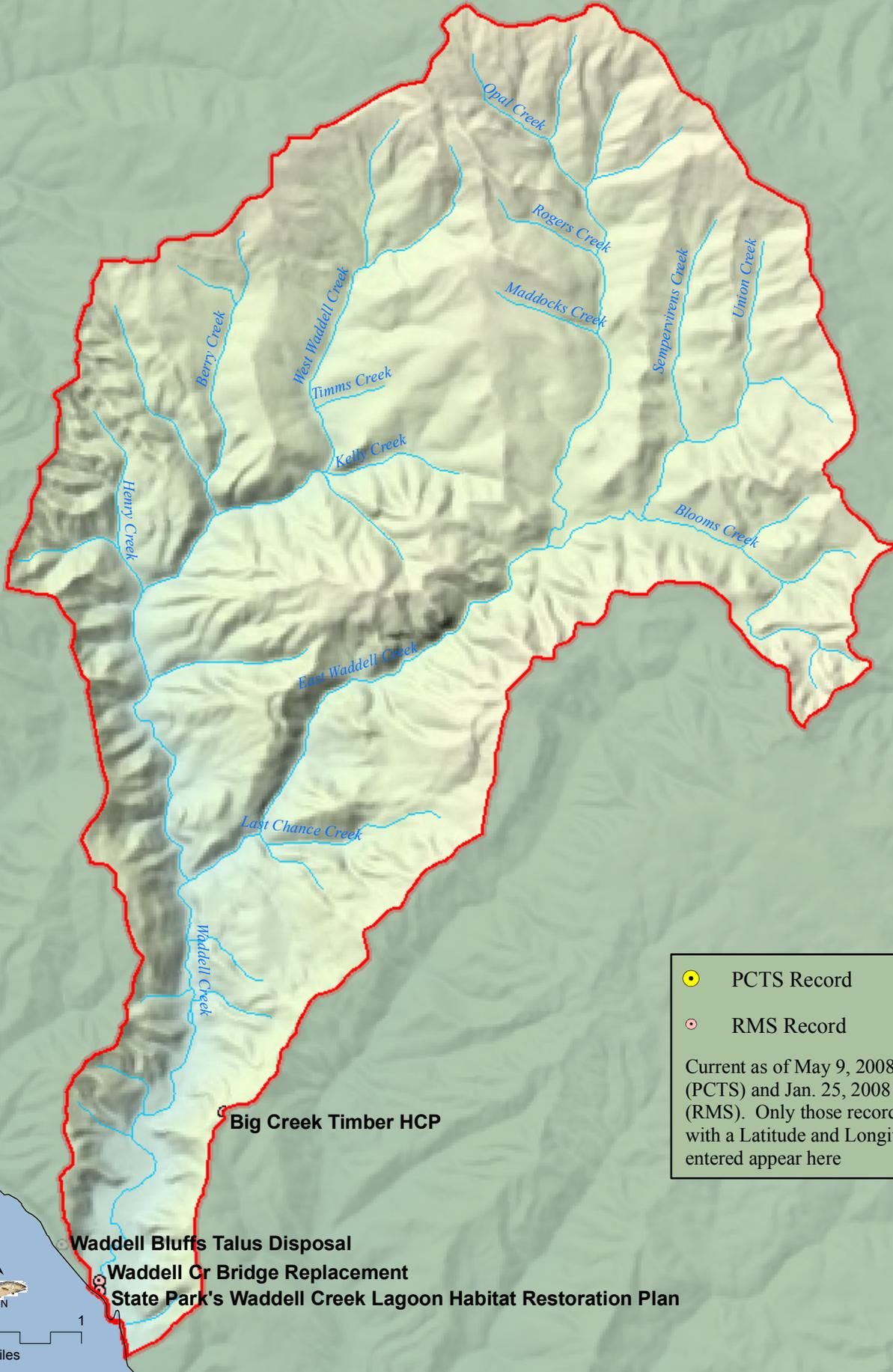




NMFS-SWR-HCD

July 2008

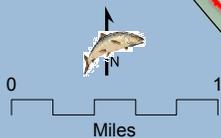
# Waddell Creek Watershed Public Consultation Tracking System



● PCTS Record

○ RMS Record

Current as of May 9, 2008 (PCTS) and Jan. 25, 2008 (RMS). Only those records with a Latitude and Longitude entered appear here



## 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\_september2008  
vector digital data  
California Fish Passage Assessment Database  
Pacific States Marine Fisheries Commission  
September 2006  
<http://www.calfish.org/>

### 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>

### **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**

naip\_1-1\_2n\_s\_ca081\_2006\_1 (San Mateo)

remote-sensing image

raster digital data

National Agriculture Imagery Program (NAIP)

USDA-FSA Aerial Photography Field Office

Salt Lake City, Utah

2004

<http://datagateway.nrcs.usda.gov/GatewayHome.html>

### **Historic Suitable Habitat (Coho, Chinook, Steelhead)**

Intrinsic Potential Model

vector digital data

NOAA Fisheries

Santa Cruz Laboratory, Santa Cruz, CA

2005

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

### **Geologic Features**

Geopoint

vector digital data

Department of Conservation, Division of Mines and  
Geology

Minimum Mapping Unit: Approximately 8000

Acres (20,000 Hectares)

1994

Gorge

vector digital data

Department of Conservation, Division of Mines and  
Geology

Minimum Mapping Unit: Approximately 8000

Acres (20,000 Hectares)

1994

### **Records Management System (RMS)**

### **Public Consultation Tracking System (PCTS)**

National Marine Fisheries Service

Oracle Databases

2008