



CASITAS MUNICIPAL WATER DISTRICT

HYDROLOGY REPORT

WATER YEARS 2018 AND 2019

November 2020

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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 2017–2018 Water Year (WY 2018) and 2018–2019 Water Year (WY 2019). Data is also presented for Calendar Years 2018 and 2019 for comparison to historical data.

Casitas acquired the Ojai Water System in June 2017 which serves approximately 3,000 customers. The main water source for this system is a wellfield which draws from the Ojai Valley Groundwater Basin, 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 Casitas Reservoir (also referred to as Lake Casitas 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 following the Thomas Fire were observed in both the direct and indirect inflow sources of Lake Casitas. This included steeper hydrographs at increased magnitudes during storm events from a combination of hydrophobic soil limiting percolation rates and less vegetation to slow surface run-off. Heavy debris and sediment loads from slope erosion and streambed mobilization during high magnitude storm events impacted diversion capabilities at the Robles Diversion and Fish Passage Facility (Robles). Heavy debris loads clogged the diversion screens requiring frequent turnouts to manually clean the screens and replace brush motor sheave belts. Diversion capabilities were also reduced due to sediment in the Robles Screenbay and Forebay. Two shutdowns occurred in order to remove sediment from the Screenbay in the winter of 2019 and approximately 50,000 cubic yards of sediment was removed from the forebay in November 2019 in order to restore ponding capacity.

Post-fire run-off deposited fine sediment in the stream channels which appears to have reduced streambed percolation, resulting in prolonged spring and summer time streamflow, and an increased duration of surface connection between the upper portions of the Ventura River watershed and the Pacific Ocean. Historically, Robles does not experience surface flow during the summer and fall in all but well above-average rainfall years. Surface flow has been present at Robles since the first storm event following the Thomas Fire.

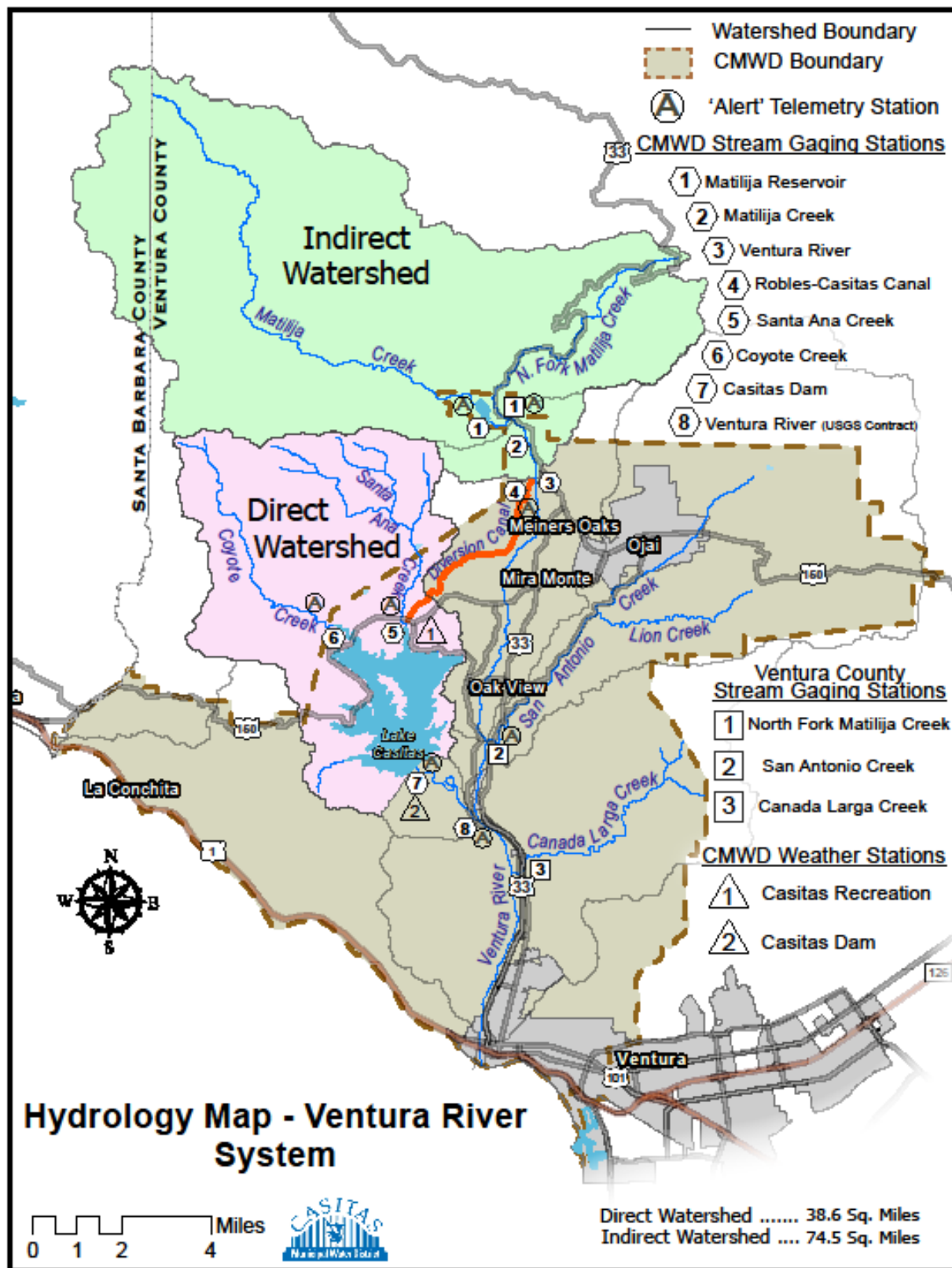


FIGURE 1-1 – Watershed of Lake Casitas

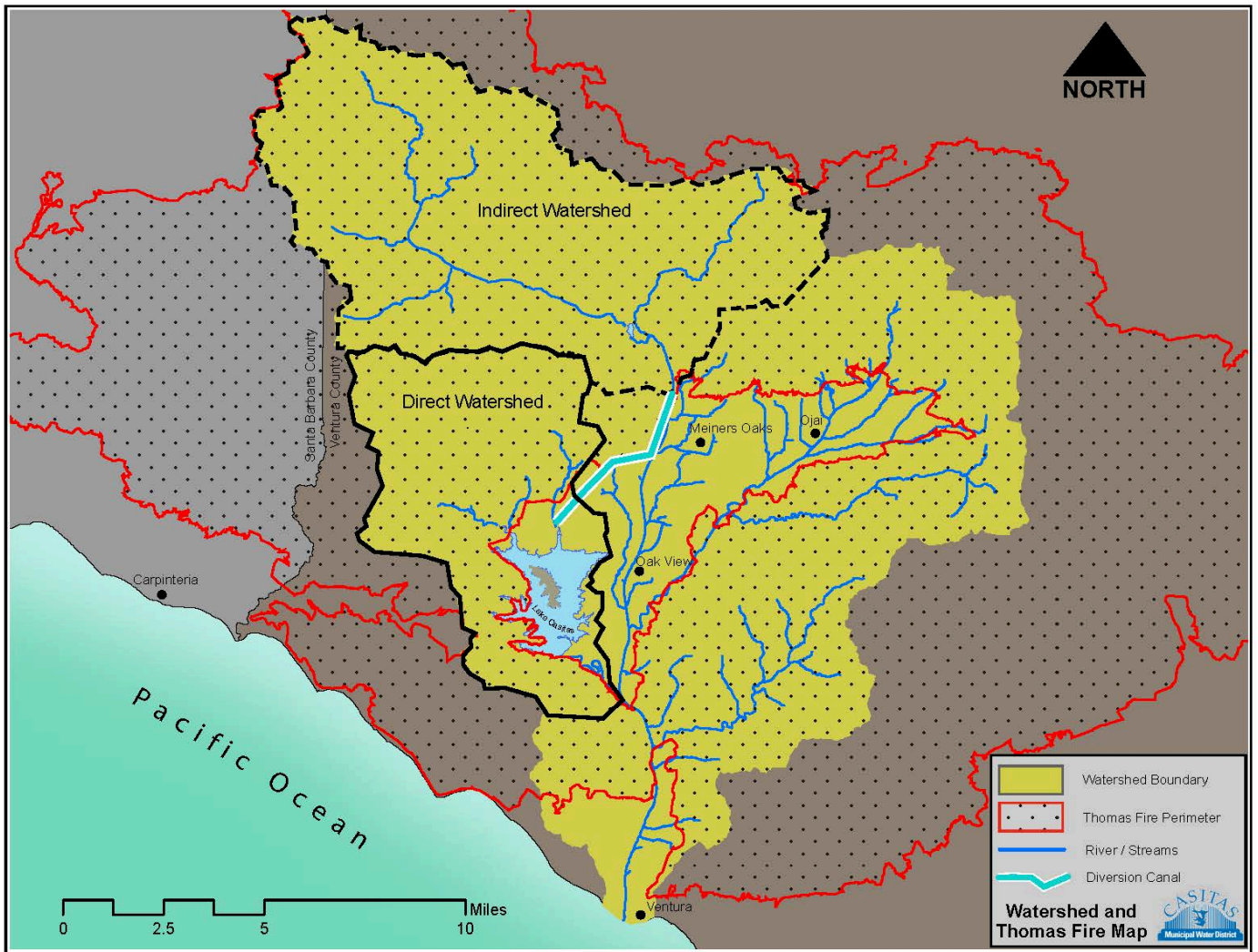


FIGURE 1-2 – Thomas Fire Boundary

Streamflow monitoring was also impacted by the Thomas Fire. Air lines at the Coyote Creek and Matilija gaging stations sustained fire damage and required repair. The heavy sediment load in subsequent storm events buried the orifices of the air lines at Santa Ana Creek, Coyote Creek, Matilija Creek, and Ventura River Near Meiners Oaks (VRNMO). Further discussion of the impacts and corrective actions taken is included in Section 2.2 herein.

Data from an additional rainfall station located on Ojai's East End and a San Antonio Creek gaging station were added to this report to reflect hydrologic conditions within the San Antonio Creek Watershed. Ojai Water System Sources and Deliveries were also added to this report. Reporting of the hydrologic aspects of this system may be expanded in the future as more data become available.

2. WATER YEARS 2018 AND 2019 SUMMARIES

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 2018 began on October 1, 2017 and ended September 30, 2018; and
- WY 2019 began on October 1, 2018 and ended September 30, 2019

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 2018 and 2019.

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 Thatcher School are obtained from VCWPD. Raw data is provided in Appendix A.

2.1.1. WY 2018

The average of the four rainfall stations was 13.55 inches for WY 2018. This is below the long-term average of 24.02 inches. Casitas Dam received 11.49 inches while Matilija Dam received 17.03 inches.

The bulk of precipitation at Casitas Dam fell in the months of January and March, when cumulative monthly rainfall was 2.83 and 8.43 inches, respectively. The highest daily rainfall was recorded on January 9, 2018 with 2.10 inches of rainfall measured at Lake Casitas Recreation Area (LCRA).

2.1.2. WY 2019

The average of the four rainfall stations was 31.49 inches for WY 2019. This is above the long-term average of 24.15 inches. Casitas Dam received 29.49 inches while Matilija Dam received 39.75 inches.

The bulk of precipitation at Casitas Dam occurred in the months of January and February 2019, when cumulative monthly rainfall was 9.07 and 9.56 inches, respectively. The highest daily rainfall was recorded on February 2, 2019 with 2.75 inches of rainfall measured at Casitas 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 2018

Due to the drought, streamflow conditions were below average across the basin. Preliminary data provided by VCWPD indicates discharge from North Fork Matilija Creek totaled 3,028.6 acre-feet (AF) between October 1, 2017 and September 30, 2018. Discharge from Matilija Dam measured at the Matilija Hot Springs gage totaled 4,997 AF with a peak flow of approximately 6,200 cubic feet per second (cfs) on January 9, 2018¹.

Surface flow at the measurement weir at Robles was present beginning January 8, 2018 and lasted the entire WY. During that period, 8,417 AF was released downstream². Sediment transfer following the Thomas Fire may have impacted percolation and caused elevated surface flow to occur and continue longer than it would have otherwise for WY 2018 and 2019.

Diversions to the Casitas Reservoir began on March 21, 2018. Prior to March 21, 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 4 days and 638 AF was diverted during WY 2018 as shown in Table 2-1³.

Table 2-1
WY 2018 Diversions

Month	Days	Volume Diverted (AF)
October 2017	0	0
November 2017	0	0
December 2017	0	0
January 2018	0	0
February 2018	0	0
March 2018	4	638
April 2018	0	0
May 2018	0	0
June 2018	0	0
July 2018	0	0
August 2018	0	0
September 2018	0	0
TOTAL	4	638

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

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

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

There were three 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.

Table 2-2
WY 2018 Storm Peaks

Date	Peak Storm Flow Rate (cfs)
January 9, 2018	8,809
March 21, 2018	418
March 22, 2018	3,044

Coyote Creek and Santa Ana Creek drainage areas contribute directly to Lake Casitas storage. Coyote Creek gaging station was damaged during the 2017 Thomas Fire (WY 2018) and subsequently repaired in January 2018. The Santa Ana Creek gaging station was not damaged; both Coyote Creek and Santa Ana Creek gaging stations, however, experienced heavy sediment transport and re-channelization following the 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, precipitation, 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 a positive direct inflow value are considered as a surrogate for true direct inflow into Lake Casitas and totaled 3,475 AF for WY 2018 with March 2018 accounting for 1,723 AF of total direct inflow as shown in Table 2-3⁵.

Table 2-3
WY 2018 Casitas Reservoir Direct Inflow

Month	Direct Flow Volume (AF) ⁶
October 2017	13
November 2017	N/A
December 2017	N/A
January 2018	795
February 2018	87
March 2018	1723
April 2018	225
May 2018	80
June 2018	177
July 2018	161
August 2018	159
September 2018	55
TOTAL	3,475

⁴ Storm peak flows can be found in Appendix C.

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.

2.2.2. WY 2019

The above average rainfall along with several storm events contributed to significant run-off within the watershed. Preliminary data provided by VCWPD indicate discharge from North Fork Matilija Creek totaled 14,566 AF between October 1, 2018 and September 30, 2019. Discharge from Matilija Dam measured at the Matilija Hot Springs gage totaled 37,812 AF with a peak flow of approximately 1,353 cfs on January 17, 2019⁷.

Surface flow at the measurement weir at Robles was present beginning October 1, 2018 and lasted through September 30, 2019. During that period, 44,712 AF was released downstream to the Ventura River⁸. A portion of inflow is diverted when inflow exceeds downstream release criteria to: 1) 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*) and 2) provide supplemental downstream releases to allow for the migration of endangered southern California steelhead (*Biological Opinion for the Robles Diversion Fish Passage Facility, Ventura River, CA, 2003*). Periods of stream flow were estimated due to post-fire related sediment impacts to stream gaging instrumentation. Flow overtopping the cut-off wall during high flow events bypasses the measurement weir and is estimated during peak flow and is unable to be measured to calculate daily average discharges.

Diversions to the Casitas Reservoir first began on November 29, 2018. The diversion canal was operated for two days in November 2018 and one day in December 2018. Sufficient inflow for sustained diversions began on January 12, 2019. The diversion canal was operated for 140 days and 20,882 AF was diverted during WY 2019 as shown in Table 2-4⁹.

Table 2-4
WY 2019 Diversions

Month	Days	Volume Diverted (AF)
October 2018	0	0
November 2018	2	141
December 2018	1	50
January 2019	19	1,751
February 2019	26	8,506
March 2019	31	8,122
April 2019	30	1,523
May 2019	30	788
June 2019	1	1
July 2019	0	0
August 2019	0	0
September 2019	0	0
TOTAL	140	20,882

⁷Matilija Dam measurement from data compiled by CMWD based on instantaneous readings shown as an average in Appendix B.

⁸ Robles weir measurement from data compiled by CMWD based on instantaneous readings shown as an average in Appendix B.

⁹ Total volume of water diverted to Lake Casitas from the Ventura River is shown in Appendix D.

There were nine storm peaks that met the Biological Opinion’s parameters to initiate supplemental downstream releases for fish passage as shown in Table 2-5. 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 release¹⁰.

Table 2-5
WY 2019 Storm Peaks

Month	Peak Storm Flow Rate (cfs)¹¹
January 16, 2019	775
January 18, 2019	9,100-10,000
February 1, 2019	274-378
February 2, 2019	12,000-14,000
February 4, 2019	3,774
February 5, 2019	3,824
February 15, 2019	7,000
March 3, 2019	429
March 7, 2019	2,186

Coyote Creek and Santa Ana Creek drainages contribute directly to Lake Casitas storage. These gaging stations continue to be impacted by sediment transport and re-channelization following the 2017 Thomas Fire and are producing poor quality flow data. Direct inflow into Lake Casitas, which is reported in the Casitas Reservoir Operation data, 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, precipitation, 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 a positive direct inflow value are considered as a surrogate for true direct inflow into Lake Casitas and totaled 15,823 AF for WY 2019 with February 2019 accounting for 7,469 AF of total direct inflow as shown in Table 2-6¹².

¹⁰ Storm peak flows can be found in Appendix C.

¹¹ Storm flow is approximate.

¹² Direct inflow into Lake Casitas is shown in Appendix D.

Table 2-6
WY 2019 Casitas Reservoir Direct Inflow

Month	Direct Flow Volume (AF) ¹³
October 2018	118
November 2018	51
December 2018	N/A
January 2019	2704
February 2019	7469
March 2019	4463
April 2019	629
May 2019	N/A
June 2019	251
July 2019	101
August 2019	37
September 2019	N/A
TOTAL	15,823

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 C and Matilija Reservoir Data is provided in Appendix E. System delivery data for Mira Monte Well and the Ojai Water System can be found in Appendix F.

2.3.1. WY 2018

Lake Casitas Reservoir had a net decrease in water storage for WY 2018. Lake elevation was 493.38 feet above mean sea level (MSL) on October 1, 2017 and ended on September 30, 2018 at 483.30 feet above MSL, corresponding to 74,894 AF of storage in Lake Casitas at the end of the WY. The reservoir's 10.1-foot decrease in elevation resulted in a net loss of 12,927 AF. Storage increased by 2,117 AF during the three-month period of January through March; 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 237,760 acre-feet (down from 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 11,633 AF for the Calendar Year. This is down 5 percent from 2017 and 29 percent from the average deliveries during the previous ten years. Mira Monte well production was 145 AF during WY 2018 and 151 AF during the 2018 Calendar Year. Deliveries within the Ojai Water System totaled 1,830 AF; 1,465 AF of which was sourced from the Ojai System Wellfield with the additional 364 AF coming from Lake Casitas.

¹³ N/A indicates the month is not applicable because the value was negative.

Casitas exercised water rights to divert water released from Matilija Dam. Water rights were not exercised for several years due to National Marine Fisheries Services (NMFS) concerns related to downstream biological-impacts. The County of Ventura is the owner of Matilija Dam and Casitas operates the valves for releases. At the request of the State of California Department of Water Resources Division of Safety of Dams (DSOD), the valves were operated in November 2017. Casitas did not conduct any controlled releases from Matilija Dam at the dam during the water year. All flow was allowed to spill over the dam for the entire water year.

2.3.2. WY 2019

Lake Casitas had a net increase in water storage for WY 2019. Lake elevation was 483.27 feet above MSL on October 1, 2018 and ended on September 30, 2019 at 502.36 feet above MSL, corresponding to 101,168 AF of storage in Lake Casitas at the end of the WY. The reservoir's 19.1-foot increase in elevation resulted in a net gain of 26,310 AF. Storage increased by 35,248 AF during the four-month period of January through April; net monthly storage losses occurred outside of that period.

Water deliveries from the reservoir to the main conveyance system totaled 7,668 AF for the Calendar Year. This is down 34 percent from 2018 and 51 percent from the average deliveries during the previous ten years. Mira Monte well production was 138 AF during WY 2019 and 124 AF during the 2019 Calendar Year. Deliveries within the Ojai Water System totaled 1,638 AF; 1,493 AF of which was sourced from the Ojai System Wellfield with the additional 145 AF coming from Lake Casitas.

Casitas exercised water rights to divert water released from Matilija Dam. Water rights were not exercised for several years due to National Marine Fisheries Services (NMFS) concerns related to downstream biological-impacts. The County of Ventura is the owner of Matilija Dam and Casitas operates the valves for releases. A contractor for the County of Ventura unclogged the dam piping and Casitas staff operated the valves on December 7, 2018. Critical Drought Protection Measures (CDPM) were implemented on March 3–4, 2019 in which approximately 101 AF was released from Matilija Dam and diverted to Lake Casitas¹⁴. Casitas, in collaboration with NMFS, aimed to minimize potential downstream biological impacts by releasing water from Matilija Dam following a storm peak on March 3, 2019 and during supplemental downstream releases for fish passage.

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 and wind speed. This data is included in Appendix G.

2.4.1. WY 2018

Several temperature records dating back to 1960 were tied or broken during the 2018 calendar year: highest monthly maximum (July for Casitas Dam; January and July for LCRA), and highest monthly average (January for Casitas Dam; January and July for LCRA).

¹⁴ Results are based on inflow from the Robles canal download.

2.4.2. WY 2019

One temperature record dating back to 1960 was broken during the 2019 calendar year: highest monthly average (April for LCRA).

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
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 2019

The historical data was updated for the reporting period and is presented in Figure 3-1 for the period from 1959 through 2019. 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 1959¹⁵.

The change in Casitas Reservoir capacity was made due to performance of a bathymetric survey in 2017 which decreased the previously used 254,000 AF to 237,760 AF. This change combined with the 2017-2018 decrease in storage due to drought conditions presented a substantial loss in storage as shown in Figure 3-1.

¹⁵ Historical hydrology data is provided in Appendix H.

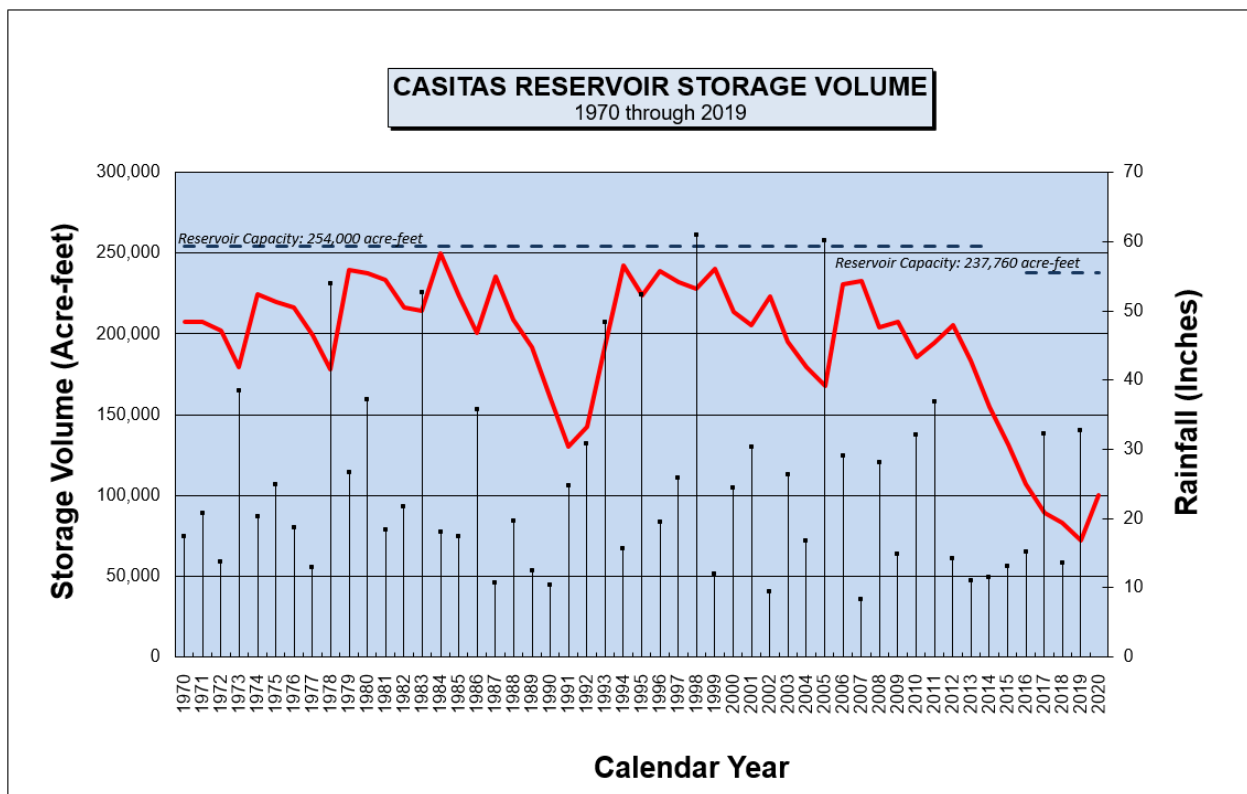


FIGURE 3-1 – Casitas Reservoir Storage Volume 1970-2019

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.

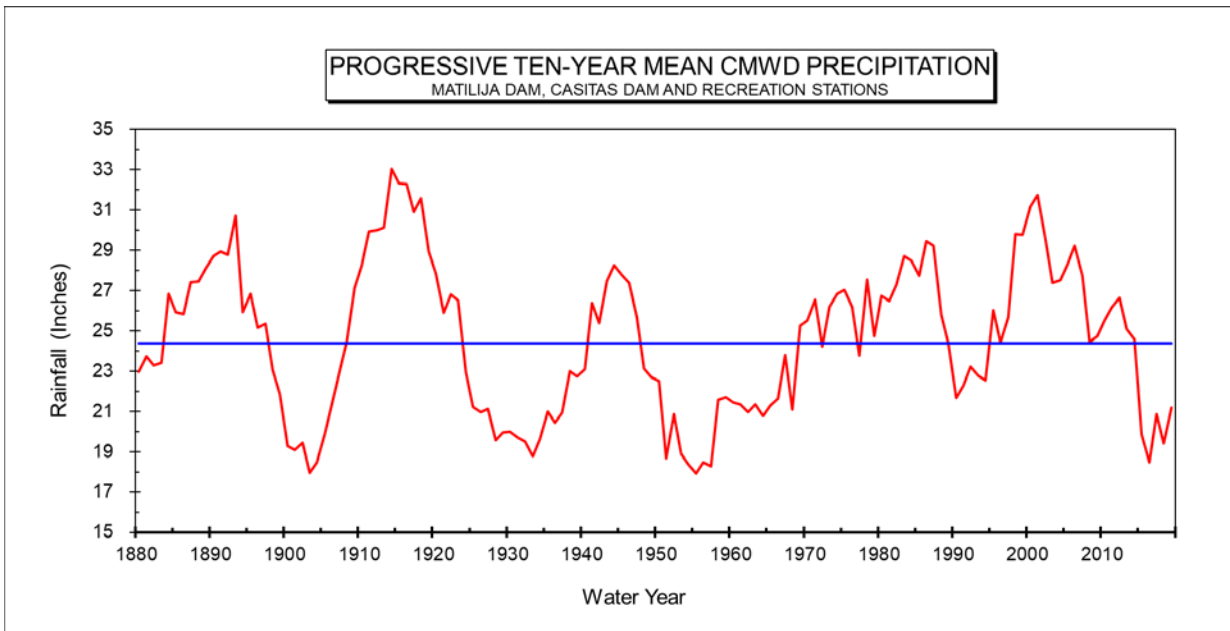


FIGURE 3-2 – Progressive Ten-Year Mean Precipitation

Appendix A
Rainfall Data

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION:	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:		ELEV:	1060 ft

2017-18

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						3.61		0.24				
3						0.73						
4				0.03		0.03						
5												
6												
7												
8				0.02								
9				2.75								
10				1.14								
11						1.02						
12						0.04		0.03				
13						0.06						
14					0.14	1.11						
15					0.04	0.30						
16		0.05										
17		0.02				0.21						
18						0.01			0.01			
19												
20												
21						0.67						
22						2.33						
23						2.37						
24												
25												
26												
27					0.07							
28												
29												
30												
31												
Mo Total	0.00	0.07	0.00	3.94	0.25	12.49	0.00	0.27	0.01	0.00	0.00	0.00
Yr Total	0.00	0.07	0.07	4.01	4.26	16.75	16.75	17.02	17.03	17.03	17.03	17.03

Rainfall in inches

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

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:		ELEV:	1060 ft

2018-19

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					1.22							
2			0.01		1.73	1.38						
3					3.54	0.73						
4					1.48	0.01			0.01			
5			0.03		0.28							
6			1.63	0.86		2.03						
7			0.20	1.87		0.53		0.01				
8				0.07				0.01				
9					0.28							
10				0.05	0.07							
11					0.25	0.22						
12				1.31				0.07				
13				0.35	0.01							
14				0.20	2.23							
15				0.20	1.13							
16				1.77	0.30			0.91				
17				5.65			0.01	0.03				
18			0.01	0.06								
19				0.01				0.46				
20						0.13		0.11				
21					0.02	0.09		0.01	0.01			
22		0.58				0.04						
23												
24								0.02				
25						0.01						
26												
27								0.07	0.01			
28					0.77	0.03						
29		3.33					0.04					
30		0.85					0.01					
31				0.41								
Mo Total	0.00	4.76	1.88	12.81	13.31	5.20	0.06	1.70	0.03	0.00	0.00	0.00
Yr Total	0.00	4.76	6.64	19.45	32.76	37.96	38.02	39.72	39.75	39.75	39.75	39.75

Rainfall in inches

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

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION: **Lake Casitas Recreation Area**
 OBSERVER: CMWD Recreation staff
 AUTHORITY: Casitas Municipal Water District
 ADDRESS: 1055 Ventura Ave, Oak View, CA 93022
 COMPILED: J. Switzer

NUMBER: 204
 OBSER. TIME: 0800
 LATITUDE: 34°25' N
 LONGITUDE: 119°20' W
 ELEV: 592 ft

2017-18

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						1.35		0.10				
3						0.15						
4												
5												
6												
7												
8				0.04								
9				2.10								
10				2.00								
11						0.88						
12								0.04				
13						0.15						
14					0.07	0.30						
15						0.40						
16												
17		0.05				0.11						
18												
19							0.02					
20												
21						0.53						
22						1.92						
23						1.88						
24												
25												
26												
27												
28												
29												
30												
31												
Mo Total	0.00	0.05	0.00	4.14	0.07	7.67	0.02	0.14	0.00	0.00	0.00	0.00
Yr Total	0.00	0.05	0.05	4.19	4.26	11.93	11.95	12.09	12.09	12.09	12.09	12.09

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION:	Lake Casitas Recreation Area	NUMBER:	204
OBSERVER:	CMWD Recreation staff	OBSER. TIME:	0800
AUTHORITY:	Casitas Municipal Water District	LATITUDE:	34°25' N
ADDRESS:	1055 Ventura Ave, Oak View, CA 93022	LONGITUDE:	119°20' W
COMPILED:	V. Clary		

2018-19

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					1.88			0.02				
2					2.53	1.06						
3					1.39	0.77						
4	0.03				1.50							
5			0.03		0.21							
6			1.56	0.82		1.34						
7			0.05	1.20		0.14		0.05				
8				0.03								
9					0.23							
10				0.07	0.28			0.02				
11					0.21							
12				1.39								
13	0.08			0.43								
14				0.31	0.91							
15				0.12	0.46							
16				1.29	0.26		0.01	0.97				
17				2.05								
18			0.06	0.06								
19								0.69				
20						0.18		0.11				
21						0.11						
22		0.54				0.06						
23												
24												
25			0.03									
26								0.02				
27												
28					0.78							
29		1.55					0.01					
30		0.38										
31				0.35								
Mo Total	0.11	2.47	1.73	8.12	10.64	3.66	0.02	1.88	0.00	0.00	0.00	0.00
Yr Total	0.11	2.58	4.31	12.43	23.07	26.73	26.75	28.63	28.63	28.63	28.63	28.63

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION:	Casitas Dam	NUMBER:	004
OBSERVER:	CMWD Damtender	OBSER. TIME:	0800
AUTHORITY:	Casitas Municipal Water District	LATITUDE:	34°22' N
ADDRESS:	1055 Ventura Ave, Oak View, CA 93022	LONGITUDE:	119°20' W
COMPILED:	J. Switzer	ELEV:	400 ft

2017-18

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						1.76		0.04				
3						0.12						
4				0.02		0.01						
5												
6												
7												
8				0.04								
9				1.61								
10				1.14								
11				0.02		0.83						
12						0.01						
13					0.03	0.09						
14					0.10	0.37						
15						0.57						
16		0.01				0.01						
17		0.02				0.12						
18												
19							0.02					
20												
21						0.49						
22						1.99						
23						2.05						
24						0.01						
25												
26												
27					0.01							
28												
29												
30												
31												
Mo Total	0.00	0.03	0.00	2.83	0.14	8.43	0.02	0.04	0.00	0.00	0.00	0.00
Yr Total	0.00	0.03	0.03	2.86	3.00	11.43	11.45	11.49	11.49	11.49	11.49	11.49

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION: Casitas Dam	NUMBER: 004
OBSERVER: CMWD Damtender	OBSER. TIME: 0800
AUTHORITY: Casitas Municipal Water District	LATITUDE: 34°22' N
ADDRESS: 1055 Ventura Ave, Oak View, CA 93022	LONGITUDE: 119°20' W
COMPILED: V. Clary	ELEV: 400 ft

2018-19

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					1.66	0.01						
2					2.75	1.36						
3					0.80	0.36						
4	0.07				0.77							
5			0.02		0.31							
6			0.93	1.08		1.64						
7			0.13	1.85		0.66		0.04				
8			0.01	0.09								
9					0.35							
10				0.04	0.15							
11					0.19							
12				1.28								
13	0.07			0.26	0.04							
14				0.27	0.89							
15				0.12	0.46							
16				1.38	0.15		0.01	1.01				
17			0.03	2.19				0.05				
18			0.04	0.05								
19								0.81				
20						0.17	0.02	0.07				
21						0.03						
22		0.66				0.14						
23												
24												
25												
26												
27								0.04				
28					1.04		0.01					
29		1.90					0.02					
30		0.55										
31				0.46								
Mo Total	0.14	3.11	1.16	9.07	9.56	4.37	0.06	2.02	0.00	0.00	0.00	0.00
Yr Total	0.14	3.25	4.41	13.48	23.04	27.41	27.47	29.49	29.49	29.49	29.49	29.49

Rainfall in inches

VENTURA COUNTY, CALIFORNIA
WATER SURVEY
DAILY RAINFALL RECORD

STATION: **Ojai - Thacher School**
OBSERVER: Automated
AUTHORITY: Ventura County Watershed Protection District
ADDRESS: 800 S. Victoria Ave, Ventura, CA 93009
COMPILED:

NUMBER: 059
OBSER. TIME: 0800
LATITUDE: 34°28' N
LONGITUDE: 119°10' W
ELEV: 1440 ft

2017-18

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						1.63		0.20				
3						0.39						
4						0.13	0.01					
5		0.01										
6												
7												
8				0.03								
9				2.22								
10				1.15								
11				0.01		1.03						
12						0.07		0.15				
13						0.12		0.06				
14					0.10	0.79		0.07				
15						0.56						
16												
17		0.04				0.18			0.01			
18		0.01				0.01						
19							0.02		0.01			
20												
21						0.77						
22						2.58		0.01				
23						1.07						
24						0.01						
25												
26												
27					0.08			0.01				
28												
29												
30								0.02				
31								0.04				
Mo Total	0.00	0.06	0.00	3.41	0.18	9.34	0.03	0.56	0.02	0.00	0.00	0.00
Yr Total	0.00	0.06	0.06	3.47	3.65	12.99	13.02	13.58	13.60	13.60	13.60	13.60

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:		ELEV:	1440 ft

2018-19

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0.79			0.02				
2					1.40	1.11			0.03			
3					2.53	0.27						
4					1.33	0.08	0.06		0.01			
5	0.01		0.03		0.56							
6			1.49	0.93	0.01	1.75	0.01	0.01				
7			0.32	0.91		0.61		0.01	0.01			
8				0.04		0.01			0.01			
9					0.23			0.01				
10				0.07	0.06			0.05				
11				0.01	0.29			0.01				
12				1.08				0.01				
13	0.02			0.40								
14	0.01			0.50	0.66							
15				0.60	0.66							
16				0.78	0.27			0.65				
17				2.19				0.03				
18				0.11			0.01					
19					0.01			0.56	0.01			
20						0.13		0.29				
21					0.06	0.36	0.04		0.06			
22		0.35			0.01	0.05			0.01			
23							0.01					
24												
25						0.01						
26									0.01			
27								0.10	0.01			
28					0.46	0.01						
29		1.60					0.06					0.10
30		0.35					0.08					0.03
31				0.27								
Mo Total	0.04	2.30	1.84	7.89	9.33	4.39	0.27	1.75	0.16	0.00	0.00	0.13
Yr Total	0.04	2.34	4.18	12.07	21.40	25.79	26.06	27.81	27.97	27.97	27.97	28.10

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 #: 602
 DATE INSTALLED: 10/1927
 MAINTAINED BY: CMWD

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

WATER YEAR OCTOBER 2017 TO SEPTEMBER 2018
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.9	1.2	1.3	3	3	2	13	7	5	3	2	2
2	1.0	1.2	1.4	3	3	22	13	7	5	3	2	2
3	1.0	1.2	1.5	3	3	10	13	7	5	3	2	2
4	1.0	1.3	1.5	3	3	6	12	7	5	3	2	2
5	1.0	1.3	1.4	3	3	5	10	7	5	3	2	2
6	0.9	1.3	1.4	3	3	4	9	7	5	3	2	2
7	0.9	1.3	1.4	3	3	4	9	7	5	3	2	2
8	1.0	1.3	1.3	5	3	4	9	7	5	3	2	2
9	1.1	1.3	1.3	445	3	4	8	7	5	3	2	1
10	0.9	1.3	1.3	50	3	4	8	6	4	2	2	1
11	0.9	1.4	1.3	41	3	8	9	6	4	2	2	1
12	1.0	1.4	1.3	36	3	4	10	6	4	2	2	2
13	0.9	1.4	1.3	34	3	4	8	6	4	2	2	2
14	0.9	1.4	1.4	31	3	9	8	6	4	2	2	1
15	0.9	1.3	1.5	29	3	8	8	6	4	2	2	1
16	0.8	1.4	2	27	3	6	8	6	4	2	2	1
17	0.8	1.4	1.6	26	3	6	8	6	4	2	2	1
18	0.9	1.4	1.6	24	3	5	8	6	4	2	2	1
19	1.0	1.4	1.7	22	3	5	8	6	4	2	2	1
20	1.1	1.4	1.8	20	3	5	8	6	4	2	2	1
21	0.9	1.3	1.8	18	3	40	8	6	4	2	2	1
22	0.8	1.3	2.0	17	3	130	7	6	4	2	2	1
23	0.8	1.3	2	16	2	134	7	6	4	2	2	1
24	0.8	1.3	2	15	2	58	7	6	4	2	2	1
25	0.8	1.3	2	15	2	36	8	6	3	2	3	1
26	0.8	1.3	2	13	2	28	7	5	3	2	2	2
27	0.8	1.7	2	11	2	23	7	5	3	2	2	1
28	0.8	1.5	3	10	2	20	7	5	3	2	2	1
29	0.9	1.3	3	7	---	17	7	5	3	2	2	1
30	1.0	1.3	3	4	---	15	7	5	3	2	2	1
31	1.2	---	3	4	---	14	---	5	---	2	2	---
TOTAL	29	40	55	941	81	638	261	189	123	67	53	43
MEAN	0.9	1.3	1.8	30	3	21	9	6	4.1	2.2	1.7	1.4
MAX	1.2	1.7	2.8	445	3	134	13	7	5	3.1	2.5	1.8
MIN	0.8	1.2	1.3	2.8	2	2	7	5	3.1	1.6	1.6	1.2
ACRE FT	57	80	109	1867	160	1265	518	375	244	132	106	86

Estimated daily data

M Missing Data

Matilija Creek at Matilija Hot Springs

USGS #: 11115500
 VCWPD #: 602
 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 2018 TO SEPTEMBER 2019

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1	0.9	6	4	38	94	67	35	18	10	9	6
2	1	0.7	5	4	1245	218	65	30	18	10	9	6
3	1	2	4	4	770	172	64	29	18	13	9	6
4	2	1	4	4	683	191	62	29	17	13	9	6
5	2	1	8	10	429	145	60	29	16	12	9	6
6	2	1	45	12	285	396	58	30	15	12	8	6
7	1	2	10	33	216	329	56	29	15	12	8	6
8	1	2	7	9	177	265	54	29	15	12	8	6
9	2	1	6	8	161	232	53	28	14	12	8	6
10	2	1	6	7	143	212	51	28	13	12	8	6
11	2	1	5	7	126	187	49	27	13	12	8	6
12	2	1	5	54	113	170	47	25	12	12	8	6
13	2	2	5	20	117	157	46	25	13	11	8	6
14	2	2	4	44	743	150	43	24	13	11	7	6
15	2	2	5	216	478	140	41	23	14	11	7	6
16	1	2	5	176	326	130	41	35	14	11	7	6
17	1	1	4	1353	282	123	41	23	14	11	7	6
18	1	2	4	225	218	117	40	22	13	11	7	6
19	1	2	5	111	194	112	41	32	13	11	7	6
20	1	2	4	81	175	113	43	24	13	11	7	6
21	1	2	4	65	153	105	42	21	14	10	7	6
22	2	2	4	56	140	99	41	21	14	10	6	6
23	2	2	4	48	131	95	40	22	13	10	6	6
24	2	2	4	43	120	91	38	21	13	10	6	6
25	1	2	4	39	112	87	35	20	13	10	6	6
26	1	2	4	35	106	85	35	22	13	10	6	6
27	1	2	4	33	110	82	35	22	12	10	6	6
28	1	2	4	31	119	78	36	21	12	10	6	6
29	1	76	3	29	---	75	37	19	11	9	6	6
30	2	17	4	27	---	73	37	17	11	9	6	6
31	1	---	4	76	---	70	---	17	---	9	6	---
TOTAL	45	133	191	2866	7909	4595	1397	780	417	337	224	169
MEAN	1	4	6	92	282	148	47	25	14	11	7	6
MAX	2	76	45	1353	1245	396	67	35	18	13	9	6
MIN	1	1	3	4	38	70	35	17	11	9	6	6
ACRE FT	90	265	378	5684	15688	9113	2771	1547	828	669	444	335

Estimated daily data M Missing Data

These data are preliminary and subject to change until checked and evaluated by Ventura County. Unverified data may contain errors that have not been checked by Hydrology staff. Ventura County does not guarantee the accuracy of these data; please note that flows may vary considerably during each day and from day to day.

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 2017 TO SEPTEMBER 2018
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	0.4	0.5	0.5	1	2	12	9	6	3	1	0.9
2	0.4	0.4	0.5	0.5	1	13	12	9	6	3	1	0.9
3	0.4	0.4	0.5	0.5	1	3	12	9	6	3	1	0.9
4	0.4	0.4	0.5	0.5	1	2	11	8	5	2	1	0.9
5	0.4	0.4	0.5	0.5	1	2	11	8	5	2	1	0.9
6	0.4	0.4	0.5	0.5	1	1	11	8	5	2	1	0.9
7	0.4	0.4	0.5	0.5	1	1	11	8	5	2	1	0.9
8	0.4	0.4	0.5	1	1	1	11	8	5	2	1	0.9
9	0.4	0.4	0.5	56	1	1	11	8	5	2	1	0.9
10	0.4	0.4	0.5	9	1	2	11	8	5	2	1	0.9
11	0.4	0.4	0.5	4	1	2	11	8	5	2	1	0.9
12	0.4	0.4	0.5	2	1	1	11	8	5	2	1	0.9
13	0.4	0.4	0.5	2	1	2	11	8	5	2	1	0.9
14	0.4	0.4	0.5	1	1	7	10	7	4	2	1	0.9
15	0.4	0.4	0.5	1	1	4	10	7	4	1	1	0.9
16	0.4	0.4	0.5	1	1	3	10	7	4	1	1	0.9
17	0.4	0.4	0.5	1	1	3	10	7	4	1	1	0.9
18	0.4	0.4	0.5	1	1	3	10	7	4	1	1	0.9
19	0.4	0.4	0.5	1	2	3	10	7	4	1	1	0.9
20	0.4	0.4	0.5	1	2	3	10	7	4	1	1	0.9
21	0.4	0.5	0.5	1	2	39	10	7	4	1	1	0.9
22	0.4	0.5	0.5	1	2	210	10	7	4	1	1	0.9
23	0.4	0.5	0.5	1	2	85	10	7	4	1	1	0.9
24	0.4	0.5	0.5	1	2	27	9	7	3	1	1	0.9
25	0.4	0.5	0.5	1	2	15	9	6	3	1	1	13
26	0.4	0.5	0.5	1	2	11	9	6	3	1	1	13
27	0.4	0.5	0.5	1	2	12	9	6	3	1	1	13
28	0.4	0.5	0.5	1	2	12	9	6	3	1	1	13
29	0.4	0.5	0.5	1	---	12	9	6	3	1	1	13
30	0.4	0.5	0.5	1	---	12	9	6	3	1	1	13
31	0.4	---	0.5	1	---	12	---	6	---	1	0.9	---
TOTAL	13.9	13.1	14	96	38	506	309	226	129	50	31.9	99.5
MEAN	0.4	0.4	0.5	3	1	16	10.3	7.3	4.3	1.6	1.0	3.3
MAX	2.5	0.5	0.5	56	2	210	12	8.8	5.7	2.8	1.1	13.0
MIN	0.4	0.4	0.5	0.5	1.0	1.0	8.9	5.8	2.9	1.1	0.9	0.9
ACRE FT	27.6	26	28	191	75	1004	612	449	256	100	63	197

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 2018 TO SEPTEMBER 2019
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	16	14	16	44	30	14	10	9	9	3	3
2	13	16	14	16	406	33	14	10	9	7	3	3
3	13	16	14	16	301	35	13	10	9	5	3	3
4	14	16	14	16	263	45	13	9	10	5	3	3
5	14	16	14	16	95	72	13	9	10	5	3	3
6	14	16	16	16	65	140	13	10	10	5	3	3
7	14	16	15	16	57	107	12	10	9	5	3	3
8	14	16	15	16	47	76	12	10	9	6	3	3
9	15	15	15	16	40	58	12	10	9	6	3	3
10	15	15	15	16	33	50	12	10	9	5	3	3
11	15	15	15	16	29	44	11	9	9	5	3	3
12	15	14	15	18	25	38	11	9	9	5	3	3
13	15	14	15	16	25	35	11	9	9	5	3	3
14	15	14	15	16	258	31	11	9	9	4	3	3
15	15	14	15	44	121	28	11	9	9	4	3	3
16	15	14	15	37	78	27	11	11	9	4	3	3
17	15	14	15	576	56	26	11	10	9	4	3	3
18	16	15	15	46	45	25	11	10	10	4	3	3
19	16	15	15	31	40	23	10	10	10	4	3	3
20	16	15	15	30	35	23	10	10	10	4	3	3
21	16	15	15	32	34	22	10	9	10	4	3	3
22	16	14	15	35	32	21	10	9	10	4	3	3
23	16	14	15	35	31	20	10	9	10	4	3	3
24	16	14	15	27	30	19	10	9	10	3	3	3
25	16	15	15	21	29	18	10	9	10	4	3	4
26	16	15	15	21	29	18	10	9	10	4	3	4
27	17	14	15	20	28	17	10	9	10	3	3	4
28	17	14	16	21	28	17	10	9	10	3	3	4
29	17	16	16	21	---	16	10	9	10	3	3	4
30	17	14	16	21	---	15	10	9	10	3	3	4
31	16	---	16	40	---	14	---	9	---	3	3	---
TOTAL	472	447	465	1284	2304	1143	336	292	287	138	88	88
MEAN	15	15	15	41	82	37	11	9	10	4	3	3
MAX	17	16	16	576	406	140	14	11	10	9	3	4
MIN	13	14	14	16	25	14	10	9	9	3	3	3
ACRE FT	936	887	922	2547	4570	2267	666	578	570	274	174	175
	<i>Estimated daily data</i>			<i>M Missing data</i>								

These data are preliminary and subject to change until checked and evaluated by Ventura County. Unverified data may contain errors that have not been checked by Hydrology staff. Ventura County does not guarantee the accuracy of these data; please note that flows may vary considerably during each day and from day to day.

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 2017 TO SEPTEMBER 2018 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	8	8	24	17	8.6	4	0.7	0.6
2	0	0	0	0	8	45	24	21	8.0	4	0.7	0.6
3	0	0	0	0	8	20	23	18	7.8	4	0.7	0.7
4	0	0	0	0	8	14	22	17	8.2	4	0.7	0.8
5	0	0	0	0	8	11	22	17	6.2	4	0.7	0.7
6	0	0	0	0	8	10	21	14	5.2	3	0.6	0.8
7	0	0	0	0	8	10	21	15	5.0	3	0.4	0.7
8	0	0	0	0.1	8	10	20	15	4.6	3	0.4	0.6
9	0	0	0	877	8	9	19	14	4.0	3	0.4	0.5
10	0	0	0	32	8	11	19	13	3.9	1	0.5	0.5
11	0	0	0	19	8	19	19	13	3.4	1	0.5	0.5
12	0	0	0	16	8	13	21	14	5.5	2	0.5	0.6
13	0	0	0	15	8	12	17	14	5.2	1	0.5	0.6
14	0	0	0	13	9	25	16	14	4.0	1	0.5	0.6
15	0	0	0	13	8	22	16	13	4.3	2	0.5	0.5
16	0	0	0	13	6	16	16	12	4.4	4	0.5	0.4
17	0	0	0	12	7	17	15	12	4.7	2	0.4	0.3
18	0	0	0	11	7	15	16	12	5.0	2	0.5	0.3
19	0	0	0	11	6	14	16	15	4.6	2	0.6	0.3
20	0	0	0	11	6	14	16	13	4.0	2	0.5	0.3
21	0	0	0	11	7	27	15	12	4	1	0.5	0.3
22	0	0	0	11	7	804	15	13	4	2	0.6	0.3
23	0	0	0	10	7	236	15	12	4	1	0.5	0.4
24	0	0	0	10	7	77	15	12	4	1	0.6	0.4
25	0	0	0	10	7	51	15	11	4	0.7	1	0.4
26	0	0	0	10	7	40	14	10	4	0.7	0.8	0.5
27	0	0	0	10	8	35	14	10	4	0.8	0.7	0.4
28	0	0	0	9	7	31	14	13	3	0.9	0.7	0.4
29	0	0	0	8	---	29	14	11	4	1	0.7	0.5
30	0	0	0	9	---	27	15	10	4	0.9	0.6	0.5
31	0	---	0	8	---	26	---	10	---	0.8	0.6	---
TOTAL	0	0	0.0	1148	210	1698	530	417	146	62	18	15
MEAN	0	0	0.0	37	8	55	18	13	5	2	0.6	0.5
MAX	0	0	0.0	877	9	804	24	21	9	4	1.1	0.8
MIN	0	0	0	0	6	8	14	10	3	0.7	0.4	0.3
ACRE FT	0	0	0	2277	417	3368	1050	828	289	123	36	29

Data is provisional and subject to revision

Flow over cut-off wall not measured by VRNMO. Rating table not validated at high flows.

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 2018 TO SEPTEMBER 2019 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.5	0.4	11	7	39	34	34	33	30	15	11	5
2	0.6	0.1	10	7	2500	48	34	34	29	15	11	5
3	0.6	0.2	8	7	2300	57	34	33	29	15	11	5
4	0.7	1.0	8	7	1700	76	33	33	27	15	12	5
5	1.0	0.5	9	10	900	66	33	34	27	15	11	5
6	0.8	0.5	18	17	210	430	33	31	25	16	10	4
7	0.7	0.6	16	22	600	102	34	29	21	16	10	4
8	0.6	0.7	12	15	600	89	35	28	20	16	9	4
9	0.7	0.4	11	13	700	82	35	28	20	16	9	4
10	0.8	0.5	10	12	400	83	35	28	19	16	9	4
11	0.8	0.7	9	11	67	77	34	27	18	16	9	5
12	0.7	1	9	21	59	77	34	27	18	15	9	4
13	0.9	0.6	9	20	56	67	34	27	18	16	9	3
14	0.9	0.5	8	21	2000	62	35	27	18	15	8	3
15	0.7	0.7	8	124	200	55	34	27	19	15	8	4
16	0.5	0.9	8	42	78	49	34	29	19	15	8	4
17	0.5	1	8	2700	67	42	33	30	19	15	8	4
18	0.5	1	8	82	60	32	34	28	19	15	8	3
19	0.5	1	8	80	56	36	35	26	18	16	8	3
20	0.5	1	8	74	49	31	34	27	18	16	8	3
21	0.5	1	8	69	50	31	34	28	19	15	7	4
22	0.9	7	8	61	50	31	34	28	19	15	7	4
23	0.7	4	8	56	43	31	35	27	18	15	7	3
24	0.6	1	7	53	32	31	34	27	17	14	7	3
25	0.6	1	7	51	27	83	34	28	17	14	7	3
26	0.4	1	7	52	27	66	35	30	17	14	6	3
27	0.5	1	6	49	32	33	34	28	17	13	6	4
28	0.6	2	7	44	33	34	34	31	16	13	6	5
29	0.6	19	6	36	---	34	34	31	16	13	6	4
30	1	17	7	32	---	34	33	30	15	12	6	4
31	0.7	---	8	52	---	34	---	31	---	11	5	---
TOTAL	21	70	273	3848	12936	2036	1020	905	603	458	256	118
MEAN	0.7	2	9	124	462	66	34	29	20	15	8	4
MAX	1	19	18	2700	2500	430	35	34	30	16	12	5
MIN	0.4	0.1	6	7	27	31	33	26	15	11	5	3
ACRE FT	41	138	541	7632	25658	4038	2023	1795	1196	908	508	234

Data is provisional and subject to revision.

Flow over cut-off wall not measured by VRNMO. Rating table not validated at high flows

Data logger malfunctioning. Discharge estimated from staff gage and auxiliary / fishway flow data

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 2017 TO SEPTEMBER 2018
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	4	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	131	0	0	0	0	0	0
22	0	0	0	0	0	82	0	0	0	0	0	0
23	0	0	0	0	0	98	0	0	0	0	0	0
24	0	0	0	0	0	7	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	---	0	0	0	0	0	0	0
30	0	0	0	0	---	0	0	0	0	0	0	0
31	0	---	0	0	---	0	---	0	---	0	0	---
TOTAL	0.0	0.0	0.0	0	0	322	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.0	0.0	0.0	0	0	131	0.0	0.0	0.0	0.0	0.0	0.0
MIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACRE FT	0	0	0	0	0	638	0	0	0	0	0	0

Data is provisional and subject to revision.

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 2018 TO SEPTEMBER 2019

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	13	80	46	14	4	0	0	0
2	0	0	0	0	115	245	45	12	4	0	0	0
3	0	0	0	0	225	173	44	11	5	0	0	0
4	0	0	0	0	331	158	42	10	4	0	0	0
5	0	0	0	0	292	115	40	10	2	0	0	0
6	0	0	25	0	293	354	37	12	1	0	0	0
7	0	0	0.1	11	68	387	34	14	1	0	0	0
8	0	0	0	0	0	280	31	15	0	0	0	0
9	0	0	0	0	0	228	30	14	0	0	0	0
10	0	0	0	0	56	194	32	15	0	0	0	0
11	0	0	0	0	97	170	31	14	0	0	0	0
12	0	0	0	29	85	147	29	13	0	0	0	0
13	0	0	0	6	94	134	26	10	0	0	0	0
14	0	0	0	17	276	121	23	9	0	0	0	0
15	0	0	0	117	410	115	23	9	0	0	0	0
16	0	0	0	152	298	110	23	35	0	0	0	0
17	0	0	0	144	246	108	21	10	0	0	0	0
18	0	0	0	218	204	108	19	11	0	0	0	0
19	0	0	0	62	172	99	18	42	0	0	0	0
20	0	0	0	26	158	103	20	25	0	0	0	0
21	0	0	0	13	139	94	18	16	0	0	0	0
22	0	0	0	9	119	85	17	12	0	0	0	0
23	0	0	0	7	110	82	14	13	0	0	0	0
24	0	0	0	4	106	76	14	15	0	0	0	0
25	0	0	0	1	101	23	13	11	0	0	0	0
26	0	0	0	0	93	31	13	10	0	0	0	0
27	0	0	0	0	90	63	15	15	0	0	0	0
28	0	0	0	2	100	58	15	7	0	0	0	0
29	0	65	0	6	---	55	17	4	0	0	0	0
30	0	6	0	8	---	51	19	5	0	0	0	0
31	0	---	0	50	---	48	---	4	---	0	0	---
TOTAL	0.0	71.0	25.2	884	4290	4093	767.8	417.5	20.5	0.0	0.0	0.0
MEAN	0.0	2.4	0.8	28.5	153.2	132.0	25.6	13.5	0.7	0.0	0.0	0.0
MAX	0.0	65.3	25.1	218	410	387	45.9	41.6	4.6	0.0	0.0	0.0
MIN	0.0	0.0	0.0	0.0	0.0	22.8	13.0	4.2	0.0	0.0	0.0	0.0
ACRE FT	0	141	50	1754	8510	8119	1523	828	41	0	0	0

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 2017 TO SEPTEMBER 2018
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2	0.1	0.2	0.2	3	1	25	3	0.8	1	0.7	0.8
2	1	0.1	0.1	0.1	3	101	25	4	0.8	0.8	0.6	0.8
3	1	0.2	0	0.1	3	28	23	4	0.8	0.8	0.6	0.8
4	1	0.2	0	0.1	3	13	21	3	0.9	0.8	0.7	0.8
5	1	0.2	0	0.1	3	7	18	3	1	0.8	0.7	0.7
6	1	0.3	0.1	0.1	3	4	16	3	1	0.8	0.6	0.7
7	1	0.2	0.2	0.1	3	3	15	2	1	1	0.6	0.8
8	1	0.2	3	0.1	2	3	14	2	1	1	0.6	0.7
9	1	0.2	6	711	2	2	12	2	1	1	0.6	0.7
10	1	0.3	8	58	2	3	11	2	1	1.2	0.6	0.6
11	1	0.3	7	21	2	31	10	2	1	1	0.6	0.5
12	1	0.3	3	14	2	8	11	2	1	0.8	0.6	0.4
13	1	0.3	2	11	2	5	12	2	1	0.8	0.5	0.3
14	1	0.3	1	9	2	23	9	1	1	1	0.5	0.2
15	1	0.3	1	8	2	29	9	1	1	1	0.6	0.3
16	0.8	0.4	0.8	7	1	15	10	2	1.2	1	0.6	0.8
17	1	0.3	0.5	7	1	12	10	2	1	1	0.6	1
18	0.9	0.3	0.3	6	1	9	9	1	1	1	1	0.6
19	0.9	0.3	0.2	6	1	7	9	1	1	1	1	0.5
20	0.7	0.3	0.1	6	1	6	8	1	1	0.8	0.7	0.4
21	0.9	0.3	0.1	6	1	141	7	1	1.1	1	0.7	0.3
22	0.8	0.2	0.1	6	1	1380	6	1.1	1	1	0.7	0.3
23	0.5	0.1	0.1	6	1	426	5	1.1	0.9	0.9	0.7	0.4
24	0.7	0.2	0.1	5	1	132	5	1.1	0.8	0.8	0.8	0.4
25	2	0.1	0.1	5	1	83	4	0.9	0.9	0.8	0.8	0.5
26	0.3	0.1	0.1	5	1	59	4	0.9	0.9	0.9	0.8	0.5
27	0.1	0.1	0.1	4	1	48	4	0.8	0.8	1.0	0.8	0.4
28	0.2	0.1	0.1	4	1	40	3	0.8	0.8	0.9	0.9	0.4
29	0.2	0.1	0.2	3		35	3	0.8	0.9	0.7	0.9	0.4
30	0.1	0.2	0.2	3		30	3	1	1	0.7	0.9	0.4
31	0.1		0.1	3		27		1		0.8	0.9	
TOTAL	29	7	34.3	915	50	2712	321	54	29	27	21	16
MEAN	0.9	0.2	1	30	2	87	11	2	1	0.9	0.7	0.5
MAX	2	0	8.4	711	3	1380	25	4	1	1	0.9	1
MIN	0	0	0	0	1	1	3	1	0.8	0.7	0.5	0.2
ACRE FT	58	13	68.1	1815	99	5379	637	107	58	55	42	32

Data is provisional and subject to revision (USGS)

Estimated daily data. (USGS)

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 2018 TO SEPTEMBER 2019
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.4	2	3	2	67	131	69	33	26	15	10	9
2	0.3	2	2	2	3620	424	68	33	28	15	11	8
3	0.3	2	2	2	2180	259	65	32	28	15	12	8
4	0.4	2	2	2	1900	244	64	31	26	16	13	8
5	0.4	2	2	2	818	232	62	32	24	17	13	7
6	0.4	2	8	4	246	1310	59	33	23	18	12	8
7	0.5	2	3	13	313	558	56	32	23	19	12	8
8	0.5	2	2	4	336	374	54	32	23	19	13	8
9	0.5	2	2	3	313	304	51	32	22	19	13	8
10	0.4	1	2	3	225	278	49	32	21	18	13	8
11	0.3	1	2	3	117	251	48	30	19	17	13	8
12	0.9	1	2	28	103	228	47	30	18	17	13	7
13	1	1	2	10	98	204	45	29	19	16	12	7
14	1	1	2	18	1550	186	45	29	20	16	10	7
15	1	1	2	116	494	171	44	29	21	16	11	7
16	2	1	2	91	346	155	44	44	22	16	10	7
17	2	1	2	4020	281	143	41	34	22	16	11	7
18	1	1	2	305	249	123	39	30	21	16	11	7
19	1	1	2	160	229	122	39	40	20	17	11	7
20	1	1	2	128	210	117	41	33	20	17	11	7
21	2	1	2	108	200	114	40	30	22	16	10	7
22	2	2	2	93	188	107	38	29	22	15	10	7
23	2	2	2	80	177	103	36	30	20	14	10	7
24	2	2	2	74	157	99	36	29	20	13	9	7
25	2	2	2	66	144	143	34	27	21	13	9	8
26	2	2	2	62	135	147	35	29	21	13	9	7
27	2	2	2	56	141	91	35	27	20	12	9	8
28	2	2	2	50	159	85	36	27	19	12	9	8
29	2	3	2	41	82	82	36	26	17	11	9	8
30	2	3	2	36	78	78	35	25	16	11	9	8
31	2		2	234		74		25		11	9	
TOTAL	34	49	69.1	5815	14996	6935	1388	955	640	474	336	226
MEAN	1	2	2	188	536	224	46	31	21	15	11	8
MAX	2	3	8	4020	3620	1310	69	44	28	19	13	9
MIN	0.3	1	2	2	67	74	34	25	16	11	9	7
ACRE FT	68	97	137.0	11535	29744	13756	2752	1894	1270	940	666	448

Data is provisional and subject to revision (USGS)

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 2017 THROUGH SEPTEMBER 2018
 Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	2	6	0.1	0	0	0	0
2	0	0	0	0	0	32	5	0.1	0	0	0	0
3	0	0	0	0	0	6	5	0.1	0	0	0	0
4	0	0	0	0	0	3	4	0.1	0	0	0	0
5	0	0	0	0	0	0.5	3	0.1	0	0	0	0
6	0	0	0	0	0	0.1	2	0.1	0	0	0	0
7	0	0	0	0	0	0.1	2	0.1	0	0	0	0
8	0	0	0	0	0	0.1	2	0.1	0	0	0	0
9	0	0	0	37	0	0.1	2	0.1	0	0	0	0
10	0	0	0	8	0	3	2	0.4	0	0	0	0
11	0	0	0	4	0	7	2	2	0	0	0	0
12	0	0	0	3	0	1	2	1	0	0	0	0
13	0	0	0	1	0	0.4	1	1	0	0	0	0
14	0	0	0	0.6	0	6	1	0.9	0	0	0	0
15	0	0	0	0.5	1	8	1	1	0	0	0	0
16	0	0	0	0.5	1	3	1	1	0	0	0	0
17	0	0	0	0.5	1	3	1	0.9	0	0	0	0
18	0	0	0	0.4	1	2.6	0.3	2	0	0	0	0
19	0	0	0	0.4	1	2.3	0.1	2	0	0	0	0
20	0	0	0	0.4	1	1.9	0.1	2	0	0	0	0
21	0	0	0	0.4	1	45	0.1	2	0	0	0	0
22	0	0	0	0.3	1	212	0.1	1	0	0	0	0
23	0	0	0	0.3	1	94	0.1	1	0	0	0	0
24	0	0	0	0.3	1	23	0.1	0.3	0	0	0	0
25	0	0	0	0.3	1	17	0.1	0.1	0	0	0	0
26	0	0	0	0.2	2	14	0.1	0	0	0	0	0
27	0	0	0	0.2	2	11	0.1	0	0	0	0	0
28	0	0	0	0.2	2	9	0.1	0	0	0	0	0
29	0	0	0	0.1	---	7	0.1	0	0	0	0	0
30	0	0	0	0.1	---	6	0.1	0	0	0	0	0
31	0	---	0	0.1	---	5	---	0	---	0	0	---
TOTAL	0	0	0	59.03	18.76	522.77	38.97	18.05	1	0	0	0
MEAN	0	0	0	2	1	17	1	0.6	0.0	0.0	0	0
MAX	0	0	0	37	2	212	6	2	0	0.0	0	0
MIN	0	0	0	0	0	0	0.1	0	0	0	0	0
ACRE FT	0	0	0	117	37	1037	77	36	1	0	0	0

Estimated daily data

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 2018 THROUGH SEPTEMBER 2019

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	1	0	13	18	11	7	9	0	0.2	0
2	0	0	0.4	0	712	170	11	7	9	0.1	0.2	0
3	0	0	0	0	409	68	12	7	8	0.4	0.3	0
4	0	0	0	0	503	45	13	7	7	0.3	0.2	0
5	0	0	0	0.1	280	36	12	8	6	0.5	0	0
6	0	0	13	5	141	612	11	8	6	0.6	0	0
7	0	0	0.7	13	83	327	10	6	6	0.5	0	0
8	0	0	0.7	1	54	196	10	6	5	0.2	0	0
9	0	0	0.6	0.7	47	123	9	6	4	0.6	0.1	0
10	0	0	0.6	0.7	40	99	9	6	3	1	0	0.1
11	0	0	0.5	0.7	27	77	9	6	1	0.9	0	0.1
12	0	0	0.5	26	23	57	8	7	0	0.8	0	0
13	0	0	0.4	7	23	45	8	7	1	1	0	0
14	0	0	0.4	16	249	36	8	7	1	1	0	0
15	0	0	0.3	24	180	31	8	7	1	2	0	0
16	0	0	0.3	25	119	27	7	13	1	1	0	0
17	0	0	0.2	404	92	23	7	7	0	0.9	0	0
18	0	0	0.2	58	71	22	7	6	0	0.9	0	0
19	0	0	0.1	24	53	21	7	12	0	0.7	0	0.2
20	0	0	0.1	20	42	21	6	11	0	0.5	0	0.3
21	0	0	0	15	36	20	6	9	0	0.4	0	0
22	0	0	0	12	28	19	7	9	0	0.6	0	0
23	0	0	0	10	24	18	7	9	0	0.8	0	0
24	0	0	0	8	22	17	7	10	0	0.6	0	0
25	0	0	0	7	21	16	7	10	0	0.7	0	0
26	0	0	0	6	20	16	7	10	0	0.6	0	0
27	0	0	0	6	20	15	8	10	0	0.5	0	0
28	0	0	0	6	24	14	8	10	0	0.2	0.1	0
29	0	8	0	7	---	14	8	10	0	0.3	0	0
30	0	1	0	6	---	13	8	9	0	0.3	0	0.1
31	0	---	0	42	---	12	---	9	---	0.2	0	---
TOTAL	0	9	20	750.9	3356.0	2228.0	256.7	255.4	67	20	1	1
MEAN	0	0	1	24	120	72	9	8.2	2.2	0.6	0	0
MAX	0	8	13	404	712	612	13	13	9	1.6	0	0
MIN	0	0	0	0	13	12	6.4	6	0	0	0	0
ACRE FT	0	19	40	1489	6657	4419	509	507	134	39	2	2

Estimated daily data

Appendix C
Fisheries Storm Peak Logs

Flow Assessment at Robles Diversion and Fish Passage Facility

Date: 1/10/2018 Time: 9:05 Prepared by: Jordan Switzer

INITIAL STORM EVENTS

Current Flow Conditions

Fish Ladder (cfs) 31 cfs
 Auxiliary Pipeline (cfs) 0 cfs
 Measurement Weir (cfs) 29 cfs
 Robles Canal (cfs) 0 cfs
 Spillway Gates (Open/Closed) 1 C | 2 C | 3 C | 4 C
 Cutoff Wall (Overflow - Yes/No) N

Estimated Inflow to Robles (cfs)

29 cfs

Initial Storm Peak

Date 1/9/18
 Time 06:15
 Matilija Dam Peak 1102.67 cfs
 Flow (cfs) 17,648 cfs ← Too high?

AS OF 1/10/18
 09:30

Matilija W.S. Elevation	<u>1094.74 ft</u>
Matilija Creek @ Matilija Hot Spgs	<u>51 cfs</u>
North Fork Matilija Creek (cfs)	<u>N/A</u>
Lake Casitas W.S Elevation	<u>490.13 ft</u>

Current day is ___ days after Peak. Matilija crk @ Matilija Hot Spring
 Peak: 1/9/18 06:10
 9.04 ft / 6,202 cfs

Robles Release Requirements

Day	DATE	Robles Inflow	Table 2-3 Initial Rel.	Table 2-4 Selection	Table 2-4 Rel. (cfs)
1	1/10/18	29 cfs	≤ 50 cfs		50
2	1/11				40
3	1/12				30
4	1/13				30
5	1/14				30
6	1/15				30
7	1/16				30
8	1/17				30
9	1/18				30
10	1/19				30
11	1/20				30
12	1/21				30

OVERLAPPING EVENTS

Overlapping (OL) Storm Peak

Date N/A
 Time _____
 OL Peak Flow (cfs) _____
 Days since initial Peak _____
 Days since OL Peak to ≤ 600 cfs _____
 Table 2-6 Initial Release (cfs) _____
 Table 2-7 Initial Release (cfs) _____

OPERATOR INSTRUCTIONS

Fish Ladder Flow set at 50 cfs
 Auxiliary Flow set at 0 cfs.
 Diversion Setpoints:
 Maximum 0
 Minimum 0

Other Instructions: Due to flows falling below 50 cfs, set Day 1 release at 50 cfs Day 2 at 40 cfs and Day 3 through 12 at 30 cfs to smoothly close migration window. (Per B.O. Page 12)

POSTED: 1/10/18

BY: Jordan Switzer

Flow Assessment at Robles Diversion and Fish Passage Facility

Date: 3/22/2018 Time: 9:05 Prepared by: Jordan Switzer

INITIAL STORM EVENTS

Current Flow Conditions

Fish Ladder (cfs) 32 ← Fishway Not reading due to turbidity.
 Auxiliary Pipeline (cfs) 0
 Measurement Weir (cfs) 32 ← Currently all flow passing through fishway
 Robles Canal (cfs) 117 (Estimate as equal to weir)
 Spillway Gates (Open/Closed) 1 C 2 C 3 C 4 C
 Cutoff Wall (Overflow - Yes/No) N

Estimated Inflow to Robles (cfs)

149

Initial Storm Peak

Date 3/21/2018
 Time 17:00
 Matilija Dam Peak 1096.77
 Flow (cfs) 1257 ← NOT THAT HIGH

Matilija W.S. Elevation	<u>1096.41</u>
Matilija Creek @ Matilija Hot Spgs	<u>98 cfs</u> *
North Fork Matilija Creek (cfs)	<u>41 cfs</u>
Lake Casitas W.S Elevation	<u>489.92</u>

Current day is ___ days after Peak.

Robles Release Requirements

Day	DATE	Robles Inflow	Table 2-3 Initial Rel.	Table 2-4 Selection	Table 2-4 Rel. (cfs)
1	<u>3/22/2018</u>	<u>149</u>	<u>50 to 267</u>	<u>50</u>	<u>50</u>
2	<u>3/23</u>				<u>50</u>
3	<u>3/24</u>				<u>50</u>
4	<u>3/25</u>				<u>50</u>
5	<u>3/26</u>				<u>50</u>
6	<u>3/27</u>				<u>50</u>
7	<u>3/28</u>				<u>50</u>
8	<u>3/29</u>				<u>50</u>
9	<u>3/30</u>				<u>50</u>
10	<u>3/31</u>				<u>50</u>
11	<u>4/1</u>				<u>40</u>
12	<u>4/2</u>				<u>30</u>

North Fork 3/21/18 12:39 181cfs
 MATILIJIA CREEK ABOVE DAM

3/21/2018 16:00 228cfs

MATILIJIA CREEK @ HOTSPRINGS

* Stuck at 98 cfs

OVERLAPPING EVENTS

NA

Overlapping (OL) Storm Peak

Date _____
 Time _____
 OL Peak Flow (cfs) _____
 Days since initial Peak _____

Days since OL Peak to < 600 cfs _____
 Table 2-6 Initial Release (cfs) _____
 Table 2-7 Initial Release (cfs) _____

OPERATOR INSTRUCTIONS

Fish Ladder Flow set at _____ cfs
Auxiliary Flow set at _____ cfs.
Diversion Setpoints:
Maximum _____
Minimum _____

Other Instructions: _____

POSTED: 3/22/2018 9:15

BY: Jordan Switzer

Flow Assessment at Robles Diversion and Fish Passage Facility

Date: 3/23/18 Time: 10:40 Prepared by: Jordan Switzer

INITIAL STORM EVENTS

Current Flow Conditions

Fish Ladder (cfs)	<u>39</u>
Auxiliary Pipeline (cfs)	<u>0</u>
Measurement Weir (cfs)	<u>50</u>
Robles Canal (cfs)	<u>204</u>
Spillway Gates (Open/Closed)	<u>1 C 2 C 3 C 4 C</u>
Cutoff Wall (Overflow - Yes/No)	<u>N</u>

Estimated Inflow to Robles (cfs)

254

Initial Storm Peak

Date 3/22/2018
 Time 13:15
 Mailija Dam Peak 1097.84
 Flow (cfs) 3222

Matilija W.S. Elevation	<u>1096.4</u>
Matilija Creek @ Matilija Hot Spgs	<u>213</u> ← <i>STUCK ABOVE DAM</i>
North Fork Matilija Creek (cfs)	<u>121</u>
Lake Casitas W.S Elevation	<u>491.02</u>

READING 50 cfs (9:30)

Current day is 1 days after Peak.

Robles Release Requirements

Day	DATE	Robles Inflow	Table 2-3 Initial Rel.	Table 2-4 Selection	Table 2-4 Rel. (cfs)
1	3/23/18	254 cfs	247-274	82 cfs	82
2	3/24				74
3	3/25				68
4	3/26				62
5	3/27				56
6	3/28				56
7	3/29				50
8	3/30				50
9	3/31				50
10	4/01				50
11	4/02				40
12	4/03				30

NF PEAK 3/22/18 13:19
 516 cfs
 MATILIA CREEK ABOVE DAM
 3/22/18 12:45
 717 cfs
 Robles 3,044 cfs
 3/22/18 14:09

OVERLAPPING EVENTS

N/A → Not overlapping (DAY 1 OF 3/21/18 storm event)

Overlapping (OL) Storm Peak

Date	<u> </u>	Days since OL Peak to < 600 cfs	<u> </u>
Time	<u> </u>	Table 2-6 Initial Release (cfs)	<u> </u>
OL Peak Flow (cfs)	<u> </u>	Table 2-7 Initial Release (cfs)	<u> </u>
Days since initial Peak	<u> </u>		

OPERATOR INSTRUCTIONS

Fish Ladder Flow set at <u>50</u> cfs
Auxiliary Flow set at <u>32</u> cfs.
Diversion Setpoints:
Maximum <u> </u>
Minimum <u> </u>

Other Instructions: WAITED FOR STABILITY PER SCOTTELEWS
OPERATIONS RECENTLY CLOSED SPILLWAY GATES
TO POND & INITIATE DIVERSIONS NOB:45 FOREBAY
STABILIZED AT 7.2 FT AT 10:40. FLOWS
ADDED AT THAT TIME.
BEGIN OPENING AUX AT 11:00

POSTED: 10:55 3/23/18

BY: Jordan Switzer

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

Date: 1-16-19 Time: 9:00 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	CFS
Robles	<u>1-15-19</u>	<u>7:12</u>	<u>775</u>
North Fork Matilija Creek		<u>7:59</u>	<u>183-35 = 148</u>
Matilija Creek above Resivor		<u>3:15</u>	<u>580</u>
Matilija Dam		<u>7:35</u>	<u>1334-249 = 1085</u>
Matilija Creek at Hot Springs	↓		

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

Current Flow Conditions cfs

North Fork Matilija Creek	<u>9:00</u>	<u>57-35=22</u>
Matilija Creek above Resivor	<u>7:30</u>	<u>64-15=49</u>
Matilija Dam	<u>7:20</u>	<u>447-249=198</u>
Matilija Creek at Hot Springs		
Robles Canal		<u>109</u>
Robles Weir		<u>28</u>
Total Robles In Flow		<u>137</u>

Date Matilija Resevior Filled ≈ 2011
 Count of Days: > 30

- CDPM Method:
- <30 days - M4 - Modifed Overlapping Release
 - ≥30 days - M9 - Matilija Download with Intial Release
 - Standard release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	<u>1-16</u>	<u>50</u>					
2	<u>1-17</u>						
3	<u>1-18</u>						
4	<u>1-19</u>						
5	<u>1-20</u>						
6	<u>1-21</u>						
7	<u>1-22</u>						
8	<u>1-23</u>						
9	<u>1-24</u>	↓					
10	<u>1-25</u>	<u>50</u>					
11	<u>1-26</u>	<u>40</u>					
12	<u>1-27</u>	<u>30</u>					
13							
14							
15							
16							
17							
18							

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

Date: 1-18-19 Time: 11:04 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	CFS
Robles	1-17-19	6:22	~9,100-10k
North Fork Matilija Creek		6:39	2363-35 = 2328
Matilija Creek above Resivor		4:30	4398 +
Matilija Dam		7:20	7022-249 = 6773
Matilija Creek at Hot Springs	↓		
BO Defined Storm Event: <u>(Y)</u> N			
BO Defined Overlapping Event: Y <u>(N)</u>			

Current Flow Conditions CFS

North Fork Matilija Creek	9:19	892 *
Matilija Creek above Resivor	11:04	0*
Matilija Dam	10:55	425-249 = 176
Matilija Creek at Hot Springs		
Robles Canal	11:04	217
Robles Weir	11:04	54
Total Robles In Flow		271

Date Matilija Resevior Filled ~2011
 Count of Days: 730

CDPM Method:
 <30 days - M4 - Modifed Overlapping Release
 ≥30 days - M9 - Matilija Download with Intial Release
 Standard release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	1-18	82					
2	1-19	74					
3	1-20	68					
4	1-21	62					
5	1-22	56					
6	1-23	56					
7	1-24	50					
8	1-25	50					
9	1-26	50					
10	1-27	50					
11	1-28	50					
12	1-29	30					
13							
14							
15							
16							
17							
18							

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

Date: 2-1-19 Time: 9:30 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs	
Robles	1-31-19	14:15	≈(274-378)	
North Fork Matilija Cr		↓ 12:04	133-35 = 98	98
Matilija Cr above Reservoir		↓ 13:00	213*	+
Matilija Dam		↓ 13:40	469-91 = 378	378
Matilija Cr at Hot Springs				↓
			(213-476)	cfs

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

Current Flow Conditions	time	cfs
North Fork Matilija Cr	8:00	89-46 = 43
Matilija Cr above Reservoir	9:15	38
Matilija Dam	9:10	119-91 = 28
Matilija Cr at Hot Springs		
Robles Canal		20
Robles Weir		30
Total Robles In Flow		50

* many errors

Date Matilija Reservoir Filled: ≈ 2011
 Count of Days: > 30

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

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	2-1	50					
2	2-2	40	→ new storm on 2-2-19				
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

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

Date: 2-2-19 Time: 18:00 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs
Robles	2-2-19	10:45	≈ 12-14k
North Fork Matilija Cr		10:14	2738-46-2692 2692
Matilija Cr above Reservoir		10:00	5222 +
Matilija Dam		10:35	9138-91-9047 9047
Matilija Cr at Hot Springs			
BO Defined Storm Event: <input checked="" type="radio"/> Y / <input type="radio"/> N			
BO Defined Overlapping Event: <input type="radio"/> Y / <input checked="" type="radio"/> N			

Current Flow Conditions

	time	cfs
North Fork Matilija Cr		
Matilija Cr above Reservoir		
Matilija Dam		
Matilija Cr at Hot Springs		
Robles Canal		
Robles Weir		
Total Robles In Flow		11,739

Date Matilija Reservoir Filled: ≈ 2011
Count of Days: 730

CDPM Method:

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

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	2-3-19	1st	2nd initial storm peak				
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

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

Date: 2-4-19 Time: _____ Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs
Robles	2-3-19	6:32	3511+263=3774
North Fork Matilija Cr	↓	6:00	698-46=643
Matilija Cr above Reservoir	↓	6:30	48*
Matilija Dam	↓	7:40	1790-91=1699
Matilija Cr at Hot Springs			
BO Defined Storm Event: <input checked="" type="radio"/> Y / <input type="radio"/> N			
BO Defined Overlapping Event: <input type="radio"/> Y / <input checked="" type="radio"/> N			

Current Flow Conditions

	time	cfs
North Fork Matilija Cr		682-46=636
Matilija Cr above Reservoir	6:00	10*
Matilija Dam		1945-91=1854
Matilija Cr at Hot Springs		
Robles Canal		
Robles Weir		
Total Robles In Flow		

636
+
1854
↓
2490

↓
2342

* Many errors

Date Matilija Reservoir Filled: ≈ 2011
Count of Days: > 30

CDPM Method:

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

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	2-4	—	3 rd initial storm				
2	2-5						
3	2-6						
4	2-7						
5	2-8						
6	2-9						
7	2-10						
8	2-11						
9	2-12						
10	2-13						
11	2-14						
12	2-15		⊥				
13							
14							
15							
16							
17							
18							

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

Date: 2-5-19 Time: 9:00 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs
Robles	2-4-19	9:15	3532+292=3824
North Fork Matilija Cr		8:34	682-46=636 636
Matilija Cr above Reservoir		8:45	48* +
Matilija Dam	↓	9:30	1980-91=1889 1889
Matilija Cr at Hot Springs			
BO Defined Storm Event: (Y) / N			
BO Defined Overlapping Event: Y / (N)			

Current Flow Conditions

	time	cfs
North Fork Matilija Cr	9:00	408-46=362*
Matilija Cr above Reservoir	9:00	11*
Matilija Dam	9:00	844-91=753
Matilija Cr at Hot Springs		
Robles Canal		0
Robles Weir		2123
Total Robles In Flow		2123

Date Matilija Reservoir Filled: ≈ 2011
Count of Days: >30

* many errors

CDPM Method:

<30 days - M4 - Modified Overlapping Release

≥30 days - M9 - Matilija Download with Initial Release

Standard Release w/ NMFS additional release to match shut down time. per phone conversation on 2-6-19 @ 5:15pm and

M9 - Matilija Download e-mail to BOR @ 6:55pm. with and by Rick Bush.

Day	Date	Robles Release	Robles Inflow		Matilija Inflow	Matilija Outflow	Matilija Elevation
			Canal	Weir			
1	2-5	7671	0	2123			
2	2-6	171					
3	2-7	100	shut down to remove sediment				
4	2-8	82	//				
5	2-9	74	//				
6	2-10	68	started up and release				
7	2-11	62					
8	2-12	56					
9	2-13	56					
10	2-14	50					
11	2-15	50	} added 50cfs release days for shutdown per NMFS				
12	2-16	50					
13	2-17	50					
14	2-18	40					
15	2-19	30					
16	2-20						
17							
18							

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

Date: 2-15-19

Time: 8:43

Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs	
North Fork Matilija Cr	2-14-19	9:49	1969	1969
Matilija Cr above Reservoir		9:15	4194 - 11 = 4183	
Matilija Dam		10:25	3611 - 114 = 3611	3611
Matilija Cr at Hot Springs				
Total Robles Inflow		10:46	7000 weir	5580
			x cutoff	

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

Santa Ana Br 8,500 @ 11:20
Foster 6,400 @ 11:30
San Antonio 650 @ 12:00

Date Matilija Reservoir Filled: 2/20/11

Count of Days: 730

Current Flow Conditions

	time	cfs
North Fork Matilija Cr	8:00	230
Matilija Cr above Reservoir	7:15	335
Matilija Dam	8:20	744
Matilija Cr at Hot Springs		
Robles Canal	8:43	486
Robles Weir	8:49	49
Total Robles Inflow		535

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	2-15	100					
2	2-16	74					
3	2-17	61					
4	2-18	54					
5	2-19	50					
6	2-20	50					
7	2-21	50					
8	2-22	50					
9	2-23	40					
10	2-24	30					
11							
12							
13							
14							
15							
16							
17							
18							

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

Date: 3-3-19

Time: 8:53

Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs
North Fork Matilija Cr	3-2-19	NA	214*
Matilija Cr above Reservoir		9:15	316
Matilija Dam		10:20	599
Matilija Cr at Hot Springs			
Total Robles Inflow		11:50	429

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

Current Flow Conditions

	time	cfs
North Fork Matilija Cr	NA	214*
Matilija Cr above Reservoir	7:30	163
Matilija Dam	8:25	394
Matilija Cr at Hot Springs		
Robles Canal	8:53	188
Robles Weir	8:53	34
Total Robles Inflow		222

Date Matilija Reservoir Filled: ~2011
 Count of Days: >30

* errors

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	3-3	68					
2	3-4	62					
3	3-5	56					
4	3-6	56					
5	3-7	50					
6	3-8	50					
7	3-9	50					
8	3-10	50					
9	3-11	50					
10	3-12	50					
11	3-13	40					
12	3-14	30					
13							
14							
15							
16							
17							
18							

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

Date: 3-7-19 Time: 8:30 Prepared by: Scott Lewis

Storm Peak Conditions

	date	time	cfs
North Fork Matilija Cr	3-6-19	5:45	431
Matilija Cr above Reservoir		6:00	711
Matilija Dam		11:40	859
Matilija Cr at Hot Springs			
Total Robles Inflow			2186

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

Current Flow Conditions

	time	cfs
North Fork Matilija Cr	8:00	216*
Matilija Cr above Reservoir	8:30	286
Matilija Dam	8:00	637
Matilija Cr at Hot Springs		
Robles Canal	8:00	432
Robles Weir	8:00	62
Total Robles Inflow		494

Foster 2953 @ 7:00
Santa Ana 1127 @ 8:30
San Antonio 989 @ 6:05

Date Matilija Reservoir Filled: 3-6-19
Count of Days: 1

* errors

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	3-7	90					
2	3-8	70					
3	3-9	55	82				
4	3-10	55	74				
5	3-11	50	68				
6	3-12	50	62				
7	3-13	50	56				
8	3-14	50	56				
9	3-15	50	50				
10	3-16	40	50				
11	3-17	30	40				
12	3-18		30				
13							
14							
15							
16							
17							
18							

per NMFS + BOR

Appendix D
Casitas Reservoir Operational Data

**CASITAS RESERVOIR WATER INVENTORY SUMMARY
2017 - 2018 WATER YEAR**

figures in acre-feet except where otherwise noted

MONTH	RESERVOIR (last of previous month)		RESERVOIR INFLOW				RESERVOIR RELEASES			
	ELEV (ft)	STORAGE	DIRECT	VENTURA RIVER DIVERSIONS	TOTAL	PRECIP	EVAP	TO MAIN SYSTEM	SPILL	CHANGE IN STORAGE
OCT 2017	493.43	87891	13	0	13	0	512	1311	0	-1811
NOV 2017	492.12	86080	-84	0	-84	5	256	990	0	-1325
DEC 2017	491.14	84755	-509	0	-509	0	233	1093	0	-1836
JAN 2018	489.74	82919	795	0	795	413	183	569	0	455
FEB 2018	490.09	83374	87	0	87	12	279	869	0	-1049
MAR 2018	489.28	82325	1723	638	2361	954	265	351	0	2698
APR 2018	491.34	85023	225	0	225	2	494	781	0	-1048
MAY 2018	490.55	83975	80	0	80	11	467	1016	0	-1392
JUN 2018	489.48	82583	177	0	177	0	637	1127	0	-1587
JUL 2018	488.24	80996	161	0	161	0	820	1640	0	-2299
AUG 2018	486.41	78697	159	0	159	0	792	1498	0	-2131
SEP 2018	484.68	76566	55	0	55	0	530	1197	0	-1672
OCT 2018	483.30	74894	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL			2882	638	3520	1397	5469	12444	0	-12997

reservoir capacity = 237,700 a.f. @ 567 ft.

CASITAS RESERVOIR OPERATION
OCTOBER 2017

*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	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	
1	493.38	87821	1476	-29	0	-29	0.21	0.21	19	0	0	0	22	0	0	-70
2	493.35	87779	1476	9	0	9	0.09	0.09	8	0	0	0	43	0	0	-42
3	493.32	87737	1476	10	0	10	0.08	0.08	7	0	0	0	45	0	0	-42
4	493.27	87668	1474	-5	0	-5	0.19	0.19	18	0	0	0	46	0	0	-69
5	493.23	87612	1474	5	0	5	0.17	0.17	16	0	0	0	45	0	0	-56
6	493.18	87542	1473	-13	0	-13	0.18	0.18	17	0	0	0	41	0	0	-70
7	493.14	87486	1473	0	0	0	0.20	0.20	18	0	0	0	38	0	0	-56
8	493.10	87431	1473	-7	0	-7	0.20	0.20	18	0	0	0	29	0	0	-55
9	493.06	87375	1471	22	0	22	0.32	0.32	29	0	0	0	48	0	0	-56
10	493.01	87305	1471	20	0	20	0.35	0.35	32	0	0	0	58	0	0	-70
11	492.95	87222	1469	-11	0	-11	0.25	0.25	23	0	0	0	49	0	0	-83
12	492.91	87167	1469	2	0	2	0.13	0.13	12	0	0	0	45	0	0	-55
13	492.87	87111	1468	-9	0	-9	0.08	0.08	7	0	0	0	40	0	0	-56
14	492.83	87056	1468	-7	0	-7	0.14	0.14	13	0	0	0	35	0	0	-55
15	492.80	87014	1468	-11	0	-11	0.13	0.13	12	0	0	0	20	0	0	-42
16	492.77	86973	1466	29	0	29	0.32	0.32	29	0	0	0	41	0	0	-41
17	492.74	86931	1466	24	0	24	0.17	0.17	16	0	0	0	50	0	0	-42
18	492.69	86862	1464	-10	0	-10	0.19	0.19	17	0	0	0	42	0	0	-69
19	492.65	86807	1464	18	0	18	0.25	0.25	23	0	0	0	51	0	0	-55
20	492.61	86752	1464	-12	0	-12	0.12	0.12	11	0	0	0	32	0	0	-55
21	492.57	86697	1463	-13	0	-13	0.08	0.08	7	0	0	0	35	0	0	-55
22	492.54	86655	1463	-2	0	-2	0.10	0.10	9	0	0	0	31	0	0	-42
23	492.50	86600	1463	17	0	17	0.21	0.21	19	0	0	0	53	0	0	-55
24	492.46	86545	1461	31	0	31	0.21	0.21	19	0	0	0	67	0	0	-55
25	492.39	86449	1459	-15	0	-15	0.18	0.18	16	0	0	0	65	0	0	-96
26	492.34	86381	1459	4	0	4	0.16	0.16	15	0	0	0	57	0	0	-68
27	492.29	86312	1457	6	0	6	0.22	0.22	20	0	0	0	55	0	0	-69
28	492.24	86243	1457	-11	0	-11	0.29	0.29	26	0	0	0	32	0	0	-69
29	492.19	86175	1456	-30	0	-30	0.20	0.20	18	0	0	0	19	0	0	-68
30	492.16	86134	1456	11	0	11	0.06	0.06	5	0	0	0	47	0	0	-41
31	492.12	86080	1456	-10	0	-10	0.11	0.11	10	0	0	0	34	0	0	-54
TOTAL				13	0	13	5.59	5.59	512	0.00	0.00	0	1311	0	0	-1811

As of 10-01-17; Rating table prepared by TetraTech used to calculate Casitas Reservoir Storage

Recreation evaporation equipment broken. Estimated as equal to evaporation at dam.

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 2017

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Oct 31 st	Surface	Ventura			Pan	Pan	Lake	at	at	Lake	To			
		86080	Area	Direct	Divers'n	Total	@Dam	@Rec		Dam	Rec		Main	River	Spill	
1	492.10	86052	1456	18	0	18	0.09	0.09	8	0	0	0	38	0	0	-28
2	492.06	85998	1454	-17	0	-17	0.08	0.08	7	0	0	0	30	0	0	-54
3	492.02	85943	1454	-9	0	-9	0.15	0.15	13	0	0	0	33	0	0	-55
4	491.99	85902	1452	-11	0	-11	0.09	0.09	8	0	0	0	22	0	0	-41
5	491.95	85848	1452	-22	0	-22	0.18	0.18	16	0	0	0	16	0	0	-54
6	491.93	85821	1452	14	0	14	0.07	0.07	6	0	0	0	35	0	0	-27
7	491.90	85780	1452	3	0	3	0.11	0.11	10	0	0	0	34	0	0	-41
8	491.85	85712	1451	-15	0	-15	0.09	0.12	9	0	0	0	44	0	0	-68
9	491.82	85685	1451	35	0	35	0.12	0.14	11	0	0	0	51	0	0	-27
10	491.77	85603	1449	-43	0	-43	0.02	0.00	1	0	0	0	38	0	0	-82
11	491.72	85536	1449	-31	0	-31	0.07	0.15	10	0	0	0	26	0	0	-67
12	491.69	85495	1448	-14	0	-14	0.14	0.07	9	0	0	0	18	0	0	-41
13	491.66	85454	1448	-5	0	-5	0.05	0.14	8	0	0	0	28	0	0	-41
14	491.64	85427	1448	17	0	17	0.07	0.01	3	0	0	0	40	0	0	-27
15	491.60	85373	1448	-15	0	-15	0.09	0.03	5	0	0	0	34	0	0	-54
16	491.57	85333	1446	-5	0	-5	0.05	0.06	5	0.01	0.00	1	31	0	0	-40
17	491.56	85319	1446	11	0	11	0.05	0.03	3	0.02	0.05	4	25	0	0	-14
18	491.53	85279	1446	-7	0	-7	0.07	0.07	6	0	0	0	27	0	0	-40
19	491.50	85238	1446	-13	0	-13	0.11	0.14	11	0	0	0	17	0	0	-41
20	491.48	85211	1444	22	0	22	0.12	0.10	10	0	0	0	40	0	0	-27
21	491.43	85144	1444	-9	0	-9	0.06	0.10	7	0	0	0	51	0	0	-67
22	491.40	85104	1444	17	0	17	0.15	0.10	11	0	0	0	46	0	0	-40
23	491.35	85037	1443	-25	0	-25	0.15	0.15	13	0	0	0	29	0	0	-67
24	491.31	84983	1443	-11	0	-11	0.02	0.12	6	0	0	0	37	0	0	-54
25	491.29	84956	1441	15	0	15	0.16	0.13	13	0	0	0	30	0	0	-27
26	491.27	84929	1441	1	0	1	0.07	0.10	7	0	0	0	20	0	0	-27
27	491.25	84903	1441	15	0	15	0.06	0.10	7	0	0	0	34	0	0	-26
28	491.22	84862	1441	8	0	8	0.12	0.10	10	0	0	0	40	0	0	-41
29	491.19	84822	1440	7	0	7	0.11	0.10	9	0	0	0	38	0	0	-40
30	491.14	84755	1440	-13	0	-13	0.24	0.10	15	0	0	0	39	0	0	-67
TOTAL				-84	0	-84	2.96	2.93	256	0.03	0.05	5	990	0	0	-1325

As of 10-01-17; Rating table prepared by TetraTech used to calculate Casitas Reservoir Storage

Recreation evaporation equipment broken. Estimated as equal to evaporation at dam.

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

CASITAS RESERVOIR OPERATION
DECEMBER 2017

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Nov 30 th Storage	Surface Area (acres)	Direct	Ventura River	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	491.08	84676	1438	-35	0	-35	0.04	0.11	6	0	0	0	38	0	0	-79
2	490.99	84556	1436	-84	0	-84	0.11	0.11	9	0	0	0	27	0	0	-120
3	490.91	84450	1436	-81	0	-81	0.09	0.08	7	0	0	0	18	0	0	-106
4	490.82	84331	1435	-85	0	-85	0.08	0.11	7	0	0	0	27	0	0	-119
5	490.75	84239	1433	-59	0	-59	0.17	0.13	12	0	0	0	21	0	0	-92
6	490.68	84146	1432	-2	0	-2	0.06	0.06	5	0	0	0	86	0	0	-93
7	490.62	84067	1432	-20	0	-20	0.14	0.14	11	0	0	0	48	0	0	-79
8	490.56	83989	1430	-27	0	-27	0.09	0.09	7	0	0	0	44	0	0	-78
9	490.52	83936	1430	0	0	0	0.09	0.09	7	0	0	0	46	0	0	-53
10	490.48	83884	1428	-3	0	-3	0.22	0.22	17	0	0	0	32	0	0	-52
11	490.42	83805	1428	-22	0	-22	0.12	0.12	9	0	0	0	47	0	0	-79
12	490.36	83726	1427	-29	0	-29	0.01	0.01	1	0	0	0	49	0	0	-79
13	490.30	83648	1427	-26	0	-26	0.09	0.09	7	0	0	0	45	0	0	-78
14	490.26	83596	1425	-7	0	-7	0.02	0.02	2	0	0	0	44	0	0	-52
15	490.22	83544	1425	2	0	2	0.15	0.15	12	0	0	0	42	0	0	-52
16	490.19	83504	1424	-2	0	-2	0.09	0.09	7	0	0	0	31	0	0	-40
17	490.15	83452	1424	-27	0	-27	0.07	0.07	5	0	0	0	20	0	0	-52
18	490.12	83413	1424	-1	0	-1	0.11	0.11	9	0	0	0	29	0	0	-39
19	490.09	83374	1422	1	0	1	0.08	0.08	6	0	0	0	34	0	0	-39
20	490.04	83309	1422	-28	0	-28	0.06	0.06	5	0	0	0	32	0	0	-65
21	490.01	83270	1422	-1	0	-1	0.10	0.12	9	0	0	0	29	0	0	-39
22	489.98	83231	1420	0	0	0	0.07	0.00	3	0	0	0	36	0	0	-39
23	489.96	83205	1420	19	0	19	0.27	0.12	15	0	0	0	30	0	0	-26
24	489.94	83179	1420	-1	0	-1	0.08	0.00	3	0	0	0	22	0	0	-26
25	489.91	83140	1420	-13	0	-13	0.12	0.08	8	0	0	0	18	0	0	-39
26	489.88	83101	1419	1	0	1	0.07	0.09	6	0	0	0	34	0	0	-39
27	489.85	83062	1419	-2	0	-2	0.07	0.07	5	0	0	0	32	0	0	-39
28	489.83	83036	1419	30	0	30	0.10	0.11	8	0	0	0	48	0	0	-26
29	489.81	83010	1419	14	0	14	0.09	0.13	9	0	0	0	32	0	0	-26
30	489.78	82971	1417	-2	0	-2	0.15	0.11	10	0	0	0	27	0	0	-39
31	489.74	82919	1417	-21	0	-21	0.08	0.09	7	0	0	0	24	0	0	-52
TOTAL				-509	0	-509	3.09	2.86	233	0.00	0.00	0	1093	0	0	-1836

Recreation evaporation data unavailable. Estimated as equal to evaporation at dam.

As of 10-01-17; Rating table prepared by TetraTech used to calculate Casitas Reservoir Storage

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Dec 31 st 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	To Spill	
1	489.73	82906	1417	5	0	5	0.02	0.06	3	0	0	0	15	0	0	-13
2	489.71	82881	1417	20	0	20	0.02	0.07	3	0	0	0	41	0	0	-25
3	489.69	82855	1416	21	0	21	0.11	0.07	7	0	0	0	40	0	0	-26
4	489.68	82842	1416	23	0	23	0.00	0.08	3	0.02	0.00	1	34	0	0	-13
5	489.66	82816	1416	-2	0	-2	0.05	0.05	4	0	0	0	21	0	0	-26
6	489.65	82803	1416	16	0	16	0.19	0.06	10	0	0	0	20	0	0	-13
7	489.64	82790	1416	2	0	2	0.09	0.07	6	0	0	0	9	0	0	-13
8	489.63	82777	1416	-5	0	-5	0.00	0.01	0	0.04	0.04	5	12	0	0	-13
9	489.86	83075	1419	91	0	91	0.00	0.00	0	1.61	2.10	219	12	0	0	298
10	490.16	83465	1424	218	0	218	0.00	0.00	0	1.14	2.00	186	15	0	0	390
11	490.38	83753	1427	310	0	310	0.11	0.17	11	0.02	0.00	1	12	0	0	288
12	490.51	83923	1430	191	0	191	0.22	0.02	9	0	0	0	12	0	0	170
13	490.64	84094	1432	185	0	185	0.01	0.05	2	0	0	0	11	0	0	171
14	490.61	84054	1432	-4	0	-4	0.18	0.13	12	0	0	0	24	0	0	-40
15	490.59	84028	1430	-5	0	-5	0.05	0.09	5	0	0	0	16	0	0	-26
16	490.56	83989	1430	-26	0	-26	0.02	0.08	4	0	0	0	9	0	0	-39
17	490.52	83936	1430	-38	0	-38	0.02	0.05	3	0	0	0	12	0	0	-53
18	490.48	83884	1428	-39	0	-39	0.06	0.06	5	0	0	0	8	0	0	-52
19	490.43	83818	1428	-47	0	-47	0.10	0.07	7	0	0	0	13	0	0	-66
20	490.40	83779	1428	-22	0	-22	0.07	0.09	6	0	0	0	11	0	0	-39
21	490.36	83726	1427	-42	0	-42	0.04	0.05	3	0	0	0	8	0	0	-53
22	490.32	83674	1427	-26	0	-26	0.11	0.12	9	0	0	0	17	0	0	-52
23	490.28	83622	1425	-28	0	-28	0.08	0.15	9	0	0	0	15	0	0	-52
24	490.26	83596	1425	-5	0	-5	0.09	0.10	7	0	0	0	14	0	0	-26
25	490.24	83570	1425	-2	0	-2	0.07	0.07	5	0	0	0	19	0	0	-26
26	490.21	83530	1425	-15	0	-15	0.13	0.13	10	0	0	0	15	0	0	-40
27	490.18	83491	1424	-14	0	-14	0.06	0.10	6	0	0	0	19	0	0	-39
28	490.16	83465	1424	-4	0	-4	0.05	0.10	6	0	0	0	16	0	0	-26
29	490.14	83439	1424	15	0	15	0.08	0.11	7	0	0	0	33	0	0	-26
30	490.11	83400	1424	8	0	8	0.14	0.13	10	0	0	0	37	0	0	-39
31	490.09	83374	1422	12	0	12	0.12	0.11	9	0	0	0	30	0	0	-26
TOTAL				795	0	795	2.29	2.45	183	2.83	4.14	413	569	0	0	455

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Jan 31 st Storage	Surface Area (acres)	Direct	Ventura River	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	490.07	83348	1422	15	0	15	0.05	0.10	7	0	0	0	34	0	0	-26
2	490.03	83296	1422	-3	0	-3	0.17	0.19	16	0	0	0	33	0	0	-52
3	490.00	83257	1422	-6	0	-6	0.04	0.16	9	0	0	0	24	0	0	-39
4	489.97	83218	1420	-6	0	-6	0.13	0.14	12	0	0	0	21	0	0	-39
5	489.94	83179	1420	16	0	16	0.11	0.16	12	0	0	0	43	0	0	-39
6	489.90	83127	1420	-10	0	-10	0.10	0.11	10	0	0	0	33	0	0	-52
7	489.86	83075	1419	-13	0	-13	0.01	0.07	4	0	0	0	36	0	0	-52
8	489.81	83010	1419	-30	0	-30	0.04	0.15	9	0	0	0	27	0	0	-65
9	489.76	82945	1417	-12	0	-12	0.22	0.18	18	0	0	0	35	0	0	-65
10	489.73	82906	1417	4	0	4	0.03	0.09	5	0	0	0	37	0	0	-39
11	489.71	82881	1417	7	0	7	0.12	0.11	10	0	0	0	22	0	0	-25
12	489.68	82842	1416	4	0	4	0.08	0.10	8	0	0	0	35	0	0	-39
13	489.66	82816	1416	16	0	16	0.00	0.04	2	0.03	0.00	2	42	0	0	-26
14	489.69	82855	1416	55	0	55	0.04	0.03	3	0.10	0.07	10	23	0	0	39
15	489.67	82829	1416	6	0	6	0.05	0.08	6	0	0	0	26	0	0	-26
16	489.64	82790	1416	8	0	8	0.16	0.12	13	0	0	0	35	0	0	-39
17	489.61	82751	1416	-11	0	-11	0.02	0.13	7	0	0	0	21	0	0	-39
18	489.59	82725	1414	7	0	7	0.12	0.15	12	0	0	0	21	0	0	-26
19	489.57	82699	1414	21	0	21	0.13	0.12	11	0	0	0	36	0	0	-26
20	489.53	82648	1414	15	0	15	0.18	0.13	14	0	0	0	52	0	0	-51
21	489.49	82596	1412	-4	0	-4	0.14	0.10	11	0	0	0	37	0	0	-52
22	489.46	82557	1412	-2	0	-2	0.10	0.10	9	0	0	0	28	0	0	-39
23	489.43	82519	1412	9	0	9	0.32	0.13	20	0	0	0	27	0	0	-38
24	489.39	82467	1411	-6	0	-6	0.05	0.17	10	0	0	0	36	0	0	-52
25	489.37	82441	1411	-3	0	-3	0.05	0.11	7	0	0	0	16	0	0	-26
26	489.34	82403	1411	11	0	11	0.08	0.16	11	0	0	0	38	0	0	-38
27	489.31	82364	1411	-1	0	-1	0.08	0.13	10	0.01	0.00	1	29	0	0	-39
28	489.28	82325	1409	-4	0	-4	0.15	0.11	12	0	0	0	23	0	0	-39
TOTAL				87	0	87	2.77	3.37	279	0.14	0.07	12	869	0	0	-1049

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
MARCH 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Feb 28 th 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	To Spill	
1	489.26	82300	1409	3	0	3	0.12	0.07	8	0.00	0.00	0	20	0	0	-25
2	489.50	82609	1414	127	8	135	0.00	0.00	0	1.76	1.35	183	9	0	0	309
3	489.53	82648	1414	35	0	35	0.00	0.00	0	0.12	0.15	16	12	0	0	39
4	489.49	82596	1412	-29	0	-29	0.08	0.10	8	0.01	0.00	1	16	0	0	-52
5	489.44	82532	1412	-24	0	-24	0.10	0.08	8	0	0	0	32	0	0	-64
6	489.40	82480	1412	-23	0	-23	0.21	0.17	17	0	0	0	12	0	0	-52
7	489.36	82428	1411	-19	0	-19	0.26	0.16	19	0	0	0	14	0	0	-52
8	489.34	82403	1411	-9	0	-9	0.05	0.11	7	0	0	0	9	0	0	-25
9	489.30	82351	1411	-28	0	-28	0.15	0.13	13	0	0	0	11	0	0	-52
10	489.27	82312	1409	-20	0	-20	0.06	0.09	7	0	0	0	12	0	0	-39
11	489.33	82390	1411	-16	0	-16	0.00	0.00	0	0.83	0.88	101	7	0	0	78
12	489.35	82416	1411	39	0	39	0.10	0.00	4	0.01	0.00	1	10	0	0	26
13	489.36	82428	1411	6	0	6	0.00	0.00	0	0.09	0.15	14	8	0	0	12
14	489.39	82467	1411	7	0	7	0.00	0.00	0	0.37	0.30	39	7	0	0	39
15	489.44	82532	1412	19	0	19	0.00	0.03	1	0.57	0.40	57	9	0	0	65
16	489.45	82544	1412	30	0	30	0.16	0.11	12	0.01	0.00	1	7	0	0	12
17	489.48	82583	1412	46	0	46	0.04	0.15	8	0.12	0.11	14	12	0	0	39
18	489.45	82544	1412	-11	0	-11	0.07	0.13	9	0	0	0	19	0	0	-39
19	489.42	82506	1412	-16	0	-16	0.16	0.11	12	0	0	0	10	0	0	-38
20	489.40	82480	1412	-6	0	-6	0.17	0.14	14	0	0	0	7	0	0	-26
21	489.44	82532	1412	-262	261	-1	0.00	0.00	0	0.49	0.53	60	7	0	0	52
22	490.02	83283	1422	364	163	526	0.00	0.00	0	1.99	1.92	232	7	0	0	751
23	491.12	84729	1440	1024	193	1217	0.00	0.00	0	2.05	1.88	236	6	0	0	1446
24	491.16	84782	1440	66	13	79	0.22	0.12	15	0.01	0.00	1	11	0	0	53
25	491.20	84836	1441	75	0	75	0.05	0.08	6	0	0	0	15	0	0	54
26	491.23	84876	1441	67	0	67	0.16	0.15	14	0	0	0	13	0	0	40
27	491.26	84916	1441	64	0	64	0.16	0.11	12	0	0	0	12	0	0	40
28	491.28	84943	1441	58	0	58	0.25	0.20	21	0	0	0	11	0	0	27
29	491.30	84969	1443	58	0	58	0.14	0.35	22	0	0	0	10	0	0	26
30	491.32	84996	1443	45	0	45	0.12	0.14	12	0	0	0	6	0	0	27
31	491.34	85023	1443	54	0	54	0.16	0.16	15	0	0	0	13	0	0	27
TOTAL				1723	638	2361	2.99	2.89	265	8.43	7.67	954	351	0	0	2698

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Mar 31 st Storage	Surface Area	Ventura River			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	To Spill	
	(ft MSL)	85023	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total				
1	491.35	85037	1443	35	0	35	0.03	0.14	8	0	0	0	13	0	0	14
2	491.36	85050	1443	46	0	46	0.19	0.10	14	0	0	0	19	0	0	13
3	491.36	85050	1443	16	0	16	0.04	0.11	7	0	0	0	9	0	0	0
4	491.35	85037	1443	8	0	8	0.17	0.07	12	0	0	0	10	0	0	-13
5	491.33	85010	1443	-8	0	-8	0.07	0.09	8	0	0	0	12	0	0	-27
6	491.30	84969	1443	-12	0	-12	0.23	0.12	17	0	0	0	12	0	0	-41
7	491.27	84929	1441	1	0	1	0.23	0.17	19	0	0	0	22	0	0	-40
8	491.24	84889	1441	-11	0	-11	0.08	0.15	11	0	0	0	18	0	0	-40
9	491.21	84849	1441	-1	0	-1	0.08	0.16	12	0	0	0	28	0	0	-40
10	491.18	84809	1440	15	0	15	0.21	0.27	23	0	0	0	32	0	0	-40
11	491.15	84769	1440	14	0	14	0.35	0.28	30	0	0	0	23	0	0	-40
12	491.12	84729	1440	-6	0	-6	0.11	0.18	14	0	0	0	21	0	0	-40
13	491.09	84689	1438	15	0	15	0.28	0.28	27	0	0	0	28	0	0	-40
14	491.05	84636	1438	-11	0	-11	0.26	0.14	19	0	0	0	22	0	0	-53
15	491.02	84596	1438	-3	0	-3	0.27	0.22	23	0	0	0	13	0	0	-40
16	491.00	84569	1438	26	0	26	0.14	0.19	16	0	0	0	37	0	0	-27
17	490.96	84516	1436	-5	0	-5	0.18	0.06	11	0	0	0	36	0	0	-53
18	490.92	84463	1436	2	0	2	0.28	0.22	24	0	0	0	31	0	0	-53
19	490.89	84423	1435	-2	0	-2	0.12	0.08	10	0.02	0.02	2	31	0	0	-40
20	490.86	84384	1435	13	0	13	0.15	0.26	20	0	0	0	33	0	0	-39
21	490.83	84344	1435	7	0	7	0.34	0.18	25	0	0	0	22	0	0	-40
22	490.80	84304	1435	-12	0	-12	0.06	0.20	12	0	0	0	16	0	0	-40
23	490.78	84278	1433	41	0	41	0.24	0.21	21	0	0	0	45	0	0	-26
24	490.75	84239	1433	25	0	25	0.13	0.23	17	0	0	0	47	0	0	-39
25	490.71	84186	1433	12	0	12	0.27	0.07	16	0	0	0	49	0	0	-53
26	490.68	84146	1432	-11	0	-11	0.04	0.24	13	0	0	0	16	0	0	-40
27	490.65	84107	1432	25	0	25	0.26	0.15	20	0	0	0	44	0	0	-39
28	490.61	84054	1432	-4	0	-4	0.21	0.13	16	0	0	0	32	0	0	-53
29	490.58	84015	1430	-11	0	-11	0.04	0.20	11	0	0	0	17	0	0	-39
30	490.55	83975	1430	19	0	19	0.24	0.12	17	0	0	0	42	0	0	-40
													0			
TOTAL				225	0	225	5.30	5.02	494	0.02	0.02	2	781	0	0	-1048

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Apr 30 th Storage	Surface Area (acres)	Direct	Ventura River	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	490.53	83949	1430	20	0	20	0.13	0.09	11	0	0	0	36	0	0	-26
2	490.51	83923	1430	2	0	2	0.06	0.09	7	0.04	0.10	8	29	0	0	-26
3	490.48	83884	1428	-4	0	-4	0.10	0.06	8	0	0	0	28	0	0	-39
4	490.42	83805	1428	-28	0	-28	0.11	0.17	13	0	0	0	37	0	0	-79
5	490.38	83753	1427	7	0	7	0.41	0.22	30	0	0	0	28	0	0	-52
6	490.35	83713	1427	-4	0	-4	0.11	0.22	16	0	0	0	20	0	0	-40
7	490.30	83648	1427	0	0	0	0.19	0.13	15	0	0	0	50	0	0	-65
8	490.28	83622	1425	29	0	29	0.15	0.13	13	0	0	0	41	0	0	-26
9	490.24	83570	1425	14	0	14	0.25	0.23	23	0	0	0	43	0	0	-52
10	490.21	83530	1425	20	0	20	0.15	0.21	17	0	0	0	43	0	0	-40
11	490.18	83491	1424	7	0	7	0.22	0.21	21	0	0	0	25	0	0	-39
12	490.16	83465	1424	10	0	10	0.15	0.02	8	0.00	0.04	2	31	0	0	-26
13	490.14	83439	1424	-9	0	-9	0.06	0.04	5	0	0	0	12	0	0	-26
14	490.08	83361	1422	-33	0	-33	0.06	0.10	8	0	0	0	38	0	0	-78
15	490.04	83309	1422	-5	0	-5	0.10	0.16	12	0	0	0	34	0	0	-52
16	490.01	83270	1422	17	0	17	0.21	0.20	20	0	0	0	36	0	0	-39
17	489.99	83244	1420	24	0	24	0.26	0.21	23	0	0	0	28	0	0	-26
18	489.94	83179	1420	-7	0	-7	0.20	0.21	20	0	0	0	39	0	0	-65
19	489.91	83140	1420	18	0	18	0.18	0.19	18	0	0	0	40	0	0	-39
20	489.88	83101	1419	-3	0	-3	0.13	0.17	14	0	0	0	21	0	0	-39
21	489.84	83049	1419	-5	0	-5	0.19	0.07	12	0	0	0	35	0	0	-52
22	489.78	82971	1417	-30	0	-30	0.10	0.09	9	0	0	0	39	0	0	-78
23	489.75	82932	1417	17	0	17	0.11	0.20	15	0	0	0	41	0	0	-39
24	489.70	82868	1417	-15	0	-15	0.11	0.11	11	0	0	0	38	0	0	-64
25	489.64	82790	1416	-40	0	-40	0.17	0.03	10	0	0	0	29	0	0	-78
26	489.60	82738	1416	-3	0	-3	0.22	0.17	19	0	0	0	30	0	0	-52
27	489.57	82699	1414	5	0	5	0.32	0.23	26	0	0	0	18	0	0	-39
28	489.55	82674	1414	28	0	28	0.23	0.18	20	0	0	0	34	0	0	-25
29	489.54	82661	1414	30	0	30	0.13	0.18	15	0	0	0	28	0	0	-13
30	489.51	82622	1414	18	0	18	0.26	0.20	22	0	0	0	35	0	0	-39
31	489.48	82583	1412	-2	0	-2	0.05	0.09	7	0	0	0	30	0	0	-39
TOTAL				80	0	80	5.12	4.61	467	0.04	0.14	11	1016	0	0	-1392

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	May 31 st Storage	Surface Area	Ventura River			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	To Spill	
	(ft MSL)	82583	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total				
1	489.45	82544	1412	11	0	11	0.18	0.11	14	0	0	0	36	0	0	-39
2	489.41	82493	1412	1	0	1	0.25	0.24	24	0	0	0	28	0	0	-51
3	489.36	82428	1411	-18	0	-18	0.22	0.19	20	0	0	0	27	0	0	-65
4	489.32	82377	1411	25	0	25	0.26	0.26	25	0	0	0	51	0	0	-51
5	489.29	82338	1409	26	0	26	0.28	0.21	24	0	0	0	42	0	0	-39
6	489.26	82300	1409	14	0	14	0.16	0.16	15	0	0	0	36	0	0	-38
7	489.20	82222	1409	-28	0	-28	0.21	0.09	14	0	0	0	36	0	0	-78
8	489.17	82184	1408	16	0	16	0.21	0.21	20	0	0	0	34	0	0	-38
9	489.14	82145	1408	7	0	7	0.19	0.24	21	0	0	0	25	0	0	-39
10	489.10	82094	1408	10	0	10	0.26	0.24	24	0	0	0	37	0	0	-51
11	489.06	82043	1406	21	0	21	0.39	0.29	33	0	0	0	39	0	0	-51
12	489.02	81991	1406	19	0	19	0.29	0.25	26	0	0	0	45	0	0	-52
13	488.96	81914	1404	-10	0	-10	0.30	0.25	26	0	0	0	41	0	0	-77
14	488.90	81837	1404	-12	0	-12	0.22	0.21	21	0	0	0	45	0	0	-77
15	488.84	81761	1403	-14	0	-14	0.28	0.26	26	0	0	0	36	0	0	-76
16	488.78	81684	1401	-28	0	-28	0.20	0.22	20	0	0	0	29	0	0	-77
17	488.75	81646	1401	-3	0	-3	0.12	0.16	13	0	0	0	22	0	0	-38
18	488.72	81607	1401	27	0	27	0.35	0.05	19	0	0	0	47	0	0	-39
19	488.68	81556	1400	10	0	10	0.14	0.19	16	0	0	0	45	0	0	-51
20	488.62	81479	1400	7	0	7	0.24	0.22	22	0	0	0	62	0	0	-77
21	488.60	81454	1400	34	0	34	0.22	0.20	20	0	0	0	39	0	0	-25
22	488.56	81403	1398	3	0	3	0.15	0.22	18	0	0	0	36	0	0	-51
23	488.52	81352	1398	6	0	6	0.26	0.35	29	0	0	0	28	0	0	-51
24	488.48	81301	1396	3	0	3	0.35	0.25	29	0	0	0	25	0	0	-51
25	488.42	81225	1396	-10	0	-10	0.26	0.14	19	0	0	0	47	0	0	-76
26	488.38	81174	1395	10	0	10	0.20	0.23	20	0	0	0	40	0	0	-51
27	488.35	81136	1395	27	0	27	0.16	0.15	15	0	0	0	50	0	0	-38
28	488.31	81085	1395	13	0	13	0.37	0.26	30	0	0	0	34	0	0	-51
29	488.27	81034	1393	6	0	6	0.16	0.22	18	0	0	0	39	0	0	-51
30	488.24	80996	1393	4	0	4	0.18	0.17	17	0	0	0	26	0	0	-38
TOTAL				177	0	177	7.06	6.24	637	0.00	0.00	0	1127	0	0	-1587

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 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Jun 30 th Storage @0996	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	488.20	80945	1393	-2	0	-2	0.22	0.16	18	0	0	0	31	0	0	-51
2	488.15	80881	1392	18	0	18	0.41	0.22	30	0	0	0	52	0	0	-64
3	488.10	80818	1392	14	0	14	0.32	0.27	28	0	0	0	49	0	0	-63
4	488.03	80729	1390	-25	0	-25	0.20	0.29	23	0	0	0	41	0	0	-89
5	487.95	80628	1388	-29	0	-29	0.30	0.30	28	0	0	0	44	0	0	-101
6	487.89	80552	1387	13	0	13	0.27	0.27	25	0	0	0	64	0	0	-76
7	487.83	80476	1387	16	0	16	0.34	0.34	32	0	0	0	60	0	0	-76
8	487.78	80413	1385	36	0	36	0.40	0.40	37	0	0	0	61	0	0	-63
9	487.73	80350	1385	23	0	23	0.43	0.30	34	0	0	0	52	0	0	-63
10	487.65	80249	1384	-11	0	-11	0.36	0.33	32	0	0	0	58	0	0	-101
11	487.59	80174	1382	15	0	15	0.27	0.31	27	0	0	0	63	0	0	-75
12	487.54	80111	1382	27	0	27	0.32	0.28	28	0	0	0	62	0	0	-63
13	487.49	80048	1380	11	0	11	0.28	0.29	27	0	0	0	47	0	0	-63
14	487.44	79985	1380	10	0	10	0.27	0.28	26	0	0	0	48	0	0	-63
15	487.39	79922	1379	-11	0	-11	0.09	0.25	16	0	0	0	36	0	0	-63
16	487.34	79859	1379	30	0	30	0.41	0.28	32	0	0	0	61	0	0	-63
17	487.29	79796	1377	22	0	22	0.32	0.19	24	0	0	0	61	0	0	-63
18	487.24	79734	1377	20	0	20	0.25	0.25	23	0	0	0	59	0	0	-62
19	487.19	79671	1376	16	0	16	0.24	0.22	21	0	0	0	58	0	0	-63
20	487.14	79608	1376	20	0	20	0.38	0.21	27	0	0	0	56	0	0	-63
21	487.09	79546	1374	5	0	5	0.33	0.29	29	0	0	0	38	0	0	-62
22	487.04	79483	1374	5	0	5	0.21	0.24	21	0	0	0	47	0	0	-63
23	486.98	79408	1372	0	0	0	0.36	0.28	30	0	0	0	46	0	0	-75
24	486.92	79333	1372	32	0	32	0.29	0.32	28	0	0	0	79	0	0	-75
25	486.83	79220	1371	-34	0	-34	0.24	0.27	24	0	0	0	55	0	0	-113
26	486.75	79121	1369	-11	0	-11	0.29	0.27	26	0	0	0	63	0	0	-99
27	486.68	79033	1368	-3	0	-3	0.39	0.28	31	0	0	0	54	0	0	-88
28	486.61	78946	1368	-29	0	-29	0.11	0.11	10	0	0	0	48	0	0	-87
29	486.54	78859	1366	-12	0	-12	0.37	0.37	34	0	0	0	40	0	0	-87
30	486.48	78784	1364	-13	0	-13	0.18	0.18	17	0	0	0	45	0	0	-75
31	486.41	78697	1364	7	0	7	0.36	0.36	33	0	0	0	61	0	0	-87
TOTAL				161	0	161	9.21	8.41	820	0.00	0.00	0	1640	0	0	-2299

Evaporation values from dam used due to recreation evaporation pan malfunction.

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 2018

*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	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	486.34	78610	1363	3	0	3	0.31	0.31	29	0	0	0	61	0	0	-87
2	486.27	78523	1361	8	0	8	0.35	0.35	32	0	0	0	63	0	0	-87
3	486.21	78449	1361	-2	0	-2	0.34	0.34	31	0	0	0	41	0	0	-74
4	486.15	78375	1360	-4	0	-4	0.31	0.31	28	0	0	0	42	0	0	-74
5	486.10	78313	1360	16	0	16	0.39	0.39	36	0	0	0	42	0	0	-62
6	486.05	78251	1358	4	0	4	0.07	0.07	6	0	0	0	60	0	0	-62
7	485.99	78176	1357	27	0	27	0.47	0.47	43	0	0	0	59	0	0	-75
8	485.93	78102	1357	11	0	11	0.21	0.21	19	0	0	0	66	0	0	-74
9	485.85	78003	1355	-18	0	-18	0.28	0.28	26	0	0	0	55	0	0	-99
10	485.79	77929	1354	17	0	17	0.42	0.42	38	0	0	0	53	0	0	-74
11	485.73	77855	1354	-1	0	-1	0.30	0.30	27	0	0	0	46	0	0	-74
12	485.68	77793	1352	-3	0	-3	0.26	0.26	24	0	0	0	35	0	0	-62
13	485.63	77732	1352	23	0	23	0.43	0.43	39	0	0	0	45	0	0	-61
14	485.57	77658	1351	12	0	12	0.23	0.23	21	0	0	0	65	0	0	-74
15	485.51	77584	1351	-13	0	-13	0.12	0.12	11	0	0	0	50	0	0	-74
16	485.45	77510	1350	22	0	22	0.43	0.43	39	0	0	0	56	0	0	-74
17	485.39	77436	1348	9	0	9	0.37	0.37	34	0	0	0	49	0	0	-74
18	485.34	77375	1348	-6	0	-6	0.13	0.13	12	0	0	0	43	0	0	-61
19	485.31	77338	1348	22	0	22	0.28	0.28	25	0	0	0	33	0	0	-37
20	485.25	77264	1347	-6	0	-6	0.30	0.30	27	0	0	0	41	0	0	-74
21	485.20	77203	1347	1	0	1	0.11	0.11	10	0	0	0	52	0	0	-61
22	485.15	77142	1345	12	0	12	0.26	0.26	24	0	0	0	49	0	0	-61
23	485.09	77068	1344	4	0	4	0.31	0.31	28	0	0	0	50	0	0	-74
24	485.04	77007	1344	15	0	15	0.38	0.38	34	0	0	0	41	0	0	-61
25	484.98	76933	1342	-17	0	-17	0.23	0.23	21	0	0	0	37	0	0	-74
26	484.95	76896	1342	12	0	12	0.26	0.26	24	0	0	0	26	0	0	-37
27	484.90	76835	1342	-10	0	-10	0.10	0.10	9	0	0	0	42	0	0	-61
28	484.85	76774	1341	2	0	2	0.19	0.19	17	0	0	0	46	0	0	-61
29	484.80	76713	1341	17	0	17	0.23	0.23	21	0	0	0	57	0	0	-61
30	484.76	76664	1339	27	0	27	0.32	0.32	29	0	0	0	47	0	0	-49
31	484.68	76566	1338	-24	0	-24	0.30	0.30	27	0	0	0	47	0	0	-98
TOTAL				159	0	159	8.69	8.69	792	0.00	0.00	0	1498	0	0	-2131

Evaporation values from dam used due to recreation evaporation pan malfunction.

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
SEPTEMBER 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Aug 30 th 76566 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	484.64	76518	1338	5	0	5	0.18	0.18	15	0	0	0	38	0	0	-48
2	484.60	76469	1338	3	0	3	0.32	0.32	27	0	0	0	25	0	0	-49
3	484.56	76420	1336	2	0	2	0.16	0.16	14	0	0	0	38	0	0	-49
4	484.51	76359	1336	-7	0	-7	0.08	0.08	7	0	0	0	47	0	0	-61
5	484.46	76298	1334	3	0	3	0.28	0.28	24	0	0	0	40	0	0	-61
6	484.42	76249	1334	9	0	9	0.10	0.10	8	0	0	0	49	0	0	-49
7	484.36	76176	1333	4	0	4	0.42	0.42	35	0	0	0	41	0	0	-73
8	484.31	76116	1333	-15	0	-15	0.17	0.17	14	0	0	0	30	0	0	-60
9	484.28	76079	1331	5	0	5	0.18	0.18	15	0	0	0	27	0	0	-37
10	484.24	76031	1331	16	0	16	0.26	0.26	22	0	0	0	42	0	0	-48
11	484.20	75982	1331	4	0	4	0.09	0.09	8	0	0	0	46	0	0	-49
12	484.15	75921	1330	3	0	3	0.24	0.24	20	0	0	0	44	0	0	-61
13	484.09	75848	1328	-13	0	-13	0.20	0.20	17	0	0	0	43	0	0	-73
14	484.04	75788	1328	1	0	1	0.21	0.21	18	0	0	0	43	0	0	-60
15	483.99	75727	1326	-3	0	-3	0.28	0.28	24	0	0	0	34	0	0	-61
16	483.95	75679	1326	3	0	3	0.21	0.21	18	0	0	0	34	0	0	-48
17	483.91	75630	1326	15	0	15	0.25	0.25	21	0	0	0	43	0	0	-49
18	483.85	75558	1325	-5	0	-5	0.19	0.19	16	0	0	0	51	0	0	-72
19	483.79	75485	1323	3	0	3	0.32	0.32	27	0	0	0	49	0	0	-73
20	483.74	75425	1323	4	0	4	0.15	0.15	13	0	0	0	51	0	0	-60
21	483.69	75364	1322	-7	0	-7	0.12	0.12	10	0	0	0	44	0	0	-61
22	483.64	75304	1322	-28	0	-28	0.09	0.09	8	0	0	0	25	0	0	-60
23	483.62	75280	1322	40	0	40	0.33	0.33	28	0	0	0	36	0	0	-24
24	483.57	75219	1320	5	0	5	0.23	0.23	19	0	0	0	47	0	0	-61
25	483.52	75159	1320	4	0	4	0.20	0.20	17	0	0	0	47	0	0	-60
26	483.47	75099	1318	7	0	7	0.21	0.21	18	0	0	0	49	0	0	-60
27	483.43	75050	1318	4	0	4	0.18	0.18	15	0	0	0	38	0	0	-49
28	483.38	74990	1317	-11	0	-11	0.26	0.26	22	0	0	0	28	0	0	-60
29	483.34	74942	1317	4	0	4	0.17	0.17	14	0	0	0	38	0	0	-48
30	483.30	74894	1317	1	0	1	0.23	0.23	19	0	0	0	29	0	0	-48
TOTAL				55	0	55	6.31	6.31	530	0.00	0.00	0	1197	0	0	-1672

Evaporation values from dam used due to recreation evaporation pan malfunction.

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

**CASITAS RESERVOIR WATER INVENTORY SUMMARY
2018 - 2019 WATER YEAR**

figures in acre-feet except where otherwise noted

MONTH	RESERVOIR (last of previous month)		RESERVOIR INFLOW				RESERVOIR RELEASES			
	ELEV (ft)	STORAGE	DIRECT	VENTURA RIVER DIVERSIONS	TOTAL	PRECIP	EVAP	TO MAIN SYSTEM	SPILL	CHANGE IN STORAGE
OCT 2018	483.30	74894	118	0	118	14	373	1253	0	-1494
NOV 2018	482.05	73400	51	141	192	299	252	960	0	-733
DEC 2018	481.43	72667	-97	50	-47	155	137	371	0	-389
JAN 2019	481.10	72278	2704	1751	4456	930	104	319	0	4864
FEB 2019	485.15	77142	7469	8506	15975	1186	165	221	0	16676
MAR 2019	497.54	93818	4463	8122	12585	529	364	217	0	12636
APR 2019	505.67	106454	629	1523	2152	6	557	597	0	1061
MAY 2019	506.32	107515	-271	788	517	276	432	447	0	-49
JUN 2019	506.29	107466	251	1	251	0	544	621	0	-914
JUL 2019	505.73	106552	101	0	101	0	809	927	0	-1635
AUG 2019	504.72	104917	37	0	37	0	831	1140	0	-1934
SEP 2019	503.51	102983	-85	0	-85	0	671	1059	0	-1815
OCT 2019	502.36	101168	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL			15370	20881	36251	3393	5240	8130	0	26274

reservoir capacity = 237,700 a.f. @ 567 ft.

CASITAS RESERVOIR OPERATION
OCTOBER 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Sep 30 th 74894 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	To Spill	
1	483.27	74858	1315	15	0	15	0.22	0.14	15	0	0	0	36	0	0	-36
2	483.22	74798	1315	-5	0	-5	0.27	0.13	16	0	0	0	39	0	0	-60
3	483.19	74762	1314	7	0	7	0.27	0.10	15	0	0	0	28	0	0	-36
4	483.16	74726	1314	2	0	2	0.00	0.00	0	0.07	0.03	5.47	44	0	0	-36
5	483.12	74678	1314	4	0	4	0.04	0.14	7	0	0	0	45	0	0	-48
6	483.06	74606	1312	-27	0	-27	0.17	0.18	14	0	0	0	30	0	0	-72
7	483.03	74570	1312	-2	0	-2	0.15	0.15	12	0	0	0	21	0	0	-36
8	483.00	74534	1312	28	0	28	0.19	0.10	12	0	0	0	52	0	0	-36
9	482.94	74462	1310	-13	0	-13	0.20	0.11	13	0	0	0	46	0	0	-72
10	482.89	74402	1309	-4	0	-4	0.21	0.16	15	0	0	0	41	0	0	-60
11	482.85	74354	1309	1	0	1	0.15	0.06	9	0	0	0	40	0	0	-48
12	482.80	74294	1309	-10	0	-10	0.14	0.14	11	0	0	0	39	0	0	-60
13	482.77	74258	1307	-6	0	-6	0.07	0.02	4	0.07	0.08	8.17	34	0	0	-36
14	482.73	74210	1307	-21	0	-21	0.08	0.06	6	0	0	0	21	0	0	-48
15	482.71	74186	1307	29	0	29	0.18	0.13	13	0	0	0	40	0	0	-24
16	482.65	74115	1306	-13	0	-13	0.26	0.20	19	0	0	0	40	0	0	-71
17	482.61	74067	1306	14	0	14	0.15	0.19	14	0	0	0	48	0	0	-48
18	482.58	74031	1304	28	0	28	0.19	0.19	15	0	0	0	49	0	0	-36
19	482.54	73983	1304	16	0	16	0.26	0.08	14	0	0	0	50	0	0	-48
20	482.48	73912	1302	1	0	1	0.25	0.20	18	0	0	0	53	0	0	-71
21	482.45	73876	1302	-7	0	-7	0.17	0.20	15	0	0	0	13	0	0	-36
22	482.42	73840	1302	27	0	27	0.29	0.12	17	0	0	0	46	0	0	-36
23	482.38	73792	1301	16	0	16	0.14	0.21	14	0	0	0	50	0	0	-48
24	482.33	73733	1301	6	0	6	0.13	0.23	15	0	0	0	51	0	0	-59
25	482.29	73685	1299	6	0	6	0.10	0.12	9	0	0	0	46	0	0	-48
26	482.24	73626	1299	-7	0	-7	0.13	0.13	11	0	0	0	42	0	0	-59
27	482.20	73578	1299	-4	0	-4	0.09	0.16	10	0	0	0	34	0	0	-48
28	482.16	73531	1298	-8	0	-8	0.12	0.09	9	0	0	0	31	0	0	-47
29	482.13	73495	1298	24	0	24	0.10	0.13	9	0	0	0	51	0	0	-36
30	482.08	73436	1296	-4	0	-4	0.18	0.10	11	0	0	0	43	0	0	-59
31	482.05	73400	1296	25	0	25	0.15	0.12	11	0	0	0	50	0	0	-36
TOTAL				118	0	118	5.05	4.09	373	0.14	0.11	14	1253	0	0	-1494

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 2018

*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			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To Main System	To River	To Spill	
	(ft MSL)	73400 Storage	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total				
1	481.99	73329	1295	-16	0	-16	0.16	0.10	10	0	0	0	45	0	0	-71
2	481.94	73270	1295	-5	0	-5	0.05	0.08	5	0	0	0	49	0	0	-59
3	481.90	73222	1295	7	0	7	0.20	0.28	19	0	0	0	37	0	0	-48
4	481.86	73175	1293	-9	0	-9	0.10	0.12	9	0	0	0	29	0	0	-47
5	481.82	73127	1293	23	0	23	0.20	0.18	15	0	0	0	57	0	0	-48
6	481.77	73068	1292	-13	0	-13	0.12	0.24	14	0	0	0	32	0	0	-59
7	481.73	73021	1292	9	0	9	0.09	0.08	7	0	0	0	50	0	0	-47
8	481.68	72962	1290	-9	0	-9	0.09	0.10	7	0	0	0	42	0	0	-59
9	481.63	72903	1290	-11	0	-11	0.16	0.11	10	0	0	0	37	0	0	-59
10	481.59	72855	1289	0	0	0	0.24	0.06	12	0	0	0	37	0	0	-48
11	481.56	72820	1289	2	0	2	0.23	0.23	18	0	0	0	19	0	0	-35
12	481.52	72773	1289	3	0	3	0.04	0.06	4	0	0	0	46	0	0	-47
13	481.48	72726	1288	22	0	22	0.28	0.23	20	0	0	0	50	0	0	-47
14	481.43	72667	1288	5	0	5	0.18	0.13	12	0	0	0	52	0	0	-59
15	481.38	72608	1286	0	0	0	0.10	0.12	8	0	0	0	51	0	0	-59
16	481.32	72537	1286	-20	0	-20	0.16	0.12	11	0	0	0	40	0	0	-71
17	481.28	72490	1285	-2	0	-2	0.10	0.12	8	0	0	0	37	0	0	-47
18	481.24	72443	1285	-18	0	-18	0.11	0.08	7	0	0	0	22	0	0	-47
19	481.22	72419	1285	12	0	12	0.14	0.07	8	0	0	0	28	0	0	-24
20	481.19	72384	1283	9	0	9	0.10	0.06	6	0	0	0	38	0	0	-35
21	481.16	72349	1283	2	0	2	0.11	0.08	7	0	0	0	30	0	0	-35
22	481.19	72384	1283	-12	0	-12	0.00	0.00	0	0.66	0.54	64	18	0	0	35
23	481.17	72360	1283	-7	0	-7	0.10	0.06	6	0	0	0	11	0	0	-24
24	481.15	72337	1283	5	0	5	0.05	0.07	5	0	0	0	23	0	0	-23
25	481.13	72313	1283	2	0	2	0.02	0.08	4	0	0	0	22	0	0	-24
26	481.11	72290	1283	1	0	1	0.05	0.10	6	0	0	0	18	0	0	-23
27	481.10	72278	1283	13	0	13	0.17	0.08	10	0	0	0	16	0	0	-12
28	481.08	72255	1282	-10	0	-10	0.04	0.09	5	0	0	0	8	0	0	-23
29	481.22	72419	1285	-12	130	118	0.00	0.00	0	1.90	1.55	185	9	0	0	164
30	481.43	72667	1288	75	11	86	0.00	0.00	0	0.55	0.38	50	7	0	0	248
TOTAL				51	141	192	3.39	3.13	252	3.11	2.47	299	960	0	0	-733

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

CASITAS RESERVOIR OPERATION
DECEMBER 2018

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Nov 30 th 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	To Spill	
1	481.39	72619	1286	-37	0	-37	0.16	0.11	10	0	0	0	13	0	0	-48
2	481.36	72584	1286	-16	0	-16	0.12	0.11	8	0	0	0	11	0	0	-35
3	481.35	72572	1286	11	0	11	0.10	0.12	8	0	0	0	15	0	0	-12
4	481.34	72560	1286	6	0	6	0.03	0.08	4	0	0	0	14	0	0	-12
5	481.30	72513	1286	-40	0	-40	0.00	0.03	1	0.02	0.03	3	9	0	0	-47
6	481.37	72596	1286	-41	50	9	0.00	0.00	0	0.93	1.56	133	10	0	0	83
7	481.43	72667	1288	21	0	21	0.03	0.08	4	0.13	0.05	10	6	0	0	71
8	481.42	72655	1288	6	0	6	0.11	0.09	7	0.01	0	1	11	0	0	-12
9	481.42	72655	1288	11	0	11	0.04	0.07	4	0	0	0	7	0	0	0
10	481.41	72643	1288	-1	0	-1	0.02	0.10	4	0	0	0	7	0	0	-12
11	481.41	72643	1288	17	0	17	0.01	0.13	5	0	0	0	12	0	0	0
12	481.40	72631	1288	2	0	2	0.02	0.09	4	0	0	0	10	0	0	-12
13	481.39	72619	1286	3	0	3	0.03	0.21	8	0	0	0	7	0	0	-12
14	481.36	72584	1286	-17	0	-17	0.10	0.05	5	0	0	0	13	0	0	-35
15	481.33	72549	1286	-18	0	-18	0.09	0.02	4	0	0	0	13	0	0	-35
16	481.32	72537	1286	0	0	0	0.03	0.09	4	0	0	0	8	0	0	-12
17	481.33	72549	1286	21	0	21	0.05	0.03	3	0.03	0	2	7	0	0	12
18	481.32	72537	1286	-8	0	-8	0.00	0.00	0	0.04	0.06	5	9	0	0	-12
19	481.32	72537	1286	13	0	13	0.04	0.00	1	0	0	0	12	0	0	0
20	481.31	72525	1286	0	0	0	0.04	0.03	2	0	0	0	10	0	0	-12
21	481.28	72490	1285	-19	0	-19	0.05	0.13	6	0	0	0	10	0	0	-35
22	481.29	72502	1285	29	0	29	0.01	0.07	3	0	0	0	14	0	0	12
23	481.27	72478	1285	-12	0	-12	0.01	0.06	2	0	0	0	10	0	0	-24
24	481.27	72478	1285	13	0	13	0.01	0.03	1	0	0	0	11	0	0	0
25	481.25	72455	1285	-10	0	-10	0.04	0.06	4	0	0.03	2	11	0	0	-23
26	481.21	72407	1285	-22	0	-22	0.17	0.08	9	0	0	0	17	0	0	-48
27	481.18	72372	1283	-10	0	-10	0.08	0.08	6	0	0	0	19	0	0	-35
28	481.16	72349	1283	3	0	3	0.11	0.08	7	0	0	0	20	0	0	-23
29	481.15	72337	1283	11	0	11	0.09	0.08	6	0	0	0	17	0	0	-12
30	481.12	72302	1283	-16	0	-16	0.01	0.04	2	0	0	0	18	0	0	-35
31	481.10	72278	1283	3	0	3	0.06	0.06	4	0	0	0	22	0	0	-24
TOTAL				-97	50	-47	1.66	2.21	137	1.16	1.73	155	371	0	0	-389

As of 10-01-17; Rating table prepared by TetraTech used to calculate Casitas Reservoir Storage

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Dec 31 st 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	To Spill	
1	481.09	72267	1282	13	0	13	0.08	0.07	5	0	0	0	19	0	0	-11
2	481.07	72243	1282	0	0	0	0.02	0.06	3	0	0	0	21	0	0	-24
3	481.05	72220	1282	6	0	6	0.09	0.11	7	0	0	0	22	0	0	-23
4	481.02	72184	1282	-10	0	-10	0.03	0.05	3	0	0	0	24	0	0	-36
5	480.99	72149	1280	-14	0	-14	0.06	0.07	5	0	0	0	17	0	0	-35
6	481.07	72243	1282	4	0	4	0.00	0.00	0	1.08	0.82	101	11	0	0	94
7	481.21	72407	1285	9	22	31	0.00	0.00	0	1.85	1.20	163	9	0	0	164
8	481.25	72455	1285	33	0	33	0.00	0.02	1	0.09	0.03	6	12	0	0	48
9	481.24	72443	1285	-2	0	-2	0.03	0.00	1	0	0	0	9	0	0	-12
10	481.24	72443	1285	1	0	1	0.00	0.00	0	0.04	0.07	6	7	0	0	0
11	481.23	72431	1285	-1	0	-1	0.00	0.12	4	0	0	0	6	0	0	-12
12	481.36	72584	1286	20	59	79	0.00	0.00	0	1.28	1.39	143	10	0	0	153
13	481.49	72737	1288	70	12	82	0.00	0.00	0	0.26	0.43	37	13	0	0	153
14	481.50	72749	1289	-24	35	10	0.00	0.00	0	0.27	0.31	31	7	0	0	12
15	481.57	72832	1289	43	234	276	0.00	0.00	0	0.12	0.12	13	7	0	0	83
16	482.16	73531	1298	329	301	630	0.00	0.00	0	1.38	1.29	144	8	0	0	699
17	483.35	74954	1317	898	285	1183	0.00	0.00	0	2.19	2.05	233	8	0	0	1423
18	484.43	76262	1334	1023	432	1455	0.00	0.00	0	0.05	0.06	6	7	0	0	1308
19	484.78	76689	1339	11	123	134	0.00	0.21	8	0	0	0	8	0	0	427
20	484.93	76872	1342	78	52	130	0.15	0.10	9	0	0	0	9	0	0	183
21	484.98	76933	1342	28	26	54	0.10	0.14	9	0	0	0	11	0	0	61
22	485.01	76970	1344	25	17	42	0.07	0.06	5	0	0	0	9	0	0	37
23	485.05	77019	1344	43	14	57	0.05	0.06	4	0	0	0	7	0	0	49
24	485.07	77043	1344	23	7	31	0.10	0.04	5	0	0	0	8	0	0	24
25	485.07	77043	1344	5	2	8	0.08	0.10	7	0	0	0	6	0	0	0
26	485.09	77068	1344	36	0	37	0.10	0.07	6	0	0	0	8	0	0	25
27	485.09	77068	1344	13	0	13	0.10	0.07	6	0	0	0	7	0	0	0
28	485.09	77068	1344	12	5	17	0.03	0.08	4	0	0	0	8	0	0	0
29	485.10	77080	1345	23	13	35	0.02	0.14	6	0	0	0	10	0	0	12
30	485.11	77093	1345	14	15	29	0.13	0.08	8	0	0	0	6	0	0	13
31	485.15	77142	1345	-6	99	93	0.00	0.00	0	0.46	0.35	45	5	0	0	49
TOTAL				2704	1751	4456	1.24	1.65	104	9.07	8.12	930	319	0	0	4864

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Jan 31 st 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	To Spill	
1	485.59	77683	1351	248	26	274	0.00	0.00	0	1.66	1.88	199	5	0	0	541
2	486.53	78847	1366	843	228	1072	0.00	0.00	0	2.75	2.53	301	6	0	0	1164
3	487.82	80464	1387	1269	446	1715	0.00	0.00	0	0.80	1.39	127	7	0	0	1617
4	488.90	81837	1404	803	656	1459	0.00	0.00	0	0.77	1.50	133	8	0	0	1373
5	489.96	83205	1420	693	578	1272	0.00	0.00	0	0.31	0.21	31	12	0	0	1368
6	490.69	84159	1432	391	580	971	0.00	0.06	3	0	0	0	13	0	0	954
7	491.12	84729	1440	19	135	154	0.28	0.20	22	0	0	0	7	0	0	570
8	491.23	84876	1441	33	0	33	0.06	0.07	6	0	0	0	14	0	0	147
9	491.32	84996	1443	95	0	95	0.00	0.00	0	0.35	0.23	35	10	0	0	120
10	491.38	85077	1443	63	110	174	0.00	0.00	0	0.15	0.28	26	8	0	0	81
11	491.57	85333	1446	131	192	323	0.06	0.00	3	0.19	0.21	24	7	0	0	256
12	491.76	85590	1449	85	169	254	0.12	0.17	13	0	0	0	6	0	0	257
13	491.90	85780	1452	36	187	223	0.00	0.18	8	0.04	0.00	2	8	0	0	190
14	492.30	86326	1459	255	548	803	0.00	0.00	0	0.89	0.91	109	6	0	0	546
15	493.23	87612	1474	691	813	1504	0.06	0.00	3	0.46	0.46	57	6	0	0	1286
16	494.05	88764	1487	320	591	911	0.00	0.00	0	0.15	0.26	25	6	0	0	1152
17	494.64	89602	1497	268	487	755	0.10	0.21	15	0	0	0	6	0	0	838
18	495.16	90346	1505	273	404	677	0.10	0.11	10	0	0	0	6	0	0	744
19	495.46	90777	1510	47	341	388	0.09	0.13	11	0	0	0	9	0	0	431
20	495.76	91211	1515	107	313	421	0.08	0.11	9	0	0	0	6	0	0	434
21	496.02	91588	1520	82	275	358	0.17	0.05	11	0	0	0	8	0	0	377
22	496.33	92040	1525	194	236	430	0.11	0.10	10	0	0	0	7	0	0	452
23	496.53	92332	1529	72	218	290	0.09	0.09	9	0	0	0	7	0	0	292
24	496.73	92625	1532	93	211	304	0.11	0.07	9	0	0	0	9	0	0	293
25	496.92	92904	1535	87	200	287	0.08	0.11	9	0	0	0	10	0	0	279
26	497.10	93168	1539	80	185	265	0.06	0.08	7	0	0	0	9	0	0	264
27	497.26	93404	1540	65	179	245	0.09	0.05	7	0	0	0	7	0	0	236
28	497.54	93818	1545	124	199	322	0.00	0.00	0	1.04	0.78	117	6	0	0	414
TOTAL				7469	8506	15975	1.66	1.79	165	9.56	10.64	1186	221	0	0	16676

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Feb 28 th 93818 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	To Spill	
1	497.70	94056	1548	61	159	220	0.21	0.13	17	0.01	0.00	1	6	0	0	238
2	498.03	94546	1553	180	487	667	0.00	0.00	0	1.36	1.06	157	5	0	0	490
3	498.75	95624	1565	524	343	866	0.00	0.00	0	0.36	0.77	74	6	0	0	1078
4	499.05	96076	1570	129	313	442	0.09	0.18	13	0	0	0	6	0	0	452
5	499.36	96544	1575	169	227	396	0.08	0.08	8	0	0	0	6	0	0	468
6	499.86	97304	1584	342	704	1046	0.00	0.00	0	1.64	1.34	197	6	0	0	760
7	500.84	98805	1601	749	768	1517	0.00	0.00	0	0.66	0.14	53	5	0	0	1501
8	501.47	99780	1611	228	555	783	0.18	0.12	15	0	0	0	6	0	0	975
9	501.95	100527	1619	218	452	671	0.22	0.12	17	0	0	0	9	0	0	747
10	502.36	101168	1626	207	385	592	0.05	0.21	13	0	0	0	5	0	0	641
11	502.71	101718	1633	183	338	521	0.10	0.11	11	0	0	0	7	0	0	550
12	502.97	102128	1636	93	291	384	0.17	0.11	15	0	0	0	6	0	0	410
13	503.20	102491	1642	96	265	361	0.18	0.18	19	0	0	0	5	0	0	363
14	503.43	102856	1645	114	241	355	0.09	0.05	7	0	0	0	7	0	0	365
15	503.64	103189	1649	119	228	347	0.17	0.19	19	0	0	0	8	0	0	333
16	503.83	103492	1652	105	218	323	0.18	0.27	24	0	0	0	6	0	0	303
17	504.02	103795	1656	109	214	323	0.16	0.19	18	0	0	0	6	0	0	303
18	504.20	104083	1660	108	214	322	0.15	0.19	18	0	0	0	16	0	0	288
19	504.36	104339	1661	60	196	256	0.17	0.06	12	0	0	0	6	0	0	256
20	504.54	104628	1665	77	204	281	0.00	0.00	0	0.17	0.18	24	8	0	0	289
21	504.69	104869	1667	41	186	227	0.16	0.00	8	0.03	0.11	10	6	0	0	241
22	504.86	105143	1670	81	169	251	0.00	0.02	1	0.14	0.06	14	6	0	0	274
23	504.99	105353	1672	56	162	218	0.09	0.11	11	0	0	0	5	0	0	210
24	505.13	105579	1676	86	150	236	0.15	0.16	16	0	0	0	6	0	0	226
25	505.24	105757	1677	45	45	90	0.04	0.12	8	0	0	0	9	0	0	178
26	505.25	105773	1677	1	61	62	0.15	0.28	23	0	0	0	7	0	0	16
27	505.34	105919	1679	99	124	223	0.09	0.06	8	0	0	0	7	0	0	146
28	505.44	106081	1681	57	116	173	0.10	0.11	11	0	0	0	8	0	0	162
29	505.54	106243	1683	74	109	183	0.15	0.15	16	0	0	0	12	0	0	162
30	505.60	106341	1684	17	101	118	0.23	0.15	20	0	0	0	8	0	0	98
31	505.67	106454	1684	35	95	130	0.08	0.20	15	0	0	0	8	0	0	113
TOTAL				4463	8122	12585	3.44	3.55	364	4.37	3.66	529	217	0	0	12636

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Mar 31 st	Surface	Ventura			Pan	Pan		at	at		To			
	(ft MSL)	106454	Area	Direct	Divers'n	Total	@Dam	@Rec	Lake	Dam	Rec	Lake	Main	River	Spill	
1	505.76	106601	1686	84	91	175	0.20	0.08	16	0	0	0	17	0	0	147
2	505.83	106715	1688	57	89	146	0.18	0.17	20	0	0	0	14	0	0	114
3	505.88	106796	1688	31	86	117	0.24	0.21	25	0	0	0	13	0	0	81
4	505.94	106894	1689	37	83	121	0.10	0.12	12	0	0	0	13	0	0	98
5	506.01	107008	1691	61	79	140	0.23	0.08	17	0	0	0	12	0	0	114
6	506.06	107090	1691	23	74	97	0.05	0.14	11	0	0	0	10	0	0	82
7	506.09	107139	1691	-1	67	66	0.14	0.09	13	0	0	0	11	0	0	49
8	506.11	107172	1693	-2	61	58	0.13	0.13	15	0	0	0	17	0	0	33
9	506.13	107204	1693	8	59	67	0.23	0.08	17	0	0	0	19	0	0	32
10	506.14	107221	1693	7	63	70	0.16	0.26	24	0	0	0	25	0	0	17
11	506.14	107221	1693	1	61	63	0.39	0.34	41	0	0	0	24	0	0	0
12	506.17	107270	1693	39	57	96	0.24	0.22	26	0	0	0	25	0	0	49
13	506.19	107302	1693	22	51	72	0.19	0.18	21	0	0	0	26	0	0	32
14	506.20	107319	1695	5	46	51	0.18	0.14	18	0	0	0	21	0	0	17
15	506.23	107368	1695	32	46	78	0.05	0.11	9	0	0	0	20	0	0	49
16	506.23	107368	1695	7	46	53	0.17	0.31	27	0.01	0.01	1	27	0	0	0
17	506.25	107401	1695	38	42	81	0.22	0.08	17	0	0	0	35	0	0	33
18	506.26	107417	1695	16	38	54	0.15	0.16	18	0	0	0	25	0	0	16
19	506.27	107433	1695	23	35	58	0.17	0.22	22	0	0	0	23	0	0	16
20	506.29	107466	1695	29	40	68	0.18	0.14	18	0.02	0.00	1	14	0	0	33
21	506.30	107483	1696	-6	36	31	0.04	0.04	5	0	0	0	12	0	0	17
22	506.31	107499	1696	13	33	46	0.20	0.13	19	0	0	0	15	0	0	16
23	506.32	107515	1696	32	28	60	0.21	0.19	23	0	0	0	26	0	0	16
24	506.32	107515	1696	24	27	51	0.23	0.19	24	0	0	0	28	0	0	0
25	506.31	107499	1696	9	27	36	0.27	0.15	24	0	0	0	29	0	0	-16
26	506.31	107499	1696	24	26	50	0.24	0.18	24	0	0	0	27	0	0	0
27	506.31	107499	1696	10	30	41	0.13	0.18	18	0	0	0	19	0	0	0
28	506.30	107483	1696	-23	30	7	0.11	0.15	15	0.01	0.00	1	9	0	0	-16
29	506.31	107499	1696	15	33	48	0.13	0.04	10	0.02	0.01	2	22	0	0	16
30	506.32	107515	1696	13	38	51	0.12	0.08	11	0	0	0	18	0	0	16
													0			
TOTAL				629	1523	2152	5.28	4.59	557	0.06	0.02	6	597	0	0	1061

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Apr 30 th 107515 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	506.32	107515	1696	-10	28	18	0.10	0.08	10	0.00	0.02	1	19	0	0	0
2	506.31	107499	1696	-6	24	18	0.10	0.15	14	0	0	0	24	0	0	-16
3	506.31	107499	1696	14	21	35	0.13	0.15	16	0	0	0	22	0	0	0
4	506.32	107515	1696	27	20	47	0.13	0.10	13	0	0	0	19	0	0	16
5	506.30	107483	1696	-25	20	-5	0.22	0.08	17	0	0	0	10	0	0	-32
6	506.30	107483	1696	14	24	38	0.17	0.11	16	0	0	0	18	0	0	0
7	506.29	107466	1695	-15	28	13	0.15	0.05	11	0.04	0.05	6	21	0	0	-17
8	506.29	107466	1695	-5	29	24	0.01	0.05	3	0	0	0	19	0	0	0
9	506.28	107450	1695	-11	28	17	0.07	0.18	14	0	0	0	20	0	0	-16
10	506.28	107450	1695	-7	31	24	0.04	0.03	4	0.00	0.02	1	19	0	0	0
11	506.28	107450	1695	-5	28	23	0.09	0.04	7	0	0	0	18	0	0	0
12	506.29	107466	1695	14	25	39	0.08	0.16	14	0	0	0	12	0	0	16
13	506.27	107433	1695	-18	20	3	0.22	0.17	22	0	0	0	18	0	0	-33
14	506.27	107433	1695	9	15	24	0.07	0.10	10	0	0	0	20	0	0	0
15	506.26	107417	1695	0	18	19	0.19	0.07	15	0	0	0	17	0	0	-16
16	506.32	107515	1696	-50	70	20	0.00	0.00	0	1.01	0.97	140	10	0	0	98
17	506.33	107532	1696	-33	19	-14	0.00	0.33	19	0.05	0.00	4	5	0	0	17
18	506.33	107532	1696	4	21	25	0.13	0.13	15	0	0	0	8	0	0	0
19	506.39	107630	1696	-23	82	60	0.00	0.00	0	0.81	0.69	106	6	0	0	98
20	506.41	107663	1698	-55	50	-5	0.00	0.00	0	0.07	0.11	13	7	0	0	33
21	506.40	107646	1698	-41	31	-10	0.24	0.10	19	0	0	0	7	0	0	-17
22	506.40	107646	1698	-4	22	18	0.20	0.15	20	0	0	0	6	0	0	0
23	506.38	107614	1696	-16	26	10	0.18	0.38	32	0	0	0	6	0	0	-32
24	506.38	107614	1696	-4	28	24	0.15	0.10	14	0	0	0	7	0	0	0
25	506.38	107614	1696	-4	17	13	0.14	0.10	14	0	0	0	11	0	0	0
26	506.37	107597	1696	-9	18	9	0.22	0.11	19	0.00	0.02	1	8	0	0	-17
27	506.36	107581	1696	-10	29	19	0.10	0.09	11	0.04	0.00	3	16	0	0	-16
28	506.34	107548	1696	-27	10	-17	0.11	0.17	16	0	0	0	20	0	0	-33
29	506.33	107532	1696	6	1	7	0.22	0.08	17	0	0	0	15	0	0	-16
30	506.31	107499	1696	14	3	17	0.26	0.26	30	0	0	0	18	0	0	-33
31	506.29	107466	1695	5	0	5	0.15	0.16	18	0	0	0	23	0	0	-33
TOTAL				-271	788	517	3.87	3.68	432	2.02	1.88	276	447	0	0	-49

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	May 31 st Surface	Area	Ventura River			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To			
	(ft MSL)	107466 Storage	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total	Main System	To River	Spill	
1	506.27	107433	1695	5	0	5	0.31	0.14	26	0	0	0	12	0	0	-33
2	506.27	107433	1695	18	0	18	0.08	0.08	9	0	0	0	9	0	0	0
3	506.26	107417	1695	10	1	11	0.05	0.13	10	0	0	0	16	0	0	-16
4	506.25	107401	1695	20	0	20	0.21	0.03	14	0	0	0	22	0	0	-16
5	506.23	107368	1695	12	0	12	0.11	0.19	17	0	0	0	27	0	0	-33
6	506.20	107319	1695	1	0	1	0.19	0.26	26	0	0	0	24	0	0	-49
7	506.18	107286	1693	8	0	8	0.18	0.15	19	0	0	0	22	0	0	-33
8	506.17	107270	1693	21	0	21	0.24	0.12	21	0	0	0	16	0	0	-16
9	506.16	107253	1693	12	0	12	0.12	0.18	17	0	0	0	11	0	0	-17
10	506.15	107237	1693	35	0	35	0.19	0.21	23	0	0	0	28	0	0	-16
11	506.12	107188	1693	19	0	19	0.27	0.24	29	0	0	0	38	0	0	-49
12	506.09	107139	1691	10	0	10	0.24	0.21	26	0	0	0	33	0	0	-49
13	506.05	107074	1691	-17	0	-17	0.14	0.19	19	0	0	0	29	0	0	-65
14	506.03	107041	1691	17	0	17	0.30	0.16	27	0	0	0	23	0	0	-33
15	506.00	106992	1691	-21	0	-21	0.06	0.14	12	0	0	0	16	0	0	-49
16	505.99	106976	1689	13	0	13	0.20	0.06	15	0	0	0	14	0	0	-16
17	505.97	106943	1689	3	0	3	0.09	0.09	10	0	0	0	25	0	0	-33
18	505.95	106910	1689	2	0	2	0.09	0.09	10	0	0	0	24	0	0	-33
19	505.92	106862	1689	-15	0	-15	0.08	0.10	10	0	0	0	23	0	0	-48
20	505.90	106829	1689	12	0	12	0.25	0.12	21	0	0	0	24	0	0	-33
21	505.89	106813	1688	7	0	7	0.13	0.05	10	0	0	0	12	0	0	-16
22	505.88	106796	1688	10	0	10	0.16	0.07	13	0	0	0	13	0	0	-17
23	505.86	106764	1688	-5	0	-5	0.11	0.16	16	0	0	0	11	0	0	-32
24	505.84	106731	1688	19	0	19	0.26	0.19	26	0	0	0	26	0	0	-33
25	505.82	106699	1688	0	0	0	0.16	0.13	17	0	0	0	16	0	0	-32
26	505.80	106666	1688	-3	0	-3	0.16	0.04	12	0	0	0	18	0	0	-33
27	505.79	106650	1686	23	0	23	0.10	0.12	13	0	0	0	26	0	0	-16
28	505.77	106617	1686	17	0	17	0.21	0.25	26	0	0	0	24	0	0	-33
29	505.75	106585	1686	8	0	8	0.26	0.08	20	0	0	0	20	0	0	-32
30	505.73	106552	1686	11	0	11	0.25	0.24	28	0	0	0	16	0	0	-33
TOTAL				251	1	251	5.20	4.22	544	0.00	0.00	0	621	0	0	-914

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 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation (ft MSL)	Jun 30 th 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	To Spill	
1	505.69	106487	1684	-22	0	-22	0.19	0.09	16	0	0	0	28	0	0	-65
2	505.66	106438	1684	4	0	4	0.12	0.22	19	0	0	0	33	0	0	-49
3	505.63	106389	1684	6	0	6	0.30	0.20	28	0	0	0	26	0	0	-49
4	505.60	106341	1684	4	0	4	0.33	0.19	30	0	0	0	23	0	0	-48
5	505.57	106292	1683	1	0	1	0.22	0.26	27	0	0	0	23	0	0	-49
6	505.55	106259	1683	14	0	14	0.26	0.19	26	0	0	0	22	0	0	-33
7	505.53	106227	1683	-3	0	-3	0.18	0.12	17	0	0	0	12	0	0	-32
8	505.51	106194	1683	7	0	7	0.10	0.14	14	0	0	0	26	0	0	-33
9	505.47	106130	1681	-10	0	-10	0.17	0.24	23	0	0	0	30	0	0	-64
10	505.45	106097	1681	23	0	23	0.30	0.18	27	0	0	0	29	0	0	-33
11	505.42	106048	1681	14	0	14	0.38	0.19	32	0	0	0	30	0	0	-49
12	505.38	105984	1679	-14	0	-14	0.11	0.21	18	0	0	0	32	0	0	-64
13	505.35	105935	1679	5	0	5	0.37	0.14	29	0	0	0	25	0	0	-49
14	505.32	105886	1679	7	0	7	0.39	0.31	40	0	0	0	17	0	0	-49
15	505.30	105854	1679	14	0	14	0.19	0.13	18	0	0	0	28	0	0	-32
16	505.27	105805	1677	22	0	22	0.28	0.26	31	0	0	0	41	0	0	-49
17	505.23	105741	1677	2	0	2	0.20	0.29	28	0	0	0	38	0	0	-64
18	505.19	105676	1676	2	0	2	0.29	0.21	28	0	0	0	38	0	0	-65
19	505.15	105611	1676	-18	0	-18	0.19	0.11	17	0	0	0	30	0	0	-65
20	505.12	105563	1676	7	0	7	0.26	0.28	31	0	0	0	24	0	0	-48
21	505.09	105514	1674	-7	0	-7	0.29	0.17	26	0	0	0	16	0	0	-49
22	505.06	105466	1674	8	0	8	0.22	0.22	25	0	0	0	31	0	0	-48
23	505.03	105417	1674	7	0	7	0.21	0.21	24	0	0	0	32	0	0	-49
24	504.99	105353	1672	5	0	5	0.35	0.20	31	0	0	0	37	0	0	-64
25	504.95	105288	1672	17	0	17	0.39	0.22	34	0	0	0	47	0	0	-65
26	504.91	105223	1672	5	0	5	0.22	0.25	27	0	0	0	44	0	0	-65
27	504.87	105159	1670	-5	0	-5	0.26	0.25	29	0	0	0	30	0	0	-64
28	504.83	105094	1670	-5	0	-5	0.33	0.26	33	0	0	0	26	0	0	-65
29	504.80	105046	1670	2	0	2	0.24	0.15	22	0	0	0	28	0	0	-48
30	504.76	104982	1669	2	0	2	0.28	0.21	28	0	0	0	38	0	0	-64
31	504.72	104917	1669	9	0	9	0.26	0.32	33	0	0	0	41	0	0	-65
TOTAL				101	0	101	7.88	6.42	809	0.00	0.00	0	927	0	0	-1635

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 2019

*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	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	504.67	104837	1667	-12	0	-12	0.16	0.22	21	0	0	0	47	0	0	-80
2	504.63	104773	1667	3	0	3	0.30	0.23	30	0	0	0	37	0	0	-64
3	504.59	104708	1665	5	0	5	0.36	0.28	36	0	0	0	34	0	0	-65
4	504.56	104660	1665	-3	0	-3	0.20	0.23	24	0	0	0	21	0	0	-48
5	504.53	104612	1665	18	0	18	0.24	0.24	27	0	0	0	39	0	0	-48
6	504.47	104515	1663	-26	0	-26	0.20	0.24	25	0	0	0	46	0	0	-97
7	504.43	104451	1663	8	0	8	0.35	0.22	32	0	0	0	40	0	0	-64
8	504.38	104371	1661	-4	0	-4	0.43	0.20	35	0	0	0	40	0	0	-80
9	504.35	104323	1661	2	0	2	0.28	0.12	22	0	0	0	28	0	0	-48
10	504.32	104275	1661	6	0	6	0.20	0.21	23	0	0	0	31	0	0	-48
11	504.28	104211	1660	-6	0	-6	0.34	0.33	38	0	0	0	20	0	0	-64
12	504.25	104163	1660	0	0	0	0.11	0.13	13	0	0	0	35	0	0	-48
13	504.21	104099	1660	2	0	2	0.21	0.20	23	0	0	0	43	0	0	-64
14	504.17	104035	1658	9	0	9	0.32	0.30	35	0	0	0	38	0	0	-64
15	504.12	103955	1658	-1	0	-1	0.25	0.23	27	0	0	0	52	0	0	-80
16	504.08	103891	1656	-13	0	-13	0.14	0.24	21	0	0	0	30	0	0	-64
17	504.05	103843	1656	16	0	16	0.30	0.21	29	0	0	0	35	0	0	-48
18	504.01	103779	1656	-20	0	-20	0.21	0.19	22	0	0	0	22	0	0	-64
19	503.97	103715	1654	-12	0	-12	0.21	0.20	23	0	0	0	29	0	0	-64
20	503.93	103651	1654	13	0	13	0.28	0.20	27	0	0	0	50	0	0	-64
21	503.89	103587	1652	-1	0	-1	0.15	0.20	20	0	0	0	44	0	0	-64
22	503.85	103524	1652	4	0	4	0.21	0.35	31	0	0	0	36	0	0	-63
23	503.82	103476	1652	29	0	29	0.40	0.20	33	0	0	0	43	0	0	-48
24	503.78	103412	1651	0	0	0	0.30	0.19	27	0	0	0	37	0	0	-64
25	503.74	103348	1651	-25	0	-25	0.14	0.20	19	0	0	0	21	0	0	-64
26	503.72	103316	1651	27	0	27	0.31	0.23	30	0	0	0	29	0	0	-32
27	503.67	103237	1649	-5	0	-5	0.29	0.21	28	0	0	0	46	0	0	-79
28	503.63	103173	1649	17	0	17	0.28	0.32	33	0	0	0	48	0	0	-64
29	503.58	103094	1647	-11	0	-11	0.20	0.22	23	0	0	0	45	0	0	-79
30	503.54	103030	1647	3	0	3	0.23	0.23	26	0	0	0	42	0	0	-64
31	503.51	102983	1647	12	0	12	0.27	0.22	27	0	0	0	32	0	0	-47
TOTAL				37	0	37	7.87	6.99	831	0.00	0.00	0	1140	0	0	-1934

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
SEPTEMBER 2019

*figures in acre-feet except where otherwise noted

DATE	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			STORAGE CHANGE
	Elevation	Aug 30 th Surface	Surface Area	Ventura River			Pan @Dam	Pan @Rec	Lake	at Dam	at Rec	Lake	To			
	(ft MSL)	102983	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total	Main System	To River	Spill	
1	503.47	102919	1645	-20	0	-20	0.18	0.16	18	0	0	0	26	0	0	-64
2	503.43	102856	1645	-6	0	-6	0.30	0.17	24	0	0	0	33	0	0	-63
3	503.39	102792	1643	12	0	12	0.33	0.27	31	0	0	0	44	0	0	-64
4	503.35	102729	1643	9	0	9	0.24	0.28	27	0	0	0	45	0	0	-63
5	503.31	102665	1643	12	0	12	0.39	0.26	34	0	0	0	42	0	0	-64
6	503.26	102586	1642	-6	0	-6	0.34	0.22	29	0	0	0	44	0	0	-79
7	503.23	102539	1642	9	0	9	0.19	0.35	28	0	0	0	28	0	0	-47
8	503.19	102475	1640	-23	0	-23	0.21	0.17	20	0	0	0	22	0	0	-64
9	503.15	102412	1640	4	0	4	0.42	0.18	31	0	0	0	36	0	0	-63
10	503.11	102349	1640	-5	0	-5	0.23	0.20	22	0	0	0	36	0	0	-63
11	503.07	102286	1638	-3	0	-3	0.20	0.11	16	0	0	0	44	0	0	-63
12	503.03	102222	1638	-8	0	-8	0.09	0.20	15	0	0	0	41	0	0	-64
13	502.98	102143	1636	-6	0	-6	0.26	0.20	24	0	0	0	49	0	0	-79
14	502.94	102080	1636	4	0	4	0.25	0.35	31	0	0	0	36	0	0	-63
15	502.90	102017	1636	-9	0	-9	0.23	0.37	31	0	0	0	23	0	0	-63
16	502.88	101986	1635	20	0	20	0.18	0.19	19	0	0	0	32	0	0	-31
17	502.84	101923	1635	-4	0	-4	0.24	0.16	21	0	0	0	38	0	0	-63
18	502.79	101844	1633	-18	0	-18	0.28	0.08	19	0	0	0	43	0	0	-79
19	502.75	101781	1633	0	0	0	0.22	0.20	22	0	0	0	41	0	0	-63
20	502.71	101718	1633	0	0	0	0.15	0.26	21	0	0	0	42	0	0	-63
21	502.67	101655	1631	-6	0	-6	0.31	0.17	25	0	0	0	32	0	0	-63
22	502.64	101608	1631	-1	0	-1	0.16	0.21	19	0	0	0	27	0	0	-47
23	502.60	101545	1631	-9	0	-9	0.15	0.20	18	0	0	0	36	0	0	-63
24	502.57	101498	1630	33	0	33	0.31	0.25	29	0	0	0	51	0	0	-47
25	502.52	101419	1630	-17	0	-17	0.14	0.22	19	0	0	0	43	0	0	-79
26	502.49	101372	1628	1	0	1	0.17	0.18	18	0	0	0	30	0	0	-47
27	502.46	101325	1628	5	0	5	0.30	0.11	21	0	0	0	31	0	0	-47
28	502.43	101278	1628	-19	0	-19	0.07	0.06	7	0	0	0	21	0	0	-47
29	502.40	101231	1628	-7	0	-7	0.25	0.17	22	0	0	0	18	0	0	-47
30	502.36	101168	1626	-26	0	-26	0.05	0.16	11	0	0	0	26	0	0	-63
TOTAL				-85	0	-85	6.84	6.11	671	0.00	0.00	0	1059	0	0	-1815

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 2017 THROUGH SEPTEMBER 2018

Daily mean elevation, feet above mean sea level

SPILL OVER DAM @ 1095.35 ELEVATION

Day	2017			2018								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1095.50	1095.52	1094.79	1095.48	1093.41	1102.53	1096.36	1095.94	1095.63	1095.67	1095.60	1095.63
2	1095.51	1095.52	1094.80	1095.49	1094.84	1103.08	1096.38	1095.97	1095.65	1095.68	1095.60	1095.65
3	1095.51	1095.52	1094.81	1095.49	1096.26	1094.71	1096.37	1095.91	1095.69	1095.68	1095.60	1095.65
4	1095.51	1095.52	1094.82	1095.49	1095.56	1095.21	1096.10	1095.87	1095.70	1095.68	1095.60	1095.65
5	1095.51	1095.52	1094.84	1095.50	1096.03	1094.06	1095.94	1095.73	1095.71	1095.68	1095.60	1095.64
6	1095.51	1095.53	1094.85	1095.50	1095.85	1092.55	1095.95	1095.76	1095.73	1095.65	1095.60	1095.64
7	1095.51	1095.52	1094.86	1095.51	1095.49	1092.06	1095.96	1095.78	1095.72	1095.60	1095.58	1095.64
8	1095.51	1095.53	1094.87	1095.53	1095.66	1091.89	1095.98	1095.79	1095.73	1095.59	1095.60	1095.63
9	1095.50	1095.53	1094.88	1097.24	1095.50	1090.97	1095.99	1095.80	1095.74	1095.60	1095.62	1095.62
10	1095.49	1095.53	1094.89	1094.71	1095.35	1090.95	1095.98	1095.80	1095.75	1095.64	1095.62	1095.63
11	1095.49	1095.53	1094.90	1094.46	1095.32	1091.86	1095.97	1095.83	1095.78	1095.70	1095.63	1095.64
12	1095.50	1095.53	1094.92	1094.34	1095.01	1091.43	1095.89	1095.85	1095.75	1095.67	1095.65	1095.65
13	1095.50	1095.53	1094.93	1094.20	1095.45	1091.07	1095.80	1095.85	1095.64	1095.67	1095.67	1095.65
14	1095.49	1095.53	1094.94	1094.13	1095.54	1091.54	1095.84	1095.85	1095.64	1095.68	1095.68	1095.65
15	1095.49	1095.53	1094.95	1094.05	1095.37	1091.39	1095.84	1095.85	1095.64	1095.67	1095.69	1095.65
16	1095.49	1095.54	1095.38	1094.02	1095.51	1091.75	1095.84	1095.85	1095.63	1095.61	1095.70	1095.66
17	1095.50	1095.54	1095.25	1093.85	1095.79	1092.11	1095.86	1095.85	1095.65	1095.59	1095.71	1095.66
18	1095.50	1095.54	1095.47	1093.92	1095.79	1091.58	1095.87	1095.85	1095.65	1095.60	1095.71	1095.67
19	1095.50	1095.54	1095.47	1093.94	1095.79	1090.77	1095.87	1095.79	1095.64	1095.60	1095.71	1095.68
20	1095.50	1095.54	1095.48	1093.89	1095.77	1093.04	1095.86	1095.71	1095.64	1095.60	1095.71	1095.67
21	1095.49	1095.54	1095.46	1093.85	1095.67	1096.31	1095.84	1095.74	1095.63	1095.60	1095.72	1095.68
22	1095.50	1095.56	1095.46	1093.82	1095.84	1096.83	1095.83	1095.75	1095.64	1095.60	1095.73	1095.68
23	1095.50	1094.69	1095.47	1090.00	1095.83	1096.40	1095.83	1095.73	1095.64	1095.60	1095.73	1095.69
24	1095.50	1094.70	1095.47	1093.77	1096.30	1096.21	1095.84	1095.75	1095.65	1095.58	1095.73	1095.70
25	1095.50	1094.71	1095.47	1093.72	1096.70	1096.22	1095.84	1095.75	1095.65	1095.58	1095.67	1095.71
26	1095.50	1094.72	1095.47	1093.64	1110.79	1096.33	1095.84	1095.76	1095.65	1095.59	1095.64	1095.72
27	1095.50	1094.74	1095.47	1093.56	1105.84	1096.38	1095.85	1095.76	1095.65	1095.61	1095.65	1095.71
28	1095.51	1094.75	1095.47	1093.87	1096.72	1096.37	1095.86	1095.71	1095.66	1095.61	1095.65	1095.72
29	1095.51	1094.76	1095.48	1094.16	---	1096.36	1095.86	1095.60	1095.67	1095.61	1095.65	1095.73
30	1095.52	1094.77	1095.48	1093.50	---	1096.36	1095.88	1095.61	1095.67	1095.60	1095.65	1095.74
31	1095.52	---	1095.48	1093.43	---	1096.36	---	1095.62	---	1095.60	1095.65	---

Data is provisional and subject to revision.

Estimated

Matilija Reservoir Lake Elevation

WATER YEAR OCTOBER 2018 THROUGH SEPTEMBER 2019

Daily mean elevation, feet above mean sea level

SPILL OVER DAM @ 1095.35 ELEVATION

Day	2018			2019								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1095.74	1095.86	1095.74	1095.93	1095.83	1095.95	1095.87	1095.82	1095.76	1095.69	1095.67	1095.65
2	1095.74	1095.90	1095.73	1095.95	1097.04	1096.16	1095.87	1095.82	1095.76	1095.69	1095.67	1095.64
3	1095.76	1095.91	1095.74	1095.95	1096.81	1096.10	1095.88	1095.82	1095.76	1095.70	1095.67	1095.64
4	1095.77	1095.89	1095.74	1095.95	1096.72	1094.87	1095.88	1095.82	1095.74	1095.70	1095.66	1095.64
5	1095.76	1095.92	1095.79	1095.95	1096.44	1094.02	1095.88	1095.82	1095.74	1095.70	1095.66	1095.64
6	1095.76	1095.93	1095.95	1095.91	1096.27	1095.81	1095.87	1095.83	1095.73	1095.70	1095.66	1095.64
7	1095.77	1095.94	1095.76	1096.00	1096.18	1096.30	1095.85	1095.83	1095.73	1095.70	1095.66	1095.64
8	1095.79	1095.95	1095.74	1095.82	1096.12	1096.23	1095.84	1095.82	1095.73	1095.71	1095.67	1095.66
9	1095.80	1095.96	1095.74	1095.79	1096.09	1096.19	1095.83	1095.82	1095.72	1095.70	1095.66	1095.66
10	1095.82	1095.99	1095.74	1095.72	1096.06	1096.15	1095.84	1095.82	1095.71	1095.70	1095.67	1095.67
11	1095.83	1096.00	1095.75	1095.69	1096.03	1096.12	1095.85	1095.81	1095.71	1095.69	1095.66	1095.67
12	1095.83	1095.97	1095.76	1096.04	1096.01	1096.09	1095.84	1095.80	1095.70	1095.68	1095.66	1095.66
13	1095.82	1095.96	1095.77	1095.88	1096.01	1096.07	1095.84	1095.81	1095.71	1095.68	1095.66	1095.66
14	1095.82	1095.99	1095.80	1096.00	1096.69	1096.05	1095.84	1095.80	1095.73	1095.68	1095.66	1095.65
15	1095.82	1096.01	1095.82	1096.31	1096.40	1096.04	1095.84	1095.81	1095.73	1095.67	1095.65	1095.65
16	1095.83	1096.01	1095.82	1096.20	1096.26	1096.02	1095.85	1095.84	1095.73	1095.67	1095.66	1095.66
17	1095.85	1096.01	1095.82	1097.28	1096.20	1096.00	1095.84	1095.80	1095.72	1095.67	1095.66	1095.67
18	1095.86	1096.00	1095.83	1096.14	1096.15	1095.98	1095.82	1095.80	1095.72	1095.68	1095.67	1095.67
19	1095.87	1096.01	1095.83	1096.00	1096.12	1095.98	1095.82	1095.84	1095.71	1095.68	1095.66	1095.67
20	1095.88	1096.02	1095.83	1095.94	1096.10	1095.98	1095.84	1095.81	1095.72	1095.67	1095.66	1095.68
21	1095.89	1096.01	1095.82	1095.90	1096.08	1095.98	1095.84	1095.80	1095.73	1095.66	1095.65	1095.67
22	1095.89	1095.96	1095.83	1095.89	1096.05	1095.96	1095.83	1095.79	1095.72	1095.65	1095.65	1095.67
23	1095.89	1095.90	1095.82	1095.87	1096.04	1095.95	1095.82	1095.79	1095.71	1095.65	1095.66	1095.67
24	1095.89	1095.93	1095.82	1095.85	1096.01	1095.94	1095.81	1095.79	1095.71	1095.64	1095.66	1095.67
25	1095.89	1095.97	1095.84	1095.84	1095.99	1095.93	1095.81	1095.78	1095.71	1095.65	1095.65	1095.66
26	1095.91	1096.00	1095.86	1095.84	1095.98	1095.93	1095.81	1095.79	1095.71	1095.65	1095.65	1095.67
27	1095.91	1096.00	1095.89	1095.82	1095.98	1095.92	1095.82	1095.78	1095.71	1095.64	1095.65	1095.68
28	1095.91	1087.70	1095.89	1095.82	1095.99	1095.91	1095.82	1095.77	1095.70	1095.64	1095.65	1095.69
29	1095.91	1096.11	1095.92	1095.81	---	1095.90	1095.83	1095.76	1095.70	1095.64	1095.65	1095.70
30	1095.87	1095.79	1095.95	1095.81	---	1095.89	1095.83	1095.76	1095.70	1095.64	1095.65	1095.70
31	1095.84	---	1095.93	1095.92	---	1095.89	---	1095.75	---	1095.65	1095.65	---

Data is provisional and subject to revision.

Estimated

Appendix F

System Delivery Data for Mire Monte Well and Ojai Water System

Mira Monte Well

Water Year 2017 – 2018

Month	Acre Feet
Oct – 17	17.01
Nov – 17	13.20
Dec – 17	8.41
Jan – 18	8.00
Feb – 18	8.40
Mar – 18	1.53
Apr – 18	0.00
May – 18	13.82
Jun – 18	17.97
Jul – 18	20.49
Aug – 18	18.39
Sep – 18	18.26
Total:	145.48 AF

Mira Monte Well

Calendar Year 2018

Month	Acre Feet
Jan – 18	8.00
Feb – 18	8.40
Mar – 18	1.53
Apr – 18	0.00
May – 18	13.82
Jun – 18	17.97
Jul – 18	20.49
Aug – 18	18.39
Sep – 18	18.26
Oct – 18	20.86
Nov – 18	14.63
Dec – 18	8.44
Total:	150.79 AF

Mira Monte Well

Water Year 2018 – 2019

Month	Acre Feet
Oct – 18	20.86
Nov – 18	14.63
Dec – 18	8.44
Jan – 19	4.48
Feb – 19	2.44
Mar – 19	2.21
Apr – 19	8.09
May – 19	2.08
Jun – 19	11.16
Jul – 19	18.58
Aug – 19	23.78
Sep – 19	21.12
Total:	137.87 AF

Mira Monte Well

Calendar Year 2019

Month	Acre Feet
Jan – 19	4.48
Feb – 19	2.44
Mar – 19	2.21
Apr – 19	8.09
May – 19	2.08
Jun – 19	11.16
Jul – 19	18.58
Aug – 19	23.78
Sep – 19	21.12
Oct – 19	18.32
Nov – 19	9.85
Dec – 19	1.56
Total:	123.66 AF

OJAI WATER SYSTEM SOURCES AND DELIVERIES

2017 - 2018 WATER YEAR

figures in acre-feet except where otherwise noted

MONTH	YEAR	SYSTEM DELIVERIES	SOURCE	
			WELL - FIELD PRODUCTION	SURFACE WATER
OCT	2017	170	144	26
NOV	2017	142	135	7
DEC	2017	145	133	12
JAN	2018	113	112	1
FEB	2018	124	122	2
MAR	2018	89	89	0
APR	2018	134	129	5
MAY	2018	155	124	31
JUN	2018	171	115	56
JUL	2018	214	140	74
AUG	2018	200	120	80
SEP	2018	173	102	71
TOTAL		1830	1465	364

OJAI WATER SYSTEM SOURCES AND DELIVERIES 2018 - 2019 WATER YEAR

figures in acre-feet except where otherwise noted

MONTH	YEAR	SYSTEM DELIVERIES	SOURCE	
			WELL - FIELD PRODUCTION	SURFACE WATER
OCT	2018	168	106	61
NOV	2018	149	119	30
DEC	2018	95	95	0
JAN	2019	85	85	0
FEB	2019	72	69	2
MAR	2019	82	82	0
APR	2019	144	124	20
MAY	2019	130	127	3
JUN	2019	164	160	4
JUL	2019	179	175	4
AUG	2019	196	186	10
SEP	2019	174	164	10
TOTAL		1638	1493	145

Appendix G
Ambient Air Temperature Data

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	107,646	72,149
2020	501.48	99,795											
AVG:	522.67	168,468	11,839	10,684	22,523	15,111	84	15,195	1,870	7,739	4,162	188,464	160,237
MAX:	525.51	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

*Total water supply delivered to Casitas System during 1991 includes 1240 a.f. state project water into system and 450 a.f. delivered to Santa Barbara out of system.

**Reservoir storage rating table updated and adopted 01 Oct, 2017. Storage volumes after this date reported using 2017 Rating Table.

**HISTORICAL RAINFALL
CASITAS MUNICIPAL WATER DISTRICT**

WATER YEAR	CASITAS DAM	CASITAS RECREATION	MATILIJA 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
AVERAGE	23.57	22.75	28.24	24.85	21.74
MAXIMUM	59.54	58.78	74.44	60.86	52.90
MINIMUM	8.60	7.15	9.23	8.33	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 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
AVG	0.76	2.33	3.35	5.26	5.27	3.78	1.24	0.32	0.05	0.01	0.04	0.31	22.85
MAX	7.09	14.19	13.09	27.61	30.12	17.19	8.21	3.21	0.94	0.32	1.18	7.32	58.78
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.15

Rainfall in inches, water year October 1 through September 30

