



NMFS-SWR-HCD

Big River Watershed

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
115,888 Acres	18010108	1113300101	Dark Gulch (7151 Acres)
46,898 Hectares	4th Field HUC	1113300102	South Daugherty Creek (10659 Acres)
181 Square Miles		1113300103	Mettick Creek (11724 Acres)
	1113	1113300104	Leonaro Lake (5325 Acres)
Location	4th Field Calwater	1113300201	Martin Creek (5940 Acres)
Mendocino County		1113300202	Russell Brook (7011 Acres)
		1113300203	Rice Creek (8033 Acres)
		1113300301	James Creek (4456 Acres)
		1113300302	Chamberlain Creek (7863 Acres)
		1113300303	East Branch North Fork Big River (5156 Acres)
		1113300304	Lower North Fork Big River (4950 Acres)
		1113300305	Upper North Fork Big River (5416 Acres)
		1113300401	Laguna Creek (3244 Acres)
		1113300402	Berry Gulch (7993 Acres)
		1113300403	Mouth of Big River (9542 Acres)
		1113300406	Two Log Creek (11424 Acres)

Species Potential	Miles of Streams with Species Present
Northern California Steelhead North-Central Coastal Diversity Stratum - Independent Population	<u>Steelhead</u> 147 NOAA Fisheries, Critical Habitat Redesignation, 2005
Central California Coast Coho Lost Coast-Navarro Point Diversity Stratum - Independent Population	<u>Coho</u> 111 CDFG, Coho Distribution, May 2007
California Coastal Chinook North-Central Coastal Diversity Stratum - Independent Population	<u>Chinook</u> 35 NOAA Fisheries, Critical Habitat Redesignation, 2005

Critical Habitat	Miles of Stream
Northern California Steelhead	147 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)
California Coastal Chinook	35 Miles of Stream

Coho Intrinsic Potential	Miles
Km of Historical Coho IP (21.5 C mask)	194
% of IP (21.5 C Mask) with Current Coho Distribution	58%

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		4
Intermittent Stream	283	1 - Impassable
Perennial Stream	183	0 - Not a Barrier
Artificial Path	10	0 - Temporal Barriers
		3 - Unknow Barrier Status

^CPassage Assessment Database,
Pacific States Marine Fisheries Commission, 2005

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

USGS Gaging Stations ^B	Number of Barriers ^C
Big River Below Two Log Creek near Comptche USGS11468092	63 4 Dams (1 Impassable)
South Fork Big River Near Comptche USGS11468070	7 Water Rights Diversions 39 Road Crossings (7 Impassable)

^CPassage Assessment Database,
Pacific States Marine Fisheries Commission, 2006



EPA Total Maximum Daily Load Classification (TMDL)¹

High Priority- Sedimentation/Siltation, Water Temperature

Sources: Disturbed Sites; Logging Roads; Silviculture; Nonpoint Sources; Road Construction; Drainage/Filling of Wetlands; Erosion/Siltation

Habitat Modification; Removal of Riparian Vegetation; Streambank Modification/Destabilization

¹State Water Resources Control Board, 2003

Average Annual Precipitation^E

55.5"

Average Annual Precipitation Range^E

40 - 65"

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

Roads ^A	(US Census Bureau (TIGER))	Miles
Roads in Watershed		
Primary Road / Highway		0
Secondary and connecting road, state highways		15
Local, neighborhood, and rural road, city street, unseparated		400
Vehicular trail, 4WD		13
Driveway or service road		3

Road Density	(US Census Bureau (TIGER))	
Miles of Roads per SqMi of Watershed		2.4
Miles of Roads per SqMi of 100m Riparian Buffer*		3.1

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

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

Roads ^{A1}	(Timber Harvest Plans)	Miles
Roads in Watershed		
Abandoned Seasonal		7
Bridge		2
Existing Permanent (rocked)		162
Existing Seasonal		872
Existing Temporary & 4WD		48
Proposed Permanent (rocked)		
Proposed Seasonal		18
Proposed Temporary & 4WD		4
Reconstructed Seasonal		
Secondary Road (2-3 lanes)		36

Road Density	(Timber Harvest Plans)	
Miles of Roads per SqMi of Watershed		6.3
Miles of Roads per SqMi of 100m Riparian Buffer*		8.7

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

^{A1}California Department of Forestry, Timber Harvest Plans for Big Watershed, 2006

Slope ^D	Acres	Percent of watershed
Lands of 0-2 percent slope	1,372	1%
Lands of 2-4 percent slope	1,171	1%
Lands of 4-10 percent slope	3,472	3%
Lands of 10-15 percent slope	3,835	3%
Lands of 15-30 percent slope	23,313	20%
Lands of 30-60 percent slope	63,927	55%
Lands of 60-100 percent slope	18,038	16%
Lands of 100-117 percent slope	766	1%

Elevation Range	13-2812 ft.	4-857 m
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^DSlope derived from USGS 10 meter Digital Elevation Models (DEM's)



Vegetation ^G	Acres	Percent of watershed
Barren	20	0%
Annual grassland	6,993	6%
Conifer Forest		
Closed Cone -Pine-Cypress	381	0%
Douglas Fir	8,211	7%
Montane Hardwood-Conifer	4,940	4%
Redwood	74,675	64%
Hardwood Forest		
Montane Hardwood	17,016	15%
Montane Hardwood Riparian	178	0%
Hardwood Woodland		
Coastal Oak Woodland	161	0%
Shrub	3,153	3%
Urban	0	0%
Water	114	0%
Wetland	114	0%

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

Erodability of Watershed ^F	Acres	Percent of watershed
Ranking = 5	32,148	28%
Ranking = 8	62,698	54%
Ranking = 9	20,984	18%

^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	89,147	77%
State (Forestry)	24,047	21%
State (Parks & Recreation)	1,481	1%
State (Other)	38	0%
Federal (BLM)	1,176	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 20 years
16,556 Acres 14% of watershed	50,030 Acres 43% of watershed

^ACalifornia Department of Forestry, Timber Harvest Plans for Big Watershed, 2006

Population ^I	Housing ^I
Total Population within the watershed -- 564 People	Total Housing Units within the watershed -- 288 Houses
	Housing Density
	0 to Less than 1 Housing Unit / 160 Acres 93%
	1 Unit / 160 Acres to 1 Unit / 20 Acres 6%
	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

^ICensus 2000 Block Data (Migrated), CA Department of Forestry, 2003



Big 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		22					7000			116	114	
	S												
	P					2							
	M				7	7							
	D				37	7							
	Total		22	44	16	7000	0	0	116	114		7312	
Seedling	S												
	P												
	M												
	D												
	Total												0
Sapling	S			467	272								
	P			499	487								
	M			2558	1955								
	D			11303	4609	119							
	Total			14827	7323	119							22269
Pole	S			326	119								
	P			306	121								
	M			820	368								
	D			16482	3072	42							
	Total			17934	3680	42							21656
Small Tree	S			94	133								
	P			109	166								
	M			361	462								
	D			10989	4090			3170					
	Total			11553	4851			3170					19574
Medium/Large Tree	S			1265									
	P			702	7								
	M			2449	138								
	D			30332	1119								
	Total			34748	1264								36012
Multi Layered	D			9044									
	Total			9044									9044
	Grand Total by Species Type		22	88150	17134	161	7000	3170	0	116	114		115867

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%					6%	0%	0%	0%	0%	
	S												
	P												
	M			0%									
	D			0%		0%							
	Total		0%	0%	0%	6%	0%	0%				6%	
Seedling	S												
	P												
	M												
	D												
	Total												0%
Sapling	S			0%	0%								
	P			0%	0%								
	M			2%	2%								
	D			10%	4%								
	Total			13%	6%								19%
Pole	S			0%	0%								
	P			0%	0%								
	M			1%	0%								
	D			14%	3%	0%							
	Total			15%	3%	0%							19%
Small Tree	S			0%	0%								
	P			0%	0%								
	M			0%	0%								
	D			9%	4%			3%					
	Total			10%	4%			3%					17%
Medium/Large Tree	S			1%									
	P			1%									
	M			2%	0%								
	D			26%	1%								
	Total			30%	1%								31%
Multi Layered	D			8%									
	Total			8%									8%
	Grand Total by Species Type		0%	76%	15%	0%	6%	3%	0%	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%

Big 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		24.7					####			111.2	101.3	
	S P M D				7.4	2.5							
	Total		24.7		7.4	2.5		####			111.2	101.3	2026
Seedling	S P M D												
	Total												0
Sapling	S P M D			155.7	69.2								
	Total			3457.0	1314.6	19.8							6444
Pole	S P M D			108.7	59.3								
	Total			5972.5	1280.0								7253
Small Tree	S P M D			29.7	44.5								
	Total			3909.2	1514.8	12.4	741.3						6178
Medium/Large Tree	S P M D			481.9									
	Total			12113.1	439.8								12553
Multi Layered	D			2737.9									
	Total			2737.9									2738
Grand Total by Species Type			25	29250	0	5152	32	1779	741	0	111	101	37192

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%					5%			0%	0%	
	S P M D					0%							
	Total		0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	5%
Seedling	S P M D												
	Total												0%
Sapling	S P M D			0%	0%								
	Total			12%	5%	0%							17%
Pole	S P M D			0%	0%								
	Total			16%	3%								20%
Small Tree	S P M D			0%	0%								
	Total			11%	4%	0%	2%						17%
Medium/Large Tree	S P M D			1%			0%						
	Total			33%	1%								34%
Multi Layered	D			7%									
	Total			7%									7%
Grand Total by Species Type			0%	79%	14%	0%	5%	2%	0%	0%	0%	0%	100%

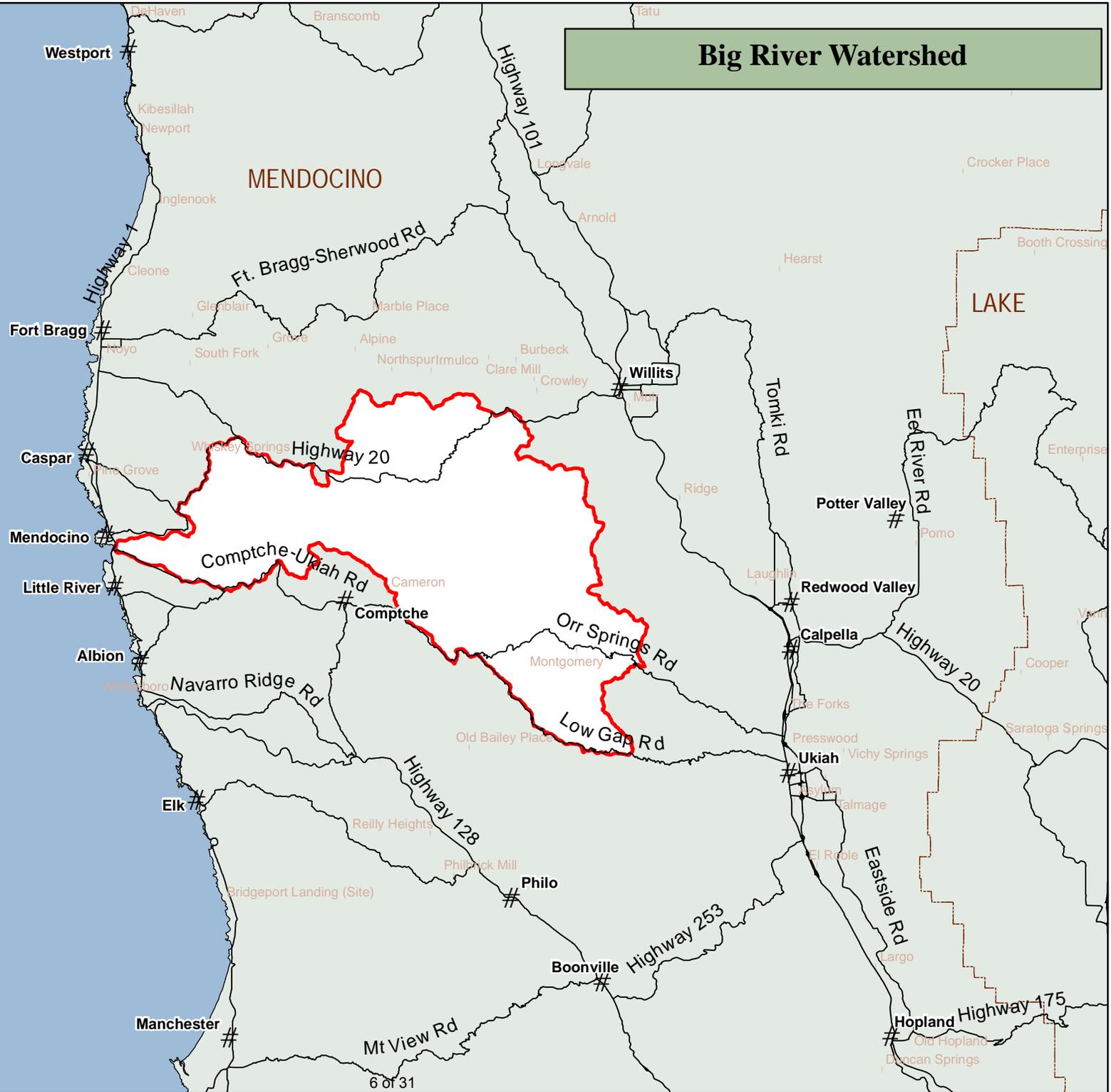
SIZE (SHRUB)	Desc.	Crown Decadence	DENSITY	Description
Not Determined		N/A		None
Seedling Shrub		Seedlings or sprouts < 3 years	S	10 to 24%
Young Shrub		None	P	25 to 39%
Mature Shrub		1 - 25%	M	40 to 59%
Decadent Shrub		> 25%	D	60 to 100%



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Big River Watershed





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July 2008

Big River Watershed CalWater Planning Watersheds

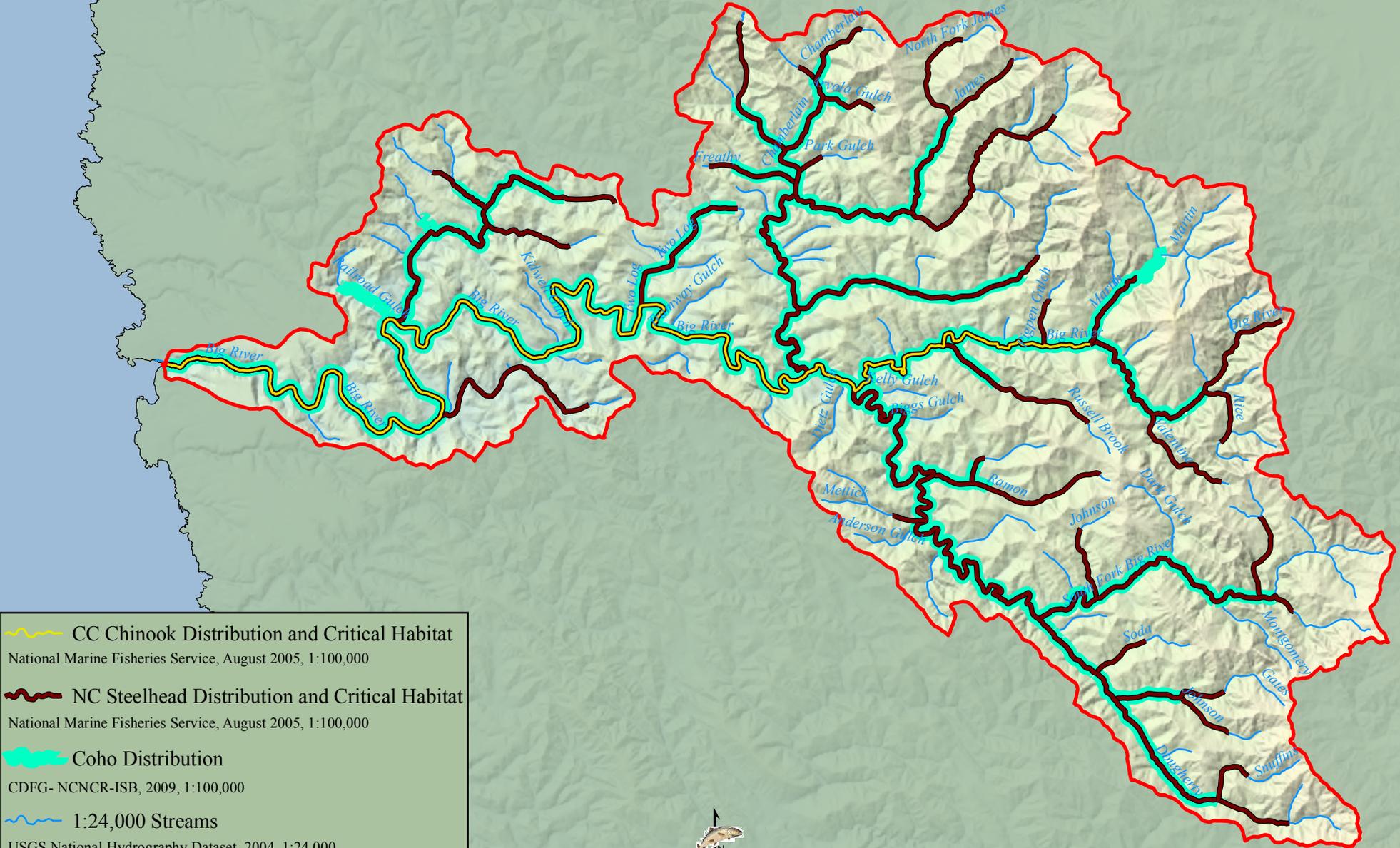




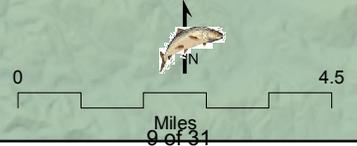
NMFS-SWR-HCD

September
2009

Big River Watershed Fish Distribution and Critical Habitat



-  CC Chinook Distribution and Critical Habitat
National Marine Fisheries Service, August 2005, 1:100,000
-  NC 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
-  Big River Watershed





NMFS-SWR-HCD

July 2008

Big River Watershed Steelhead Current vs. Historical

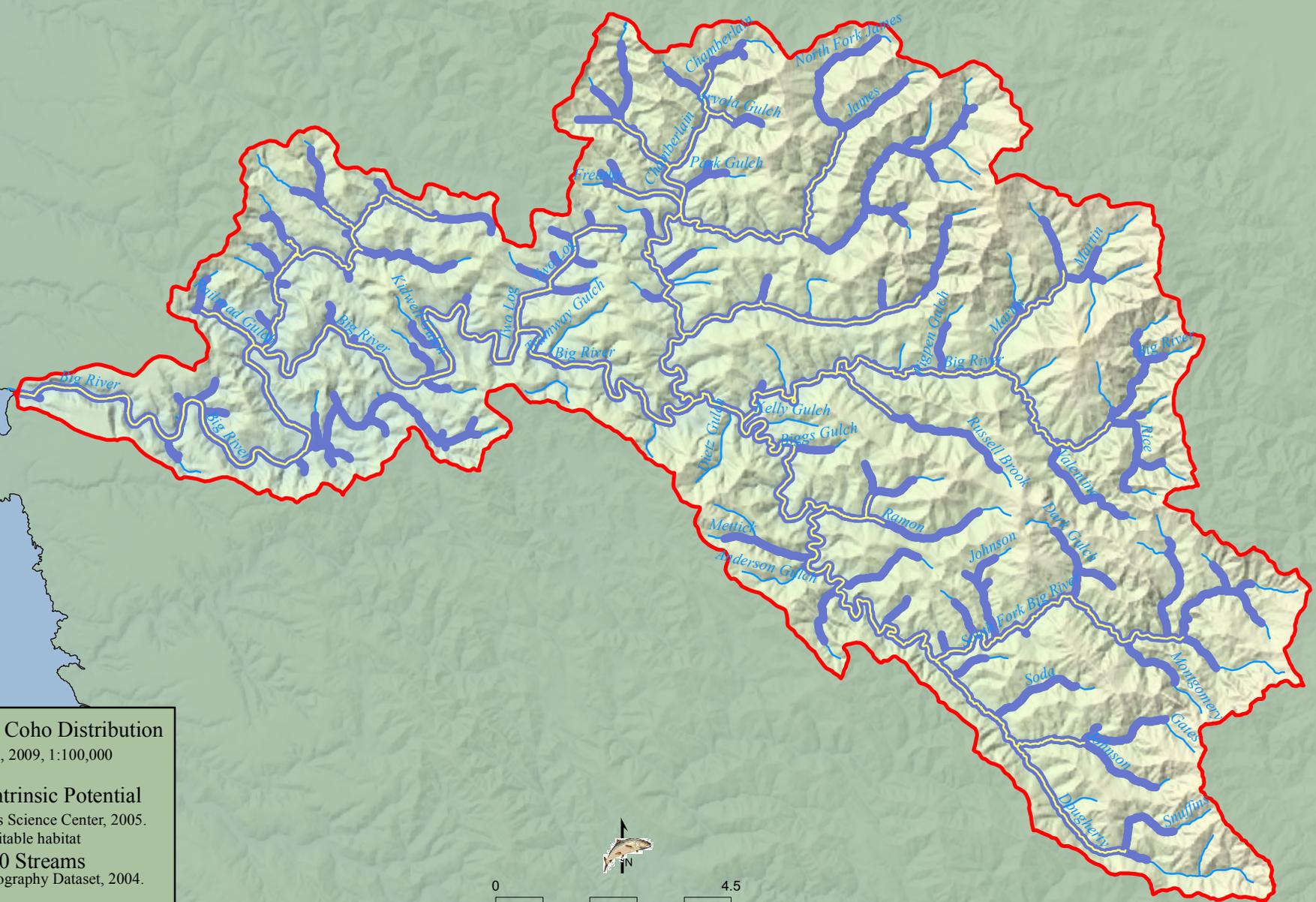




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September 2009

Big 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
-  Big River Watershed

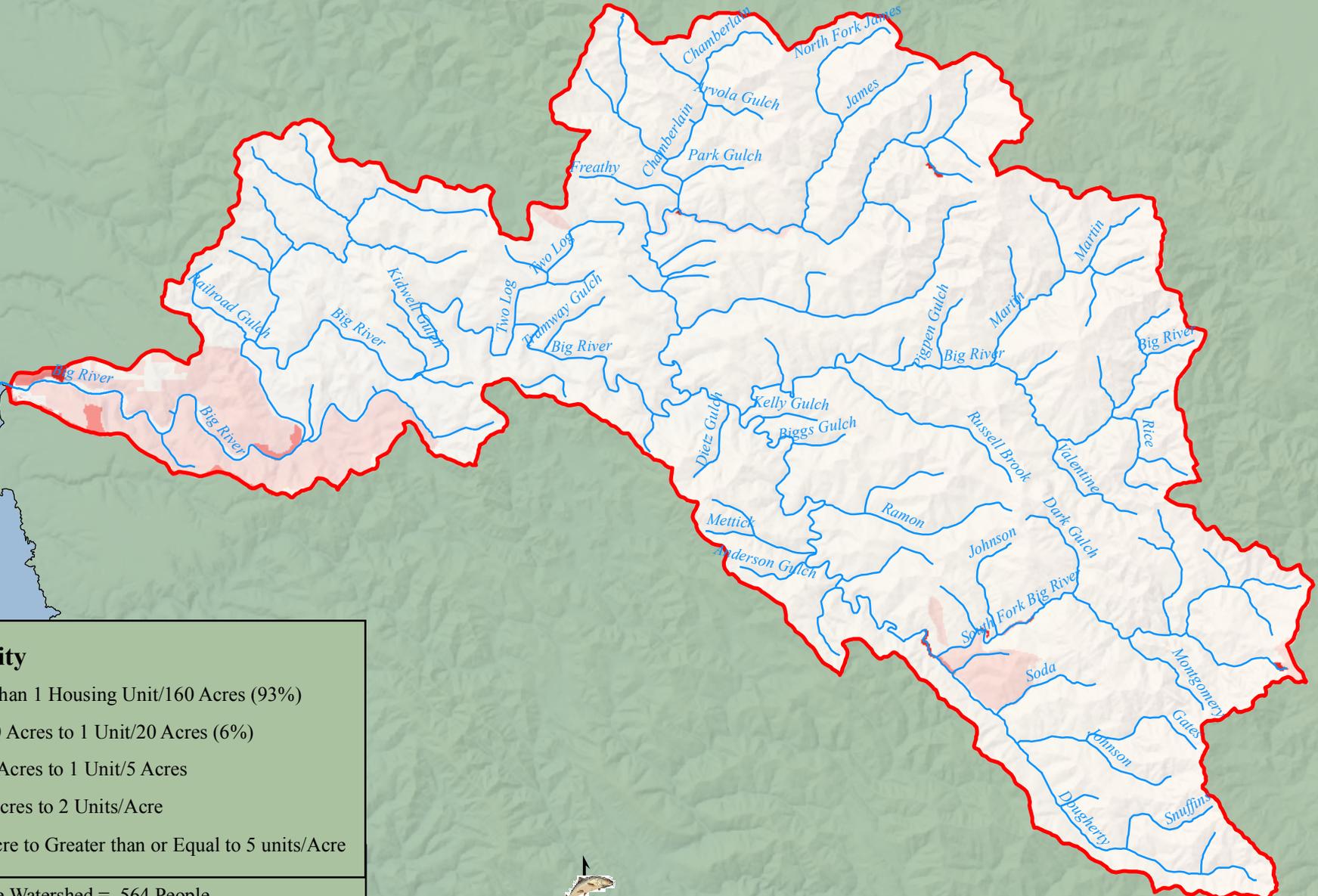




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Big River Watershed Development



Housing Density

- 0 to Less than 1 Housing Unit/160 Acres (93%)
- 1 Unit/160 Acres to 1 Unit/20 Acres (6%)
- 1 Unit/20 Acres to 1 Unit/5 Acres
- 1 Unit/5 Acres to 2 Units/Acre
- 2 Units/Acre to Greater than or Equal to 5 units/Acre

Population within the Watershed = 564 People
 Houses within the Watershed = 288
 California Department of Forestry, 2003. 1:100,000.





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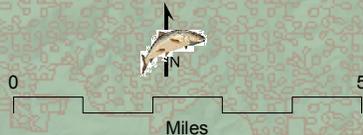
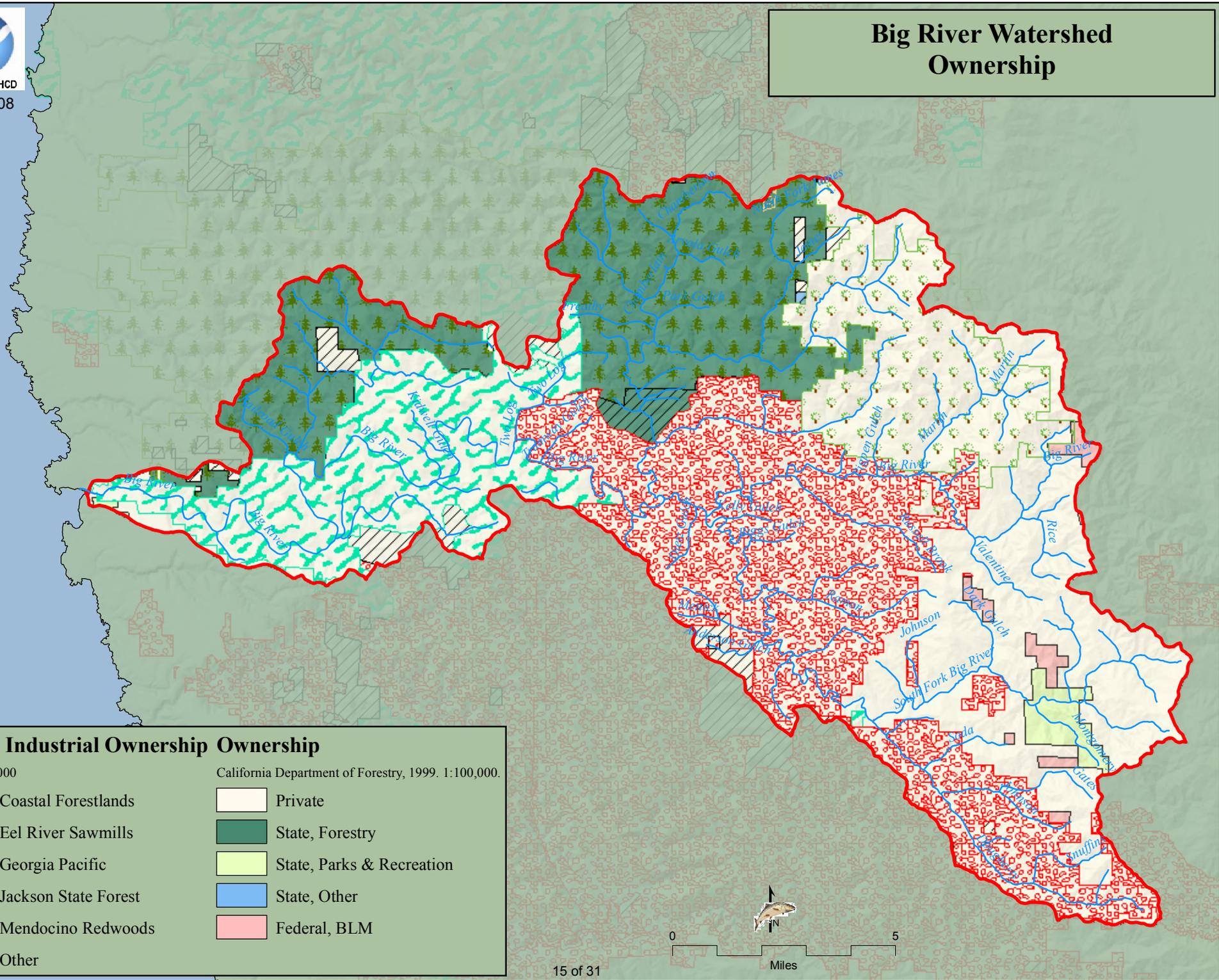
July 2008

Big River Watershed Ownership

Forest Industrial Ownership Ownership

Coastal Forestlands	Private
Eel River Sawmills	State, Forestry
Georgia Pacific	State, Parks & Recreation
Jackson State Forest	State, Other
Mendocino Redwoods	Federal, BLM
Other	

USFWS 2000
California Department of Forestry, 1999. 1:100,000.

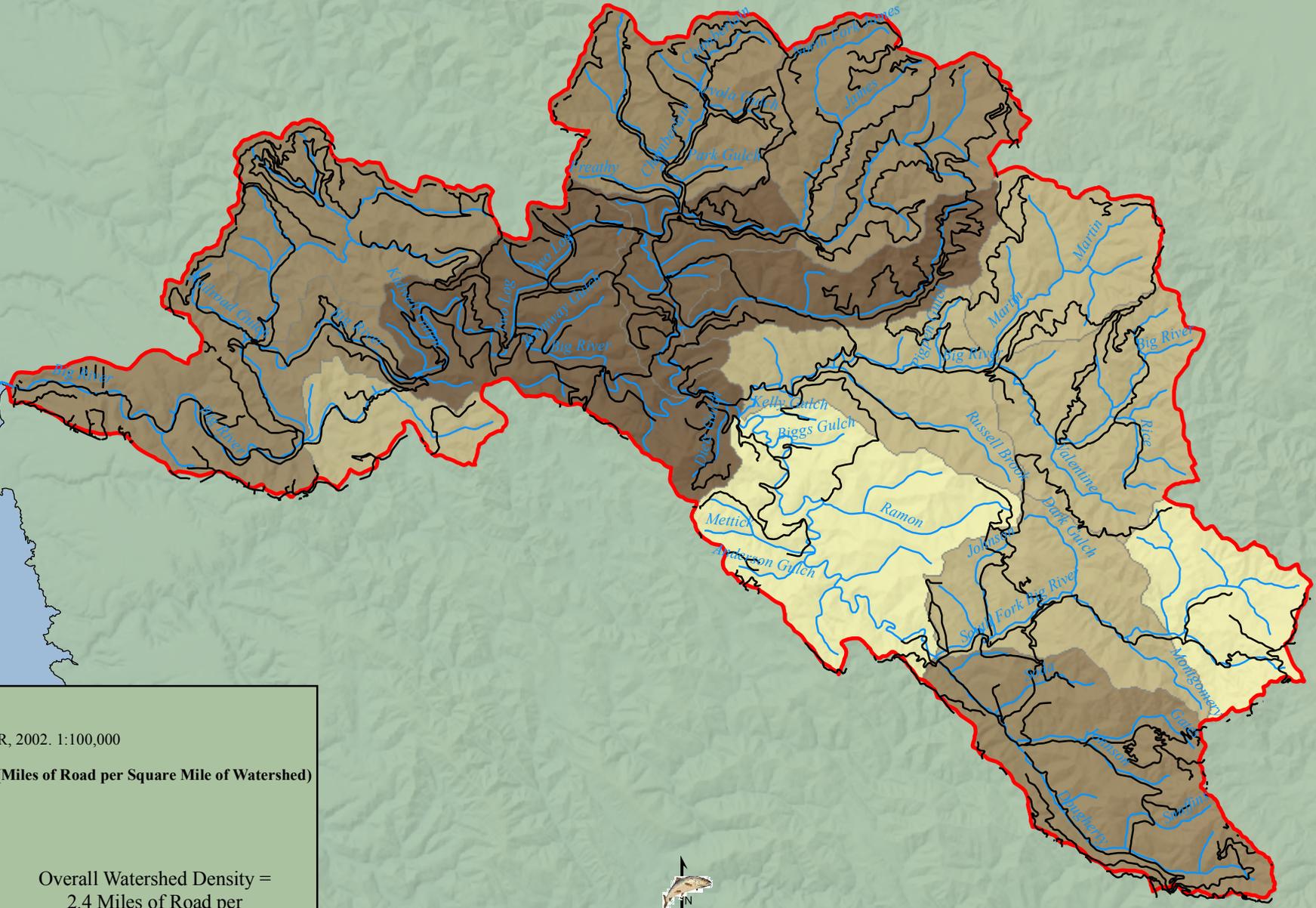




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Big River Watershed Road Density



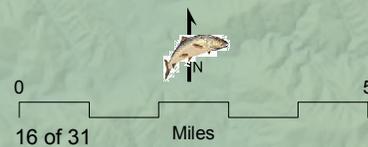
 Roads

US Census Bureau, TIGER, 2002. 1:100,000

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

-  1.0 - 1.5
-  1.5 - 2.0
-  2.0 - 3.0
-  3.0 - 4.1

Overall Watershed Density =
2.4 Miles of Road per
Square Mile of Watershed

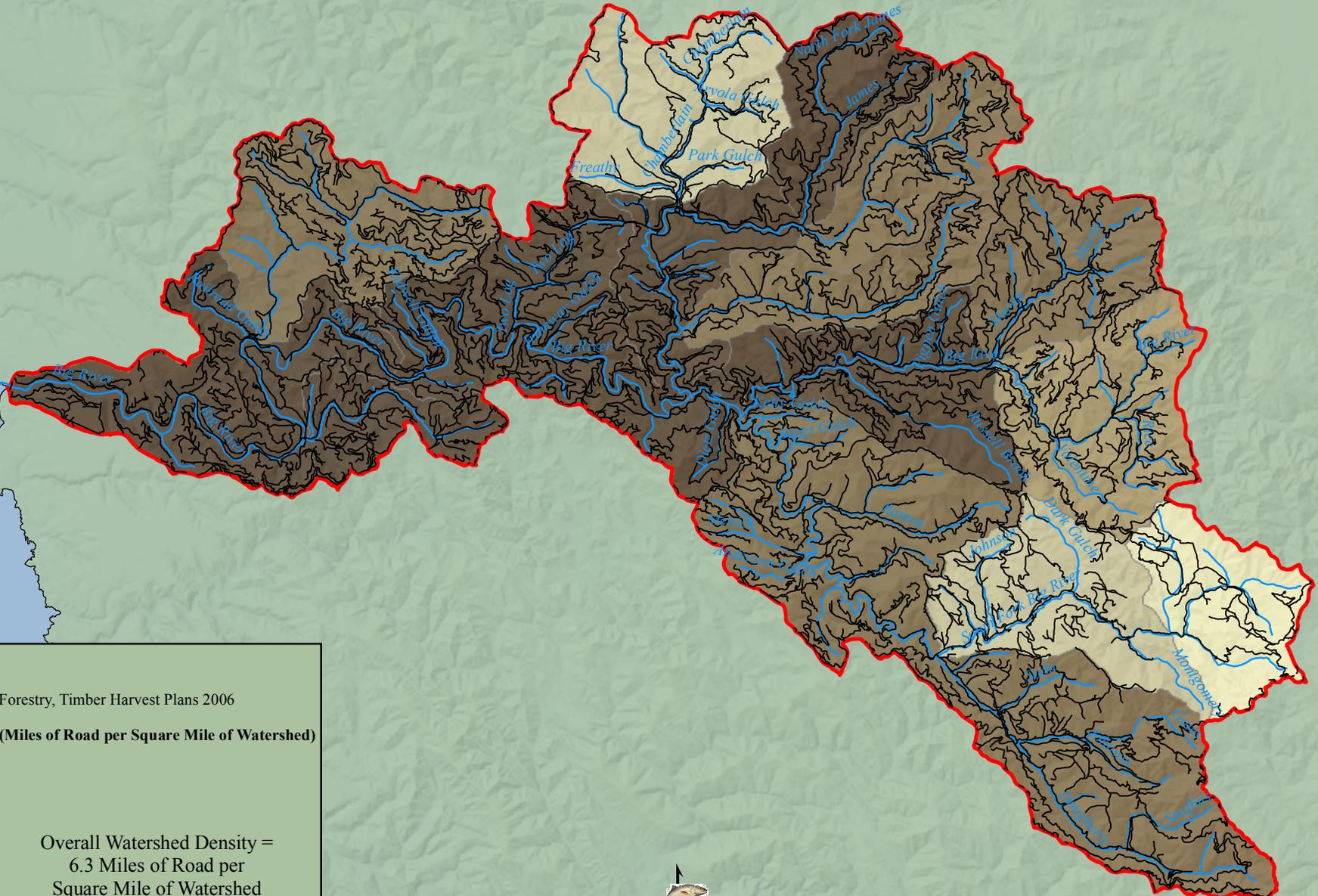




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Big River Watershed Road Density per Timber Harvest Plan Roads



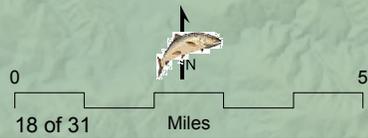
 Road

California Department of Forestry, Timber Harvest Plans 2006

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

	3.5 - 4.0
	4.0 - 5.0
	5.0 - 6.0
	6.0 - 7.0
	7.0 - 8.4

Overall Watershed Density =
6.3 Miles of Road per
Square Mile of Watershed

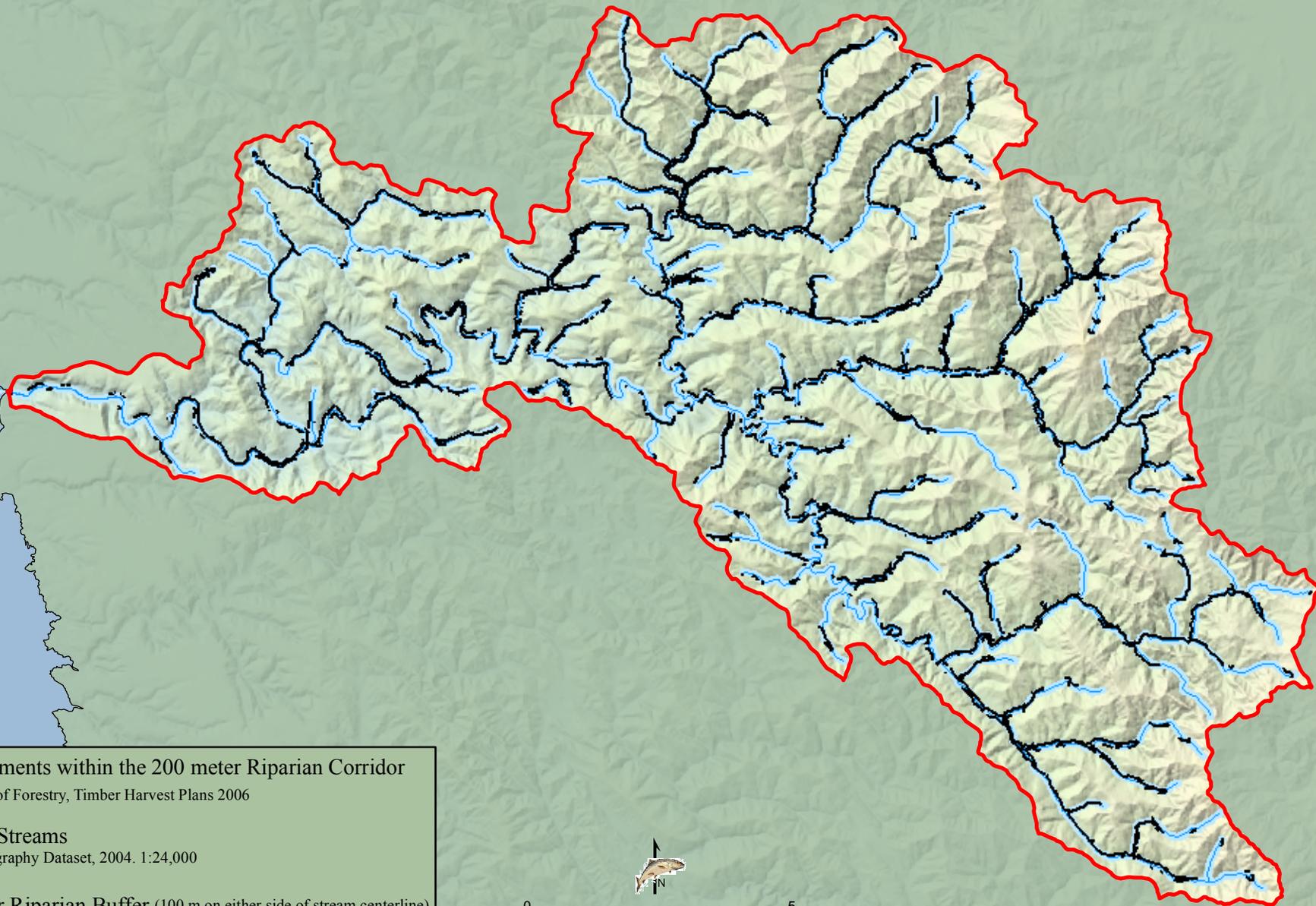




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Big River Watershed Road Density in the Riparian Corridor per Timber Harvest Plan Roads



-  Road Segments within the 200 meter Riparian Corridor
California Department of Forestry, Timber Harvest Plans 2006
 -  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 = 8.7 Miles / SqMi of Corridor

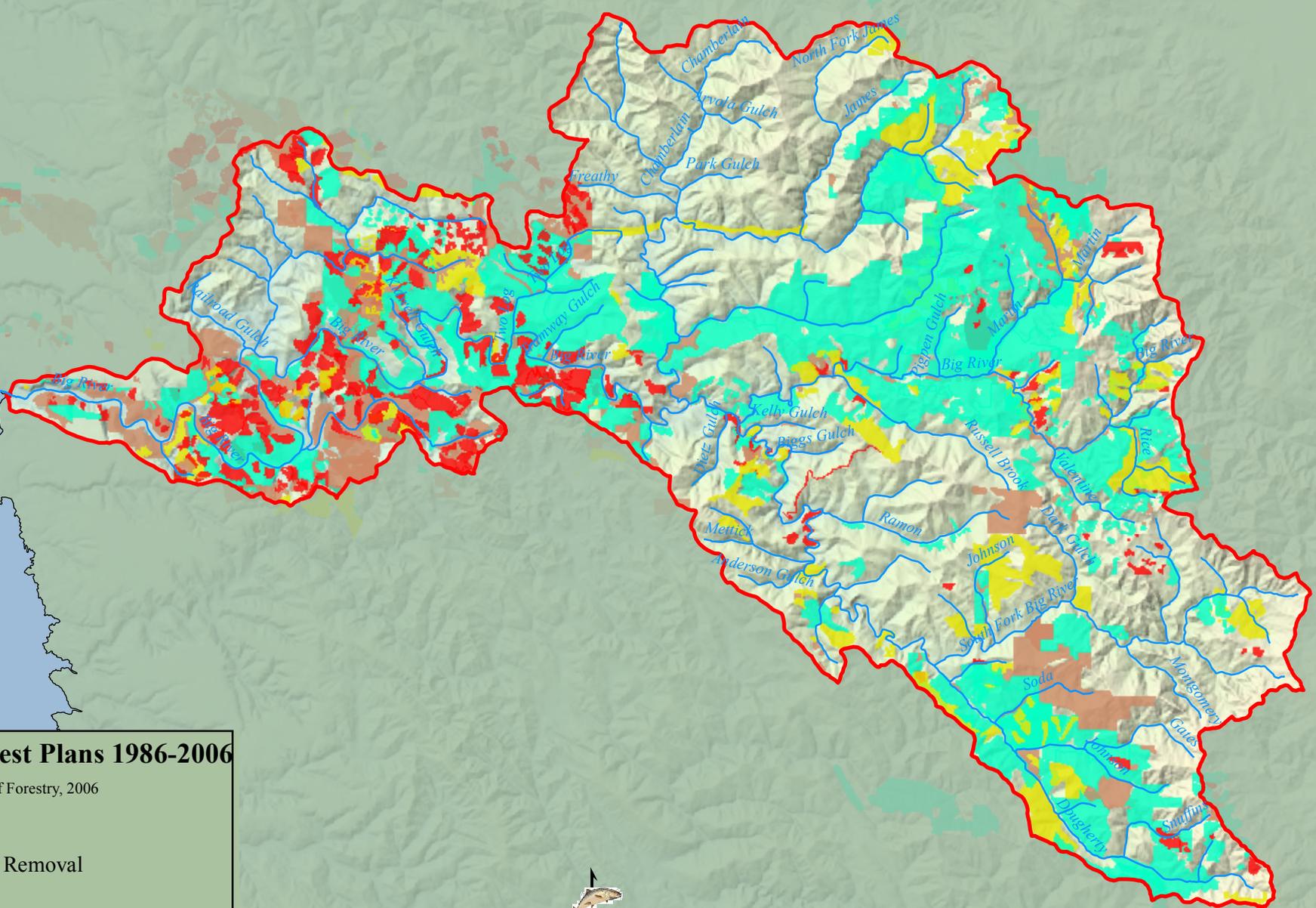




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Big River Watershed Timber Harvesting 1986-2006



Timber Harvest Plans 1986-2006

California Department of Forestry, 2006

-  Clearcut
-  Even Age Removal
-  Selection
-  Alternative Prescription

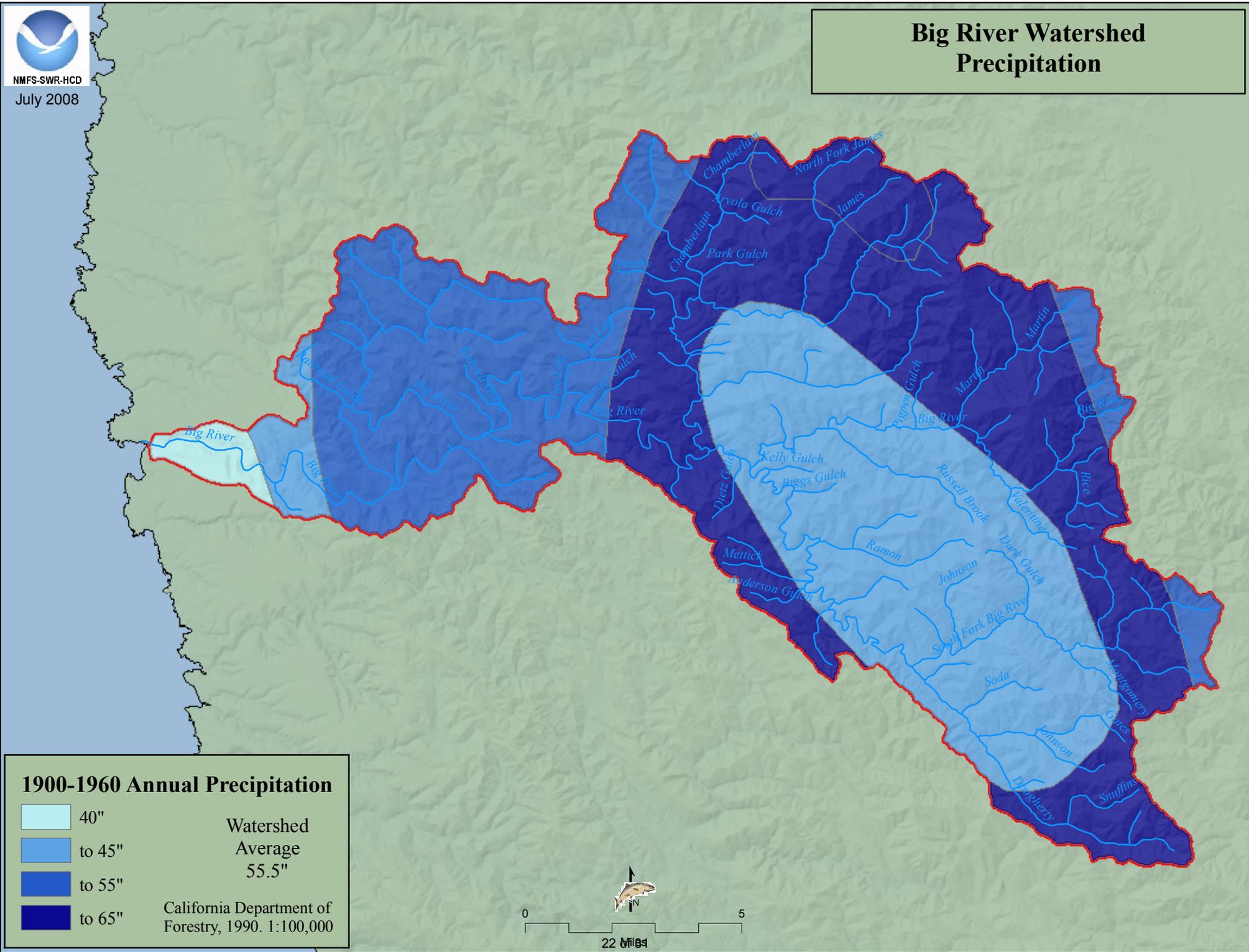




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Big River Watershed Precipitation



1900-1960 Annual Precipitation

- 40"
- to 45"
- to 55"
- to 65"

Watershed
Average
55.5"

California Department of
Forestry, 1990. 1:100,000

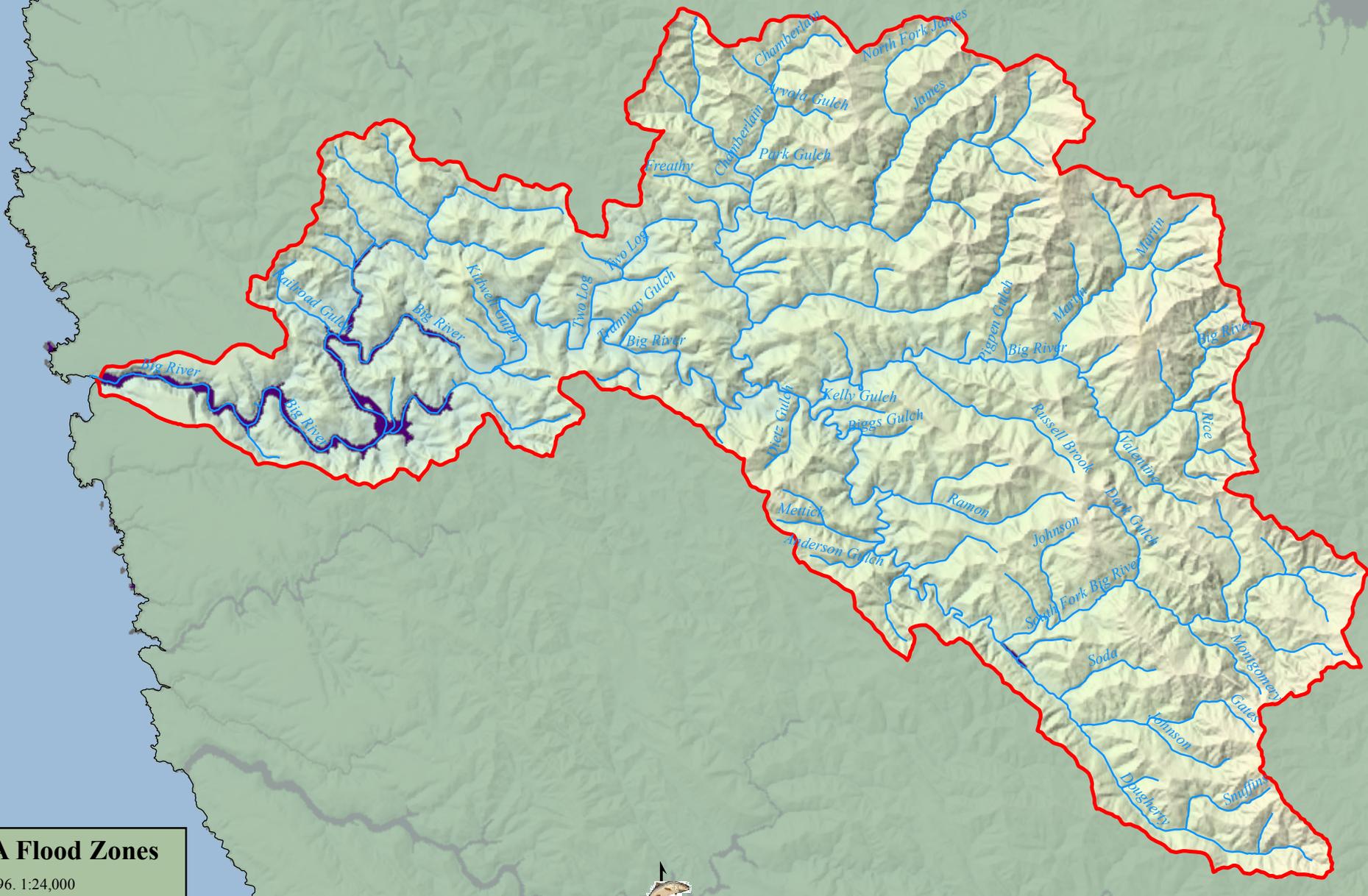




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Big River Watershed Flood Zone



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

-  100 Year Flood Zone
-  500 Year Flood Zone

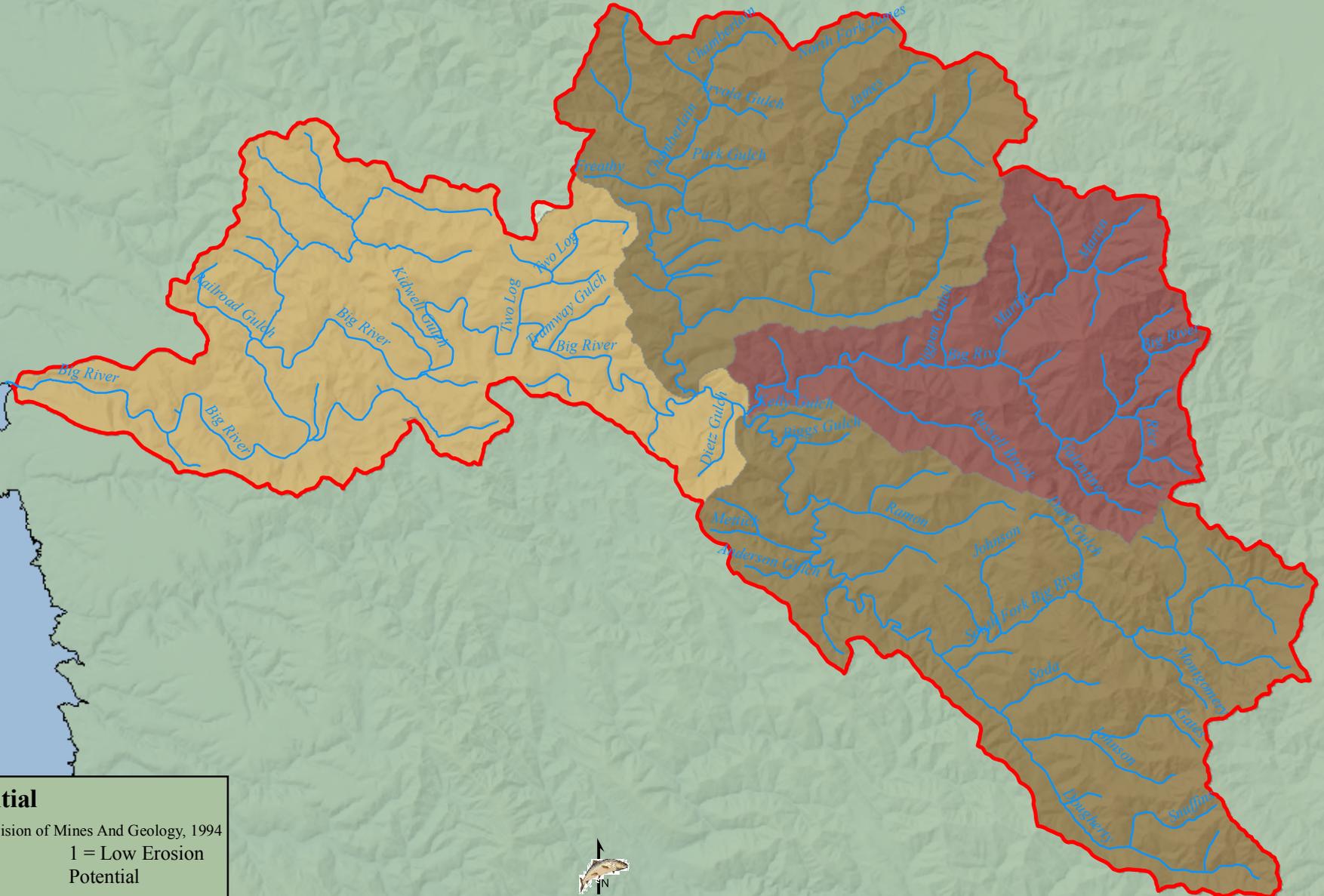




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Big River Watershed Erosion Potential



Erosion Potential

Ca Dept. of Conserv., Division of Mines And Geology, 1994

	5	1 = Low Erosion Potential
	8	
	9	10 = High Erosion Potential

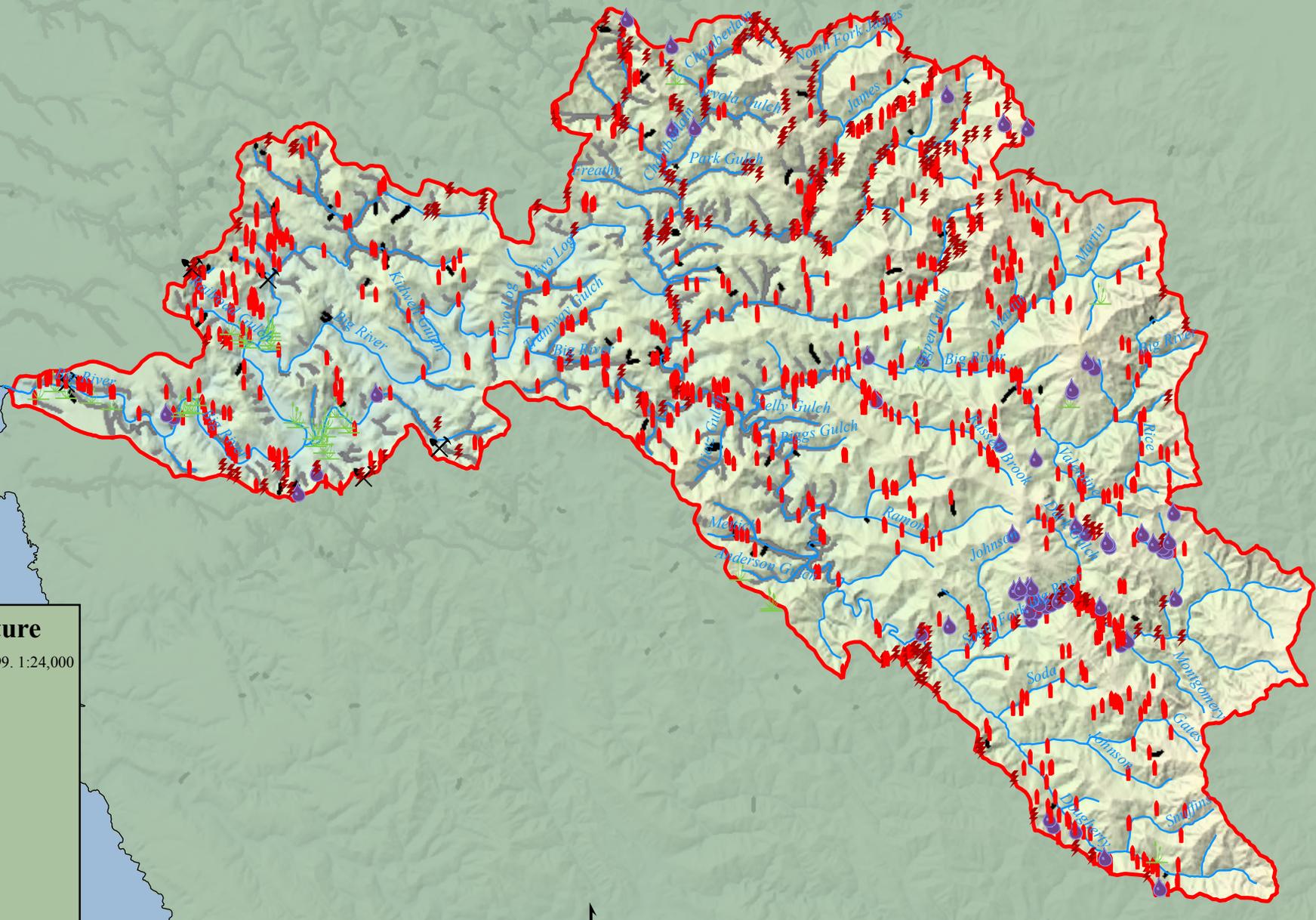




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Big River Watershed Geologic Features



Geologic Feature

CA Geologic Survey, 1999. 1:24,000

-  Dipbed
-  Marsh
-  Quarry
-  Slide
-  Spring
-  Gorge
-  Torrent track
-  Gorge





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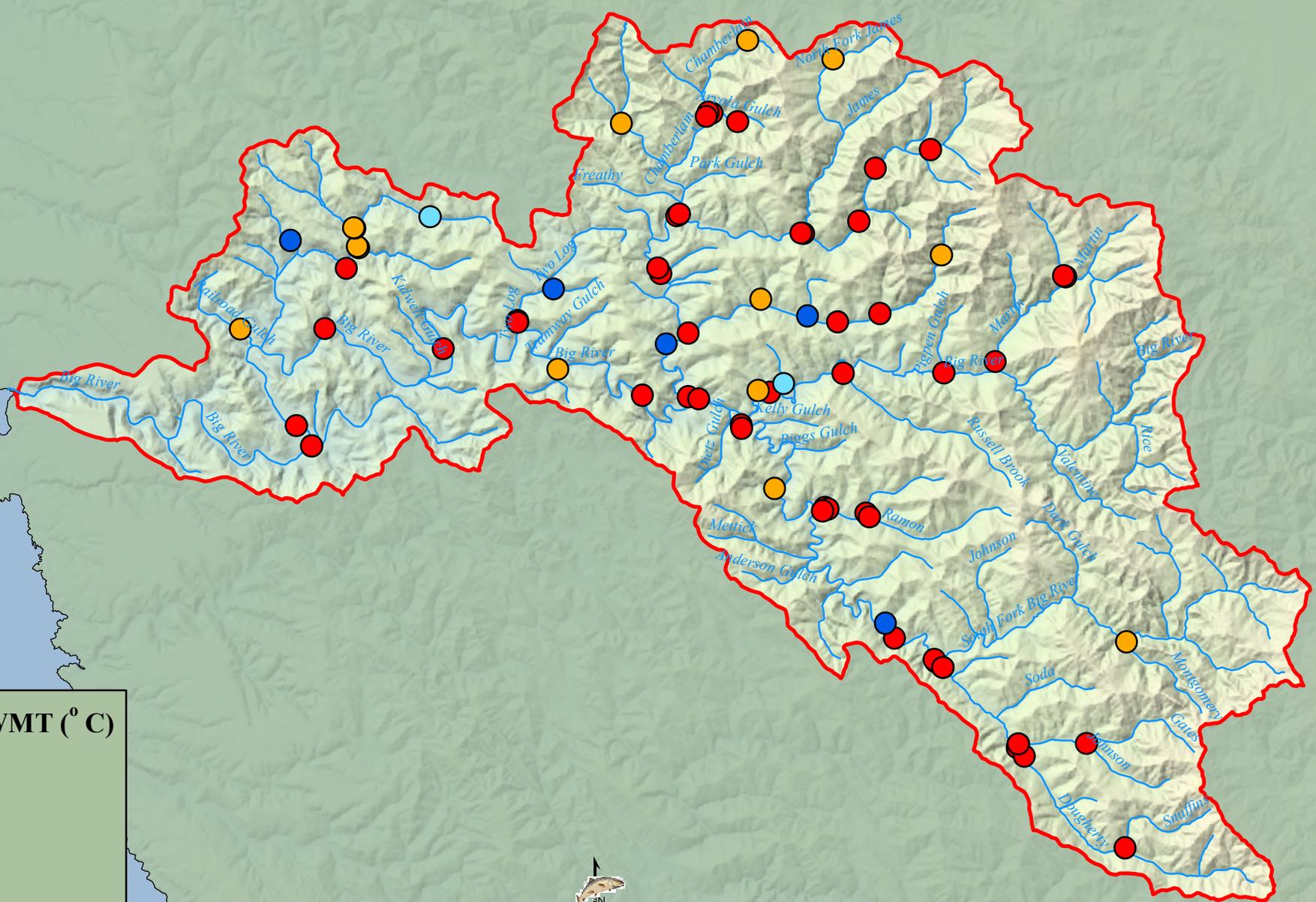
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Big River Watershed In-stream Temperature

Average MWMT ($^{\circ}$ C)

- 0 - 14
- 14 - 15
- 15 - 17
- 17 - 28

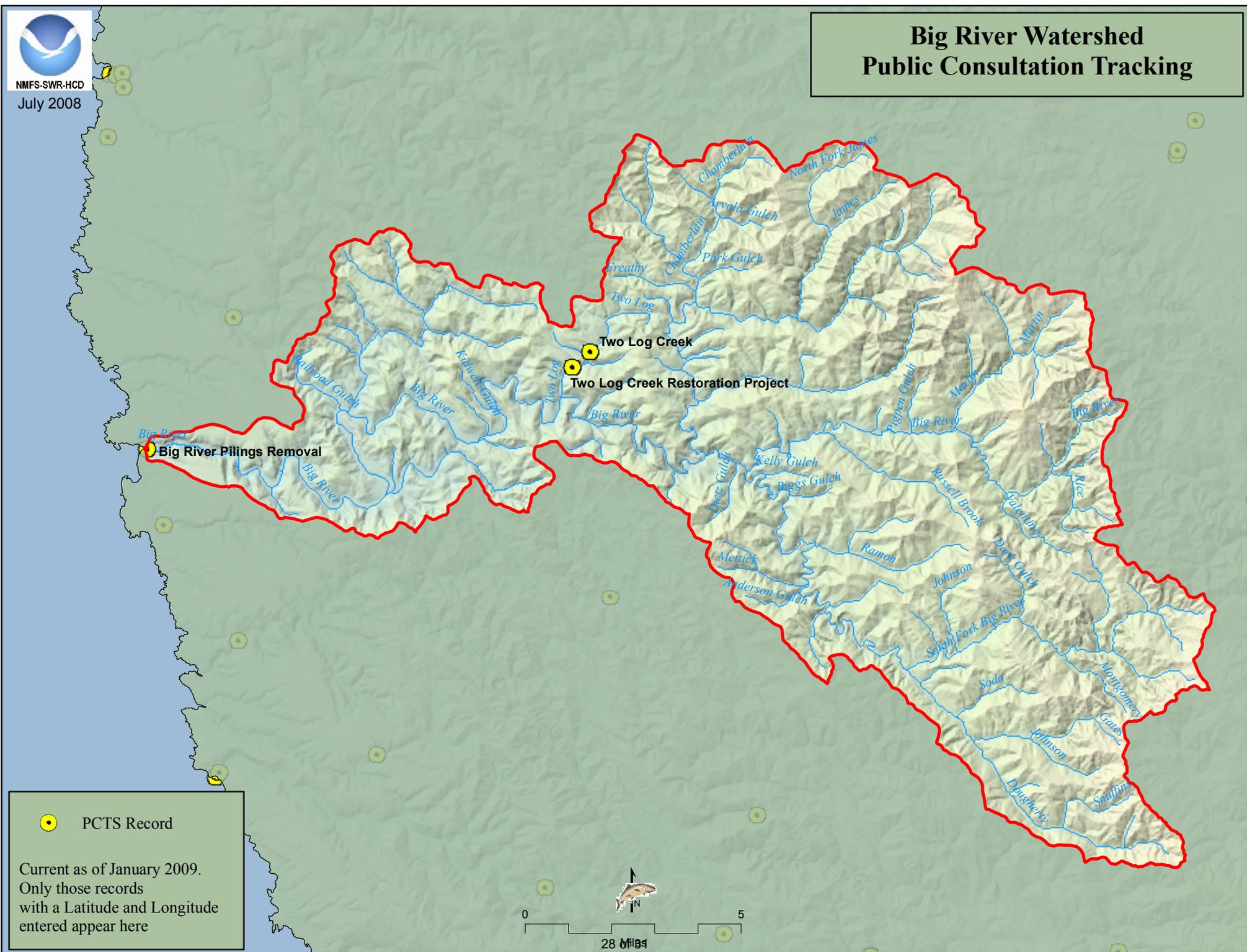
Sonoma Ecology Center, 2008.





NMFS-SWR-HCD
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Big River Watershed Public Consultation Tracking



 PCTS Record

Current as of January 2009.
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/>

NC_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>

CC_Chinook_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

CC_Chinook_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>

NC_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

1801 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/>

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)

R1_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

roads
vector digital data
Timber Harvest Plans
California Department of Forestry and Fire
Protection
1:24,000
2006

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

Elevation

Dem_1_utm_f
10 Meter Digital Elevation Model (DEM)
USGS , EROS Data Center
1999

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
1986-2001

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_ca045_2004_1 (Mendocino)
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

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