



Albion River Watershed

Area	Hydrologic Units	Calwater Subbasins ---	(Planning Watersheds)
27,508 Acres	18010108	1113400001	Middle Albion River (4874 acres)
11,131 Hectares	4th Field HUC	1113400002	SF Albion River (5833 acres)
43 Square Miles		1113400003	Lower Albion River (8071 acres)
	1113	1113400006	Upper Albion River (8733 acres)
Location		4th Field Calwater	
Mendocino County			

Species Potential	Miles of Streams with Species Present
Central California Coast Coho Lost Coast Diversity Stratum - Independent Population	<u>Coho</u> 29 CDFG, Coho Distribution, May 2007
Northern California Steelhead North-Central Coastal Diversity Stratum - Independent Population	<u>Steelhead</u> 41
California Coastal Chinook North-Central Coastal Diversity Stratum - Dependent Population	<u>Chinook</u> 13 NOAA Fisheries, Critical Habitat Redesignation, 2005

Critical Habitat	
Central California Coast Steelhead:	41 Miles
California Coastal Chinook:	13 Miles
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)	59
% of IP (21.5 C Mask) with Current Coho Distribution	59%
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
Miles of CA FPR Class I streams	47	1 - Impassable
Miles of CA FPR Class II streams	57	1 - Summer Dam (Temporarily impassable)
Miles of CA FPR Class III streams	159	2 - Unknown passage status
Miles of CA FPR Class IV streams	1	
Miles of CA FPR Class V streams	4	
--- OR ---		
Miles of Perennial streams	49	
Miles of Intermittent streams	218	

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

USGS Gaging Stations ^B	Number of Barriers ^C
Albion River Tributary near Comptche USGS11468020	54
Albion River near Comptche USGS11468010	4 Dams (1 Impassable) 28 Water Rights Diversions 19 Road Crossings (2 Impassable)
^B US Environmental Protection Agency BASINS Project, 2001	
^C Passage Assessment Database, Pacific States Marine Fisheries Commission, 2008	



EPA Total Maximum Daily Load Classification (TMDL)^I

Sedimentation/Siltation

Sources: Silviculture, Logging Road Construction/Maintenance, Nonpoint source

^IState Water Resources Control Board, 2003

Appropriated Waterways^J

Marsh Creek (tributary to Albion River) is a Fully Appropriated Stream

^JCalifornia State Water Resources Control Board, 1998.

Average Annual Precipitation^E

54 inches

Average Annual Precipitation Range^E

40-65"

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

Roads^A

Miles

Roads in Watershed	332
Miles of Secondary Roads	20
Miles of Improved (Rocked) Roads	52
Miles of Unimproved (Seasonal) Roads	232
Miles of Temporary & 4WD Roads	11
Proposed (2006 THP's)	16

Road Density

Miles of Roads per SqMi of Watershed	7.7
Miles of Roads per SqMi of 100m Riparian Buffer*	6.4

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

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

Slope^D

Acres

Percent of watershed

Lands of 0-2 percent slope	1383	5%
Lands of 2-4 percent slope	882	3%
Lands of 4-10 percent slope	2127	8%
Lands of 10-15 percent slope	1583	6%
Lands of 15-30 percent slope	5619	20%
Lands of 30-60 percent slope	12894	47%
Lands of 60-100 percent slope	2943	11%
Lands of > 100 percent slope	79	0%

Elevation Range

0-1560 ft.

0-475 m

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

Vegetation^G

Acres

Percent of watershed

Annual grassland	2466	9%
Barren	2	0%
Coastal Scrub	672	2%
Conifer Forest		
Closed-Cone Pine- Cypress	1035	4%
Montane Hardwood-Conifer	605	2%
Redwood	20396	74%
Hardwood Forest		
Montane Hardwood	2167	8%
Montane Riparian	5	0%
Mixed Chaparral	5	0%
Urban	35	0%
Water	109	0%

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

Erodability of Watershed^F	Acres	Percent of watershed
Total Rating = 5	27508	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
Georgia Pacific	1137	4%
Mendocino Redwoods	21968	80%
Other Private	4208	15%
Van Damme State Park	192	<1%

^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	Area Under a Timber Harvest Plan^A past 20 years
11,169 Acres 41% of watershed	17,698 Acres 64% of watershed

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

Population^I	Housing^I
Total Population within the watershed -- 893 People	Total Housing Units within the watershed -- 487 Houses
	Housing Density
	0 to Less than 1 Housing Unit / 160 Acres 58%
	1 Unit / 160 Acres to 1 Unit / 20 Acres 34%
	1 Unit / 20 Acres to 1 Unit / 5 Acres 7%
	1 Unit / 5 Acres to 2 Units / Acre 1%
	2 Units / Acres to Greater than or Equal to 5 Units / Acre 0%

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



Albion 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		2.5					2,466.1		34.6	108.7		
	S												
	P			2.5									
	M												
Seedling	D			19.8		2.5							
	Total		2.5	22.3				2466.1		34.6	108.7		2634
	S												
	P												
Sapling	M												
	D			2,038.6		311.4							
	Total			3162.9		867.3							4030
	S			42.0		64.2							
Pole	P			415.1		111.2							
	M			667.2		380.5							
	D			2,038.6		311.4							
	Total			4608.5		867.3							5256
Small Tree	S			69.2		56.8							
	P			247.1		12.4							
	M			192.7		69.2							
	D			4,099.5		509.0							
Medium/Large Tree	Total			4608.5		867.3							5256
	S			34.6		17.3							
	P			74.1		37.1							
	M			140.8		64.2							
Multi Layered	D			3,192.6		415.1		####					
	Total			3442.2		533.7		####					4653
	S			135.9									
	P			721.5									
Medium/Large Tree	M			585.6		2.5							
	D			7,489.8		118.6							
	Total			8932.8		121.1							9054
	S												
Multi Layered	D			1,868.1									
	Total			1868.1									1868
Grand Total by Species Type													27495

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%					9%		0%	0%		
	S												
	P			0%									
	M												
Seedling	D			0%		0%							
	Total		0%	0%	0%			9%	0%	0%			10%
	S												
	P												
Sapling	M												
	D			2,038.6		311.4							
	Total			3162.9		867.3							4030
	S			42.0		64.2							
Pole	P			415.1		111.2							
	M			667.2		380.5							
	D			2,038.6		311.4							
	Total			4608.5		867.3							5256
Small Tree	S			69.2		56.8							
	P			247.1		12.4							
	M			192.7		69.2							
	D			4,099.5		509.0							
Medium/Large Tree	Total			4608.5		867.3							5256
	S			34.6		17.3							
	P			74.1		37.1							
	M			140.8		64.2							
Multi Layered	D			3,192.6		415.1		####					
	Total			3442.2		533.7		####					4653
	S			135.9									
	P			721.5									
Medium/Large Tree	M			585.6		2.5							
	D			7,489.8		118.6							
	Total			8932.8		121.1							9054
	S												
Multi Layered	D			1,868.1									
	Total			1868.1									1868
Grand Total by Species Type													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%

Albion 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		2.5					533.7	9.9	98.8			
	S												
	P			2.5									
	M D			4.9									
	Total		2.5	7.4				533.7	9.9	98.8			652
Seedling	S												
	P												
	M												
	D												
	Total												0
Sapling	S			2.5	2.5								
	P			22.2	4.9								
	M			187.8	66.7								
	D			511.5	89.0								
	Total			724.0	163.1								887
Pole	S			32.1	49.4								
	P			29.7	4.9								
	M			39.5	24.7								
	D			1070.0	182.9								
	Total			1171.3	261.9								1433
Small Tree	S			7.4	2.5								
	P			19.8									
	M			56.8	17.3								
	D			963.7	170.5			###					
	Total			1047.7	190.3			###					1369
Medium/Large Tree	S			37.1									
	P			76.6									
	M			182.9									
	D			2441.4	39.5								
	Total			2737.9	39.5								2777
Multi Layered	D			501.6									
	Total			501.6									502
Grand Total by Species Type			2	6190	0	655	0	534	131	10	99	0	7621

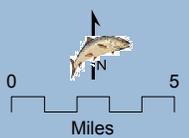
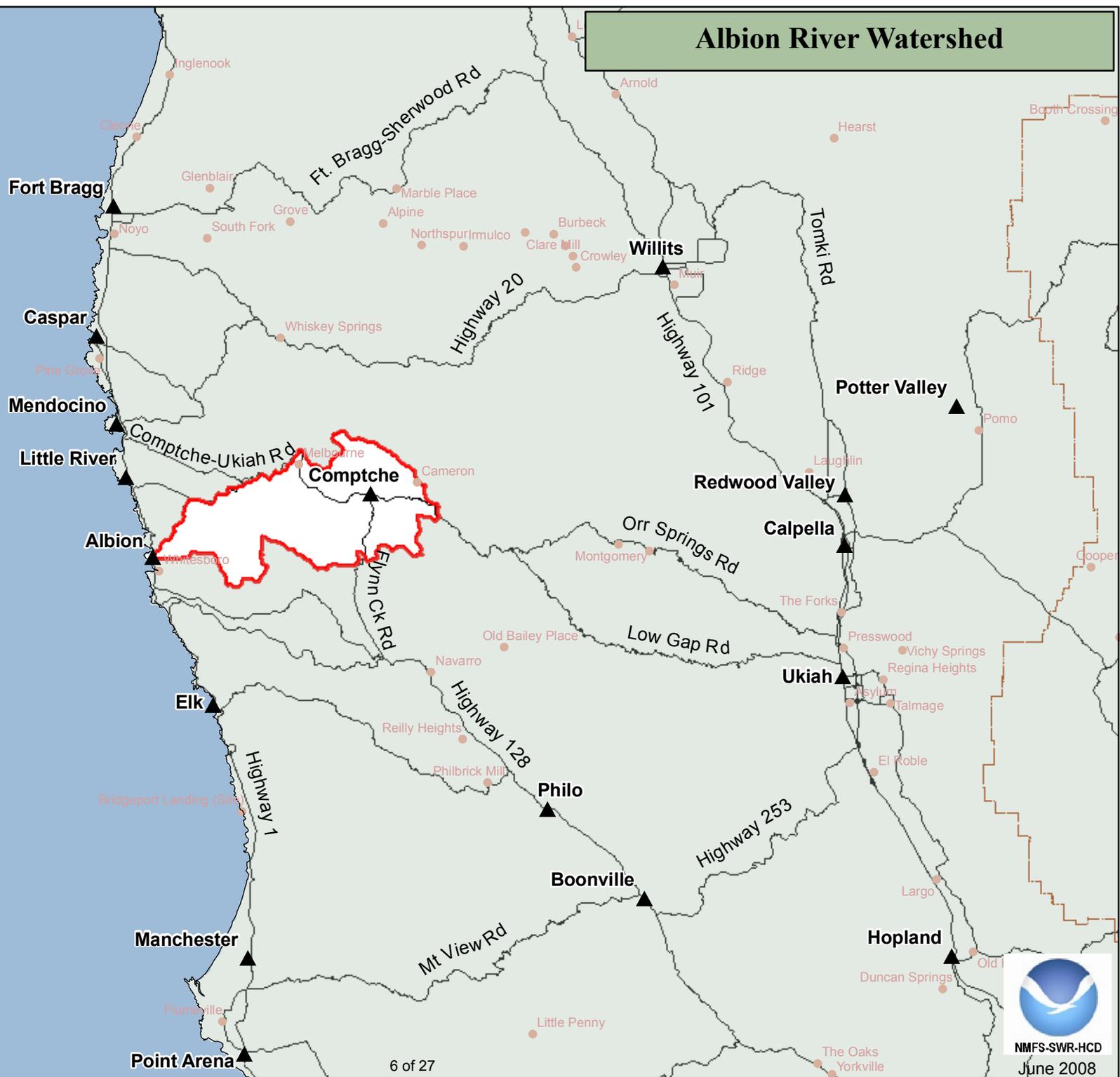
SIZE	Description	Diameter at Breast Height (DBH)
Not Determined		N/A
Seedling		Less Than 1 inch
Sapling		1 to 6 inches
Pole		6 to 11 inches
Small Tree		11 to 24 inches
Medium/Large Tree		Greater Than 24 inches
Multi Layered		Size 5 Over Size 4 Or 3; Total Tree Crown Closure Greater Than 60%

Percent

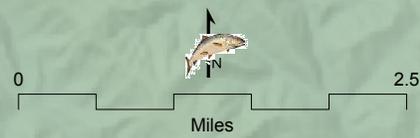
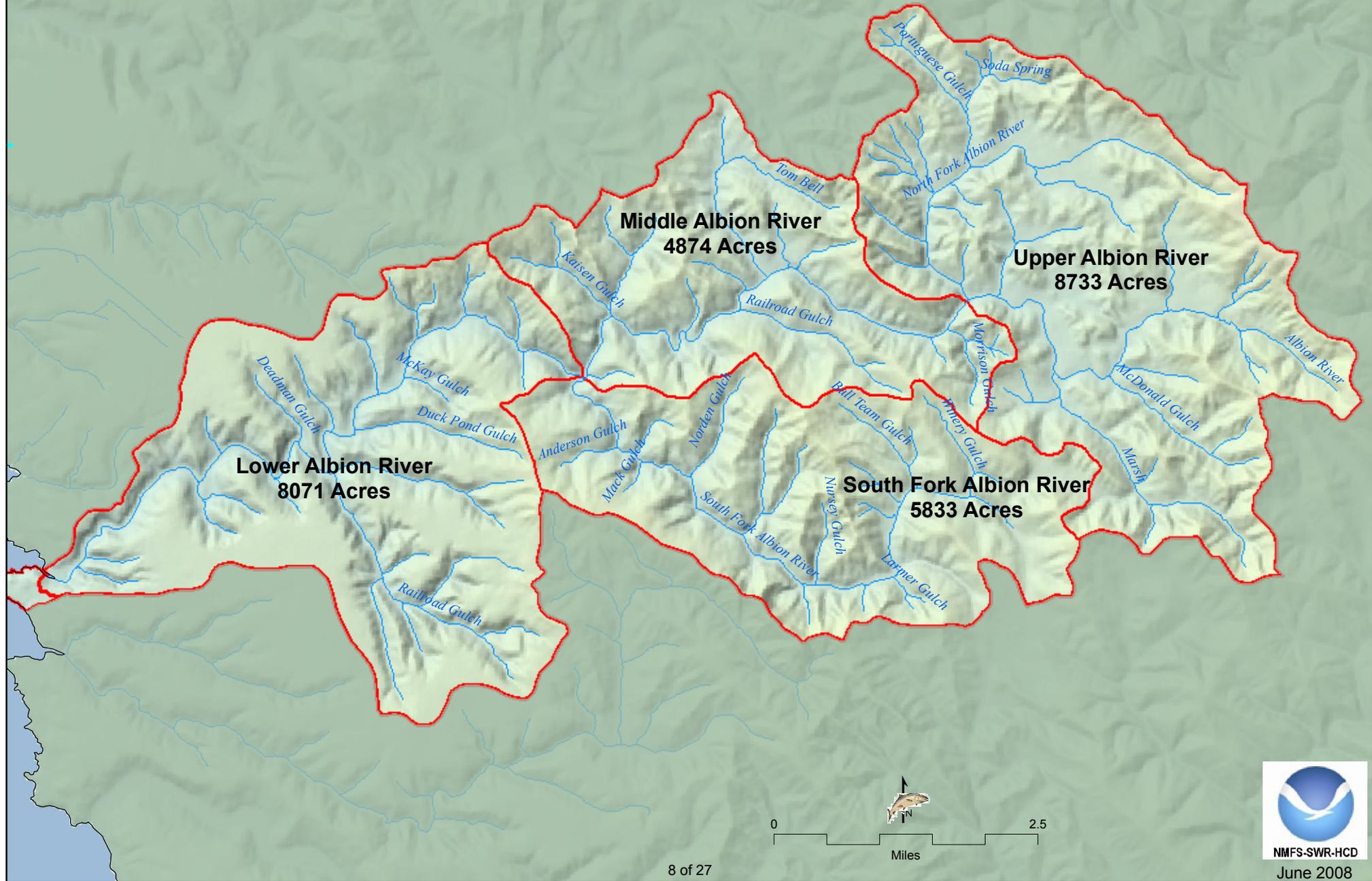
Size	Density	Agriculture	Barren	Conifer Forest	Conifer Woodland	Hardwood Forest	Hardwood Woodland	Herbaceous	Shrub	Urban	Water	Wetland	Grand Total by Size class
Not Determined	Not Determined		0%					7%	0%	1%			
	S												
	P			0%									
	M D			0%									
	Total		0%	0%				7%	0%	1%			9%
Seedling	S												
	P												
	M												
	D												
	Total												0%
Sapling	S			0%	0%								
	P			0%	0%								
	M			2%	1%								
	D			7%	1%								
	Total			10%	2%								12%
Pole	S			0%	1%								
	P			0%	0%								
	M			1%	0%								
	D			14%	2%								
	Total			15%	3%								19%
Small Tree	S			0%	0%								
	P			0%	0%								
	M			1%	0%								
	D			13%	2%			2%					
	Total			14%	2%		2%						18%
Medium/Large Tree	S			0%									
	P			1%									
	M			2%									
	D			32%	1%								
	Total			36%	1%								36%
Multi Layered	D			7%									
	Total			7%									7%
Grand Total by Species Type			0%	81%	0%	9%	0%	7%	2%	0%	1%	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%

Albion River Watershed



**Albion River Watershed
CalWater Planning Watersheds**



Albion 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.

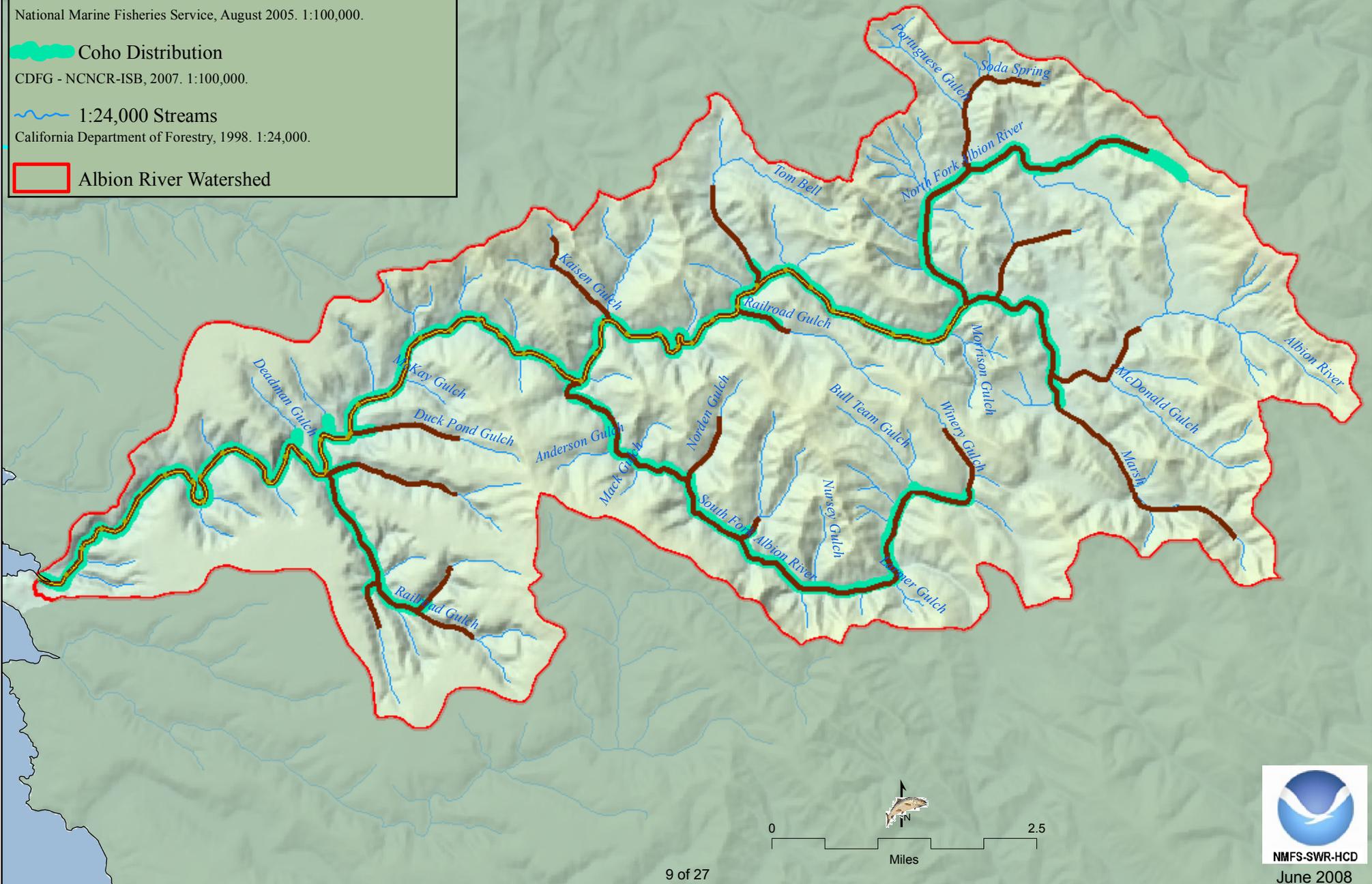
 Coho Distribution

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

 1:24,000 Streams

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

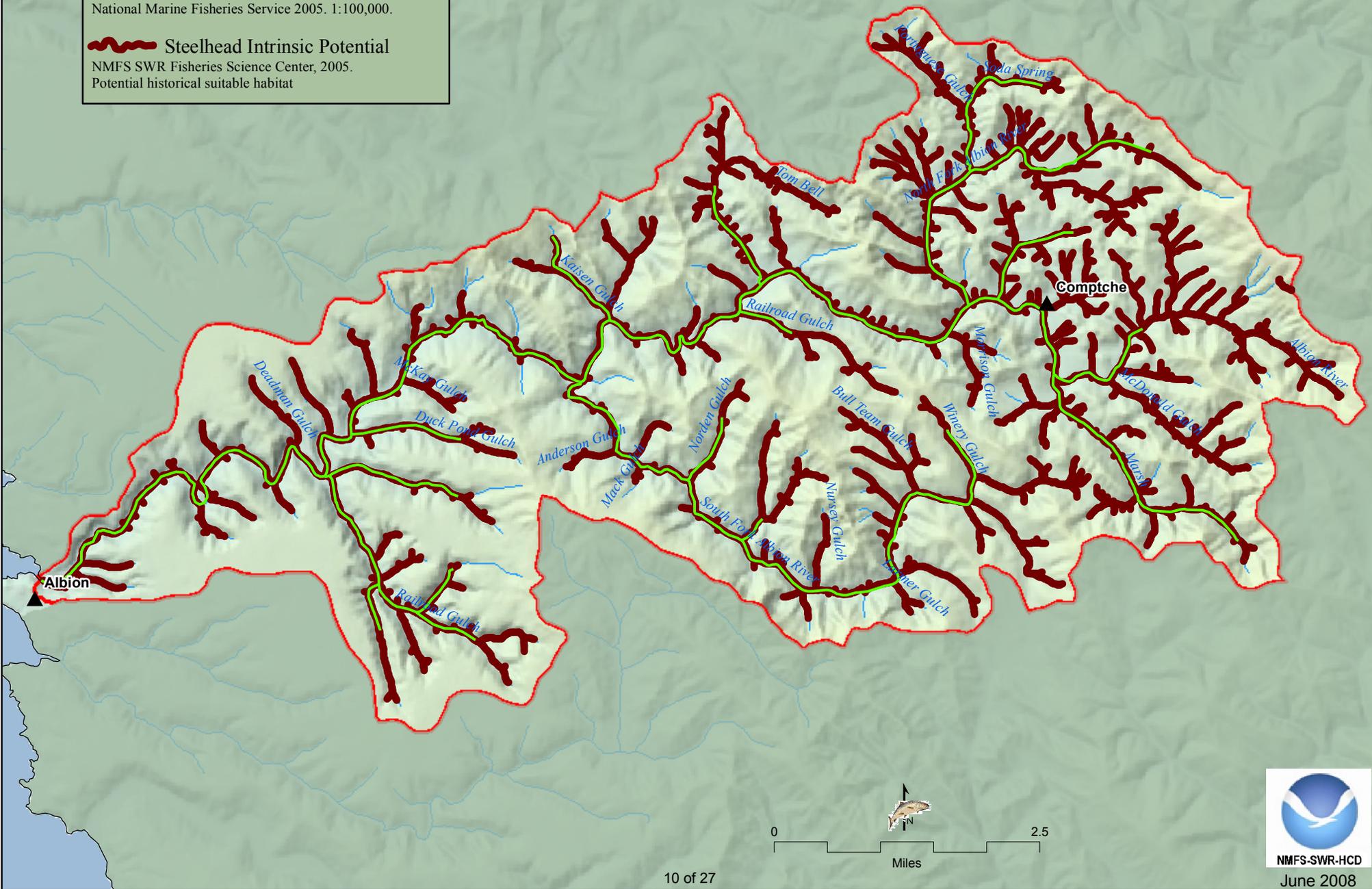
 Albion River Watershed



Albion River Watershed Steelhead Current vs. Historical

 Current NC Steelhead Distribution
National Marine Fisheries Service 2005. 1:100,000.

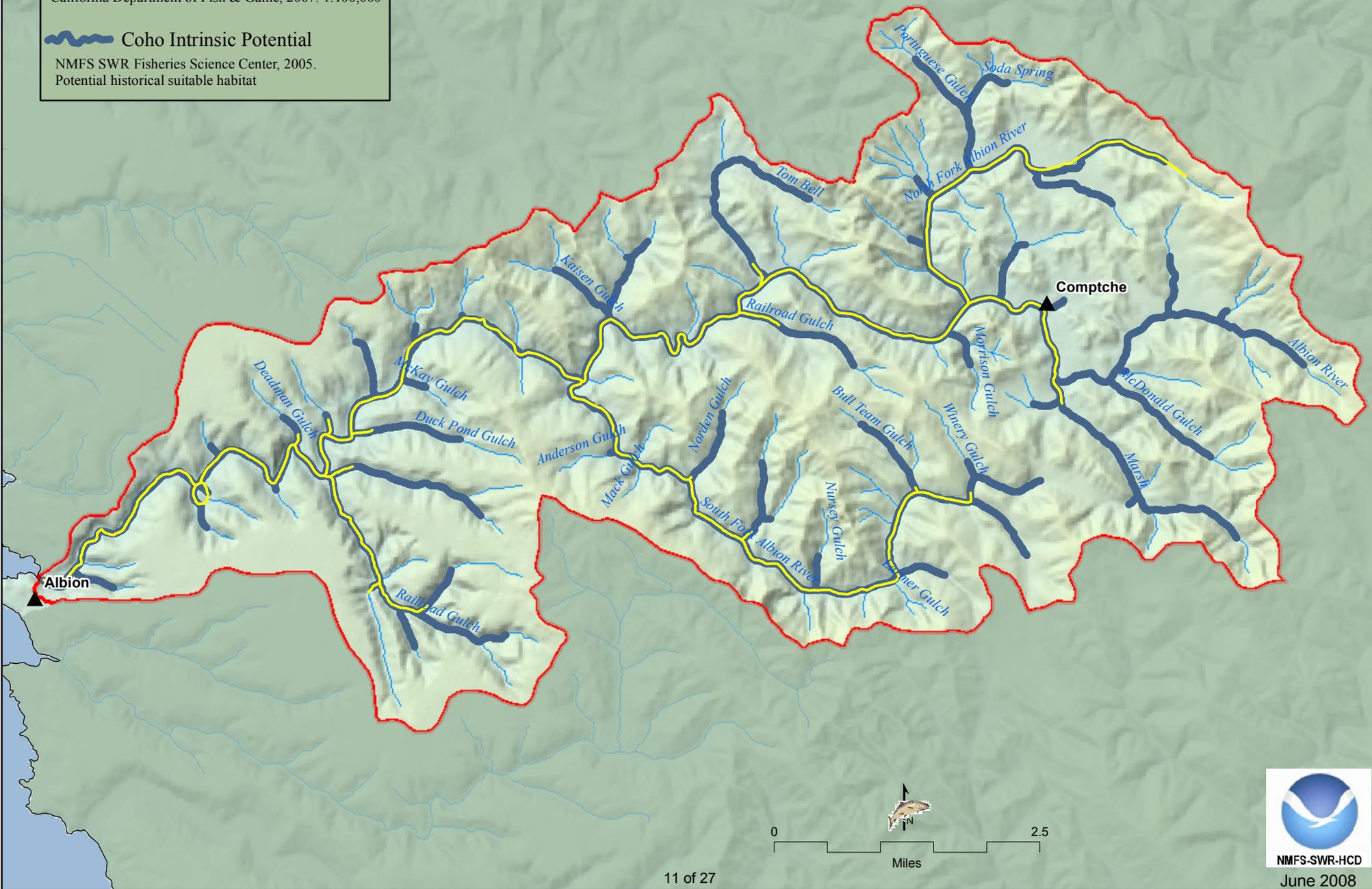
 Steelhead Intrinsic Potential
NMFS SWR Fisheries Science Center, 2005.
Potential historical suitable habitat



Albion River Watershed Coho Current vs. Historical

 **Current Coho Distribution**
California Department of Fish & Game, 2007. 1:100,000

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



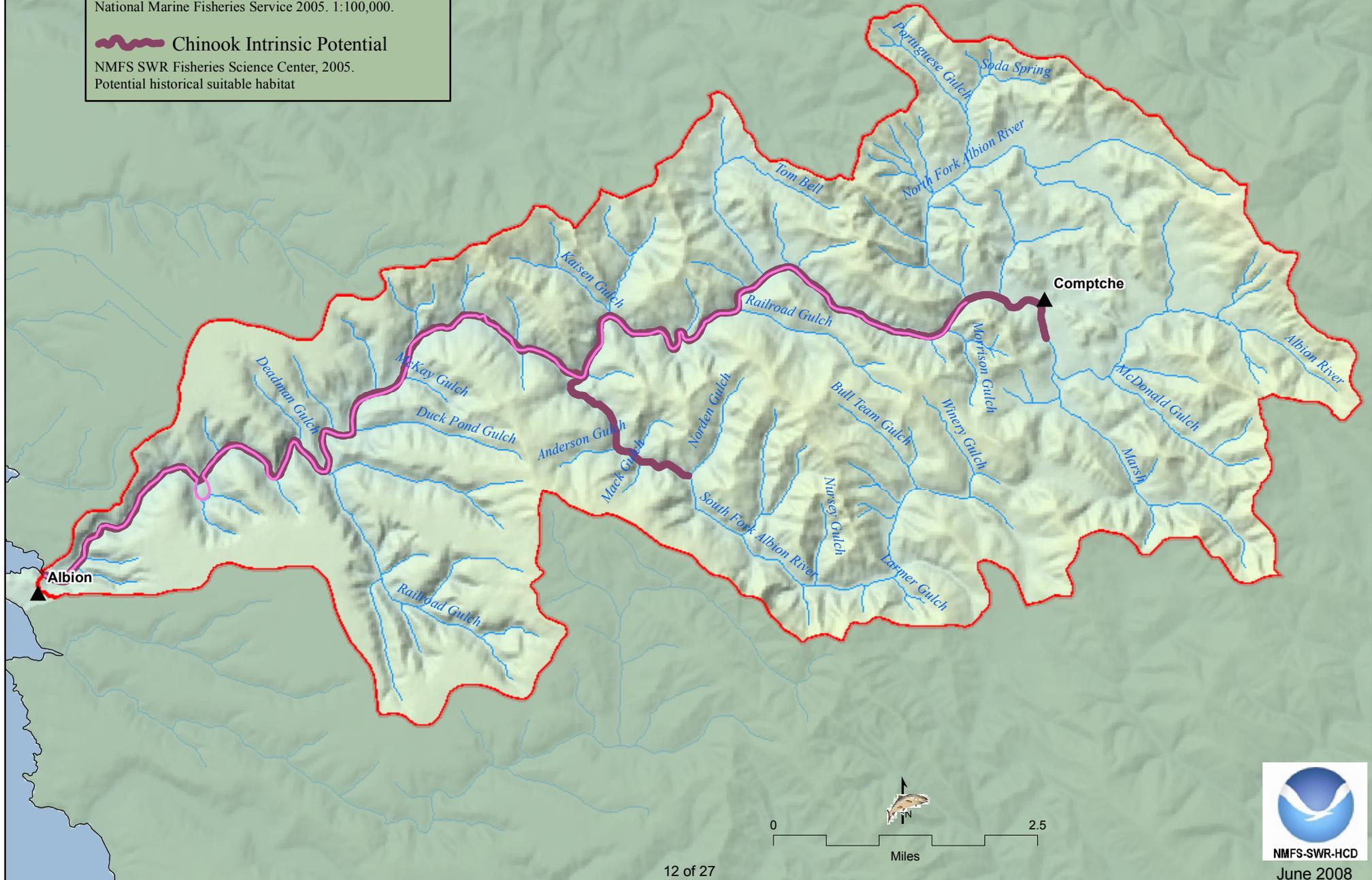
Albion River Watershed Chinook Current vs. Historical

 Current CC Chinook Distribution

National Marine Fisheries Service 2005. 1:100,000.

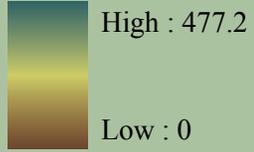
 Chinook Intrinsic Potential

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

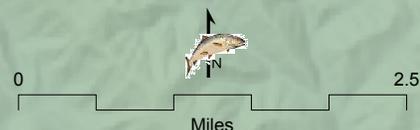


Albion River Watershed Elevation

Albion Elevation (meters)



SWR-SCFSC,
10 Meter Digital
Elevation Model
(DEM)



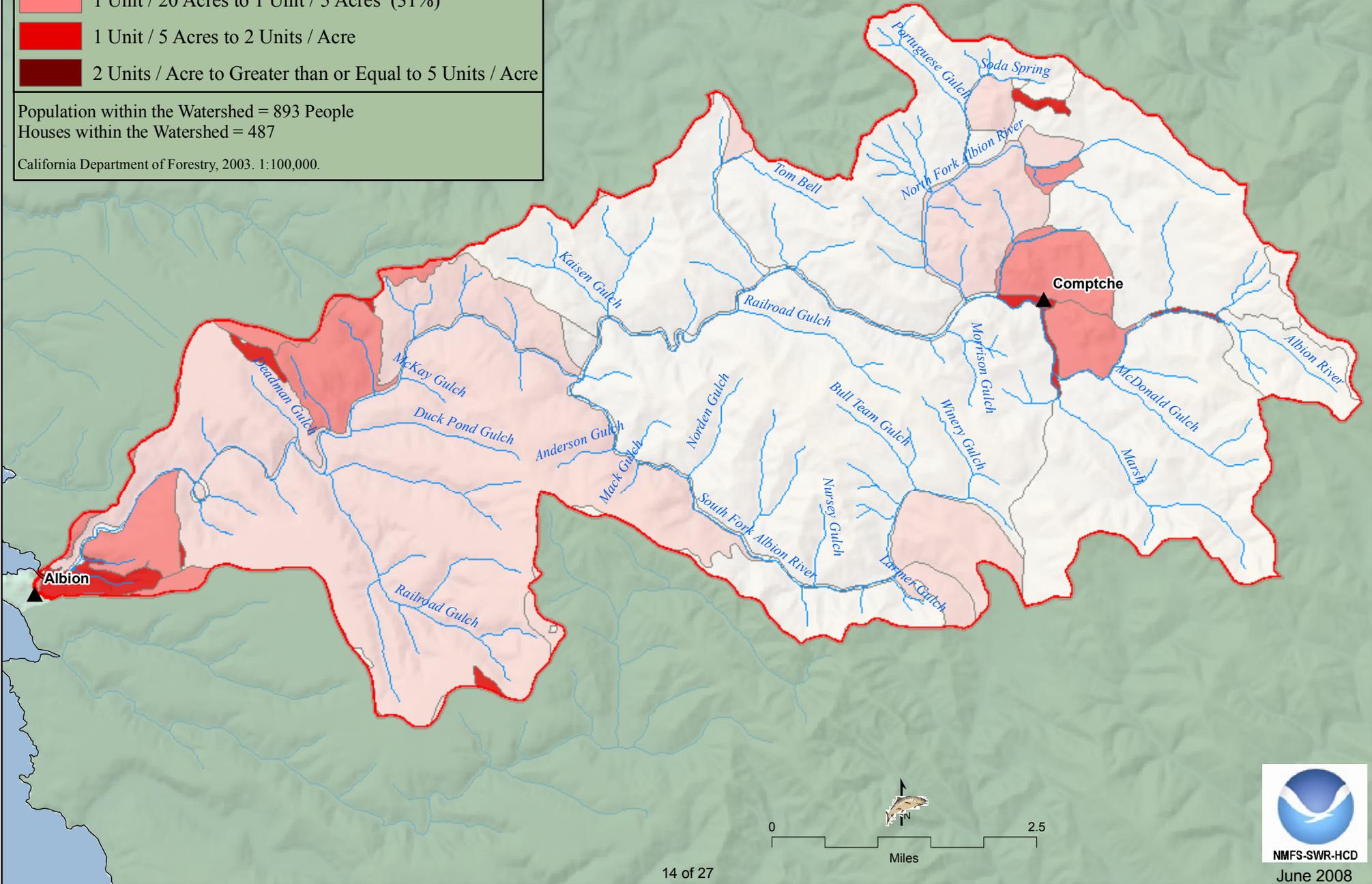
Albion River Watershed Development and Population

Housing Density

- 0 to Less than 1 Housing Unit / 160 Acres
- 1 Unit / 160 Acres to 1 Unit / 20 Acres (57%)
- 1 Unit / 20 Acres to 1 Unit / 5 Acres (31%)
- 1 Unit / 5 Acres to 2 Units / Acre
- 2 Units / Acre to Greater than or Equal to 5 Units / Acre

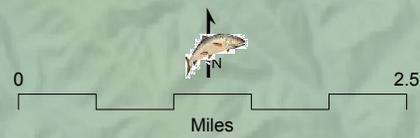
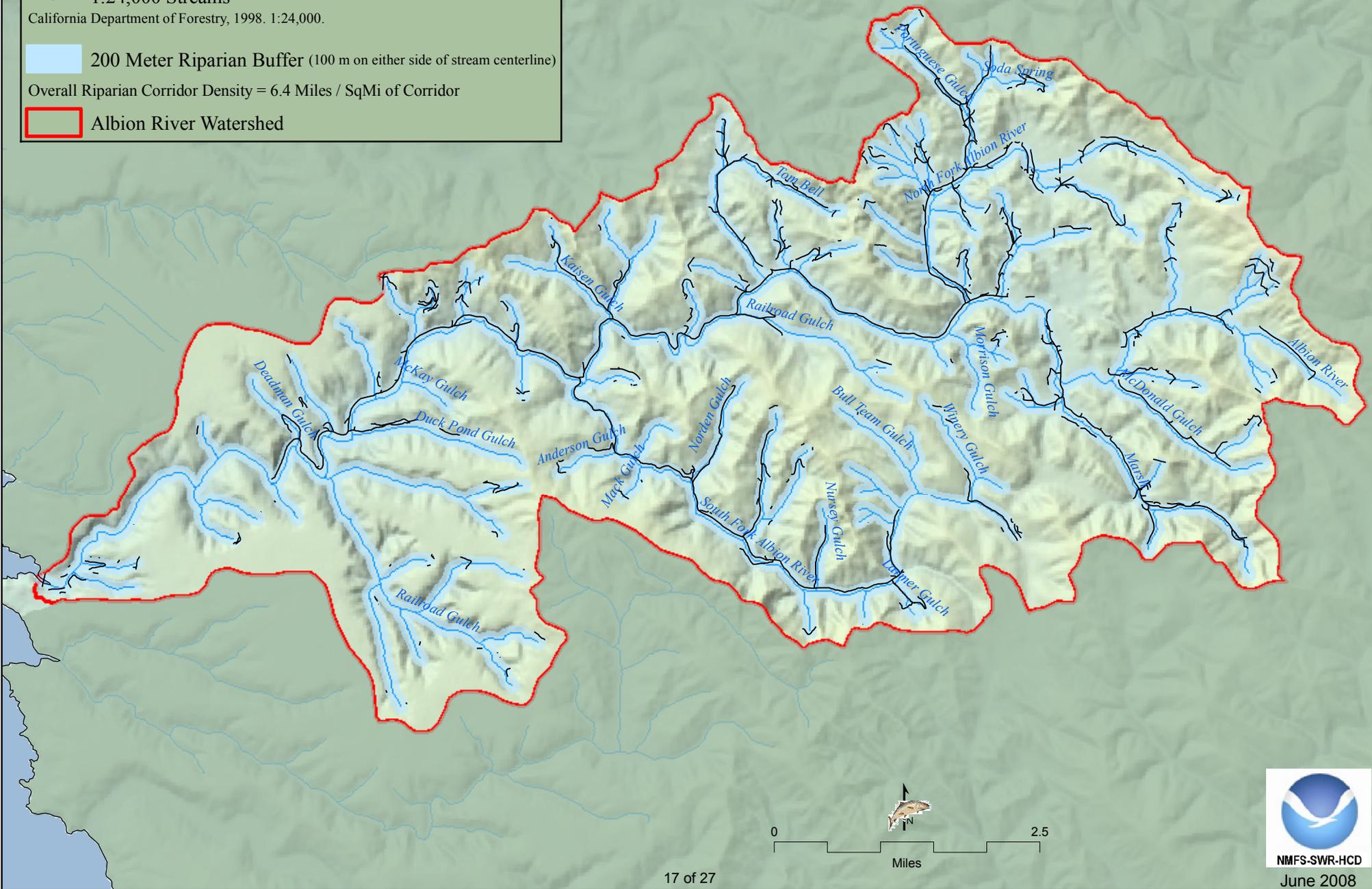
Population within the Watershed = 893 People
Houses within the Watershed = 487

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



Albion River Watershed Road Density in the Riparian Corridor

-  Road Segments within the 200 meter Riparian Corridor
California Department of Forestry, 2001. 1:24,000.
-  1:24,000 Streams
California Department of Forestry, 1998. 1:24,000.
-  200 Meter Riparian Buffer (100 m on either side of stream centerline)
- Overall Riparian Corridor Density = 6.4 Miles / SqMi of Corridor
-  Albion River Watershed



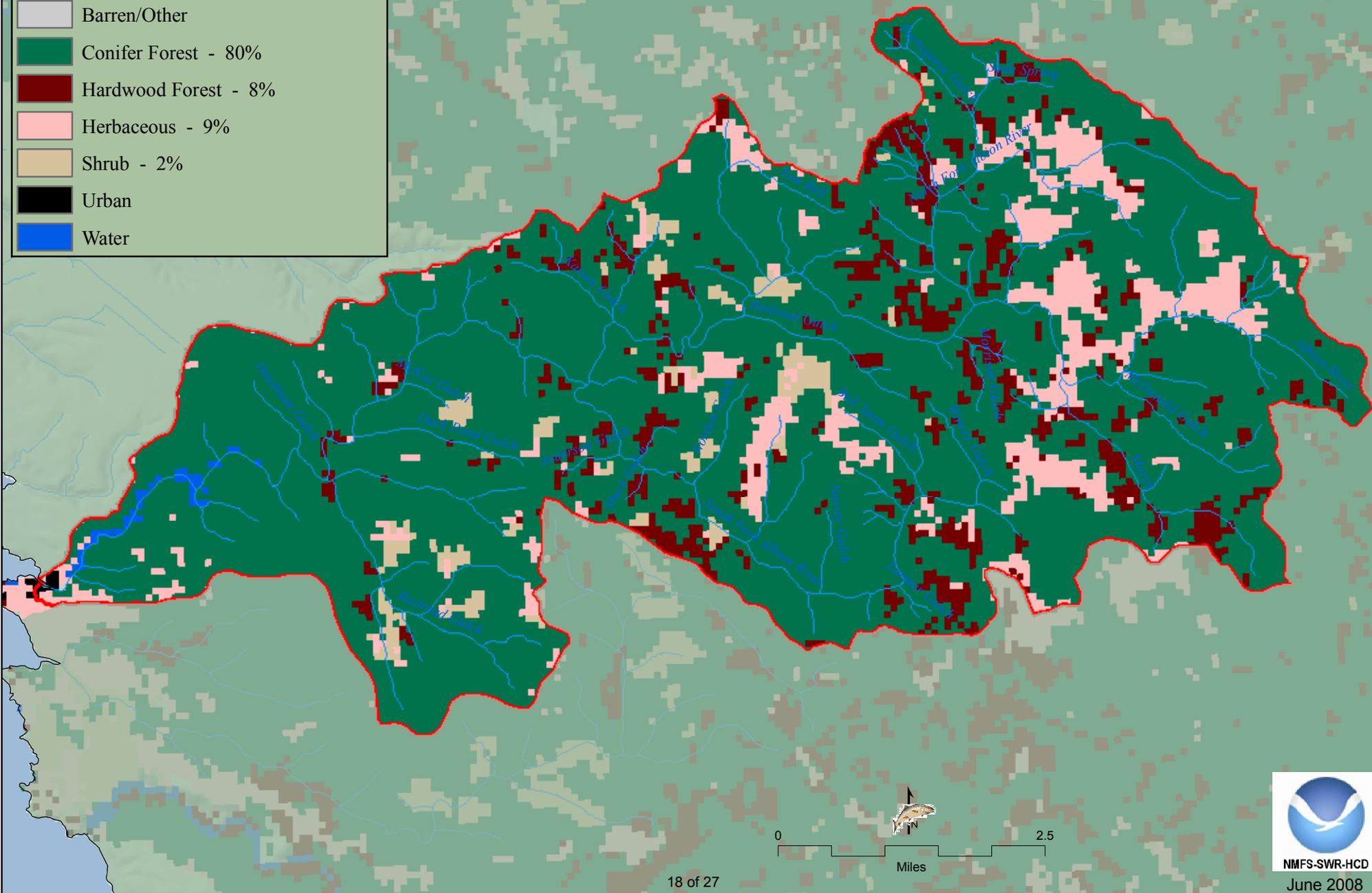
Albion River Watershed Vegetation

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

WHR13 Vegetation Classification

California Department of Forestry, 2002. 100 meter Grid

- Barren/Other
- Conifer Forest - 80%
- Hardwood Forest - 8%
- Herbaceous - 9%
- Shrub - 2%
- Urban
- Water

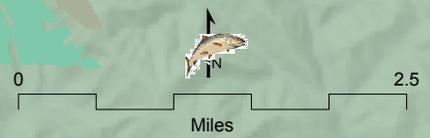
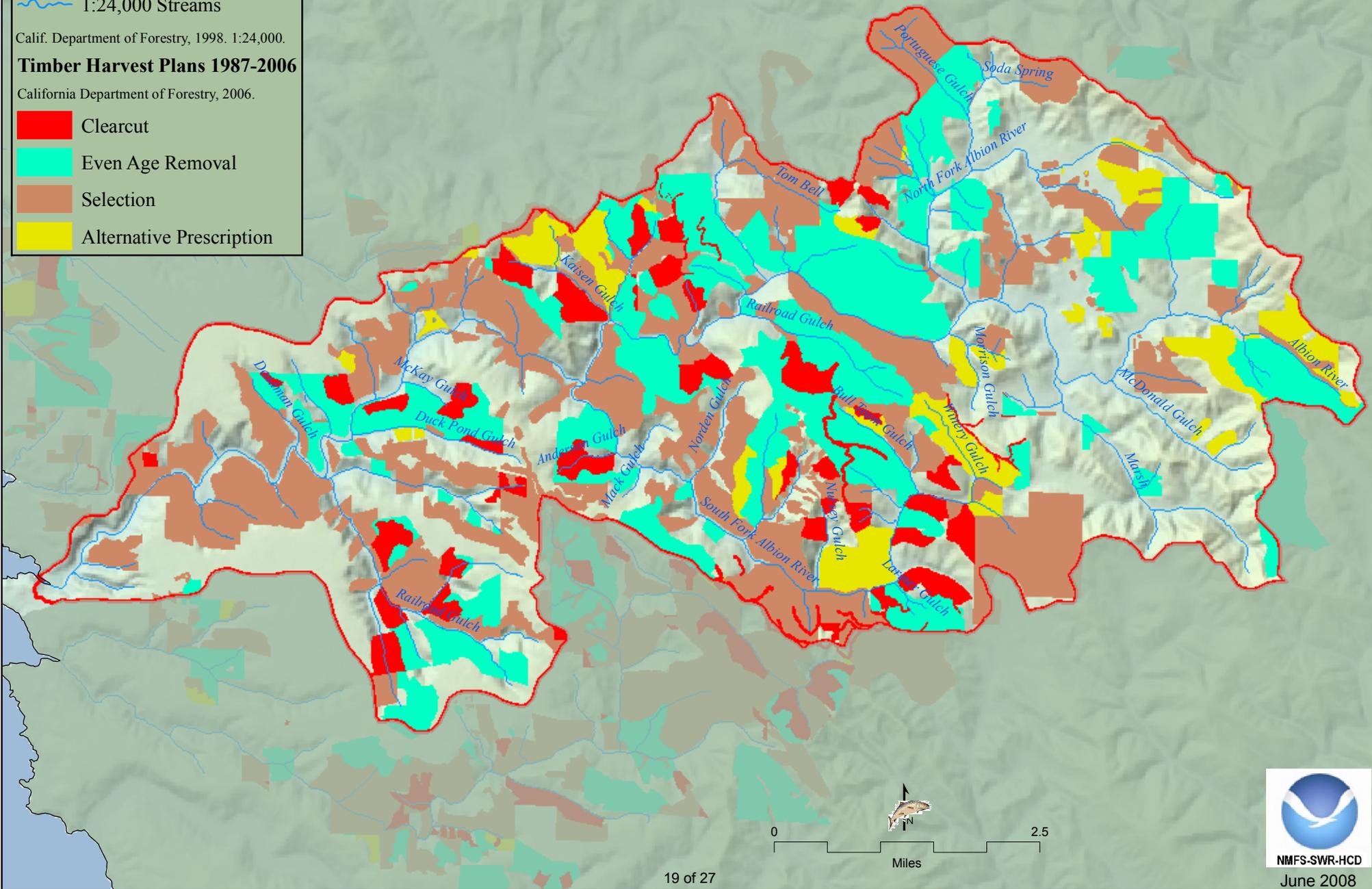


Albion River Watershed Timber Harvesting 1987-2006

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

Timber Harvest Plans 1987-2006
California Department of Forestry, 2006.

-  Clearcut
-  Even Age Removal
-  Selection
-  Alternative Prescription

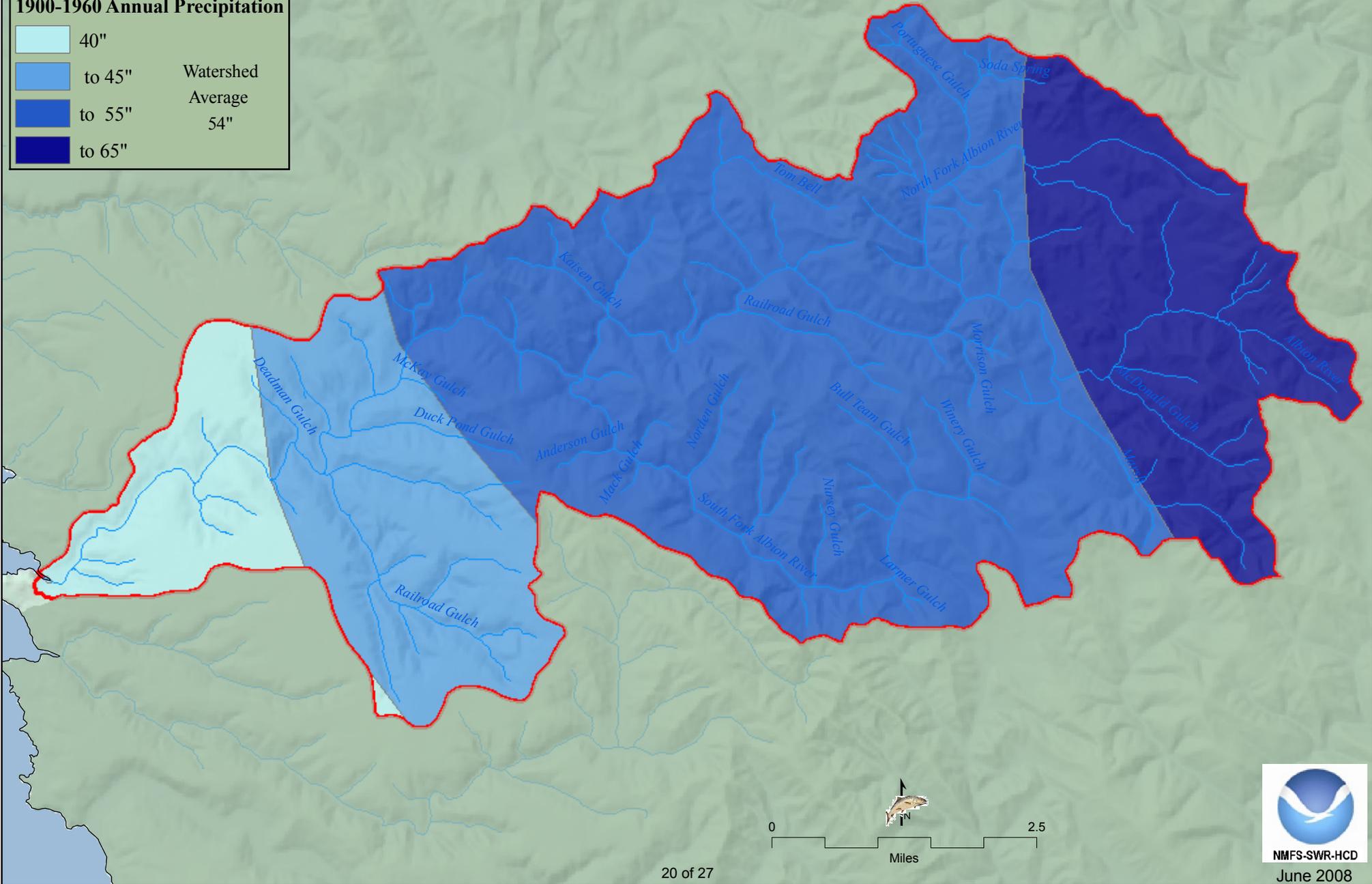
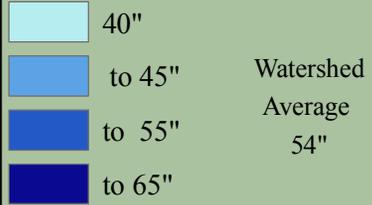


Albion River Watershed Precipitation

1:24,000 Streams

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

1900-1960 Annual Precipitation

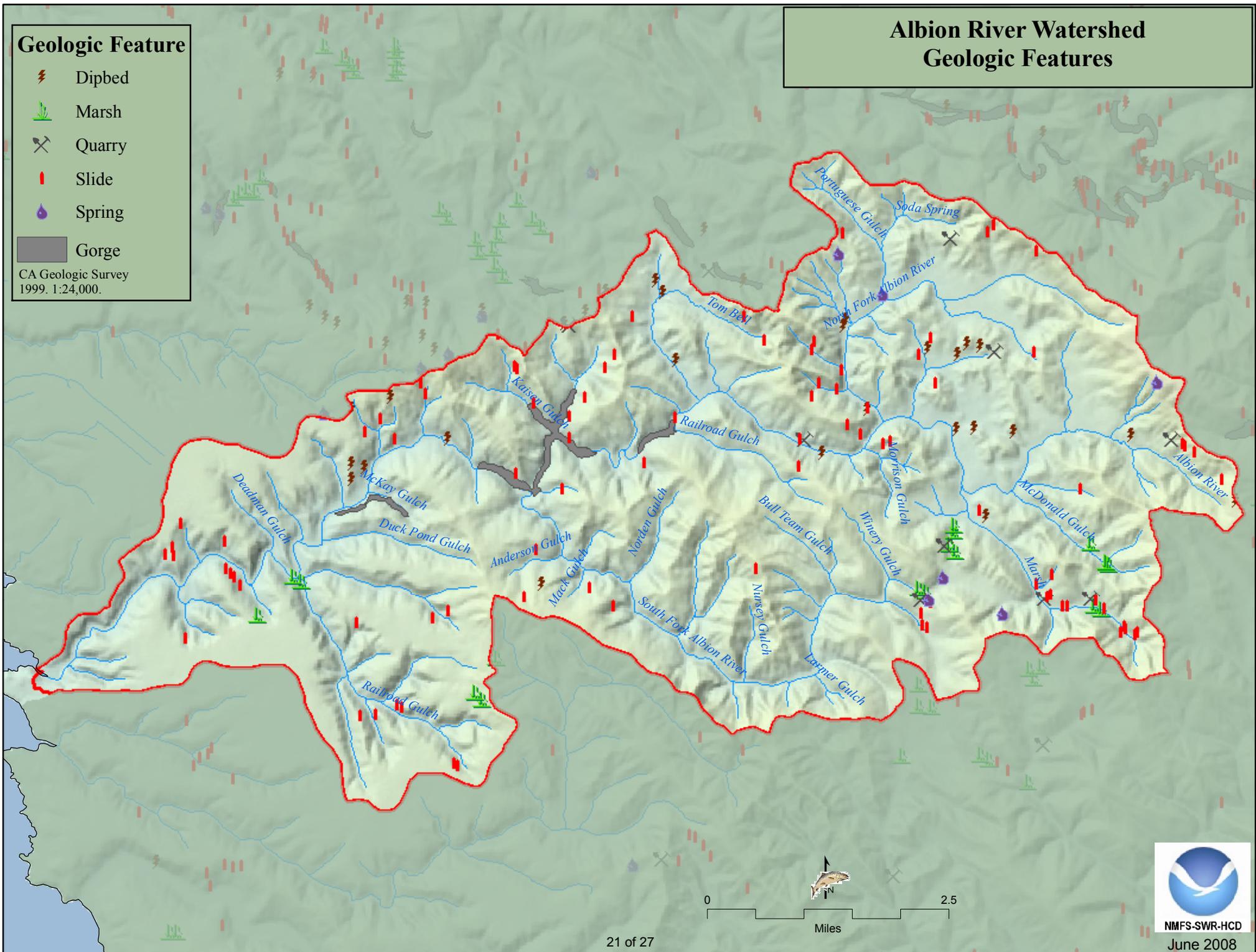


Albion River Watershed Geologic Features

Geologic Feature

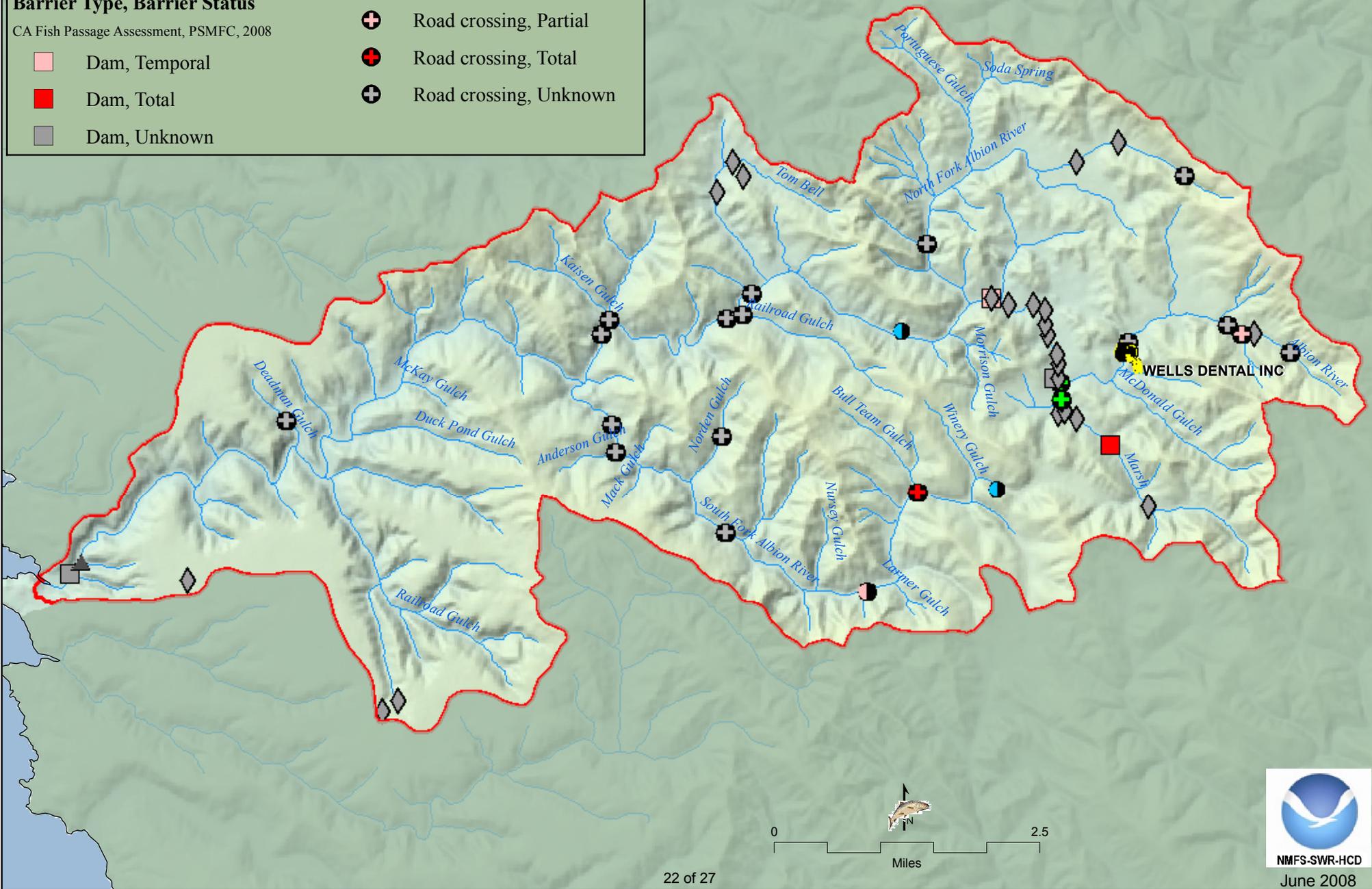
-  Dipbed
-  Marsh
-  Quarry
-  Slide
-  Spring
-  Gorge

CA Geologic Survey
1999. 1:24,000.



Albion River Watershed Barriers and Industrial Discharge

 Gage Station	 Diversion, Unknown
<small>BASINS, USEPA, 2001.</small>	 Fish passage facility, Partial
 Hazardous & Solid Waste Site	 Log jam, May not now exist
<small>BASINS, USEPA, 2001.</small>	 Road crossing, Not a barrier
Barrier Type, Barrier Status	 Road crossing, Partial
<small>CA Fish Passage Assessment, PSMFC, 2008</small>	 Road crossing, Total
 Dam, Temporal	 Road crossing, Unknown
 Dam, Total	
 Dam, Unknown	

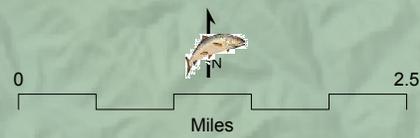
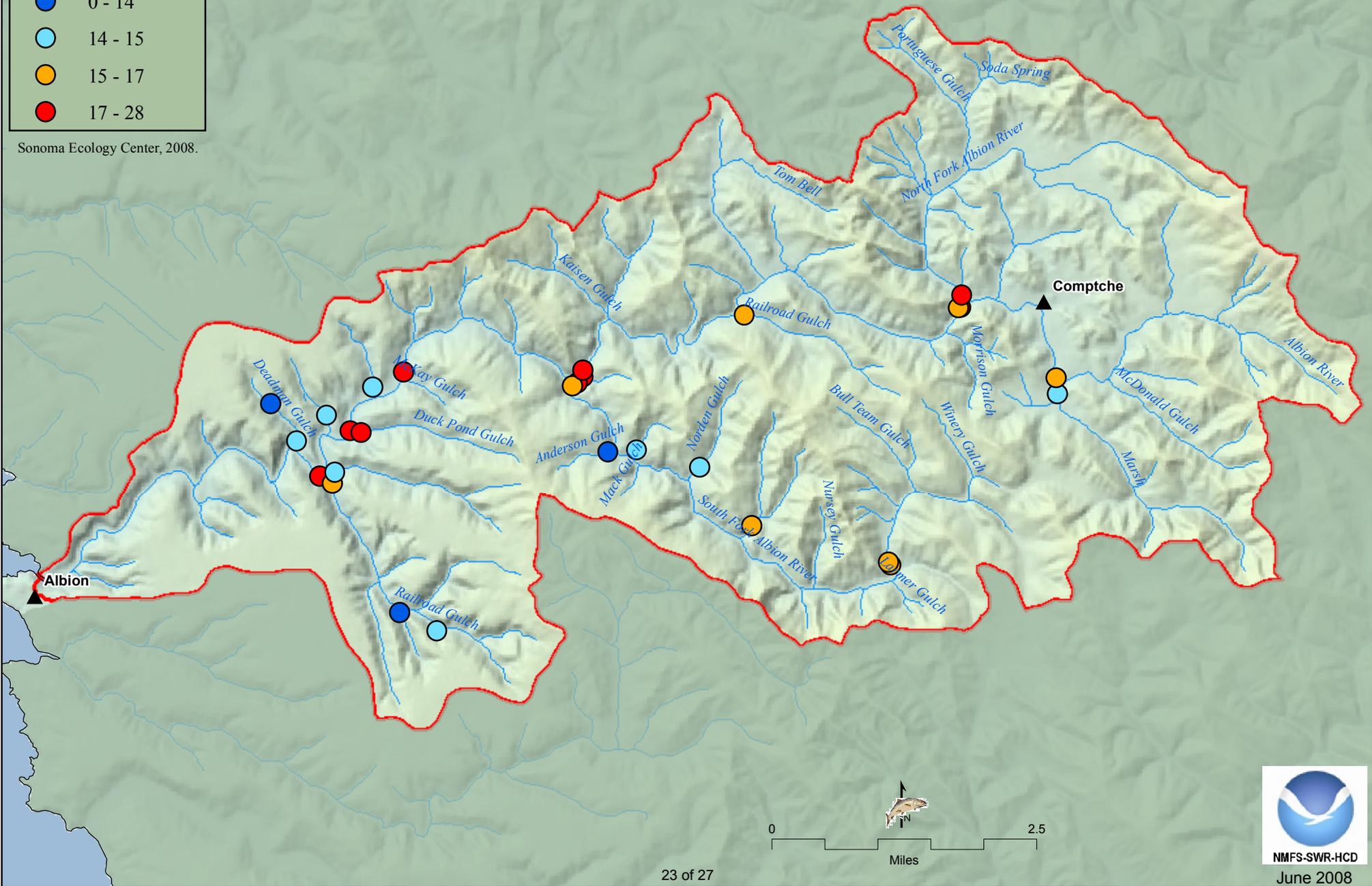


Albion River Watershed In-stream Temperature

Average MWMT (°C)

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

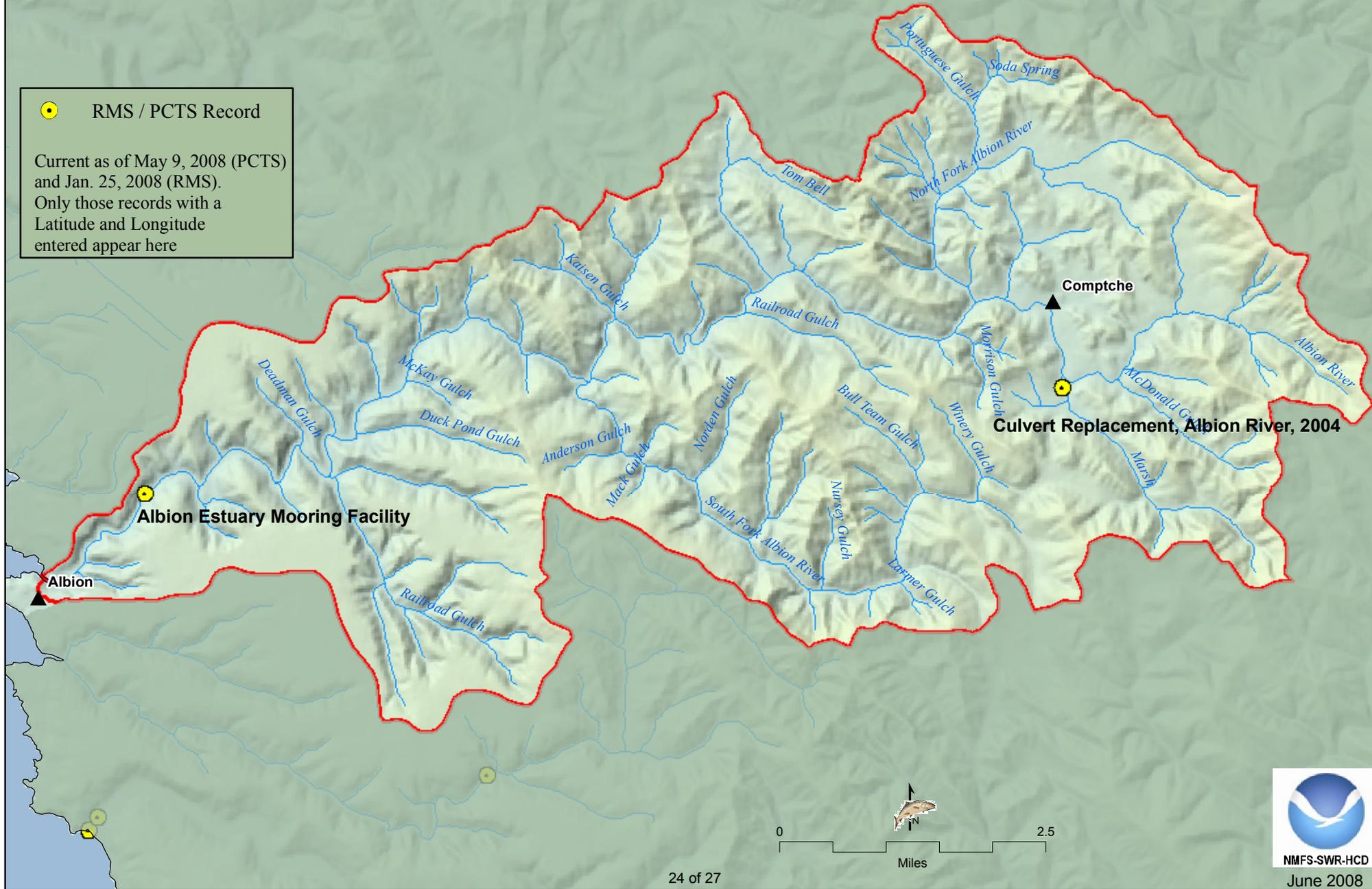
Sonoma Ecology Center, 2008.



Albion River Watershed Public Consultation Tracking System

● RMS / PCTS Record

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



Culvert Replacement, Albion River, 2004

Albion Estuary Mooring Facility



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>

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