

CASITAS MUNICIPAL WATER DISTRICT

HYDROLOGY REPORT

WATER YEAR 2023

July 2024

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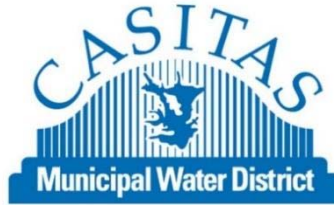


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1. INTRODUCTION

Casitas Municipal Water District (CMWD or Casitas), in cooperation with the Ventura County Watershed Protection District (VCWPD) and the U.S. Geological Service (USGS), collects hydrology data on the Ventura River system. Figure 1-1 shows the watershed boundaries including drainage areas, stream gaging stations, and weather stations. The hydrology data is a valuable asset for developing an understanding of the water resources of the Ventura River system. Since 1981, CMWD has summarized the data into a series of annual reports. This report presents information and data for the 2022–2023 Water Year (WY 2023). Data is also presented for Calendar Year 2023 for comparison to historical data.

Casitas acquired the Ojai Water System in June 2017 which serves a population of 6,801 as of December 31, 2020. The main water source for this system is a wellfield which draws from the Ojai Valley Groundwater Basin (OVGB), located within the San Antonio Creek Watershed, a sub-basin to the Ventura River Watershed. The Ojai Water System is supplemented by surface water deliveries from Lake Casitas (also referred to as Casitas Reservoir herein), particularly in times of drought and/or high demand when aquifers are typically depleted and well production is reduced or limited.

Ventura County experienced a major fire (the Thomas Fire) in WY 2018 which burned nearly the entire watershed, as shown in Figure 1-2. Hydrologic impacts from the Thomas Fire are subsiding with fewer impacts observed in WY 2022 and 2023 than in previous affected years. WY 2023 marked an end to a prolonged drought period in Ventura County which commenced the replenishment of groundwater and recovery of Lake Casitas water levels to a point not seen since 2012. Storms in January through March of 2023 contributed a majority of water supply received this WY as can be viewed in Section 2.1 of this report.

Data from an additional rainfall station located on Ojai's East End and a San Antonio Creek gaging station are included in this report to reflect hydrologic conditions within the San Antonio Creek Watershed. Ojai Water System Sources and Deliveries are also included in this report.

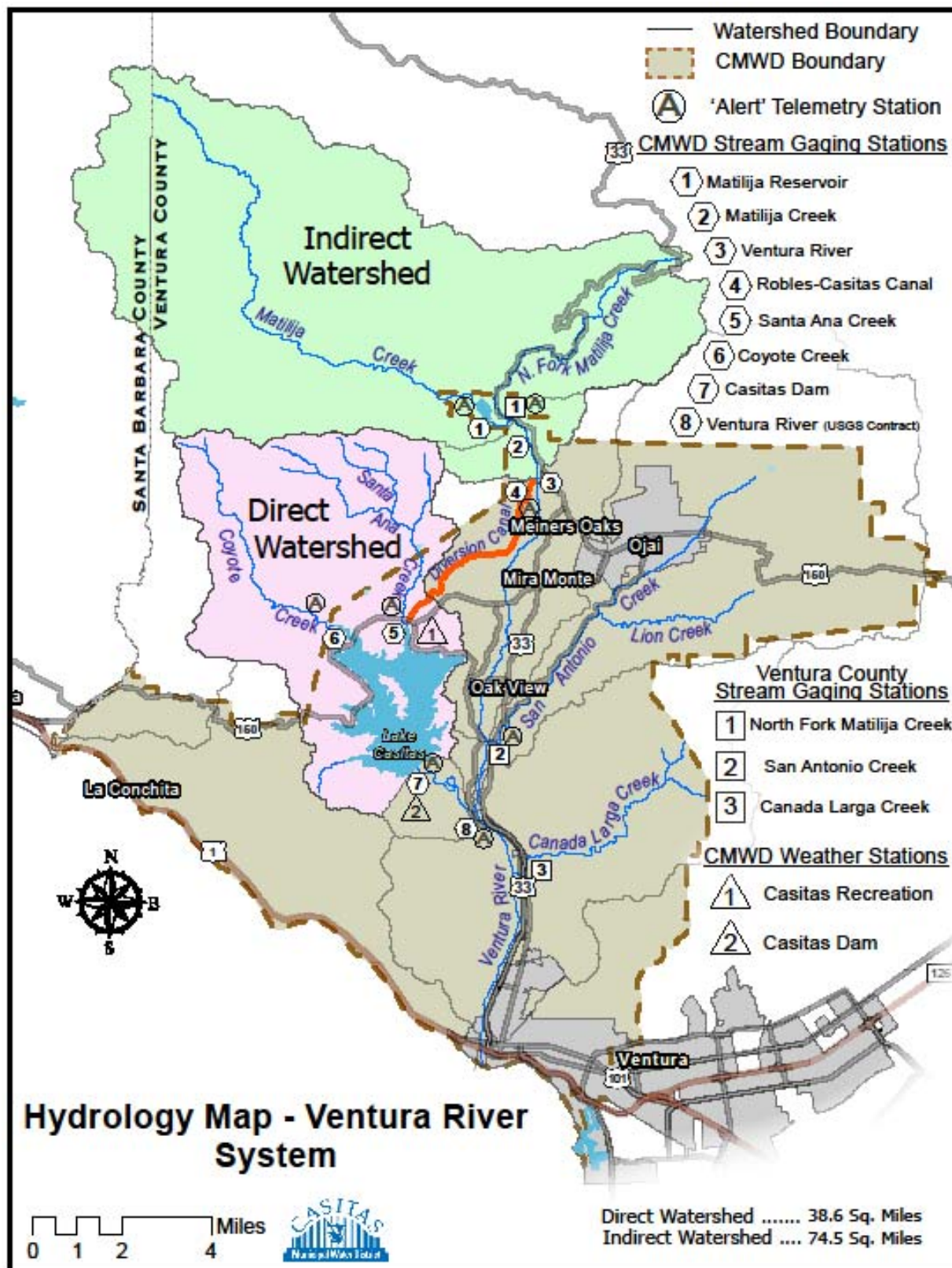


FIGURE 1-1 – Watershed of Lake Casitas

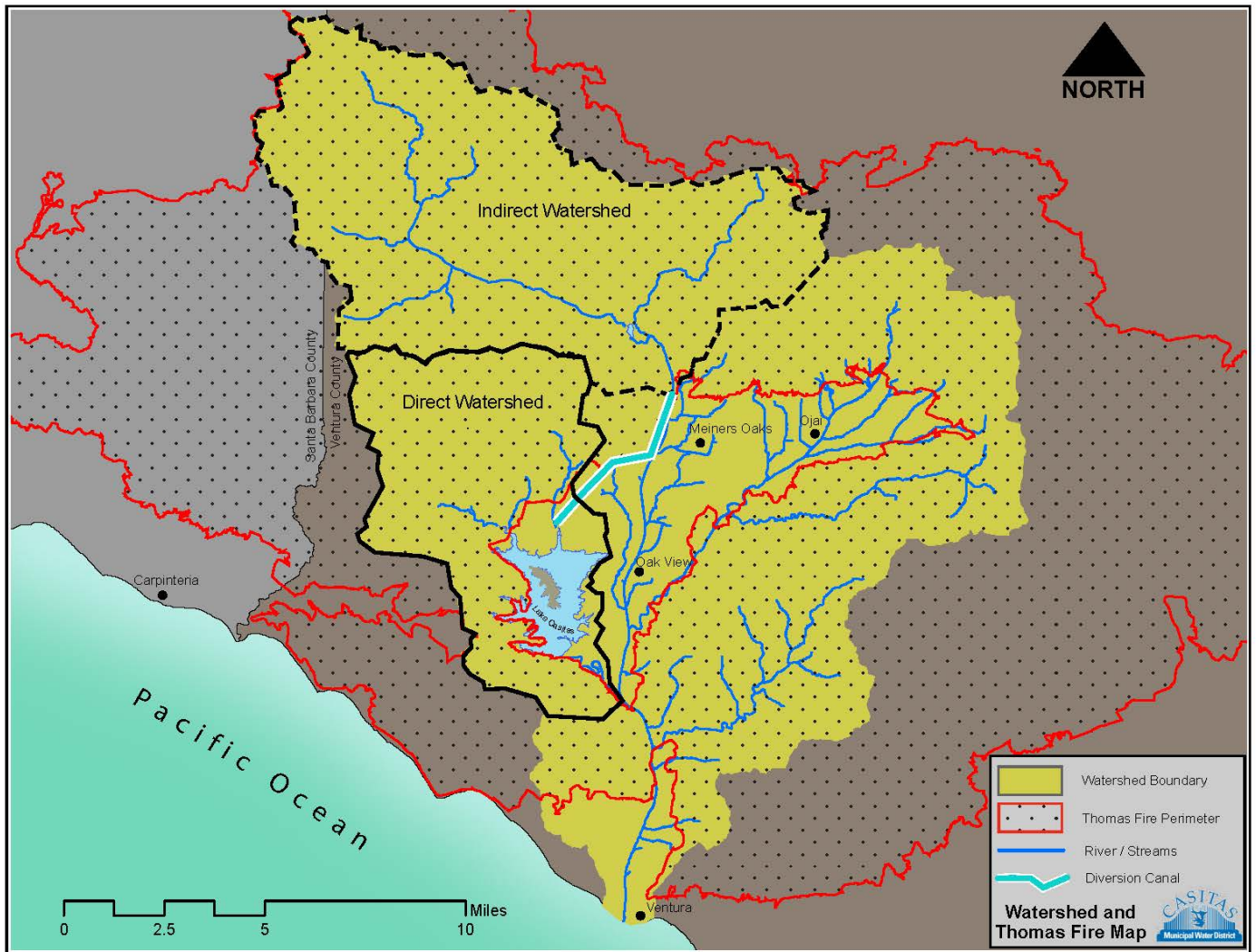


FIGURE 1-2 – Thomas Fire Boundary

2. WATER YEAR 2023 SUMMARY

The Water Year (WY) is a standard used for reporting hydrological cycles. It begins on October 1 of the preceding year and ends September 30 of the named water year. For this report:

- WY 2023 began on October 1, 2022 and ended September 30, 2023

There are four key elements of collected data evaluated this report: 1) rainfall, 2) streamflow conditions, 3) lake storage and system deliveries and 4) ambient air temperatures. Each of these elements are monitored and recorded by CMWD on a daily basis. The following subsections are summaries of the hydrologic characteristics of WY 2023.

2.1.Rainfall

Rainfall and evaporation data are collected on a daily basis by Casitas at two stations, one at the Casitas Dam and one at the Lake Casitas Recreational Area (LCRA). The methods for data collection are standardized for consistency. Rainfall data for Matilija Dam and Thacher School are obtained from VCWPD. Raw data is provided in Appendix A.

2.1.1. WY 2023

The average of the four rainfall stations was 53.65 inches for WY 2023. This is above the long-term average of 24.21 inches. Casitas Dam received 53.63 inches, Lake Casitas Recreation received 49.14 inches, Matilija Dam received 65.97 inches, and Thacher School received 45.86 inches.

The bulk of precipitation at Casitas Dam fell in the months of December through March when cumulative monthly rainfall was 7.59, 20.73, 6.93, and 14.34 inches, respectively. The highest daily rainfall was recorded on January 10, 2023 with 13.36 inches of rainfall measured at Matilija Dam.

2.2.Streamflow Conditions

Streamflow conditions are assessed by collecting data at key points in the Ventura River system. Gage station locations are shown in Figure 1-1. Mean daily stream flow data is included in Appendix B.

2.2.1. WY 2023

WY 2023 ended a long-term drought condition with higher than average streamflow conditions across the basin. Preliminary data provided by VCWPD indicates discharge from North Fork Matilija Creek totaled 66,894 acre-feet (AF) between October 1, 2022 and September 30, 2023. Discharge from Matilija Dam measured at the Matilija Hot Springs gage totaled 94,318 AF with a peak mean daily flow of approximately 6,180 cubic feet per second (cfs) on January 9, 2023¹.

Surface flow at the measurement weir at the Robles Diversion and Fish Passage Facility (Robles) was present November 8 and 9, 2022 and December 2, 4, and 5, 2022 then again from December 10, 2022 through September 30, 2023. During that period, 72,963 AF was released downstream². The Robles Timber Cut-off Wall was heavily

¹ Matilija Dam measurement from data compiled by CMWD based on instantaneous readings shown as an average daily flow in Appendix B.

² Robles weir measurement from data compiled by CMWD based on instantaneous readings shown as an average daily flow in Appendix B.

damaged from the extreme flow in the Ventura River which prevented diversions and reliable weir flow from January 9-15, 2023.

Diversions to Lake Casitas began on December 11, 2022. Prior to December 11, all inflow was released downstream to allow for aquifer levels to rise to the extent that would be expected under natural conditions for the time of year and type of year (*Trial Operating Criteria for Robles Casitas Diversion Facilities, 1959*). The diversion canal was operated for 198 days and 52,570 AF was diverted during WY 2023 as shown in Table 2-1³.

Table 2-1
WY 2023 Diversions

Month	Days	Volume Diverted (AF)
October 2022	0	0
November 2022	0	0
December 2022	6	463
January 2023	27	7091
February 2023	27	5231
March 2023	31	24136
April 2023	30	9382
May 2023	30	3454
June 2023	30	2318
July 2023	15	483
August 2023	2	12
September 2023	0	0
TOTAL	198	52,570

There were eight (8) storm peaks that met the Biological Opinion parameters to initiate supplemental downstream releases for fish passage as shown in Table 2-2. Downstream release requirements were met when Robles inflow was sufficient to do so. All flow was released downstream when inflow was less than the required supplemental release⁴. More detailed information is available in the 2023 Robles Fish Passage Facility Progress Report.

³ Robles canal measurement from data compiled by CMWD based on instantaneous readings shown as an average in Appendix B.

⁴ Storm peak flows can be found in Appendix C.

Table 2-2
WY 2023 Storm Peaks

Date	Peak Storm Flow Rate (cfs)
January 5, 2023	6,000-7,000*
January 9, 2023	23,222
January 14, 2023	865-1,604*
January 16, 2023	1,053-1,407*
February 24, 2023	11,126
March 10, 2023	1,665
March 15, 2023	2,865
March 21, 2023	2,234

*Note: Flow estimated by Fisheries staff

Coyote Creek and Santa Ana Creek drainage areas contribute directly to Lake Casitas storage. Coyote Creek, and to a lesser extent Santa Ana Creek, gaging station continues to be impacted by sediment transport and re-channelization following the Thomas Fire, rendering poor quality flow data. Direct inflow into Lake Casitas, which is reported in the Casitas Reservoir Operation data (Appendix C), was used as a surrogate for Coyote and Santa Ana creeks as the major tributaries, but also accounts for other direct runoff including smaller tributaries such as Ayers, Chismahoo, Willow, and Poplin Creeks. Direct inflow is a zero-sum calculation and accounts for change in Lake Casitas storage not accounted for by precipitation, Ventura River Diversions, evaporation, and releases to the Marion Walker Water Treatment Plant. This value may be negative at times which is attributed to approximation in evaporation coefficients and water loss to infiltration. Only months with positive direct inflow values are considered as a surrogate for true direct inflow into Lake Casitas and totaled 53,009 AF for WY 2023 with January 2023 accounting for 23,620 AF of total direct inflow as shown in Table 2-3⁵.

Table 2-3
WY 2023 Casitas Reservoir Direct Inflow

Month	Direct Flow Volume (AF)⁶
October 2022	N/A
November 2022	N/A
December 2022	613
January 2023	23,620
February 2023	6,464
March 2023	17,382
April 2023	4,464
May 2023	405
June 2023	N/A
July 2023	61
August 2023	N/A
September 2023	N/A
TOTAL	53,009

⁵ Direct inflow into Lake Casitas is shown in Appendix D.

⁶ N/A indicates the month is not applicable because the value was negative.

2.3.Lake Storage and System Deliveries

Water storage volumes for system reservoirs, Casitas Dam and Matilija Dam, were ascertained by the daily recording of the reservoir elevation and applying the elevation number to a storage table for each reservoir. Casitas Reservoir data is included in Appendix D and Matilija Reservoir Data is provided in Appendix E. Casitas did not exercise water rights to divert water released from Matilija Dam. System delivery data for Mira Monte Well and the Ojai Water System can be found in Appendix F.

2.3.1. WY 2023

Lake Casitas Reservoir had a net increase in water storage for WY 2023. Lake elevation was 481.65 feet above mean sea level (MSL) on October 1, 2022 and ended on September 30, 2023 at 539.82 feet above MSL, corresponding to 171,701 AF of storage in Lake Casitas at the end of the WY. The reservoir's 58.17-foot increase in elevation resulted in a net gain of 98,775 AF. Storage increased by 105,700 AF during a 203-day period from December 1, 2022 to June 21, 2023; net monthly storage losses occurred outside of that period.

A new Casitas Reservoir storage rating table was adopted after completion of a LIDAR and bathymetric study resulting in a re-calculated reservoir capacity of 237,761 acre-feet (down from the original 254,000 acre-feet). This table was implemented on October 1, 2017 (start of WY 2018) and Casitas Reservoir storage reported from that date forward will reflect this adjustment.

Water deliveries from the reservoir to the main conveyance system totaled 5,612 AF for the Calendar Year. This is down 38 percent from 2022 and down 58 percent from the average deliveries during the previous ten years. Mira Monte well production was 109 AF during WY 2023. Deliveries within the Ojai Water System totaled 1,425 AF during WY 2023; 1,356 AF of which was sourced from the Ojai Water System Wellfield with the additional 70 AF coming from Lake Casitas.

2.4.Ambient Air Temperatures

Data was recorded by CMWD staff at two locations, Casitas Dam and LCRA. These measurements are made on a daily basis and include the maximum and minimum ambient air temperatures. This data is included in Appendix G.

2.4.1. CY 2023

Two temperature records of note occurred during the 2023 calendar year:

- Highest monthly maximum temperature (December for Casitas Dam) was tied dating back to 1975.
- Lowest monthly average temperature (February for Casitas Dam) on record.

3. HYDROLOGY STATIONS

Table 3-1 shows responsible agencies for various hydrology stations throughout the watershed.

**Table 3-1
Hydrology Stations**

Type	Location	Agency
Reservoir	Casitas Dam	Casitas/VCWPD
Reservoir	Matilija Dam	VCWPD
Rainfall and Evaporation	LCRA	Casitas
Rainfall and Evaporation	Casitas Dam	Casitas
Rainfall	Matilija Dam	VCWPD
Rainfall	Thacher School	VCWPD
Streamflow	Matilija Creek at Matilija Hot Springs	Casitas/VCWPD
Streamflow	Ventura River Near Meiners Oaks	Casitas
Streamflow	Robles-Casitas Canal	Casitas
Streamflow	Ventura River near Ventura (Foster Park)	USGS
Streamflow	North Fork Matilija at Matilija Hot Springs	VCWPD
Streamflow	San Antonio Creek at Old Creek Road	VCWPD
Streamflow	Santa Ana Creek near Oak View	Casitas/VCWPD
Streamflow	Coyote Creek near Oak View	Casitas/VCWPD

3.1. Historical Hydrology Period 1959 through 2023

The historical data was updated for the reporting period and is presented in Figure 3-1 for the period from 1959 through 2023. The historical data includes summaries for the Casitas Reservoir operation, Robles Diversion, rainfall, and ambient air temperature. Storage volume, represented by a solid line, is reservoir storage at the start of each calendar year (elevation measured on last day of previous calendar year). Rainfall, represented by data points with drop lines, is the three-station water year average for Casitas Dam, LCRA, and Matilija Dam rain gages. Reservoir volume prior to 1970 (not shown) represents initial filling period after Casitas Dam completion in 1959⁷.

The change in Lake Casitas capacity was made due to performance of a bathymetric survey in 2017 which decreased the original volume of 254,000 AF to 237,761 AF. Calendar year 2023 provided a net increase in the storage volume as shown in Figure 3-1.

⁷ Historical hydrology data is provided in Appendix H.

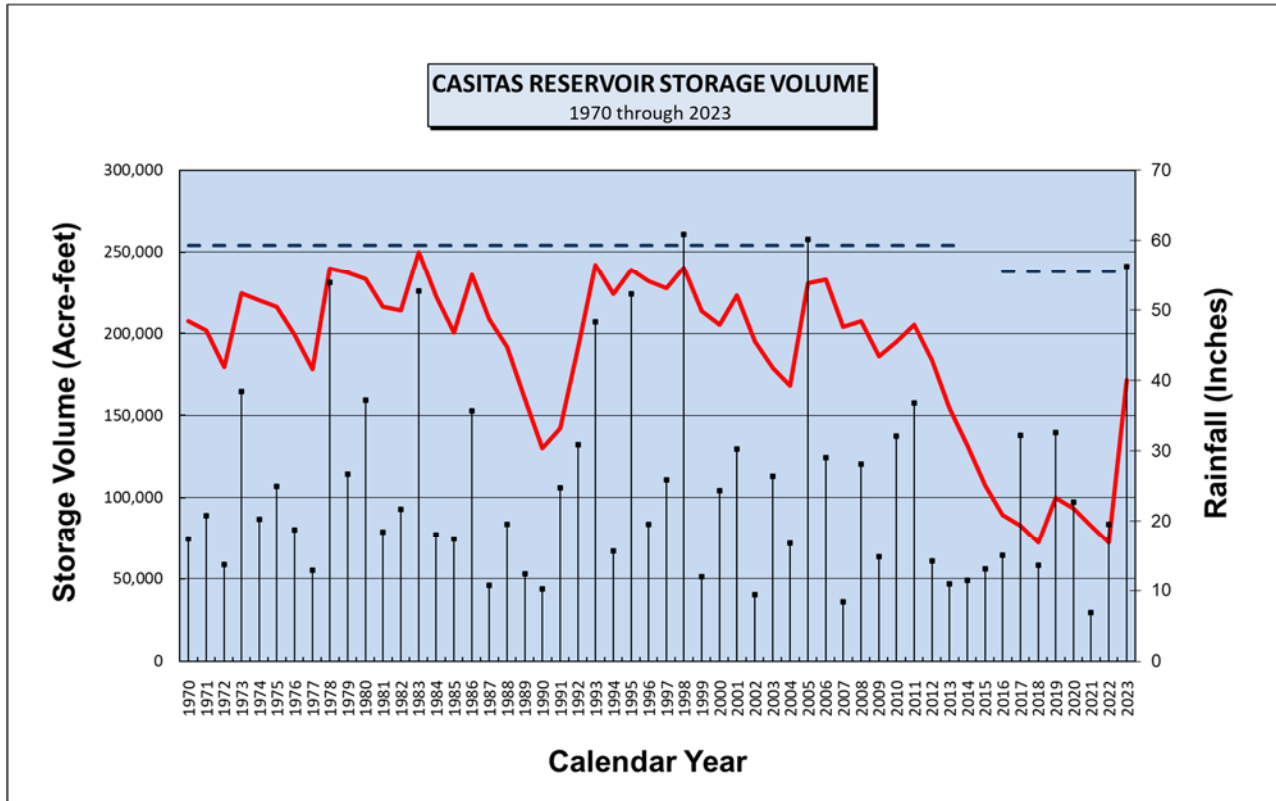


FIGURE 3-1 – Casitas Reservoir Storage Volume 1970-2023

3.2. Trends

The historical section of this summary report contains data tables and figures to illustrate trends experienced by CMWD pertaining to rainfall and water use.

3.2.1. Ten-Year Moving Average of Mean Precipitation

The trend presented in Figure 3-2 is a ten-year moving average of precipitation from 1880 to present and was created by calculating an average of a water year’s three-station average rainfall combined with the previous nine years. The ten-year moving average is represented by the solid line traversing across the overall average for the period (24.4 inches). Rainfall data for all three stations are available since 1959, rainfall prior to 1959 was assembled using comparable nearby stations and/or correlation factors with other available stations within the watershed. The trend has resulted in what appears to be a somewhat sinusoidal curve, illustrating reoccurring periods of wet and dry conditions.

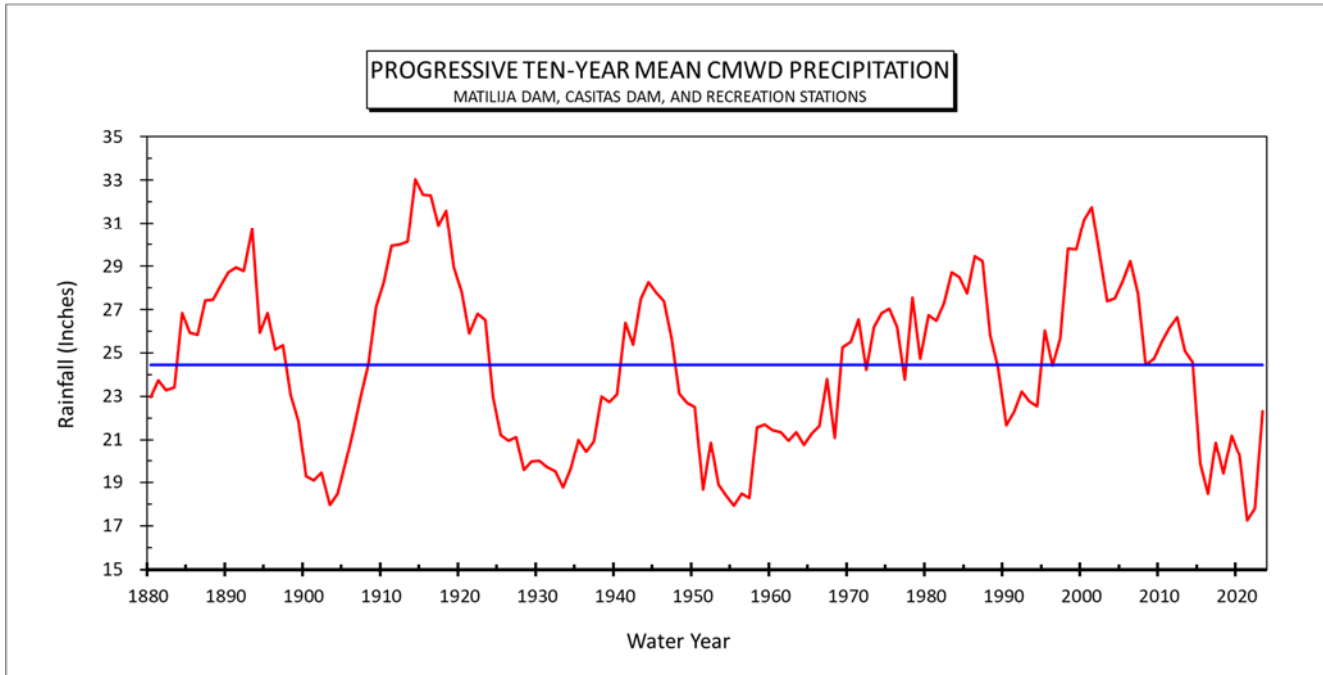


FIGURE 3-2 – Progressive Ten-Year Mean Precipitation

Appendix A

Rainfall Data

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION: **Casitas Dam**
OBSERVER: CMWD Damtender
AUTHORITY: Casitas Municipal Water District
ADDRESS: P.O. Box 37, Oak View, CA 93022
COMPILED: V. Clary

NUMBER: 4
OBSER. TIME: 0800
LATITUDE: 34d22m
LONGITUDE: 119d20m
ELEV:

2022-2023

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				3.66		1.66						
2		0.02	1.04	0.01								0.04
3			1.23	0.21								
4			0.45	0.02				1.00				
5			0.12	3.30	0.08	0.09		0.01				
6			0.01	0.05		0.05		0.01				
7		0.01	0.01						0.12			
8		0.63		0.04								
9		1.00		1.54								
10			0.03	8.58		0.71		0.01			0.02	
11			3.19	0.03		1.77			0.05		0.04	
12			0.45			0.05					0.01	
13	0.02		0.01				0.01					
14				0.07		0.03						
15				1.35		4.84						
16				1.38		0.04						
17												
18												
19								0.02				
20						0.08						
21						1.20					0.98	
22						1.73					0.01	
23					0.06	0.58						
24					1.47							
25					4.05							
26					0.42							
27					0.22							
28			0.70		0.63							
29		0.01	0.03			0.93						
30			0.08	0.48		0.57						0.02
31			0.24	0.01		0.01						
Mo Total	0.02	1.67	7.59	20.73	6.93	14.34	0.01	1.05	0.17		1.06	0.06
Yr Total	0.02	1.69	9.28	30.01	36.94	51.28	51.29	52.34	52.51	52.51	53.57	53.63

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION: **Lake Casitas Recreation Area**
OBSERVER: CMWD Recreation staff
AUTHORITY: Casitas Municipal Water District
ADDRESS: P.O. Box 37, Oak View, CA 93022
COMPILED: V. Clary

NUMBER: 204
OBSER. TIME: 0800
LATITUDE: 34d25m
LONGITUDE: 119d20m
ELEV: 592

2022-2023

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				2.71		3.00						
2			0.77	0.04								
3			0.90	0.13								
4			0.18					0.07				
5			0.27	3.20	0.07	0.09		0.01				
6				0.12				0.01				
7		0.02							0.13			
8		0.77		0.11								
9		0.65		2.10								
10			0.30	6.15		0.81		0.01				
11			2.01	0.22		1.58			0.04		0.19	
12			0.38			0.10						
13												
14				0.35								
15				1.48		4.45						
16	0.01			1.29		0.02						
17												
18												
19								0.02				
20												
21						1.62					0.95	
22						1.10						
23					0.05	0.28						
24					1.75							
25					4.10							
26					0.42							
27					0.53							
28			0.64		0.63							
29						1.00						
30			0.13	0.55		0.40						
31			0.23									
Mo Total	0.01	1.44	5.81	18.45	7.55	14.45		0.12	0.17		1.14	
Yr Total	0.01	1.45	7.26	25.71	33.26	47.71	47.71	47.83	48	48	49.14	49.14

Casitas Dam data used as a surrogate due to missing data

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION:	Matilija Dam	NUMBER:	134
OBSERVER:	Automated	OBSER. TIME:	0800
AUTHORITY:	Ventura County Watershed Protection District	LATITUDE:	34°29' N
ADDRESS:	800 S. Victoria Ave, Ventura, CA 93009	LONGITUDE:	119°18' W
COMPILED:	Hydrologist	ELEV:	1060 ft

2022-23

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				4.85		1.14		0.03				
2			0.65			0.03						0.02
3			0.73	0.23		0.02	0.01					
4			0.37			0.02		0.71				
5			0.24	3.57		0.18		0.01				
6				0.18		0.26		0.01	0.01			
7		0.03		0.01		0.01			0.07			
8		1.33		0.10		0.01						
9		0.90		3.48								
10				13.36		0.81					0.08	
11			6.13	0.24		1.36			0.03		0.24	
12			0.33	0.01		0.03			0.02			
13			0.01			0.02						
14				0.26		0.19						
15				2.17		3.98						
16				1.48		0.02	0.01					
17				0.02		0.01						
18												
19				0.01								
20				0.01		0.14						
21						1.61					1.36	
22						1.95						0.01
23						0.26						
24					2.08							
25					4.48							
26					0.30							
27					0.29							
28			0.55		0.62							
29						1.08		0.01				
30			0.08	0.46		0.56		0.01				
31			0.06			0.02						
Mo Total		2.26	9.15	30.44	7.77	13.71	0.02	0.78	0.13		1.68	0.03
Yr Total		2.26	11.41	41.85	49.62	63.33	63.35	64.13	64.26	64.26	65.94	65.97

Rainfall in inches

**Data is preliminary and subject to revision - VCWPD*

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION:	Ojai - Thacher School	NUMBER:	059
OBSERVER:	Automated	OBSER. TIME:	0800
AUTHORITY:	Ventura County Watershed Protection District	LATITUDE:	34°28' N
ADDRESS:	800 S. Victoria Ave, Ventura, CA 93009	LONGITUDE:	119°10' W
COMPILED:	Hydrologist	ELEV:	1440 ft

2022-23

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				2.33		1.23		0.13	0.01			
2			0.42					0.17	0.01			0.03
3			0.48	0.20								
4			0.26	0.01				0.88				
5			0.16	2.19	0.01	0.13		0.31	0.02			
6				0.19		0.17	0.01	0.04	0.12			
7		0.04				0.02		0.01	0.11			
8		0.63		0.12	0.01							
9		0.83		1.36								
10				5.84		0.67					0.18	
11			2.49	0.16		1.06			0.22		0.02	
12			0.40			0.01			0.20			
13						0.01	0.06					
14	0.01			0.11		0.12	0.01					
15	0.02			1.65		2.66		0.01	0.01			
16	0.08			0.78		0.03			0.02			
17				0.01		0.02						
18												
19						0.04		0.01	0.09			0.01
20						0.14						
21						1.01		0.01	0.01		2.46	0.01
22						1.19					0.01	
23					0.01	0.28		0.01				
24	0.01				1.70			0.02				
25					5.39	0.01						
26					0.57			0.02				
27					0.22		0.01					
28			0.62		0.39							
29			0.01			0.63		0.08				
30			0.10	0.71		0.42						0.03
31			0.09			0.04						
Mo Total	0.12	1.50	5.03	15.66	8.30	9.89	0.09	1.70	0.82		2.67	0.08
Yr Total	0.12	1.62	6.65	22.31	30.61	40.50	40.59	42.29	43.11	43.11	45.78	45.86

Rainfall in inches

**Data is preliminary and subject to revision - VCWPD*

Appendix B
Streamflow Gaging Station Data

Matilija Creek at Matilija Hot Springs

USGS #: 11115500
 VCWPD #: 602B
 DATE INSTALLED: 10/1927
 MAINTAINED BY: CMWD/VCWPD

LATITUDE: 34°28'58" N
 LONGITUDE: 119°18'7" W
 ELEVATION: 900 ft
 DRAINAGE AREA: 54 sq mi

WATER YEAR OCTOBER 2022 TO SEPTEMBER 2023
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.5	0.6	2	139	101	515	291	82	47	23	13	12
2	0.5	0.6	2	45	94	389	267	82	45	22	13	12
3	0.5	0.6	2	32	88	331	248	81	40	22	13	12
4	0.5	0.6	2	46	85	305	225	92	38	22	13	12
5	0.5	0.6	2	1260	82	306	205	98	38	22	13	12
6	0.5	0.6	2	261	79	278	194	87	40	21	12	12
7	0.5	0.8	2	138	75	247	178	80	40	21	12	11
8	0.5	1	2	103	73	224	163	75	37	21	12	11
9	0.5	1	2	6180	69	216	157	73	36	20	12	11
10	0.5	0.8	4	4120	66	528	152	71	36	20	14	10
11	0.5	0.8	163	928	63	517	146	70	35	19	15	10
12	0.5	0.8	47	518	61	372	142	68	35	19	14	10
13	0.5	0.8	44	372	57	326	129	66	34	19	13	10
14	0.5	0.8	40	455	55	590	119	64	33	18	13	11
15	0.6	0.9	11	418	52	979	125	62	33	18	12	11
16	0.6	0.9	9	608	51	615	123	60	32	17	12	11
17	0.5	0.9	8	433	49	485	121	59	31	17	11	11
18	0.5	1	7	353	48	398	118	56	30	17	11	11
19	0.5	1	7	301	46	358	114	55	31	17	12	11
20	0.5	1	6	250	43	310	112	53	30.0	16	15	11
21	0.5	1	6	227	41	708	109	52	28.0	16	20	11
22	0.5	1	5	199	40	720	104	51	28.0	16	16	11
23	0.5	1	5	179	44	522	101	51	28.0	16	14	11
24	0.5	1	5	161	2360	455	99	51	27.0	15	14	11
25	0.5	1	5	147	1580	390	95	49	27.0	15	13	10
26	0.5	1	5	139	529	340	92	48	26.0	15	13	10
27	0.5	1	6	131	478	308	89	47	26.0	15	12	10
28	0.5	1	7	124	434	291	86	46	25.0	14	12	10
29	0.5	1	6	119	----	403	85	46	24.0	14	11	10
30	0.5	1	5	129	----	355	82	46	24.0	14	11	10
31	0.5	----	15	113	----	319	----	46	----	14	11	----
TOTAL	16	28	432	18628	6843	13100	4271	1967	984	555	402	325
MEAN	0.5	0.9	14	601	244	423	142	63	33	17.90	13	11
MAX	0.6	1	163	6180	2360	979	291	98	47	23	20	12
MIN	0.5	0.6	2	32	40	216	82	46	24	14	11	10
ACRE FT	31	56	856	36949	13573	25984	8472	3902	1952	1101	797	645

Estimated daily data

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North Fork Matilija Creek at Matilija Hot Springs

USGS #: 11116000
 VCWPD #: 604
 DATE INSTALLED: 01/1934
 MAINTAINED BY: VCWPD

LATITUDE: 34°29'34" N
 LONGITUDE: 119°18'23" W
 ELEVATION: 1142 ft
 DRAINAGE AREA: 15.8 sq mi

WATER YEAR OCTOBER 2022 TO SEPTEMBER 2023
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.3	0.4	1	80	132	181	82	26	17	11	6	6
2	0.3	0.5	1	27	82	145	75	25	17	11	6	6
3	0.3	0.5	1	17	51	126	70	25	17	11	6	6
4	0.3	0.5	1	29	37	109	64	28	16	11	6	6
5	0.3	0.6	1	618	32	101	60	25	16	10	6	6
6	0.3	0.7	1	84	29	91	56	24	16	10	6	6
7	0.3	1	1	52	27	80	53	24	16	10	6	6
8	0.3	2	1	42	27	74	51	23	15	10	6	6
9	0.3	1	1	4560	26	73	48	23	15	10	6	6
10	0.4	1	15	4540	26	155	46	23	15	9	7	6
11	0.4	1	229	1890	26	125	44	22	15	9	7	6
12	0.4	1	16	1290	26	100	43	22	14	9	7	6
13	0.4	1.0	11	1090	26	91	42	22	14	9	7	6
14	0.4	1.0	9	1410	26	240	41	22	14	9	7	6
15	0.4	0.9	8	1480	26	457	40	21	14	9	7	6
16	0.4	0.9	8	1010	25	218	38	21	14	8	7	6
17	0.4	0.9	7	204	24	166	37	21	13	8	7	6
18	0.4	0.9	7	131	24	136	36	20	13	8	7	6
19	0.4	0.9	7	113	24	117	35	20	13	8	7	6
20	0.4	0.9	7	105	24	101	35	20	13	8	7	6
21	0.4	0.9	7	102	24	381	33	20	13	8	7	6
22	0.4	0.9	7	101	24	346	32	19	13	7	7	6
23	0.5	0.9	6	101	24	244	31	19	12	7	7	6
24	0.4	0.9	6	101	1900	195	29	19	12	7	7	6
25	0.4	1	6	100	1300	166	28	19	12	7	7	5
26	0.4	1	6	98	375	139	27	18	12	7	7	5
27	0.4	1	6	116	177	118	27	18	12	7	7	5
28	0.4	1	6	228	148	102	26	18	12	6	7	5
29	0.4	1	6	276	---	119	26	18	11	6	7	5
30	0.4	1	6	340	---	105	26	17	11	6	7	5
31	0.4	---	112	260	---	91	---	17	---	6	6	---
TOTAL	12	28	508	20595	4692	4892	1281	659	417	263	203	176
MEAN	0.4	0.9	16	664	168	158	43	21	14	8	7	6
MAX	0.5	2	229	4560	1900	457	82	28	17	11	7	6
MIN	0.3	0.4	1	17	24	73	26	17	11.2	6	6	5
ACRE FT	24	56	1007	40850	9307	9703	2541	1307	827	521	403	348

Estimated daily data

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Ventura River near Meiners Oaks (Robles)

USGS #: 11116550
 VCWPD #: 607
 DATE INSTALLED: 05/1959
 MAINTAINED BY: CMWD

LATITUDE: 34°27'49" N
 LONGITUDE: 119°17'26" W
 ELEVATION: 740 ft
 DRAINAGE AREA: 74 sq mi

WATER YEAR OCTOBER 2022 TO SEPTEMBER 2023 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				124	26	390	31	31	28	27	15	15
2			0.03	22	31	168	31	116	27	21	15	16
3				20	23	117	31	145	25	22	15	17
4			0.4	20	22	114	31	87	24	22	16	17
5			0.4	1677	22	112	31	35	27	22	16	17
6				110	21	2122	31	31	29	22	15	17
7				80	27	1926	31	31	32	22	15	17
8		0.1		62	109	38	31	31	32	22	15	16
9		0.5		2763	90	33	30	31	33	22	16	15
10			1	741	53	421	29	31	34	22	18	15
11			397	103	31	278	29	31	34	23	19	15
12			18	508	26	152	41	31	33	23	17	14
13			18	743	22	149	30	31	33	22	18	14
14			17	937	27	519	30	31	33	23	16	14
15			16	760	30	1456	29	31	33	22	15	14
16			12	943	30	640	30	31	33	22	14	14
17			10	591	29	309	30	31	33	22	13	14
18			9	449	29	221	30	31	34	22	13	14
19			8	185	30	223	30	31	32	22	14	14
20			7	117	29	172	29	31	32	21	18	14
21			7	119	30	910	30	31	32	21	21	14
22			6	104	29	1034	30	30	32	20	20	14
23			5	86	30	606	30	30	32	20	21	15
24			5	64	1707	399	31	31	33	19	20	14
25			5	61	2567	284	30	30	33	18	19	14
26			5	88	599	254	31	31	32	18	19	13
27			5	60	353	201	31	31	31	17	18	13
28			7	45	256	111	31	30	31	17	11	13
29			5	30	---	74	31	30	31	16	16	13
30			5	24	---	51	31	29	31	16	15	14
31		---	91	26	---	36	---	29	---	16	15	---
TOTAL		1	661	11663	6279	13520	920	1212	939	644	507	441
MEAN		0	21	376	224	436	31	39	31	21	16	15
MAX		0	397	2763	2567	2122	41	145	34	27	21	17
MIN				20	21	33	29	29	24	16	11	13
ACRE FT		1	1312	23133	12453	26817	1824	2404	1863	1277	1005	874

Data is provisional and subject to revision

 Flow damaged cut-off wall not measured by VRNMO.

 Rating table not validated at high flows.

Robles-Casitas Canal (First Bridge)

USGS #: N/A
 VCWPD #: N/A
 DATE INSTALLED: 1958
 MAINTAINED BY: CMWD

LATITUDE: 34°27'43" N
 LONGITUDE: 119°17'34" W
 ELEVATION: 770 ft
 DRAINAGE AREA: N/A

WATER YEAR OCTOBER 2022 TO SEPTEMBER 2023
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				166	82	454	334	71	71	16		
2				36	70	434	312	22	72	24		
3				19	70	390	295		66	22		
4				35	66	353	273	45	64	21		
5				205	63	330	254	65	59	21		
6				235	60	296	238	61	61	20		
7				85	56	272	223	58	53	20		
8				53	17	259	209	56	49	21		
9				102		242	196	55	45	20		
10					22	362	190	54	44	18		
11			133		44	454	179	52	44	13		
12			32		42	380	162	51	46	11		
13			22		40	309	158	50	43	9		
14			20		38	379	138	51	37	5		
15			0.54	88	35	449	139	51	39	2		
16				244	34	475	131	53	39			
17				215	33	481	126	54	32			
18				185	31	425	120	55	31			
19				253	29	370	113	57	33			
20				241	28	339	108	59	31			
21				202	26	430	101	60	28		6	
22				175	25	463	96	61	27		0.02	
23				155	29	499	92	61	25			
24				135	168	497	87	64	23			
25				125	217	469	84	66	21			
26				107	439	422	80	67	21			
27				109	452	386	77	67	21			
28				107	419	360	74	67	19			
29				104	---	425	72	68	15			
30				104	---	402	71	70	10			
31		---	26	90	---	362	---	70	---			---
TOTAL			233	3575	2637	12168	4730	1741	1169	244	6	
MEAN			8	115	94	393	158	56	39	8	0.19	
MAX			133	253	452	499	334	71	72	24	6	
MIN						242	71		10			
ACRE FT			463	7091	5231	24136	9382	3454	2318	483	12	

Data is provisional and subject to revision.

Ventura River near Ventura (Foster Park)

USGS #: 11118500
 VCWPD #: 608
 DATE INSTALLED: 10/1929
 MAINTAINED BY: USGS, Water Resources Division

LATITUDE: 34°21'09" N
 LONGITUDE: 119°18'29" W
 ELEVATION: 205 ft
 DRAINAGE AREA: 187 sq mi

WATER YEAR OCTOBER 2022 TO SEPTEMBER 2023
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2	1	1	511	57	1320	277	96	51	47	26	26
2	2	1	2	20	59	728	261	132	48	44	26	26
3	2	1	2	12	55	584	245	164	47	43	26	26
4	2	1	2	10	52	517	233	173	46	43	26	27
5	2	1	2	3050	51	481	221	107	48	42	25	27
6	2	1	2	228	50	441	209	95	51	41	25	27
7	2	1	2	98	49	407	198	90	54	41	25	27
8	2	2	2	69	73	376	187	87	53	41	24	26
9	2	2	2	14500	101	346	175	85	54	40	24	26
10	2	1	2	8250	86	1070	164	82	56	38	26	26
11	2	1	415	1740	53	763	155	80	57	37	25	25
12	2	1	11	938	51	565	156	78	56	36	24	25
13	2	1	5	656	49	526	150	76	55	36	23	25
14	2	1	4	1160	48	1720	136	74	56	35	23	25
15	2	1	4	847	47	2920	128	72	57	35	23	25
16	2	1	3	1130	47	1200	122	71	56	35	22	26
17	2	1	3	636	47	736	118	69	55	35	22	26
18	2	1	3	478	46	540	113	67	56	35	22	26
19	2	1	3	283	46	492	111	66	56	34	22	25
20	2	1	3	189	44	429	108	64	55	34	29	26
21	2	1	3	168	44	1460	105	62	55	34	42	25
22	2	1	3	145	44	1700	104	61	55	33	33	25
23	2	1	3	127	44	937	102	60	55	33	31	25
24	1	1	3	111	3370	671	101	60	55	32	30	25
25	1	1	3	96	3960	532	100	59	54	31	29	25
26	1	1	3	88	1070	470	98	57	52	30	29	24
27	1	1	3	80	813	408	96	56	50	29	28	24
28	1	1	3	70	691	348	95	55	49	29	27	24
29	1	1	3	62	---	438	95	54	49	28	26	25
30	1	1	3	81	---	385	95	52	49	28	26	25
31	1	---	131	62	---	303	---	51	---	27	26	---
TOTAL	54	38	630	35895	11148	23813	4458	2451	1587	1107	811	762
MEAN	2	1	20	1158	398	768	149	79	53	36	26	25
MAX	2	2	415	14500	3960	2920	277	173	57	47	42	27
MIN	1	1	1	10	44	303	95	51	46	27	22	24
ACRE FT	108	74	1249	71197	22113	47233	8842	4862	3148	2195	1609	1510

Estimated daily data. (USGS)

San Antonio Creek at Old Creek Rd

USGS #: 11117500
 VCWPD #: 605A
 DATE INSTALLED: 10/1949
 MAINTAINED BY: VCWPD

LATITUDE: 34°22'57" N
 LONGITUDE: 119°18'10" W
 ELEVATION: 312 ft
 DRAINAGE AREA: 51.2 sq mi

WATER YEAR OCTOBER 2022 THROUGH SEPTEMBER 2023 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	291	17	385	11	46	24	32	11	9
2	0	0	0	9	16	198	12	44	23	27	11	9
3	0	0	0	4	15	148	13	43	22	27	11	9
4	0	0	0	7	15	123	15	59	22	25	10	9
5	0	0	0	589	15	109	16	44	23	23	10	9
6	0	0	0	92	14	91	17	40	24	22	10	9
7	0	0	0	19	14	55	19	36	24	21	10	10
8	0	0	0	11	14	31	20	34	23	20	9	9
9	0	0	0	2900	10	24	21	32	24	18	9	9
10	0	0	0.11	1490	8	217	22	29	24	17	11	9
11	0	0	123	504	8	160	24	27	24	16	10	9
12	0	0	5	280	8	113	28	26	23	15	10	9
13	0	0	0.79	165	8	77	32	25	23	15	10	9
14	0	0	0.12	285	7	358	39	24	23	14	10	9
15	0	0	0.02	145	7	927	45	M	24	14	10	9
16	0	0	0	257	7	219	53	37	24	13	10	9
17	0	0	0	124	7	100	62	38	24	14	9	9
18	0	0	0	87	7	30	60	40	24	14	9	9
19	0	0	0	58	7	16	58	40	25	13	10	8
20	0	0	0	47	7	10	55	36	25	13	24	9
21	0	0	0	46	7	474	54	33	26	13	22	8
22	0	0	0	41	7	553	53	32	30	13	12	9
23	0	0	0	37	7	367	56	31	32	13	11	8
24	0	0	0	34	1070	293	56	31	37	13	10	8
25	0	0	0	29	1220	215	55	29	36	12	10	8
26	0	0	0	25	358	202	53	28	37	12	10	8
27	0	0	0.17	23	267	88	51	26	38	12	10	8
28	0	0	0.39	21	230	10	49	26	36	12	9	8
29	0	0	0.20	19	-----	80	47	26	35	12	8	8
30	0	0	0.18	31	-----	13	46	24	34	12	9	8
31	0	-----	92	20	-----	10	-----	24	-----	11	9	-----
TOTAL	0	0	222	7690	3379	5695	1142	1010	813	508	331	258
MEAN	0	0	7	248	121	184	38	34	27	16	11	9
MAX	0	0	123	2900	1220	927	62	59	38	32	24	10
MIN	0	0	0	4	7	10	11	24	22	11	8	8
ACRE FT	0	0	440	15253	6701	11297	2265	2003	1613	1008	656	512

M Missing Data

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Appendix C
Fisheries Storm Peak Logs

**Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)**

Date: 1-6-23 Time: 0945 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	1-5		malfunction
Matilija Cr above dam		0645	2746
Matilija Dam		0820	5074
Matilija Cr at Hot Spr.		0820	4139
Robles Canal			58
Robles Weir			> 4184 TBD
			≈ 6-7kcfs
Total Robles Inflow	1-5		
BO Defined Storm Event: <u>Y</u> N			
BO Defined Overlapping Event: Y/ <u>N</u>			

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr	0950	121
Matilija Cr above Reservoir	0945	155
Matilija Dam	09:45	786
Matilija Cr at Hot Springs	0945	317
Robles Canal	0945	306
Robles Weir	0945	38
Total Robles Inflow	0945	344

SANC 0859 1734
VENR Foster 1015 9730

Date Matilija Reservoir Filled: 1-1-23
Count of Days: 5

Lake Casitas volume 77,720 ac-ft

CDPM Method:

- <30 days - M4 - Modified Overlapping Release
- ≥30 days - M9 - Matilija Download with Initial Release
- Standard Release
- Back-to-Back Release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	1-6	90					
2	1-7	70					
3	1-8	55					
4	1-9	50					
5	1-10	50					
6	1-11	50					
7	1-12	50					
8	1-13	50					
9	1-14	50					
10	1-15	40					
11							
12							
13							
14							
15							
16							
17							
18							

new BO storm on 1-9

Comments:

**Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)**

Date: 1-10-23 Time: 1000 Prepared by: Scott Lewis

Storm Peak Discharge			
	date	time	cfs
North Fork Matilija Cr	1-9	NA	8532 est.
Matilija Cr above dam			error
Matilija Dam			error
Matilija Cr at Hot Spr.		1805	14690
Robles Canal			closed
Robles Weir			≈ 4K max
<hr/>			
Total Robles Inflow	1-9		23,222
BO Defined Storm Event: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			
BO Defined Overlapping Event: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N			

Current Discharge (Day 1 after peak)		
	time	cfs
North Fork Matilija Cr		error
Matilija Cr above Reservoir		error
Matilija Dam		error
Matilija Cr at Hot Springs		4,835
Robles Canal		closed
Robles Weir		error
<hr/>		
Total Robles Inflow		> 4,835

SANC conf. 1744 6,966
 SANC Camp. 1811 9,694
 VR usgs 1855 37,600
 Date Matilija Reservoir Filled: 1-1-23
 Count of Days: 109

Lake Casitas volume ≈ 93,700 af
 TBD

- CDPM Method:
- <30 days - M4 - Modified Overlapping Release
 - ≥30 days - M9 - Matilija Download with Intial Release
 - Standard Release
 - Back-to-Back Release

(Robles peak est. w/ cross section)
 area + velocity 18-20K cfs

-M9 - Matilija Download-							
Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	1-10	>671	closed				
2	1-11	>671	closed				
3	1-12	90	"	583	Hot Springs, 1000h		
4	1-13	70	"	426	" , 1010h		
5	1-14	55		386	" , 0915h		
6	1-15	50					
7	1-16	50					
8	1-17	50					
9	1-18	50					
10	1-19	40					
11	1-20	50					
12	1-21	40					
13							
14							
15							
16							
17							
18							

new BO storm on 1-14

Comments:

Cutoff wall failed @ 0100-0500h on 1-10-23 on east side w/ most water going through failure. Repairs started on 1-11.

Flow Assessment at Robles Diversion and Fish Passage Facility Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 1-15-23 Time: 10:00h Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	1-14		error
Matilija Cr above dam			"
Matilija Dam			"
Matilija Cr at Hot Spr.		1710	865
Robles Canal			closed
Robles Weir		1759	1,604 (error)
Total Robles Inflow	↓	1759	865 - 1604
BO Defined Storm Event: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			
BO Defined Overlapping Event: Y / <input checked="" type="checkbox"/> N			

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr		error
Matilija Cr above Reservoir		"
Matilija Dam		"
Matilija Cr at Hot Springs	0925	490
Robles Canal		closed
Robles Weir	1000	804 (error)
Total Robles Inflow		1000 490 - 804

SANC conf. 1559 1,195
 SANC camp. 1506 783
 VR Foster USGS 1630 1,930

Lake Casitas volume 94,427 497.95 ft @ 0800, 1-15

Date Matilija Reservoir Filled: 1-1-23
 Count of Days: 14

- CDPM Method:
- <30 days - M4 - Modified Overlapping Release
 - ≥30 days - M9 - Matilija Download with Initial Release
 - Standard Release
 - Back-to-Back Release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	1-15	90	→ 80-90, sediment in box + EP				
2	1-16	70	→ 80-90,		"	"	← new BO storm on 1-16
3	1-17	55					
4	1-18	50					
5	1-19	50					
6	1-20	50					
7	1-21	50					
8	1-22	50					
9	1-23	50					
10	1-24	40					
11							
12							
13							
14							
15							
16							
17							
18							

Comments:

Started filling forebay + diverting water and fish ladder @ 1300h (1-15-23) w/ 80-90 cfs out fish ladder, sediment in entrance box and EP.

**Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)**

Date: 1-17-23 Time: 09:15 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	1-16		error
Matilija Cr above dam		23:50	951 (error)
Matilija Dam			error
Matilija Cr at Hot Spr.		03:10	853
Robles Canal		03:53	280
Robles Weir		03:53	1,407 (error)
Total Robles Inflow		03:53	1,053-1,407
BO Defined Storm Event:	Y/N		FW=28 > 76
BO Defined Overlapping Event:	Y/N		Aux=48 > 76

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr		error
Matilija Cr above Reservoir		11
Matilija Dam		11
Matilija Cr at Hot Springs	08:10	517
Robles Canal	09:02	240
Robles Weir	09:02	601
Total Robles Inflow	09:02	757-841

FW=33 > 75
Aux=42

SANC cont. 11:59 1,120
SANC camp. 02:01 556
VR Foster USGS 06:55 1,550

Lake Casitas volume 98,068 500.36' @ 08:04, 1-17

Date Matilija Reservoir Filled: 1-1-23
Count of Days: 16

- CDPM Method:
- <30 days - M4 - Modified Overlapping Release
 - ≥30 days - M9 - Matilija Download with Initial Release
 - Standard Release
 - Back-to-Back Release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	1-17	90	releasing more to scour sediment in box & EP				
2	1-18	70					
3	1-19	55					
4	1-20	5074	Lake Casitas Over 100,000 AF				
5	1-21	5068	Changed to Standard Release				
6	1-22	5062					
7	1-23	5056					
8	1-24	5056					
9	1-25	50					
10	1-26	40					
11							
12							
13							
14							
15							
16							
17							
18							

Comments:

Flow Assessment at Robles Diversion and Fish Passage Facility Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 2-25-23 Time: 9:30 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	2-24	20:50	3836
Matilija Cr above dam		19:55	4829/5710
Matilija Dam			error
Matilija Cr at Hot Spr.		20:50	9416
Robles Canal		21:10	130
Robles Weir		21:10	> 4184
Total Robles Inflow		21:10	≈ 11,126*
BO Defined Storm Event: <u>Y/N</u>			
BO Defined Overlapping Event: <u>Y/N</u>			

VR-Foster, VC 22:10 9040
 VR-Foster, USGS 22:45 14,100
 SANC 21:59 4613

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr		error
Matilija Cr above Reservoir	09:30	453/685 (VC/USGS)
Matilija Dam		error
Matilija Cr at Hot Springs	09:40	1500
Robles Canal	09:29	71
Robles Weir	09:29	2645
Total Robles Inflow	09:29	2716

VR-Foster-VC 10:00 2189
 VA-Foster-USGS 09:35 2550
 SANC 10:00 1836

Lake Casitas volume 111,514 ac-ft

CDPM Method:

- <30 days - M4 - Modified Overlapping Release
- ≥30 days - M9 - Matilija Download with Intial Release
- Standard Release
- Back-to-Back Release

Date Matilija Reservoir Filled: NA
 Count of Days: NA

9416 + 3323 = 12,739 cfs
 (MATC-HS) + (NF) = high est. \bar{x} = 11,126

14100 - (3587 + 100) = 9513 cfs
 (VR-Foster) - (SANC/Tribs) = Lowest.

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	2-25	—	>671	2716	09:30		
2	2-26	—	>671	1052	08:30		
3	2-27	—	>671	783	08:00		
4	2-28	171	<671	660	08:30		
5	3-1	100					
6	3-2	82					
7	3-3	74					
8	3-4	68					
9	3-5	62					
10	3-6	56					
11	3-7	43					
12	3-8	30					
13							
14							
15							
16							
17							
18							

Comments:

Facility shut down @ ≈ 21:00h, 2-24, due to sediment in screebay. Modified brushes on 2-25 and started facility up at ≈ 09:00h.

Flow Assessment at Robles Diversion and Fish Passage Facility Standard and Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 3-11-23 Time: 09:50 Prepared by: Scott Lewis

Storm Peak Discharge			
	date	time	cfs
North Fork Matilija Cr	3-10	16:15	427
Matilija Cr above dam		16:00	893/1220
Matilija Dam		16:35	213/1095.94
Matilija Cr at Hot Spr.		17:55	1146
Robles Canal		18:00	354
Robles Weir			1311
Total Robles Inflow			1,665

Current Discharge (Day 1 after peak)		
	time	cfs
North Fork Matilija Cr	09:40	238
Matilija Cr above Reservoir	09:40	460/693
Matilija Dam	09:25	13/1095.52
Matilija Cr at Hot Springs	09:20	578
Robles Canal	09:50	256
Robles Weir		467
Total Robles Inflow		723

(vc/usgs)
(cfs/ft)

1573

BO Defined Storm Event: Y N
 BO Defined Overlapping Event: Y N

VR-Foster, VC 19:30 2075
 VR-Foster, usgs 18:15 2550
 SANC 15:59 984

Lake Casitas volume 128,640 ac-ft, 54.1%

CDPM Method:

- <30 days - M4 - Modified Overlapping Release
- ≥30 days - M9 - Matilija Download with Initial Release
- Standard Release
- Back-to-Back Release

Date Matilija Reservoir Filled: NA
 Count of Days: NA

M9 - Matilija Download						
Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow
			Canal	Weir		
1	3-11	7671				
2	3-12	171	535	09:00		
3	3-13	100				
4	3-14	82				
5	3-15	74	new storm peak on 3-15 @ 2865			
6	3-16	68				
7	3-17	62				
8	3-18	56				
9	3-19	56				
10	3-20	50				
11	3-21	40				
12	3-22	30				
13						
14						
15						
16						
17						
18						

Initial Release			
Day After Release Peak	(cfs)	Determining Inflow (cfs)	
1	171	334	to 671
2	100	274	to 334
3	82	247	to 274
4	74	227	to 247
5	68	207	to 227
6	62	187	to 207
7	56	167	to 187
8	56		NA
9	50	50	to 167
10	50		NA
11	40		NA
12	30		NA

Back-to-Back Release			
Day After Release Peak	(cfs)	Determining Inflow (cfs)	
1	100	247	to 600
2	74	204	to 247
3	61	181	to 204
4	54	150	to 181
5	50		NA
6	50		NA
7	50		NA
8	50		NA
9	40		NA
10	30		NA

Comments: New storm peak on 3-15 at 2,865 cfs.

Flow Assessment at Robles Diversion and Fish Passage Facility
Standard and Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 3-16-23 Time: 09:30 Prepared by: Scott Lewis

Storm Peak Discharge			
	date	time	cfs
North Fork Matilija Cr	3-15	04:40	732
Matilija Cr above dam		02:30	626/803
Matilija Dam		06:45	2533/1097.50
Matilija Cr at Hot Spr.		06:30	1613
Robles Canal		06:17	423
Robles Weir		06:17	2442
Total Robles Inflow	3-15	06:17	2865

Current Discharge (Day 1 after peak)		
	time	cfs
North Fork Matilija Cr	08:20	350
Matilija Cr above Reservoir	07:40	299/416
Matilija Dam	08:25	1349/1096.82
Matilija Cr at Hot Springs	08:25	659
Robles Canal	08:30	472
Robles Weir	08:30	675
Total Robles Inflow	08:30	1147

(VC/USGS)
(cfs/ft)

2345

BO Defined Storm Event: Y / N
 BO Defined Overlapping Event: Y / N

VR-Foster, VC 05:30 4874
 VR-Foster, USGS 04:40 5140
 SANC, Camp Cont. 04:21 2675

VR-Foster, VC 08:40 1332
 VR-Foster, USGS 08:50 1473
 SANC, Conf. 09:00 454

Lake Casitas volume 137,435 / 57.7%, @ 07:03, 3-16

CDPM Method:

- <30 days - M4 - Modified Overlapping Release
- ≥30 days - M9 - Matilija Download with Initial Release
- Standard Release
- Back-to-Back Release

Date Matilija Reservoir Filled: NA
 Count of Days: NA

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	3-16	>671	1147	08:30			
2	3-17	>671	858	08:00			
3	3-18	171	628	09:30			
4	3-19	100					
5	3-20	82					
6	3-21	74	New storm peak on 3-21 @ 13:50				
7	3-22	68				1,891 cfs	
8	3-23	62					
9	3-24	56					
10	3-25	56					
11	3-26	43					
12	3-27	30					
13							
14							
15							
16							
17							
18							

Initial Release

Day After Release Peak	(cfs)	Determining Inflow (cfs)
1	171	334 to 671
2	100	274 to 334
3	82	247 to 274
4	74	227 to 247
5	68	207 to 227
6	62	187 to 207
7	56	167 to 187
8	56	NA
9	50	50 to 167
10	50	NA
11	40	NA
12	30	NA

Back-to-Back Release

Day After Release Peak	(cfs)	Determining Inflow (cfs)
1	100	247 to 600
2	74	204 to 247
3	61	181 to 204
4	54	150 to 181
5	50	NA
6	50	NA
7	50	NA
8	50	NA
9	40	NA
10	30	NA

Comments:

Flow Assessment at Robles Diversion and Fish Passage Facility
Standard and Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 3-22-23 Time: 09:00 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	3-21	17:40	619
Matilija Cr above dam	↓	11:45	436/581
Matilija Dam		20:31	1492/1096.91
Matilija Cr at Hot Spr.		19:20	1054
Robles Canal		19:30	442
Robles Weir		19:30	1792
Total Robles Inflow		3-21	19:30

BO Defined Storm Event: Y N

BO Defined Overlapping Event: Y N

VR-Foster, VC 18:00 2738
 VR-Foster, usgs 18:55 2720
 SANC Conf. 20:44 783

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr	08:05	378
Matilija Cr above Reservoir	07:40	335/459
Matilija Dam	07:25	1197/1096.72
Matilija Cr at Hot Springs	07:20	804
Robles Canal	08:30	440
Robles Weir	08:30	1017
Total Robles Inflow	08:30	1457

(VC/USGS)
(cfs/FE)

VR-Foster, VC 08:00 1690
 VR-Foster, USGS 08:15 1940
 SANC Conf. 06:44 521

Lake Casitas volume 146,572 ac-ft, 61.6% @ 07:03, 3-22

CDPM Method:

- <30 days - M4 - Modified Overlapping Release
- ≥30 days - M9 - Matilija Download with Initial Release
- Standard Release
- Back-to-Back Release

Date Matilija Reservoir Filled: NA
 Count of Days: NA

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	3-22	>600	1457				
2	3-23	>600	1106				
3	3-24	>600	930				
4	3-25	>600	756				
5	3-26	100	571				
6	3-27	74					
7	3-28	61					
8	3-29	54					
9	3-30	42					
10	3-31	30					
11							
12							
13							
14							
15							
16							
17							
18							

Initial Release

Day After Release Peak	(cfs)	Determining Inflow (cfs)	
1	171	334	to 671
2	100	274	to 334
3	82	247	to 274
4	74	227	to 247
5	68	207	to 227
6	62	187	to 207
7	56	167	to 187
8	56		NA
9	50	50	to 167
10	50		NA
11	40		NA
12	30		NA

Back-to-Back Release

Day After Release Peak	(cfs)	Determining Inflow (cfs)	
1	100	247	to 600
2	74	204	to 247
3	61	181	to 204
4	54	150	to 181
5	50		NA
6	50		NA
7	50		NA
8	50		NA
9	40		NA
10	30		NA

Comments:

Appendix D
Casitas Reservoir Operational Data

**CASITAS RESERVOIR WATER INVENTORY SUMMARY
2022 - 2023 WATER YEAR**

figures in acre-feet except where otherwise noted

MONTH	RESERVOIR (last of previous month)		RESERVOIR INFLOW VENTURA RIVER				RESERVOIR RELEASES			
	ELEV (ft)	STORAGE	DIRECT	DIVERSIONS	TOTAL	PRECIP	EVAP	TO MAIN SYSTEM	SPILL	CHANGE IN STORAGE
OCT 2022	481.69	72973	-79	0	-79	2	367	999	0	-1444
NOV 2022	480.46	71529	-116	0	-116	165	246	592	0	-789
DEC 2022	479.78	70740	613	463	1076	709	91	303	0	1339
JAN 2023	480.93	72079	23620	7091	30711	2367	131	272	0	32549
FEB 2023	504.54	104628	6464	5234	11698	1046	219	185	0	11686
MAR 2023	511.55	116314	17382	24103	41485	2354	370	139	0	43443
APR 2023	534.26	159757	4464	9380	13844	1	774	319	0	13330
MAY 2023	540.45	173087	405	3454	3859	111	654	523	0	2795
JUN 2023	541.71	175882	-685	2318	1632	16	927	595	0	245
JUL 2023	541.82	176127	61	483	544	0	1199	836	0	-1491
AUG 2023	541.15	174636	-52	12	-40	208	999	652	0	-1483
SEP 2023	540.48	173153	-62	0	-62	6	733	663	0	-1452
OCT 2023	539.82	171701	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL			52014	52537	104552	6984	6710	6077	0	98728

reservoir capacity = 237,761 a.f. @ 567 ft.

CASITAS RESERVOIR OPERATION
OCTOBER 2022

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Sep 30 th Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	
1	481.65	72926	1290	3	0	3	0.27	0.04	13	0	0	0	37	0	0	-47
2	481.60	72867	1290	-4	0	-4	0.19	0.27	19	0	0	0	36	0	0	-59
3	481.57	72832	1289	2	0	2	0.16	0.20	15	0	0	0	23	0	0	-35
4	481.54	72796	1289	13	0	13	0.24	0.06	12	0	0	0	37	0	0	-36
5	481.46	72702	1288	-35	0	-35	0.21	0.17	15	0	0	0	44	0	0	-94
6	481.42	72655	1288	11	0	11	0.12	0.25	15	0	0	0	43	0	0	-47
7	481.38	72608	1286	12	0	12	0.29	0.13	17	0	0	0	42	0	0	-47
8	481.34	72560	1286	4	0	4	0.24	0.15	16	0	0	0	36	0	0	-48
9	481.30	72513	1286	-4	0	-4	0.15	0.15	12	0	0	0	31	0	0	-47
10	481.28	72490	1285	5	0	5	0.11	0.00	4	0	0	0	24	0	0	-23
11	481.24	72443	1285	-15	0	-15	0.09	0.05	6	0	0	0	26	0	0	-47
12	481.21	72407	1285	11	0	11	0.09	0.06	6	0	0	0	41	0	0	-36
13	481.17	72360	1283	3	0	3	0.08	0.26	14	0.02	0	1	38	0	0	-47
14	481.13	72313	1283	-13	0	-13	0.07	0.06	5	0	0	0	28	0	0	-47
15	481.09	72267	1282	-5	0	-5	0.11	0.12	9	0	0	0	32	0	0	-46
16	481.06	72231	1282	-14	0	-14	0.06	0.00	2	0	0.01	1	20	0	0	-36
17	481.03	72196	1282	3	0	3	0.20	0.18	15	0	0	0	23	0	0	-35
18	481.00	72161	1282	1	0	1	0.19	0.03	9	0	0	0	27	0	0	-35
19	480.95	72102	1280	-9	0	-9	0.19	0.22	16	0	0	0	34	0	0	-59
20	480.90	72044	1280	-2	0	-2	0.12	0.27	16	0	0	0	40	0	0	-58
21	480.86	71997	1279	6	0	6	0.19	0.20	16	0	0	0	37	0	0	-47
22	480.82	71950	1279	11	0	11	0.10	0.25	14	0	0	0	44	0	0	-47
23	480.79	71915	1277	-18	0	-18	0.09	0.05	6	0	0	0	11	0	0	-35
24	480.76	71880	1277	-2	0	-2	0.11	0.09	8	0	0	0	25	0	0	-35
25	480.71	71821	1277	-14	0	-14	0.11	0.14	10	0	0	0	36	0	0	-59
26	480.67	71774	1276	4	0	4	0.12	0.17	12	0	0	0	40	0	0	-47
27	480.63	71728	1276	-4	0	-4	0.08	0.14	9	0	0	0	33	0	0	-46
28	480.58	71669	1274	6	0	6	0.50	0.20	28	0	0	0	38	0	0	-59
29	480.53	71611	1274	-21	0	-21	0.11	0.10	8	0	0	0	29	0	0	-58
30	480.50	71576	1274	1	0	1	0.07	0.25	13	0	0	0	24	0	0	-35
31	480.46	71529	1272	-15	0	-15	0.09	0.16	10	0	0	0	22	0	0	-47
TOTAL				-79	0	-79	4.75	4.42	367	0.02	0.01	2	999	0	0	-1444

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
NOVEMBER 2022

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Oct 31 st Surface	Area	Ventura River		Total	Pan @Dam	Pan @Rec	Lake Total	at Dam	at Rec	Lake Total	To Main System	To River	To Spill	
	(ft MSL)	71529	(acres)	Direct	Divers'n		(in)	(in)	(af)	(in)	(in)	(af)				
1	480.43	71494	1272	13	0	13	0.09	0.28	14	0.02	0.00	1.06	34.64	0.00	0.00	-35
2	480.39	71448	1271	-3	0	-3	0.14	0.06	8	0.00	0.00	0.00	35.59	0.00	0.00	-46
3	480.36	71413	1271	9	0	9	0.26	0.12	14	0.00	0.00	0.00	29.41	0.00	0.00	-35
4	480.31	71355	1271	-14	0	-14	0.14	0.21	13	0.00	0.00	0.00	31.06	0.00	0.00	-58
5	480.27	71308	1269	-2	0	-2	0.11	0.27	14	0.00	0.00	0.00	30.36	0.00	0.00	-47
6	480.28	71320	1269	36	0	36	0.11	0.12	9	0.01	0.00	0.53	15.41	0.00	0.00	12
7	480.22	71250	1269	-91	0	-91	0.00	0.08	3	0.63	0.02	34.37	10.51	0.00	0.00	-70
8	480.24	71273	1269	-59	0	-59	0.00	0.00	0	1.00	0.77	93.60	12.07	0.00	0.00	23
9	480.32	71366	1271	71	0	71	0.06	0.00	2	0.00	0.65	34.42	10.39	0.00	0.00	93
10	480.28	71320	1269	-25	0	-25	0.13	0.15	11	0.00	0.00	0.00	10.83	0.00	0.00	-46
11	480.26	71296	1269	-5	0	-5	0.09	0.16	10	0.00	0.00	0.00	9.04	0.00	0.00	-24
12	480.25	71285	1269	3	0	3	0.10	0.08	7	0.00	0.00	0.00	7.47	0.00	0.00	-11
13	480.22	71250	1269	-11	0	-11	0.07	0.19	10	0.00	0.00	0.00	13.61	0.00	0.00	-35
14	480.20	71227	1269	3	0	3	0.05	0.10	6	0.00	0.00	0.00	20.08	0.00	0.00	-23
15	480.18	71203	1268	-2	0	-2	0.09	0.05	5	0.00	0.00	0.00	16.78	0.00	0.00	-24
16	480.15	71168	1268	-16	0	-16	0.09	0.05	5	0.00	0.00	0.00	13.61	0.00	0.00	-35
17	480.13	71145	1268	8	0	8	0.09	0.17	10	0.00	0.00	0.00	20.82	0.00	0.00	-23
18	480.10	71110	1268	-14	0	-14	0.10	0.11	8	0.00	0.00	0.00	13.06	0.00	0.00	-35
19	480.08	71087	1266	-1	0	-1	0.10	0.08	7	0.00	0.00	0.00	15.46	0.00	0.00	-23
20	480.05	71052	1266	-10	0	-10	0.12	0.17	11	0.00	0.00	0.00	13.57	0.00	0.00	-35
21	480.03	71029	1266	3	0	3	0.11	0.08	7	0.00	0.00	0.00	19.09	0.00	0.00	-23
22	480.00	70994	1266	4	0	4	0.09	0.13	8	0.00	0.00	0.00	30.46	0.00	0.00	-35
23	479.97	70960	1265	5	0	5	0.09	0.16	9	0.00	0.00	0.00	29.40	0.00	0.00	-34
24	479.93	70913	1265	-3	0	-3	0.15	0.10	9	0.00	0.00	0.00	34.37	0.00	0.00	-47
25	479.90	70878	1265	-9	0	-9	0.08	0.14	8	0.00	0.00	0.00	17.37	0.00	0.00	-35
26	479.87	70844	1263	-3	0	-3	0.09	0.15	9	0.00	0.00	0.00	22.21	0.00	0.00	-34
27	479.85	70821	1263	-2	0	-2	0.07	0.08	6	0.00	0.00	0.00	15.03	0.00	0.00	-23
28	479.84	70809	1263	10	0	10	0.11	0.10	8	0.01	0.00	0.53	14.63	0.00	0.00	-12
29	479.82	70786	1263	2	0	2	0.10	0.03	5	0.00	0.00	0.00	20.21	0.00	0.00	-23
30	479.78	70740	1262	-12	0	-12	0.15	0.07	8	0.00	0.00	0.00	25.19	0.00	0.00	-46
TOTAL				-116	0	-116	2.98	3.49	246	1.67	1.44	165	592	0	0	-789

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
DECEMBER 2022

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Nov 30 th 70740 Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	
	1	479.76	70717	1262	-3	0	-3	0.15	0.05	7	0	0	0	13	0	
2	479.82	70786	1263	-12	0	-12	0.00	0.00	0	1.04	0.77	95	14	0	0	69
3	479.90	70878	1265	-11	0	-11	0.00	0.00	0	1.23	0.9	112	9	0	0	92
4	479.92	70902	1265	1	0	1	0.00	0.00	0	0.45	0.18	33	10	0	0	24
5	479.94	70925	1265	19	0	19	0.17	0.00	6	0.12	0.27	21	11	0	0	23
6	479.91	70890	1265	-25	0	-25	0.00	0.05	2	0.01	0	1	8	0	0	-35
7	479.90	70878	1265	-2	0	-2	0.03	0.00	1	0.01	0	1	9	0	0	-12
8	479.87	70844	1263	-22	0	-22	0.04	0.00	1	0	0	0	11	0	0	-34
9	479.87	70844	1263	13	0	13	0.11	0.00	4	0	0	0	10	0	0	0
10	479.86	70832	1263	-20	0	-20	0.03	0.00	1	0.03	0.3	17	8	0	0	-12
11	480.43	71494	1272	397	264	660	0.00	0.00	0	3.19	2.01	276	10	0	0	662
12	480.83	71962	1279	168	63	231	0.00	0.00	0	0.45	0.38	44	7	0	0	468
13	480.88	72020	1279	13	44	57	0.17	0.03	7	0.01	0	1	12	0	0	58
14	480.93	72079	1280	28	40	68	0.03	0.04	2	0	0	0	11	0	0	59
15	480.95	72102	1280	-7	1	-6	0.04	0.00	1	0	0	0	8	0	0	23
16	480.93	72079	1280	-7	0	-7	0.18	0.03	7	0	0	0	9	0	0	-23
17	480.94	72090	1280	23	0	23	0.03	0.08	4	0	0	0	8	0	0	11
18	480.93	72079	1280	2	0	2	0.10	0.03	5	0	0	0	8	0	0	-11
19	480.92	72067	1280	0	0	0	0.00	0.04	1	0	0	0	10	0	0	-12
20	480.91	72055	1280	-1	0	-1	0.00	0.02	1	0	0	0	10	0	0	-12
21	480.92	72067	1280	24	0	24	0.05	0.00	2	0	0	0	10	0	0	12
22	480.91	72055	1280	2	0	2	0.04	0.05	3	0	0	0	11	0	0	-12
23	480.91	72055	1280	15	0	15	0.04	0.04	3	0	0	0	12	0	0	0
24	480.90	72044	1280	2	0	2	0.04	0.08	4	0	0	0	9	0	0	-11
25	480.88	72020	1279	-8	0	-8	0.06	0.12	6	0	0	0	9	0	0	-24
26	480.87	72008	1279	4	0	4	0.07	0.08	5	0	0	0	11	0	0	-12
27	480.85	71985	1279	-2	0	-2	0.22	0.15	13	0	0	0	8	0	0	-23
28	480.91	72055	1280	10	0	10	0.00	0.00	0	0.7	0.64	71	11	0	0	70
29	480.91	72055	1280	10	0	10	0.08	0.02	4	0.03	0	2	8	0	0	0
30	480.91	72055	1280	-3	0	-3	0.00	0.00	0	0.08	0.13	11	8	0	0	0
31	480.93	72079	1280	7	52	59	0.00	0.00	0	0.24	0.23	25	8	0	0	24
TOTAL				613	463	1076	1.68	0.91	91	7.59	5.81	709	303	0	0	1339

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
JANUARY 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Dec 31 st Storage	Surface Area	Direct	Ventura River	Divers'n	Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	Spill	
	(ft MSL)	72079	(acres)				(in)	(in)	Total	(in)	(in)	Total				
1	482.15	73519	1298	1053	330	1383	0	0	0	4	3	344	10	0	0	1440
2	482.50	73936	1304	99	71	170	0.17	0	6	0	0	3	9	0	0	417
3	482.61	74067	1306	52	39	90	0	0	0	0	0	18	11	0	0	131
4	482.69	74162	1306	71	70	142	0.19	0.03	8	0	0	1	8	0	0	95
5	484.26	76055	1331	1469	408	1877	0	0	0	3	3	361	7	0	0	1893
6	485.58	77670	1351	1218	465	1683	0.33	0	12	0.05	0.12	10	8	0	0	1615
7	486.10	78313	1360	193	168	361	0.12	0	5	0	0	0	10	0	0	643
8	486.30	78561	1363	80	105	185	0	0	0	0.04	0.11	9	8	0	0	248
9	486.93	79345	1372	479	203	682	0	0	0	2	2	208	8	0	0	784
10	496.54	92346	1529	11878	0	11878	0	0	0	8.58	6.15	938	18	0	0	13001
11	497.46	93700	1543	1364	0	1364	0.31	0.00	13	0	0	16	14	0	0	1354
12	497.80	94204	1550	525	0	525	0.11	0.14	10	0	0	0	11	0	0	504
13	498.02	94531	1553	340	0	340	0.03	0.05	3	0	0	0	10	0	0	327
14	498.12	94681	1555	131	0	131	0	0	0	0.07	0.35	27	8	0	0	150
15	498.77	95654	1565	797	175	972	0	0	0	1.35	1.48	185	8	0	0	973
16	499.60	96908	1581	911	485	1396	0	0	0	1.38	1.29	176	8	0	0	1254
17	500.36	98068	1593	695	427	1122	0.19	0.05	10	0	0	0	9	0	0	1160
18	500.87	98851	1601	372	367	738	0.06	0.11	7	0	0	0	9	0	0	783
19	501.30	99516	1609	310	502	812	0.04	0.04	3	0	0	0	8	0	0	665
20	501.82	100324	1618	321	477	798	0.09	0.05	6	0	0	0	9	0	0	808
21	502.25	100996	1624	208	400	608	0.05	0.07	5	0	0	0	8	0	0	672
22	502.62	101576	1631	192	347	539	0.03	0.07	4	0	0	0	8	0	0	580
23	502.92	102049	1636	140	307	447	0.03	0.07	4	0	0	0	9	0	0	473
24	503.20	102491	1642	148	268	416	0.03	0.06	4	0	0	0	9	0	0	442
25	503.31	102665	1643	-77	247	170	0.09	0.08	8	0	0	0	9	0	0	174
26	503.51	102983	1647	85	213	298	0.06	0.09	7	0	0	0	8	0	0	318
27	503.73	103332	1651	149	217	366	0.04	0.10	6	0	0	0	7	0	0	349
28	503.93	103651	1654	113	211	324	0.03	0.06	4	0	0	0	6	0	0	319
29	504.10	103923	1658	69	206	275	0.03	0.02	2	0	0	0	6	0	0	272
30	504.34	104307	1661	114	206	320	0	0	0	0	1	71	6	0	0	384
31	504.54	104628	1665	121	178	300	0	0.02	1	0.01	0	1	6	0	0	321
TOTAL				23620	7091	30711	2.03	1.13	131	20.73	18.45	2367	272	0	0	32549

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
FEBRUARY 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Jan 31 st Surface	Area	Ventura	River	Total	Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	Spill	
	(ft MSL)	104628	(acres)	Direct	Divers'n		(in)	(in)	Total	(in)	(in)	Total				
1	504.70	104885	1669	87	163	250	0.04	0.02	3	0	0	0	5	0	0	257
2	504.84	105111	1670	76	138	214	0.06	0.06	6	0	0	0	7	0	0	226
3	504.96	105304	1672	69	140	209	0.06	0.12	10	0	0	0	5	0	0	193
4	505.09	105514	1674	98	131	229	0.29	0.14	23	0	0	0	5	0	0	210
5	505.22	105724	1677	73	125	198	0.00	0.00	0	0.08	0.07	10	5	0	0	210
6	505.32	105886	1679	51	120	170	0.02	0.15	9	0	0	0	5	0	0	162
7	505.45	106097	1681	105	111	217	0.04	0.13	9	0	0	0	5	0	0	211
8	505.53	106227	1683	36	33	69	0.15	0.08	12	0	0	0	5	0	0	130
9	505.55	106259	1683	12	0	12	0.08	0.05	7	0	0	0	6	0	0	32
10	505.57	106292	1683	50	43	93	0.07	0.13	11	0	0	0	6	0	0	33
11	505.63	106389	1684	74	88	162	0.14	0.12	14	0	0	0	6	0	0	97
12	505.70	106503	1686	41	84	125	0.10	0.06	9	0	0	0	6	0	0	114
13	505.78	106633	1686	59	78	138	0.09	0.04	7	0	0	0	6	0	0	130
14	505.84	106731	1688	33	76	109	0.01	0.10	6	0	0	0	7	0	0	98
15	505.91	106845	1689	68	70	138	0.17	0.15	17	0	0	0	13	0	0	114
16	505.97	106943	1689	53	68	121	0.10	0.13	12	0	0	0	12	0	0	98
17	506.02	107025	1691	26	65	91	0.03	0.05	4	0	0	0	8	0	0	82
18	506.08	107123	1691	49	61	110	0.04	0.12	9	0	0	0	7	0	0	98
19	506.14	107221	1693	50	58	108	0.04	0.05	5	0	0	0	9	0	0	98
20	506.19	107302	1693	45	55	100	0.03	0.15	10	0	0	0	12	0	0	81
21	506.23	107368	1695	32	52	85	0.14	0.12	14	0	0	0	7	0	0	66
22	506.27	107433	1695	36	50	86	0.20	0.11	17	0	0	0	6	0	0	65
23	506.31	107499	1696	18	57	75	0.05	0.03	4	0.06	0.05	8	6	0	0	66
24	506.50	107810	1700	31	333	364	0.00	0.00	0	1.47	1.75	228	5	0	0	311
25	508.90	111799	1740	3070	434	3504	0.00	0.00	0	4.05	4.10	591	5	0	0	3989
26	509.94	113558	1747	1269	871	2141	0.00	0.00	0	0.42	0.42	61	5	0	0	1759
27	510.71	114871	1753	392	897	1289	0.00	0.00	0	0.22	0.53	55	5	0	0	1313
28	511.55	116314	1762	459	831	1290	0.00	0.00	0	0.63	0.63	92	5	0	0	1443
TOTAL				6464	5234	11698	1.95	2.11	219	6.93	7.55	1046	185	0	0	11686

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
MARCH 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Feb 28 th 116314 Storage	Surface Area (acres)	Ventura River			Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	
	(ft MSL)			Direct	Divers'n	Total										
1	512.74	118379	1782	897	901	1797	0.05	0	3	1.66	3.00	346.01	6	0	0	2065
2	513.56	119815	1796	568	859	1427	0.41	0.07	27	0	0	0	6	0	0	1436
3	514.24	121014	1808	360	774	1134	0.17	0.10	15	0	0	0	5	0	0	1199
4	514.87	122131	1821	368	700	1068	0.23	0.12	20	0	0	0	5	0	0	1117
5	515.38	123040	1831	201	655	856	0	0	0	0.09	0.09	13.73	5	0	0	909
6	515.87	123918	1840	237	586	823	0.14	0.08	13	0.05	0	3.83	5	0	0	878
7	516.31	124709	1849	216	539	754	0.08	0.03	6	0	0	0	5	0	0	791
8	516.70	125412	1857	184	513	697	0.12	0.14	15	0	0	0	4	0	0	703
9	517.08	126101	1862	190	480	671	0.09	0.08	10	0	0	0	4	0	0	689
10	517.63	127101	1873	405	718	1124	0	0	0	0.71	0.81	118.61	4	0	0	1000
11	518.64	128953	1892	874	901	1775	0	0	0	1.77	1.58	264.09	4	0	0	1852
12	519.38	130321	1906	459	717	1176	0	0	0	0.05	0.10	11.91	4	0	0	1368
13	519.87	131232	1915	232	613	845	0.36	0.20	34	0	0	0	4	0	0	911
14	520.34	132110	1925	267	753	1020	0	0	0	0.03	0.00	2.41	4	0	0	878
15	522.58	136344	1967	2724	891	3615	0	0	0	4.84	4.45	761.20	4	0	0	4234
16	523.69	138473	1988	1248	942	2191	0.18	0	11	0.04	0.02	4.97	4	0	0	2129
17	524.53	140098	2006	697	954	1651	0.06	0.09	10	0	0	0	4	0	0	1625
18	525.28	141558	2018	530	842	1372	0.26	0.05	20	0	0	0	4	0	0	1460
19	525.84	142654	2029	279	734	1013	0.25	0.08	21	0	0	0	4	0	0	1096
20	526.38	143716	2037	332	673	1005	0	0.10	6	0.08	0	6.79	4	0	0	1062
21	527.03	145001	2048	376	852	1228	0	0	0	1.20	1.62	240.64	4	0	0	1285
22	528.34	147610	2069	1517	919	2436	0	0	0	1.73	1.10	243.95	4	0	0	2609
23	529.33	149600	2085	1001	994	1995	0	0	0	0.58	0.28	74.71	4	0	0	1990
24	530.02	150997	2096	439	985	1424	0.25	0.23	32	0	0	0	4	0	0	1397
25	530.82	152626	2109	683	931	1614	0.40	0.13	35	0	0	0	4	0	0	1629
26	531.44	153897	2118	372	838	1210	0.20	0.21	28	0	0	0	4	0	0	1271
27	531.96	154968	2126	256	766	1022	0.12	0.15	18	0	0	0	4	0	0	1071
28	532.46	156002	2135	295	714	1009	0.14	0.20	23	0	0	0	5	0	0	1034
29	533.08	157289	2146	405	844	1249	0	0	0	0.93	1.00	172.57	4	0	0	1287
30	533.72	158625	2157	408	796	1204	0	0	0	0.57	0.40	87.19	4	0	0	1336
31	534.26	159757	2165	360	718	1078	0.24	0.07	21	0.01	0	0.90	4	0	0	1132
TOTAL				17382	24103	41485	3.75	2.13	370	14.34	14.45	2354	139	0	0	43443

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
APRIL 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Mar 31 st Surface	Area	Ventura River			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	Spill	
	(ft MSL)	159757 Storage	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total				
1	534.78	160852	2173	418	663	1081	0.29	0.20	35	0	0	0	5	0	0	1095
2	535.18	161698	2180	206	619	825	0.15	0.10	18	0	0	0	5	0	0	846
3	535.58	162546	2187	261	585	845	0.24	0.10	25	0	0	0	7	0	0	848
4	535.94	163311	2193	215	539	754	0.23	0.13	26	0	0	0	8	0	0	765
5	536.26	163993	2198	172	503	675	0.19	0.12	23	0	0	0	6	0	0	682
6	536.57	164656	2203	192	471	663	0.18	0.15	24	0	0	0	8	0	0	663
7	536.87	165299	2208	201	442	643	0.06	0.25	23	0	0	0	6	0	0	643
8	537.14	165878	2213	180	414	593	0.25	0.25	37	0	0	0	6	0	0	579
9	537.39	166416	2216	151	388	539	0.03	0.25	21	0	0	0	6	0	0	538
10	537.63	166934	2221	178	377	555	0.28	0.25	39	0	0	0	9	0	0	518
11	537.87	167452	2225	171	356	527	0.06	0.23	22	0	0	0	8	0	0	518
12	538.09	167929	2228	159	320	479	0.16	0.23	29	0	0	0	9	0	0	477
13	538.29	168362	2231	138	314	452	0.15	0.10	19	0.01	0	1	8	0	0	433
14	538.50	168818	2236	175	274	449	0.04	0.30	25	0	0	0	7	0	0	456
15	538.64	169123	2238	51	277	327	0.07	0.10	13	0	0	0	7	0	0	305
16	538.84	169558	2241	186	260	446	0.07	0.22	22	0	0	0	6	0	0	435
17	538.99	169885	2242	107	250	357	0.18	0.18	27	0	0	0	13	0	0	327
18	539.15	170234	2246	136	238	374	0.09	0.23	24	0	0	0	13	0	0	349
19	539.30	170562	2249	121	225	346	0.09	0.16	19	0	0	0	12	0	0	328
20	539.43	170846	2251	115	214	330	0.42	0.12	41	0	0	0	16	0	0	284
21	539.54	171087	2253	62	200	262	0.07	0.19	20	0	0	0	15	0	0	241
22	539.66	171350	2254	96	190	286	0.17	0.10	20	0	0	0	13	0	0	263
23	539.78	171613	2256	102	182	284	0.21	0.00	16	0	0	0	13	0	0	263
24	539.91	171898	2259	164	173	337	0.38	0.20	44	0	0	0	17	0	0	285
25	540.02	172140	2261	115	167	283	0.07	0.33	30	0	0	0	16	0	0	242
26	540.10	172316	2263	58	159	217	0.19	0.22	31	0	0	0	18	0	0	176
27	540.19	172514	2263	80	153	232	0.10	0.18	21	0	0	0	20	0	0	198
28	540.28	172712	2264	85	147	232	0.13	0.20	25	0	0	0	15	0	0	198
29	540.37	172911	2266	88	142	230	0.17	0.10	20	0	0	0	15	0	0	199
30	540.45	173087	2268	84	140	224	0.29	0.20	37	0	0	0	13	0	0	176
TOTAL				4464	9380	13844	5.01	5.39	774	0.01	0.00	1	319	0	0	13330

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
MAY 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Apr 30 th Storage	Surface Area	Ventura River		Total	Pan @Dam	Pan @Rec	Lake Total	at Dam	at Rec	Lake Total	To Main System	To River	Spill	
	(ft MSL)	173087	(acres)	Direct	Divers'n		(in)	(in)		(in)	(in)		(in)			
1	540.52	173241	2270	41	141	182	0.12	0.09	16	0	0	0	11	0	0	154
2	540.61	173440	2271	76	44	120	0.08	0.07	11	0	0	0	6	0	0	199
3	540.62	173462	2271	7	0	7	0.16	0.14	23	0	0	0	6	0	0	22
4	540.68	173595	2271	63	89	152	0.00	0.30	23	1.00	0.07	101	8	0	0	133
5	540.75	173750	2273	91	128	219	0.11	0.10	16	0.01	0.01	2	12	0	0	155
6	540.86	173993	2275	156	122	278	0.28	0.13	31	0.01	0.01	2	11	0	0	243
7	540.92	174126	2276	51	115	166	0.20	0.19	30	0	0	0	10	0	0	133
8	540.97	174237	2276	26	112	138	0.06	0.19	19	0	0	0	11	0	0	111
9	541.03	174370	2278	59	110	169	0.13	0.19	25	0	0	0	13	0	0	133
10	541.09	174503	2278	33	107	140	0.05	0.05	8	0.01	0.01	2	4	0	0	133
11	541.15	174636	2280	72	104	176	0.27	0.20	36	0	0	0	10	0	0	133
12	541.18	174703	2280	9	102	111	0.09	0.25	26	0	0	0	20	0	0	67
13	541.22	174791	2281	33	100	133	0.24	0.16	31	0	0	0	16	0	0	88
14	541.28	174925	2281	82	101	183	0.26	0.20	35	0	0	0	13	0	0	134
15	541.33	175036	2283	60	101	162	0.17	0.17	26	0	0	0	24	0	0	111
16	541.36	175102	2283	-5	105	100	0.05	0.05	8	0	0	0	23	0	0	66
17	541.39	175169	2283	34	107	142	0.27	0.27	42	0	0	0	30	0	0	67
18	541.42	175236	2284	-5	109	104	0.01	0.15	12	0	0	0	23	0	0	67
19	541.45	175303	2284	9	113	122	0.20	0.19	30	0.02	0.02	4	24	0	0	67
20	541.47	175347	2284	-52	117	65	0.03	0.02	4	0	0	0	13	0	0	44
21	541.48	175369	2284	-51	119	68	0.16	0.19	27	0	0	0	16	0	0	22
22	541.52	175458	2286	5	122	127	0.00	0.19	15	0	0	0	21	0	0	89
23	541.54	175503	2286	-27	121	95	0.18	0.11	22	0	0	0	28	0	0	45
24	541.57	175570	2286	-14	128	114	0.11	0.09	15	0	0	0	25	0	0	67
25	541.59	175614	2286	-46	130	84	0.09	0.10	15	0	0	0	23	0	0	44
26	541.60	175636	2288	-72	133	60	0.03	0.11	11	0	0	0	25	0	0	22
27	541.62	175681	2288	-51	132	81	0.20	0.08	22	0	0	0	15	0	0	45
28	541.64	175726	2288	-49	132	83	0.10	0.24	26	0	0	0	12	0	0	45
29	541.66	175770	2288	-58	135	76	0.05	0.13	14	0	0	0	16	0	0	44
30	541.69	175837	2288	-21	138	118	0.11	0.11	17	0	0	0	30	0	0	67
31	541.71	175882	2289	-53	138	85	0.11	0.11	17	0	0	0	23	0	0	45
TOTAL				405	3454	3859	3.92	4.57	654	1.05	0.12	111	523	0	0	2795

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
JUNE 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	May 31 st 175882 Storage	Surface Area (acres)	Ventura River			Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	To Spill	
	(ft MSL)			Direct	Divers'n	Total										
1	541.73	175926	2289	-65	141	76	0.10	0.10	16	0	0	0	14	0	0	44
2	541.75	175971	2289	-60	142	82	0.05	0.17	17	0	0	0	19	0	0	45
3	541.78	176038	2289	-42	130	88	0.04	0.18	17	0	0	0	16	0	0	67
4	541.79	176060	2289	-68	127	59	0.19	0.14	26	0	0	0	14	0	0	22
5	541.80	176082	2291	-53	117	64	0.29	0.15	34	0	0	0	18	0	0	22
6	541.82	176127	2291	-29	120	92	0.05	0.24	23	0	0	0	21	0	0	45
7	541.84	176172	2291	-52	105	53	0.00	0.22	17	0.12	0	11	17	0	0	45
8	541.86	176216	2291	-36	98	62	0.07	0.11	14	0	0	0	11	0	0	44
9	541.88	176261	2291	-13	90	77	0.14	0.21	27	0	0	0	12	0	0	45
10	541.89	176283	2291	-17	87	69	0.16	0.26	33	0	0	0	18	0	0	22
11	541.90	176305	2292	-27	88	61	0.01	0.33	27	0.05	0	5	16	0	0	22
12	541.91	176328	2292	-24	91	66	0.03	0.29	25	0	0	0	15	0	0	23
13	541.92	176350	2292	-34	84	50	0.08	0.19	21	0	0	0	13	0	0	22
14	541.92	176350	2292	-41	74	33	0.08	0.24	25	0	0	0	18	0	0	0
15	541.92	176350	2292	-25	77	52	0.11	0.26	29	0	0	0	20	0	0	0
16	541.93	176372	2292	-3	76	73	0.08	0.38	36	0	0	0	16	0	0	22
17	541.94	176395	2292	-4	64	60	0.15	0.24	31	0	0	0	19	0	0	23
18	541.94	176395	2292	-26	62	36	0.17	0.17	27	0	0	0	12	0	0	0
19	541.95	176417	2292	4	66	70	0.10	0.23	26	0	0	0	18	0	0	22
20	541.94	176395	2292	-53	61	8	0.11	0.04	12	0	0	0	23	0	0	-22
21	541.95	176417	2292	53	56	109	0.47	0.40	68	0	0	0	24	0	0	22
22	541.93	176372	2292	-20	53	33	0.27	0.40	52	0	0	0	28	0	0	-45
23	541.92	176350	2292	-14	50	36	0.10	0.36	36	0	0	0	25	0	0	-22
24	541.90	176305	2292	-37	45	8	0.31	0.25	44	0	0	0	15	0	0	-45
25	541.89	176283	2291	-13	41	28	0.20	0.30	39	0	0	0	16	0	0	-22
26	541.89	176283	2291	27	43	69	0.20	0.28	38	0	0	0	30	0	0	0
27	541.88	176261	2291	0	42	42	0.27	0.23	39	0	0	0	25	0	0	-22
28	541.85	176194	2291	-28	38	10	0.23	0.30	41	0	0	0	39	0	0	-67
29	541.84	176172	2291	18	29	47	0.21	0.41	49	0	0	0	29	0	0	-22
30	541.82	176127	2291	-3	20	16	0.23	0.26	38	0	0	0	32	0	0	-45
TOTAL				-685	2317.50	1632	4.50	7.34	927	0.17	0.00	16	595	0	0	245

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
JULY 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Jun 30 th	Surface	Ventura		Pan	Pan	Lake	at	at	Lake	To	To			
	(ft MSL)	176127	Area	Direct	River	Total	@Dam	@Rec	Total	Dam	Rec	Total	Main	River	Spill	
1	541.80	176082	2291	-28	31	3	0.10	0.22	25	0	0	0	23	0	0	-45
2	541.78	176038	2289	-40	48	8	0.19	0.23	32	0	0	0	20	0	0	-44
3	541.77	176015	2289	16	44	60	0.45	0.28	56	0	0	0	27	0	0	-23
4	541.77	176015	2289	-7	43	36	0.05	0.19	19	0	0	0	17	0	0	0
5	541.74	175948	2289	-33	41	8	0.45	0.21	51	0	0	0	24	0	0	-67
6	541.72	175904	2289	-20	40	20	0.23	0.24	36	0	0	0	28	0	0	-44
7	541.70	175859	2289	-36	40	4	0.15	0.23	29	0	0	0	20	0	0	-45
8	541.69	175837	2288	-8	41	32	0.28	0.19	36	0	0	0	18	0	0	-22
9	541.68	175815	2288	-11	41	30	0.23	0.23	36	0	0	0	16	0	0	-22
10	541.68	175815	2288	29	36	65	0.24	0.25	38	0	0	0	27	0	0	0
11	541.66	175770	2288	-8	26	17	0.15	0.26	32	0	0	0	31	0	0	-45
12	541.64	175726	2288	-8	22	13	0.11	0.29	31	0	0	0	27	0	0	-44
13	541.61	175659	2288	-16	18	2	0.32	0.17	38	0	0	0	32	0	0	-67
14	541.58	175592	2286	-7	10	3	0.28	0.19	36	0	0	0	34	0	0	-67
15	541.56	175547	2286	17	4	21	0.26	0.27	41	0	0	0	25	0	0	-45
16	541.53	175481	2286	-18	0	-18	0.18	0.22	31	0	0	0	17	0	0	-66
17	541.50	175414	2286	4	0	4	0.40	0.16	43	0	0	0	28	0	0	-67
18	541.49	175391	2284	50	0	50	0.22	0.35	44	0	0	0	29	0	0	-23
19	541.47	175347	2284	44	0	44	0.28	0.34	48	0	0	0	40	0	0	-44
20	541.43	175258	2284	-15	0	-15	0.25	0.23	37	0	0	0	37	0	0	-89
21	541.40	175191	2284	4	0	4	0.27	0.27	42	0	0	0	29	0	0	-67
22	541.38	175147	2283	34	0	34	0.39	0.27	51	0	0	0	27	0	0	-44
23	541.36	175102	2283	9	0	9	0.27	0.26	41	0	0	0	13	0	0	-45
24	541.33	175036	2283	-5	0	-5	0.20	0.17	29	0	0	0	32	0	0	-66
25	541.30	174969	2283	2	0	2	0.24	0.24	37	0	0	0	32	0	0	-67
26	541.28	174925	2281	39	0	39	0.27	0.29	43	0	0	0	40	0	0	-44
27	541.25	174858	2281	25	0	25	0.43	0.30	56	0	0	0	36	0	0	-67
28	541.22	174791	2281	20	0	20	0.22	0.47	53	0	0	0	34	0	0	-67
29	541.18	174703	2280	-25	0	-25	0.35	0.16	39	0	0	0	24	0	0	-88
30	541.16	174658	2280	19	0	19	0.26	0.33	45	0	0	0	19	0	0	-45
31	541.15	174636	2280	33	0	33	0.21	0.11	25	0	0	0	30	0	0	-22
TOTAL				61	483	544	7.93	7.62	1199	0.00	0.00	0	836	0	0	-1491

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
AUGUST 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Jul 31 st Storage 174636	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	To Spill	
1	541.12	174569	2280	14	0	14	0.26	0.36	48	0	0	0	33	0	0	-67
2	541.09	174503	2278	11	0	11	0.28	0.34	48	0	0	0	29	0	0	-66
3	541.05	174414	2278	-19	0	-19	0.27	0.25	40	0	0	0	30	0	0	-89
4	541.01	174325	2278	-19	0	-19	0.24	0.31	42	0	0	0	28	0	0	-89
5	540.98	174259	2276	1	0	1	0.23	0.24	36	0	0	0	31	0	0	-66
6	540.95	174192	2276	-22	0	-22	0.20	0.17	28	0	0	0	16	0	0	-67
7	540.93	174148	2276	39	0	39	0.27	0.40	51	0	0	0	32	0	0	-44
8	540.89	174060	2275	-12	0	-12	0.45	0.18	48	0	0	0	28	0	0	-88
9	540.87	174015	2275	40	0	40	0.30	0.30	46	0	0	0	39	0	0	-45
10	540.85	173971	2275	-4	0	-4	0.17	0.15	25	0.02	0	2	17	0	0	-44
11	540.84	173949	2275	-31	0	-31	0.00	0.00	0	0.04	0.19	22	12	0	0	-22
12	540.82	173905	2275	-26	0	-26	0.03	0.06	7	0.01	0	1	12	0	0	-44
13	540.80	173860	2275	-7	0	-7	0.12	0.19	24	0	0	0	14	0	0	-45
14	540.78	173816	2273	33	0	33	0.48	0.25	56	0	0	0	21	0	0	-44
15	540.75	173750	2273	-10	0	-10	0.09	0.32	31	0	0	0	25	0	0	-66
16	540.71	173661	2273	-25	0	-25	0.22	0.26	37	0	0	0	27	0	0	-89
17	540.67	173573	2271	-26	0	-26	0.27	0.22	38	0	0	0	25	0	0	-88
18	540.64	173507	2271	-9	0	-9	0.23	0.29	40	0	0	0	17	0	0	-66
19	540.64	173507	2271	53	0	53	0.36	0.24	46	0	0	0	7	0	0	0
20	540.60	173418	2271	-54	0	-54	0.20	0.18	29	0	0	0	6	0	0	-89
21	540.68	173595	2271	-81	12	-69	-0.90	0.00	-69	0.98	0.95	183	5	0	0	177
22	540.67	173573	2271	9	0	9	0.09	0.16	19	0.01	0	1	12	0	0	-22
23	540.66	173551	2271	24	0	24	0.24	0.22	35	0	0	0	11	0	0	-22
24	540.64	173507	2271	-16	0	-16	0.10	0.13	18	0	0	0	10	0	0	-44
25	540.62	173462	2271	5	0	5	0.20	0.29	38	0	0	0	13	0	0	-45
26	540.59	173396	2270	-17	0	-17	0.26	0.25	39	0	0	0	10	0	0	-66
27	540.57	173352	2270	1	0	1	0.23	0.20	33	0	0	0	12	0	0	-44
28	540.56	173330	2270	60	0	60	0.22	0.34	43	0	0	0	39	0	0	-22
29	540.53	173264	2270	7	0	7	0.30	0.30	46	0	0	0	27	0	0	-66
30	540.51	173219	2270	26	0	26	0.21	0.27	37	0	0	0	34	0	0	-45
31	540.48	173153	2268	3	0	3	0.27	0.26	41	0	0	0	29	0	0	-66
TOTAL				-52	12	-40	5.89	7.13	999	1.06	1.14	208	652	0	0	-1483

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION
SEPTEMBER 2023

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Aug 30 th 173153 Storage	Surface Area (acres)	Ventura River			Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	To Spill	
	(ft MSL)			Direct	Divers'n	Total										
1	540.45	173087	2268	-13	0	-13	0.22	0.20	30	0	0	0	23	0	0	-66
2	540.44	173065	2268	19	0	19	0.32	0.16	34	0.04	0	4	10	0	0	-22
3	540.42	173021	2268	-10	0	-10	0.19	0.12	22	0	0	0	12	0	0	-44
4	540.40	172977	2268	19	0	19	0.28	0.35	45	0	0	0	18	0	0	-44
5	540.37	172911	2266	-24	0	-24	0.04	0.19	17	0	0	0	25	0	0	-66
6	540.35	172867	2266	18	0	18	0.29	0.21	36	0	0	0	26	0	0	-44
7	540.32	172800	2266	-18	0	-18	0.12	0.21	24	0	0	0	25	0	0	-67
8	540.29	172734	2264	-6	0	-6	0.19	0.23	30	0	0	0	30	0	0	-66
9	540.27	172690	2264	15	0	15	0.30	0.20	36	0	0	0	23	0	0	-44
10	540.24	172624	2264	-16	0	-16	0.23	0.27	36	0	0	0	14	0	0	-66
11	540.23	172602	2264	33	0	33	0.18	0.23	29	0	0	0	26	0	0	-22
12	540.21	172558	2264	29	0	29	0.34	0.19	38	0	0	0	35	0	0	-44
13	540.17	172470	2263	-26	0	-26	0.21	0.24	32	0	0	0	30	0	0	-88
14	540.15	172426	2263	7	0	7	0.17	0.14	22	0	0	0	29	0	0	-44
15	540.12	172360	2263	-31	0	-31	0.03	0.13	11	0	0	0	23	0	0	-66
16	540.09	172294	2261	-22	0	-22	0.20	0.12	23	0	0	0	21	0	0	-66
17	540.07	172250	2261	-17	0	-17	0.07	0.10	12	0	0	0	15	0	0	-44
18	540.06	172228	2261	12	0	12	0.07	0.05	9	0	0	0	25	0	0	-22
19	540.04	172184	2261	-3	0	-3	0.14	0.06	14	0	0	0	27	0	0	-44
20	540.02	172140	2261	4	0	4	0.21	0.18	28	0	0	0	20	0	0	-44
21	540.00	172096	2261	-11	0	-11	0.08	0.07	11	0	0	0	22	0	0	-44
22	539.97	172030	2259	-24	0	-24	0.18	0.14	23	0	0	0	19	0	0	-66
23	539.94	171964	2259	-39	0	-39	0.02	0.13	11	0	0	0	16	0	0	-66
24	539.93	171942	2259	6	0	6	0.06	0.13	14	0	0	0	14	0	0	-22
25	539.92	171920	2259	45	0	45	0.39	0.22	44	0	0	0	24	0	0	-22
26	539.90	171876	2259	6	0	6	0.15	0.16	22	0	0	0	28	0	0	-44
27	539.88	171832	2258	8	0	8	0.18	0.18	26	0	0	0	26	0	0	-44
28	539.86	171788	2258	-3	0	-3	0.14	0.09	16	0	0	0	25	0	0	-44
29	539.84	171745	2258	1	0	1	0.16	0.21	26	0	0	0	18	0	0	-43
30	539.82	171701	2258	-21	0	-21	0.10	0.06	11	0.02	0	2	14	0	0	-44
TOTAL				-62	0	-62	5	5	733	0.06	0	6	663	0	0	-1452

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

e = estimate

Direct reservoir inflow values may be negative due to inaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81, Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

Appendix E
Reservoir Elevation Data

Matilija Reservoir Lake Elevation

WATER YEAR OCTOBER 2022 THROUGH SEPTEMBER 2023

Daily mean elevation, feet above mean sea level

SPILL OVER DAM @ 1095.35 ELEVATION

Day	2022			2023								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1083.7	1083.7	1085.3	1095.8	1103.7	1104.2	1096.1	1095.0	1140.2	1092.6	1092.3	1092.4
2	1083.7	1083.7	1085.9	1095.7	1103.8	1103.3	1096.0	1095.1	1152.4	1092.6	1092.4	1092.4
3	1083.7	1083.7	1086.5	1095.7	1103.8	1103.0	1096.0	1095.1	1139.1	1092.6	1092.4	1092.4
4	1083.7	1083.7	1086.6	1095.8	1103.7	1103.0	1096.1	1095.1	1131.3	1092.6	1092.4	1092.4
5	1083.7	1083.7	1086.7	1097.2	1103.7	1102.9	1096.1	1095.1	1127.4	1092.6	1092.4	1092.4
6	1083.7	1083.7	1086.7	1096.4	1103.7	1103.4	1096.1	1095.4	1109.3	1092.6	1092.4	1092.4
7	1083.7	1083.7	1086.7	1096.2	1103.8	1103.5	1096.0	1095.5	1093.5	1092.6	1092.4	1092.4
8	1083.7	1084.0	1086.8	1096.2	1103.9	1098.9	1095.9	1095.4	1093.3	1092.6	1092.4	1092.4
9	1083.7	1083.8	1086.8	1102.3	1103.7	1095.1	1095.8	1095.4	1093.1	1092.6	1092.4	1092.4
10	1083.7	1083.7	1087.1	1107.3	1103.9	1095.4	1095.2	1095.1	1093.1	1092.6	1092.4	1092.4
11	1083.7	1083.7	1094.7	1104.9	1103.6	1095.8	1094.4	1095.3	1093.3	1092.6	1092.4	1092.4
12	1083.7	1083.7	1095.1	1104.5	1103.6	1096.3	1093.4	1095.3	1093.5	1092.6	1092.4	1092.4
13	1083.7	1083.7	1093.5	1104.7	1103.7	1096.4	1093.4	1095.3	1093.5	1092.5	1092.4	1092.4
14	1083.7	1083.7	1090.3	1104.6	1103.6	1096.6	1094.6	1095.4	1093.3	1092.5	1092.4	1092.4
15	1083.7	1083.7	1087.9	1104.5	1103.7	1097.2	1095.8	1095.4	1093.2	1092.5	1092.4	1092.4
16	1083.7	1083.7	1087.8	1104.7	1103.7	1096.8	1095.8	1095.6	1093.2	1092.4	1092.3	1092.4
17	1083.7	1083.7	1087.7	1104.5	1103.6	1096.6	1095.8	1095.6	1093.2	1092.4	1092.3	1092.4
18	1083.7	1083.7	1087.7	1104.4	1103.6	1096.4	1095.8	1095.7	1093.1	1092.4	1092.4	1092.4
19	1083.7	1083.7	1087.7	1104.5	1103.6	1096.3	1095.8	1095.8	1093.1	1092.3	1092.4	1092.4
20	1083.7	1083.7	1087.6	1104.6	1103.7	1096.3	1096.0	1095.9	1093.0	1092.3	1092.4	1092.5
21	1083.7	1083.9	1087.6	1104.6	1103.8	1096.6	1095.9	1095.9	1092.9	1092.4	1092.4	1092.5
22	1083.7	1084.2	1087.6	1104.5	1103.7	1096.7	1095.4	1096.0	1092.8	1092.4	1092.4	1092.5
23	1083.7	1084.4	1087.7	1104.5	1103.3	1096.5	1095.3	1096.1	1092.8	1092.3	1092.4	1092.5
24	1083.7	1084.5	1087.7	1104.2	1105.2	1096.4	1095.1	1096.3	1092.8	1092.3	1092.4	1092.5
25	1083.7	1084.6	1087.7	1104.4	1106.0	1096.3	1095.0	1096.4	1092.8	1092.3	1092.4	1092.5
26	1083.7	1084.8	1087.7	1104.4	1104.8	1096.2	1095.0	1096.6	1092.8	1092.3	1092.4	1092.4
27	1083.7	1084.9	1087.8	1104.1	1104.5	1096.3	1095.0	1096.8	1092.8	1092.3	1092.4	1092.4
28	1083.7	1085.0	1087.8	1103.8	1104.0	1096.2	1095.0	1096.8	1092.8	1092.3	1092.4	1092.4
29	1083.7	1085.0	1087.8	1103.8	---	1096.2	1094.9	1096.9	1092.7	1092.3	1092.4	1092.4
30	1083.7	1085.1	1087.8	1103.8	---	1096.3	1094.9	1098.5	1092.7	1092.3	1092.4	1088.1
31	1083.7	---	1088.3	1103.8	---	1096.3	---	1101.8	---	1092.3	1092.4	---

Data is provisional and subject to revision.

Appendix F

System Delivery Data for Mire Monte Well and Ojai Water System

Mira Monte Well

Calendar Year 2023

Month	Acre Feet
Jan – 23	3.91
Feb – 23	2.05
Mar – 23	2.45
Apr – 23	6.73
May – 23	9.56
Jun – 23	8.81
Jul – 23	15.08
Aug – 23	13.73
Sep – 23	12.92
Oct – 23	13.10
Nov – 23	9.38
Dec – 23	6.21
Total:	103.93 AF

Mira Monte Well

Water Year 2022 – 2023

Month	Acre Feet
Oct – 22	20.03
Nov – 22	9.84
Dec – 22	3.84
Jan – 23	3.91
Feb – 23	2.05
Mar – 23	2.45
Apr – 23	6.73
May – 23	9.56
Jun – 23	8.81
Jul – 23	15.08
Aug – 23	13.73
Sep – 23	12.92
Total:	108.95 AF

OJAI WATER SYSTEM SOURCES AND DELIVERIES

2022 - 2023 WATER YEAR

figures in acre-feet except where otherwise noted

MONTH	YEAR	SYSTEM DELIVERIES	SOURCE	
			WELL - FIELD PRODUCTION	SURFACE WATER
OCT	2022	163	107	56
NOV	2022	120	108	12
DEC	2022	84	83	1
JAN	2023	71	71	0.5
FEB	2023	82	82	0
MAR	2023	76	76	0
APR	2023	97	97	0
MAY	2023	117	117	0.2
JUN	2023	122	122	0
JUL	2023	175	175	0
AUG	2023	160	160	0
SEP	2023	157	157	0
TOTAL		1425	1356	70

Appendix G
Ambient Air Temperature Data

**HISTORICAL TEMPERATURES
 CMWD CASITAS DAM WEATHER STATION
 (Degrees F.)**

YEAR	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER													
	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg												
1960	77	24	48	75	29	52	85	35	56	90	37	59	88	35	61	93	45	63	106	46	69	95	44	66	102	44	69	93	37	62	82	31	55	83	25	51
1961	88	26	54	85	30	54	84	31	54	99	33	52	88	35	57	104	40	62	97	47	68	95	39	68	99	37	65	103	37	62	90	31	55	81	30	52
1962	89	25	52	74	31	50	80	29	50	91	37	60	90	38	57	82	42	62	89	47	65	92	47	68	100	45	65	93	41	62	89	32	56	87	22	54
1963	78	16	50	90	39	60	84	30	54	83	33	54	78	39	60	85	42	62	87	45	66	91	44	68	109	48	72	90	43	65	88	33	58	85	30	54
1964	82	28	50	82	29	50	85	32	50	94	34	66	84	35	66	87	42	61	94	45	67	95	48	62	100	44	66	99	44	66	88	28	54	77	28	53
1965	82	29	54	85	29	68	81	35	54	92	31	57	88	37	59	83	40	61	90	47	65	103	49	70	95	45	65	99	40	66	83	34	58	80	28	51
1966	79	28	50	78	30	48	88	29	56	96	38	60	81	43	60	88	42	65	89	46	66	94	49	70	98	44	68	98	39	66	96	34	58	78	27	53
1967	81	29	52	86	30	55	79	31	54	71	33	50	98	37	61	88	39	61	93	52	68	108	54	74	98	51	70	98	40	65	88	33	60	80	26	50
1968	82	27	51	84	36	57	90	35	58	85	34	56	102	37	60	88	42	62	97	48	68	90	46	65	102	40	67	85	32	58	98	42	64	81	20	49
1969	86	28	52	71	30	49	86	31	53	83	36	58	87	42	60	90	42	62	90	49	67	104	47	70	96	48	67	91	37	62	91	33	58	80	24	54
1970	70	24	53	81	34	51	81	33	58	87	32	55	99	37	61	100	45	64	103	48	68	97	48	68	102	43	65	102	35	61	82	35	56	78	30	50
1971	87	23	52	91	30	53	80	24	54	90	35	55	85	38	57	91	39	62	99	48	68	98	50	72	111	41	68	103	25	60	89	31	54	71	24	46
1972	78	23	49	81	25	53	92	30	57	84	31	56	97	37	61	90	45	63	104	47	70	106	48	67	99	43	67	96	30	61	85	32	55	81	22	49
1973	79	24	48	75	33	53	73	31	51	81	36	56	94	39	61	104	42	66	96	44	66	98	46	67	99	45	64	96	39	63	81	31	54	82	30	53
1974	75	24	49	81	30	51	78	32	53	85	35	57	97	34	58	98	46	64	94	46	69	84	45	66	98	46	67	103	39	62	92	31	56	79	23	51
1975	86	31	52	79	27	51	74	31	52	79	32	52	78	35	58	88	42	61	91	45	66	94	45	66	104	46	68	98	35	72	92	25	55	90	23	52
1976	90	23	54	86	31	53	85	29	55	89	33	54	89	42	60	104	43	66	90	48	68	102	47	68	92	50	68	97	37	65	97	26	60	83	29	53
1977	80	29	52	88	30	56	80	29	51	87	34	58	77	37	57	88	43	64	104	64	68	90	49	70	94	43	66	92	38	62	94	32	61	83	32	56
1978	76	29	54	82	31	53	88	35	57	78	34	55	99	39	64	92	46	66	106	45	67	94	46	68	108	43	70	92	43	65	92	30	54	77	20	49
1979	70	24	49	77	28	55	86	32	55	81	34	58	97	38	62	104	44	67	99	46	67	92	44	68	109	47	72	86	38	64	84	27	57	89	26	55
1980	79	30	55	84	32	57	80	29	54	86	36	58	82	36	58	97	42	64	94	47	68	95	48	69	95	44	64	95	36	64	88	29	57	88	31	56
1981	82	32	55	88	29	56	80	35	54	94	36	59	87	41	62	105	50	70	99	47	70	104	47	70	95	45	67	95	32	60	91	33	58	81	32	55
1982	78	26	50	85	33	56	76	31	53	85	32	57	80	41	60	78	40	61	94	47	68	102	47	70	101	41	67	95	41	64	85	32	55	74	27	51
1983	89	28	54	81	32	54	85	35	56	85	34	56	92	39	62	82	47	64	101	48	70	105	49	74	106	51	73	97	45	68	90	29	57	76	29	53
1984	84	31	56	83	31	55	88	35	59	94	34	59	105	41	67	94	46	60	98	52	74	96	53	74	108	51	77	91	39	63	82	32	55	74	29	51
1985	76	28	51	88	26	54	84	31	55	91	40	61	85	38	57	98	44	67	105	52	73	101	49	71	94	40	68	99	34	65	88	30	55	82	25	55
1986	85	35	57	90	31	57	88	38	58	92	38	59	88	41	61	92	47	65	89	49	68	103	50	70	86	41	63	92	40	63	89	36	61	80	32	54
1987	82	24	50	82	29	54	81	30	56	93	38	62	92	42	64	91	47	65	92	46	66	101	47	69	101	49	69	107	49	68	87	31	57	80	24	50
1988	82	29	53	87	30	57	97	33	60	92	38	59	86	39	62	91	40	64	93	51	71	92	48	69	108	46	67	102	42	65	88	31	57	86	26	52
1989	84	26	51	86	28	51	89	32	59	103	38	63	84	40	61	99	46	66	100	50	70	93	48	68	100	46	68	95	35	62	94	29	60	87	28	55
1990	84	27	52	84	23	52	91	30	56	89	42	61	102	39	61	106	45	68	104	50	73	96	49	71	97	50	69	96	42	65	94	30	60	85	15	50
1991	83	28	54	85	35	58	77	31	52	88	37	59	91	40	59	83	44	62	85	50	67	96	48	68	95	48	69	105	36	66	93	33	60	79	28	53
1992	84	31	54	87	35	57	81	39	57	91	44	64	81	49	65	87	45	66	97	49	71	101	50	73	98	50	69	95	46	65	90	34	59	78	27	50
1993	80	28	52	76	36	52	85	36	59	89	41	61	92	40	63	94	43	67	89	52	68	93	52	70	103	45	68	100	44	65	95	32	57	81	29	52
1994	86	30	54	79	29	52	89	36	58	89	40	59	84	43	61	102	48	68	96	52	68	102	51	73	95	46	69	97	39	63	82	28	52	78	26	52
1995	83	32	53	91	41	61	82	36	58	89	38	59	78	40	59	90	43	65	106	50	70	103	47	71	101	46	70	97	40	65	88	40	61	81	34	56
1996	86	28	54	87	30	57	84	34	58	94	40	63	89	44	64	102	47	67	103	52	71	101	50	72	93	47	69	84	34	62	93	34	59	75	33	54
1997	80	33	54	87	35	56	95	33	60	94	36	61	98	45	68	84	50	67	99	50	70	110	51	74	104	50	75	102	37	66	100	40	60	81	26	52
1998	76	29	54	75	35	52	85	33	57	86	36	57	80	43	60	82	46	65	96	51	71	108	51	75	106	48	69	93	38	63	82	35	56	84	23	51
1999	81	30	54	83	29	55	82	34	54	93	30	57	89	40	61	84	42	67	95	48	71	98	47	69	103	43	67	100	43	68	88	33	59	85	31	56
2000	79	28	55	81	36	54	84	34	57	89	40	62	90	43	65	91	46	69	104	49	70	97	52	72	103	45	71	89	40	62	81	30	53	81	30	55
2001	67	35	51	64	39	52	71	46	58	71	44	57	77	55	66	82	54	68	82	56	69	85	55	70	85	54	70	79	51	65	69	46	58	65	37	51
2002	80	28	51	90	27	56	84	31	55	87	38	58	94	40	61	90	45	66	98	51	70	93	49	69	109	46	70	99	41	61	91	39	58	72	33	52
2003	91	34	59	76	30	54	90	36	59	87	37	63	95	43	62	87	49	65	97	50	73	101	37	74	101	50	69	100	45	68	83	30	55	76	27	51
2004	79	25	52	75	31	52	94	37	63	102	37	62	102	44	65	84	46	64	94</																	

HISTORICAL TEMPERATURES
CMWD CASITAS RECREATION AREA WEATHER STATION
(Degrees F.)

YEAR	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg
1960	75	22	48	73	29	51	84	34	56	89	33	59	92	35	62	99	43	66	107	46	72	98	44	69	107	41	71	92	35	62	84	33	56	81	27	52
1961	89	26	54	85	30	54	83	31	54	100	39	59	87	37	58	112	41	62	103	49	72	100	48	72	102	44	66	106	35	64	91	30	55	80	31	51
1962	88	24	50	75	25	50	79	28	50	92	34	60	87	39	58	94	43	63	95	45	67	101	45	72	99	43	68	96	40	61	87	31	57	84	19	53
1963	78	16	48	88	37	58	85	29	52	78	33	53	84	39	58	89	42	62	95	46	69	99	46	70	107	52	74	89	41	64	88	31	56	82	27	53
1964	80	25	49	82	27	50	82	27	49	83	32	54	82	34	57	10	42	62	97	46	70	94	46	69	98	41	66	100	43	62	85	27	54	75	25	52
1965	82	28	52	84	25	51	77	31	52	89	30	54	92	28	58	91	38	58	96	41	66	102	47	71	93	40	62	97	37	61	84	33	56	83	26	50
1966	80	26	49	76	28	48	95	27	55	92	37	59	85	41	60	96	42	65	93	41	68	94	50	72	97	42	62	96	37	64	95	32	56	79	25	52
1967	79	25	50	82	28	53	80	30	52	69	32	54	96	36	60	87	38	60	92	49	70	105	54	75	96	50	70	97	41	65	91	33	60	79	25	49
1968	80	25	50	85	35	56	84	32	56	86	31	57	99	34	60	93	35	62	95	36	72	96	42	62	98	38	62	96	40	62	87	27	56	87	21	48
1969	84	26	50	67	29	49	85	28	52	81	31	56	86	38	60	90	45	61	92	46	68	101	43	71	92	41	62	87	32	59	88	31	58	79	23	52
1970	68	20	52	76	32	50	79	31	56	87	30	47	96	35	60	97	44	67	100	48	71	102	42	69	102	42	66	99	34	62	86	33	55	76	29	49
1971	90	24	51	87	32	52	85	25	52	88	33	54	81	38	56	88	40	62	95	48	68	98	49	72	109	42	68	99	26	60	86	30	44	68	22	46
1972	77	24	43	82	26	54	90	30	58	85	30	58	96	31	62	93	38	65	100	40	71	103	44	71	95	32	67	92	33	60	83	33	55	80	23	51
1973	80	20	47	75	32	53	69	30	50	79	35	56	96	38	61	101	42	68	94	48	67	96	44	69	95	40	64	92	40	63	81	31	53	81	28	53
1974	75	23	49	79	28	51	78	32	54	87	35	56	97	35	58	96	41	65	95	48	70	99	46	68	98	45	68	97	41	60	90	30	56	79	24	49
1975	86	24	52	77	29	51	74	31	53	78	30	52	85	35	58	83	44	62	95	45	68	96	42	68	100	47	70	95	35	61	85	27	54	83	25	53
1976	87	21	53	79	32	51	82	28	54	86	35	54	94	43	61	104	42	67	96	49	67	102	49	67	92	50	69	94	36	63	95	28	59	82	27	52
1977	82	23	51	86	32	54	78	28	50	84	32	57	81	39	57	85	39	63	100	47	69	94	49	70	96	44	65	90	38	62	92	31	58	78	33	56
1978	74	28	51	88	30	54	88	37	57	75	33	55	99	40	63	90	42	66	109	48	69	96	47	67	109	41	69	96	42	65	86	29	53	76	22	49
1979	69	26	48	76	28	50	84	35	54	79	35	57	95	40	60	102	44	66	98	45	69	89	48	68	105	44	72	90	37	63	82	25	56	87	25	54
1980	76	31	54	82	30	56	76	34	54	91	36	58	89	34	58	95	42	65	110	49	73	96	49	70	104	36	66	104	37	64	90	28	58	89	30	56
1981	82	33	56	88	30	57	79	36	55	94	36	59	88	40	62	102	42	72	93	49	71	102	47	73	95	48	68	93	34	60	89	34	58	84	25	54
1982	80	26	51	83	31	56	76	32	52	85	31	57	83	38	60	87	42	61	95	47	70	104	48	72	106	46	69	94	36	63	84	34	56	75	28	52
1983	90	29	55	79	32	55	82	31	55	79	32	55	89	21	59	86	39	64	96	43	68	99	40	73	103	41	72	93	33	62	86	NA	NA	75	NA	67
1984	80	30	53	80	28	52	81	34	56	86	34	57	100	40	65	94	48	65	96	52	73	94	52	72	101	50	74	90	37	60	78	30	53	71	28	50
1985	72	27	48	85	25	51	80	30	51	87	38	58	85	38	57	98	42	66	105	33	73	100	50	69	91	42	65	96	42	61	84	30	53	84	26	53
1986	84	33	57	85	30	55	82	38	57	87	35	57	88	39	59	88	49	65	89	50	68	94	53	71	87	42	61	88	38	61	86	33	59	76	28	52
1987	75	22	48	80	28	52	78	31	53	88	34	60	91	40	63	89	48	65	91	47	63	94	44	68	101	45	68	102	48	66	83	28	55	74	20	47
1988	80	26	50	80	28	54	93	30	57	89	34	58	94	36	61	87	40	64	91	52	70	92	49	68	104	44	66	96	41	63	86	28	55	82	26	50
1989	80	24	48	80	27	50	82	30	56	96	36	61	86	40	59	94	46	64	102	38	69	90	46	67	102	45	67	95	34	61	91	27	58	90	27	51
1990	84	24	50	81	20	50	86	31	54	86	39	59	98	37	58	110	41	67	98	48	71	96	44	69	99	46	68	92	38	62	89	25	56	82	8	45
1991	78	24	49	82	29	56	80	28	49	84	32	56	90	33	57	90	40	61	95	46	66	96	44	67	90	44	68	101	30	65	90	30	57	78	22	50
1992	80	24	50	82	30	53	76	32	53	90	36	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	98	50	73	NA	NA	NA	97	44	64	87	31	57	74	23	48
1993	79	24	49	78	31	50	81	32	56	84	38	59	NA	NA	NA	102	40	66	95	50	66	90	50	70	100	46	70	97	42	66	90	34	58	85	30	54
1994	89	32	56	82	30	52	87	35	59	82	39	59	86	43	61	100	48	68	96	52	70	100	53	75	92	48	70	95	40	64	88	30	55	85	28	54
1995	78	33	53	92	40	61	78	34	56	87	40	60	83	40	61	91	39	65	104	51	71	97	50	75	100	46	70	NA	NA	NA	87	42	62	84	36	56
1996	90	29	55	NA	NA	NA	84	33	57	92	41	62	92	46	64	96	48	67	97	54	73	99	52	74	92	49	69	99	38	64	95	38	60	71	43	57
1997	82	32	54	86	34	57	94	34	59	92	36	61	94	46	68	82	52	67	91	42	69	102	55	74	99	52	75	NA	NA	NA	100	41	60	84	29	54
1998	83	31	54	72	37	51	83	35	56	84	36	55	77	38	58	81	40	61	94	43	69	105	44	75	105	45	68	89	40	62	81	35	56	85	22	52
1999	81	30	55	78	27	53	81	33	52	32	88	56	38	86	58	86	42	63	97	50	69	100	49	69	100	44	65	100	43	68	90	34	58	83	31	55
2000	79	30	54	79	35	53	81	35	55	84	39	59	99	40	64	91	48	68	96	48	69	98	51	72	104	47	67	88	41	61	86	30	54	81	31	55
2001	82	28	49	89	30	49	82	35	56	78	36	55	90	42	64	92	48	67	89	50	69	95	51	70	96	46	68	99	43	64	80	32	59	81	31	52
2002	81	24	50	72	35	54	80	30	53	90	38	61	90	43	64	94	49	69	94	49	69	96	48	68	101	44	72	97	40	61	89	38	59	71	29	51
2003	84	32	57	81	28	52	87	31	55	86	31	53	92	39	60	62	38	61	96	43	72	98	50	71	99	38	69	99	43	67	82	28	53	78	24	51
2004	78	28	49	71	29	49	90	35	59	99	31	56	99	41	62	86																				

Appendix H

Historical Hydrology Data

CASITAS RESERVOIR INVENTORY ANNUAL SUMMARY

(CALENDAR YEAR - ALL VALUES IN ACRE-FEET UNLESS OTHERWISE NOTED)

YEAR	RESERVOIR DATA (START OF YEAR- Last Day of Previous Month)		INFLOW FOR YEAR			RELEASES FOR YEAR			SPILL FOR YEAR	EVAP FOR YEAR	RAINFALL ON LAKE SURFACE	STORAGE VOLUME	
	ELEVATION (FT ABOVE MSL)	STORAGE	DIRECT	VENTURA RIVER DIVERSION	TOTAL	TO CONV. SYSTEM	DOWN RIVER	TOTAL				MAXIMUM FOR YEAR	MINIMUM FOR YEAR
1959	350.00	-	2,305	5,105	7,410	586	72	658	-	728	59	7,022	574
1960	366.66	5,908	1,322	24	1,346	1,277	80	1,357	-	1,068	372	6,846	5,201
1961	363.28	5,201	967	32	999	1,625	18	1,643	-	819	133	5,201	3,642
1962	355.46	3,870	26,428	21,915	48,343	1,988	55	2,043	-	3,505	1,014	51,977	3,845
1963	477.68	47,679	2,114	2,939	5,053	4,445	72	4,517	-	3,498	1,664	51,524	46,381
1964	446.13	46,381	1,841	354	2,195	6,024	72	6,096	-	3,406	1,293	46,381	38,606
1965	438.57	40,373	15,279	21,439	36,718	7,631	72	7,703	-	2,957	2,421	68,851	39,718
1966	469.42	68,851	11,941	25,323	37,264	7,162	73	7,235	-	5,030	1,915	95,765	70,068
1967	490.62	95,765	12,961	35,172	48,133	8,759	72	8,831	-	6,214	3,840	138,996	108,511
1968	513.22	132,333	1,677	1,070	2,747	13,729	74	13,803	-	6,593	2,133	132,549	116,818
1969	504.25	116,818	55,379	50,349	105,728	14,040	73	14,113	-	8,413	7,625	216,790	116,418
1970	548.94	207,694	7,112	15,859	22,971	16,417	72	16,489	-	9,841	5,395	217,656	207,214
1971	549.78	207,729	3,758	10,957	14,715	16,392	24	16,416	-	9,552	3,433	214,692	193,686
1972	546.52	201,908	813	1,718	2,531	17,878	73	17,951	-	8,758	1,706	202,690	179,435
1973	536.70	179,435	22,262	39,588	61,850	13,963	33	13,996	-	8,937	4,520	239,330	224,519
1974	555.75	224,519	5,240	11,732	16,972	17,400	23	17,423	-	9,394	5,423	238,096	217,063
1975	553.99	220,096	5,352	12,988	18,340	15,937	73	16,010	-	8,870	2,813	235,437	216,370
1976	552.49	216,370	3,031	3,438	6,469	18,371	104	18,475	-	9,142	3,782	219,324	198,885
1977	545.29	199,003	1,590	1,094	2,684	18,035	70	18,105	-	8,821	3,352	200,062	175,359
1978	536.10	178,113	49,376	28,695	78,071	12,390	2,677	15,067	1,572	9,622	9,879	255,307	178,025
1979	561.68	239,802	7,584	8,845	16,429	13,072	32	13,104	1,193	9,963	5,395	255,116	237,183
1980	560.75	237,365	28,923	2,717	31,640	16,283	73	16,356	16,855	9,900	7,393	260,034	233,286
1981	559.18	233,286	3,112	5,772	8,884	20,242	73	20,315	-	9,412	4,002	240,222	216,395
1982	552.52	216,444	5,206	9,933	15,139	14,739	73	14,812	-	8,339	5,645	223,208	206,564
1983	551.56	214,078	44,548	22,131	66,679	15,757	73	15,830	17,877	8,844	11,699	259,264	213,562
1984	565.49	249,931	2,878	2,087	4,965	23,007	73	23,080	-	10,637	2,924	249,958	220,748
1985	555.15	223,006	4,220	3,015	7,235	20,219	73	20,292	-	9,149	2,637	223,208	196,404
1986	545.97	200,605	18,711	39,316	58,027	17,797	73	17,870	742	9,700	5,589	254,926	200,558
1987	560.16	235,828	-988	1,614	626	21,775	73	21,848	-	9,117	3,142	236,063	208,711
1988	549.35	208,687	1,431	9,154	10,585	21,974	73	22,047	-	9,005	3,715	216,543	191,890
1989	542.25	191,936	1,086	524	1,610	26,180	73	26,253	-	9,010	1,399	192,259	159,729
1990	527.43	159,688	-1,115	-	-1,115	21,494	73	21,567	-	8,353	1,447	159,688	130,141
1991	511.99	130,141	12,114	17,620	29,734	15,416	73	15,489	-	7,481	4,496	156,765	127,786
1992	518.58	142,203	20,483	44,202	64,685	12,042	73	12,114	-	8,704	5,620	201,197	142,203
1993	542.12	191,637	43,435	34,685	78,120	11,990	73	12,063	13,395	10,054	7,849	258,362	191,637
1994	562.58	242,177	1,806	3,504	5,310	16,345	73	16,418	-	10,347	3,458	245,810	224,141
1995	555.60	224,141	52,239	1,323	53,562	11,621	72	11,693	27,499	10,287	10,895	262,625	239,122
1996	561.42	239,122	6,883	5,371	12,254	15,902	23	15,925	-	10,489	6,897	244,346	224,898
1997	558.63	231,866	11,745	11,896	23,641	20,482	-	20,482	-	11,062	4,304	248,616	223,132
1998	557.06	227,839	51,727	6,338	58,065	13,411	-	13,411	34,907	9,503	12,632	267,542	227,743
1999	561.85	240,250	1,313	-	1,313	20,121	-	20,121	-	10,224	2,295	240,205	213,513
2000	551.33	213,513	13,541	4,482	18,023	21,506	-	21,506	-	9,801	5,134	227,132	205,434
2001	548.00	205,434	21,919	15,527	37,446	17,809	-	17,809	-	8,379	6,693	242,359	204,837
2002	555.24	223,233	-403	-	-403	22,092	-	22,092	-	8,286	2,718	223,183	194,359
2003	543.65	195,172	3,429	1,571	5,000	16,571	-	16,571	-	7,985	3,583	197,199	178,563
2004	536.62	179,219	9,006	2,853	11,859	20,214	-	20,214	-	7,783	4,897	182,113	157,595
2005	531.47	167,988	53,115	26,906	80,021	17,673	-	17,673	-	7,242	7,798	250,736	169,160
2006	558.25	230,891	9,382	12,091	21,473	17,253	-	17,253	-	7,649	5,534	252,651	231,585
2007	559.06	232,975	-1,450	-	-1,450	21,326	-	21,326	-	8,571	2,253	232,950	203,810
2008	547.35	203,882	15,470	9,927	25,397	18,325	-	18,325	-	8,753	5,538	231,071	203,595
2009	548.89	207,574	-580	506	-74	17,259	-	17,259	-	8,025	3,646	207,719	185,543
2010	539.59	185,881	12,419	10,926	23,345	14,637	-	14,637	-	6,898	7,051	199,945	182,049
2011	543.46	194,731	11,054	17,847	28,901	14,841	-	14,841	-	7,576	4,267	221,751	194,731
2012	548.02	205,482	-837	87	-750	16,244	-	16,244	-	8,263	3,165	205,482	183,746
2013	538.48	183,389	-1,649	-	-1,649	20,402	-	20,402	-	7,858	1,021	183,389	154,501
2014	524.88	154,501	217	1,018	1,235	18,811	-	18,811	-	7,678	2,353	154,501	131,511
2015	512.81	131,600	-1,810	-	-1,810	17,246	-	17,246	-	6,162	736	131,600	107,119
2016	498.22	107,119	-1,707	-	-1,707	14,151	-	14,151	-	4,311	2,394	107,759	89,317
2017**	486.02	89,344	14,074	6,091	20,165	12,214	-	12,214	-	5,435	3,020	111,640	82,919
2018	489.74	82,919	3,547	829	4,376	11,633	-	11,633	-	5,242	1,859	85,050	72,255
2019	481.10	72,278	15,366	21,230	36,596	7,668	-	7,668	-	5,434	4,023	107,663	72,149
2020	501.48	99,795	3,288	5,478	8,766	10,820	-	10,820	-	6,201	1,763	107,237	93,316
2021	497.29	93,449	2,766	2,034	4,800	12,468	-	12,468	-	5,704	2,407	93,434	76,737
2022	489.48	82,583	3,022	522	3,544	9,118	-	9,118	-	5,398	469	83,661	70,717
2023	480.93	72,079	51,751	53,313	105,064	5,612	-	5,612	-	7,237	7,286	176,417	73,519
2024	539.78	171,613											
AVG:	522.27	167,277	11,559	10,464	22,024	15,001	81	15,082	1,810	7,682	4,096	185,667	157,849
MAX:	525.05	249,931	55,379	50,349	105,728	26,180	2,677	26,253	34,907	11,062	12,632	267,542	239,122
MIN:	350.00		-1,810	-	-1,810	586	-	658	-	728	59	5,201	574

**HISTORICAL RAINFALL
CASITAS MUNICIPAL WATER DISTRICT**

WATER YEAR	CASITAS DAM	CASITAS RECREATION	MATILJA DAM	3 - STATION MEAN	THACHER SCHOOL
1958-59	10.22	11.84	16.62	12.89	11.34
59-60	15.79	14.70	14.45	14.98	13.26
1960-61	8.77	8.42	13.24	10.14	9.48
61-62	37.75	33.96	39.21	36.97	28.74
62-63	18.70	17.54	20.07	18.77	16.87
63-64	13.62	12.04	16.13	13.93	12.79
64-65	23.26	22.77	22.83	22.95	17.42
65-66	25.23	25.23	30.30	26.92	24.59
66-67	34.43	32.30	44.78	37.17	31.14
67-68	16.61	16.44	15.20	16.08	12.62
68-69	46.57	47.55	69.94	54.69	46.93
69-70	16.70	16.52	18.98	17.40	N/A
1970-71	19.72	19.71	22.65	20.69	20.72
71-72	11.94	13.72	15.49	13.72	10.83
72-73	34.79	34.56	45.91	38.42	30.14
73-74	19.95	18.43	22.16	20.18	18.91
74-75	23.83	24.05	26.83	24.90	22.37
75-76	17.90	17.23	20.85	18.66	15.24
76-77	12.90	11.98	13.75	12.88	11.42
77-78	49.05	49.66	63.04	53.92	50.04
78-79	25.80	25.64	28.66	26.70	25.45
79-80	34.06	35.15	42.43	37.21	30.58
1980-81	16.24	16.99	21.88	18.37	15.53
81-82	19.35	20.34	25.35	21.68	21.44
82-83	51.14	48.22	58.65	52.67	52.17
83-84	17.91	16.63	19.34	17.96	14.83
84-85	17.30	15.93	19.00	17.41	12.68
85-86	33.49	32.20	41.32	35.67	27.27
86-87	10.86	9.83	11.44	10.71	9.01
87-88	18.62	18.40	21.58	19.53	20.87
88-89	11.73	11.85	13.65	12.41	12.27
89-90	9.46	8.86	12.48	10.27	8.61
1990-91	24.43	23.59	26.01	24.68	21.78
91-92	29.75	28.53	34.27	30.85	34.25
92-93	41.20	43.31	60.38	48.30	45.71
93-94	16.08	14.69	16.27	15.68	15.60
94-95	49.84	49.04	58.17	52.35	46.89
95-96	18.80	16.91	22.78	19.50	17.71
96-97	24.37	25.27	27.80	25.81	22.12
97-98	59.54	58.78	64.27	60.86	52.29
98-99	12.68	10.67	12.56	11.97	12.92
99-00	24.35	21.94	26.79	24.36	19.73
2000-01	29.36	27.86	33.45	30.22	30.55
01-02	9.28	8.77	10.10	9.38	8.27
02-03	24.83	23.69	30.58	26.37	21.35
03-04	17.03	14.33	18.84	16.73	13.04
04-05	54.66	51.28	74.44	60.13	52.90
05-06	26.52	25.84	34.58	28.98	26.00
06-07	8.60	7.15	9.23	8.33	7.65
07-08	26.19	24.58	33.62	28.13	23.89
08-09	14.82	12.91	16.56	14.76	13.62
09-10	31.13	28.48	36.54	32.05	24.35
2010-11	35.99	34.04	40.28	36.77	31.18
11-12	15.11	13.18	14.21	14.17	12.09
12-13	10.99	10.11	11.85	10.98	9.11
13-14	9.90	9.52	14.76	11.39	11.30
14-15	11.65	10.06	17.57	13.09	14.91
15-16	14.64	14.33	16.20	15.06	11.07
16-17	31.53	29.56	35.46	32.18	28.50
17-18	11.49	12.09	17.03	13.54	13.60
18-19	29.49	28.63	39.75	32.62	28.10
19-20	19.30	18.70	29.91	22.64	19.41
20-21	7.07	7.22	6.48	6.92	5.82
21-22	19.33	17.15	22.19	19.56	16.15
22-23	53.63	49.14	65.97	56.25	45.86
AVERAGE	23.65	22.77	28.42	24.95	21.74
MAXIMUM	59.54	58.78	74.44	60.86	52.90
MINIMUM	7.07	7.15	6.48	6.92	0.00

*RAINFALL IN INCHES, WATER YEAR OCTOBER 1 THRU SEPTEMBER 30
BOLD NUMBERS INDICATE RECORD MAX/MIN RAINFALL AMOUNTS FOR THE PERIOD

NOTE: Matilija Dam Rainfall records after 2005-06 season obtained from the Ventura County Watershed Protection District

HISTORICAL MONTHLY RAINFALL LAKE CASITAS DAM

Note: This data is in combination with VCWPD data and may differ from what is reported for annual averages

W. YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1959/1960	0	0	1.18	5.61	4.78	0.65	3.57	0	0	0	0	0	15.79
1961	0.01	5.27	0.45	2.06	0	0.79	0.16	0	0	0	0	0.03	8.77
1962	0	5.62	1.89	3.07	25.49	1.61	0	0.07	0	0	0	0	37.75
1963	0.70	0.01	0.09	1.09	7.78	4.08	2.75	0.15	0.63	0	0	1.42	18.70
1964	0.73	4.83	0	3.11	0	2.50	2.10	0.07	0.18	0	0.10	0	13.62
1965	0.82	2.46	8.65	0.60	0.31	1.45	8.36	0.02	0	0	0	0.59	23.26
1966	0	14.37	7.04	2.43	1.19	0.12	0	0.03	0	0	0	0.05	25.23
1967	0	4.36	10.18	9.29	0.24	3.87	6.35	0	0	0	0	0.14	34.43
1968	0	5.62	1.40	1.75	1.68	5.01	1.13	0	0	0	0.02	0	16.61
1969	1.09	0.91	2.29	26.59	12.12	1.24	2.12	0	0	0.21	0	0	46.57
1969/1970	0	3.77	0.15	3.50	3.45	5.83	0	0	0	0	0	0	16.70
1971	0.03	7.74	6.18	1.56	1.31	0.99	0.83	1.08	0	0	0	0	19.72
1972	0.10	0.43	10.46	0.31	0.38	0	0.19	0.02	0	0	0	0.05	11.94
1973	0.27	6.31	1.23	8.94	14.86	3.17	0.01	0	0	0	0	0	34.79
1974	0.52	2.44	2.04	9.82	0	4.87	0.20	0	0	0	0	0	19.89
1975	0.74	0.15	10.00	0	4.95	6.50	1.48	0	0	0	0	0.01	23.83
1976	0.19	0	0.08	0	6.99	2.05	0.70	0	0.15	0.15	0	7.59	17.90
1977	0	0.53	0.95	6.11	0.25	1.93	0	2.70	0	0	0.43	0	12.90
1978	0	0.14	6.41	10.35	11.55	16.55	2.86	0	0	0	0.02	1.17	49.05
1979	0.06	2.77	2.28	5.86	5.35	8.39	0	0	0.01	0	0	0.63	25.35
1979/1980	0.61	1.10	2.02	8.89	15.92	4.62	0.62	0.22	0	0	0	0.06	34.06
1981	0.02	0	2.10	3.67	2.06	7.87	0.52	0	0	0	0	0	16.24
1982	0.59	2.99	0.76	3.38	1.03	6.74	2.86	0.02	0	0	0	0.98	19.35
1983	0.76	6.63	5.44	13.62	8.92	8.47	5.40	0.21	0	0	1.08	0.60	51.13
1984	4.94	6.02	4.85	0.12	0.01	0.49	0.08	0	0	0.25	0.13	1.06	17.95
1985	0.49	4.72	7.18	1.13	1.87	1.85	0	0	0	0.02	0	0.04	17.30
1986	0.64	7.00	0.99	3.51	10.71	6.96	1.96	0	0	0	0	1.33	33.10
1987	0	1.92	0.50	2.58	2.23	3.50	0.11	0	0.02	0.02	0	0	10.88
1988	1.50	1.48	4.05	3.60	2.57	1.45	3.82	0	0.15	0	0	0	18.62
1989	0	1.24	4.40	0.74	3.92	0.90	0.25	0.18	0	0	0	0.10	11.73
1989/1990	0.52	0.31	0	3.85	3.59	0.02	0.13	1.02	0	0	0	0.01	9.45
1991	0	0.33	0	2.10	3.50	18.30	0	0	0.18	0.01	0.01	0	24.43
1992	0.58	0.23	4.89	3.33	11.54	5.90	0.07	0.49	0	0.37	0	0	27.40
1993	1.43	0	6.91	14.02	11.59	6.44	0	0.17	0.64	0	0	0	41.20
1994	0.09	1.32	2.03	0.75	8.58	2.04	0.53	0.24	0	0	0	0.08	15.66
1995	0.90	1.81	1.22	29.05	2.17	12.30	0.44	1.47	0.48	0	0	0	49.84
1996	0	0.19	3.19	1.67	10.34	1.96	1.14	0.31	0	0	0	0	18.80
1997	4.58	3.04	9.13	7.54	0.08	0	0	0	0.12	0	0	0	24.49
1998	0.01	3.42	7.09	4.48	31.14	6.58	2.59	3.83	0.08	0	0	0.33	59.55
1999	0	1.36	0.86	2.77	1.12	3.46	2.49	0	0.15	0	0	0.18	12.39
1999/2000	0	1.17	0	2.77	12.27	3.77	4.22	0	0	0	0	0.09	24.29
2001	2.85	0	0.05	8.59	7.66	8.58	1.61	0	0	0.02	0	0	29.36
2002	0.42	4.18	2.22	1.15	0.44	0.49	0.08	0.19	0	0	0	0.11	9.28
2003	0	6.17	6.12	0	4.31	4.43	1.79	2.49	0.14	0	0	0	25.45
2004	0	3.40	2.96	0.96	9.07	0.64	0	0	0	0	0	0	17.03
2005	6.98	0.06	10.68	20.41	9.84	4.70	0.75	0.91	0	0	0	0.33	54.66
2006	0.95	0.78	1.46	5.46	3.51	4.52	8.51	1.33	0	0	0	0	26.52
2007	0.12	0.27	1.28	3.54	2.07	0.03	0.82	0	0	0	0	0.47	8.60
2008	0.51	0.09	4.46	18.24	2.74	0	0.06	0.03	0	0	0.06	0	26.19
2009	0.15	3.12	3.37	0.64	6.13	1.16	0.21	0	0.04	0	0	0	14.82
2009/2010	6.00	0	5.33	8.88	6.45	0.49	3.76	0.22	0	0	0	0	31.13
2011	2.25	1.91	15.79	0.79	5.40	8.39	0.04	1.21	0.21	0	0	0	35.99
2012	1.90	3.10	0.30	1.88	0.07	4.60	3.21	0	0	0.02	0.01	0.02	15.11
2013	0.06	3.50	3.86	2.07	0.28	1.22	0	0	0	0	0	0	10.99
2014	0.09	0.90	0.63	0	4.56	3.17	0.48	0.01	0	0	0.06	0	9.90
2015	0	1.28	5.51	2.12	0.77	0.46	0.38	0.25	0.19	0.37	0	0.32	11.65
2016	0.41	0.09	0.40	7.20	2.18	3.77	0.53	0.06	0	0	0	0	14.64
2017	0.71	0.83	4.15	10.88	12.91	1.27	0.53	0.14	0	0	0	0.11	31.53
2018	0	0.03	0	2.83	0.14	8.43	0.02	0.04	0	0	0	0	11.49
2019	0.14	3.11	1.16	9.07	9.56	4.37	0.06	2.02	0	0	0	0	29.49
2019/2020	0	1.86	6.93	0.82	0.17	4.97	4.46	0.08	0.01	0	0	0	19.30
2021	0.01	0.19	1.69	3.99	0	1.29	0	0.02	0	0	0	0	7.19
2022	1.96	0.05	14.30	0.13	0	2.61	0.23	0	0	0	0	0.05	19.33
2023	0.02	1.67	7.59	20.73	6.93	14.34	0.01	1.05	0.17	0	1.06	0.06	53.63
AVG	0.76	2.35	3.76	5.41	5.36	4.05	1.37	0.35	0.06	0.02	0.05	0.28	23.81
MAX	6.98	14.37	15.79	29.05	31.14	18.30	8.51	3.83	0.64	0.37	1.08	7.59	59.55
MIN	0	0	0	0	0	0	0	0	0	0	0	0	7.19

Rainfall in inches, water year October 1 through September 30

HISTORICAL MONTHLY RAINFALL LAKE CASITAS RECREATION AREA (STA #204)

W. YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1959/1960	0	0	1.25	5.40	4.29	0.78	2.98	0	0	0	0	0	14.70
1961	0	5.08	0.48	1.90	0	0.63	0.23	0.06	0	0	0	0.04	8.42
1962	0	5.47	1.78	2.56	22.65	1.45	0	0.05	0	0	0	0	33.96
1963	0.49	0.01	0.05	1.35	6.85	3.59	2.61	0.39	0.51	0	0	1.69	17.54
1964	0.48	4.57	0	2.53	0	1.84	2.17	0.11	0.13	0	0.21	0	12.04
1965	0.84	3.39	8.33	0.67	0.38	1.59	7.29	0.01	0.01	0	0	0.26	22.77
1966	0	14.19	7.07	2.51	1.11	0.04	0	0.10	0	0	0	0.21	25.23
1967	0.02	4.80	9.71	7.80	0.27	3.53	5.82	0	0	0	0	0.35	32.30
1968	0	5.03	1.15	1.53	1.51	4.76	1.13	0	0	0	0	0	15.11
1969	1.23	0.91	2.62	26.58	12.81	1.26	2.01	0.01	0	0.12	0	0	47.55
1969/1970	0	3.52	0.19	3.68	3.70	5.43	0	0	0	0	0	0	16.52
1971	0	6.36	6.94	1.51	0	0.71	0.55	0.03	0	0	0	0	16.10
1972	0.15	0.62	11.02	0.33	0.58	0	0.16	0	0.02	0	0	0.14	13.02
1973	0.13	6.75	1.20	9.14	14.17	3.16	0	0	0	0	0	0	34.55
1974	0.65	1.94	1.43	9.40	0	4.82	0.09	0	0	0	0	0	18.33
1975	0.67	0.12	10.26	0	4.96	6.50	1.54	0	0	0	0	0	24.05
1976	0.23	0	0.13	0	6.43	2.10	0.71	0	0.25	0	0.06	7.32	17.23
1977	0.01	0.63	0.71	4.96	0.25	2.27	0	2.76	0	0	0.39	0	11.98
1978	0.02	0.09	6.57	11.35	13.04	14.71	2.53	0	0	0	0	1.35	49.66
1979	0	2.57	2.48	6.00	5.90	7.83	0	0	0	0	0	0.86	25.64
1979/1980	0.64	0.95	1.96	9.56	16.93	4.04	0.75	0.32	0	0	0	0	35.15
1981	0	0	2.21	4.59	2.15	7.45	0.59	0	0	0	0	0	16.99
1982	0.67	2.64	0.78	4.20	0.90	6.85	2.81	0	0	0	0	1.49	20.34
1983	0.71	5.87	4.60	12.59	8.48	9.13	4.86	0.18	0	0	1.18	0.62	48.22
1984	4.88	5.57	5.14	0.09	0	0.55	0.05	0	0	0	0.08	1.06	17.42
1985	0.41	4.21	6.91	1.42	1.71	1.62	0.02	0	0	0	0	0	16.30
1986	0.55	6.28	1.15	3.97	11.09	6.26	1.74	0	0	0	0	1.25	32.29
1987	0	1.66	0.49	2.16	2.06	3.32	0.12	0	0.03	0	0	0	9.84
1988	1.52	1.14	4.10	3.53	2.63	1.75	3.08	0	0	0	0	0.07	17.82
1989	0	1.18	3.91	0.48	4.74	0.87	0.34	0.22	0	0	0	0.11	11.85
1989/1990	0.61	0.47	0	3.67	2.92	0.01	0.18	0.93	0.03	0	0	0.04	8.86
1991	0	0.36	0	2.03	3.85	17.19	0	0	0.16	0	0	0	23.59
1992	0.62	0.25	4.52	2.90	13.83	5.79	0.05	0.32	0	0.25	0	0	28.53
1993	1.53	0	7.58	14.97	11.88	6.22	0	0.19	0.94	0	0	0	43.31
1994	0.08	1.27	1.69	0.69	8.14	2.02	0.48	0.27	0	0	0	0.05	14.69
1995	0.69	1.48	0.96	27.61	2.29	14.03	0.29	1.29	0.40	0	0	0	49.04
1996	0.11	2.49	1.92	9.37	1.54	1.03	0.45	0	0	0	0	0	16.91
1997	4.06	2.92	7.99	10.21	0.09	0	0	0	0	0	0	0	25.27
1998	0	3.59	8.32	4.59	30.12	6.54	2.19	3.21	0.06	0	0	0.16	58.78
1999	0	1.27	0.84	2.74	0.81	2.38	2.19	0	0.17	0	0	0.27	10.67
1999/2000	0	1.00	0	2.34	11.96	3.24	3.28	0	0	0	0	0.12	21.94
2001	2.75	0	0.03	8.48	7.02	8.02	1.56	0	0	0	0	0	27.86
2002	0.41	4.37	1.60	1.10	0.36	0.53	0.08	0.23	0	0	0	0.02	8.70
2003	0	5.63	5.10	0	3.97	4.98	1.27	2.74	0	0	0	0	23.69
2004	0.05	2.68	2.13	0.79	8.08	0.60	0	0	0	0	0	0	14.33
2005	7.09	0.02	10.37	17.30	10.22	4.47	0.90	0.60	0	0	0	0.31	51.28
2006	0.97	0.87	0.79	4.93	3.73	4.87	8.21	1.47	0	0	0	0	25.84
2007	0.22	0.10	1.03	2.68	1.66	0.10	1.01	0	0	0	0	0.35	7.15
2008	0.46	0.04	3.40	17.93	2.49	0	0.09	0.06	0	0	0.11	0	24.58
2009	0.16	3.19	2.64	0.43	5.43	0.84	0.19	0	0	0	0	0	12.88
2009/2010	6.91	0	4.33	8.71	5.47	0.37	2.39	0.30	0	0	0	0	28.48
2011	2.14	1.91	13.09	0.90	5.32	9.42	0.11	0.94	0.21	0	0	0	34.04
2012	1.69	2.64	0.30	1.22	0.27	3.89	3.16	0	0	0	0	0.01	13.18
2013	0.15	3.74	3.15	1.91	0.10	0.81	0.25	0	0	0	0	0	10.11
2014	0.03	0.77	0.44	0	4.31	3.49	0.42	0	0	0	0.06	0	9.52
2015	0	0.96	5.41	1.44	0.82	0.25	0.2	0.3	0.14	0.32	0	0.22	10.06
2016	0.40	0	0.36	6.72	2.35	4.00	0.50	0	0	0	0	0	14.33
2017	0.71	1	3.79	10.45	11.75	1.30	0.48	0	0	0	0	0	29.56
2018	0	0.05	0	4.14	0.07	7.67	0.02	0.14	0	0	0	0	12.09
2019	0.11	2.47	1.73	8.12	10.64	3.66	0.02	1.88	0	0	0	0	28.63
2019/2020	0	1.59	6.07	0.57	0.67	5.25	4.46	0.08	0.01	0	0	0	18.70
2021	0	0.19	2.65	3.20	0.03	1.15	0	0	0	0	0	0	7.22
2022	1.50	0	13.50	0.07	0.03	1.90	0	0	0	0	0	0.15	17.15
2023	0.01	1.44	5.81	18.45	7.55	14.45	0	0.12	0.17	0	1.14	0	49.14
AVG	0.75	2.25	3.53	5.35	5.15	3.90	1.23	0.30	0.05	0.01	0.05	0.29	22.86
MAX	7.09	14.19	13.50	27.61	30.12	17.19	8.21	3.21	0.94	0.32	1.18	7.32	58.78
MIN	0	0	0	0	0	0	0	0	0	0	0	0	7.15

Rainfall in inches, water year October 1 through September 30

Surrogate data used from Casitas Dam due missing data

