



Woodman Creek Watershed

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
16,058 Acres	18010105	1111420102	Woodman Creek (8,677 acres)
6,498 Hectares	4th Field HUC	1111420103	White Rock Creek (7381 acres)
25 Square Miles	1111		

Location	
Mendocino County	4th Field Calwater

Species Potential	Miles of Streams with Species Present
So. Oregon/ No. California Coast Coho Eel River Diversity Stratum - within the Mainstem Eel River Population - Potentially Independent Population	<u>Coho</u> 0
Northern California Steelhead Lower Interior Diversity Stratum - Potentially Independent Population	<u>Steelhead</u> 10
California Coastal Chinook North Mountain Interior Diversity Stratum - within the Upper Eel River Population - Independent Population	<u>Chinook</u> 3
	NOAA Fisheries, Critical Habitat Redesignation, 2005

Critical Habitat		
Northern California Steelhead	Miles of Stream	10
California Coastal Chinook	Miles of Stream	3

Miles of Waterway ^A	Miles	Number of Dams ^C
Intermittent Stream	10	0
Perennial Stream	20	

^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
None	1
	0 Dams 1 Non-structural, fish passage - Not a Barrier

^CPassage Assessment Database,
Pacific States Marine Fisheries Commission, 2009

Average Annual Precipitation ^E	Average Annual Precipitation Range ^E
59.1"	45" to 65"

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



Roads^A	Miles
Local, neighborhood, and rural road, city street, unseparated	42
Driveway or service road	3
Total Miles	45

Road Density	
Miles of Roads per SqMi of Watershed	1.8
Miles of Roads per SqMi of 100m Riparian Buffer*	2.2

*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	30	0%
Lands of 2-4 percent slope	34	0%
Lands of 4-10 percent slope	254	2%
Lands of 10-15 percent slope	440	3%
Lands of 15-30 percent slope	3,109	19%
Lands of 30-60 percent slope	8,193	51%
Lands of 60-100 percent slope	3,893	24%
Lands of > 100 percent slope	99	1%

Elevation Range	794 - 4498 ft	242 - 1371 m
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^DSlope derived from USGS 10 meter Digital Elevation Models (DEM's)

Vegetation^G	Acres	Percent of watershed
Annual grassland	1,764	11%
Barren	86	1%
Conifer Forest		
Douglas Fir	5,510	34%
Montane Hardwood-Conifer	245	2%
Hardwood Forest		
Montane Hardwood	7,539	47%
Montane Riparian	5	0%
Hardwood Woodland		
Shrub	885	6%
Urban	2	0%
Water	5	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 = 8	16,058	100%

^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	12,541	78%
Federal, BLM	3,505	22%

^HManagement Landscape, CA Department of Forestry, 2002 and US FWS (data supplied by major landowners who were undergoing an HCP), 2000



Area Under a **Timber Harvest Plan^A** past 10 years

8 Acres

Area Under a **Timber Harvest Plan^A** past 14 years

268 Acres

0.03% of watershed

^ACalifornia Department of Forestry, Timber Harvest Plans for Napa Watershed, 2009

Population^I

Total Population within
the watershed -- 63 People

Housing^I

Total Housing Units within the watershed -- 39 Houses

Housing Density

0 to Less than 1 Housing Unit / 160 Acres

99%

1 Unit / 160 Acres to 1 Unit / 20 Acres

1%

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





July 2010

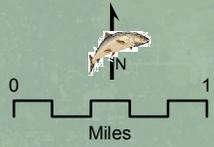
Woodman Creek Watershed





April 2010

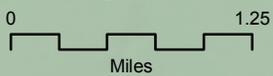
Woodman Creek Watershed





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Woodman Creek Watershed CalWater Planning Watersheds



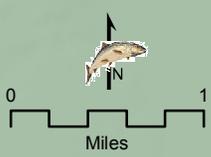


April 2010

Woodman Creek 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.
-  1:24,000 Streams



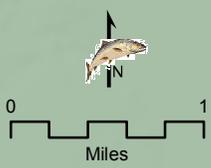


April 2010

Woodman Creek Watershed Steelhead Current vs. Historical



-  NC 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





April 2010

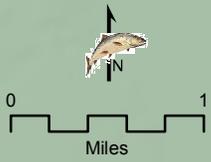
Woodman Creek Watershed Chinook Current vs. Historical



 CC Chinook Distribution
National Marine Fisheries Service, August 2005. 1:100,000.

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

 1:24,000 Streams





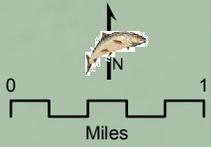
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Woodman Creek Watershed Elevation



Woodman Elevation (meters)

1371	USGS
	10 Meter Digital
	Elevation
242	Model (DEM)





April 2010

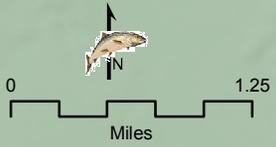
Woodman Creek Watershed Development



Housing Density

White	0 to Less than 1 Housing Unit / 160 Acres (99%)
Light Pink	1 Unit / 160 Acres to 1 Unit / 20 Acres (1%)
Red	1 Unit / 20 Acres to 1 Unit / 5 Acres
Dark Red	1 Unit / 5 Acres to 2 Units / Acre
Dark Red	2 Units / Acre to Greater than or Equal to 5 Units / Acre

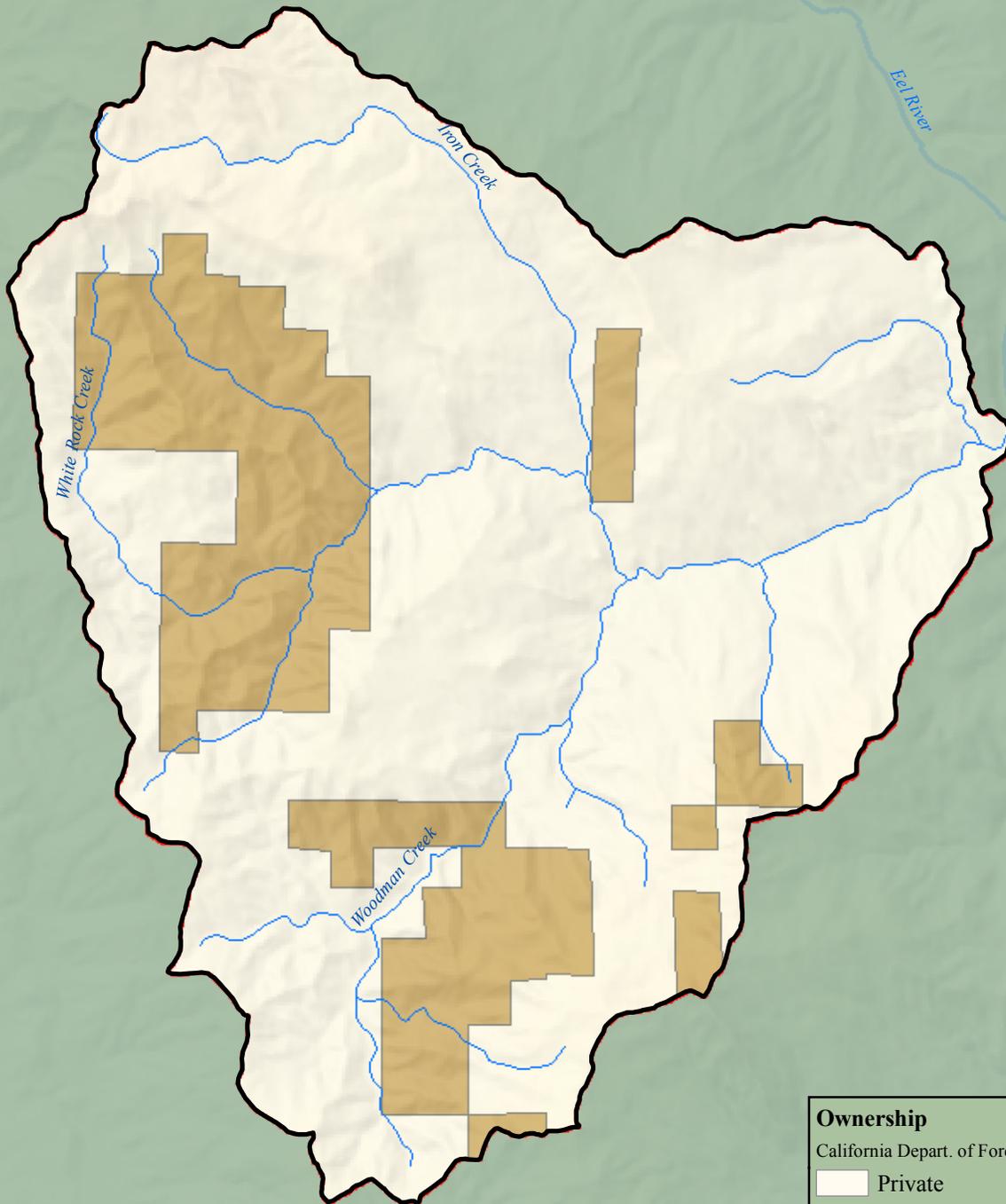
Population within the Watershed = 63 People
 Houses within the Watershed = 39
 California Department of Forestry, 2003. 1:100,000.





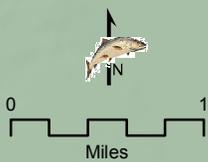
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Woodman Creek Watershed Ownership



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

	Private
	Federal, BLM





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Woodman Creek Watershed Road Density

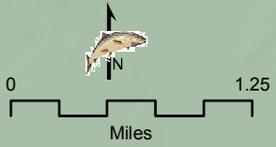


~ Road
U.S. Census Bureau - Tiger 2000, 2002. 1:24,000

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

Light Brown	1.3
Dark Brown	2.2

Overall Watershed
Density = 1.8 Miles / SqMi





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Woodman Creek Watershed Road Density in the Riparian Corridor

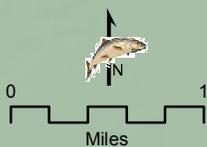


 Road Segments within the 200 meter Riparian Corridor
U.S. Census Bureau - Tiger 2000, 2002. 1:24,000

 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 = 2.2 Miles / SqMi of Corridor

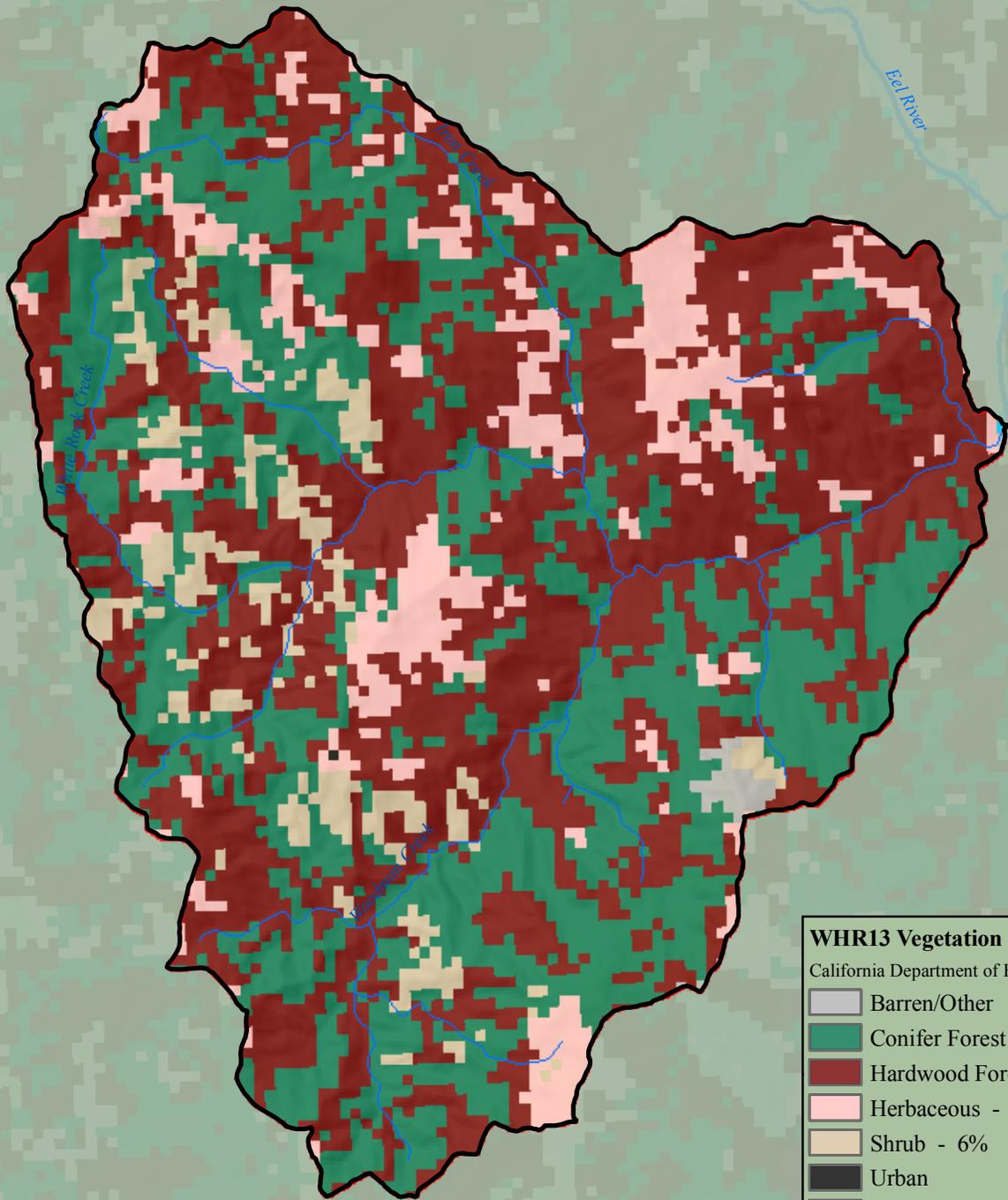


Eel River



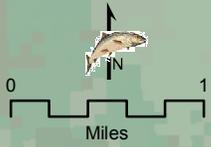
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Woodman Creek Watershed Vegetation



WHR13 Vegetation Classification
California Department of Forestry, 2002.100 meter Grid

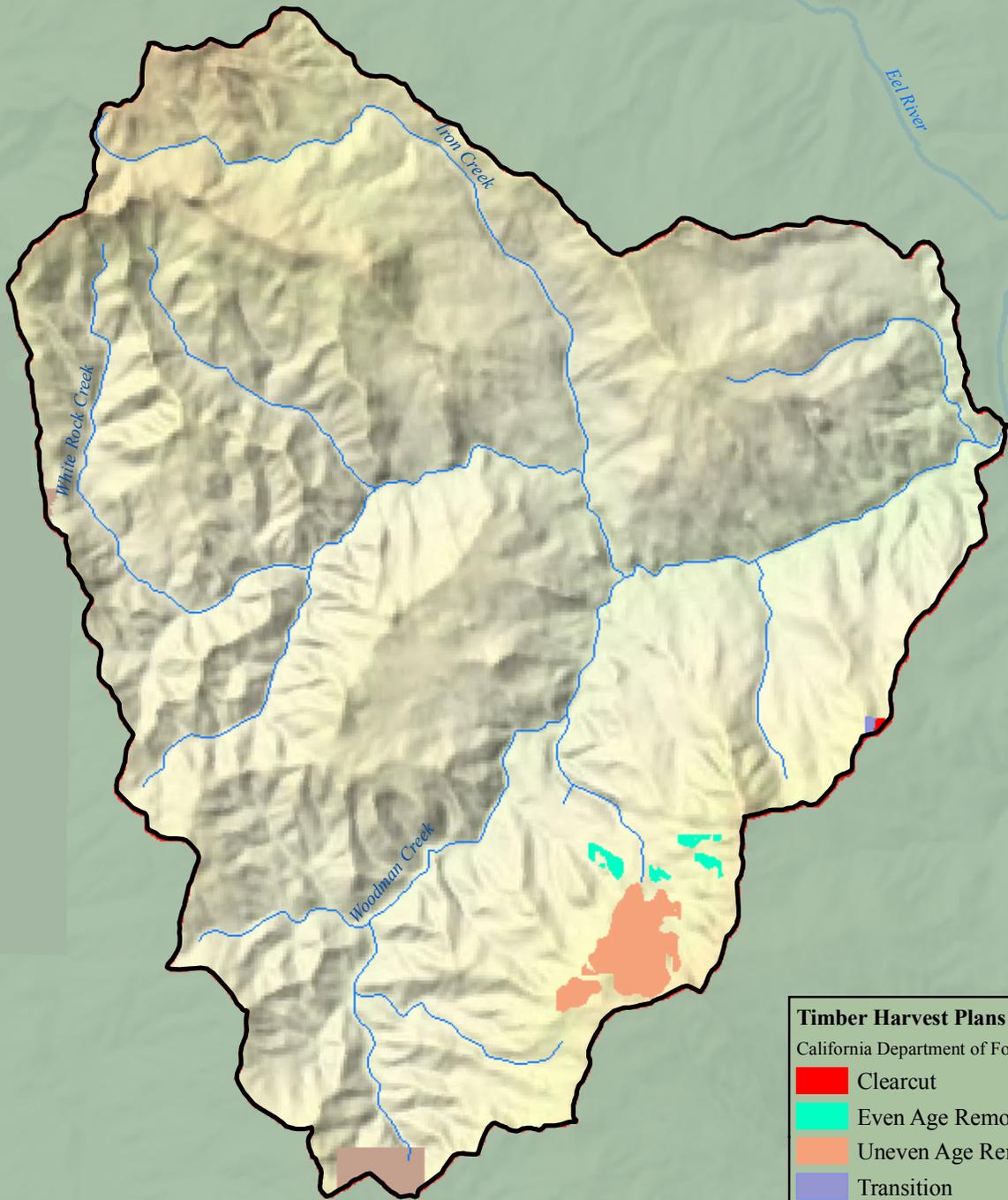
Barren/Other
Conifer Forest - 36%
Hardwood Forest - 47%
Herbaceous - 11%
Shrub - 6%
Urban
Water





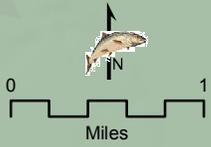
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Woodman Creek Watershed Timber Harvesting 1997-2005



Timber Harvest Plans 1997-2005
California Department of Forestry, 2006

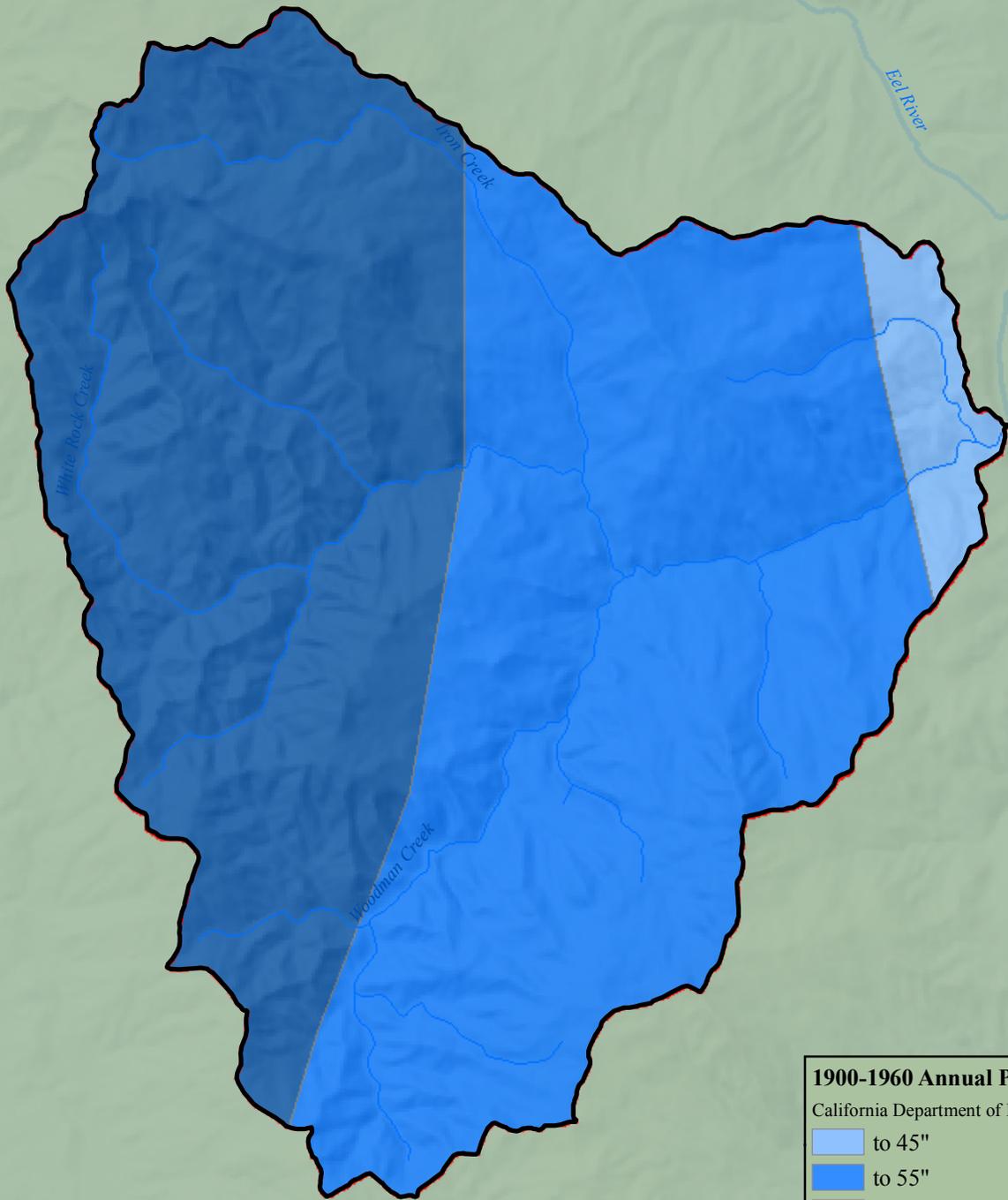
- Clearcut
- Even Age Removal
- Uneven Age Removal
- Transition
- Selection
- Alternative Prescription





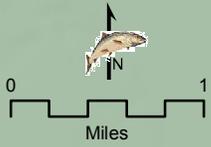
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Woodman Creek Watershed Precipitation



1900-1960 Annual Precipitation
California Department of Forestry, 1990. 1:100,000

Light Blue	to 45"
Medium Blue	to 55"
Dark Blue	to 65"





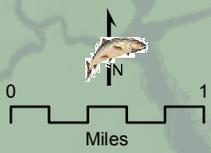
April 2010

Woodman Creek Watershed Flood Zone



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

- 100 Year Flood Zone
- 500 Year Flood Zone





April 2010

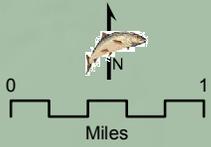
Woodman Creek Watershed Erosion Potential



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

	8
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1 = Low Erosion Potential	10 = High Erosion Potential
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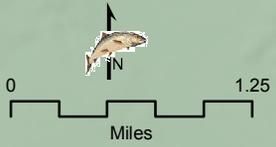
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Woodman Creek Watershed Barriers



Barrier Type, Barrier Status
CA Fish Passage Assessment, PSMFC, 2009

-  Fish passage facility, Not a barrier
-  1:24,000 Streams



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

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

HydroIn
vector digital data
Hydrography
Timber Harvest Plans

References

California Department of Forestry and Fire
Protection
1:24,000
2006

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_september2010
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

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
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_ca045_2009_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 (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