

UC Sea Grant is happy to report that we are observing adult coho spawning in more Russian River streams than we ever have since the Coho Salmon Conservation Program (a.k.a. Coho Broodstock Program) began releasing fish in 2004. Our adult estimate for hatchery coho based on PIT antenna detections is now at 456 (Tables 1-2) and we have observed live coho and/or coho redds in 23 out of 34 tributaries where UC and Water Agency biologists are conducting surveys this winter as part of the Coastal Monitoring Program (Figure 1, Tables 3-4).

Biologists also continue to see coho spawning upstream of the newly remediated flashboard dam site on Mill Creek. We estimate that at least 19 adults have made it upstream of the project site, and we have observed eight coho redds, more than we have seen in the upper reaches of Mill over the last eleven years combined.

The higher number of coho returns this winter is likely explained by multiple factors. The 2014 year-class (those returning as 3-year old adults this winter) was the largest hatchery release by the Army Corps since the beginning of the program. Based on high returns in neighboring wild populations this winter, it is also likely that ocean conditions were good for this year-class. Additionally, significant storms this fall opened up the tributaries in late October, allowing adults access to the spawning grounds much earlier than in recent years, reducing the amount of time spent in the mainstem where they are subject to predation and other threats. While we are still far from reaching NOAA's recovery target of over 10,000 coho adults returning annually to the watershed, it is great to see things moving in the right direction.



Pair of coho salmon spawning upstream of the Mill Creek flashboard dam remediation site.

New video links:

Mill Creek coho spawning upstream of dam remediation: <https://www.youtube.com/watch?v=YCZP-tZ18Qc>

Coho male in Woods Creek: https://www.youtube.com/watch?v=MGYau_c_Bik

Coho spawning in Pena Creek: <https://www.youtube.com/watch?v=j3v55riDehU>

Table 1. Number of unique 3-year-old hatchery coho detections on Russian River PIT tag antenna arrays, and expanded counts through 12/30/16.

Release Tributary	Release Season	Number Unique PIT Tag Detections	Proportion PIT Tagged	Expanded Count
Austin Creek	fall	2	0.15	13
Dry Creek	fall	5	0.54	9
Dry Creek	smolt	15	0.15	100
Dutch Bill Creek	spring	1	1.00	1
Dutch Bill Creek	smolt	4	0.15	26
East Austin Creek	fall	1	0.15	7
Freezeout Creek	fall	1	0.15	7
Grape Creek	fall	1	0.15	7
Green Valley Creek	presmolt	8	0.15	53
Green Valley Creek	smolt	4	0.15	27
Mark West Creek	fall	1	0.15	7
Mill Creek	fall	3	0.15	20
Mill Creek	smolt	4	0.15	27
Pena Creek	fall	5	0.15	33
Willow Creek	presmolt	4	0.15	27
Willow Creek	spring	1	0.15	7
Totals:		60		370

Table 2. Number of unique 2-year-old hatchery coho detections on Russian River PIT tag antenna arrays, and expanded counts through 12/30/16.

Release Tributary	Release Season	Number Unique PIT Tag Detections	Proportion PIT Tagged	Expanded Count
Dry Creek	smolt	5	0.30	16
Dutch Bill Creek	smolt	3	0.30	10
Green Valley Creek	fall	5	0.30	17
Green Valley Creek	smolt	4	0.31	13
Mill Creek	fall	5	0.30	17
Mill Creek	smolt	2	0.31	6
Willow Creek	fall	2	0.30	7
Totals:		21		86
Overall Totals (Age 2 & 3):		62		456

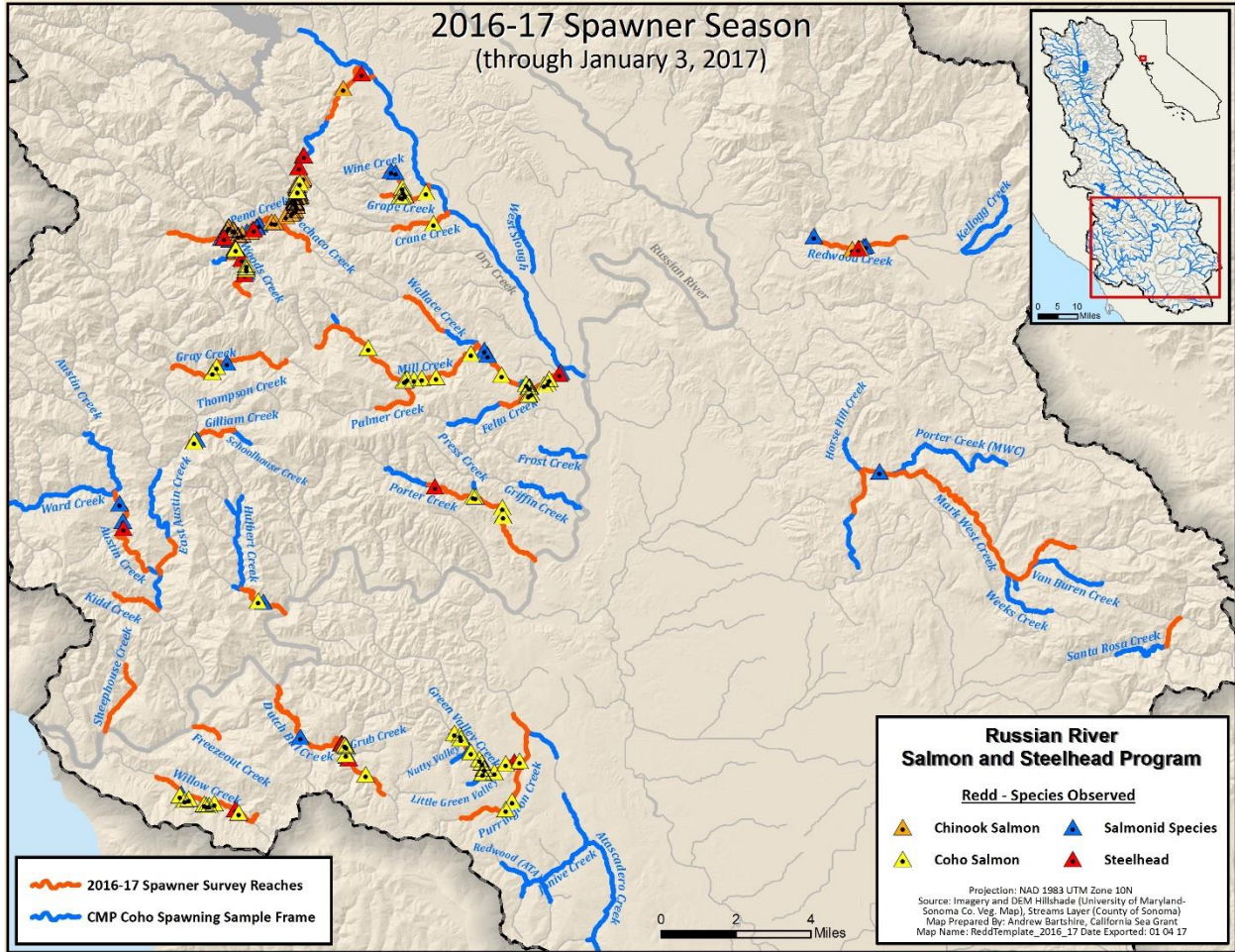


Figure 1. Redds observed in Russian River tributaries from November 1 through January 3, 2016.

Table 3. Coho salmon presence in Russian River tributaries surveyed during winter of 2016/17 (based on preliminary live fish and carcass data collected through 1/3/17).

Tributary¹	SURVEYS COMPLETED	COHO SALMON	CHINOOK SALMON	STEELHEAD
Willow Creek	7	yes		
Sheephouse Creek	6	yes		
Freezeout Creek	5	yes		
Austin Creek	6	yes	yes	
Kidd Creek	7			
East Austin Creek	6			
Gilliam Creek	6	yes		
Schoolhouse Creek	6			
Gray Creek	6	yes		
Dutch Bill Creek	6	yes		yes
Perenne Creek	6			
Grub Creek	6			
Hulbert Creek	6	yes		
Mission Creek	5			
Green Valley Creek	6	yes		
Purrington Creek	5	yes		
Little Green Valley Creek	5	yes		
Nutty Valley Creek	6	yes		
Harrison Creek	4	yes		
Mark West Creek	5			
Santa Rosa Creek	6			
Porter Creek	6	yes		
Press Creek	6			
Mill Creek	6	yes		yes
Wallace Creek	4			
Felta Creek	5	yes		
Palmer Creek	6	yes		
Crane Creek	4			
Grape Creek	7	yes		
Wine Creek	7	yes		
Pena Creek	5	yes	yes	yes
Pechaco Creek	3			
Woods Creek	5	yes	yes	
Redwood Creek (Maacama)	6	yes	yes	

¹ sorted from downstream to upstream as they enter the mainstem of the Russian River

Table 4. Number of unique salmonid redds observed in Russian River tributaries during winter of 2016/17 (preliminary counts through 1/3/17).

Tributary¹	COHO SALMON	CHINOOK SALMON	STEELHEAD	UNKNOWN SALMONID
Willow Creek	8	0	1	2
Sheephouse Creek	0	0	0	0
Freezeout Creek	0	0	0	0
Austin Creek	0	0	1	2
Kidd Creek	0	0	0	0
East Austin Creek	0	0	0	0
Gilliam Creek	1	0	1	1
Schoolhouse Creek	0	0	0	0
Gray Creek	2	0	0	1
Dutch Bill Creek	5	0	4	2
Perenne Creek	0	0	0	0
Grub Creek	0	0	0	0
Hulbert Creek	1	0	0	1
Mission Creek	0	0	0	0
Green Valley Creek	10	0	1	3
Purrington Creek	2	0	0	0
Little Green Valley Creek	2	0	0	0
Nutty Valley Creek	0	0	0	0
Harrison Creek	1	0	0	0
Mark West Creek	0	0	0	1
Santa Rosa Creek	0	0	0	0
Porter Creek	4	0	2	0
Press Creek	0	0	0	0
Mill Creek	17	0	1	5
Wallace Creek	0	0	0	0
Felta Creek	3	0	0	1
Palmer Creek	0	0	0	0
Crane Creek	1	0	0	0
Grape Creek	3	0	0	0
Wine Creek	3	0	0	5
Pena Creek	2	55	5	14
Pechaco Creek	0	0	0	0
Woods Creek	4	7	2	6
Redwood Creek (Maacama)	0	2	1	4
Total redds	69	64	19	48

¹ sorted from downstream to upstream as they enter the mainstem of the Russian River