

## Watershed Characterization

July 2008



### Scott Creek Watershed

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
19,012 Acres	18060001	3304110201	Big Creek (7201 Acres)
7694 Hectares	4th Field HUC	3304110202	Little Creek (3013 Acres)
30 Square Miles		3304110204	Scott Creek (8798 Acres)
	3304		

Location
Santa Cruz County

Species Potential	Miles of Streams with Species Present
Central California Coast <b>Steelhead</b> Santa Cruz Mountains Diversity Stratum - Potentially Independent	<u>Steelhead</u> 16 NOAA Fisheries, Critical Habitat Redesignation, 2005
Central California Coast <b>Coho</b> Santa Cruz Mountains Diversity Stratum - Dependent Population	<u>Coho</u> 13 CDFG, Coho Distribution, May 2007

Critical Habitat	
Central California Coast Steelhead	16 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		2
Intermittent Stream	10	1 - Impassable
Perennial Stream	45	1 - Not a Barrier
Canal / Ditch	2	
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>D</sup>
11161900	23
Scott Creek above creek near Davenport	2 Dams
11162000	6 Road Crossings (1 Impassable, 2 Temp. &/or Partially Impassable)
Scott Creek near Davenport	9 Natural Barriers (Chutes, Falls, Log Jams, etc. (6 Impassable))

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

Average Annual Precipitation <sup>E</sup>	Average Annual Precipitation Range <sup>E</sup>
41.8"	27.5 - 65"

<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	0
Local, neighborhood, and rural road, city street, unseparated	26
Driveway or service road	3
Total Miles	29

<b>Road Density</b>	
Miles of Roads per SqMi of Watershed	1.0
Miles of Roads per SqMi of 100m Riparian Buffer*	1.5

\*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	132	1%
Lands of 2-4 percent slope	278	1%
Lands of 4-10 percent slope	1,287	7%
Lands of 10-15 percent slope	1,311	7%
Lands of 15-30 percent slope	4,362	23%
Lands of 30-60 percent slope	8,740	46%
Lands of 60-100 percent slope	2,842	15%
Lands of 100-117 percent slope	58	0%

<b>Elevation Range</b>	0 - 2618 ft.	0 - 798 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	257	1%
Annual grassland	578	3%
Conifer Forest		
Closed Cone-Pine-Cypress	7	0%
Redwood	7,386	39%
Unknown Conifer	5,953	31%
Hardwood Forest		
Montane Hardwood	141	1%
Hardwood Woodland		
Coastal Oak Woodland	161	1%
Shrub	4,394	23%
Urban	121	1%
Water	12	0%

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

<b>Erodability of Watershed<sup>F</sup></b>	Acres	Percent of watershed
All of watershed is ranked as 7		

<sup>F</sup>Department 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]



Area Under a <b>Timber Harvest Plan<sup>A</sup></b> past 10 years		Area Under a <b>Timber Harvest Plan<sup>A</sup></b> past 13 years (1994-2006)	
1,156	6% of watershed	2,339	12% of watershed

<sup>A</sup>California Department of Forestry, Timber Harvest Plans for Scott Watershed, 2006

<b>Land Ownership<sup>H</sup></b>	Acres	Percent of watershed
Private	18124	95%
State (Parks & Recreation)	661	3%
Federal (Military)	226	1%

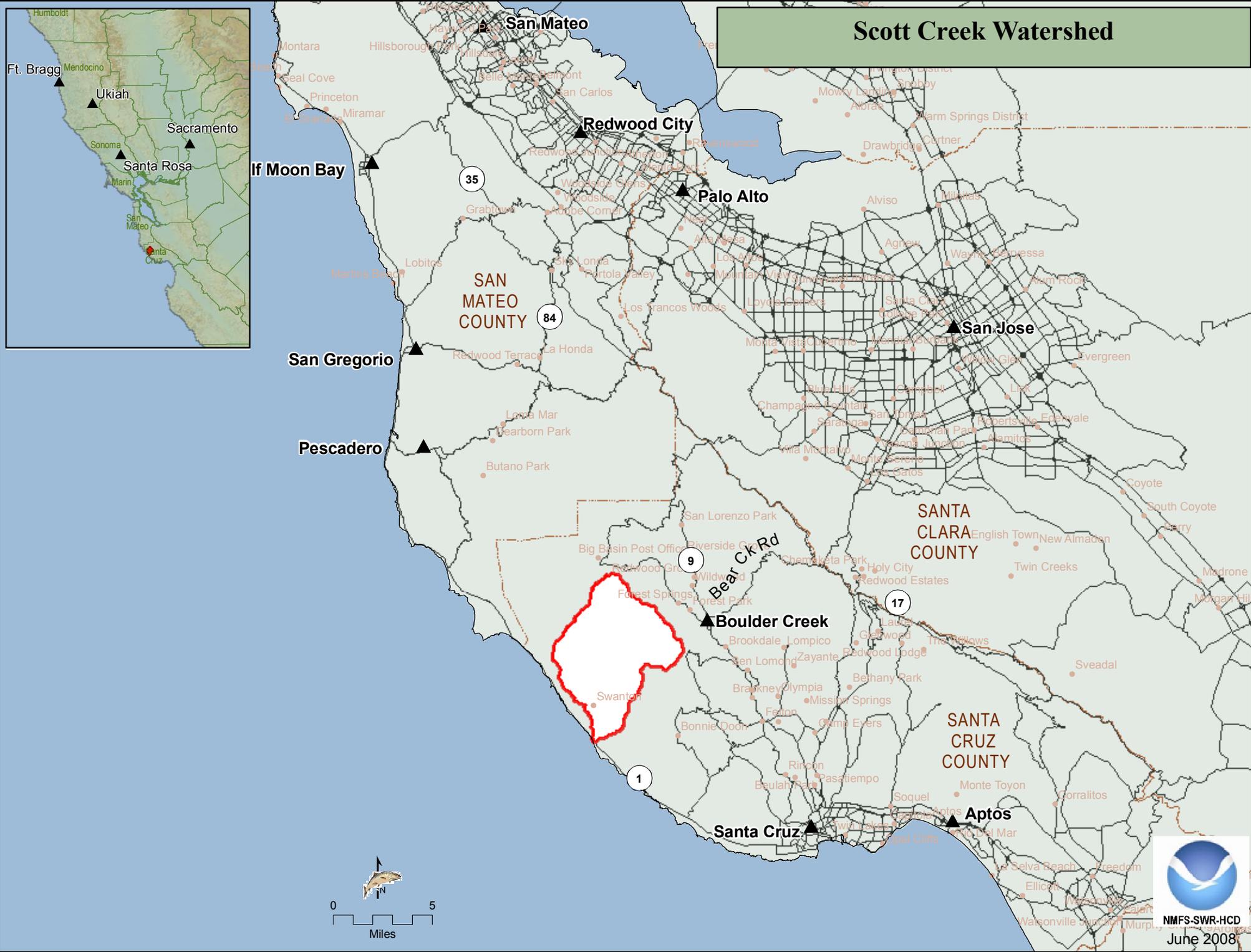
<sup>H</sup>Management Landscape, CA Department of Forestry, 2002

<b>Population<sup>I</sup></b>	<b>Housing<sup>I</sup></b>
Total Population within the watershed -- 294 People	Total Housing Units within the watershed -- 113 Houses
	Housing Density
	0 to Less than 1 Housing Unit / 160 Acre 71%
	1 Unit / 160 Acres to 1 Unit / 20 Acres 29%
	1 Unit / 20 Acres to 1 Unit / 5 Acres
	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



# Scott Creek Watershed

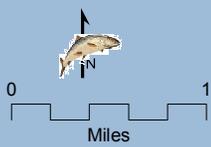




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# Scott Creek Watershed

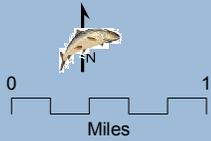




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# Scott Creek Watershed CalWater Planning Watersheds





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# Scott Creek Watershed Fish Distribution and Critical Habitat

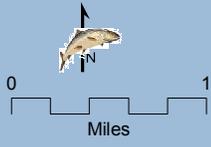


 CCC Steelhead Distribution and Critical Habitat  
National Marine Fisheries Service, August 2005. 1:100,000.

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

 1:24,000 Streams  
USGS National Hydrography Dataset, 2004. 1:24,000

 Scott Creek Watershed





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## Scott Creek Watershed Steelhead Current vs. Historical





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# Scott Creek Watershed Coho Current vs. Historical





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# Scott Creek Watershed Elevation

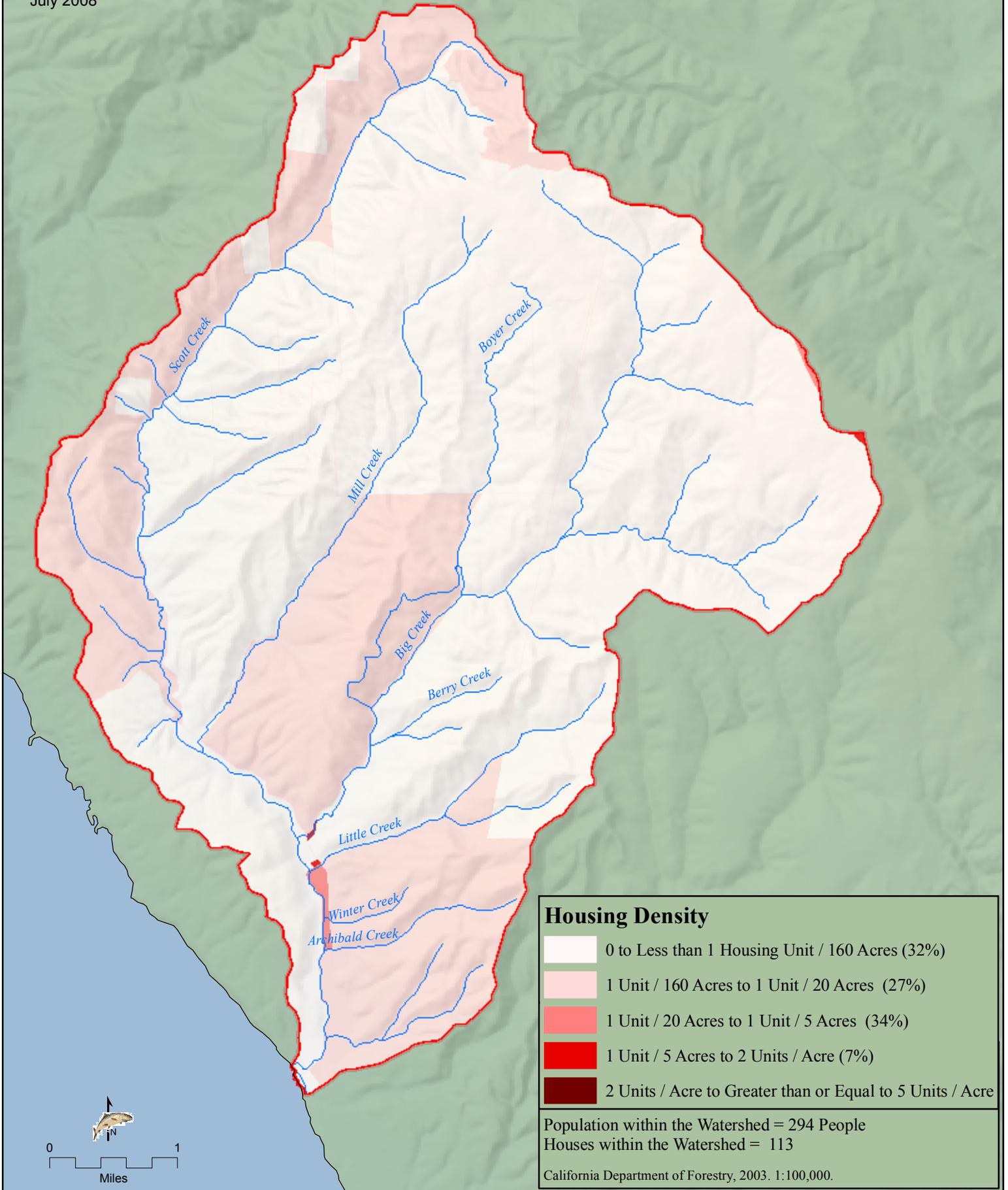




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# Scott Creek Watershed Development

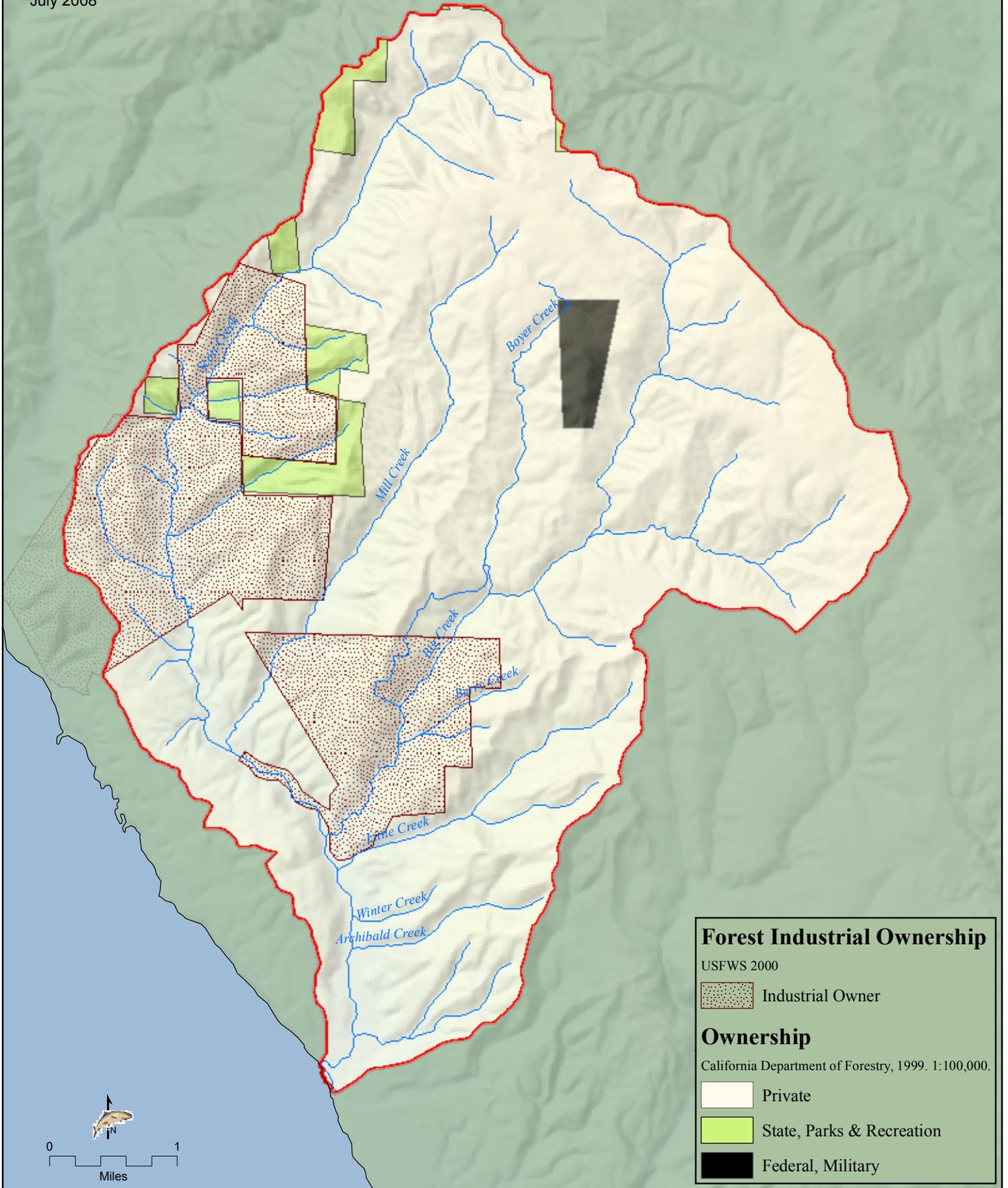




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# Scott Creek Watershed Ownership

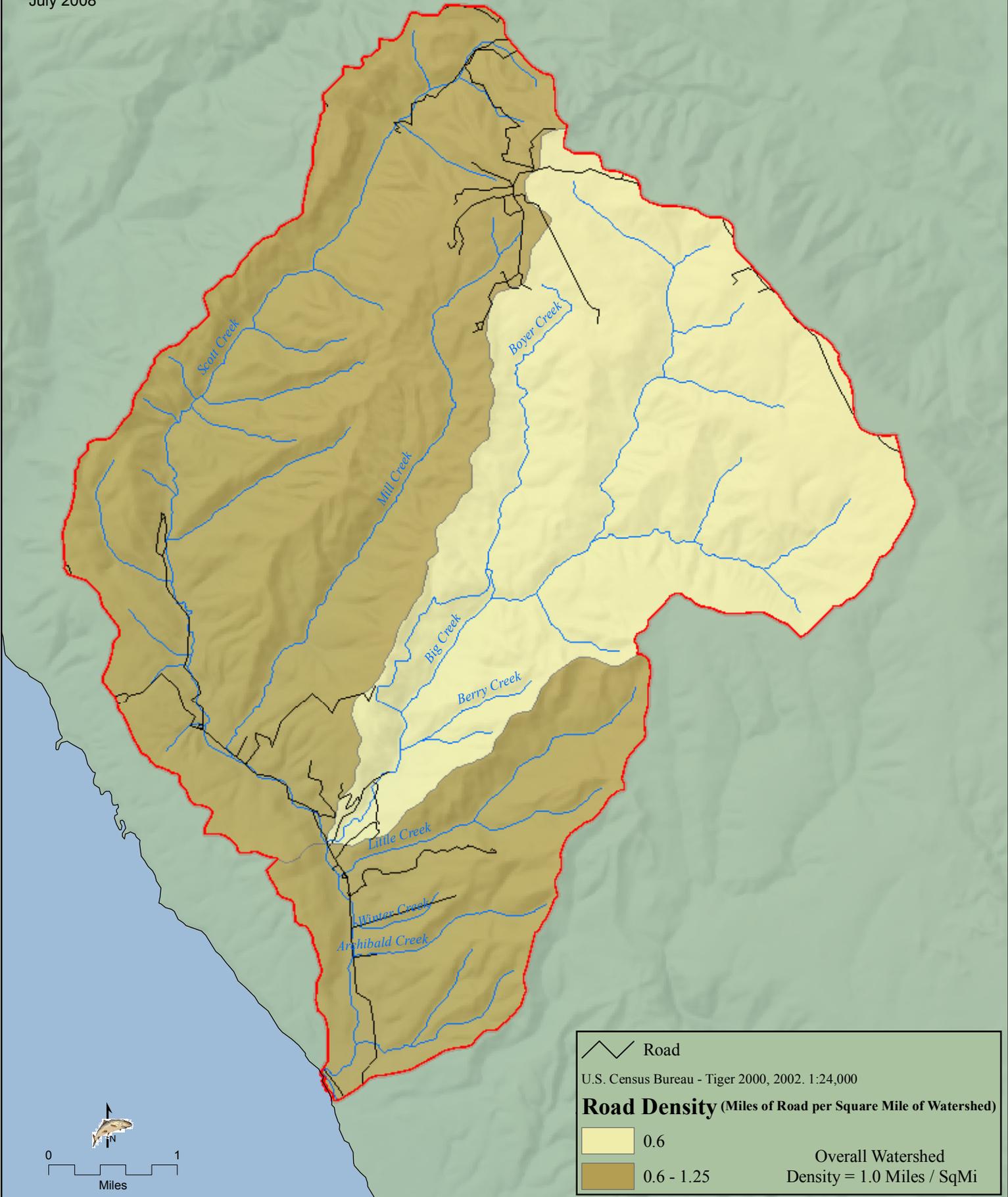




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# Scott Creek Watershed Road Density





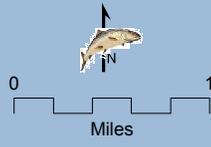
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## Scott Creek Watershed Road Density in the Riparian Corridor



-  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 = 1.5 Miles / SqMi of Corridor

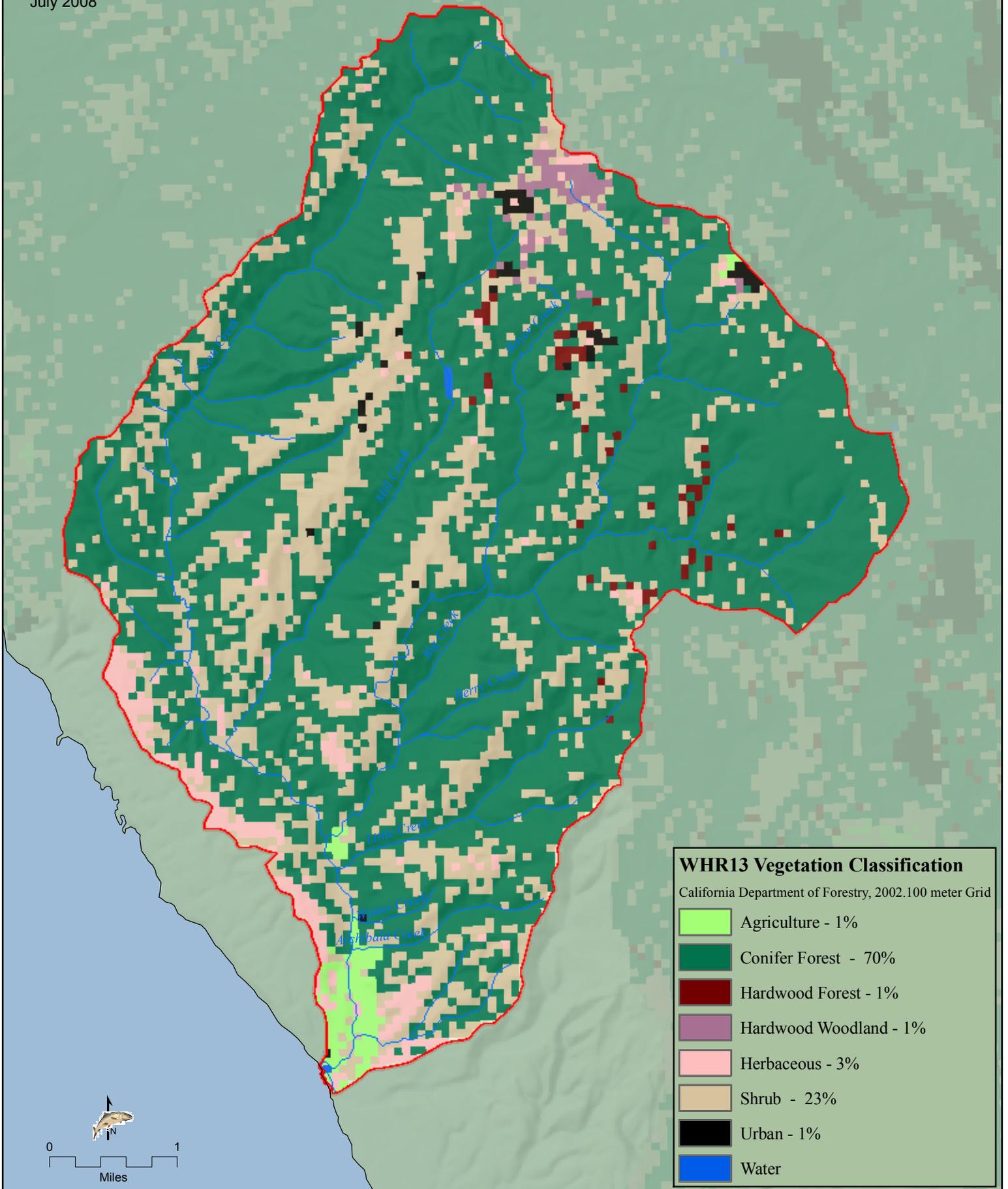




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# Scott Creek Watershed Vegetation

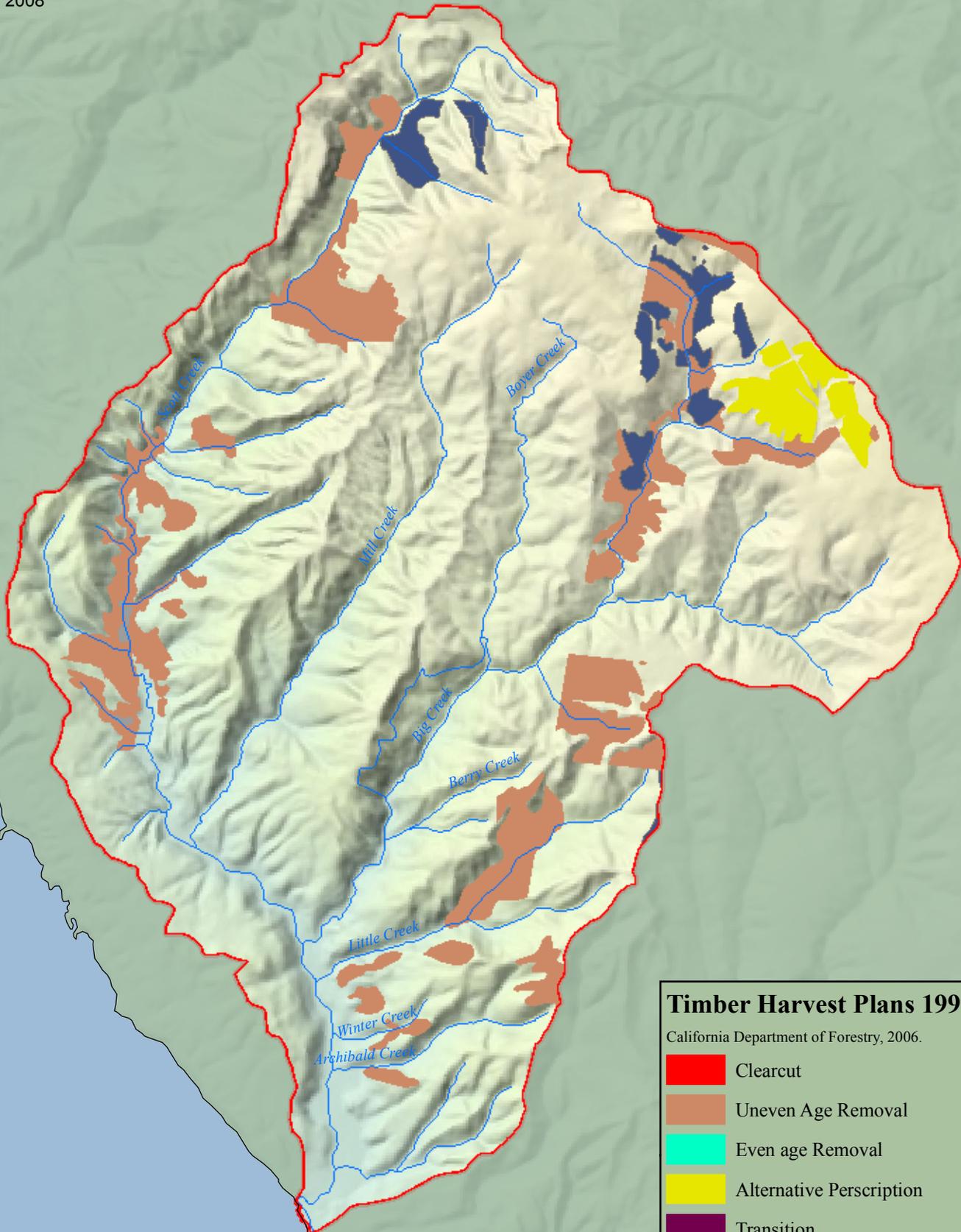




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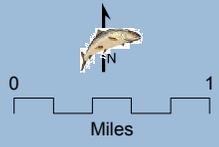
# Scott Creek Watershed Timber Harvesting 1994-2006



## Timber Harvest Plans 1994-2006

California Department of Forestry, 2006.

-  Clearcut
-  Uneven Age Removal
-  Even age Removal
-  Alternative Prescription
-  Transition
-  Outside THP
-  Not Coded

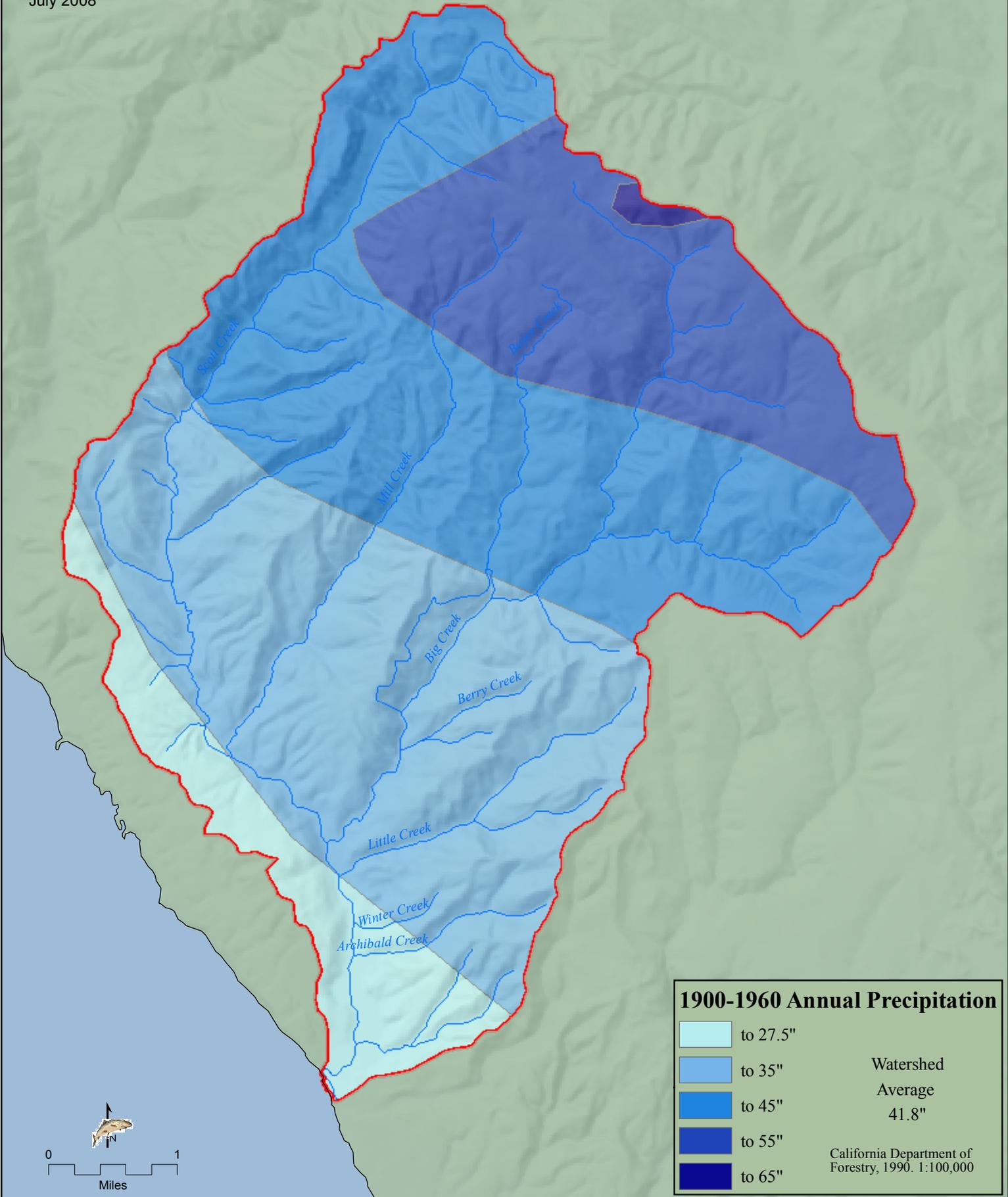




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# Scott Creek Watershed Precipitation

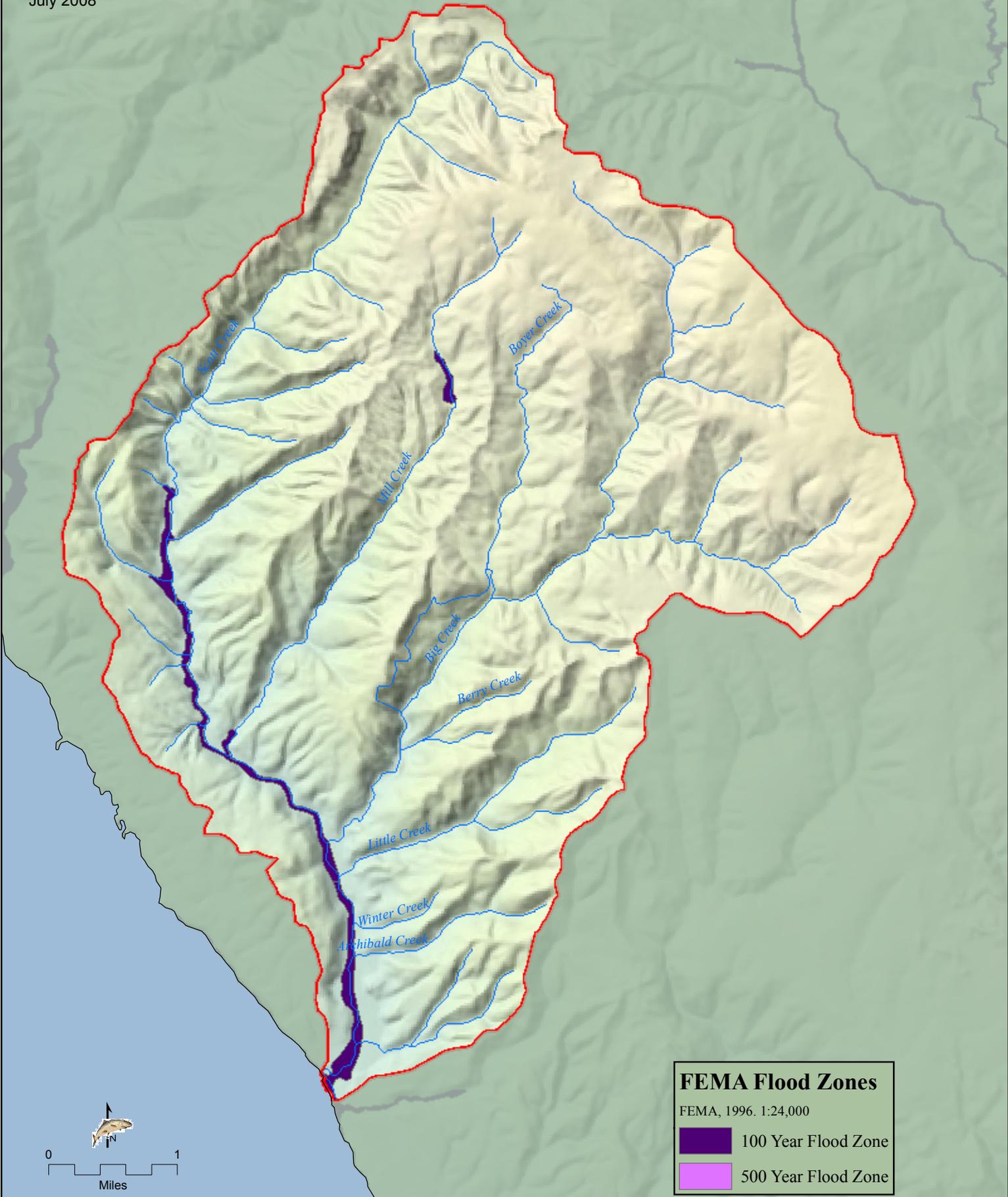




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# Scott Creek Watershed Flood Zone

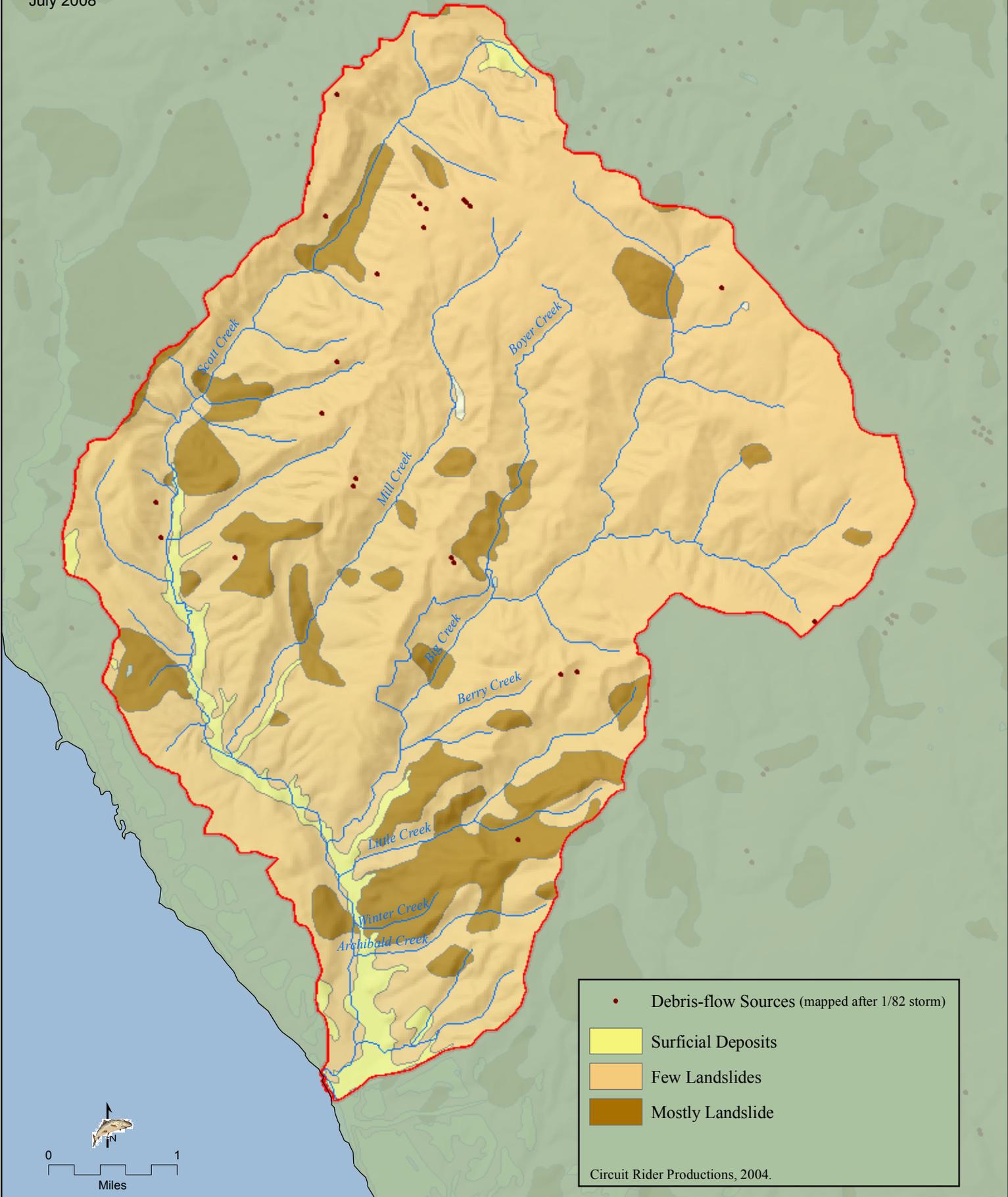




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# Scott Creek Watershed Geologic Features



• Debris-flow Sources (mapped after 1/82 storm)

- Surficial Deposits
- Few Landslides
- Mostly Landslide

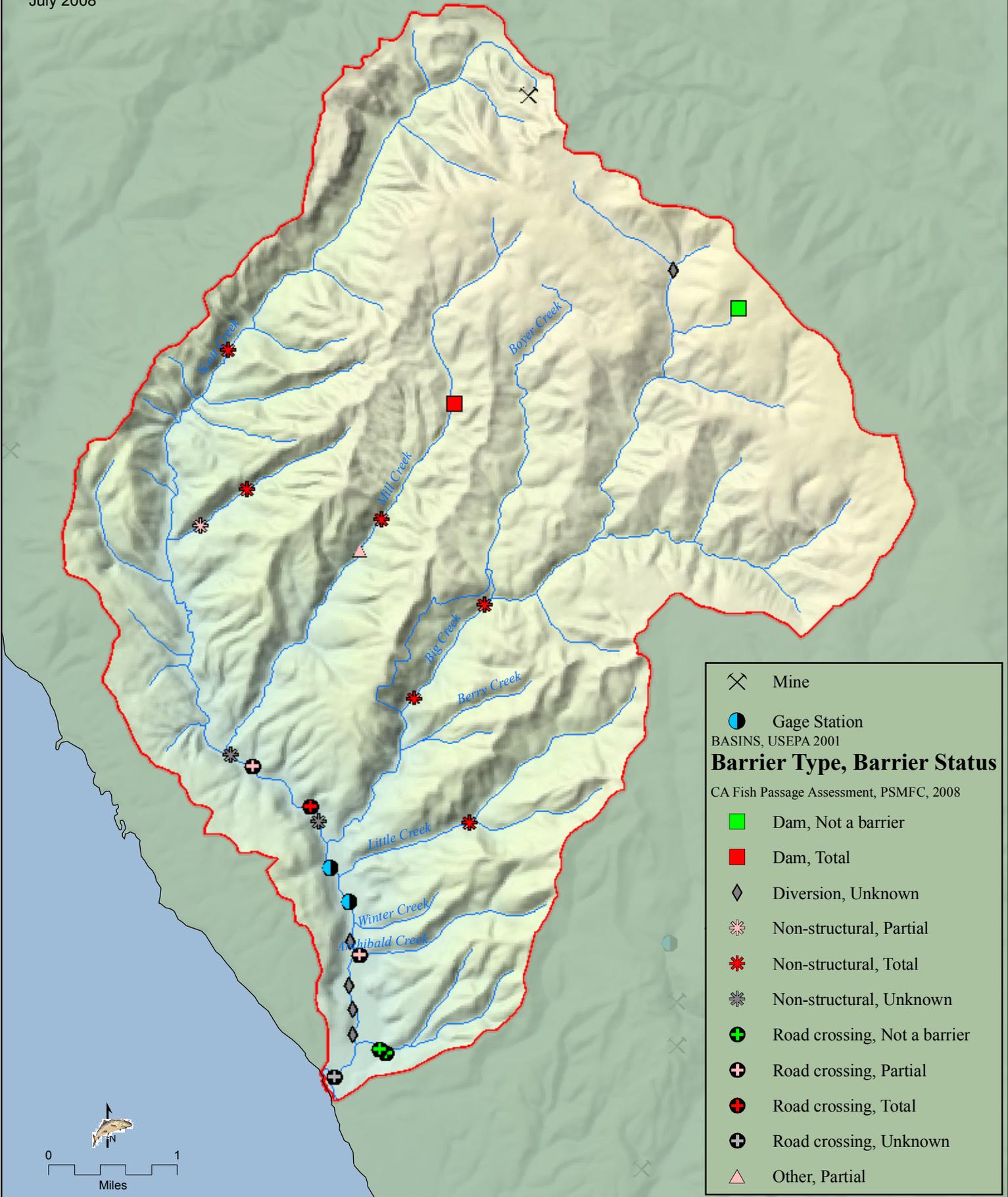
Circuit Rider Productions, 2004.



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# Scott Creek Watershed Barriers / Industrial / Gages

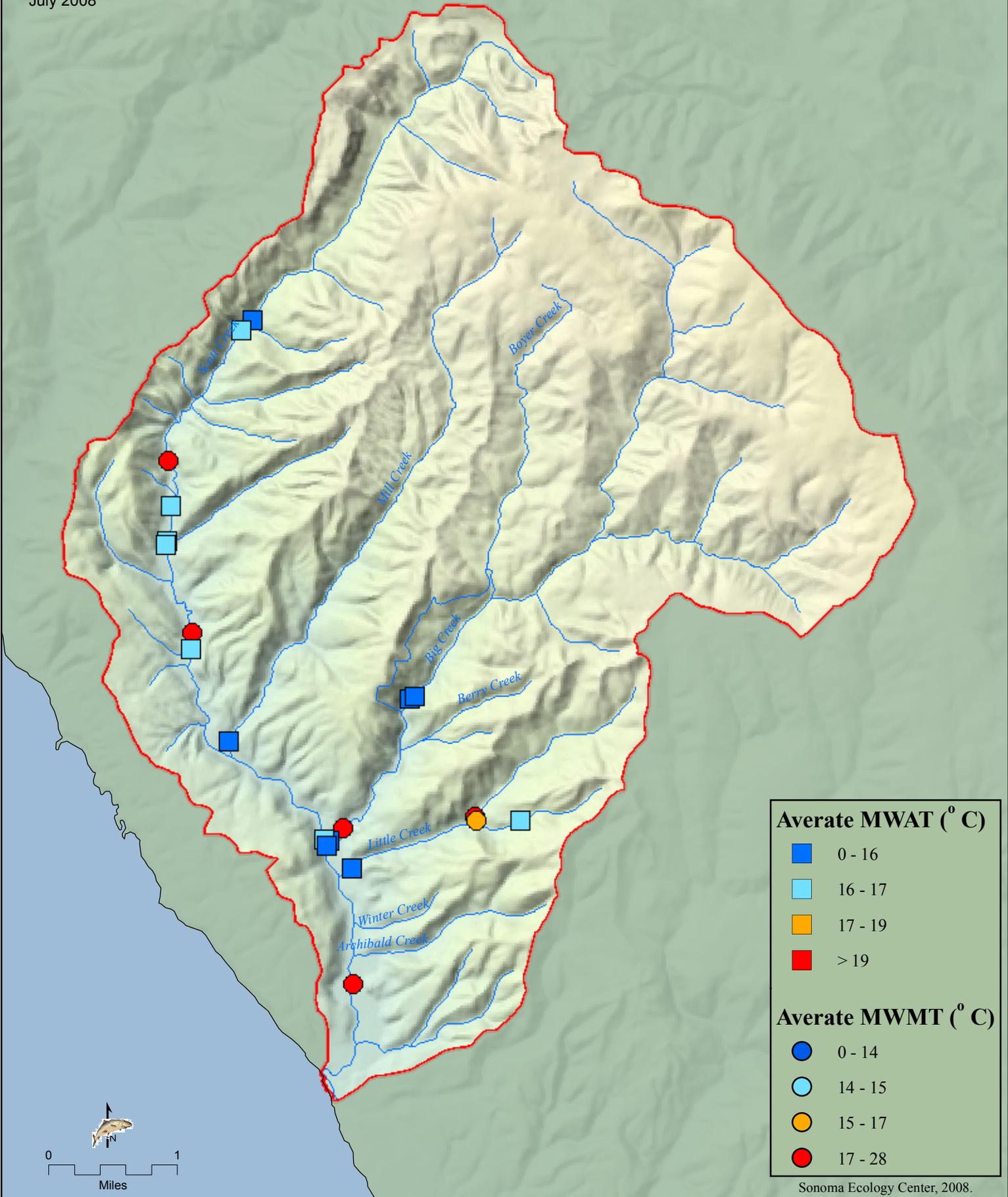




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# Scott Creek Watershed Temperature

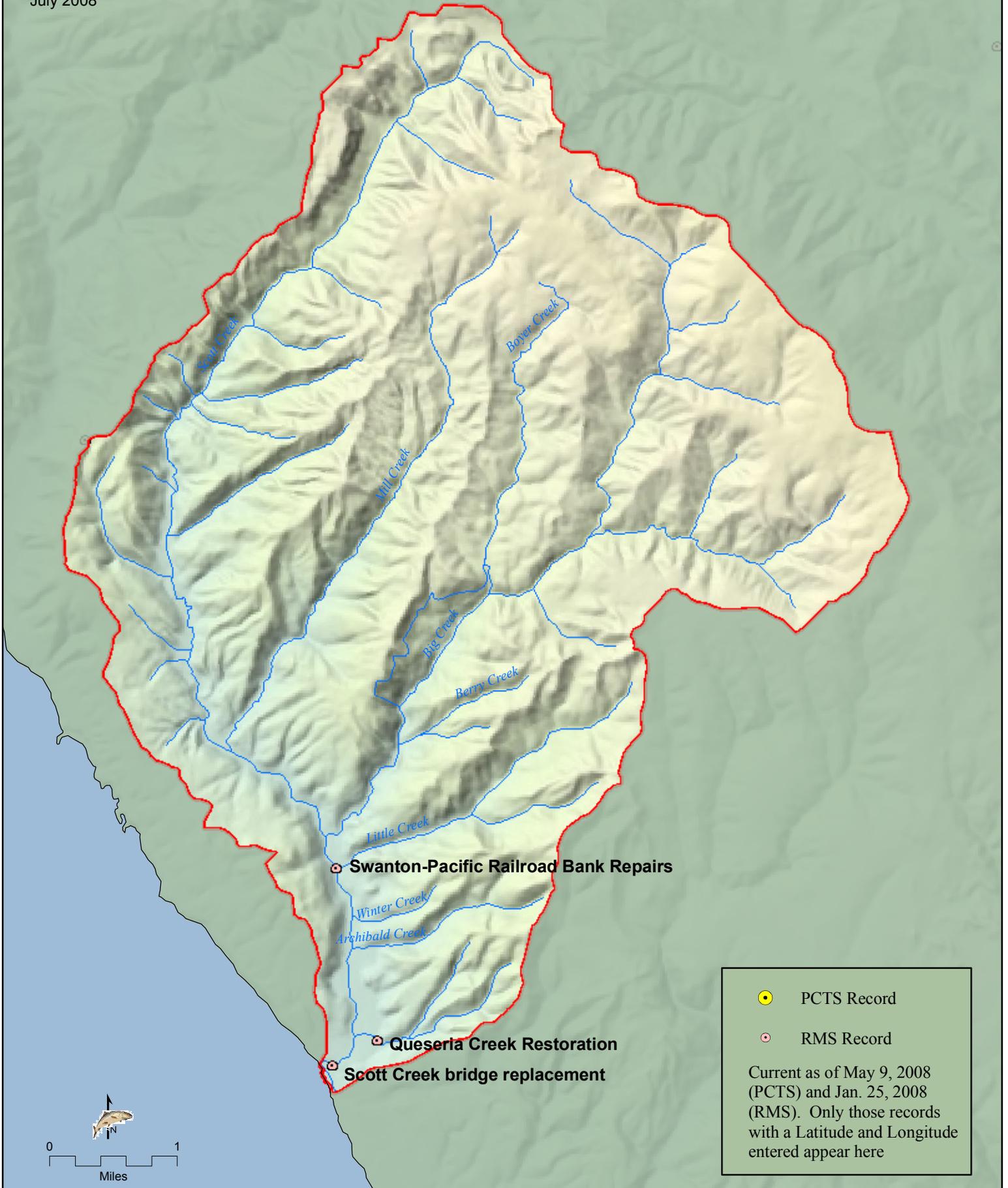




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# Scott Creek Watershed Public Consultation Tracking System



● 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

Spline2  
Spline6  
10 Meter Digital Elevation Model (DEM)  
NOAA Fisheries, Santa Cruz Laboratory  
2003

### 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  
Department of Conservation, Division of Mines and 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/>

### **Timber Harvesting**

thp\_(year)  
Annual Timber Harvest Plans  
vector digital data  
California Department of Forestry and Fire Protection  
Santa Rosa, CA  
1983-2001

### **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\_ca087\_2006\_1 (Santa Cruz)  
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/>

### **Forest Industrial Ownership**

nwca\_own  
vector digital data  
United States Fish and Wildlife Service  
Arcata, CA  
2000

### **Temperature**

MWMT\_20080117\_selected\_watersheds  
Vector digital data  
Sonoma Ecology Center  
2008

MWAT\_20080117\_selected\_watersheds  
Vector digital data  
Sonoma Ecology Center  
2008

### **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