

# Water Rights in California and the San Lorenzo Watershed

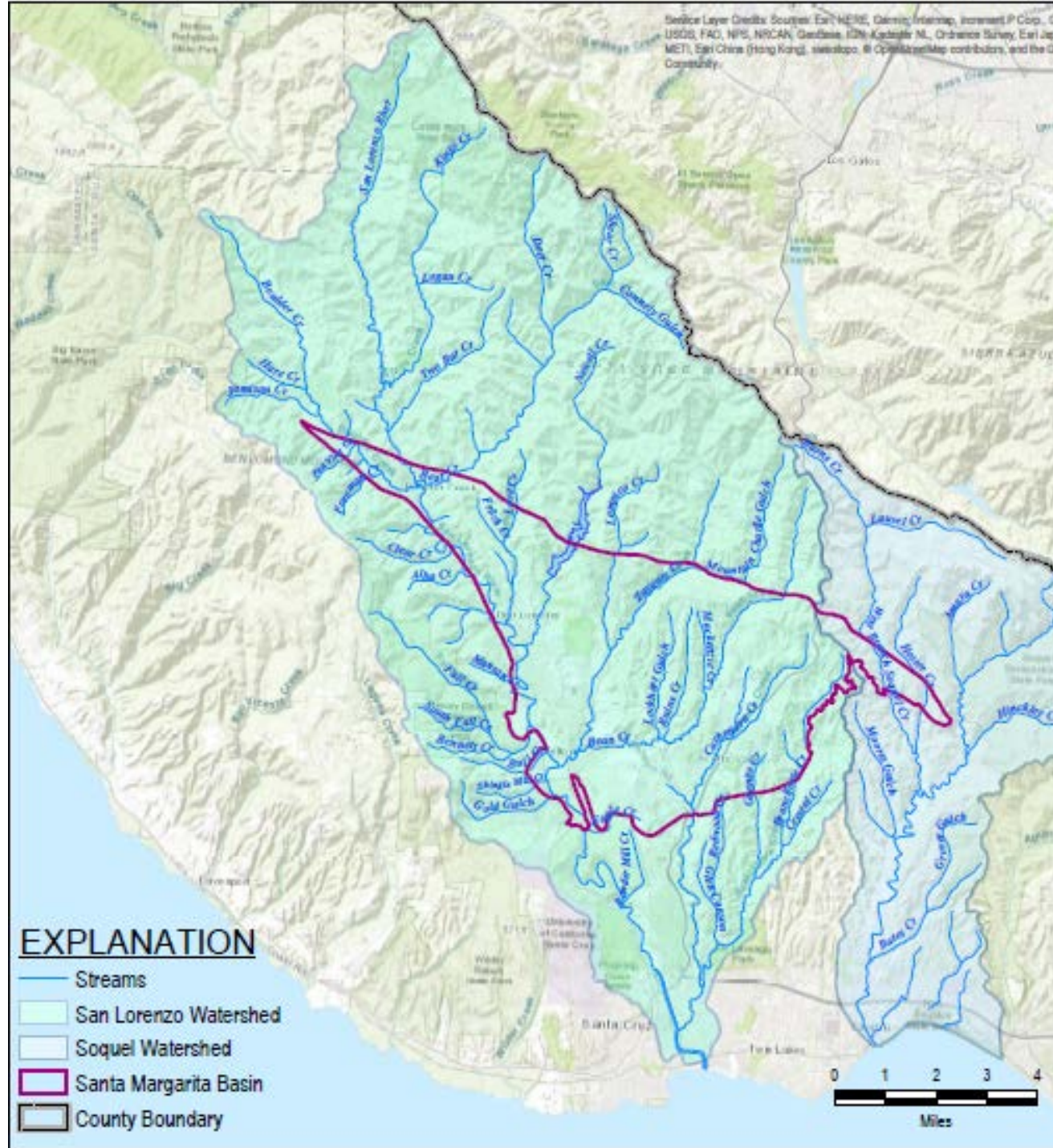
John Ricker

Water Resources Division Director

County of Santa Cruz

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# Santa Margarita Groundwater Basin and Streams of the San Lorenzo River Watershed



# Why look at surface water for the groundwater plan?

- In order to understand the effect of groundwater on surface water, need to understand the other factors that may have more influence.
- Groundwater discharge from the Santa Margarita Basin provides 40-50% of the dry season baseflow in the San Lorenzo River
- Groundwater Declines of up to 250 ft. have reduced dry season flow by 0.2-0.5 cfs., 10-20% in Lower Bean Creek, with other likely effects on Zayante Cr, Newell Cr, Carbonera Cr, and the San Lorenzo River
- Projected impacts of climate change will reduce groundwater recharge by 30%, with subsequent effects on stream baseflow

# Purpose of Water Law

- To have an orderly method to ensure that water is put to a reasonable and beneficial use without adversely affecting other users, the environment, or public trust values.
- Provides some Predictability
- But courts have redefined applicable laws, conditions have changed, and requirements have changed



# How much water can be taken?



# California has a combination of water rights

- Riparian Rights
  - Reasonable Use on Streamside properties; No storage; Leave enough water for downstream users; Can't lose it\*; Must file statement of use.
- Pre-1914 Appropriative Right
  - No permit; Seniority, Unspecified terms, but limited to amount and purpose of original use; May be moved; Must file Statement; Lost if not used
- Appropriative Permit (Post 1914)
  - Application, Permit and License; Seniority; Storage ok; Specified place of use; Conditions of permit: bypass flows, rate and season of diversion, amount of storage

# Additional Considerations

- Groundwater rights more nuanced: overlying rights similar to riparian rights, with priority over appropriators (municipal uses); No extraction permits required yet
- Groundwater flowing in channels permitted as surface water (Tait St. Wells)
- Endangered Species Requirements (Coho, Steelhead)
- Protection of Public Trust Values:
  - Navigation, fishing, boating, natural habitat protection
  - Mono Lake Tributaries, 1983; Siskiyou County Groundwater, 2018
- Resource Agency Permits: seasonal forbearance
- California Environmental Quality Act (CEQA)
- Declaration of Full Appropriation (San Lorenzo: June-October)
- Adjudication, and restriction of riparian use: Soquel Creek, 1977

# Obtaining an Appropriative Permit

- Administered by State Water Resources Control Board, Division of Water Rights
- Provide sufficient information to allow the State Water Board to determine that there is water available for your proposed project.
  - Show that your proposed project would not deprive anyone who has a higher priority water right of the use of water under that right.
  - Show that your proposed project will not harm public trust resources (such as fish, recreation, and navigation uses) where it is likely feasible to protect those resources.
- Show that your proposed project is in the public interest.
- Provide adequate information so that the State Water Board can consider the impacts of your project on water quality and the environment as required by CEQA
- Opportunity for Protests
- Negotiation, conditions, restrictions, seasonal limitations, bypass requirements
- Approval of Permit; timetable to complete project; secure License



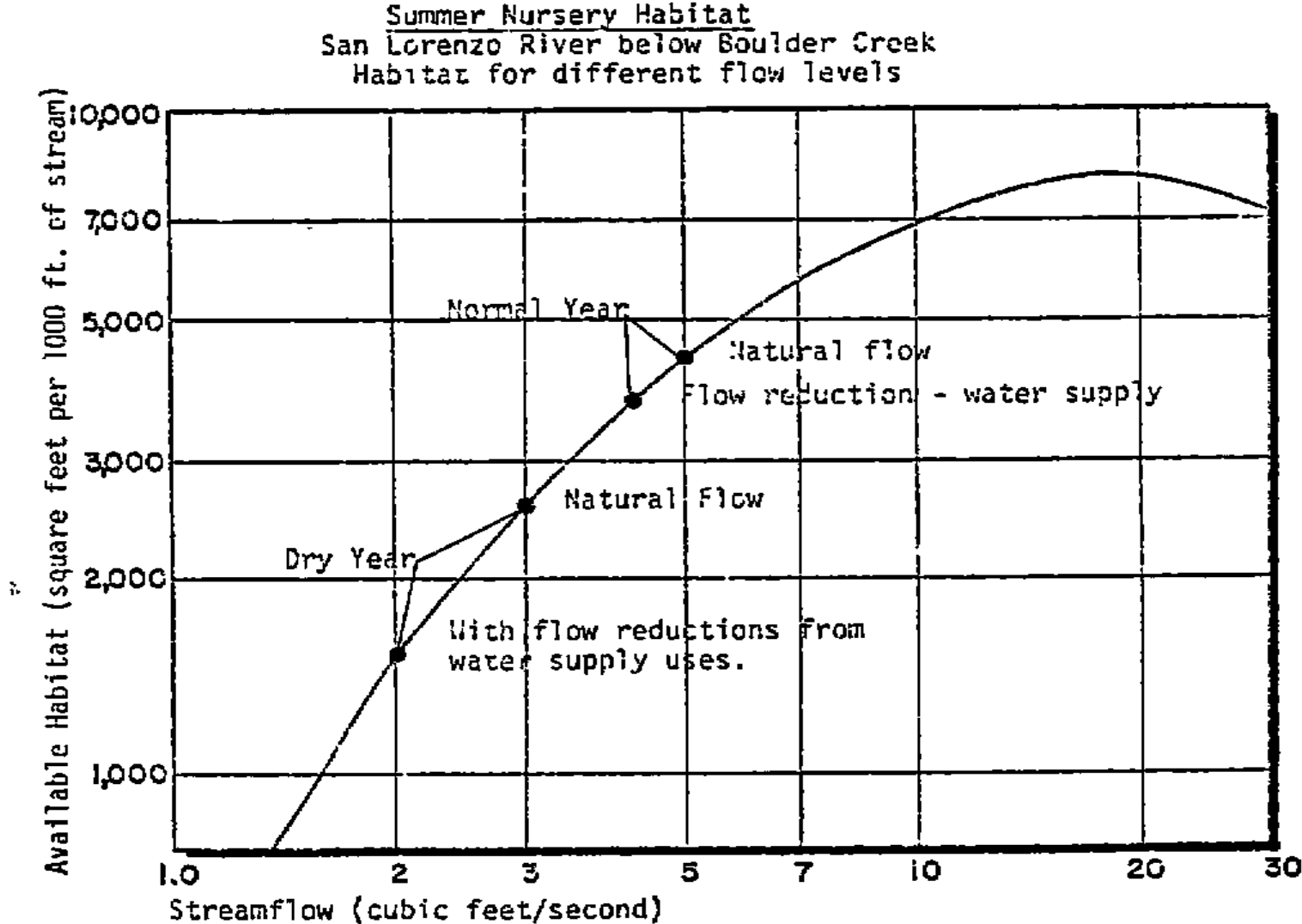
How much water is  
enough to support  
Public Trust Values?

- Habitat Assessment relative to Flow – Modelling
- Critical Riffle Surveys
- Impacts Assessment
- Percentage of Unimpaired Flow
- Season of diversion and impacted life stage

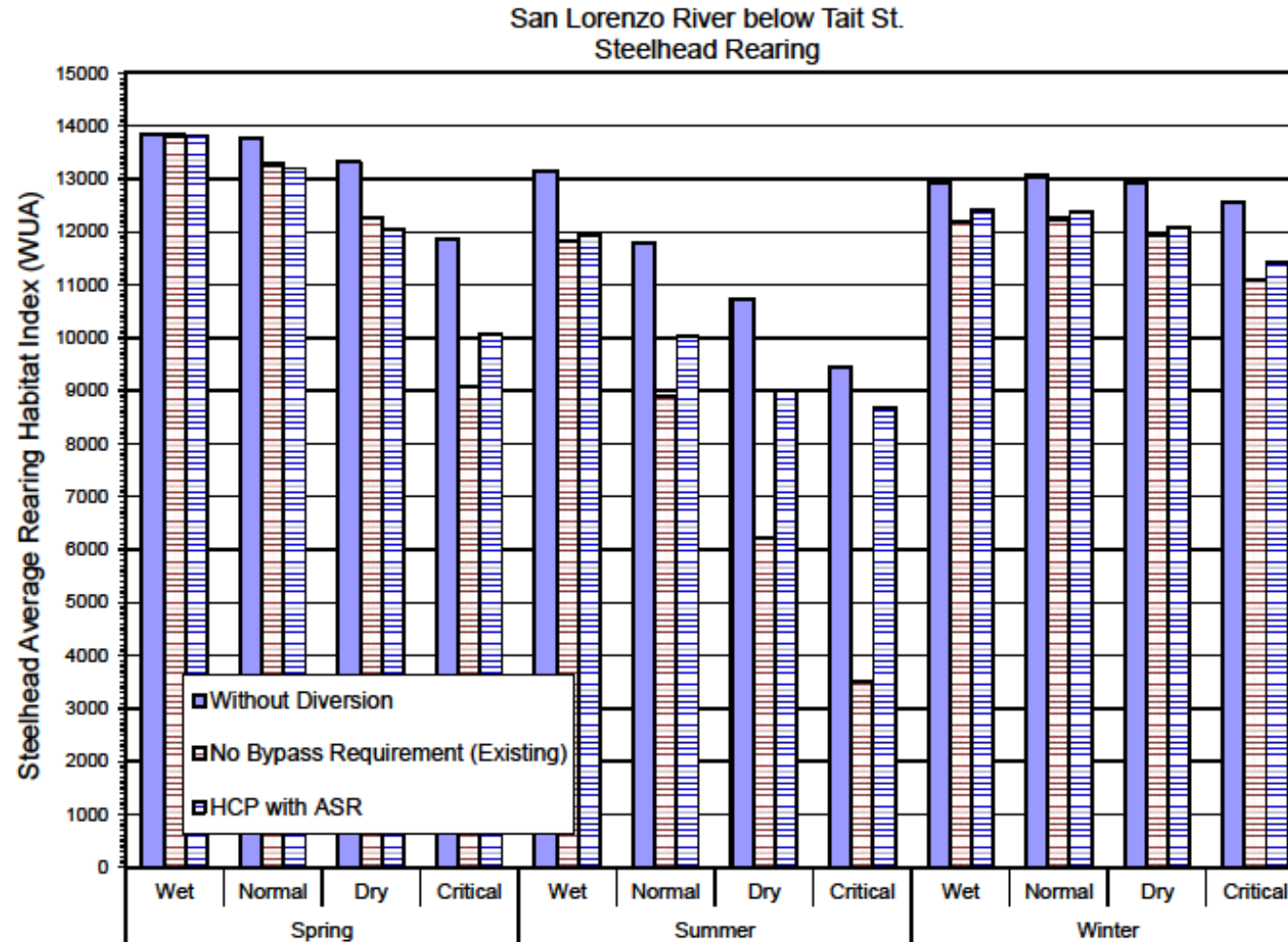


Male and female steelhead trout. (NOAA)

# San Lorenzo River Watershed Plan, 1979



# Santa Cruz Water Department, 2014



# Evolution of Bypass Requirements

- Prior to 1960: None - 0
- 1960-1970: 1 cfs year round
- 1970's: varies by season and month
- 1980s': varies by type of water year
- 2000=>: varies by month, life stage, water year, antecedent storm conditions

# Example of finely-tuned fish bypass requirements

		Minimum Flow at Liddell Creek Anadromous Gage								
		Rearing Baseflow					Migration		Spawning	
		Hydrologic condition 5 80-100%	Hydrologic condition 4 60-80%	Hydrologic condition 3 40-60%	Hydrologic condition 2 20-40%	Hydrologic condition 1 0-20%	Adult <sup>10</sup>	Smolt <sup>11</sup>	Spawn <sup>12</sup>	Incubate <sup>13</sup>
Jan		0.25	0.25	2.9	3.6	4.7	4.9/11.3	2.0	7.4	2
Feb		0.25	0.25	4.6	3.9	5.1	4.9/11.3	2.0	7.4	2
Mar		0.25	0.25	3.5	4.8	5.2	4.9/11.3	2.0	7.4	2
Apr		0.25	0.25	3.0	4.3	4.6	4.9/11.3 <sup>14</sup>	2.0	7.4	2
May		0.25	0.25	2.6	3.3	4.0		2.0	7.4	2
Jun		0.25	0.25	2.0	2.4	2.9				
Jul		0.25	0.25	1.6	1.9	2.2				
Aug		0.25	0.25	1.4	1.7	1.8				
Sep		0.25	0.25	1.3	1.5	1.6				
Oct		0.25	0.25	1.5	1.5	1.6				
Nov		0.25	0.25	1.8	1.9	1.9				
Dec		0.25	0.25	2.1	2.6	3.0	4.9/11.3		7.4	

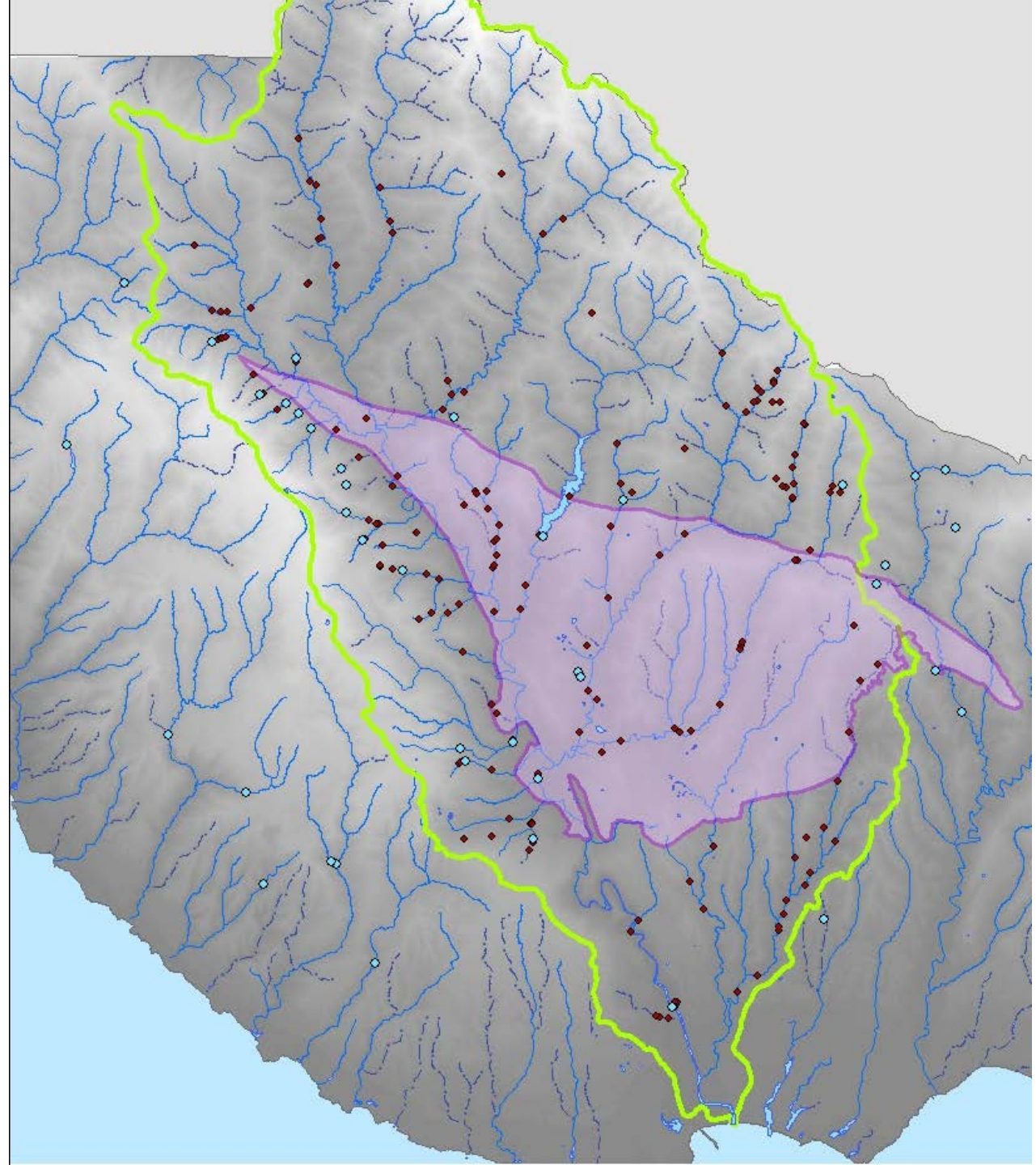


# Surface Water Rights in the San Lorenzo Watershed

- 38 Appropriative Permits
- 67 active Claimed Rights (Pre-1914 and riparian)
- 4 registrations of small appropriations (<10 afy, domestic, stock, cannabis)
- 30-70 undocumented riparian diversions (0.2-0.4 cfs total)
- Total permitted diversions of up to 17 cfs, June –Sept.
- June, Sept. median (50%) flow at Big Trees: 36 cfs, 16 cfs
- June, Sept. 10% flow at Big Trees: 15 cfs, 9 cfs
  
- Little change in water rights since 1979:
  - Fewer riparian diversions, but more documentation
- Last large appropriative permit: Felton additional supply: 1.71 cfs
  - Applied for in 1974: protests, negotiations and limitations: approved in 1987

# Location of Water Rights in San Lorenzo Watershed and Santa Margarita Basin

- Blue Dots are Water System diversions



# Large Water Right Holders in San Lorenzo

- San Lorenzo Valley Water District
  - Pre-1914 Appropriative Rights (1905): Foreman (203-928 afy); Peavine (47-224 afy); Clear & Sweetwater (37-380 afy)
  - Appropriative permits on Lompico Cr (0.037 cfs); Fall Cr, Bennett Cr, Bull Cr. & Bull Spring (1938+1974: 0.71 + 1.7 cfs; 1,059 afy)
- City of Santa Cruz
  - Appropriative permits for Loch Lomond (1957: 5,600 afy), Felton Diversion (1965+1971: 3,000 afy), and Tait Street Diversion (1924+1926: 12.2 cfs)
- Big Basin Water Company: Tribs to Boulder Cr. (0.37 cfs, 231 afy)
- Boulder Creek Country Club: Hare Creek (106 afy)
- Mt. Hermon Association: Redwood & Arcadia Springs (74.6 afy)
- CEMEX: (1.1 cfs, 796 afy)
  
- City and SLVWD are working with Resource Agencies to evaluate effects of diversions, and to develop additional bypass flows or other measures to mitigate impacts