Water-Data Report 2011

11176500 Arroyo Valle near Livermore, CA

Alameda Creek Basin

LOCATION.--Lat 37°37′24″, long 121°45′28″ referenced to North American Datum of 1927, Alameda County, CA, Hydrologic Unit 18050004, in Valle de San Jose Grant, on right bank, 900 ft downstream from highway bridge, 1.1 mi upstream from Dry Creek, 1.3 mi downstream from Del Valle Dam, 4.1 mi south of Livermore, and 6.9 mi southeast of Pleasanton.

DRAINAGE AREA.--147 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1912 to September 1930, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as "Arroyo del Valle near Livermore," 1912-29.
CHEMICAL ANALYSES: Water years 1953, 1959-66.
WATER TEMPERATURE: Water years 1960-61, 1963-79.
SEDIMENT DATA: Water years 1963-67.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 510.44 ft above NGVD of 1929. Prior to November 1914, at site 900 ft upstream at different datum. Nov. 1, 1914, to Sept. 30, 1930, at site 300 ft upstream at different datum.

REMARKS.--Records fair except for discharges below 3.0 ft^3/s, which are poor. Flow regulated by Del Valle Reservoir 1.3 mi upstream beginning in September 1968, capacity, 77,100 acre-ft. Water from Sacramento-San Joaquin Delta imported through South Bay Aqueduct can be pumped into Del Valle Reservoir for storage and later released into the channel above or below the gage for downstream percolation or returned to the South Bay Aqueduct. See schematic diagram of Alameda Creek Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s, Apr. 2, 1958, gage height, 10.91 ft; no flow at times. Maximum discharge since construction of Del Valle Dam in 1968, 2,980 ft^3/s, Feb. 4, 1998, gage height, 9.17 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 13.9 ft, from floodmarks, discharge, 18,200 ft^3/s, on basis of contracted-opening and slope-area measurement of peak flow.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 11176500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/11176500.2011.pdf

11176500 Arroyo Valle near Livermore, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.29	0.39	0.85	1.0	0.42	0.59	1.2	1.0	0.54	0.29	0.06	0.01
2	0.39	0.44	0.85	1.0	0.41	0.72	1.1	1.1	0.38	0.37	0.04	0.01
3	0.35	0.39	0.92	0.73	0.37	0.66	0.99	1.1	0.31	0.46	0.05	0.00
4	0.38	0.34	0.95	0.35	0.37	0.59	0.98	4.0	0.30	0.51	0.06	0.00
5	0.35	0.33	0.95	0.37	0.34	0.59	1.1	7.8	0.30	0.37	0.07	0.01
6	0.37	0.34	0.95	0.37	0.29	0.78	1.1	8.2	0.24	0.29	0.05	0.00
7	0.39	0.45	0.93	0.37	0.32	0.85	1.2	16	0.26	0.28	0.06	0.00
8	0.38	0.37	0.94	0.37	0.37	0.85	1.2	16	0.28	0.26	0.07	0.00
9	0.39	0.31	0.90	0.37	0.30	0.87	1.3	0.64	0.21	0.22	0.07	0.01
10	0.48	0.39	0.85	0.34	0.26	0.95	1.2	0.37	0.21	0.25	0.05	0.01
11	0.59	0.34	0.85	0.28	0.26	1.1	1.1	0.27	0.28	0.25	0.06	0.01
12	0.47	0.31	0.85	0.26	0.26	0.95	1.1	0.28	0.32	0.29	0.07	0.02
13	0.55	0.31	0.75	0.28	0.21	0.95	1.1	0.28	0.33	0.23	0.07	0.01
14	0.64	0.37	0.76	0.28	0.24	0.95	1.1	0.48	0.32	0.07	0.04	3.3
15	0.38	0.49	0.85	0.31	0.45	0.62	1.1	0.48	0.35	0.07	0.04	8.7
16	0.37	0.30	0.79	0.33	0.67	0.33	1.2	0.42	0.28	0.07	0.04	9.1
17	0.37	0.28	0.82	0.37	0.73	0.26	1.2	0.33	0.24	0.06	0.05	9.4
18	0.33	0.37	0.81	0.37	0.84	0.62	1.2	0.35	0.22	0.05	0.03	9.5
19	0.33	0.59	1.6	0.46	0.99	0.66	1.1	0.38	0.22	0.04	0.03	9.5
20	0.58	0.95	0.80	0.50	0.63	439	1.1	0.35	0.19	0.03	0.04	9.3
21	0.82	1.3	0.69	0.50	0.50	834	1.2	0.36	0.19	0.03	0.05	9.5
22	0.60	0.90	0.66	0.48	0.43	849	1.2	0.41	0.21	0.03	0.05	9.5
23	0.46	0.92	0.58	0.37	0.42	864	0.93	0.51	0.25	0.05	0.04	11
24	0.77	0.88	0.58	0.53	0.43	734	0.94	0.66	0.33	0.07	0.03	12
25	0.57	0.89	0.76	1.2	0.82	565	1.1	0.73	0.36	0.08	0.02	12
26	0.54	0.85	0.88	9.3	0.78	879	1.2	0.69	0.41	0.08	0.02	12
27	0.50	0.98	0.79	14	0.65	788	1.2	0.69	0.44	0.07	0.01	12
28	0.42	0.96	0.88	13	0.65	318	1.1	0.63	0.55	0.04	0.01	12
29	0.54	0.87	1.7	0.48	---	2.1	1.1	0.57	0.65	0.06	0.01	11
30	0.57	0.85	1.1	0.42	---	1.4	1.1	0.57	0.41	0.06	0.01	11
31	0.58	---	0.98	0.41	---	1.4	---	0.50	---	0.07	0.01	---
Total	14.75	17.46	27.57	49.40	13.41	6,288.79	33.74	66.15	9.58	5.10	1.31	170.89
Mean	0.48	0.58	0.89	1.59	0.48	203	1.12	2.13	0.32	0.16	0.04	5.70
Max	0.82	1.3	1.7	14	0.99	879	1.3	16	0.65	0.51	0.07	12
Min	0.29	0.28	0.58	0.26	0.21	0.26	0.93	0.27	0.19	0.03	0.01	0.00
Ac-ft	29	35	55	98	27	12,470	67	131	19	10	2.6	339

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1968, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	.016	2.63	18.0	87.6	146	51.4	47.2	7.37	1.83	.32	.089	.021
Max	.15	69.2	125	851	522	280	620	57.8	9.47	2.28	.83	.24
(WY)	(1967)	(1927)	(1965)	(1914)	(1915)	(1958)	(1958)	(1915)	(1967)	(1967)	(1958)	(1958)
Min	.000	.000	.000	.000	.000	.000	.000	.094	.000	.000	.000	.000
(WY)	(1914)	(1914)	(1918)	(1918)	(1920)	(1924)	(1924)	(1924)	(1918)	(1914)	(1913)	(1913)

11176500 Arroyo Valle near Livermore, CA—Continued

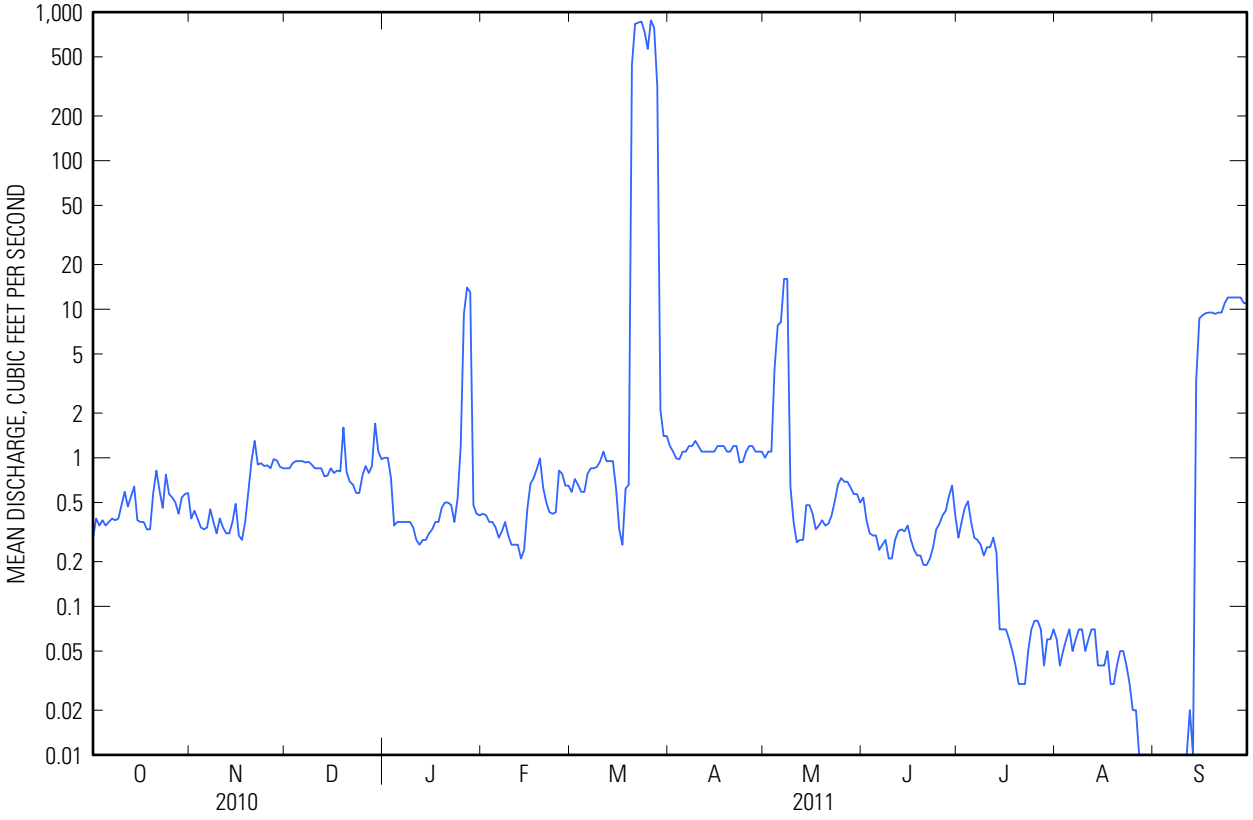
SUMMARY STATISTICS

	Water Years 1912 - 1968	
Annual mean	29.6	
Highest annual mean	118	1914
Lowest annual mean	0.008	1924
Highest daily mean	5,930	Jan 25, 1914
Lowest daily mean	0.00	Sep 22, 1912
Annual seven-day minimum	0.00	Sep 22, 1912
Maximum peak flow	12,200	Apr 2, 1958
Maximum peak stage	10.91	Apr 2, 1958
Annual runoff (ac-ft)	21,460	
10 percent exceeds	35	
50 percent exceeds	0.20	
90 percent exceeds	0.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.41	6.46	6.55	37.0	87.5	60.1	18.8	5.10	7.32	10.8	10.2	8.80
Max	43.2	39.4	37.6	544	928	653	334	30.8	51.7	46.0	54.3	48.1
(WY)	(1971)	(1981)	(2002)	(1997)	(1998)	(1983)	(1982)	(1970)	(1980)	(1980)	(1981)	(1981)
Min	0.17	0.19	0.33	0.35	0.30	0.36	0.22	0.08	0.03	0.00	0.04	0.14
(WY)	(1987)	(2000)	(2001)	(2009)	(1991)	(1994)	(1990)	(2001)	(2001)	(2001)	(2011)	(1999)

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1970 - 2011	
Annual total	6,045.69		6,698.15			
Annual mean	16.6		18.4		21.8	
Highest annual mean					131	1983
Lowest annual mean					0.39	1999
Highest daily mean	665	Mar 2	879	Mar 26	2,370	Mar 3, 1983
Lowest daily mean	0.18	Jun 14	0.00	Sep 3	0.00	Jun 25, 1983
Annual seven-day minimum	0.24	Jun 12	0.00	Sep 2	0.00	Jun 22, 2001
Maximum peak flow			1,040	Mar 20	2,980	Feb 4, 1998
Maximum peak stage			6.51	Mar 20	9.17	Feb 4, 1998
Instantaneous low flow			0.00	Sep 2	0.00	Sep 2, 2011
Annual runoff (ac-ft)	11,990		13,290		15,800	
10 percent exceeds	31		1.6		29	
50 percent exceeds	1.1		0.46		0.98	
90 percent exceeds	0.34		0.05		0.22	

11176500 Arroyo Valle near Livermore, CA—Continued