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Summary of Precipitation and Streamflow for Potrero and San Clemente Creeks in Water-Year 2017

Santa Lucia Preserve
Monterey County, California

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Executive Summary

California State University Monterey Bay (CSUMB) began hydrologic monitoring of Santa Lucia Preserve for the Santa Lucia Conservancy in March 2007. Monitoring began to meet permit requirements for land development implemented by Balance Hydrologics. This annual report presents precipitation and streamflow summaries for Potrero and San Clemente Creeks in the 2017 water year (October 1, 2016 to September 30, 2017). Daily records of discharge, temperature, and specific conductance are reported. Daily precipitation values are reported from the former San Clemente Dam and Santa Lucia Preserve golf course.

Water Year 2017 produced 32.25 inches of rainfall at the former San Clemente Dam site and 51.92 inches of rainfall at the Santa Lucia Preserve golf course, representing substantially above-average precipitation, with a 10% chance of being met or exceeded each year (10 year exceedance recurrence interval). Potrero watershed yielded 0.39 acre-ft/acre and San Clemente yielded 1.23 acre-ft/acre of watershed area. Both San Clemente and Potrero Creeks maintained baseflow throughout the year, except for 2 days in October 2016, before the rains of WY-17 began.

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1 Introduction

This report is the Water Year 2017 (WY-17) hydrologic data summary for Santa Lucia Preserve. Balance Hydrologics installed five continuously recording streamflow gages on Santa Lucia Preserve. These gages include two on Las Garzas Creek (Moore's Lake inflow and outflow, installed in 2001), two on Potrero Creek (one installed in 2002 and one installed in 2013), and one on San Clemente Creek (installed in 2012). Detailed information on gage installation, operation, and individual gage sites can be found in Balance Hydrologics (2002).

The CSUMB Watershed Institute began operation of the Potrero Creek and San Clemente Creek streamflow on June 21, 2007. Data summaries are presented for streamflow on Potrero and San Clemente Creeks and for precipitation on Santa Lucia Preserve and San Clemente Dam.

2 Precipitation Data

A Rain Bird weather station operated by Santa Lucia Preserve provided precipitation data for the Santa Lucia golf course. Precipitation data recorded by California American Water Company from the former San Clemente Dam are included for comparison.

At the former San Clemente Dam, the total WY-17 rainfall was 32.25 inches (Table 1 and Figure 1), which represents above-average precipitation conditions at the Dam. The 96-year precipitation average at the former San Clemente Dam is 21.27 inches. Using Log-Pearson Type-III analysis, rainfall at the former San Clemente Dam should only exceed 32.24 inches once in every 10 years on average (Figure 2).

The WY-17 recorded rainfall at the Santa Lucia Preserve Golf Course was 51.92 inches (Table 2 and Figure 3), almost double the 16-year average of 27.88 inches. The short duration of the record at the golf course may not produce average values indicative of actual long-term precipitation patterns. The Preserve golf course received approximately 19.67 more inches of rain than the former San Clemente Dam site. During the 16 years of rain gage operation at the golf course, the golf course gage has recorded between 0.96 fewer inches and 19.67 more inches than the Dam gage, with an average difference of 7.90 inches and a standard deviation of 5.13 inches.

3 Streamflow, Temperature, and Conductance Data

The streamflow gaging station on Potrero consists of a Campbell CR10X data logger and a level TROLL 500. The stream flow gaging station on San Clemente consists of a Campbell CR1000 data logger (powered by 10 or 20 watt solar panels) and two Druck pressure transducers to measure water depth. Both Campbell data loggers have a specific conductance and water temperature probe and staff plates are installed for manual readings (Balance Hydrologics 2002). The Campbell data loggers record measurements of pressure, temperature, and conductance at 15-minute intervals. The level TROLL 500 data logger records measurements of pressure and temperature at 5-minute intervals.

In WY-17, we downloaded streamflow gage data to a laptop computer during monthly visits, at which time manual discharge measurements were also taken using standard hydrologic practices. A FlowTracker (SonTek handheld ADV) current velocity meter was used to measure discharge. A portable three-inch Parshall flume was used to measure discharge during the latter part of the dry season when flows became too low to use the FlowTracker meter.

3.1 Potrero Creek

The current gage station on Potrero Creek was installed April 29, 2002 and is located upstream of the T-11 well. In WY-17, we measured a mean daily flow of 1.77 cfs, a maximum mean daily flow of 42.75 cfs, a minimum daily flow of 0.00 cfs or below detectable limit, and a 7-day low flow of 0.01 cfs (Table 3). Mean daily streamflow and manual discharge measurements are plotted in Figure 4. Temperature and conductance data are presented in Tables 4 through 7, and in Figure 5. Specific conductivity for Potrero Creek varied widely during winter storms and gradually increased as flows diminished. The rising limb of a 25-yr runoff event damaged the gage, leaving a data gap between mid-February and mid-April (Figure 4 & 5). We synthesized discharge values during this period by scaling the flow record from an adjacent watershed to meet the rated mean daily flows at Potrero Creek.

3.2 San Clemente Creek

The current gage station on San Clemente Creek was installed January 17, 2012 and is located near the Santa Lucia Preserve property boundary. In WY-17, we measured a mean daily flow of 5.56 cfs, a maximum mean daily flow of 46.54 cfs, and a minimum mean daily flow 0.04 cfs. The 7-day low flow was 0.04 cfs (Table 8). Mean daily streamflow and manual discharge measurements are plotted in Figure 6. Temperature and conductance data are presented in Tables 9 through 12, and in Figure 7. Mean daily

specific conductivity fluctuated between about 40 – 400 $\mu\text{hos/cm}$. The San Clemente gage was also damaged by the high flow event, so there is a data gap between mid-February and early-May (Figure 6). We synthesized discharge values during this period by scaling the flow record from an adjacent watershed to meet the rated mean daily flows at San Clemente Creek.

4 Limitations

Streamflow data are based on the stage–discharge relationship unique to each stream and gage location. This stage–discharge relationship (rating curve) for each gage has been developed over time by making manual discharge measurements at various ranges of flow and noting the water level (stage) at which a particular flow occurs. WY–17 consisted of significant winter storms, causing damage to staff plates at both sites. The San Clemente pressure transducer malfunctioned during high flows and Potrero Creek’s transducer and water quality probe were destroyed, resulting in two months of lost data. Damaged staff plates and transducers were replaced.

The rating curves for both Potrero and San Clemente Creeks were substantially altered. The Potrero Creek WY–16 rating did not fit WY–17 high flow measurements due to changes in channel morphology, loss of data and lack of peak flow manual measurements. For San Clemente Creek, most of WY–17 observations fell in line with the WY–16 rating, though the peak flow measurements for winter 2017 altered the rating. The staff plate and transducer were replaced in early May 2017, requiring a new equation to relate the staff and pressure transducer.

Potrero and San Clemente Creeks are rated up to a discharge of 35.6 cfs and 62.7 cfs, respectively. Manual measurements were not obtained above these flows. Additional measurements at high flows are needed to establish the upper end of the rating for both sites. The streamflow data contained in this report should be considered provisional and caution should be exercised when using these data.

5 References

[Balance Hydrologics 2002]. Brown S, Porter S, Woysner M, Hecht B. 2002. Hydrologic record for water year 2002: Las Garzas, Potrero, and San Clemente Creeks, Santa Lucia Preserve, Monterey County, California. 53 pp.

6 Tables

Table 1. Daily precipitation record and monthly totals for water year 2017.

San Clemente Reservoir Site, Monterey County, California

Record obtained from: California-American Water Company

Values are in inches

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1		0.02	0.02									
2				0.05	0.45							
3				0.05	0.32							
4				2.10								
5				0.02								
6					0.29	0.61						
7					0.78		0.81					
8			0.13		0.11		0.14					
9			0.10	3.08								
10				0.17	1.26		0.10					
11				1.44			0.01					0.03
12			0.08	0.28			0.09		0.03			
13				0.03	0.04		0.20					
14							0.04					
15												
16			0.74		0.25							
17	0.63							0.04				
18				0.03			0.21					
19			0.76	0.89			0.22					
20				0.94								
21		1.14			5.35	0.92						
22					0.16	0.18						
23		0.03	0.85		0.13	0.06						
24						0.02						
25				2.36								
26			0.63									
27					0.13	0.31	0.09					
28	1.02	0.85										
29												
30						0.07						
31	0.35							0.01				
Total	2.00	2.04	3.31	11.44	9.27	2.17	1.91	0.05	0.03	0.00	0.00	0.03
Annual Total		32.25										

Table 2. Daily precipitation record and monthly totals for water year 2017.

Santa Lucia Preserve Golf Course, Monterey County, California

Record obtained from: Santa Lucia Preserve

Values are in inches

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1		0.04										
2				0.13	0.4							
3				1.14	0.34							
4				1.76	0.7							
5				0.06		0.82						
6					0.54	0.27						
7				0.1	0.38		1.35					
8				0.94	1.68		0.38					
9			0.31	3.36								
10			0.62	0.14	1.35							
11			0.22	3.2	0.2							
12				0.39			0.18		0.06			
13				0.15			0.41					
14							0.16					
15												
16	2.95		1.24		0.34							
17					0.1		0.39					
18			1.3		2.75		0.17	0.06				
19				1.22	1.06		0.14					
20		1.02		1	1.74							
21		0.03		0.66	3.2	1.2						
22				1.08	0.05	0.69						
23		0.07	0.12	2.08	0.12	0.37						
24			0.65	0.28								
25						0.45						
26		0.32			0.1							
27		1.08			0.03	0.15	0.08					
28	1.35	0.05										
29												
30												
31	0.45											
Total	4.75	2.61	4.46	17.69	15.08	3.95	3.26	0.06	0.06	0.00	0.00	0.00
Annual Total		51.92										

Table 3. Mean daily flow, Potrero Creek, Water Year 2017
Santa Lucia Preserve, Monterey County, California

Values are cfs. Greyed values indicate synthesized flow data from adjacent watersheds.

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.02	0.02	0.05	0.24	1.43	9.10	2.41	0.11	0.06	0.06	0.03	0.02
2	0.02	0.02	0.04	0.27	1.50	7.91	2.23	0.11	0.06	0.06	0.03	0.02
3	0.02	0.02	0.04	0.36	1.64	6.84	2.10	0.10	0.05	0.06	0.03	0.01
4	0.02	0.01	0.04	1.22	1.51	5.98	1.99	0.09	0.05	0.06	0.03	0.02
5	0.02	0.01	0.05	1.35	1.40	5.32	1.90	0.09	0.05	0.06	0.03	0.02
6	0.02	0.02	0.04	0.68	1.44	5.85	1.80	0.09	0.05	0.04	0.03	0.02
7	0.03	0.01	0.04	0.56	5.94	4.78	1.75	0.09	0.05	0.04	0.03	0.02
8	0.00	0.01	0.13	5.84	7.35	4.21	1.61	0.08	0.05	0.04	0.03	0.03
9	0.00	0.01	0.11	10.48	8.47	3.76	1.47	0.08	0.05	0.04	0.03	0.03
10	0.03	0.01	0.14	7.65	17.19	3.38	1.34	0.08	0.05	0.04	0.04	0.03
11	0.02	0.01	0.14	17.04	10.26	3.10	1.20	0.08	0.05	0.04	0.04	0.03
12	0.02	0.01	0.13	6.51	7.29	2.85	1.06	0.07	0.05	0.04	0.03	0.03
13	0.02	0.01	0.13	4.70	5.97	2.63	0.92	0.07	0.05	0.04	0.03	0.04
14	0.02	0.01	0.14	2.11	5.11	2.45	0.79	0.07	0.05	0.04	0.04	0.05
15	0.01	0.01	0.17	1.42	3.12	2.30	0.65	0.07	0.05	0.04	0.03	0.04
16	0.18	0.01	0.50	1.00	2.86	2.16	0.51	0.07	0.04	0.03	0.03	0.04
17	0.01	0.01	0.27	0.76	2.75	2.05	0.21	0.07	0.04	0.03	0.02	0.04
18	0.01	0.01	0.23	0.69	14.45	1.96	0.22	0.07	0.04	0.03	0.02	0.04
19	0.01	0.01	0.23	3.29	18.82	1.87	0.20	0.07	0.04	0.04	0.02	0.04
20	0.01	0.09	0.22	10.87	14.48	1.78	0.20	0.06	0.04	0.04	0.02	0.04
21	0.01	0.04	0.23	7.01	42.11	1.75	0.19	0.06	0.05	0.04	0.02	0.04
22	0.01	0.03	0.22	22.57	42.75	5.36	0.17	0.06	0.05	0.04	0.02	0.04
23	0.01	0.03	0.41	29.18	26.27	5.48	0.16	0.06	0.04	0.04	0.02	0.03
24	0.01	0.02	0.50	11.27	20.28	4.45	0.16	0.06	0.05	0.04	0.02	0.03
25	0.01	0.02	0.36	6.94	16.16	3.81	0.15	0.06	0.05	0.03	0.02	0.03
26	0.01	0.09	0.31	5.47	13.55	3.83	0.15	0.06	0.04	0.03	0.02	0.03
27	0.01	0.15	0.28	3.20	11.90	3.41	0.14	0.06	0.05	0.03	0.02	0.03
28	0.11	0.11	0.27	2.52	10.42	3.16	0.13	0.06	0.05	0.03	0.02	0.02
29	0.02	0.07	0.26	2.09		2.90	0.12	0.06	0.05	0.03	0.02	0.03
30	0.03	0.06	0.26	1.80		2.70	0.11	0.06	0.06	0.03	0.02	0.04
31	0.03		0.25	1.56		2.57		0.06		0.03	0.02	
Mean	0.02	0.03	0.20	5.51	11.30	3.86	0.87	0.07	0.05	0.04	0.03	0.03
Max Day	0.18	0.15	0.50	29.18	42.75	9.10	2.41	0.11	0.06	0.06	0.04	0.05
Min Day	0.00	0.01	0.04	0.24	1.40	1.75	0.11	0.06	0.04	0.03	0.02	0.01
Yield (ac-ft)	1.50	1.86	12.36	338.5	627.6	237.5	51.7	4.53	2.90	2.44	1.62	1.83

Water Year 2017 Annual Summary			yr	day	cfs
Mean Daily Flow	1.77	cfs	1992	7/10	0.02
Max. Daily Flow	42.8	cfs	1993	7/21	0.04
Min. Daily Flow	0.00	cfs	1994	8/14	0.02
7-Day Low Flow	0.01	cfs	1995	9/19	0.02
Total Yield	1284	ac-ft	2002	8/8	0.01
Normalized Yield	0.39	ac-ft/ac	2003	8/23	0.01
			2004	8/27	0.00
			2005	9/30	0.05
			2006	9/17	0.06
			2007	9/6	<.01
			2008	9/2	0.02
			2009	9/3	0.13
			2010	8/24	0.08
			2011	9/7	0.17
			2012	8/23	0.04
			2014	7/24	0.00
			2015	9/16	0.00
			2016	6/19	0.00
			2017	8/17	0.02

Approximate date and value of first minimum daily mean flow near the end of each water year.

Table 4. Mean Daily Water Temperature (°C)

Potrero Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12.18	12.91	9.67	8.08	9.91			12.13	13.10	13.91	14.15	14.62
2	11.87	11.73	8.12	8.25	10.41			12.38	13.21	13.70	14.21	15.18
3	12.05	11.43	7.64	9.44	10.94			12.68	13.29	13.76	14.61	15.74
4	12.97	11.26	8.03	11.09	11.01			12.80	13.25	13.92	14.93	15.87
5	12.16	11.00	9.06	10.54	10.85			12.80	13.00	14.05	15.19	16.17
6	11.76	11.83	8.79	7.65	11.15			12.64	12.90	14.02	15.19	16.34
7	11.78	12.47	8.00	9.79	12.04			12.39	12.91	14.00	15.24	16.21
8	11.90	12.56	10.42	12.04	12.94			12.31	12.91	14.15	15.23	15.97
9	11.57	12.39	11.39	12.41	13.10			12.19	13.10	14.19	15.22	15.81
10	11.76	12.22	12.13	12.04	12.96			12.27	13.09	13.92	15.14	15.64
11	12.56	12.01	11.66	11.87	11.59		11.63	12.41	13.06	13.81	15.07	15.81
12	11.97	12.26	10.79	10.66	10.63		11.90	12.42	13.06	13.77	15.00	16.06
13	11.71	11.72	10.92	9.01	10.58		12.09	12.23	13.03	13.80	14.91	16.17
14	12.78	11.68	11.45	8.49	11.08		11.91	12.14	12.98	13.82	15.00	15.91
15	13.88	12.41	11.84	8.10	11.27		11.72	12.07	12.94	13.61	14.99	15.42
16	14.67	11.64	11.30	7.51	11.65		11.65	12.02	13.06	13.68	14.99	14.77
17	14.16	10.05	8.83	7.62	11.78		11.70	12.16	13.35	13.86	15.07	14.48
18	12.69	9.51	6.90	8.83			11.89	12.02	13.62	13.78	14.94	14.76
19	12.26	10.07	6.44	9.94			11.90	11.98	13.80	13.77	14.89	14.81
20	12.18	11.76	6.42	10.26			11.94	12.03	13.83	13.84	15.08	14.36
21	12.40	11.63	7.13	10.06			11.98	12.18	13.85	13.80	15.24	14.43
22	12.28	10.57	7.29	10.49			12.01	12.34	13.78	13.86	15.06	14.10
23	11.92	10.48	8.08	9.86			12.01	12.55	13.90	13.82	15.00	13.51
24	12.69	9.28	7.79	9.10			12.05	12.71	14.11	13.79	15.08	12.95
25	13.06	8.81	7.48	8.42			12.14	12.75	14.22	14.11	15.00	12.75
26	12.76	9.87	8.15	9.03			12.24	12.90	14.06	14.33	14.60	12.88
27	12.81	10.47	7.14	9.10			12.43	12.87	14.16	14.47	14.30	13.11
28	13.63	10.41	7.06	9.25			12.38	12.91	14.29	14.39	14.39	13.21
29	13.96	9.19	7.21	9.32			12.16	12.91	14.23	14.18	14.59	13.15
30	13.81	8.64	8.26	9.25			12.08	12.84	14.12	14.13	14.72	13.51
31	13.01		8.70	9.50				12.91		14.22	14.61	
Mean Day	12.62	11.07	8.84	9.58	11.40		11.99	12.45	13.47	13.95	14.89	14.79
Max Day	14.67	12.91	12.13	12.41	13.10		12.43	12.91	14.29	14.47	15.24	16.34
Min Day	11.57	8.64	6.42	7.51	9.91		11.63	11.98	12.90	13.61	14.15	12.75

Table 5. Maximum Daily Water Temperature (°C)

Potrero Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12.92	13.23	9.97	8.76	10.20			12.32	13.25	14.04	14.33	15.01
2	12.68	12.31	8.88	9.00	10.67			12.61	13.30	13.80	14.45	15.60
3	12.74	12.13	8.59	10.27	11.30			12.88	13.38	13.87	14.77	15.89
4	13.53	11.98	8.99	11.57	11.26			12.90	13.39	14.08	15.26	16.03
5	12.75	11.79	9.61	11.46	11.03			12.83	13.26	14.17	15.31	16.49
6	12.64	12.52	9.27	8.71	11.31			12.81	12.95	14.19	15.29	16.53
7	12.73	13.00	9.00	11.35	13.24			12.49	12.98	14.14	15.33	16.34
8	12.76	13.06	11.35	12.97	13.32			12.47	12.99	14.31	15.33	16.25
9	12.25	12.98	11.73	12.70	13.66			12.31	13.22	14.34	15.29	15.89
10	12.40	12.83	12.63	12.77	13.32			12.37	13.22	14.18	15.19	15.90
11	13.08	12.51	12.50	12.78	12.40		11.75	12.52	13.13	13.92	15.16	16.12
12	12.57	12.81	11.24	11.06	11.32		12.06	12.52	13.11	13.94	15.08	16.20
13	12.51	12.40	11.43	9.81	11.23		12.13	12.39	13.11	13.93	15.00	16.24
14	13.81	12.30	12.00	9.32	11.59		12.13	12.19	13.09	13.94	15.04	16.18
15	14.43	12.93	12.44	8.85	11.71		11.87	12.13	13.08	13.86	15.04	15.81
16	15.06	12.51	12.44	8.18	12.05		11.77	12.10	13.28	13.94	15.12	15.25
17	14.70	10.80	10.44	8.61	11.89		11.83	12.26	13.54	14.02	15.18	14.63
18	13.38	10.48	7.52	9.85			12.01	12.26	13.83	13.93	15.18	15.03
19	12.97	11.34	7.25	10.49			12.02	12.08	13.88	13.85	15.04	15.05
20	12.97	12.18	7.20	10.74			12.09	12.16	13.89	13.94	15.27	14.75
21	13.06	12.02	7.99	10.67			12.09	12.30	13.90	13.94	15.32	14.50
22	12.89	11.42	8.07	11.20			12.11	12.48	13.90	13.99	15.33	14.51
23	12.62	11.03	8.96	10.20			12.08	12.72	14.04	14.00	15.09	13.94
24	13.24	9.98	8.24	9.72			12.13	12.75	14.26	14.00	15.18	13.38
25	13.48	9.87	8.23	9.25			12.24	12.86	14.28	14.36	15.18	13.00
26	13.22	10.20	8.69	9.63			12.34	12.93	14.26	14.46	15.02	13.15
27	13.19	10.81	7.83	9.55			12.55	12.97	14.33	14.60	14.46	13.38
28	14.02	10.93	7.85	9.67			12.55	12.96	14.35	14.61	14.50	13.47
29	14.21	10.16	8.17	9.72			12.37	12.97	14.33	14.32	14.75	13.41
30	14.00	9.76	8.99	9.66			12.22	12.90	14.25	14.22	14.87	13.86
31	13.54		9.13	9.84				13.06		14.32	14.88	
Mean Day	13.24	11.74	9.57	10.27	11.85		12.12	12.56	13.59	14.10	15.04	15.06
Max Day	15.06	13.23	12.63	12.97	13.66		12.55	13.06	14.35	14.61	15.33	16.53
Min Day	12.25	9.76	7.20	8.18	10.20		11.75	12.08	12.95	13.80	14.33	13.00

Table 6. Minimum Daily Water Temperature (°C)
Potrero Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11.13	12.35	8.94	7.43	9.74			12.02	13.02	13.02	13.99	14.45
2	10.75	10.92	7.37	7.57	10.20			12.29	13.12	13.12	14.12	15.02
3	11.19	10.56	6.66	8.80	10.66			12.60	13.22	13.22	14.46	15.62
4	12.60	10.41	7.00	10.28	10.83			12.70	13.15	13.15	14.77	15.76
5	11.23	10.02	8.32	8.77	10.69			12.76	12.83	12.83	15.07	16.04
6	10.68	11.18	8.16	6.80	10.98			12.49	12.85	12.85	15.10	16.20
7	10.76	11.85	6.93	8.19	11.30			12.30	12.85	12.85	15.15	16.08
8	10.97	11.91	9.00	11.33	12.65			12.19	12.83	12.83	15.14	15.78
9	10.59	11.63	11.04	12.11	12.75			12.07	12.96	12.96	15.16	15.74
10	11.01	11.45	11.64	11.89	12.44			12.23	12.98	12.98	15.10	15.42
11	12.18	11.20	11.07	11.08	11.05		11.52	12.37	12.99	12.99	14.98	15.68
12	11.26	11.45	10.33	9.86	9.86		11.75	12.32	13.03	13.03	14.93	15.89
13	10.81	10.84	10.35	8.19	9.91		12.06	12.10	12.93	12.93	14.82	16.11
14	11.76	10.79	10.92	7.59	10.68		11.77	12.09	12.86	12.86	14.96	15.75
15	13.38	11.88	11.40	7.17	10.88		11.57	12.03	12.80	12.80	14.94	15.17
16	14.22	10.83	10.47	6.56	11.26		11.56	11.96	12.97	12.97	14.92	14.38
17	13.42	9.01	7.57	6.48	11.74		11.60	12.09	13.26	13.26	14.98	14.35
18	11.81	8.46	6.13	8.25			11.83	11.83	13.55	13.55	14.74	14.64
19	11.39	8.81	5.60	9.17			11.77	11.85	13.72	13.72	14.82	14.59
20	11.25	11.35	5.59	9.90			11.86	11.90	13.76	13.76	15.01	14.04
21	11.68	11.17	6.40	9.63			11.84	12.09	13.79	13.79	15.17	14.29
22	11.63	9.72	6.41	10.04			11.90	12.27	13.65	13.65	14.85	13.79
23	11.11	10.02	7.26	9.44			11.93	12.48	13.82	13.82	14.95	13.15
24	12.25	8.34	7.18	8.34			11.99	12.67	14.04	14.04	15.01	12.54
25	12.78	7.69	6.58	7.60			12.09	12.69	14.16	14.16	14.84	12.42
26	12.28	9.41	7.69	8.57			12.18	12.87	13.89	13.89	14.30	12.61
27	12.46	10.07	6.24	8.64			12.35	12.80	14.09	14.09	14.13	12.84
28	13.19	10.00	6.19	8.81			12.25	12.84	14.22	14.22	14.28	12.90
29	13.71	8.40	6.18	8.92			11.99	12.87	14.16	14.16	14.51	12.88
30	13.54	7.60	7.66	8.81			11.93	12.79	14.03	14.03	14.62	13.17
31	12.52		7.84	9.24				12.84		13.32	14.38	
Mean Day	11.92	10.31	8.07	8.89	11.04		11.89		13.38	13.38	14.78	14.58
Max Day	14.22	12.35	11.64	12.11	12.75		12.35		14.22	14.22	15.17	16.20
Min Day	10.59	7.60	5.59	6.48	9.74		11.52		12.80	12.80	13.99	12.42

Table 7. Mean Daily Specific Conductance (um hos/cm @ 25 °C)
Potrero Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	885.53	894.26	884.00	851.01	926.73			473.81	602.49	666.61	731.42	779.13
2	885.16	898.13	874.36	855.28	1044.38			476.23	603.56	668.92	733.72	779.95
3	887.80	897.06	876.85	860.23	1114.74			479.35	604.98	671.89	735.71	780.66
4	892.16	895.54	876.60	865.43	1146.22			483.09	605.80	674.57	737.94	781.61
5	890.18	897.35	875.44	838.88	1148.53			487.68	606.35	676.58	740.22	785.24
6	889.13	903.93	871.59	807.58	1144.16			492.67	608.45	677.68	742.22	788.43
7	890.36	906.83	867.42	752.34	1098.25			498.81	610.91	678.64	744.66	789.41
8	892.02	906.07	868.00	697.73	657.46			504.82	612.79	680.24	746.95	790.50
9	893.01	903.74	861.32	217.92	389.55			511.85	614.88	682.01	748.80	792.78
10	895.29	900.46	857.79	219.95	187.17			518.68	616.58	684.08	749.52	794.36
11	897.59	896.28	853.52	187.60	205.24		517.41	524.71	617.94	686.67	751.16	798.27
12	893.26	896.23	852.18	202.64	224.49		513.09	529.95	619.33	688.67	752.67	800.05
13	892.05	895.93	852.81	223.65	240.51		503.33	534.79	621.34	691.30	754.43	798.51
14	896.76	895.04	854.61	250.54	256.86		492.45	539.25	623.15	693.43	755.88	798.75
15	901.46	896.95	856.78	277.54	265.19		485.51	543.80	625.02	696.12	756.34	798.80
16	904.34	900.74	855.73	302.50	275.23		480.98	548.24	627.77	698.86	757.28	800.66
17	902.46	901.42	853.91	327.49	344.99		478.25	552.69	629.99	701.18	758.67	801.01
18	902.60	902.28	852.64	351.89			475.23	557.57	631.83	702.92	759.43	801.26
19	909.47	903.15	849.44	291.81			471.34	563.61	633.74	704.42	760.67	801.59
20	914.00	904.55	846.19	202.60			468.81	569.09	635.77	706.26	762.56	801.72
21	912.05	900.05	845.34	204.64			468.02	573.89	638.69	708.42	764.46	802.46
22	905.36	891.32	845.38	192.79			468.02	577.99	641.63	710.71	765.60	801.80
23	899.49	893.03	847.98	161.59			467.71	582.75	644.74	713.61	767.72	801.66
24	899.72	890.88	849.25	194.59			466.87	587.36	648.10	716.88	769.52	802.00
25	899.07	893.69	852.82	220.91			466.10	591.00	651.14	719.03	771.11	802.58
26	897.55	900.98	853.29	241.59			465.92	593.25	653.68	720.97	772.52	801.65
27	899.49	905.84	849.01	332.79			466.39	595.80	656.97	722.90	773.55	800.60
28	902.00	908.65	846.35	407.12			466.90	597.63	659.77	724.27	774.68	800.57
29	895.16	905.40	845.34	453.64			468.79	599.04	662.13	725.28	776.23	800.38
30	875.01	898.34	846.24	687.05			471.27	600.10	664.35	727.57	777.39	802.01
31	880.37		847.82	787.58				601.24		729.76	777.81	885.53
Mean Day	896.13	899.47	857.10	434.48	627.63		478.12	544.86	629.13	698.40	757.12	798.84
Max Day	914.00	908.65	884.00	865.43	1148.53		517.41	601.24	664.35	729.76	777.81	885.53
Min Day	875.01	890.88	845.34	161.59	187.17		465.92	473.81	602.49	666.61	731.42	779.13

Table 8. Mean daily flow, San Clemente Creek, Water Year 2017
 Santa Lucia Preserve, Monterey County, California

Values are cfs. Greyed values indicated synthesized flow data from adjacent watersheds.

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.05	0.07	0.07	0.50	7.75	17.57	4.96	5.30	3.23	2.06	0.54	0.37
2	0.05	0.08	0.08	0.52	8.74	15.20	4.68	5.24	3.18	2.04	0.51	0.37
3	0.05	0.07	0.07	0.59	11.73	13.30	4.43	5.19	3.10	1.99	0.51	0.35
4	0.05	0.06	0.06	6.48	9.74	11.83	4.21	5.13	3.04	1.93	0.50	0.35
5	0.05	0.05	0.06	3.31	8.79	13.01	4.00	5.08	2.99	1.88	0.48	0.34
6	0.05	0.05	0.06	2.51	11.47	10.61	3.89	5.02	2.94	1.81	0.48	0.34
7	0.05	0.04	0.06	2.32	32.50	9.35	10.45	4.88	2.89	1.75	0.47	0.34
8	0.04	0.04	0.07	19.59	29.68	8.36	8.26	4.72	2.88	1.16	0.48	0.34
9	0.04	0.04	0.06	32.84	30.81	7.52	6.80	4.58	2.96	1.12	0.50	0.33
10	0.04	0.04	0.06	30.69	36.69	6.88	6.06	4.51	2.90	1.09	0.52	0.31
11	0.05	0.04	0.06	40.48	26.72	6.34	5.56	4.48	2.88	1.08	0.52	0.31
12	0.05	0.04	0.06	20.78	22.99	5.85	5.67	4.39	2.96	1.08	0.50	0.33
13	0.05	0.05	0.06	13.52	20.46	5.45	6.79	4.33	2.87	1.07	0.47	0.37
14	0.04	0.05	0.16	10.20	17.94	5.12	6.34	4.29	2.75	1.03	0.48	0.38
15	0.04	0.05	0.23	8.50	15.81	4.81	5.71	4.23	2.67	0.97	0.48	0.37
16	0.07	0.05	1.80	7.32	15.45	4.56	5.58	4.16	2.63	0.91	0.50	0.37
17	0.07	0.05	1.06	6.27	32.10	4.36	6.23	4.14	2.55	0.85	0.50	0.33
18	0.07	0.05	0.93	5.93	41.83	4.15	6.02	3.98	2.45	0.81	0.49	0.30
19	0.06	0.05	0.80	10.26	32.17	3.96	5.97	3.87	2.39	0.82	0.48	0.30
20	0.06	0.09	0.69	22.18	93.58	3.89	5.91	3.76	2.34	0.82	0.47	0.30
21	0.05	0.07	0.60	15.16	95.00	11.92	5.85	3.67	2.32	0.82	0.47	0.30
22	0.05	0.07	0.55	46.54	58.37	12.18	5.80	3.59	2.23	0.79	0.46	0.30
23	0.05	0.08	0.62	46.48	45.07	9.89	5.74	3.54	2.17	0.73	0.46	0.30
24	0.05	0.07	0.90	28.74	35.92	8.46	5.69	3.57	2.17	0.74	0.45	0.29
25	0.05	0.07	0.77	21.71	30.11	8.51	5.63	3.54	2.15	0.78	0.44	0.29
26	0.05	0.09	0.71	17.30	26.45	7.57	5.58	3.49	2.15	0.77	0.44	0.29
27	0.05	0.12	0.68	14.41	23.16	7.02	5.52	3.47	2.14	0.71	0.43	0.28
28	0.09	0.08	0.63	12.54	20.23	6.44	5.46	3.43	2.12	0.64	0.42	0.28
29	0.06	0.08	0.58	10.89		6.00	5.41	3.39	2.06	0.62	0.42	0.28
30	0.08	0.08	0.50	9.61		5.72	5.35	3.33	2.04	0.61	0.40	0.29
31	0.08		0.49	8.58		5.35		3.28		0.58	0.39	
Mean	0.06	0.06	0.44	15.38	30.05	8.10	5.79	4.18	2.60	1.10	0.47	0.32
Max Day	0.09	0.12	1.80	46.54	95.00	17.57	10.45	5.30	3.23	2.06	0.54	0.38
Min Day	0.04	0.04	0.06	0.50	7.75	3.89	3.89	3.28	2.04	0.58	0.39	0.28
Yield (ac-ft)	3.4	3.7	26.9	945.6	1669	498.2	344.2	257.0	154.9	67.63	29.07	19.18

Water Year 2017 Annual Summary			yr	day	cfs
Mean Daily Flow	5.55	cfs	1991	9/17	0.03
Max. Daily Flow	95.0	cfs	1992	8/27	0.06
Min. Daily Flow	0.04	cfs	1993	8/27	0.10
7-Day Low Flow	0.04	cfs	1994	7/16	0.04
Total Yield	4018	ac-ft	1995	9/29	0.14
Normalized Yield	1.23	ac-ft/ac	2002	8/25	0.01
			2003	9/14	0.03
			2004	8/27	0.02
			2005	9/30	0.11
			2006	9/23	0.17
			2007	8/4	0.03
			2008	8/26	0.07
			2009	9/4	0.03
			2010	9/5	0.01
			2011	9/23	0.17
			2012	9/30	0.04
			2014	8/2	<0.01
			2015	9/27	0.02
			2016	9/18	0.03
			2017	9/27	0.28

Approximate date and value of first minimum daily mean flow near the end of each water year.

Table 9. Mean Daily Water Temperature (°C)

San Clemente Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11.86	11.49	8.27	6.70	9.32	8.99	10.60	12.55	13.27	13.80	15.54	17.00
2	11.44	10.34	6.74	6.68	10.53	9.44	11.45	13.42	13.19	14.06	16.66	17.83
3	11.77	10.21	6.54	7.96	10.91	9.79	11.13	14.06	13.49	14.38	17.24	18.52
4	12.34	10.26	7.07	10.06	10.30	9.64	10.46	14.10	13.02	14.55	17.44	18.57
5	11.26	9.82	7.63	9.26	9.87	9.08	11.36	12.80	12.39	14.98	16.83	18.80
6	11.04	10.80	6.98	6.42	10.85	8.41	11.12	10.54	13.09	15.58	16.62	18.11
7	11.22	11.53	6.62	9.06	11.77	8.83	11.50	11.31	12.58	16.02	15.96	17.85
8	11.53	11.54	8.82	11.11	12.18	9.78	10.44	11.83	13.13	16.31	15.64	16.97
9	11.66	11.38	9.65	10.85	11.98	10.66	9.96	12.43	13.30	16.08	15.42	17.12
10	11.81	11.52	10.43	10.81	11.74	11.32	9.79	12.53	12.21	15.90	15.60	17.17
11	12.25	11.43	10.07	10.55	10.45	11.33	11.07	12.40	12.09	15.75	15.04	18.06
12	11.67	11.37	9.18	9.57	9.87	11.10	11.96	11.37	11.84	15.34	14.95	17.92
13	11.50	10.78	9.31	8.33	9.91	11.32	11.04	11.03	12.06	15.23	14.74	17.71
14	12.44	10.43	9.74	8.02	10.49	11.71	10.01	10.82	12.72	15.40	15.00	17.07
15	13.34	10.47	10.67	7.71	10.78	11.50	10.18	10.93	13.27	15.66	15.04	15.51
16	13.69	10.14	9.77	7.52	11.24	11.36	10.57	11.02	14.47	16.42	15.04	14.94
17	12.81	8.73	7.16	7.89	10.94	11.77	11.68	11.58	15.60	15.88	15.26	14.85
18	11.42	8.34	5.28	8.72	10.41	11.60	11.42	11.16	16.33	15.35	15.54	15.25
19	11.05	9.70	4.82	8.96	10.36	11.33	10.71	12.26	16.56	14.80	15.43	15.10
20	11.10	10.68	5.09	8.95	11.37	11.42	11.08	12.94	16.17	14.96	15.73	14.64
21	11.45	10.41	6.00	8.98	11.12	12.33	11.27	13.51	15.42	14.77	15.68	14.94
22	11.41	9.52	6.07	9.18	10.28	11.18	11.37	13.76	16.29	14.75	15.43	14.26
23	11.14	9.31	7.13	8.65	9.53	10.68	11.12	13.99	16.23	15.39	15.39	13.34
24	11.90	7.99	7.07	8.47	9.21	10.52	10.97	13.11	15.64	15.07	15.23	12.99
25	12.41	7.45	6.60	8.07	9.28	11.10	11.32	13.08	15.39	15.45	14.97	13.19
26	11.74	8.52	6.73	8.12	9.32	10.42	11.50	12.85	14.74	15.26	15.28	13.62
27	12.26	8.95	5.74	7.93	9.26	10.96	11.83	12.89	14.58	15.78	16.30	14.06
28	13.06	9.10	5.93	8.10	9.05	10.51	10.80	12.66	14.48	15.75	16.75	14.26
29	13.01	7.99	6.26	8.47		11.00	10.87	12.94	13.96	15.12	16.56	14.35
30	12.61	7.52	7.38	8.69		11.00	11.62	12.86	14.21	15.16	16.32	14.85
31	11.46		7.24	8.78		10.31		13.09		15.00	15.76	
Mean Day	11.92	9.92	7.48	8.66	10.44	10.66	11.01	12.45	14.06	15.29	15.75	15.96
Max Day	13.69	11.54	10.67	11.11	12.18	12.33	11.96	14.10	16.56	16.42	17.44	18.80
Min Day	11.04	7.45	4.82	6.42	9.05	8.41	9.79	10.54	11.84	13.80	14.74	12.99

Table 10. Maximum Daily Water Temperature (°C)

San Clemente Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12.62	11.82	8.68	7.30	10.28	10.50	12.77	14.83	14.86	14.74	17.00	18.14
2	12.18	11.00	7.29	7.25	11.36	11.18	13.58	15.55	14.88	15.51	17.75	18.87
3	12.39	11.00	7.38	9.04	11.31	11.53	12.84	16.21	15.14	15.92	17.61	19.15
4	13.04	11.08	7.87	10.54	11.04	10.84	12.41	15.95	14.67	16.10	18.15	19.09
5	11.99	10.53	8.08	10.49	10.75	9.76	13.03	13.92	14.48	16.42	17.92	19.35
6	11.94	11.65	7.42	7.38	11.39	9.86	11.76	11.59	14.65	17.19	17.76	18.64
7	12.17	12.13	7.52	10.33	12.33	10.45	12.18	13.32	14.07	17.67	16.97	18.33
8	12.50	12.11	9.48	11.61	12.86	11.55	11.26	13.99	14.19	17.86	16.65	17.48
9	12.59	12.07	10.04	11.35	12.37	12.43	11.74	14.70	13.88	17.57	16.39	17.73
10	12.45	12.35	10.85	11.46	12.19	12.69	12.03	13.96	13.37	17.32	16.62	17.96
11	12.68	12.08	10.69	11.25	11.01	12.96	12.63	13.37	12.65	17.17	16.09	18.76
12	12.34	11.76	9.64	9.84	11.10	12.85	13.15	12.27	12.32	16.73	16.00	18.42
13	12.25	11.40	9.82	9.09	11.26	13.25	11.85	12.27	13.81	16.70	15.77	18.00
14	13.33	11.07	10.24	9.01	11.63	13.56	11.57	11.82	14.63	16.83	15.98	17.46
15	13.84	11.23	11.22	8.66	11.90	13.11	12.55	12.05	14.97	17.32	15.85	16.30
16	14.24	10.90	11.16	8.59	12.11	13.19	11.44	12.05	16.11	17.97	15.94	15.72
17	13.38	9.46	8.74	9.13	11.34	13.68	12.40	13.07	17.19	17.27	16.13	15.45
18	11.91	9.16	5.94	9.36	10.78	12.68	12.31	13.58	17.74	16.75	16.41	16.01
19	11.72	10.36	5.45	9.33	11.16	12.50	12.60	14.58	17.88	16.18	16.20	15.46
20	11.96	11.07	5.95	9.46	11.69	12.04	12.97	15.09	17.40	16.29	16.40	15.35
21	12.13	10.68	6.81	9.65	11.43	13.39	13.61	15.56	17.05	16.07	16.39	15.28
22	12.09	10.29	6.69	9.99	10.70	11.94	13.00	15.66	17.98	16.43	16.51	14.61
23	11.70	9.74	7.91	9.04	10.07	11.90	12.51	15.69	17.64	16.77	16.39	13.94
24	12.42	8.63	7.55	9.20	10.03	11.41	11.68	13.92	16.64	16.24	16.32	13.78
25	12.87	8.20	7.03	9.07	10.09	12.09	12.50	14.24	16.79	16.55	16.26	14.03
26	12.23	8.77	6.98	9.13	10.12	11.84	12.75	13.63	16.19	16.46	16.55	14.49
27	12.94	9.29	6.37	9.04	10.00	11.51	13.14	14.28	15.96	17.07	17.67	14.92
28	13.33	9.50	6.78	9.55	9.93	12.21	12.77	14.58	16.06	16.84	17.93	15.11
29	13.35	9.05	7.19	9.98		12.94	13.26	14.40	15.58	16.32	17.56	15.06
30	12.96	8.56	7.99	10.30		12.04	14.11	14.11	15.72	16.37	17.33	15.36
31	12.04		7.67	10.27		11.78		14.52		16.28	16.87	
Mean Day	12.57	10.56	8.14	9.54	11.15	12.05	12.55	14.02	15.48	16.67	16.75	16.61
Max Day	14.24	12.35	11.22	11.61	12.86	13.68	14.11	16.21	17.98	17.97	18.15	19.35
Min Day	11.70	8.20	5.45	7.25	9.93	9.76	11.26	11.59	12.32	14.74	15.77	13.78

Table 11. Minimum Daily Water Temperature (°C)
San Clemente Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	10.93	10.73	7.33	6.15	8.45	7.72	8.70	10.46	11.54	12.90	13.65	15.85
2	10.39	9.51	6.21	6.15	9.61	8.06	9.73	11.53	11.13	12.69	15.44	16.70
3	10.87	9.36	5.71	7.23	10.50	8.35	9.61	12.09	11.88	12.78	16.84	17.98
4	11.63	9.38	6.20	9.11	9.62	8.52	8.48	12.47	11.41	12.82	16.76	18.03
5	10.31	8.91	7.13	7.17	9.02	7.87	9.61	11.65	9.87	13.41	15.67	18.28
6	9.99	10.01	6.55	5.56	10.48	7.21	10.32	9.80	11.22	13.99	15.74	17.43
7	10.09	10.88	5.73	7.38	10.91	7.39	10.52	9.66	10.73	14.36	14.96	17.29
8	10.45	10.87	7.50	10.33	11.73	8.28	9.58	9.76	11.85	14.63	14.55	16.23
9	10.56	10.58	9.29	10.37	11.56	9.17	8.55	10.28	12.21	14.35	14.38	16.48
10	10.99	10.68	10.00	10.36	11.01	10.20	7.65	11.35	10.87	14.24	14.77	16.24
11	11.92	10.55	9.41	9.80	9.58	10.05	9.82	11.62	11.53	14.24	13.66	17.39
12	10.94	10.78	8.64	8.76	8.97	9.62	11.36	10.32	11.38	13.95	13.73	17.27
13	10.56	10.02	8.77	7.66	8.77	9.69	10.08	9.86	10.12	13.60	13.50	17.29
14	11.51	9.70	9.27	7.27	9.61	10.09	8.67	10.06	10.63	13.79	14.24	16.35
15	12.93	9.72	10.03	6.93	9.86	10.01	8.14	10.01	11.18	13.58	14.58	14.94
16	13.32	9.56	8.75	6.62	10.58	9.65	9.56	10.03	12.61	14.73	14.26	13.97
17	11.84	8.07	6.01	6.80	10.72	10.09	11.17	10.50	13.93	14.15	14.26	14.09
18	10.68	7.46	4.78	8.20	10.01	10.69	10.82	8.77	14.74	13.66	14.59	14.56
19	10.23	9.03	4.19	8.34	9.47	10.28	8.95	9.91	15.14	13.00	14.45	14.67
20	10.12	10.32	4.32	8.56	11.02	10.60	9.54	10.75	15.09	13.44	15.02	13.76
21	10.65	10.14	5.38	8.53	10.60	11.41	9.21	11.44	13.61	13.18	15.08	14.47
22	10.76	8.93	5.35	8.56	9.82	10.37	9.74	11.76	14.69	12.68	14.39	13.76
23	10.39	8.65	6.06	8.28	9.11	9.98	9.91	12.16	14.84	13.88	14.49	12.57
24	11.38	7.29	6.75	7.85	8.57	9.61	10.29	12.17	14.58	13.62	14.13	12.04
25	12.06	6.54	6.00	7.33	8.41	9.86	10.46	11.97	14.00	14.34	13.67	12.23
26	11.10	8.05	6.10	7.38	8.44	8.98	10.34	12.18	13.12	13.78	14.02	12.66
27	11.51	8.65	5.01	7.11	8.71	10.38	10.66	11.74	13.09	14.22	15.06	13.12
28	12.82	8.61	5.11	7.03	8.21	8.98	9.15	10.68	13.13	14.44	15.73	13.32
29	12.68	7.37	5.36	7.29		9.38	8.73	11.60	12.13	13.68	15.75	13.44
30	12.01	6.53	6.82	7.41		10.39	9.33	11.65	12.86	13.62	15.39	14.46
31	10.84		6.47	7.43		9.12		11.69		13.14	14.35	
Mean Day	11.18	9.23	6.78	7.84	9.76	9.42	9.62	10.97	12.50	13.71	14.75	15.23
Max Day	13.32	10.88	10.03	10.37	11.73	11.41	11.36	12.47	15.14	14.73	16.84	18.28
Min Day	9.99	6.53	4.19	5.56	8.21	7.21	7.65	8.77	9.87	12.68	13.50	12.04

Table 12. Mean Daily Specific Conductance (um hos/cm @ 25 °C)

San Clemente Creek, Water Year 2017

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	256.60	264.04	304.91	193.63	135.93	5.00	150.21	164.57	166.95	180.15	239.17	273.97
2	253.71	256.79	309.55	193.45	137.65	5.00	154.76	168.61	167.01	180.99	247.85	284.54
3	255.86	256.47	312.96	191.28	133.20	5.00	153.97	171.88	168.91	183.64	253.17	292.23
4	260.21	257.01	313.31	134.30	133.69	5.07	151.80	172.14	167.28	185.44	254.08	296.95
5	253.18	254.18	307.20	152.47	134.17	18.94	156.15	163.97	165.08	188.54	251.31	305.76
6	252.08	261.07	312.45	150.49	132.24	5.00	155.59	156.56	168.35	201.46	250.89	302.74
7	253.71	266.47	319.31	161.63	111.24	5.00	148.13	161.33	166.58	212.97	248.96	297.95
8	256.50	266.76	319.22	123.51	111.22	65.94	145.14	163.42	168.59	216.49	247.26	283.78
9	257.24	265.74	320.08	103.52	114.53	138.10	147.28	165.48	168.78	217.13	245.22	285.19
10	257.56	266.75	322.54	111.96	109.07	141.65	147.09	165.29	164.52	217.04	245.04	289.56
11	260.39	266.28	301.30	97.31	115.33	143.52	152.66	164.35	164.04	216.49	240.67	300.13
12	256.11	265.95	315.42	110.96	118.51	143.80	156.68	160.30	162.53	214.25	240.41	303.70
13	255.02	261.79	297.24	118.53	122.03	145.84	153.10	159.70	164.59	213.68	242.77	306.30
14	262.80	259.26	307.20	124.14	126.99	148.39	149.69	159.02	168.14	215.71	243.47	305.92
15	272.91	259.59	311.92	127.55	130.50	148.55	149.90	159.04	171.53	219.04	243.68	293.26
16	278.07	257.29	305.68	130.58	133.35	149.08	150.98	159.67	177.32	226.22	243.27	287.89
17	275.81	247.38	307.27	135.29	113.68	151.53	158.23	162.56	183.47	225.46	242.75	281.66
18	266.78	244.68	308.43	137.74	88.29	151.64	158.26	161.45	187.95	224.41	246.34	281.04
19	263.52	253.44	312.63	126.23	104.51	151.58	154.43	166.79	190.13	220.92	243.67	279.01
20	263.81	244.17	314.37	108.14	76.18	151.07	155.26	170.09	188.98	221.51	249.19	268.45
21	265.99	254.26	324.26	116.61	87.20	147.85	156.56	172.38	185.55	220.05	260.44	268.39
22	265.38	251.07	241.75	90.40	60.93	146.79	157.28	173.52	191.20	220.70	253.64	264.44
23	263.08	250.42	242.55	91.10	8.17	146.51	156.30	174.46	191.82	227.05	258.00	257.55
24	267.69	241.85	263.84	106.19	7.54	145.79	155.64	169.88	188.60	225.97	259.00	253.83
25	271.71	238.54	243.02	112.09	5.28	149.65	157.48	169.26	186.64	225.78	260.85	254.61
26	266.55	235.45	246.91	116.59	5.01	147.04	158.53	166.82	183.71	224.29	270.00	258.63
27	269.77	235.50	245.50	119.56	5.00	148.86	160.42	164.00	183.42	229.53	272.95	264.41
28	258.99	247.08	255.64	123.01	5.00	148.01	156.42	162.40	183.03	233.31	279.03	267.89
29	271.59	242.21	253.79	126.86		150.59	156.73	163.93	181.40	231.47	268.57	268.95
30	261.20	240.01	253.50	129.85		150.79	160.16	164.17	182.75	231.95	268.93	274.02
31	260.63		256.75	132.16		148.69		165.46		232.84	263.19	
Mean Day	262.40	253.72	291.95	128.94	91.66	113.24	154.16	165.24	176.30	215.63	252.70	281.76
Max Day	278.07	266.76	324.26	193.63	137.65	151.64	160.42	174.46	191.82	233.31	279.03	306.30
Min Day	252.08	235.45	241.75	90.40	5.00	5.00	145.14	156.56	162.53	180.15	239.17	253.83

7 Figures

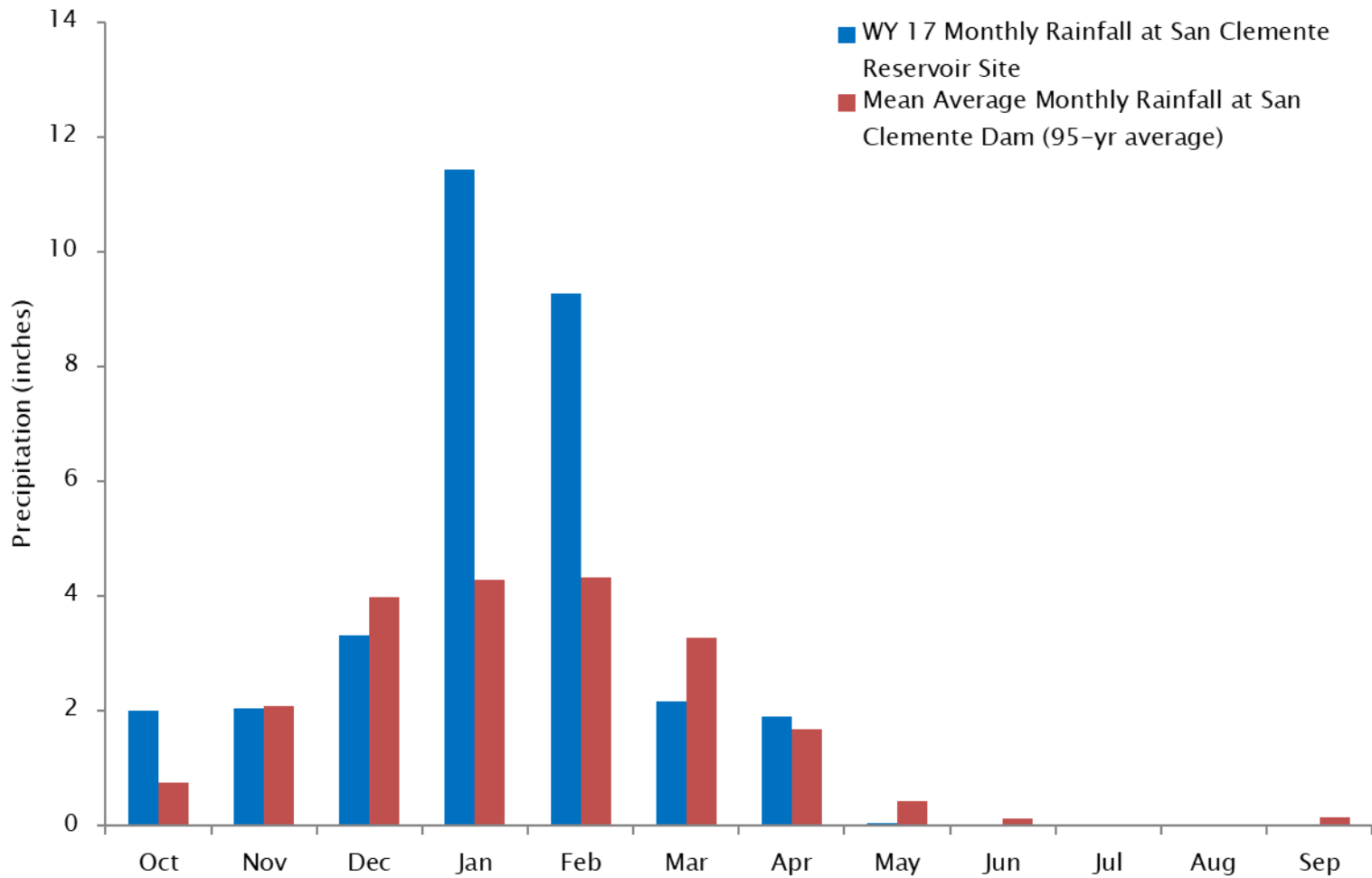


Figure 1. Monthly precipitation at San Clemente Reservoir site for Water Year 2017. WY 2017 precipitation was significantly above average in January and February. Total precipitation in WY 2017 at the dam was 32.25 inches compared to the average total precipitation at the dam, 21.27 inches. Mean monthly data is based on Water Years 1922 - 2017. Precipitation data is provided by the Monterey Peninsula Water Management District.

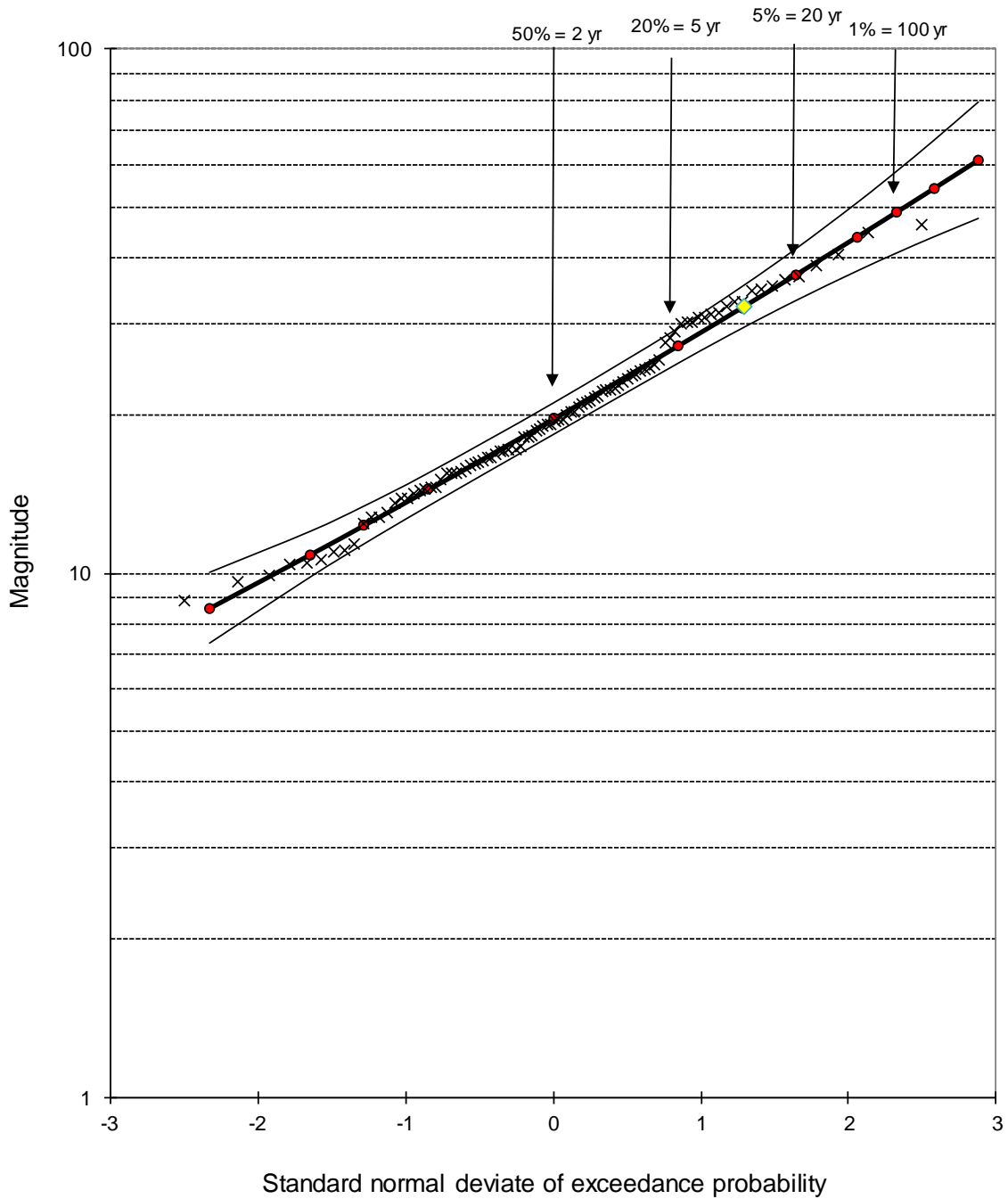


Figure 2. Log-Pearson Type-III statistical analysis of historic precipitation data from San Clemente Dam. Thin curved lines represent upper and lower 95% confidence bounds for precipitation exceedance probability. The yellow diamond symbol marks the 32.24 inch precipitation of the 2017 water year.

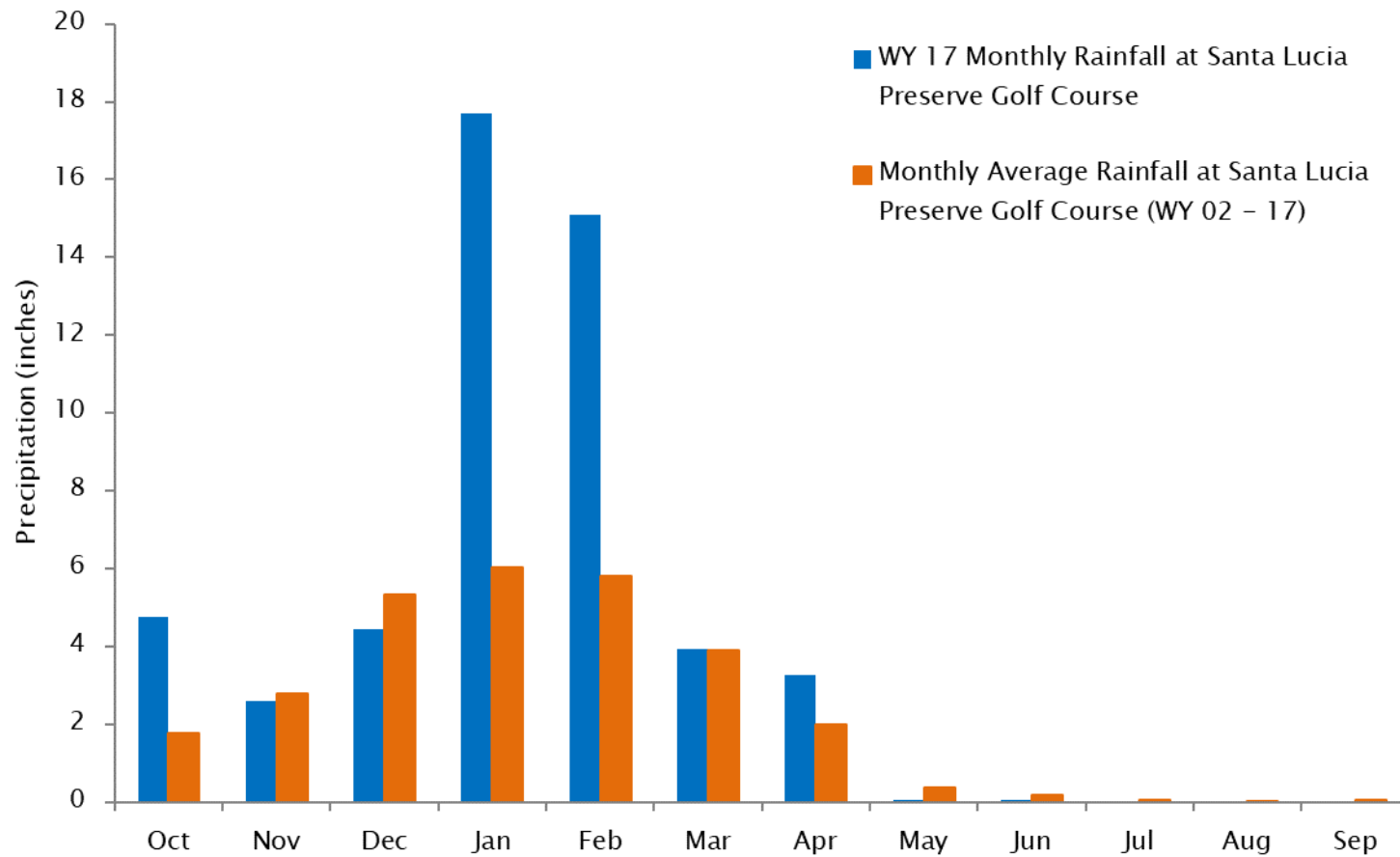


Figure 3. Monthly Precipitation at Santa Lucia Preserve Golf course for Water Year 2017. WY 2017 precipitation was significantly higher than average at the golf course. Precipitation was 51.92 inches in WY 2017 compared to the 16-year annual average of 27.88 inches. Mean monthly average is based only on Water Years 2002 – 2017 and is probably not an accurate characterization of actual long-term patterns due to the short record. Precipitation data from Santa Lucia Preserve, 2017.

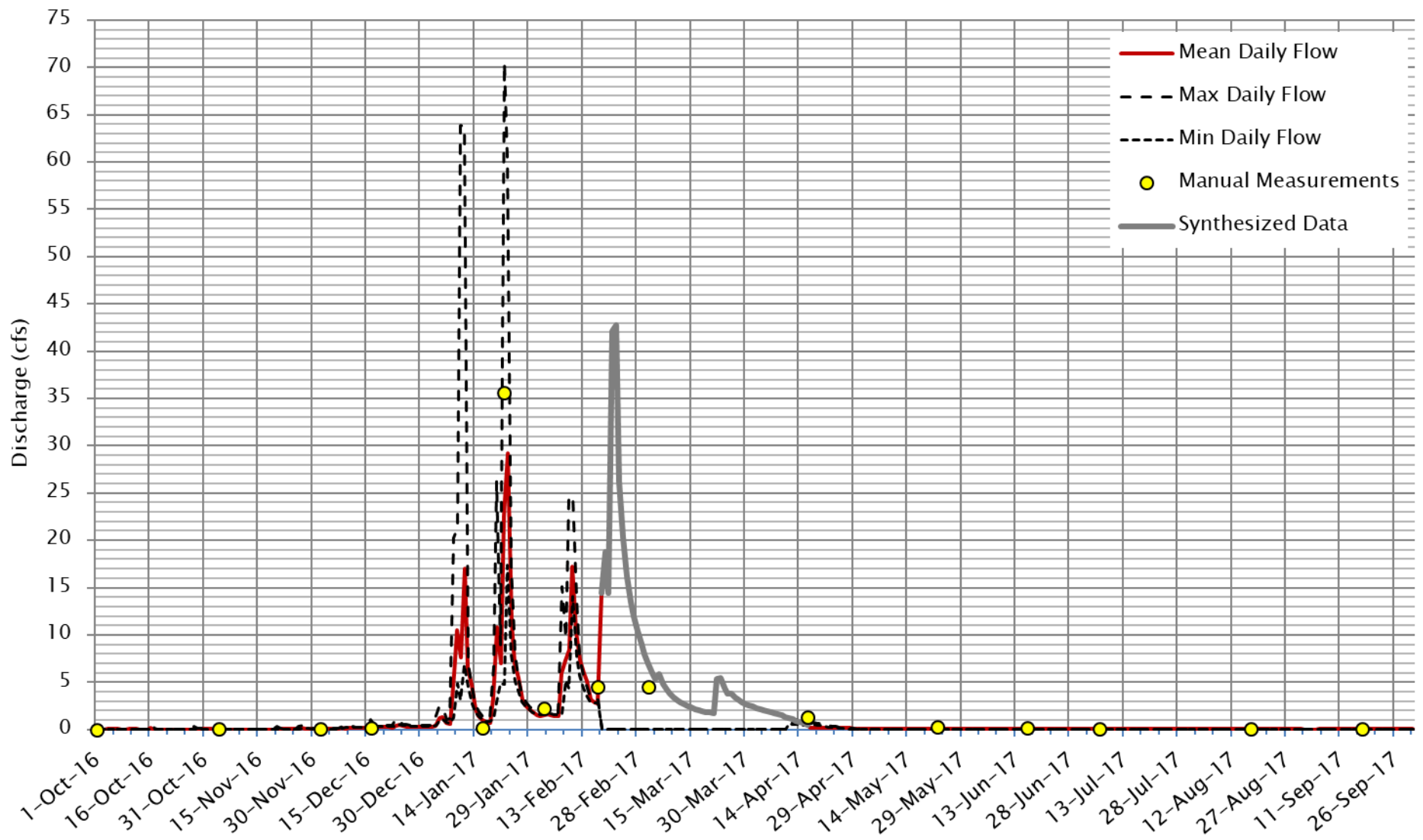


Figure 4. Mean Daily Streamflow at Potrero Creek gage for Water Year 2017. Red line is mean daily streamflow. Minimum and maximum daily flows are also shown. Yellow points represent manual discharge measurements. Missing data were synthesized using hydrographs from adjacent stream gages.

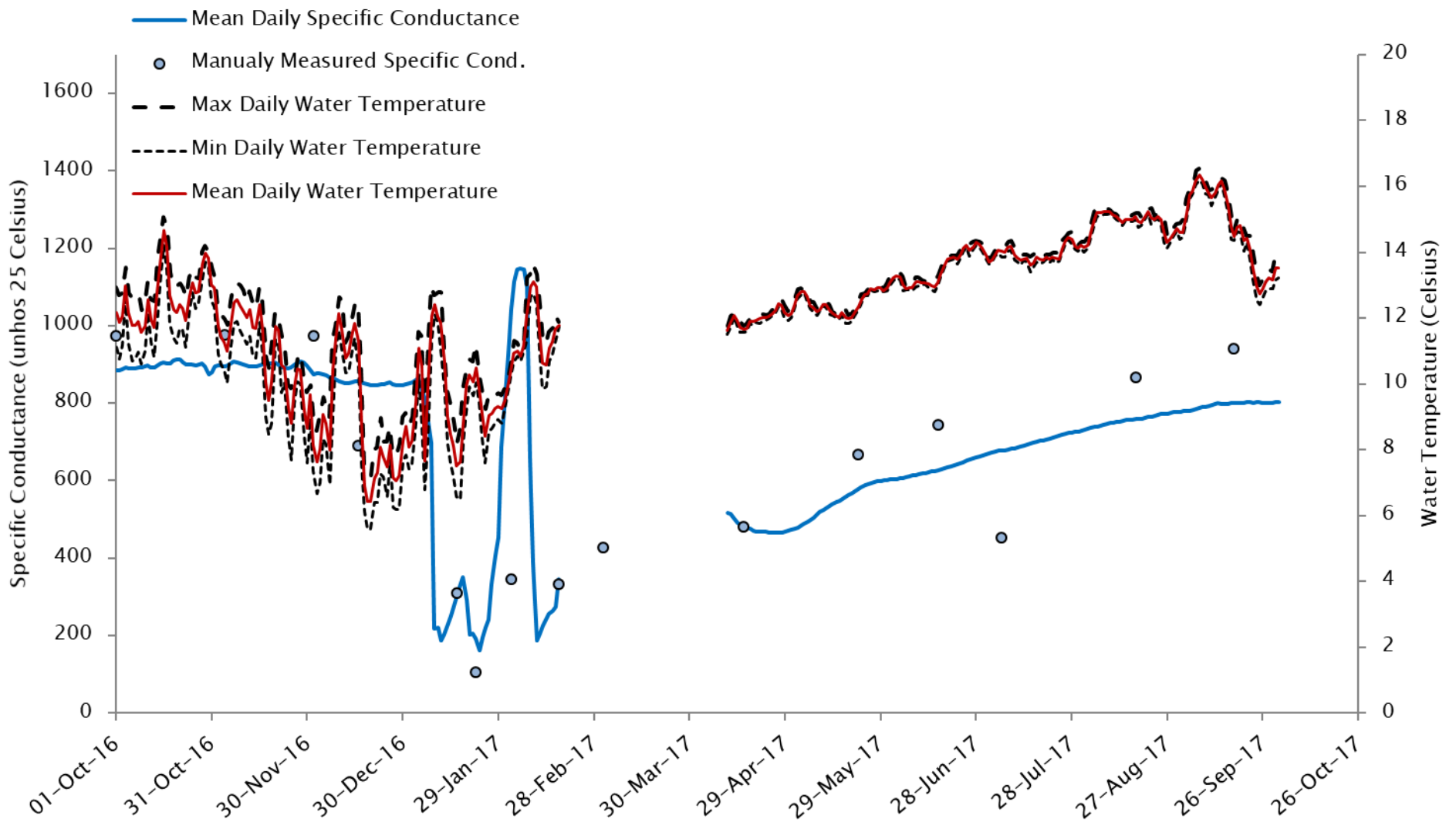


Figure 5. Daily Specific Conductance Water Temperature data at Potrero Creek gage for Water Year 2017. Blue line is mean daily specific conductance; red line is mean daily water temperature; dotted lines represent minimum and maximum daily water temperature values. From February 18, 2017 through April 10, 2017, the logger malfunctioned causing a data gap.

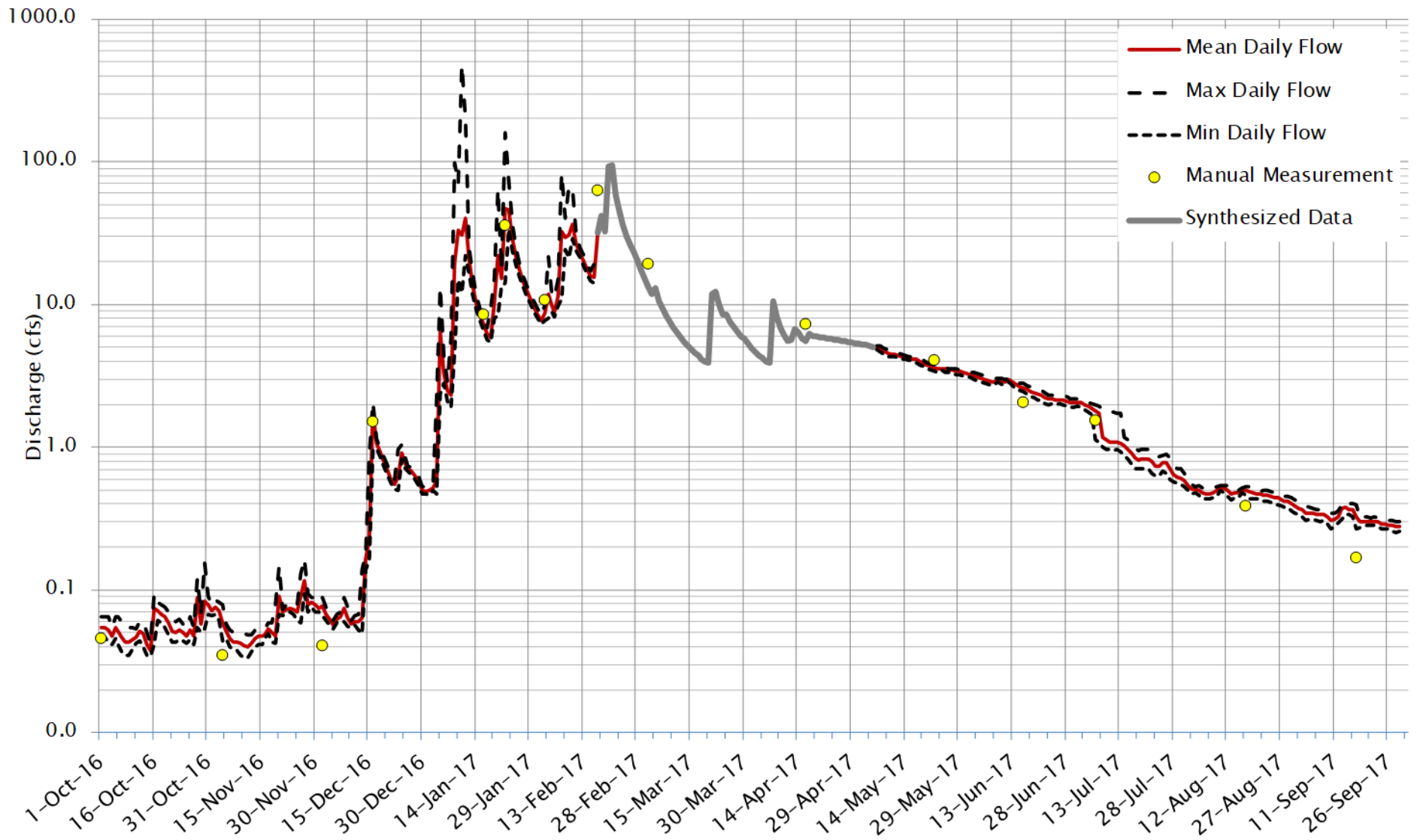


Figure 6. Mean Daily Streamflow at San Clemente Creek gage for Water Year 2017. Red line is mean daily streamflow. Minimum and maximum daily flows are also shown. Yellow points represent manual discharge measurements. Missing data were synthesized using hydrographs from adjacent stream gages.

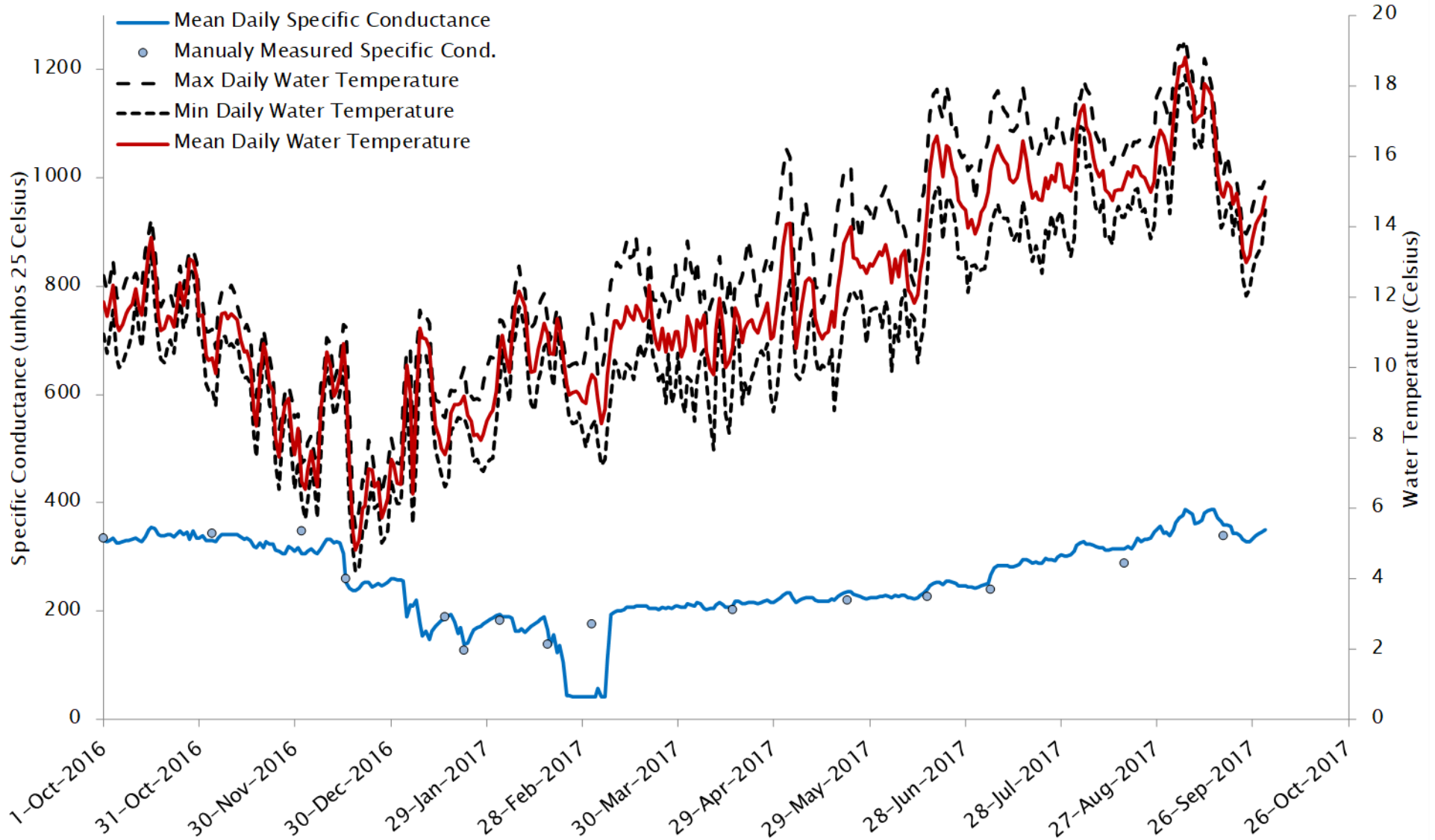


Figure 7. Daily Specific Conductance and Water Temperature data at San Clemente Creek gage for Water Year 2016. Blue line is mean daily specific conductance; red line is mean daily water temperature; dotted lines represent minimum and maximum daily water temperature values.