



# Water Resources Data California Water Year 1993

Volume 1. Southern Great Basin from Mexican Border to  
Mono Lake Basin, and Pacific Slope Basins  
from Tijuana River to Santa Maria River



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-93-1  
Prepared in cooperation with the California Department of  
Water Resources and with other agencies

# CALENDAR FOR WATER YEAR 1993

1992

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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25	26	27	28	29	30	31	29	30						27	28	29	30	31		

1993

JANUARY							FEBRUARY							MARCH						
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31																				
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by J.R. Mullen, P.D. Hayes, and J.A. Agajanian



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Prepared in cooperation with the California Department of  
Water Resources and with other agencies

**U.S. DEPARTMENT OF THE INTERIOR**

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**U.S. GEOLOGICAL SURVEY**

**Gordon P. Eaton, Director**

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For information on the water program in California write to  
District Chief, Water Resources Division  
U.S. Geological Survey  
Federal Building, Room W-2233  
2800 Cottage Way  
Sacramento, CA 95825

## PREFACE

This volume of the annual hydrologic data report of California is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by Federal, State, and local agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for California are contained in five volumes:

- Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin and Pacific Slope Basins from the Tijuana River to Santa Maria River
- Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley
- Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River
- Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line
- Volume 5. Ground-water data

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, the individuals contributing significantly to the collection, processing, and tabulation of the data are given on page V.

This report was prepared in cooperation with the California Department of Water Resources and with other agencies, under the general supervision of Michael V. Shulters, District Chief, California.

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SURFACE-WATER AND WATER-QUALITY STATIONS,  
IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

IX

[Letters after station name designate type of data collected: (d), discharge;  
(1), elevation, gage heights, or contents; (c), chemical; (b), biological; (p), precipitation;  
(g), gage height; (t), water temperature; and (s), sediment]

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Piru Creek below Buck Creek, near Pyramid Lake (d).....	11109375	346
Canada de los Alamos above Pyramid Lake (d).....	11109395	348
Pyramid Lake near Gorman (l).....	11109520	350
Piru Creek below Pyramid Lake, near Gorman (d).....	11109525	351
Piru Creek above Lake Piru (d).....	11109600	353
Lake Piru near Piru (l).....	11109700	355
Piru Creek below Santa Felicia Dam (d).....	11109800	356
Sespe Creek near Wheeler Springs (d).....	11111500	358
Sespe Creek near Fillmore (d).....	11113000	360
Santa Paula Creek near Santa Paula (d).....	11113500	363
Santa Clara River at Montalvo (ds).....	11114000	365
<b>VENTURA RIVER BASIN</b>		
Ventura River near Ventura (ds).....	11118500	368
<b>CARPINTERIA CREEK BASIN</b>		
Carpinteria Creek near Carpinteria (d).....	11119500	373
<b>MISSION CREEK BASIN</b>		
Mission Creek near Mission Street, at Santa Barbara (d).....	11119750	375
<b>ARROYO BURRO BASIN</b>		
Arroyo Burro at Santa Barbara (d).....	11119780	377
<b>ATASCADERO CREEK BASIN</b>		
Atascadero Creek:		
Maria Ygnacio Creek at University Drive, near Goleta (d).....	11118940	379
Atascadero Creek near Goleta (d).....	11120000	381
<b>SAN JOSE CREEK BASIN</b>		
San Jose Creek near Goleta (d).....	11120500	383
<b>SANTA YNEZ RIVER BASIN</b>		
Santa Ynez River at Jameson Lake, near Montecito (d).....	11121000	386
Santa Ynez River above Gibraltar Dam, near Santa Barbara (d).....	11122000	387
Santa Ynez River below Gibraltar Dam, near Santa Barbara (d).....	11123000	388
Santa Ynez River below Los Laureles Canyon, near Santa Ynez (dc).....	11123500	390
Santa Cruz Creek near Santa Ynez (dc).....	11124500	393
Lake Cachuma near Santa Ynez (l).....	11125500	396
Santa Ynez River near Santa Ynez (c).....	11126000	397
Alisal Creek:		
Alamo Pintado Creek near Solvang (d).....	11128250	399
Alisal Reservoir near Solvang (l).....	11128300	400
Santa Ynez River at Solvang (d).....	11128500	401
Salsipuedes Creek near Lompoc (dc).....	11132500	403
Santa Ynez River at narrows, near Lompoc (d).....	11133000	407
Miguelito Creek at Lompoc (dc).....	11134800	409
<b>SAN ANTONIO CREEK BASIN</b>		
San Antonio Creek near Casmalia (dc).....	11136100	412
<b>SANTA MARIA RIVER BASIN</b>		
Cuyama River (head of Santa Maria River) below Buckhorn Canyon, near Santa Maria (dc).....	11136800	418
Sisquoc River near Sisquoc (dc).....	11138500	422
Sisquoc River near Garey (d).....	11140000	426

## DISCONTINUED GAGING STATIONS

The following continuous-record streamflow stations in California have been discontinued or converted to partial-record stations. Daily records were collected and are stored in WATSTORE for the period of record shown for each station.

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
09424050	Chemehuevi Wash Tributary near Needles	2.04	1960-62, 1966-68
09428530	Arch Creek near Earp	1.52	1961-71
10250600	Wildrose Creek near Wildrose Station	23.7	1961-73, 1975
10250800	Darwin Creek near Darwin	173	1963-89
10251000	Big Dip Creek near Stovepipe Wells	.95	1963-69
10251100	Salt Creek near Stovepipe Wells	--	1974-88
10251300	Amargosa River at Tecopa	3,090	1962-72, 1974-83
10251350	Horsethief Creek near Tecopa	3.06	1961-70
10252300	China Spring Creek near Mountain Pass	.94	1961-72
10252330	Wheaton Wash near Mountain Pass	10.2	1965-68
10253080	Sunflower Wash near Essex	3.04	1963-70
10253320	Quail Wash near Joshua Tree	100	1964-71
10253350	Fortynine Palms Creek near Twentynine Palms	8.55	1963-71
10253540	Corn Springs Wash near Desert Center	24.1	1964-71
10253600	Eagle Creek at Eagle Mountain	7.74	1961-66
10255200	Myer Creek Tributary near Jacumba	.11	1966-70
10255700	San Felipe Creek near Julian	89.2	1958-83
10255800	Coyote Creek near Borrego Springs	144	1951-83
10255810	Borrego Palm Creek near Borrego Springs	21.8	1950-93
10255820	Yaqui Pass Wash near Borrego	.041	1965-69
10255850	Vallecito Creek near Julian	39.7	1964-83
10255885	San Felipe Creek near Westmorland	1,693	1961-91
10256000	Whitewater River at White Water	57.5	1949-79
10256050	Whitewater Municipal West Company Diversion at White Water	--	1966-70, 1971-73, 1975-81
10256060	Whitewater River at White Water Cutoff at White Water	59.1	1985-93
10256200	San Geronio River near Banning	14.8	1976-81
10256300	San Geronio River at Banning	44.2	1981
10256400	San Geronio River near White Water	154	1966-73, 1975-78
10257500	Falls Creek near White Water	4.14	1922-27, 1928-31
10257710	Chino Canyon Creek near Palm Springs	3.88	1975-85
10257800	Long Creek near Desert Hot Springs	19.6	1963-71
10258030	Tahquitz Creek at Palm Springs	--	1983
10258100	Palm Canyon Creek Tributary near Anza	.47	1967-73
10259600	Cottonwood Wash near Cottonwood Spring	.71	1960-72
10259920	Wasteway No. 1 near Mecca	--	1966-81
10260200	Pipes Creek near Yucca Valley	15.1	1958-71
10260400	Cushenbury Creek near Lucerne Valley	6.36	1957-71
10260620	Houston Creek above Lake Gregory, at Crestline	0.35	1979-93
10260630	Abondigas Creek above Lake Gregory, at Crestline	1.15	1979-93
10260650	Houston Creek below Lake Gregory, at Crestline	2.68	1979-93
10260820	West Fork Mojave River below Silverwood Lake	34.0	1981-83
10261000	West Fork Mojave River near Hesperia	70.3	1905-22, 1930-71
10261900	Mojave River at Wild Crossing, near Helendale	957	1966-70
10262000	Mojave River near Hodge	1,091	1930-32, 1970-93
10264500	Little Rock Creek near Palmdale	78.0	1968
10264590	Cottonwood Creek near Rosamond	35.7	1965-72
10264710	Goler Gulch near Randsburg	41.3	1966-72
10264740	Cache Creek near Mojave	96.5	1965-72
10264750	Pine Tree Creek near Mojave	33.5	1958-79
10264770	Cottonwood Creek near Cantil	163	1966-72
10264870	Little Lake Creek near Little Lake	8.60	1964-68
10264878	Ninemile Creek near Brown	10.4	1962-71
10265200	Convict Creek near Mammoth Lakes	18.2	1925-78
10265500	Owens River near Round Valley	425	1909-23, 1928-40
10265700	Rock Creek at Little Round Valley, near Bishop	35.8	1925-78
10267000	Pine Creek at Division Box, near Bishop	36.4	1922-79
10268000	Owens River at Pleasant Valley, near Bishop	583	1918-40
10268700	Silver Canyon Creek near Laws	19.7	1930-78
10271210	Bishop Creek below Powerplant No. 6, near Bishop	104	1936-90
10276000	Big Pine Creek near Big Pine	39.0	1921-78
10276002	Giroux Ditch lower below Big Pine	--	1975-78
10276500	Tinemaha Creek near Big Pine	27.3	1907-11
10277000	Birch Creek near Big Pine	11.7	1907-11
10277400	Owens River below Tinemaha Reservoir, near Big Pine	1,964	1975-84
10277500	Owens River near Big Pine	1,976	1912-74
10278000	Taboose Creek near Aberdeen	11.2	1906-11
10278500	Goodale Creek near Aberdeen	11.2	1906-11
10281500	Oak Creek near Independence	24.1	1906-11
10281800	Independence Creek below Pi Canyon Creek, near Independence	18.1	1923-78
10282000	Independence Creek near Independence	18.8	1907-11
10282480	Mazourka Creek near Independence	15.6	1961-72
10284800	Inyo Creek near Lone Pine	1.54	1968-73
10285500	Tuttle Creek near Lone Pine	14.0	1909-11
10285700	Owens River at Keeler Bridge, near Lone Pine	2,604	1961-79

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
10286000	Cottonwood Creek near Olancho	40.1	1906-11, 1914-18, 1920-38, 1960-78
10286001	Cottonwood Creek Penstock weir, near Lone Pine	--	1906-11, 1914-18, 1919-78
10286002	Cottonwood Creek Diversion to powerhouse	--	1939-50, 1974, 1975-78
10287070	Mill Creek below Lundy Lake, near Mono Lake	18.1	1942-90
10287290	Rush Creek below Agnew Lake, near June Lake	23.3	1960-66, 1986-90
10287400	Rush Creek above Grant Lake, near June Lake	51.3	1937-79
10287900	Lee Vining Creek near Lee Vining	34.9	1935-79
10290000	Summers Creek near Bridgeport	8.26	1954-59
11010900	Wilson Creek Tributary near Dulzura	.61	1968-73
11011900	Potrero Creek Tributary near Barrett Junction	.78	1966-69
11012100	Miller Creek near Live Oak Springs	1.00	1962-64
11013000	Tijuana River near Dulzura	481	1937-90
11013600	Jamul Creek at Lee Valley, near Jamul	2.26	1984-85, 1987-88
11014850	Japacha Creek near Descanso	2.40	1965-67
11016000	Sweetwater River near Dehesa	112	1913-16
11021500	San Vicente Creek near Foster	66.0	1942
11022000	San Vicente Creek at San Vicente dam, at Foster	74.2	1937-41
11022350	Forester Creek at El Cajon	21.3	1983-93
11023250	Poway Creek near Poway	7.92	1978-87
11023310	Rattlesnake Creek at Poway	8.13	1978-89
11023320	Pomerado Creek at Poway Road, near Poway	4.14	1971-75
11023330	Los Penasquitos Creek below Poway Creek, near Poway	31.2	1970-93
11023325	Beeler Creek at Pomerado Road, near Poway	5.46	1978-89
11023400	Carroll Creek near La Jolla	15.8	1985-86
11023450	Carmel Creek near Del Mar	1.11	1985-86
11023500	Santa Ysabel Creek near Santa Ysabel	12.5	1914
11024500	Black Canyon Creek near Mesa Grande	15.3	1914, 1923-24
11026000	Santa Ysabel Creek near San Pasqual	128	1957-80
11027000	Guejito Creek near San Pasqual	22.5	1947-82
11027500	Guejito Creek at San Pasqual	27.7	1915, 1917, 1947-56
11029000	San Dieguito River near San Pasqual	249	1956-65
11029500	San Dieguito River at Bernardo	269	1912-15
11030500	San Dieguito River near Del Mar	338	1984-89
11031000	San Luis Rey River near Warner Springs	33.6	1913-15
11031500	Agua Caliente Creek near Warner Springs	19.0	1961-87
11033000	West Fork San Luis Rey River near Warner Springs	25.5	1913-15, 1957-86
11035000	San Luis Rey River at Lake Henshaw, near Mesa Grande	206	1912-22
11037650	Pauma Valley Water Company diversion near Pauma Valley	--	1966-70, 1972-81
11037700	Pauma Creek near Pauma Valley	11.0	1965-81
11038500	San Luis Rey River near Pala	317	1909-11, 1913-15
11039100	San Luis Rey River tributary near Pala	1.01	1966-73
11039600	Bubble-Up Creek near Pala	4.11	1991
11039800	San Luis Rey River at Couser Canyon Bridge, near Pala	364	1986-93
11040000	San Luis Rey River at Monserate Narrows, near Pala	373	1938-41, 1947-86
11040200	Keys Creek tributary at Valley Center	7.65	1970-83, 1991
11040500	San Luis Rey River at Bonsall	456	1912-15
11040700	San Luis Rey River below Moosa Canyon, near Bonsall	499	1984-85
11041000	San Luis Rey River near Bonsall	513	1930-79
11042520	Temecula Creek at Nigger Canyon, near Temecula	320	1923-48
11042600	Temecula Creek below Vail Dam	320	1978
11044500	Santa Margarita River near Fallbrook	644	1925-80
11044600	Santa Margarita River Tributary near Fallbrook	.52	1962-65
11045000	Santa Margarita River near De Luz Station	705	1925-26
11046100	Las Flores Creek near Oceanside	26.6	1952-67, 1970-79
11046200	San Onofre Creek near San Onofre	34.6	1951-67
11046250	San Onofre Creek at San Onofre	42.2	1947-67, 1989
11046300	San Mateo Creek near San Clemente	80.8	1953-67
11046310	San Mateo Creek near San Onofre	91.9	1951-52
11046350	Cristianitos Creek near San Clemente	29.0	1951-67
11046370	San Mateo Creek at San Onofre	132	1947-67, 1984-85
11046500	San Juan Creek near San Juan Capistrano	106	1929-71
11047200	Oso Creek at Crown Valley Parkway, near Mission Viejo	14.0	1970-81
11047300	Arroyo Trabuco at San Juan Capistrano	54.1	1973-77, 1984-89
11047500	Aliso Creek at El Toro	7.92	1931-80
11047700	Aliso Creek at South Laguna	34.4	1983-87
11048000	Irvine Ranch Drainage Canal, near Tustin	92.0	1931-40
11048555	San Diego Creek at Campus Drive, near Irvine	--	1978-79, 1983-85
11051600	Santa Ana River spreading diversion near Mentone	213	1952-77
11054000	Mill Creek near Yucaipa (REVISED RECORDS IN WDR CA-92-1)	42.4	1920-38, 1948-86
11055000	Mill Creek near Mentone	50.5	1939-65
11056000	Santa Ana River near San Bernardino	306	1929-37, 1955-61
11056500	Little San Geronio River near Beaumont (REVISED RECORDS IN WDR CA-92-1)	1.74	1949-85
11057490	San Timoteo Creek at Loma Linda	125	1979-80
11058600	Waterman Canyon Creek near Arrowhead Springs	4.65	1912-14, 1920-85
11059000	Warm Creek Floodway at San Bernardino	75.1	1961-81

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
11135000	Santa Ynez River at Pine Canyon, near Lompoc	884	1941-46, 1964-83
11135500	Santa Ynez River at barrier, near Surf	895	1947-65
11135800	San Antonio Creek at Los Alamos	34.9	1970-92
11136000	San Antonio Creek at Harris	93.7	1941-55
11136050	San Antonio Creek above Barka slough, near Orcutt	114	1985-87
11136100	San Antonio Creek near Casmalia	135	1955-93
11136150	San Antonio Creek Tributary near Casmalia	.28	1947-70
11136400	Wagon Road Creek near Stauffer	17.9	1972-78
11136480	Reyes Creek near Ventucopa	4.62	1972-78
11136500	Cuyama River near Ventucopa	89.9	1945-58
11136650	Aliso Canyon Creek near New Cuyama	16.1	1964-72
11137000	Cuyama River near Santa Maria	904	1930-62
11137400	Alamo Creek near Nipomo	83.3	1959-77
11137500	Alamo Creek near Santa Maria	86.6	1944-62
11137900	Huasna River near Arroyo Grande	10.3	1959-86
11138000	Huasna River near Santa Maria	117	1930-62
11138100	Cuyama River below Twitchell Dam	1,132	1959-83
11139000	La Brea Creek near Sisquoc	93.6	1944-73
11139350	Foxen Creek near Sisquoc	16.8	1966-73
11139500	Tepusquet Creek near Sisquoc	28.7	1944-87
11140600	Bradley Ditch near Donovan Road, at Santa Maria	5.47	1970-92
11140800	Blosser Ditch near Donovan Road, at Santa Maria	--	1972-76
11141000	Santa Maria River at Guadalupe	1,741	1940-87
11141050	Orcutt Creek near Orcutt	18.5	1982-92
11160020	San Lorenzo River near Boulder Creek	6.17	1968-92

## DISCONTINUED LAKES AND RESERVOIRS

The following continuous-record lake stations in California have been discontinued. Daily records were collected and are stored in WATSTORE for the period of record shown for each location.

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
10260640	Lake Gregory at Crestline	2.66	1978-93
10287000	Mono Lake near Mono Lake	785	1912-90
11013200	Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico	977	1937-90
11014550	Lower Otay Lake near Chula Vista	99.0	1945-59, 1972-93
11020600	El Capitan Lake near Lakeside	188	1936-66, 1972-93
11030020	Lake Hodges near Escondido	303	1945-68, 1972-93
11030700	Lake Wohlford near Escondido	7.96	1972-93
11011000	Barrett Lake near Dulzura	245	1960-66, 1986-93
11117900	Lake Casitas near Casitas Springs	38.6	1986-87

## DISCONTINUED WATER-QUALITY STATIONS

The following continuous water-quality stations in California have been discontinued. Daily records were collected and are stored in WATSTORE for the period of record shown for each location.

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Type of record	Period of record
10254670	Alamo River at Drop No. 3, near Calipatria	--	B,T	1969-70, 1975-77, 1979-84
10254970	New River at International Boundary, at Calexico	--	C,B,T,S	1969-71, 1973-85
10256000	Whitewater River at White Water	57.5	S	1972
10261500	Mojave River at Lower Narrows, near Victorville	513	C,T	1962-81
10265150	Hot Creek at flume near Mammoth	68.3	C,T	1983-88
10277400	Owens River below Tinemaha Reservoir, near Big Pine	1,964	C,T	1975-81
11013500	Tijuana River near Nestor	1,695	T,S	1970-71, 1976, 1978
11022500	San Diego River near Santee	377	T,S	1970-78
11023000	San Diego River at Fashion Valley, at San Diego	429	S	1984
11030500	San Dieguito River near Del Mar	338	S	1984
11042000	San Luis Rey River at Oceanside	557	WQ,S,B, C,T	1969-93

## DISCONTINUED WATER-QUALITY STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Type of record	Period of record
11046000	Santa Margarita River at Ysidora	723	S	1969-71, 1973-74, 1978
11046250	San Onofre Creek at San Onofre	42.2	S	1982-83, 1988-89
11046370	San Mateo Creek at San Onofre	132	S	1984
11046500	San Juan Creek near San Juan Capistrano	106	T,S	1967-68, 1971, 1982
11046530	San Juan Creek at La Novia Street Bridge, at San Juan Capistrano	109	S,T	1986-93
11046550	San Juan Creek at San Juan Capistrano	117	T,S	1972-82, 1987
11047000	Arroyo Trabuco near San Juan Capistrano	35.7	T,S	1967, 1978
11047300	Arroyo Trabuco at San Juan Capistrano	54.1	S	1971-77, 1984
11048500	San Diego Creek at Culver Drive, near Irvine	41.8	T,S	1972-85
11048530	El Modena Irvine Channel near Irvine	--	T,S	1975-79
11048540	Peters Canyon Wash at Barranca Road, near Irvine	--	T,S	1975-79, 1983-85
11048550	San Diego Creek at Lane Road, near Irvine	--	T,S	1972-76
11048555	San Diego Creek at Campus Drive, near Irvine	--	T,S	1972-76, 1978-79, 1983-85
11051500	Santa Ana River near Mentone	210	T,S	1982-89
11056200	Santa Ana River at Waterman Avenue, at San Bernardino	339	T,S	1977, 1979
11057000	San Timoteo Creek near Redlands	118	T,S	1977-78
11059100	San Bernardino Water-Quality Control Plant at San Bernardino	--	C	1973-75, 1977-80
11059300	Santa Ana River at E Street, near San Bernardino	541	T	1982-83
11066460	Santa Ana River at MWD crossing, near Arlington	852	C	1970-78
11066480	Riverside Water-Quality Control Plant at Riverside Narrows, near Arlington	--	C	1970-80, 1982
11066500	Santa Ana River at Riverside Narrows, near Arlington	853	C,T	1968-69
11067890	Santa Ana River at Prado Park, near Corona	1,010	T,S	1976-80
11068000	Santa Ana River at Auburndale Bridge, near Corona	1,010	C,T	1968
11070240	Sunnymead Channel at Alessandro Boulevard near Sunnymead	13.3	P	1990-93
11070262	Perris Valley Storm Drain Lateral "B" near March Air Force Base	10.6	P	1991
11070263	Unnamed creek tributary to Perris Reservoir near Moreno	.46	P	1990-91
11074000	Santa Ana River below Prado Dam	1,490	B	1975-81
11075600	Santa Ana River at Imperial Highway, near Anaheim	1,544	T,S	1973-77, 1979
11075620	Santa Ana River spreading diversion below Imperial Highway, near Anaheim	--	C,T	1974-85
11075755	Santa Ana River at Ball Road, at Anaheim	1,587	T,S	1977-80
11075760	Santa Ana River near Katella Avenue, at Orange	1,593	T,S	1974-76
11078000	Santa Ana River at Santa Ana	1,700	T	1968-69, 1971, 1973-80, 1982-87
11078100	Santa Ana River at Adams Avenue, near Costa Mesa	1,701	T,S	1974-76
11102250	Mission Creek below Whittier Narrows Dam	--	C	1956-70
11103000	Los Angeles River at Long Beach	827	WQ,S,	1973-92
11103010	Los Angeles River at Willow Street Bridge, at Long Beach	831	T,C	1974-75, 1981
11104000	Topanga Creek at Topanga Beach	18.0	C,T	1982-88
11104400	Malibu Creek at Cornell	37.6	WQ,S	1983-88
11105410	Cold Creek at Puma Road, near Monte Nido	7.73	WQ,S	1982-84, 1986, 1987, 1988
11105500	Malibu Creek at Crater Camp, near Calabasas	105	WQ,S	1982-88
11105850	Arroyo Simi near Simi	70.6	T,S	1970-71, 1974-78
11106550	Calleguas Creek at Camarillo State Hospital	248	T,S	1970-78
11108500	Santa Clara River at Los Angeles-Ventura County Line	625	WQ,B,S,	1969-88
11109550	Piru Creek above Frenchmans Flat	308	T	1972-80
11109600	Piru Creek above Lake Piru	372	C	1972-80
11109800	Piru Creek below Santa Felicia Dam	425	C,T	1969, 1974-80
11110000	Piru Creek near Piru	437	C,T	1970-71
11110500	Hopper Creek near Piru	23.6	T,S	1977-78
11113000	Sespe Creek near Fillmore	251	C,S	1967-78
11113500	Santa Paula Creek near Santa Paula	38.4	C,T	1969-80
11113900	Saticoy Diversion near Saticoy	--	C,T	1969-71, 1982-87
11113910	Santa Clara River at diversion, near Saticoy	--	C	1971
11114000	Santa Clara River at Montalvo	1,612	S,T	1968-85, 1988-93
11117500	San Antonio Creek at Casitas Springs	51.2	T,S	1977-78
11118500	Ventura River near Ventura	188	WQ,T	1907-08, 1967-81, 1986
11120000	Atascadero Creek near Goleta	18.9	S	1982
11120510	San Jose Creek at Goleta	9.42	S	1982-85
11120530	Tecolotito Creek near Goleta	4.42	S	1982
11120600	Jalama Creek near Lompoc	20.5	T	1981-83
11120900	Canada Honda Creek at Pt. Arguello	--	T	1981-83
11141000	Santa Maria River at Guadalupe	1,741	T,S	1969-70
11141050	Orcutt Creek near Orcutt	18.5	WQ	1983-82

Type of record: C (Conductivity); S (Sediment); T (Temperature); P (Precipitation); WQ (Water quality).



WATER RESOURCES DATA--CALIFORNIA, WATER YEAR 1993  
VOLUME 1--SOUTHERN GREAT BASIN FROM MEXICAN BORDER TO MONO LAKE BASIN,  
AND PACIFIC SLOPE BASINS FROM TIJUANA RIVER TO SANTA MARIA RIVER

By J.R. Mullen, P.D. Hayes, and J.A. Agajanian

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State and Federal agencies, obtains a large amount of data pertaining to the water resources of California each water year. These data, accumulated during many water years, constitute a valuable database for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data--California."

This volume of the report includes records on surface water in the State. Specifically, it contains (1) discharge records for 156 streamflow-gaging stations, 12 crest-stage partial-record streamflow stations, and 5 miscellaneous measurement stations; (2) stage and contents records for 26 lakes and reservoirs; (3) water-quality records for 17 streamflow-gaging stations and 6 partial-record stations; and (4) precipitation records for 10 stations. Records included for stream stages are only a small fraction of those obtained during the water year.

The series of annual reports for California began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format changed to include data on quantities of surface water, quality of surface and ground water, and ground-water levels. Beginning with the 1985 water year, a separate volume for ground-water levels and quality was published for California.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for California were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 10 and 11." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." These Water-Supply Papers may be consulted in public libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Map Distribution, Box 25286, MS 306, Denver Federal Center, Denver, CO 80225.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-93-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc--Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone (916) 978-4668. A limited number of CD-ROM discs will be available for purchase from U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver Federal Center, Denver, CO 80225.

## COOPERATION

The U.S. Geological Survey and organizations of the State of California have had cooperative agreements for the systematic collection of records since 1903. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

California Department of Boating and Water Ways, William H. Ivers, Director.  
 California Department of Water Resources, David N. Kennedy, Director.  
 Carpinteria County Water District, Robert R. Lieberknecht, General Manager/Secretary.  
 Casitas Municipal Water District, John Johnson, General Manager.  
 Coachella Valley Water District, Thomas E. Levy, General Manager-Chief Engineer.  
 Crestline-Lake Arrowhead Water Agency, Roxanne M. Holmes, General Manager.  
 Desert Water Agency, Jack H. Oberle, General Manager.  
 Eastern Municipal Water District, J. Andrew Schlange, General Manager.  
 Imperial Irrigation District, Charles L. Shreves, General Manager.  
 Los Angeles Department of Water and Power, Orville McCollom, Deputy Director.  
 Mojave Water Agency, Larry Rowe, General Manager.  
 Mono County, Energy Management Department, Daniel Lyster, Director.  
 Montecito Water District, C. Charles Evans, General Manager-Chief Engineer.  
 Orange County Water District, William R. Mills, Jr., General Manager.  
 Pechanga Indian Reservation, Jennie Miranda, Spokeswoman.  
 Riverside County Flood Control and Water Conservation District, Kenneth L. Edwards, Chief Engineer.  
 San Bernardino Valley Municipal Water District, G. Louis Fletcher, General Manager.  
 San Bernardino Environmental Public Works Agency-Flood Control District, Ken Miller, Director.  
 San Diego, City of, Milton Mills, Jr., Water Utilities Director.  
 San Diego County Department of Public Works, Granville M. Bowman, Director.  
 Santa Barbara, City of, Department of Public Works, David H. Johnson, Director.  
 Santa Barbara County Flood Control and Water Conservation District, Phillip Demery, Flood Control Engineer-Manager.  
 Santa Barbara County Water Agency, Robert Almy, Manager.  
 Santa Margarita River Watershed, James S. Jenks, Watermaster.  
 Santa Maria Valley Water Conservation District, Maurice F. Twitchell, Secretary.  
 Santa Ynez River Water Conservation District, William Laranjo, President.  
 United Water Conservation District, Frederick J. Gientke, General Manager.  
 Ventura County Public Works Agency, Arthur Goulet, Director.  
 Water Replenishment District of Southern California, John W. Norman, General Manager

Assistance in the form of funds or services was given by the Vandenberg Air Force Base, U.S. Air Force; Corps of Engineers, U.S. Army; Bureau of Reclamation, U.S. Department of the Interior; Camp Pendleton Marine Corps Base, U.S. Marine Corps, and China Lake Naval Weapons Center, U.S. Navy.

The following organizations aided in collecting records: California Department of Water Resources, Southern California Edison Co., and United Water Conservation District.

## SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

As is common in California, streamflow varied greatly in the 1993 water year--month by month and regionally. The variations are related to differences in precipitation, temperature, topography, and geology. The year began with near normal runoff at most sites. Runoff during the 1993 water year in the area covered by this volume was 1,140 percent of the 1961-90 median (based on five representative streamflow records). The pattern of runoff shown by these stations generally is representative of hydrologic conditions in their parts of the report area. Total runoff, in percent of median, at selected stations in California is shown in figure 1. Runoff ranged from 733 percent of median in Big Rock Creek near Valyermo (station 10263500) to 4,066 percent in Sweetwater River near Descanso (station 11015000). In figure 2, monthly mean discharge in the 1993 water year is compared with the 1961-90 median, maximum, and minimum monthly mean discharge for four representative gaging stations. In addition, a comparison of monthly precipitation for the 1993 water year and the long-term average also is shown in figure 2. Precipitation in December, January, and February was far above normal in most locations. Precipitation in the area ranged from 125 to 300 percent of the long-term averages. Many streams exceeded the peak discharge bases. The first major storm occurred January 6, 7 and produced floods that caused moderate damage. A second and larger storm struck the region January 16, 17. Severe flooding occurred in San Diego and Riverside Counties. At the Murrieta Creek gage near Temecula (11043000), where flow overtopped the gage shelter, the stage was the peak of record (based on 68 years of record), exceeding the previous peak stage by more than 5 feet. Peaks of record also were recorded on the Santa Margarita River near Temecula and on other smaller streams in the basin. The Santa Margarita River caused significant damage (\$75 million) on the Camp Pendleton Marine Corps Base. More than \$25 million damage was done in Riverside County, with most occurring in the Murrieta area. Thousands of residents were stranded by flooded or damaged roads. There were more than 50 rescues and at least 7 deaths related to the flooding.

Annual departure from the 1961-90 mean discharge at four selected gaging stations is shown in figure 3. A comparison of 1993 peak discharge to peaks for period of record at selected stations is given in table 1.

Table 1. Comparison of peak discharge for 1993 water year with those for period of record for selected stations

Station No.	Station name	1993 water year		Period of record	
		Date	Peak discharge (ft <sup>3</sup> /s)	Water year	Peak discharge (ft <sup>3</sup> /s)
10255810	Borrego Palm Creek near Borrego Springs	Jan. 8	267	1979	2,640
10263500	Big Rock Creek near Valyermo	Feb. 18	2,240	1938	8,300
11015000	Sweetwater River near Descanso	Jan. 16	4,220	1927	11,200
11055800	City Creek near Highland	Jan. 7	1,910	1969	7,000
11098000	Arroyo Seco near Pasadena	Jan. 17	1,710	1938	8,620
11111500	Sespe Creek near Wheeler Springs	Feb. 19	5,030	1983	11,600
11124500	Santa Ynez Creek near Santa Cruz	Feb. 23	3,200	1969	7,050

Water Quality

Water samples collected at four NASQAN stations reported in this volume were analyzed for water-quality constituents. Specific conductance varied from 575 microsiemens at Santa Ana River below Prado Dam (station 11074000) to 4,450 microsiemens at Alamo River at Drop No. 3, near Calipatria (station 10254670). Median dissolved-solids concentrations of the samples increased slightly from the previous year. Figure 4 shows the monthly mean dissolved-solids concentrations during water year 1993 compared with long-term mean dissolved-solids concentrations at two selected stations. The largest densities of fecal-coliform (26,600 colonies per 100 milliliters) and fecal-streptococcus bacteria (23,000 colonies per 100 milliliters) were in water samples collected from Santa Ana River below Prado Dam.

Chemical-constituent concentrations in excess of U.S. Environmental Protection Agency (EPA) water-quality criteria were detected in water samples collected from several stations and are listed below:

Station No.	Station name	Water-quality constituent exceeding EPA water-quality criteria
10254670	Alamo River at Drop No. 3, near Calipatria	Sulfate, chloride, total dissolved solids, manganese
11074000	Santa Ana River below Prado Dam	Total dissolved solids, manganese
10256060	Whitewater River at White Water Cutoff, at White Water	Sulfate, total dissolved solids
11123500	Santa Ynez River below Los Laureles Canyon, near Santa Ynez	Total dissolved solids
11124500	Santa Cruz Creek near Santa Ynez	Sulfate, total dissolved solids
11126000	Santa Ynez River near Santa Ynez	Sulfate, total dissolved solids
11132500	Salsipuedes Creek near Lompoc	Sulfate, total dissolved solids, manganese
11134800	Miguelito Creek at Lompoc	Sulfate, total dissolved solids
11136100	San Antonio Creek near Casmalia	Sulfate, total dissolved solids, nitrite plus nitrate, manganese
11136800	Cuyama River below Buckhorn Canyon, near Santa Maria	Sulfate, total dissolved solids
11138500	Sisquoc River near Sisquoc	Sulfate, total dissolved solids
345727120375401	Green Canyon Creek at Main Street, near Guadalupe	Sulfate, total dissolved solids, manganese, nitrite plus nitrate

Sediment

Suspended-sediment discharge and concentrations were monitored periodically at 10 stations in the area included in this volume. The variation in precipitation, drainage-basin characteristics, and stream regulation in southern California resulted in significant differences in sediment-discharge rates and concentrations at the sampled streams.

Maximum sampled discharge for a regulated stream was 1,070 tons per day per square mile at the Santa Clara River at Montalvo station (11114000) on January 18, 1993. Maximum sampled sediment discharge for a non-regulated stream was 1,010 tons per day per square mile at Arroyo Trabuco at San Juan Capistrano station (11046300) on February 18, 1993.



Figure 1. Runoff, in percent of median, for the 1993 water year.

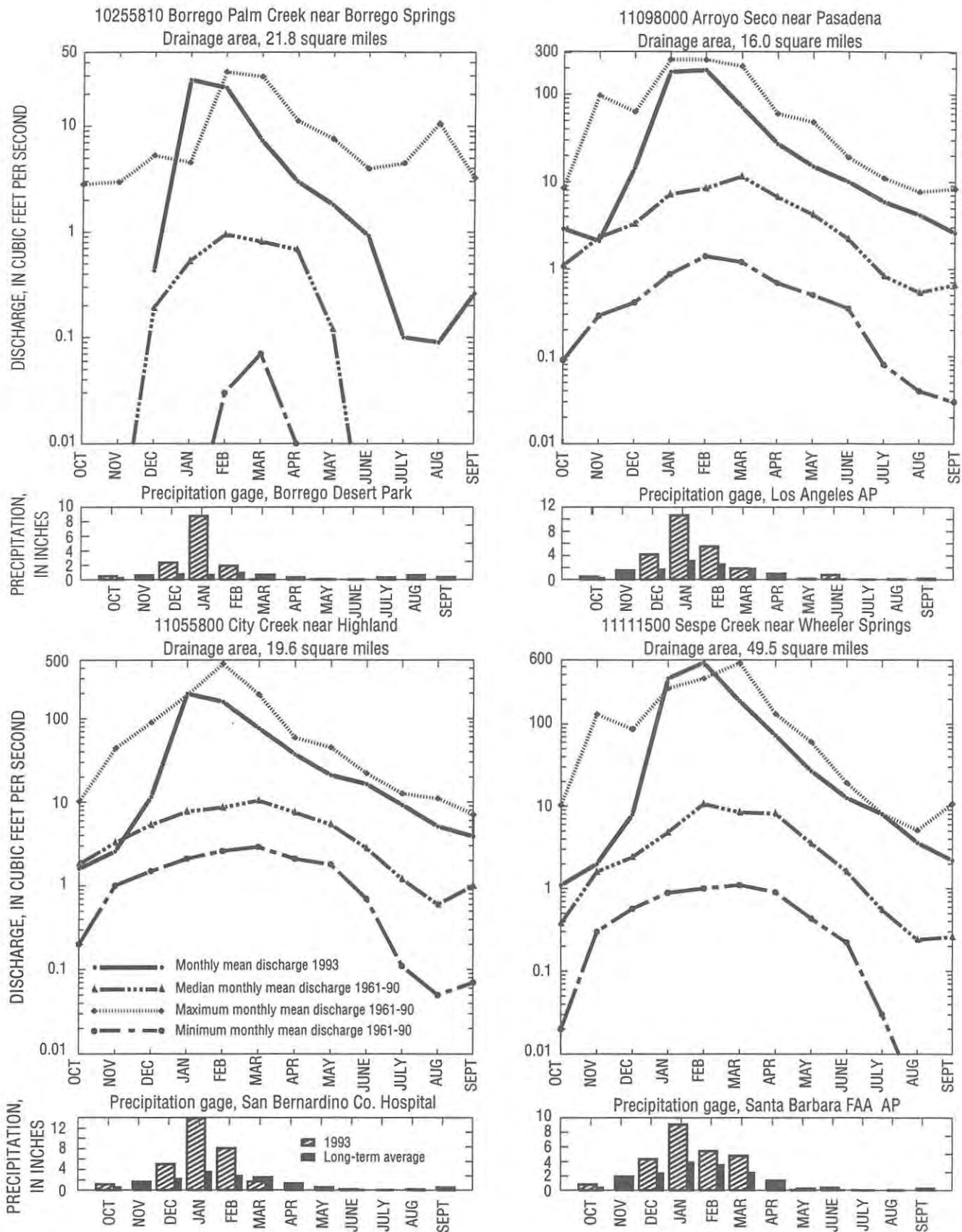


Figure 2. Discharge and precipitation during water year 1993 and long-term average at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration, 1993, Climatological Data, annual summary: v. 97.

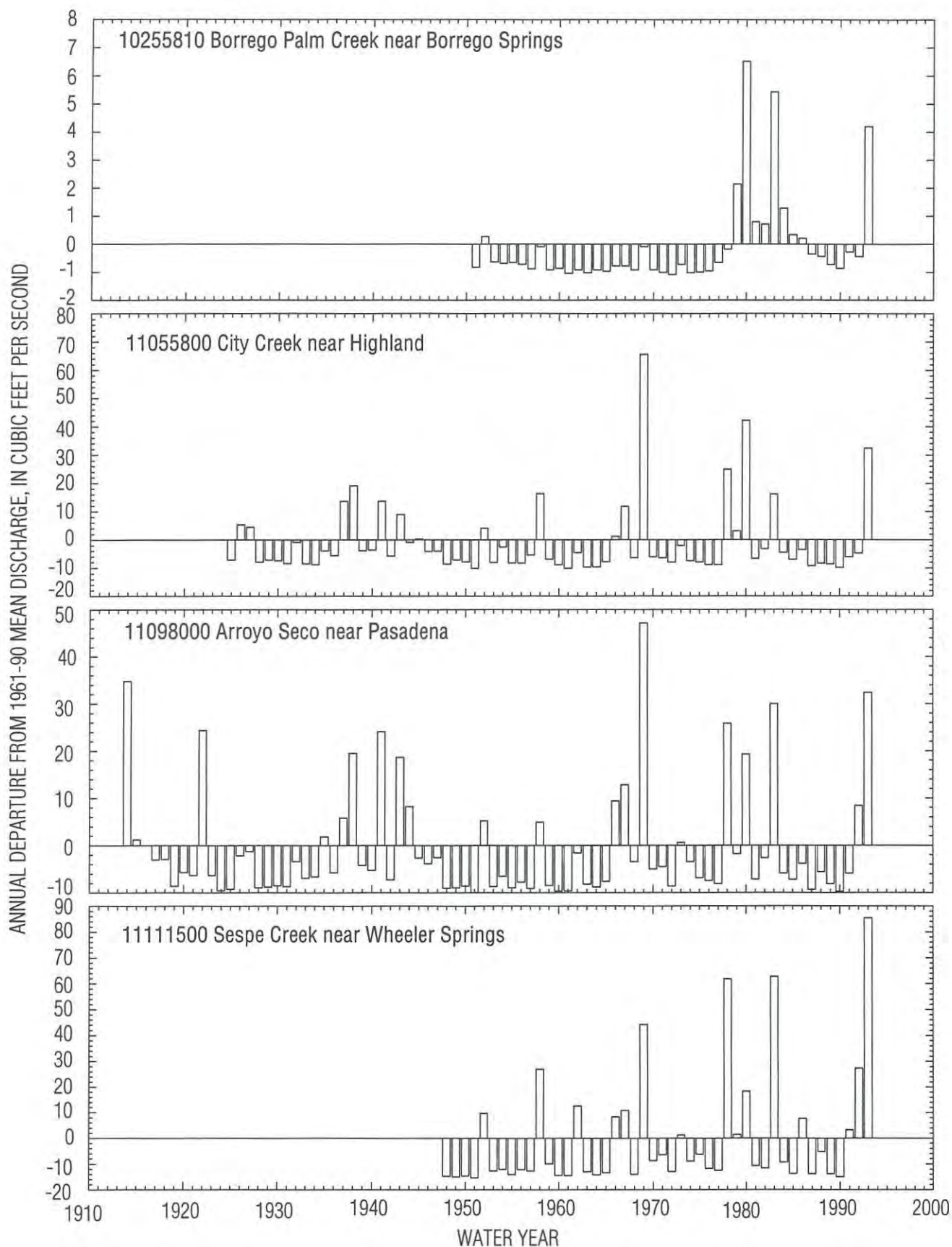


Figure 3. Annual departure from 1961-90 mean discharge for period of record at selected gaging stations.

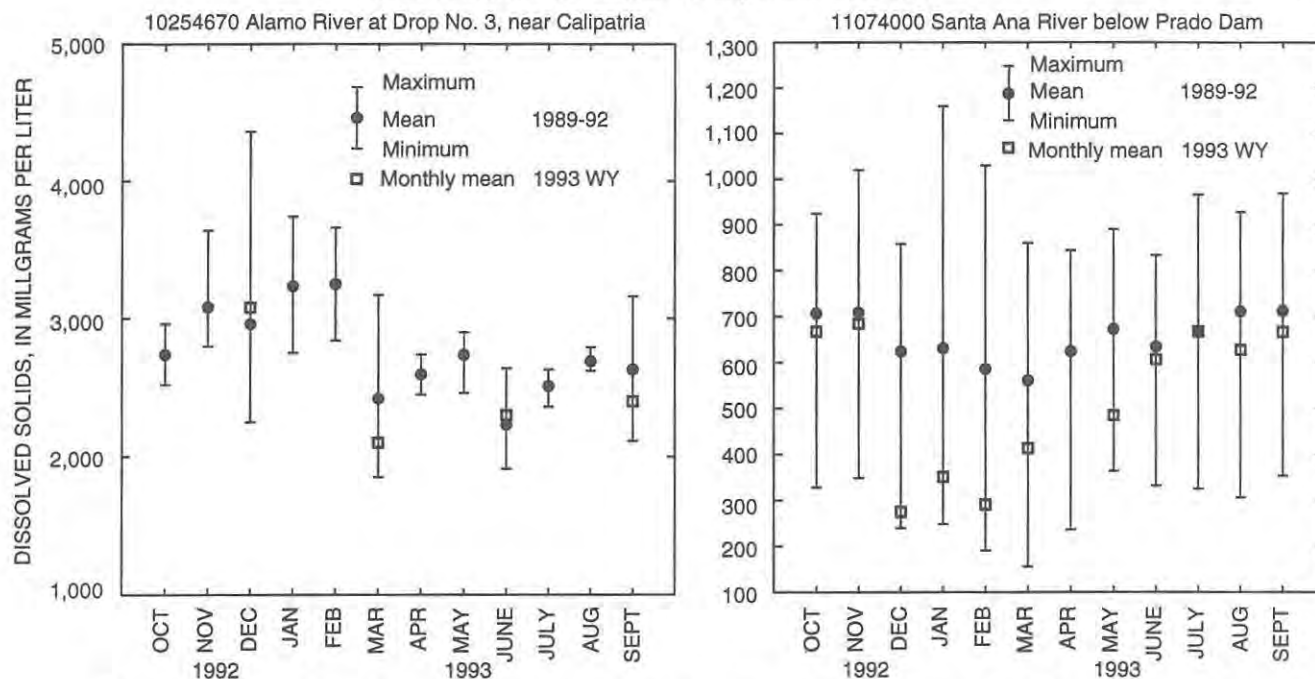


Figure 4. Comparison of monthly mean dissolved-solids concentrations during water year 1993 with long-term dissolved-solids concentrations at two selected stations.

#### SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped drainage basins nationwide. The data provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are located generally at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for; (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) to detect changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

#### EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1993 water year that began October 1, 1992, and ended September 30, 1993. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

#### Station Identification Numbers

Each streamsite data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for surface-water stations in California where only miscellaneous measurements are made.

### Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports has been in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 11078000, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "078000." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

### Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude; the next seven digits denote degrees, minutes, and seconds of longitude; and the last two digits (assigned sequentially) identify the other sites within a 1-second grid (fig. 5). This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

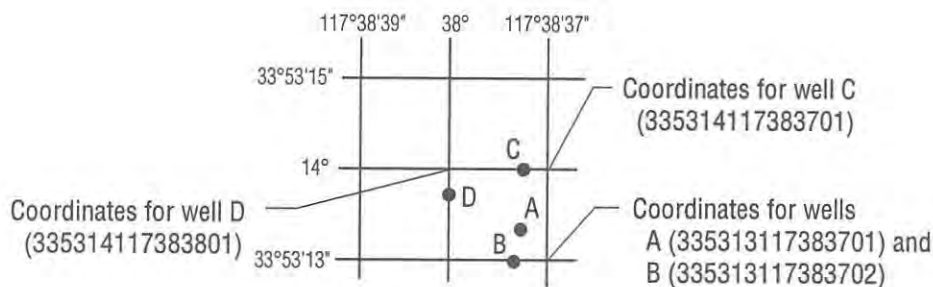


Figure 5. System for numbering miscellaneous sites (latitude and longitude).

### Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake and reservoir contents, similarly, are those for which stage or contents may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown, by county, in figures 6 through 16.

## Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake contents. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in U.S. Geological Survey Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI), Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge are prepared for any stage within the range of the measurements. If it is necessary to define extremes of discharge outside the range of current-meter measurements, the curves are extended using (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dam or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes or observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available surveys, curves, or tables defining the relation of stage and contents. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. When this is done, the contents computed may become increasingly in error as time increases since the last survey. Discharges over lake or reservoir spillways are computed from stage-discharge relations in the same manner as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following records, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

## Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1993 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

**LOCATION.**--Information on locations is obtained from the most accurate maps available. The location of the gaging station is given with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

**DRAINAGE AREA.**--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

**PERIOD OF RECORD.**--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time when the present station was not, and whose location was such that records from it reasonably can be considered equivalent with records from the present station.

**REVISED RECORDS.**--Published records, because of new information, occasionally are incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report is given in which the most recently revised figure was published.

**GAGE.**--The type of gage in current use, the datum of the current gage referred to sea level (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

**REMARKS.**--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station, and possibly to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

**COOPERATION.**--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified.

**EXTREMES FOR PERIOD OF RECORD.**--Extremes may include maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Included is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

**EXTREMES FOR CURRENT YEAR.**--Extremes given are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year that are greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

**REVISIONS.**--If a critical error is discovered in published records, a revision is included in the first report published following discovery of the error.

Occasionally the records of a discontinued gaging station may need revision. Because for these stations there would be no current or, possible, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office to determine if the published records were revised after the station was discontinued. If the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also usually is expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS \_\_\_\_-\_\_\_\_, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS \_\_\_\_-\_\_\_\_," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data also are given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

**ANNUAL RUNOFF.**--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

**Acre-foot (AC-FT)** is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

**Cubic feet per second per square mile (CFSM)** is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

**Inches (INCHES)** indicates the depth to which the drainage area would be covered if all the runoff for a given period were uniformly distributed on it.

**10 PERCENT EXCEEDS.**--The discharge that is exceeded by 10 percent of the flow for the designated period.

**50 PERCENT EXCEEDS.**--The discharge that is exceeded by 50 percent of the flow for the designated period.

**90 PERCENT EXCEEDS.**--The discharge that is exceeded by 90 percent of the flow for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

#### Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing the table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

#### Accuracy of the Records

The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage and discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second ( $\text{ft}^3/\text{s}$ ) for values less than  $1 \text{ ft}^3/\text{s}$ , to the nearest tenth between  $1.0$  and  $10 \text{ ft}^3/\text{s}$ , to whole numbers between  $10$  and  $1,000 \text{ ft}^3/\text{s}$ , and to three significant figures for more than  $1,000 \text{ ft}^3/\text{s}$ . The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the measured discharge.

#### Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of sites as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge measurement notes, gage-height records, temperature measurements, and rating tables are on file in the District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District Office.

### Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve various types of data and measurement frequencies.

#### Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 6 through 16.

#### Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

#### Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern is the assurance that the data obtained represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, are made onsite when samples are taken. To assure that measurements made in the laboratory also represent the in-situ water, carefully prescribed procedures are followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. All these references are listed in the section "Publications on Techniques of Water-Resources Investigations". Also, detailed information on collecting, treating, and shipping samples may be obtained from the District Office.

One sample can adequately define the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative value available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based on hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District Office.

Historical and current (1993) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter ( $\mu\text{g/L}$ ) and could reflect contamination introduced during some phase of the procedure.

### Water Temperature

Water temperatures are measured at the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District Office.

### Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

### Cross-Sectional Data

Cross-sectional surveys of water temperature, pH, specific conductance, dissolved oxygen, and suspended sediment are done at all NASQAN and Hydrologic Benchmark stations during various seasons and surface-water discharges. Documentation of cross-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

### Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S. Geological Survey's National Water-Quality Laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in Techniques of Water-Resources Investigations, Book 5, Chapter C1; methods used by the laboratories are given in Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

### Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and other data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the individual parameters.

**INSTRUMENTATION.**--Information on instrumentation is given only if a water-quality monitor, temperature recorder, sediment pumping sampler, or other sampling device is in operation at a station.

**REMARKS.**--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

**COOPERATION.**--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

**EXTREMES.**--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

**REVISIONS.**--If errors in water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

#### ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products ranging from data tables to complex statistical analyses, such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- \* Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- \* Daily Values File - Contains more than 220 million daily values of streamflows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- \* Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- \* Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
- \* Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey  
National Water Data Exchange  
421 USGS National Center  
Reston, VA 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5 1/4-inch floppy disk and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc--Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District Offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for purchase from U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver Federal Center, Denver, CO 80225.

## DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report are defined below. See the table for converting inch-pound units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by a well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease; others perform an essential role in nature in the recycling of materials, for example, decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. For the membrane filter method, these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 0.5°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. For the membrane filter method, they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. For the membrane filter method they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 0.5°C on KF streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals living in or on the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m<sup>3</sup>) and periphyton and benthic organisms in grams per square meter (g/m<sup>2</sup>).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cell volume determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell numbers of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume ( $\mu\text{m}^3$ ) is determined by obtaining critical cell measurements on cell dimensions (that is, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (that is, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } 4/3 \pi r^3 \quad \text{cone } 1/3 \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

From cell volume, total algal biomass expressed as biovolume ( $\mu\text{m}^3/\text{mL}$ ) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Cells per volume (cells/volume) refers to the number of cells of any organism that are counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually in milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second ( $\text{ft}^3/\text{s}$ ) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day (cfs.d) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters.

Discharge is the volume of water (or more broadly, total fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate. It is recognized that certain kinds of samples cannot be filtered; to provide for this, procedures that are considered equivalent to filtering through a 0.45-micrometer membrane filter will be identified and announced at a later date.

Dissolved-solids concentration of water is determined either analytically or by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = \sum_{i=1}^s \frac{n_i}{n} \log^2 \frac{n_i}{n},$$

where  $n_i$  is the number of individuals per taxon,  $n$  is the total number of individuals, and  $s$  is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the samples are the same; to some positive number, when some or all the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the Earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water, together with all tributary surface streams and bodies of impounded surface water.

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level. This elevation is established by a system of levels from known bench marks or by approximation from topographic maps.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ( $\text{CaCO}_3$ ).

Hydrologic Benchmark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_0 e^{-\lambda L},$$

where  $I$  is the source light intensity,  $I$  is the light intensity at length  $L$  (in meters) from the source,  $\lambda$  is the light-attenuation coefficient, and  $e$  is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0}.$$

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This development process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-pupa-adult or egg-nymph-adult.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (UG/G,  $\mu\text{g/g}$ ) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L,  $\mu\text{g/L}$ ) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (MG/L,  $\text{mg/L}$ ) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called Sea Level Datum of 1929 or mean sea level in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 408 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for, (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) to detect changes in trends with time in the pattern occurrence of water-quality characteristics, and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

Nanograms per liter (NG/L,  $\text{ng/L}$ ) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Organism is any living entity, such as an insect, phytoplankton, or zooplankton.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area of the habitat, usually square meter ( $m^2$ ), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter code is a five-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024-0.004	Sedimentation
Silt.....	0.004-0.062	Sedimentation
Sand.....	0.062-2.0	Sedimentation or sieve
Gravel.....	2.0-64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition or percent of total is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, or volume.

Periphyton is the assemblage of micro-organisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, the periphyton also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Picocurie (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton are suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton compose the plant part of the plankton. They are usually microscopic, and their movement is subject to water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials into the surrounding water, the phytoplankton have a profound effect on the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are phytoplankton organisms having a blue pigment in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms, chiefly green plants. The rate of primary production is estimated by measuring the amount of carbon assimilated by plants (carbon method) or the amount of oxygen released (oxygen method).

Milligrams of carbon per area or volume per unit time [ $\text{mg C}/(\text{m}^2/\text{time})$  for periphyton and macrophytes and  $\text{mg C}/(\text{m}^3/\text{time})$  for phytoplankton] are the units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [ $\text{mg O}_2/(\text{m}^2/\text{time})$  for periphyton and macrophytes and  $\text{mg O}_2/(\text{m}^3/\text{time})$  for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment; thus, the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bedload is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bedload is considered to consist of particles in transit within 0.25 ft (0.076 m) of the streambed.

Bedload discharge (tons per day) is the quantity of sediment, as measured by dry weight, that moves past a section as bedload in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture ( $\text{mg/L}$ ).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour period.

Suspended-sediment discharge (tons per day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day by multiplying discharge times milligrams per liter times 0.0027.

Suspended-sediment load (tons per day) is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge or total-sediment load (tons per day) is the sum of suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry mass, that passes a section in a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating dissolved-solids concentration in water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic-organism collection and plexiglass strips for periphyton collection.

Surface area of a lake is the area, in square miles or acres, outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter. In localities not covered by topographic maps, the areas are computed from the best maps available. Areas shown are for the lake stage at the time the map was made.

Surficial bed material is the part (upper 0.1 to 0.2 ft or 0.03 to 0.06 m) of the bed material that is sampled by using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom.....Animal  
Phylum.....Arthropoda  
Class.....Insecta  
Order.....Ephemeroptera  
Family.....Ephemeridae  
Genus.....Hexagenia  
Species.....Hexagenia limbata

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that records water temperature in a digital format on punched paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total load (tons) is the total amount of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the milligrams per liter of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in the dissolved and suspended phases of the sample. A knowledge of the expected form is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all the constituent in the sample.)

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90° from the path of incident light source.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1992, is called the "1992 water year."

WDR is used as an abbreviation for "Water-Data Reports" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Map Distribution, Box 25286, MS 306, Denver Federal Center, Denver, CO 80225. Prepayment is required. Remittance should be sent by check or money order payable to U.S. Geological Survey, Department of the Interior. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. Water temperature--influential factors, field measurement, and data presentation, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. Application of surface geophysics to ground-water investigations, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. Application of seismic-refraction techniques to hydrologic studies, by F.P. Haeni: USGS--TWRI Book 2, Chapter D2 1988. 86 pages.
- 2-E1. Application of borehole geophysics to water-resources investigations, by W.S. Keys, and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
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- 3-A1. General field and office procedures for indirect discharge measurements, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. Measurement of peak discharge by slope-area method, by Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. Measurement of peak discharge at culverts by indirect methods, by G.L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. Measurement of peak discharge at width contractions by indirect methods, by H.F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
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- 3-A7. Stage measurements at gaging stations, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. Discharge measurements at gaging stations, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. Measurement of time of travel in streams by dye tracing, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. Discharge ratings at gaging stations, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. Measurement of discharge by moving-boat method, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. Fluorometric procedures for dye tracing, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. Computation of continuous records of streamflow, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. Use of flumes in measuring discharge, by F.A. Kilpatrick and V.R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. Measurement of discharge using tracers, by F.A. Kilpatrick and E.D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

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- 3-A19. Levels of streamflow gaging stations, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.
- 3-B1. Aquifer-test design, observation, and data analysis, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. Introduction to ground-water hydraulics, a programmed text for self-instruction, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J.E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. Regression modeling of ground-water flow, by R. L. Cooley and R. L. Naff: USGS--TWRI: Book 3, Chapter B4. 1990. 232 pages.
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- 3-C2. Field methods for measurement of fluvial sediment, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. Computation of fluvial sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
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- 5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L.C. Friedman, and D.E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
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- 8-A2. Installation and service manual for U.S. Geological Survey manometers, by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. Calibration and maintenance of vertical-axis type current meters, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

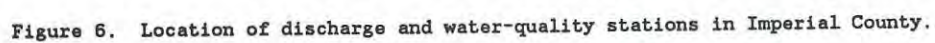


Figure 6. Location of discharge and water-quality stations in Imperial County.

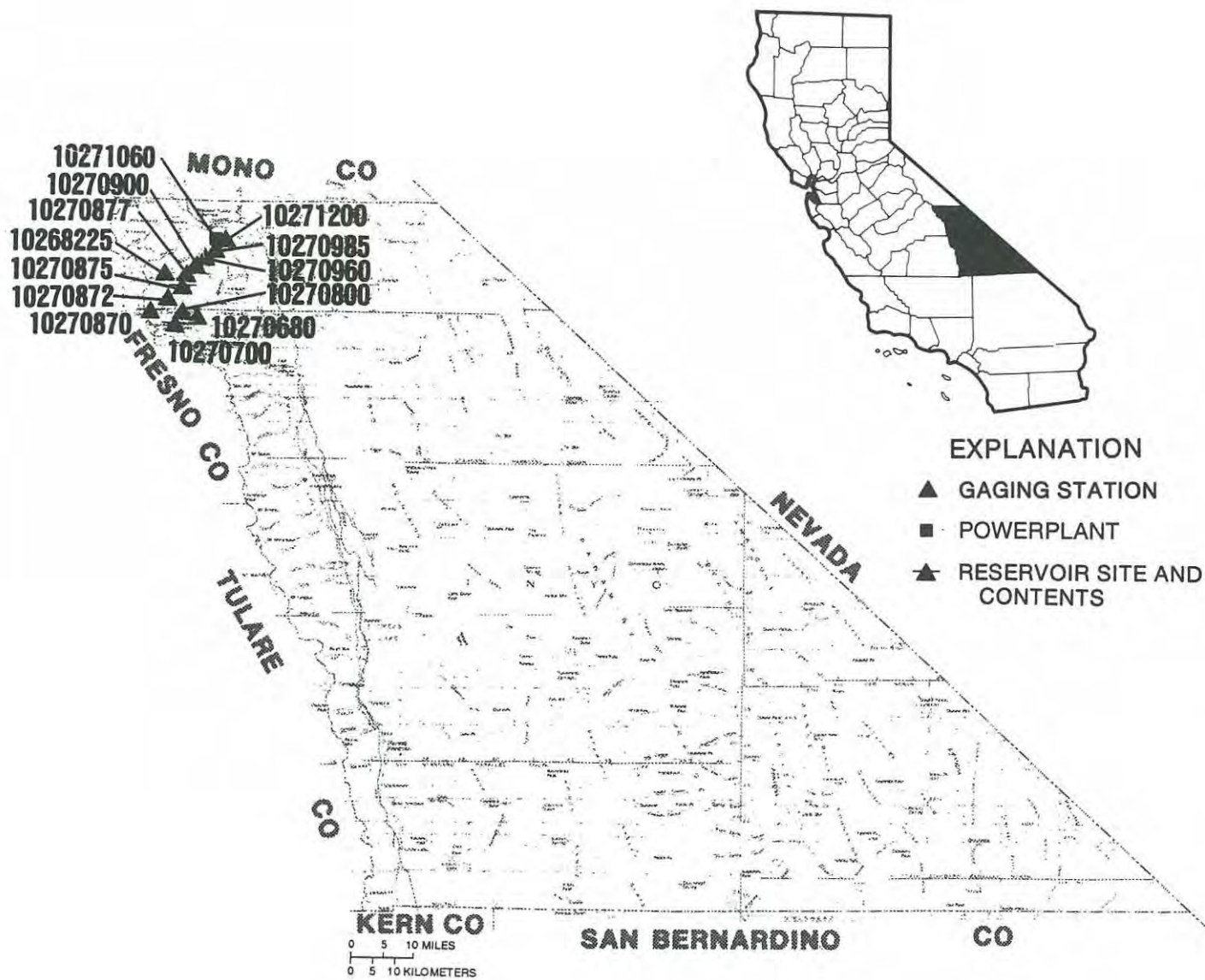
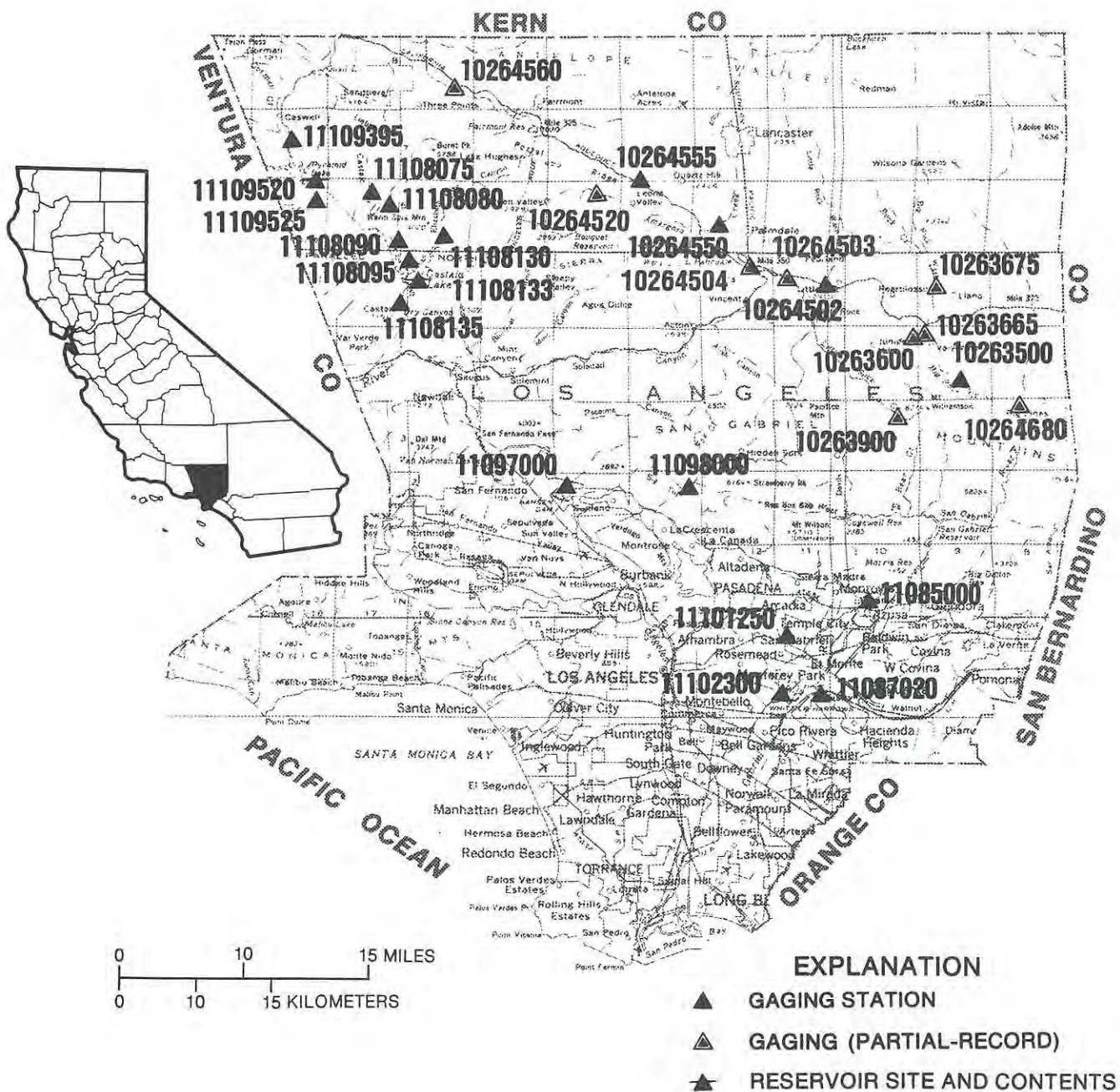


Figure 7. Location of discharge stations in Inyo County.



Figure 8. Location of discharge and water-quality stations in Kern County.  
 (NOTE: Records for stations 11187000 through 11193031 published in volume 3.)



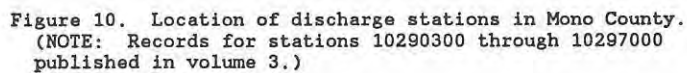


Figure 10. Location of discharge stations in Mono County.  
(NOTE: Records for stations 10290300 through 10297000  
published in volume 3.)

## EXPLANATION

- ▲ GAGING STATION
- ◆ GAGING AND WATER-QUALITY (SEDIMENT) STATION
- ▼ WATER-QUALITY (SEDIMENT) STATION

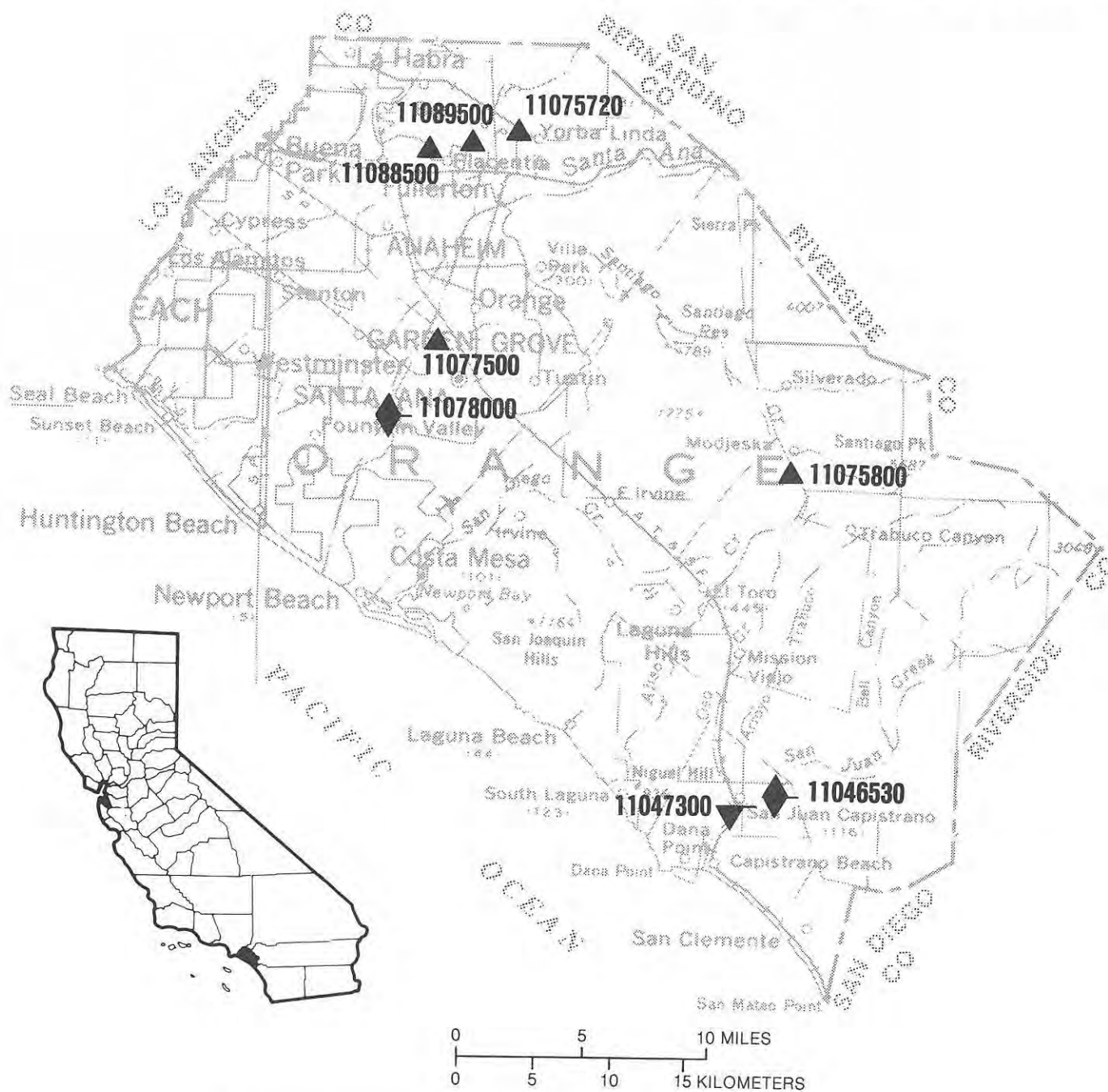


Figure 11. Location of discharge and water-quality stations in Orange County.

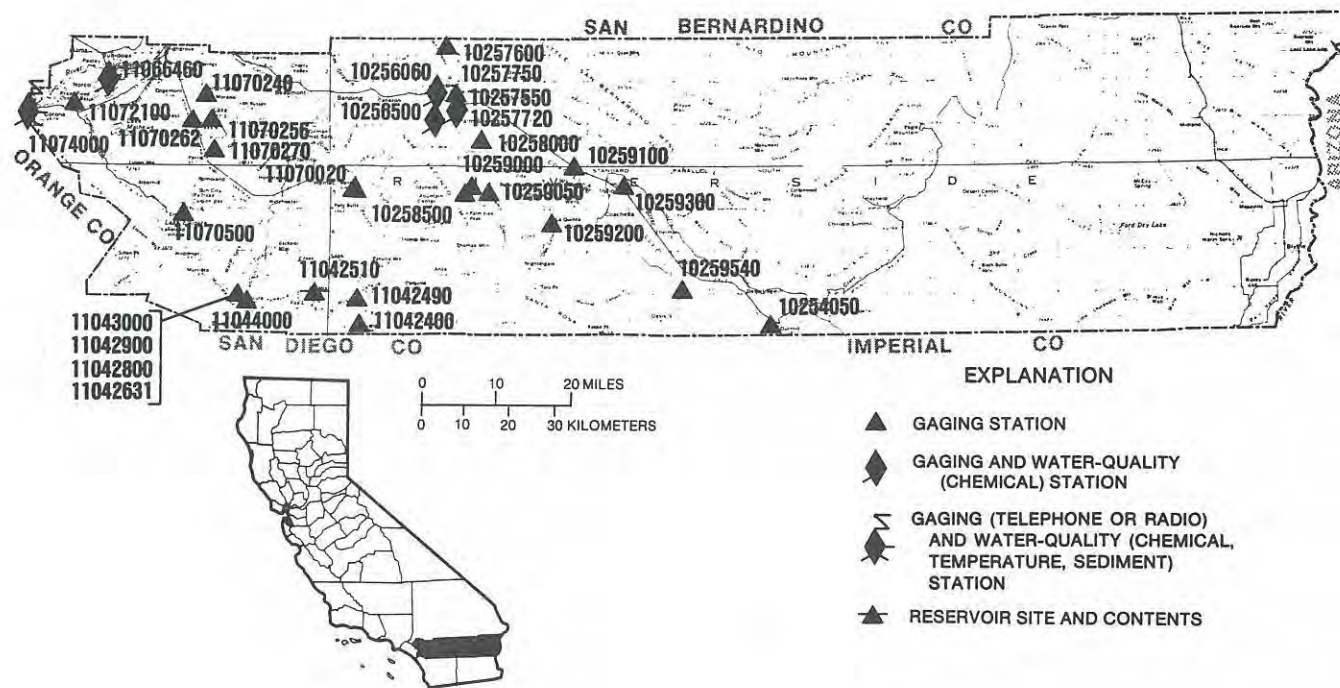


Figure 12. Location of discharge and water-quality stations in Riverside County.

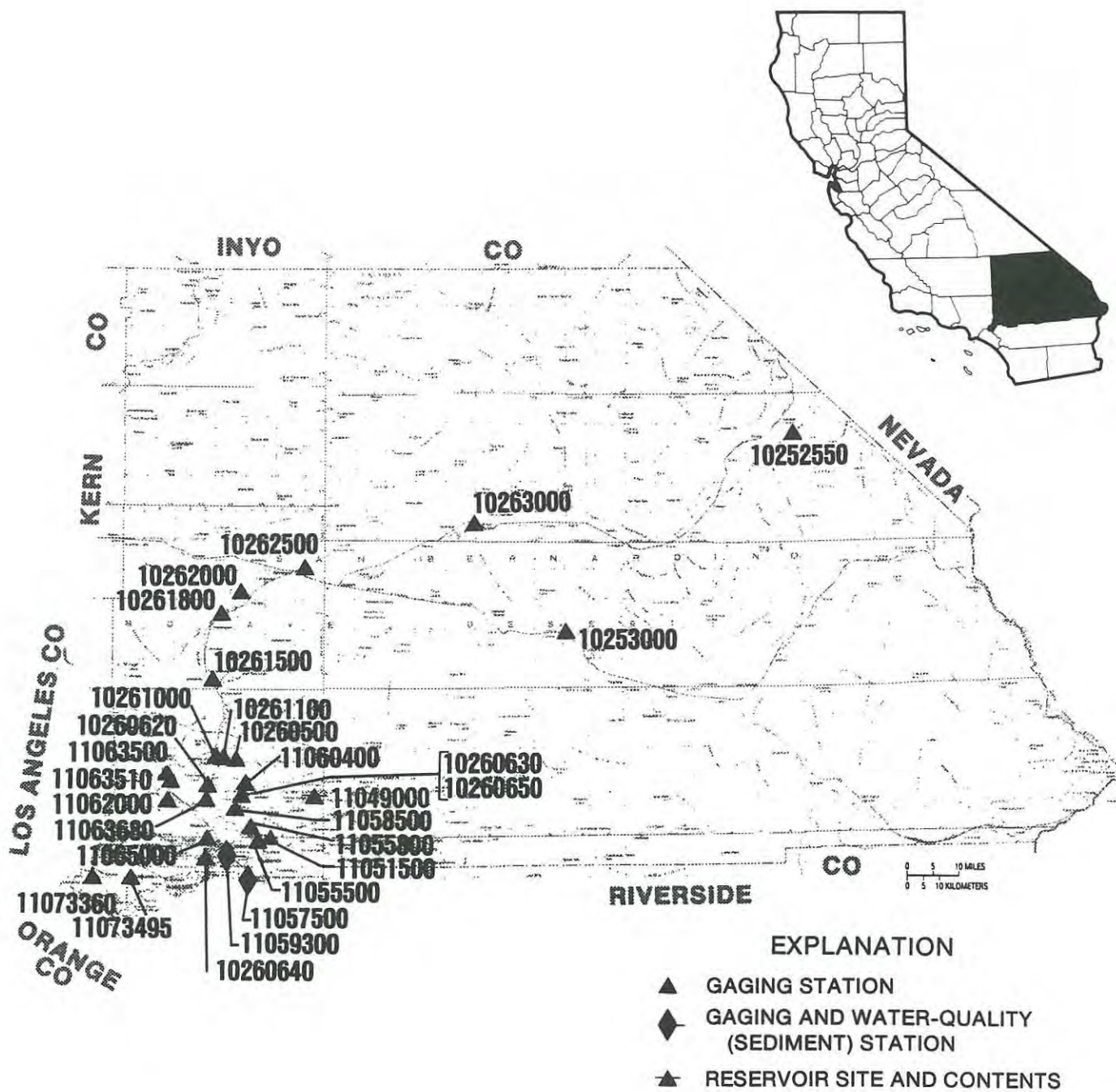


Figure 13. Location of discharge and water-quality stations in San Bernardino County.

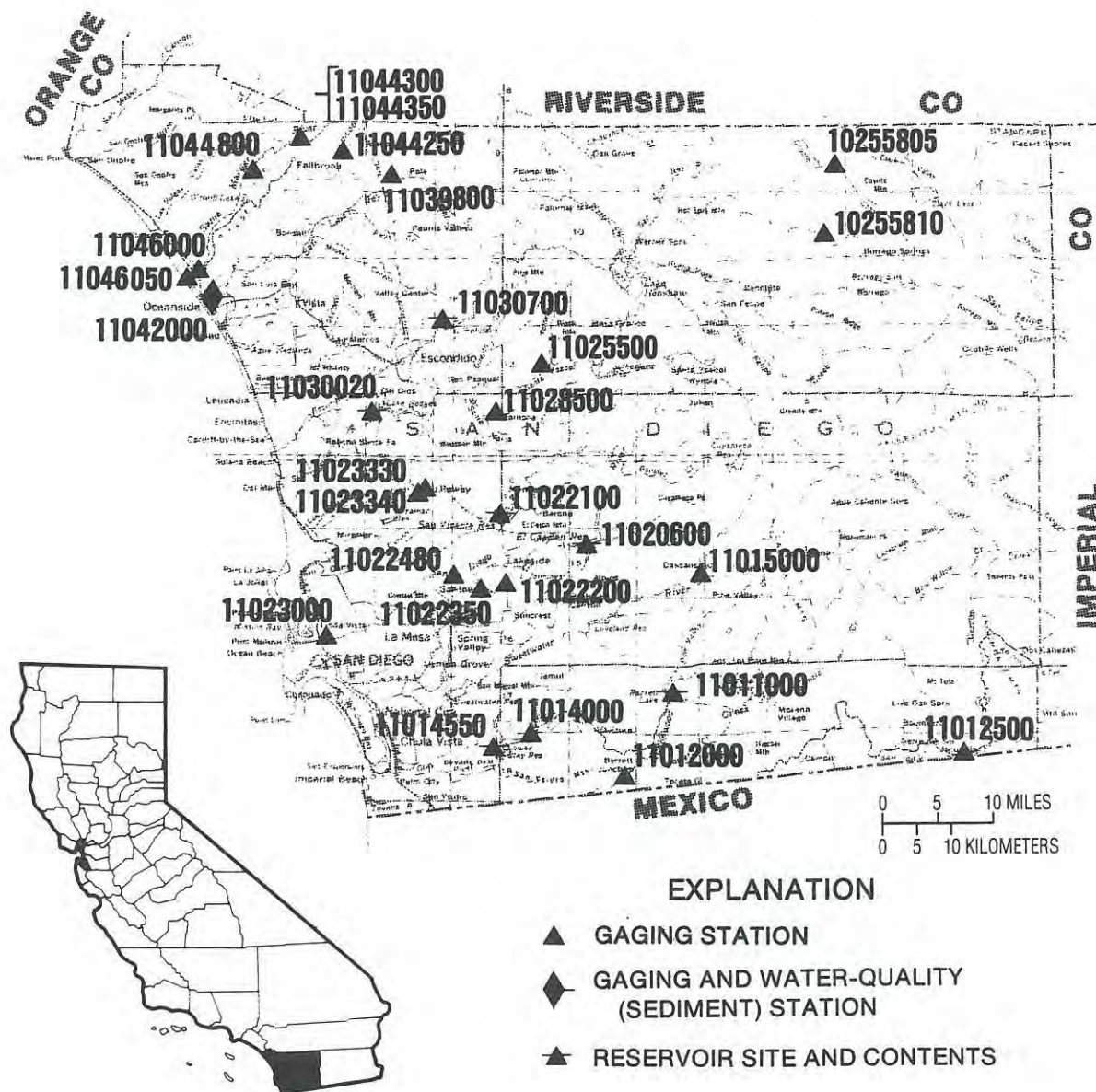


Figure 14. Location of discharge and water-quality stations in San Diego County.

## EXPLANATION

- ▲ GAGING STATION
- ◆ GAGING AND WATER-QUALITY (CHEMICAL) STATION
- ▼ WATER-QUALITY (CHEMICAL) STATION
- ▲ RESERVOIR SITE AND CONTENTS

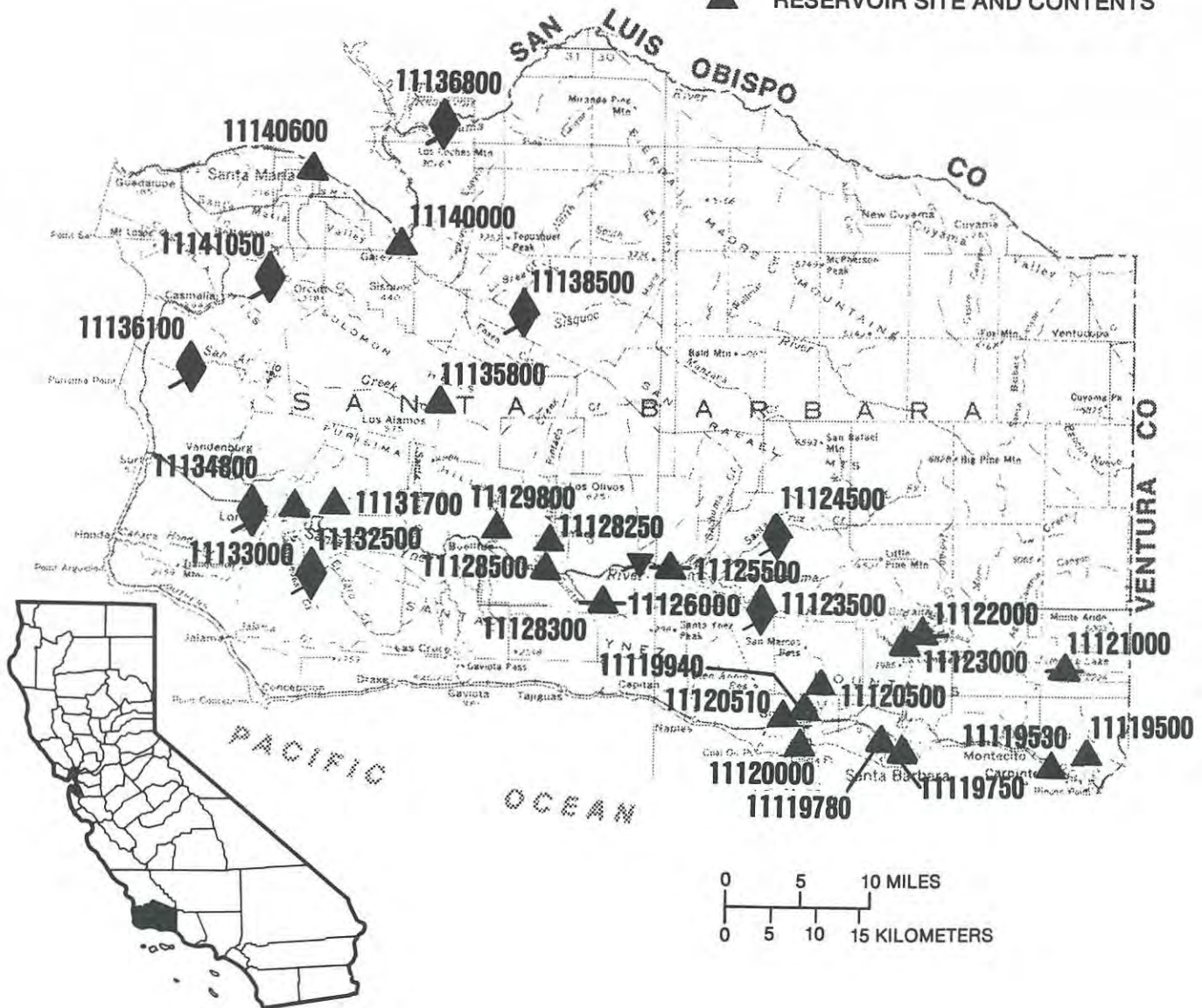


Figure 15. Location of discharge and water-quality stations in Santa Barbara County.

## EXPLANATION

- ▲ GAGING STATION
- ◆ GAGING AND WATER-QUALITY (SEDIMENT) STATION
- ▲ RESERVOIR SITE AND CONTENTS

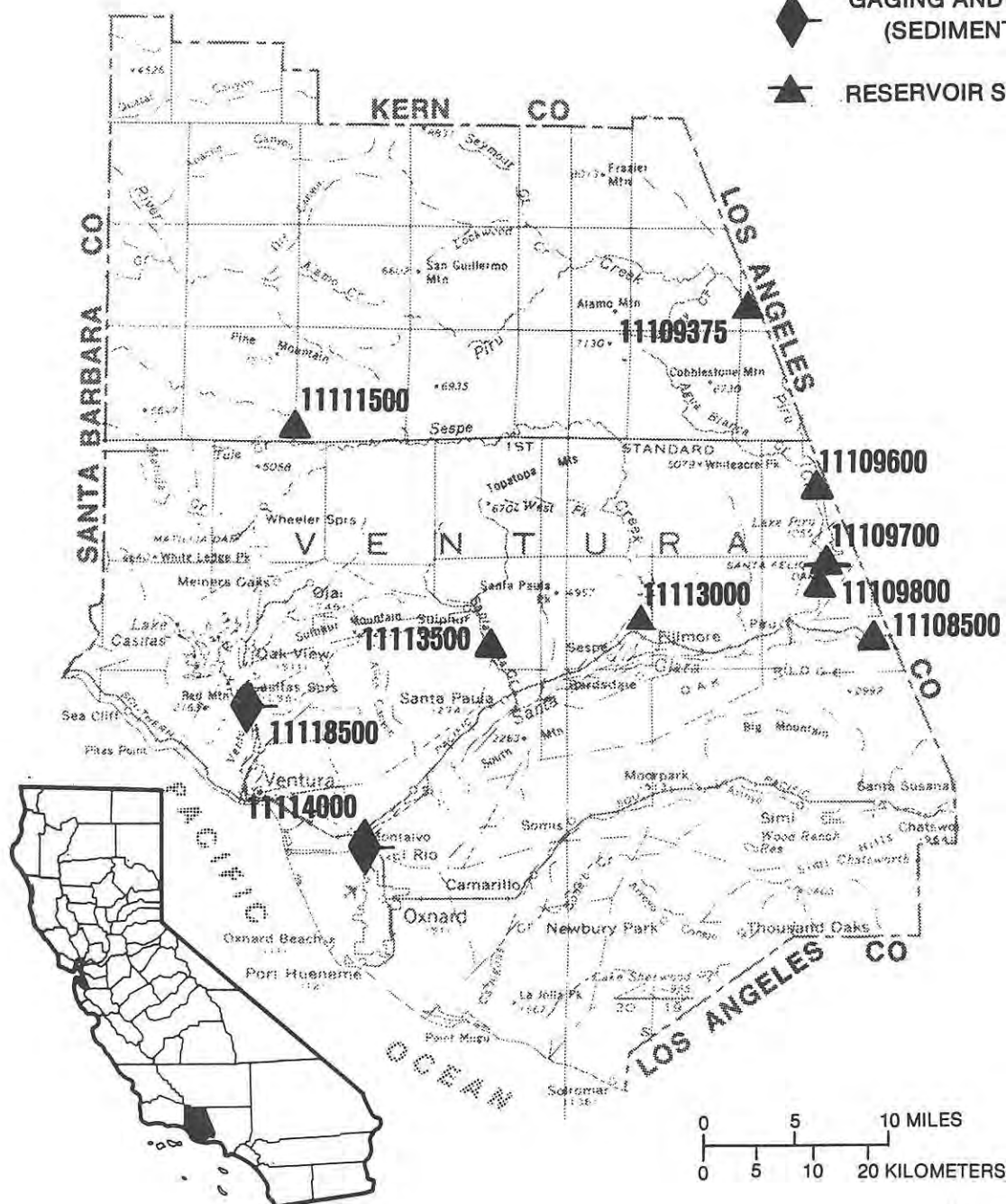


Figure 16. Location of discharge and water-quality stations in Ventura County.

## GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

The following remark codes may appear with the water-quality data in this report:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is greater than value shown
<	Actual value is less than value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant
*	Instantaneous streamflow at the time of cross-sectional measurements
1	Laboratory value

NOTE: MBAS determinations made from January 1, 1970, through August 29, 1993, at the National Water Quality Laboratory in Denver (Analyzing Agency Code 80020) are positively biased. These data can be corrected on the basis of the following equation, if concentrations of dissolved nitrate plus nitrite, as nitrogen, and dissolved chloride, determined concurrently with MBAS data, are applied:

$$MBASCOR = M - 0.0088N - 0.00019C$$

where:

MBASCOR = corrected MBAS concentration, in mg/L;  
 M = reported MBAS concentration, in mg/L;  
 N = dissolved nitrate plus nitrite, as nitrogen, concentration, in mg/L; and  
 C = dissolved-chloride concentration, in mg/L.

The detection limit of the new method is 0.02 mg/L; whereas, the detection limit for the old method was 0.01 mg/L. A detection limit of 0.02 mg/L should be used with corrected MBAS data from January 1, 1970, through August 29, 1993.



## BRISTOL LAKE BASIN

10252550 CARUTHERS CREEK NEAR IVANPAH, CA

LOCATION.--Lat 35°14'33", Long 115°17'58", in NW 1/4 NE 1/4 sec.6, T.13 N., R.16 E., San Bernardino County, Hydrologic Unit 15030102, on left bank 6.6 mi south of Ivanpah.

DRAINAGE AREA.--1.13 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to September 1981, May 1982 to current year.

REVISED RECORDS.--WDR CA-82-1: 1979(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,640 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 814 ft<sup>3</sup>/s, Aug. 12, 1979, gage height, 5.75 ft, from rating curve extended above 2.5 ft<sup>3</sup>/s on basis of slope-conveyance studies; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 2.5 ft<sup>3</sup>/s on basis of slope-conveyance studies:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0200	17	1.72	Feb. 19	1800	30	2.00
Jan. 17	2000	40	2.09	Aug. 25	unknown	*125	*3.11
Feb. 8	0800	38	2.15				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.24	.13	.95	.04	.00	.00	.00	e.00	e.00
2	.00	.00	.00	.20	.13	.95	.02	.00	.00	.00	e.00	e.00
3	.00	.00	.00	.20	.11	1.0	.02	.00	.00	.00	e.00	e.00
4	.00	.00	.00	.20	.08	.89	.02	.00	.00	.00	e.00	e.00
5	.00	.00	.00	.20	.08	.72	.01	.00	.00	.00	e.00	e.00
6	.00	.00	.00	1.2	.06	.52	.01	.00	.00	.00	e.00	e.00
7	.00	.00	.00	4.4	.06	.52	.01	.00	.00	.00	e.00	e.00
8	.00	.00	.00	6.4	10	.44	.01	.00	.00	e.00	e.00	e.00
9	.00	.00	.00	1.7	3.4	.38	.00	.00	.00	e.00	e.00	e.00
10	.00	.00	e.00	1.9	1.0	.29	.00	.00	.00	e.00	e.00	e.00
11	.00	.00	e.00	2.0	.62	.24	.00	.00	.00	e.00	e.00	e.00
12	.00	.00	e.00	1.3	.38	.16	.00	.00	.00	e.00	e.00	e.00
13	.00	.00	e.00	1.6	.29	.13	.00	.00	.00	e.00	e.00	e.00
14	.00	.00	e.00	6.0	.16	.13	.00	.00	.00	e.00	e.00	e.00
15	.00	.00	e.00	2.1	.13	.11	.00	.00	.00	e.00	e.00	e.00
16	.00	.00	e.00	14	.11	.08	.00	.16	.00	e.00	e.00	e.00
17	.00	.00	.00	13	.08	.08	.00	.00	.00	e.00	e.00	e.00
18	.00	.00	.00	5.3	.13	.06	.00	.00	.00	e.00	e.00	e.00
19	.00	.00	.00	2.2	4.9	.06	.00	.00	.00	e.00	e.00	e.00
20	.00	.00	.00	1.3	3.0	.04	.00	.00	.00	e.00	e.00	e.00
21	.00	.00	.00	.89	1.4	.04	.00	.00	.00	e.00	e.00	e.00
22	.00	.00	.00	.62	.95	.04	.00	.00	.00	e.00	e.00	e.00
23	.00	.00	.00	.52	.77	.04	.00	.00	.00	e.00	e.00	e.00
24	.00	.00	.00	.34	.77	.04	.00	.00	.00	e.00	e.00	e.00
25	.00	.00	.00	.20	.62	.02	.00	.00	.00	e.00	e.20	e.00
26	.00	.00	.00	.20	.57	.08	.00	.00	.00	e.00	e.20	e.00
27	.00	.00	.00	.13	.77	.08	.00	.00	.00	e.00	e.02	e.00
28	.00	.00	.89	.13	1.1	.24	.00	.00	.00	e.00	e.00	e.00
29	.00	.00	.38	.11	---	.13	.00	.00	.00	e.00	e.00	e.00
30	.00	.00	.44	.16	---	.11	.00	.00	.00	e.00	e.00	e.00
31	.00	---	.29	.16	---	.06	---	.00	---	e.00	e.00	---
TOTAL	0.00	0.00	2.00	68.90	31.80	8.63	0.14	0.16	0.00	0.00	20.22	0.00
MEAN	.000	.000	.065	2.22	1.14	.28	.005	.005	.000	.000	.65	.000
MAX	.00	.00	.89	14	10	1.0	.04	.16	.00	.00	20	.00
MIN	.00	.00	.00	.11	.06	.02	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	4.0	137	63	17	.3	.3	.00	.00	40	.00

e Estimated.

## THE GREAT BASIN

## BRISTOL LAKE BASIN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.099	.037	.12	.16	.20	.33	.065	.001	.002	.16	.31	.022
MAX	2.81	.67	1.27	2.22	1.44	2.23	.95	.010	.054	2.45	2.70	.34
(WY)	1977	1966	1966	1993	1980	1992	1965	1983	1972	1984	1979	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1964	1964	1964	1964	1967	1964	1965	1964	1964	1964	1964

## SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1964 - 1993

ANNUAL TOTAL	106.39	131.85	
ANNUAL MEAN	.29	.36	.13
HIGHEST ANNUAL MEAN			.36
LOWEST ANNUAL MEAN			.001
HIGHEST DAILY MEAN	11	Feb 7	20
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 28	.00
INSTANTANEOUS PEAK FLOW			125
INSTANTANEOUS PEAK STAGE			3.11
ANNUAL RUNOFF (AC-FT)	211	262	92
10 PERCENT EXCEEDS	.45	.62	.07
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

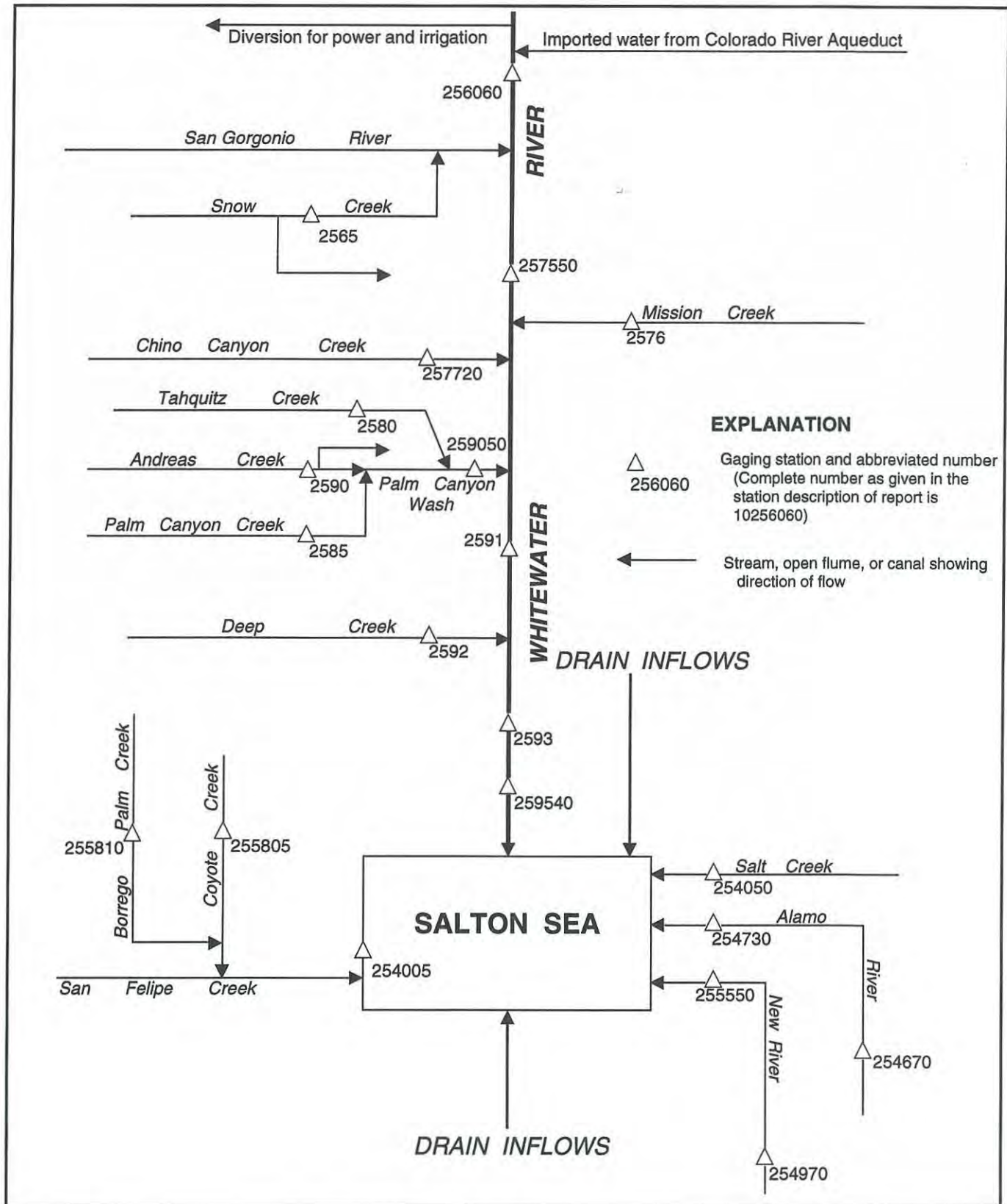


Figure 17. Diversions and storage in Salton Sea basin.

LOCATION.--Lat 33°11'33", long 115°49'59", in SE 1/4 SW 1/4 sec.21, T.11 S., R.11 E., Imperial County, Hydrologic Unit 18100200, on western shore at Sandy Beach and 15.5 mi northwest of Westmorland.

PERIOD OF RECORD.--November 1904 to current year. Records prior to 1932 are published in WSP 735. Monthend elevations only prior to October 1987.

GAGE.--Water-stage recorder. Datum of gage is sea level. See WSP 1734 for history of changes prior to Mar. 2, 1956.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 195.9 ft below sea level, in February and March 1907; minimum since 1906, 251.6 ft below sea level in November 1924.

ELEVATION (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

[illegible]

## FLOW FROM MEXICO AT INTERNATIONAL BOUNDARY

The following table lists the monthly and annual flows, in acre-feet, of the Alamo River and New River (station 10254970) at the United States-Mexico International Boundary. Data for Alamo River provided by Imperial Irrigation District.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Alamo River	93	104	127	150	137	183	192	143	137	122	114	88
New River	9160	7910	14480	19250	14430	21450	21670	16980	12900	13470	13590	13100
CAL YR 1992:	Alamo River		1,710 acre-ft		WTR YR 1993:		1,590 acre-ft					
CAL YR 1992:	New River		143,400 acre-ft		WTR YR 1993:		178,400 acre-ft					

## 10254050 SALT CREEK NEAR MECCA, CA

LOCATION.--Lat 33°26'49", long 115°50'33", in SE 1/4 SW 1/4 sec.28, T.8 S., R.11 E., Riverside County, Hydrologic Unit 18100200, on pier of Southern Pacific railroad bridge, 0.3 mi upstream from mouth, and 16 mi southeast of Mecca.

DRAINAGE AREA.--269 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1961 to current year (since October 1990, low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 230 ft below sea level, from topographic map. Prior to Dec. 21, 1984, at same site, at datum 2.50 ft lower.

REMARKS.--No estimated daily discharges. Records poor. No regulation or diversion upstream from station. No discharge records computed above 20 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (January 1961 to September 1990), 9,900 ft<sup>3</sup>/s, Sept. 24, 1976, gage height, 16.8 ft, present datum, from floodmarks, from rating curve extended above 20 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; maximum gage height, 19.4 ft, present datum, Mar. 2, 1983 (backwater from Salton Sea and channel vegetation); minimum daily discharge, 0.06 ft<sup>3</sup>/s, Nov. 1, 4, 5, 9, 1978.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	1.6	2.7	3.9	4.3	4.8	2.9	1.2	.71	.42	.39	.49
2	.96	1.5	2.8	3.9	4.2	4.7	2.7	1.2	.69	.45	.37	.49
3	.94	1.5	2.9	3.9	4.2	4.6	2.6	1.1	.66	.46	.35	.47
4	.95	1.5	3.4	3.8	4.3	4.5	2.5	1.1	.66	.45	.35	.46
5	.95	1.4	4.2	3.7	4.3	4.4	2.4	1.1	.70	.44	.35	.45
6	.95	1.6	3.6	4.5	4.3	4.2	2.4	1.1	.71	.46	.35	.46
7	1.0	1.7	3.6	---	4.3	4.2	2.4	1.1	.73	.47	.34	.46
8	1.0	1.8	5.4	---	---	4.1	2.3	1.1	.75	.47	.32	.47
9	.99	1.9	4.6	8.7	12	4.1	2.2	1.1	.74	.47	.32	.47
10	.96	1.9	3.6	---	5.6	4.0	2.2	1.0	.72	.47	.34	.46
11	.96	1.9	3.5	8.2	4.8	4.0	2.1	.99	.70	.47	.35	.46
12	.98	1.8	3.5	6.7	4.5	3.9	2.0	.97	.69	.47	.34	.47
13	1.1	2.0	3.5	8.6	4.5	3.7	1.8	.96	.70	.47	.34	.48
14	1.2	2.0	3.3	---	4.5	3.8	1.7	.96	.69	.44	.35	.48
15	1.2	2.1	3.2	14	7.2	3.9	1.7	.95	.69	.43	.36	.50
16	1.2	2.2	3.4	---	5.4	3.7	1.7	.98	.67	.44	.37	.52
17	1.3	2.2	3.5	---	4.7	3.7	1.8	.99	.61	.44	.38	.52
18	1.3	2.2	3.5	---	4.5	3.7	1.8	.97	.56	.44	.38	.53
19	1.3	2.2	3.6	7.9	---	3.7	1.7	.93	.54	.45	.37	.55
20	1.3	2.2	3.4	6.5	9.2	3.5	1.6	.89	.54	.45	.36	.56
21	1.4	2.3	3.4	6.0	6.3	3.5	1.5	.85	.51	.45	.36	.58
22	1.4	2.1	3.5	5.6	5.1	3.5	1.5	.82	.49	.45	.36	.61
23	1.5	2.4	3.5	5.3	4.9	3.2	1.5	.82	.52	.46	.36	.62
24	1.7	2.5	3.6	5.1	5.0	3.1	1.5	.81	.54	.45	.37	.63
25	1.7	2.4	3.6	4.9	4.8	3.1	1.4	.80	.54	.45	.38	.64
26	1.6	2.5	3.6	4.7	4.7	3.3	1.4	.79	.51	.44	.40	.65
27	1.7	2.5	3.6	4.6	5.0	3.5	1.4	.74	.49	.43	.41	.65
28	1.6	2.6	7.2	4.5	5.2	3.5	1.4	.69	.47	.42	.50	.65
29	1.7	2.6	6.2	4.6	---	3.3	1.3	.67	.45	.42	.46	.66
30	1.8	2.6	4.9	4.4	---	3.0	1.3	.68	.41	.41	.47	.67
31	1.9	---	4.1	4.3	---	2.9	---	.71	---	.40	.47	---
TOTAL	39.50	61.7	118.4	---	---	117.1	56.7	29.07	18.39	13.84	11.62	16.11
MEAN	1.27	2.06	3.82	---	---	3.78	1.89	.94	.61	.45	.37	.54
MAX	1.9	2.6	7.2	---	---	4.8	2.9	1.2	.75	.47	.50	.67
MIN	.94	1.4	2.7	---	---	2.9	1.3	.67	.41	.40	.32	.45
AC-FT	78	122	235	---	---	232	112	58	36	27	23	32

10254050 SALT CREEK NEAR MECCA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.61	7.45	8.05	9.86	11.6	13.5	5.56	3.86	2.85	3.40	5.05	7.02
MAX	12.6	22.1	14.8	18.8	45.5	137	11.9	12.7	7.50	21.0	55.6	76.5
(WY)	1964	1981	1966	1977	1980	1983	1980	1980	1975	1986	1983	1976
MIN	1.55	1.05	1.59	4.13	4.26	3.79	2.37	1.49	.86	.41	.70	.59
(WY)	1990	1979	1979	1990	1990	1990	1986	1986	1989	1989	1989	1978

## SUMMARY STATISTICS

## WATER YEARS 1962 - 1990

ANNUAL MEAN	6.97	
HIGHEST ANNUAL MEAN	23.7	1983
LOWEST ANNUAL MEAN	2.57	1989
HIGHEST DAILY MEAN	2830	Mar 2 1983
LOWEST DAILY MEAN	.06	Nov 1 1978
ANNUAL SEVEN-DAY MINIMUM	.07	Oct 30 1978
INSTANTANEOUS PEAK FLOW	9900	Sep 24 1976
INSTANTANEOUS PEAK STAGE	16.80	Sep 24 1976
ANNUAL RUNOFF (AC-FT)	5050	
10 PERCENT EXCEEDS	10	
50 PERCENT EXCEEDS	4.6	
90 PERCENT EXCEEDS	1.3	

## SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA  
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 33°06'16", long 115°32'39", on line between secs.19 and 20, T.12 S., R.14 E., Imperial County, Hydrologic Unit 18100200, on right bank 2.2 mi southwest of Calipatria.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year. Records prior to October 1979 in files of the Imperial Irrigation District.

GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 185 ft below sea level, from topographic map.

REMARKS.--Records good below 1,500 ft<sup>3</sup>/s, poor above. Flow is mainly return from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,770 ft<sup>3</sup>/s, Jan. 17, 1993, gage height, 7.20 ft, from rating curve extended above 1,000 ft<sup>3</sup>/s; minimum daily, 259 ft<sup>3</sup>/s, Jan. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,770 ft<sup>3</sup>/s, Jan. 17, gage height, 7.20 ft; minimum daily, 289 ft<sup>3</sup>/s, Jan. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	738	673	653	324	398	597	893	1060	760	667	730	687
2	740	647	713	304	397	633	984	1070	736	708	728	715
3	732	687	713	306	435	692	1030	974	729	742	701	665
4	810	702	994	289	436	713	1030	960	792	713	671	691
5	784	750	689	342	433	629	919	995	801	665	705	697
6	774	778	482	401	438	717	901	981	769	704	733	708
7	784	802	454	771	438	698	1010	976	820	733	831	666
8	807	749	497	1270	511	690	1060	956	834	725	837	687
9	853	730	391	523	475	791	1110	990	749	731	820	742
10	909	710	389	468	367	785	1130	964	795	785	811	752
11	865	668	386	524	366	874	1080	1000	787	742	836	750
12	862	730	379	432	406	936	966	953	816	685	790	799
13	841	760	361	1160	442	982	943	924	843	734	781	780
14	810	736	347	646	473	1010	967	935	864	737	776	761
15	800	758	396	520	455	921	1040	1000	894	658	760	743
16	820	677	412	1490	433	926	1090	1070	836	683	687	782
17	819	700	473	e2100	455	982	1140	975	820	718	754	820
18	794	716	553	1650	435	1110	1060	892	821	725	764	802
19	744	668	548	764	517	1090	1060	886	862	681	846	862
20	751	690	542	631	488	1100	1040	842	869	754	735	795
21	728	681	486	581	370	1040	1110	773	798	725	700	729
22	951	694	526	538	357	1030	1090	798	780	776	675	757
23	1200	659	599	503	440	1010	1130	801	809	781	775	807
24	1190	668	658	461	529	1090	1110	846	806	810	840	873
25	798	709	513	428	598	1190	1090	899	796	809	834	936
26	650	725	429	409	600	1320	1090	854	797	749	810	984
27	626	585	496	404	651	1230	1030	839	788	712	856	953
28	632	632	727	412	640	917	1050	887	738	736	753	936
29	630	654	578	399	---	697	1110	840	687	832	687	979
30	651	628	435	412	---	727	1090	849	666	850	642	972
31	674	---	363	393	---	824	---	819	---	777	635	---
TOTAL	24767	20966	16182	19855	12983	27951	31353	28608	23862	22847	23503	23830
MEAN	799	699	522	640	464	902	1045	923	795	737	758	794
MAX	1200	802	994	2100	651	1320	1140	1070	894	850	856	984
MIN	626	585	347	289	357	597	893	773	666	658	635	665
AC-FT	49130	41590	32100	39380	25750	55440	62190	56740	47330	45320	46620	47270

e Estimated.

## 10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	777	663	536	518	596	804	942	831	672	664	699	720
MAX	895	809	666	640	718	904	1051	967	795	743	790	824
(WY)	1992	1991	1991	1993	1991	1992	1980	1991	1993	1991	1979	1980
MIN	655	569	379	394	445	697	812	706	515	556	593	631
(WY)	1982	1982	1986	1985	1980	1987	1986	1982	1982	1982	1982	1986

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1979 - 1993	
ANNUAL TOTAL	259794		276707			
ANNUAL MEAN	710		758		702	
HIGHEST ANNUAL MEAN					769	
LOWEST ANNUAL MEAN					628	
HIGHEST DAILY MEAN	4670		2100		4670	
LOWEST DAILY MEAN	269		289		259	
ANNUAL SEVEN-DAY MINIMUM	282		333		277	
INSTANTANEOUS PEAK FLOW			6770		6770	
INSTANTANEOUS PEAK STAGE			7.20		7.20	
ANNUAL RUNOFF (AC-FT)	515300		548800		508300	
10 PERCENT EXCEEDS	952		1040		919	
50 PERCENT EXCEEDS	683		751		690	
90 PERCENT EXCEEDS	430		436		496	

## SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-70, 1975-1977, 1979 to current year.

CHEMICAL DATA: Water years 1969-70, 1975-77, 1979 to current year.

BIOLOGICAL DATA: Water years 1979-81.

SPECIFIC CONDUCTANCE: Water years 1969-70, 1975-77, 1979-84.

WATER TEMPERATURE: Water years 1969-70, 1975-77, 1979-84.

SEDIMENT DATA: Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1981 to September 1984.

WATER TEMPERATURE: March 1981 to September 1984.

INSTRUMENTATION.--Water-quality monitor from March 1981 to September 1984.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC 16...	0900	400	4370	8.1	10.5	89	772	10.5	94	11000	14000	
MAR 23...	1040	1020	3130	7.8	22.0	130	765	8.0	92	K2800	18000	
JUN 16...	0930	805	3350	7.9	28.0	77	757	6.2	81	K220	2000	
SEP 14...	0945	790	3610	7.9	27.0	230	765	7.2	91	K900	2100	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DIS IT (MG/L AS HCO3)	CAR- BONATE WATER DIS IT (MG/L AS CO3)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)
DEC 16...	1000	740	200	120	620	57	9	10	315	0	258
MAR 23...	730	520	150	86	410	55	7	12	259	0	212
JUN 16...	740	520	160	81	420	55	7	12	264	0	216
SEP 14...	880	660	190	98	430	51	6	10	268	0	220

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
DEC 16...	1000	780	0.60	11	3080	2950	4.19	0.500	0.460	9.40
MAR 23...	680	460	0.40	14	2100	1980	2.86	--	0.840	--
JUN 16...	790	480	0.50	13	2300	2120	3.13	--	1.10	--
SEP 14...	900	460	0.60	14	2400	2280	3.26	--	0.060	--

## 10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)
DEC 16...	9.90	1.70	1.80	2.7	0.330	0.150	0.160	0.150	<10	<100
MAR 23...	7.50	--	2.00	3.3	0.450	0.390	--	0.380	20	100
JUN 16...	6.60	--	1.40	2.2	0.330	0.310	--	0.300	<10	<100
SEP 14...	7.90	--	0.080	1.4	0.310	1.10	--	1.10	20	100

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
DEC 16...	<1	30	210	60	16	1	9	<1.0	3800	27
MAR 23...	<1	<10	160	20	11	2	8	<1.0	2700	15
JUN 16...	<1	170	160	10	11	2	8	<1.0	2900	18
SEP 14...	<1	20	180	<10	14	<1	7	<1.0	3200	13

## CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR 23...*	0915	7.60	13.0	3200	7.8	21.0	765	7.8	88	883	85
23...*	0925	8.00	22.0	3200	7.9	21.0	765	7.9	89	923	77
23...*	0930	10.2	31.0	3200	7.8	21.0	765	7.8	88	1070	65
23...*	0945	8.30	40.0	3160	7.8	21.5	765	7.8	89	1010	69
23...*	0950	8.30	49.0	3100	7.8	21.0	765	8.0	90	998	73
SEP 14...*	0810	8.10	12.0	3620	7.9	25.0	765	7.0	85	693	95
14...*	0835	8.10	21.0	3650	7.9	25.5	765	7.1	87	503	92
14...*	0845	9.00	30.0	3630	8.0	25.0	765	7.2	88	543	82
14...*	0855	7.60	38.0	3640	7.9	25.5	765	7.2	89	590	85
14...*	0905	7.60	49.0	3620	7.9	25.5	765	7.2	89	574	91

\* Instantaneous streamflow at the time of cross-sectional measurement: Mar. 23, 1,020 ft<sup>3</sup>/s,  
Sept. 14, 770 ft<sup>3</sup>/s.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 16...	0900	400	10.5	450	486	98
MAR 23...	0935	1020	21.0	977	2690	74
23...	1040	1020	22.0	928	2560	74
JUN 16...	0930	805	28.0	562	1220	88
SEP 14...	0840	770	25.0	581	1210	89

## 10254730 ALAMO RIVER NEAR NILAND, CA

LOCATION.--Lat 33°11'56", long 115°35'46", in SW 1/4 NW 1/4 sec.23, T.11 S., R.13 E., Imperial County, Hydrologic Unit 18100200, on left bank 1.0 mi upstream from mouth and 4.5 mi southwest of Niland.

PERIOD OF RECORD.--January 1943 to September 1960 (monthly discharge only, published in WSP 1743), October 1960 to current year.

GAGE.--Acoustic-velocity meter and water-stage recorder. Elevation of gage is 220 ft below sea level, from topographic map. Prior to Oct. 1, 1986, at site 0.4 mi downstream at different datum.

REMARKS.--Records fair. Discharge mainly represents seepage and return flow from irrigated areas.

COOPERATION.--Gage-height record provided by Imperial Irrigation District for the following dates: Oct. 1 to Apr. 13, May 13-15, and Sept. 18-19.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,500 ft<sup>3</sup>/s, Aug. 17, 1977, estimated by Imperial Irrigation District; minimum daily, 288 ft<sup>3</sup>/s, Jan. 2, 1966, Dec. 15, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,470 ft<sup>3</sup>/s, Jan. 17; minimum daily, 336 ft<sup>3</sup>/s, Jan. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	841	717	683	359	431	663	1050	1130	916	779	816	767
2	896	696	759	350	436	696	1120	1130	875	794	836	773
3	864	766	773	350	457	759	1130	1080	901	840	839	728
4	963	745	1100	336	457	833	1200	1070	943	823	800	744
5	872	803	766	368	452	e850	1150	1070	930	756	816	761
6	841	803	506	426	473	e860	1110	1060	903	792	836	770
7	841	795	442	690	468	e875	1070	1080	891	855	891	737
8	856	773	518	1380	552	e900	1120	1090	918	859	927	736
9	913	752	411	683	540	904	1120	1090	873	825	921	821
10	1020	781	392	575	457	913	1190	1070	847	822	916	831
11	963	724	421	670	436	980	1170	1080	864	834	889	852
12	954	766	468	558	447	1020	1080	1040	889	764	891	883
13	963	803	426	1240	421	1070	1050	1060	911	824	847	860
14	896	781	359	963	518	1120	1020	1080	938	841	851	840
15	849	795	392	738	523	1060	1050	1120	970	775	818	849
16	856	731	411	1170	523	1060	1110	1060	956	791	763	869
17	864	731	447	2470	534	1120	1130	984	847	831	762	912
18	849	759	546	1800	495	1230	1170	1040	899	831	778	841
19	795	738	581	1070	484	1210	1170	971	901	788	898	864
20	781	818	534	810	506	1200	1170	965	923	840	834	887
21	773	752	479	670	421	1200	1160	917	898	813	786	829
22	954	724	512	558	392	1170	1170	909	901	867	746	838
23	1390	710	600	490	426	1170	1150	879	884	876	754	888
24	1570	703	690	457	506	1200	1180	935	911	903	813	926
25	1020	759	529	442	540	1280	1140	983	886	913	811	972
26	710	773	416	421	618	1370	1150	992	853	889	852	1010
27	696	644	479	416	670	1440	1130	946	833	851	847	1010
28	717	657	738	426	690	1250	1140	1000	827	856	793	981
29	731	703	600	421	---	980	1140	962	810	905	763	1000
30	766	676	457	447	---	913	1110	957	800	924	792	1030
31	759	---	392	457	---	988	---	926	---	879	715	---
TOTAL	27763	22378	16827	22211	13873	32284	33850	31676	26698	25940	25601	25809
MEAN	896	746	543	716	495	1041	1128	1022	890	837	826	860
MAX	1570	818	1100	2470	690	1440	1200	1130	970	924	927	1030
MIN	696	644	359	336	392	663	1020	879	800	756	715	728
AC-FT	55070	44390	33380	44060	27520	64040	67140	62830	52960	51450	50780	51190

e Estimated.

## 10254730 ALAMO RIVER NEAR NILAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	952	760	637	643	766	965	1081	955	812	815	839	907
MAX	1159	851	792	834	970	1144	1272	1182	981	1027	1278	1271
(WY)	1964	1991	1973	1972	1964	1963	1980	1975	1963	1963	1977	1962
MIN	742	616	416	396	495	734	797	684	646	636	656	667
(WY)	1986	1966	1986	1978	1993	1987	1965	1964	1964	1985	1986	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1961 - 1993		
ANNUAL TOTAL	280420			304910					
ANNUAL MEAN	766			835			844		
HIGHEST ANNUAL MEAN							991		
LOWEST ANNUAL MEAN							680		
HIGHEST DAILY MEAN	2160			Mar 27			4500		
LOWEST DAILY MEAN	319			Jan 13			288		
ANNUAL SEVEN-DAY MINIMUM	338			Jan 9			323		
ANNUAL RUNOFF (AC-FT)	556200			604800			611700		
10 PERCENT EXCEEDS	1090			1130			1110		
50 PERCENT EXCEEDS	752			841			833		
90 PERCENT EXCEEDS	461			457			600		

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA

LOCATION.--Lat 32°39'57", long 115°30'08", in SW 1/4 SE 1/4 sec.14, T.17 S., R.14 E., Imperial County, Hydrologic Unit 18100200, on left bank 200 ft downstream from bridge on Second Street and 0.2 mi downstream from international boundary in Calexico.

PERIOD OF RECORD.--October 1979 to current year. October 1945 to September 1979, in files of Imperial Irrigation District.

CHEMICAL DATA: Water years 1969-71, 1973-85.

BIOLOGICAL DATA: Water years 1973-81.

SPECIFIC CONDUCTANCE: Water years 1974-81.

WATER TEMPERATURE: Water years 1974-81.

SEDIMENT DATA: Water years 1975-85.

GAGE.--Water-stage recorder. Elevation of gage is 35 ft below sea level, from topographic map.

REMARKS.--Records good. Discharge represents seepage and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 833 ft<sup>3</sup>/s, Dec. 9, 1982, gage height, 14.73 ft; minimum daily, 124 ft<sup>3</sup>/s, Nov. 2, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 691 ft<sup>3</sup>/s, Jan. 7, gage height, 13.62 ft; minimum daily, 124 ft<sup>3</sup>/s, Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	129	140	375	217	274	414	290	244	220	234	251
2	141	124	142	355	e222	286	389	280	240	220	222	261
3	135	126	149	316	227	302	366	276	234	213	215	250
4	137	125	210	299	234	308	335	284	235	203	211	239
5	137	129	178	291	229	288	305	289	239	203	202	230
6	140	129	186	311	219	268	316	285	242	213	203	227
7	140	129	222	540	222	284	337	274	239	219	209	223
8	138	135	237	388	267	319	346	263	241	231	213	231
9	139	135	259	365	269	349	355	272	237	227	208	221
10	139	136	234	360	311	377	345	270	229	217	206	213
11	137	135	235	335	329	393	351	294	219	203	206	210
12	137	133	235	349	305	370	371	326	213	198	208	211
13	135	131	238	311	270	346	384	312	209	198	205	205
14	138	136	227	279	255	360	392	305	213	203	201	213
15	137	134	210	310	256	382	394	295	210	207	197	208
16	134	137	206	435	252	373	394	289	207	210	193	204
17	136	139	212	371	254	364	398	287	204	214	198	214
18	135	144	225	357	265	357	394	284	194	203	206	215
19	133	142	243	318	284	352	389	291	199	200	213	225
20	134	142	256	305	262	339	399	305	202	218	214	230
21	251	132	246	311	257	331	412	278	195	229	224	230
22	219	131	225	299	271	315	423	251	201	232	228	225
23	191	131	214	278	270	327	419	252	212	239	230	217
24	167	129	221	256	269	334	397	252	220	234	226	214
25	161	130	228	247	267	329	356	247	210	228	249	220
26	151	128	237	237	263	348	325	238	204	230	295	209
27	146	132	295	223	265	358	307	279	204	231	253	204
28	153	134	338	226	265	427	304	269	200	236	253	203
29	151	135	332	223	---	448	306	247	200	236	244	202
30	144	138	353	220	---	459	304	236	210	239	240	202
31	136	---	369	216	---	445	---	239	---	239	246	---
TOTAL	4616	3990	7302	9706	7276	10812	10927	8559	6506	6793	6852	6607
MEAN	149	133	236	313	260	349	364	276	217	219	221	220
MAX	251	144	369	540	329	459	423	326	244	239	295	261
MIN	133	124	140	216	217	268	304	236	194	198	193	202
AC-FT	9160	7910	14480	19250	14430	21450	21670	16980	12900	13470	13590	13100

e Estimated.

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	241	228	267	273	275	293	309	277	233	252	295	266
MAX	370	333	374	366	375	395	452	389	321	394	441	399
(WY)	1984	1985	1987	1987	1987	1986	1986	1984	1984	1984	1984	1983
MIN	149	133	167	187	179	193	190	177	154	143	184	152
(WY)	1993	1993	1980	1980	1991	1991	1991	1990	1992	1992	1991	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1980 - 1993			
ANNUAL TOTAL	72297				89946							
ANNUAL MEAN	198				246							
HIGHEST ANNUAL MEAN									268			
LOWEST ANNUAL MEAN									362			
HIGHEST DAILY MEAN	452				540				186			
LOWEST DAILY MEAN	124				124				735			
ANNUAL SEVEN-DAY MINIMUM	127				127				124			
INSTANTANEOUS PEAK FLOW					691				127			
INSTANTANEOUS PEAK STAGE					13.62				833			
ANNUAL RUNOFF (AC-FT)	143400				178400				14.73			
10 PERCENT EXCEEDS	276				357				193800			
50 PERCENT EXCEEDS	181				234				379			
90 PERCENT EXCEEDS	136				137				252			
									167			

## SALTON SEA BASIN

10255550 NEW RIVER NEAR WESTMORLAND, CA

LOCATION.--Lat 33°06'17", long 115°39'49", in SW 1/4 SW 1/4 sec.19, T.12 S., R.13 E., Imperial County, Hydrologic Unit 18100200, on right bank 3.5 mi upstream from mouth and 5.2 mi northwest of Westmorland.

PERIOD OF RECORD.--January 1943 to current year. (Monthly discharge only, January 1943 to September 1960 published in WSP 1734; daily discharge available in files of the U.S. Geological Survey.)

GAGE.--Water-stage recorder. Elevation of gage is 220 ft below sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge mainly represents seepage and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,000 ft<sup>3</sup>/s, Aug. 17, 18, 1977, estimated by Imperial Irrigation District; minimum daily, 150 ft<sup>3</sup>/s, Mar. 7, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,200 ft<sup>3</sup>/s, Jan. 18; minimum daily, 441 ft<sup>3</sup>/s, Dec. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	536	468	445	583	491	623	978	835	648	611	717	626
2	526	481	447	588	501	629	985	870	644	616	693	623
3	556	488	441	595	498	645	1010	867	643	609	694	641
4	527	486	543	605	504	626	1020	797	650	596	664	660
5	531	478	563	667	502	685	974	782	658	576	631	630
6	532	478	495	596	520	674	956	797	648	566	620	615
7	541	476	459	654	516	623	897	795	652	558	616	602
8	548	471	464	905	544	629	904	783	688	609	637	617
9	544	458	460	894	535	669	920	771	682	620	694	631
10	528	453	462	762	519	733	903	765	690	656	689	638
11	562	478	469	662	520	810	911	764	686	663	637	635
12	552	496	459	620	550	809	882	773	695	604	599	624
13	544	525	461	785	552	840	911	823	663	591	576	627
14	559	528	458	982	541	851	970	856	655	601	613	606
15	564	491	480	681	529	818	953	813	668	597	665	617
16	543	451	476	781	532	832	1020	807	662	584	647	650
17	558	473	477	1150	528	880	1030	789	636	575	638	605
18	541	464	489	1200	539	879	1000	765	648	625	599	591
19	541	466	521	914	540	887	978	755	655	644	609	614
20	557	457	528	731	554	884	984	751	651	616	619	628
21	577	467	520	637	532	908	1010	722	611	586	643	645
22	576	473	522	604	503	863	1020	743	609	620	645	645
23	746	465	e526	582	524	822	1030	721	605	650	679	616
24	1120	471	e536	553	559	837	992	703	578	662	652	609
25	996	479	e549	533	569	878	950	699	624	671	607	613
26	616	471	e562	519	578	928	933	694	622	690	610	637
27	533	443	e574	509	613	955	939	723	611	684	660	665
28	488	466	e588	500	613	886	858	701	591	661	724	662
29	472	509	e590	506	---	844	847	713	596	670	687	678
30	522	458	577	506	---	925	827	699	611	706	670	665
31	485	---	582	510	---	956	---	658	---	690	636	---
TOTAL	18021	14268	15723	21314	15006	24828	28592	23734	19280	19407	20070	18915
MEAN	581	476	507	688	536	801	953	766	643	626	647	630
MAX	1120	528	590	1200	613	956	1030	870	695	706	724	678
MIN	472	443	441	500	491	623	827	658	578	558	576	591
AC-FT	35740	28300	31190	42280	29760	49250	56710	47080	38240	38490	39810	37520

e Estimated.

10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	644	565	546	564	595	669	718	652	583	590	609	619
MAX	837	760	707	795	789	810	953	853	763	808	913	807
(WY)	1953	1954	1963	1944	1944	1954	1993	1953	1953	1979	1977	1963
MIN	471	408	386	387	458	516	541	485	435	442	460	486
(WY)	1978	1965	1968	1978	1965	1965	1965	1964	1964	1964	1964	1970

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1943 - 1993			
ANNUAL TOTAL	210608				239158							
ANNUAL MEAN	575				655				612			
HIGHEST ANNUAL MEAN									741			
LOWEST ANNUAL MEAN									484			
HIGHEST DAILY MEAN	1120				Oct 24				3000			
LOWEST DAILY MEAN	414				Jan 1				150			
ANNUAL SEVEN-DAY MINIMUM	436				Jan 1				284			
ANNUAL RUNOFF (AC-FT)	417700				474400				443600			
10 PERCENT EXCEEDS	747				903				757			
50 PERCENT EXCEEDS	544				623				601			
90 PERCENT EXCEEDS	466				480				479			

## 10255805 COYOTE CREEK BELOW BOX CANYON, NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°21'54", long 116°24'57", in SW 1/4 NW 1/4 sec.25, T.9 S., R.5 E., San Diego County, Hydrologic Unit 18100200, in Anza-Borrego Desert State Park, on right bank 0.9 mi downstream from Box Canyon, 1.4 mi northwest of Rancho De Anza, and 7.8 mi northwest of Borrego Springs.

DRAINAGE AREA.--154 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to current year. Discharge measurements only, October 1992 to September 1993. Published as Coyote Creek near Borrego Springs (station 10255800) water years 1984-86. Records for Coyote Creek near Borrego Springs prior to October 1983 not equivalent because of difference in drainage areas.

GAGE.--Water-stage recorder. Elevation of gage is 1,100 ft above sea level, from topographic map.

REMARKS.--Indeterminate stage-discharge relationship. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Jan. 16, 1993, gage height, 9.08 ft; no flow for several days in 1993.

## DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Time	Discharge (ft <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s)
Oct. 22	1332	.03	Jul. 28	1500	0
Jan. 15	1330	1.25	Aug. 5	0730	.01
June 9	1205	.24	Aug. 26	0822	2.91
July 9	1145	0	Sept. 9	1153	.90

## 10255810 BORREGO PALM CREEK NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°16'44", long 116°25'45", in Anza-Borrego Desert State Park, San Diego County, Hydrologic Unit 18100200, on left bank 3.3 mi northwest of Borrego Springs.

DRAINAGE AREA.--21.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1950 to September 1993 (discontinued). Prior to October 1960, published as Palm Canyon Creek near Borrego Springs. Monthly discharge only for October to November 1950, published in WSP 1734.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,200 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,640 ft<sup>3</sup>/s, Aug. 16, 1979, gage height, 9.8 ft, from floodmarks, on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0045	*267	*4.55	Feb. 9	0300	39	3.05
Jan. 16	1500	164	4.00	Feb. 20	1330	143	3.86

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.10	.52	e3.6	15	5.0	1.9	2.0	e.10	.11	.41
2	.00	.00	.15	.47	e3.2	14	4.0	1.8	2.1	e.10	.09	.39
3	.00	.00	.15	.51	e2.8	12	3.4	1.8	2.2	e.10	.10	.38
4	.00	.00	.49	.47	e2.5	11	3.4	2.2	2.3	e.10	.10	.32
5	.00	.00	.41	.46	e2.0	10	4.6	2.1	2.8	e.10	.09	.30
6	.00	.00	.22	5.1	e1.7	9.8	4.6	1.9	4.1	e.10	.06	.27
7	.00	.00	.82	114	e1.6	9.3	4.3	1.8	3.1	e.10	.05	.25
8	.00	.00	1.3	112	17	8.6	3.7	1.7	2.2	e.10	.05	.22
9	.00	.00	.52	21	26	7.8	3.4	1.6	1.5	e.10	.04	.20
10	.00	.00	.39	12	18	7.2	2.9	1.6	.95	e.10	.03	.19
11	.00	.00	.34	10	14	6.9	e2.9	1.6	.72	e.10	.02	.18
12	.00	.00	.34	7.3	12	6.6	e2.9	1.6	.61	e.10	.02	.16
13	.00	.00	.33	12	10	6.4	e2.8	1.7	.52	e.10	.02	.16
14	.00	.00	.32	61	9.0	6.4	e2.8	1.7	.41	.10	.03	.15
15	.00	.00	.32	45	8.3	6.1	e2.8	1.7	.31	.09	.03	.17
16	.00	.00	.31	107	7.6	5.7	e2.7	2.0	.19	.09	.02	.26
17	.00	.00	.32	81	6.8	5.8	e2.7	2.0	.16	.08	.01	.47
18	.00	.00	.36	66	12	5.7	e2.6	1.8	.15	.08	.00	.49
19	.00	.00	.38	54	83	5.4	e2.6	1.6	.12	.07	.00	.39
20	.00	.00	.33	31	113	5.3	e2.6	1.7	.09	.07	.00	.33
21	.00	.00	.32	21	85	5.1	2.5	1.8	.08	.07	.00	.25
22	.00	.00	.31	17	54	4.8	2.5	1.8	.11	.07	.00	.22
23	.00	.00	.28	14	31	4.8	2.6	1.8	.12	.07	.00	.20
24	.00	.00	.27	11	40	4.7	2.6	1.8	e.12	.09	.00	.20
25	.00	.00	.27	9.4	22	4.6	2.5	1.8	e.12	.12	.07	.21
26	.00	.00	.25	8.3	21	5.3	2.4	1.8	e.11	.16	.23	.20
27	.00	.00	.29	e7.2	19	8.6	2.2	1.8	e.11	.16	.18	.20
28	.00	.00	1.4	e6.0	17	7.5	2.2	1.9	e.11	.16	.32	.20
29	.00	.00	.78	e5.0	---	6.6	2.0	2.0	e.11	.16	.38	.22
30	.00	.00	.75	e4.3	---	5.9	1.9	1.9	e.11	.15	.39	.25
31	.00	---	.63	e5.8	---	5.3	---	1.8	---	.13	.41	---
TOTAL	0.00	0.00	13.45	849.83	643.1	228.2	90.1	56.0	27.63	3.22	2.85	7.84
MEAN	.000	.000	.43	27.4	23.0	7.36	3.00	1.81	.92	.10	.092	.26
MAX	.00	.00	1.4	114	113	15	5.0	2.2	4.1	.16	.41	.49
MIN	.00	.00	.10	.46	1.6	4.6	1.9	1.6	.08	.07	.00	.15
AC-FT	.00	.00	27	1690	1280	453	179	111	55	6.4	5.7	16

e Estimated.

## 10255810 BORREGO PALM CREEK NEAR BORREGO SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.19	.36	.81	1.75	2.96	2.99	1.60	.69	.24	.22	.53	.17
MAX	2.83	2.97	5.29	27.4	32.5	29.3	11.2	7.55	3.96	4.46	10.6	3.27
(WY)	1984	1984	1984	1993	1980	1983	1980	1980	1980	1979	1979	1983
MIN	.000	.000	.000	.000	.030	.073	.007	.000	.000	.000	.000	.000
(WY)	1951	1951	1963	1972	1972	1972	1972	1961	1954	1952	1951	1951

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1951 - 1993	
ANNUAL TOTAL	239.34		1922.22			
ANNUAL MEAN	.65		5.27		1.03	
HIGHEST ANNUAL MEAN					7.61	
LOWEST ANNUAL MEAN					.009	
HIGHEST DAILY MEAN	5.1	Feb 7	114	Jan 7	277	Aug 16 1979
LOWEST DAILY MEAN	.00	Jun 5	.00	Oct 1	.00	Oct 1 1950
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 5	.00	Oct 1	.00	Oct 1 1950
INSTANTANEOUS PEAK FLOW			267	Jan 8	2640	Aug 16 1979
INSTANTANEOUS PEAK STAGE			4.55	Jan 8	9.80	Aug 16 1979
ANNUAL RUNOFF (AC-FT)	475		3810		749	
10 PERCENT EXCEEDS	2.2		10		2.1	
50 PERCENT EXCEEDS	.02		.38		.10	
90 PERCENT EXCEEDS	.00		.00		.00	

## 10256060 WHITEWATER RIVER AT WHITE WATER CUTOFF, AT WHITE WATER, CA

LOCATION.--Lat 33°55'31", long 116°38'07", in NE 1/4 SE 1/4 sec.11, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on center pier of White Water Cutoff (old Highway 99) bridge, 0.1 mi east of White Water, 0.75 mi downstream from Metropolitan Water District's Colorado River Aqueduct turnout, and 2.0 mi upstream from San Geronio River.

DRAINAGE AREA.--59.1 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to September 1987 and October 1988 to September 1990. Discharge measurements for the period October 1984 to September 1985 available in files of the U.S. Geological Survey. Discharge measurements only, October 1987 to September 1988, October 1990 to current year. Station discontinued as continuous-record site effective September 30, 1993.

GAGE.--Water-stage recorder and concrete rectangular weir. Elevation of gage is 1,360 ft above sea level, from topographic map.

REMARKS.--Indeterminate stage-discharge relationship. At times, imported water is released to the Whitewater River from the Colorado River Aqueduct at a point 0.75 mi upstream. Water is diverted out of the basin 16.5 mi upstream to powerplants in the San Geronio River basin and then to an area north of Banning for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft<sup>3</sup>/s, Feb. 15, 1986, gage height, 11.97 ft, from rating curve extended above 900 ft<sup>3</sup>/s; no flow for many days in some years.

## DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Time	Discharge (ft <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s)
Oct. 7	1240	4.4	Jan. 27	1510	45
Nov. 17	0815	465	Mar. 4	1420	122
Dec. 16	1345	9.7	Apr. 20	0820	128

10256060 WHITEWATER RIVER AT WHITE WATER CUTOFF, AT WHITE WATER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1972-76, 1978 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 17...	1045	465	1030	8.4	21.0	300	--	72	30	97
APR 20...	0915	128	310	8.4	13.5	130	0	38	9.3	11
DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	CAR- BONATE WATER WH IT FIELD MG/L AS CO3	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 17...	41	2	4.4	144	10	134	270	94	0.30	7.9
APR 20...	15	0.4	3.5	--	--	<sup>1</sup> 135	25	2.3	0.70	15
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 17...	638	657	0.87	0.020	0.160	0.020	<0.010	140	<3	<1
APR 20...	182	187	0.25	<0.010	0.250	0.050	<0.010	30	6	4

## 10256500 SNOW CREEK NEAR WHITE WATER, CA

LOCATION.--Lat 33°52'14", long 116°40'49", in NW 1/4 NW 1/4 sec.33, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on left bank at upstream side of Desert Water Agency Diversion Dam, 0.1 mi downstream from East Fork, and 4.4 mi southwest of White Water.

DRAINAGE AREA.--10.9 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to current year. Yearly discharges for 1929-31, published in WSP 1314. Discharge records for Snow Creek Diversion (station 10256550) since October 1978, and those for creek only October 1978 through September 1988 available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR CA-89-1: Drainage area. WDR CA-90-1: 1980 Combined discharge.

GAGE.--Water-stage recorder and broad-crested weir on creek, non-recording flow meter on diversion. Elevation of gage is 2,000 ft above sea level, from topographic map. Prior to October 1931, at various sites within 500 ft of present site at different datums. October 1959 to Oct. 6, 1970, at site 40 ft upstream at present datum. Oct. 6, 1970, to Oct. 25, 1978, at site 290 ft upstream from diversion at present datum. Gage moved to present site 10 ft downstream from diversion Oct. 25, 1978.

REMARKS.--Records fair. No regulation upstream from station. Diversion 10 ft upstream, generally taking most of the base flow. For combined record of creek and diversion (station 10256501), see following page. Published record prior to 1989 represents entire flow from basin (combined creek plus diversion prior to March 1927 and October 1978 to September 1988; creek only, upstream from diversion, December 1927 to September 1931 and October 1959 to September 1978). Both creek only and combined flow published beginning October 1989. Statistics for station 10256501 (combined flow) reflect equivalent total flow from basin.

COOPERATION.--Records for diversion provided by Desert Water Agency.

EXTREMES FOR PERIOD OF RECORD (Combined creek and diversion).-- Maximum discharge, 13,000 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 13.8 ft, from floodmarks, site and datum then in use, from rating curve extended above 55 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily, 2.1 ft<sup>3</sup>/s, June 23-27, Sept. 5-11, 1961.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Creek only Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Combined creek and diversion Discharge (ft <sup>3</sup> /s)
Jan. 7	2000	*1,910	*7.35	*1,910
Jan. 16	1745	887	5.79	887
Feb. 8	0515	582	4.98	582
Feb. 19	2215	566	4.93	566

Creek only: Minimum daily, 0.26 ft<sup>3</sup>/s, Sept. 22.

Combined creek and diversion: Minimum daily, 5.7 ft<sup>3</sup>/s, Oct. 2.

REVISIONS.--Revised daily discharges, in cubic feet per second, for November 1-13, 1990, are given below for both creek only and combined flow records. These supersede those published in the report for 1991.

## Creek only--

Nov. 1....e2.6	Nov. 4....e2.1	Nov. 7....e2.1	Nov. 10....e2.1	Nov. 12....e2.3
Nov. 2....e2.0	Nov. 5....e2.1	Nov. 8....e2.2	Nov. 11....e2.3	Nov. 13....e2.4
Nov. 3....e2.1	Nov. 6....e2.1	Nov. 9....e2.2		

	TOTAL	MEAN	MAX	MIN	AC-FT
November 1990	82.9	2.76	6.7	2.0	164
Cal Yr 1990	1146.82	3.14	13	.06	2270
Wtr Yr 1991	3223.6	8.83	109	1.6	6390

## Combined flow--

Nov. 1....e5.6	Nov. 4....e5.6	Nov. 7....e5.6	Nov. 10....e5.7	Nov. 12....e5.7
Nov. 2....e5.6	Nov. 5....e5.6	Nov. 8....e5.7	Nov. 11....e5.7	Nov. 13....e5.7
Nov. 3....e5.6	Nov. 6....e5.6	Nov. 9....e5.7		

	TOTAL	MEAN	MAX	MIN	AC-FT
November 1990	174	5.80	6.7	5.6	345
Cal Yr 1990	1957.9	5.36	13	2.8	3880
Wtr Yr 1991	4069.3	11.1	109	5.0	8070

e Estimated.

## SALTON SEA BASIN

10256500 SNOW CREEK NEAR WHITE WATER, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	8.4	3.4	12	20	43	29	25	16	8.6	2.2	1.4
2	5.1	7.1	3.6	12	17	e39	e30	25	15	8.5	2.4	1.3
3	6.4	7.4	5.6	11	14	e39	33	27	14	7.9	2.5	1.2
4	6.4	7.3	7.9	8.5	e11	e37	37	27	16	7.9	2.8	.98
5	6.2	7.1	7.9	8.9	e12	e35	38	25	34	7.9	3.0	.89
6	6.1	7.1	7.8	236	13	e34	e30	27	27	7.7	2.7	.86
7	6.1	7.1	13	909	17	e33	25	27	19	7.4	2.7	.72
8	6.0	7.1	11	397	304	e31	24	26	14	7.0	2.4	.64
9	5.9	6.5	8.9	81	147	e31	23	26	13	6.9	2.2	.53
10	5.9	6.8	8.6	58	75	32	26	25	13	6.5	2.1	.61
11	5.9	7.1	8.6	41	55	31	27	26	14	6.0	2.0	.60
12	5.9	7.1	9.7	48	47	31	e27	27	14	5.5	1.8	.52
13	6.0	7.1	8.9	148	41	30	24	29	14	5.3	1.9	.51
14	5.5	7.1	6.1	207	40	35	24	29	14	4.9	1.8	.45
15	6.2	7.1	4.2	197	39	36	24	33	14	4.6	1.8	.52
16	6.2	6.4	4.2	619	33	35	22	39	13	4.5	1.7	.60
17	6.2	6.8	5.1	315	e28	49	25	35	12	4.3	1.6	.44
18	6.2	7.0	11	183	118	56	25	33	12	4.0	1.5	.41
19	6.2	5.9	9.2	106	343	44	22	30	12	4.1	1.4	.36
20	6.2	6.1	8.8	77	271	42	19	27	12	3.8	1.4	.35
21	6.2	7.1	5.9	61	124	41	20	24	12	3.8	1.3	.35
22	6.3	7.1	4.2	52	89	40	21	22	11	3.6	1.2	.26
23	7.1	7.1	4.2	45	90	41	20	22	11	3.6	1.2	.32
24	7.2	6.7	4.2	40	81	41	19	21	10	3.7	2.2	.41
25	7.8	4.9	4.2	36	62	41	19	20	10	3.6	9.3	.39
26	7.0	3.4	4.2	33	57	43	20	18	10	3.4	10	.31
27	7.1	3.4	5.4	30	52	41	22	17	9.8	3.2	8.6	.28
28	7.1	3.4	34	27	46	37	21	16	9.3	3.0	8.1	.29
29	7.3	3.4	27	24	---	34	22	15	8.7	2.9	7.8	.32
30	7.8	3.4	27	23	---	e33	23	15	8.5	2.5	5.1	.39
31	12	---	15	24	---	e29	---	15	---	2.3	1.3	---
TOTAL	203.1	189.5	288.8	4069.4	2246	1164	741	773	412.3	158.9	98.0	17.21
MEAN	6.55	6.32	9.32	131	80.2	37.5	24.7	24.9	13.7	5.13	3.16	.57
MAX	12	8.4	34	909	343	56	38	39	34	8.6	10	1.4
MIN	5.1	3.4	3.4	8.5	11	29	19	15	8.5	2.3	1.2	.26
AC-FT	403	376	573	8070	4450	2310	1470	1530	818	315	194	34

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.98	2.53	4.52	28.3	41.2	19.0	13.0	12.8	7.41	4.02	3.45	2.59
MAX	6.55	6.32	9.32	131	173	41.0	24.7	27.0	17.6	10.8	6.20	6.02
(WY)	1993	1993	1993	1993	1980	1980	1993	1980	1980	1980	1992	1992
MIN	1.04	.84	1.24	2.78	3.38	3.79	3.22	1.94	.34	.000	.001	.17
(WY)	1990	1990	1990	1981	1991	1990	1989	1989	1989	1981	1981	1981

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1979 - 1993

ANNUAL TOTAL	3376.4	10361.21	
ANNUAL MEAN	9.23	28.4	
HIGHEST ANNUAL MEAN			11.7
LOWEST ANNUAL MEAN			28.4
HIGHEST DAILY MEAN	77	Feb 13	2.21
LOWEST DAILY MEAN	2.2	Jul 28	.00
ANNUAL SEVEN-DAY MINIMUM	2.5	Jul 16	.00
INSTANTANEOUS PEAK FLOW		1910	1910
INSTANTANEOUS PEAK STAGE		7.35	7.35
ANNUAL RUNOFF (AC-FT)	6700	20550	8450
10 PERCENT EXCEEDS	17	43	22
50 PERCENT EXCEEDS	6.7	10	3.8
90 PERCENT EXCEEDS	3.5	1.5	.50

10256500 SNOW CREEK NEAR WHITE WATER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1972-76, 1978 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM PERCENT
NOV 17...	1445	6.8	104	7.5	12.5	31	11	0.92	9.0	37
APR 19...	1500	20	78	7.6	12.0	25	8.5	0.86	6.3	34
DATE	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE WATER WH IT FIELD (MG/L AS HCO3)	CARBONATE WATER WH IT FIELD (MG/L AS CO3)	ALKALINITY WAT WH TOT IT FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 17...	0.7	1.8	67	0	55	1.3	1.4	<0.10	19	72
APR 19...	0.6	1.8	45	0	37	1.2	1.4	<0.10	20	56
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	
NOV 17...	78	0.10	0.030	0.053	0.010	0.020	<10	6	<1	
APR 19...	62	0.08	<0.010	<0.050	0.030	0.010	20	14	<1	

## SALTON SEA BASIN

10256501 SNOW CREEK NEAR WHITE WATER, CA--Continued

 SNOW CREEK AND DIVERSION  
 COMBINED DISCHARGE, IN CUBIC FEET PER SECOND,  
 WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	8.4	6.9	12	20	43	29	29	23	17	10	9.1
2	5.7	7.5	6.9	12	17	e39	e30	29	22	16	11	9.0
3	6.4	7.4	7.0	11	14	e39	33	31	21	16	10	8.9
4	6.4	7.3	7.9	9.5	e11	e37	37	31	21	16	11	8.6
5	6.2	7.1	7.9	8.9	e12	e35	38	27	34	16	11	8.5
6	6.1	7.1	7.8	236	13	e34	e30	27	27	16	10	8.5
7	6.1	7.1	13	909	17	e33	25	27	23	16	10	8.3
8	6.0	7.1	11	397	304	e31	26	26	21	15	10	8.2
9	5.9	7.2	8.9	81	147	e31	25	26	21	15	9.9	8.0
10	5.9	6.8	8.6	58	75	32	26	25	20	15	9.9	8.1
11	5.9	7.1	8.6	41	55	31	27	26	22	14	9.8	8.1
12	5.9	7.1	9.7	48	47	31	e27	27	22	14	9.6	7.9
13	6.0	7.1	8.9	148	41	30	25	29	22	13	9.6	7.9
14	6.3	7.1	8.2	207	40	35	24	30	22	13	9.5	8.0
15	6.2	7.1	e7.6	197	39	36	24	33	22	13	9.5	7.9
16	6.2	7.1	e7.6	619	33	35	23	39	21	13	9.5	7.9
17	6.2	6.8	7.4	315	e28	49	25	35	20	12	9.2	7.8
18	6.2	7.0	11	183	118	56	25	33	20	12	9.1	7.8
19	6.2	e7.3	9.2	106	343	44	24	32	20	12	9.1	7.8
20	6.2	e7.3	8.8	77	271	42	22	32	20	12	9.1	7.9
21	6.2	7.1	8.2	61	124	41	23	30	20	12	8.8	7.8
22	6.3	7.1	7.8	52	89	40	25	28	19	12	8.7	7.8
23	7.1	7.1	7.8	45	90	41	24	28	19	12	8.9	7.7
24	7.2	7.1	7.9	40	81	41	23	27	18	12	8.8	7.5
25	7.8	6.7	7.9	36	62	41	23	26	18	12	9.3	7.4
26	7.4	6.9	7.9	33	57	43	24	25	18	12	10	7.4
27	7.1	6.9	8.1	30	52	41	26	24	18	11	8.6	7.4
28	7.1	6.9	34	27	46	37	25	23	17	11	8.1	7.3
29	7.3	6.9	27	24	---	34	26	22	17	11	7.8	7.4
30	7.8	6.9	27	23	---	e33	27	22	16	11	8.0	7.4
31	12	---	15	24	---	e29	---	22	---	10	8.9	---
TOTAL	205.2	213.6	331.5	4070.4	2246	1164	791	871	624	412	292.7	239.3
MEAN	6.62	7.12	10.7	131	80.2	37.5	26.4	28.1	20.8	13.3	9.44	7.98
MAX	12	8.4	34	909	343	56	38	39	34	17	11	9.1
MIN	5.7	6.7	6.9	8.9	11	29	22	22	16	10	7.8	7.3
AC-FT	407	424	658	8070	4450	2310	1570	1730	1240	817	581	475

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.81	7.61	11.1	15.4	16.3	13.4	12.9	12.8	9.25	6.30	5.42	5.46
MAX	10.7	82.5	76.7	178	173	61.2	36.7	45.7	37.6	20.2	20.7	32.5
(WY)	1984	1966	1967	1969	1980	1978	1969	1983	1983	1983	1983	1976
MIN	2.76	2.75	3.11	3.30	3.40	3.39	3.16	2.55	2.35	2.31	2.35	2.40
(WY)	1962	1963	1963	1961	1961	1961	1961	1961	1961	1961	1960	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1921 - 1993
ANNUAL TOTAL	3927.5	11460.7	
ANNUAL MEAN	10.7	31.4	10.2
HIGHEST ANNUAL MEAN			33.0
LOWEST ANNUAL MEAN			2.96
HIGHEST DAILY MEAN	77	909	3490
LOWEST DAILY MEAN	5.6	5.7	2.1
ANNUAL SEVEN-DAY MINIMUM	5.9	6.0	2.1
INSTANTANEOUS PEAK FLOW		1910	13000
INSTANTANEOUS PEAK STAGE		7.35	13.80
ANNUAL RUNOFF (AC-FT)	7790	22730	7400
10 PERCENT EXCEEDS	20	43	16
50 PERCENT EXCEEDS	7.8	15	5.8
90 PERCENT EXCEEDS	6.2	7.1	3.2

## 10257550 WHITEWATER RIVER AT WINDY POINT, NEAR WHITE WATER, CA

LOCATION.--Lat 33°53'56", long 116°37'13", in SW 1/4 NE 1/4 sec.24, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on right bank 200 ft north of Highway 111, 2.0 mi southeast of White Water, and 3.8 mi east of the junction of Highway 111 and Interstate 10.

DRAINAGE AREA.--264 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1984 to September 1987, October 1989 to current year. Discharge measurements only, October 1987 to September 1989. Discharge measurements for the period July 1982 to September 1984 available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR CA-88-1: Drainage area.

GAGE.--Water-stage recorder and concrete control; auxiliary water-stage recorder on overflow channel since January 23, 1992. Elevation of gage is 1,040 ft above sea level, from topographic map.

REMARKS.--Records poor. Imported water is released to the Whitewater River from the Colorado River Aqueduct at a point 2.75 mi upstream for ground-water recharge in the upper Coachella Valley. Water is diverted out of the basin 18.5 mi upstream to powerplants in the San Geronio River basin and then to an area north of Banning for irrigation.

COOPERATION.--Records of diversion out of basin provided by Southern California Edison Co. Records of Colorado River Aqueduct releases provided by Coachella Valley Water District (from Metropolitan Water District's monthly reports).

EXTREMES FOR PERIOD OF RECORD.--Maximum computed discharge, 1,480 ft<sup>3</sup>/s, Mar. 1, 1991, gage height, 6.90 ft, from rating curve extended above 400 ft<sup>3</sup>/s on basis of critical-depth computation; maximum exceeded during flood of Jan. 16, 1993, but discharge is unknown; no flow for several days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown, Jan. 16, gage height, 6.17 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	5.9	.00	9.6	e.00	e53	e94	99	75	87	157	166
2	.00	2.0	.00	6.4	e.00	e68	e103	97	82	80	154	172
3	.00	1.8	.00	6.7	e.00	e80	e115	98	77	76	141	172
4	.00	2.5	.00	6.3	e.00	e78	e130	100	76	77	158	165
5	.00	2.5	.00	5.3	e.00	e72	e118	102	100	88	152	163
6	.00	56	.00	224	e.00	e70	e100	100	85	67	149	160
7	.00	237	15	e2600	e.00	e68	e110	99	76	48	142	173
8	.00	239	8.7	e840	e140	e64	e115	90	76	51	139	162
9	.00	237	.54	e19	e76	e64	e120	87	74	60	135	167
10	.00	373	.00	e4.0	e50	e68	e120	94	70	58	132	157
11	.00	516	.00	e2.0	e35	e65	e130	89	62	56	127	157
12	.00	564	.09	e1.0	e19	e65	e120	78	55	90	134	160
13	.00	504	.00	e58	e11	e61	e115	78	60	155	141	144
14	.00	534	.00	e150	e7.0	e71	e125	78	70	156	140	150
15	.00	458	.00	e100	e4.0	e76	e120	87	70	154	140	150
16	.00	454	.00	e2250	e2.0	e72	e125	95	62	189	143	146
17	.00	428	.00	e900	e1.0	e88	e130	93	62	196	143	149
18	.00	433	1.3	e200	e1.0	e99	e120	87	60	185	140	153
19	.00	448	.00	e110	e84	e96	e125	87	62	181	139	145
20	.00	446	.00	e40	e690	e91	e130	87	64	157	140	154
21	.00	421	.00	e15	e195	e94	e135	86	70	159	139	153
22	.00	423	.00	e5.0	e120	e88	124	83	70	163	138	153
23	.00	366	.00	e2.0	e73	e88	121	78	72	169	138	154
24	.15	233	.00	e1.0	e58	e82	105	81	63	188	139	157
25	.00	148	.00	e.00	e64	e78	110	82	60	170	158	156
26	.00	.00	.00	e.00	e57	e72	102	80	48	181	137	155
27	.00	.00	.00	e.00	e50	e69	97	79	74	170	160	157
28	.00	.00	74	e.00	e48	e68	97	76	69	166	174	159
29	.00	.00	66	e.00	---	e73	100	73	72	163	177	158
30	.28	.00	52	e.00	---	e81	101	68	89	158	185	157
31	17	---	18	e.00	---	e88	---	66	---	167	181	---
TOTAL	17.43	7532.70	235.63	7555.30	1785.00	2350	3457	2677	2105	4065	4572	4724
MEAN	.56	251	7.60	244	63.7	75.8	115	86.4	70.2	131	147	157
MAX	17	564	74	2600	690	99	135	102	100	196	185	173
MIN	.00	.00	.00	.00	.00	53	94	66	48	48	127	144
AC-FT	35	14940	467	14990	3540	4660	6860	5310	4180	8060	9070	9370
a	0	13757	0	0	0	0	0	0	30	6536	10339	10036
b	0	0	0	0	0	0	0	0	235	335	312	218

e Estimated.

a Discharge, in acre-feet, of imported water released to river 2.75 mi upstream.

b Discharge, in acre-feet, diverted out of basin 18.5 mi upstream.

## 10257550 WHITEWATER RIVER AT WINDY POINT, NEAR WHITE WATER, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	143	149	112	166	129	159	137	84.9	99.4	86.0	87.0	130
MAX	596	499	477	598	595	445	316	314	423	417	378	463
(WY)	1987	1987	1987	1987	1987	1987	1986	1986	1986	1986	1986	1986
MIN	.025	.000	.000	.000	3.16	3.97	.026	.000	.000	.000	.000	.000
(WY)	1992	1992	1990	1992	1991	1989	1991	1987	1987	1989	1987	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1985 - 1993			
ANNUAL TOTAL	21923.90				41076.06							
ANNUAL MEAN	59.9				113				138			
HIGHEST ANNUAL MEAN									308			
LOWEST ANNUAL MEAN									11.9			
HIGHEST DAILY MEAN	590				2600				2600			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW									1480			
INSTANTANEOUS PEAK STAGE					6.17				6.90			
ANNUAL RUNOFF (AC-FT)	43490				81470				100100			
10 PERCENT EXCEEDS	269				173				395			
50 PERCENT EXCEEDS	.66				80				3.9			
90 PERCENT EXCEEDS	.00				.00				.00			

## 10257600 MISSION CREEK NEAR DESERT HOT SPRINGS, CA

LOCATION.--Lat 34°00'40", long 116°37'38", in NE 1/4 SW 1/4 sec.12, T.2 S., R.3 E., Riverside County, Hydrologic Unit 18100200, in Mission Creek Indian Reservation, 0.6 mi downstream from West Fork, and 6.8 mi northwest of Desert Hot Springs.

DRAINAGE AREA.--35.7 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete scour limiter since November 1988. Elevation of gage is 2,400 ft above sea level, from topographic map.

REMARKS.--Records fair except those for January and February, which are poor. Slight regulation of low flow by two small dams with a combined capacity of about 3 acre-ft, 2 mi upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft<sup>3</sup>/s, Aug. 17, 1983, gage height, 3.33 ft on basis of slope-conveyance study of peak flow; maximum gage height, 6.40 ft, Jan. 25, 1969; maximum gage height since November 1988, 5.80 ft from crest-stage gage, Jan. 16, 1993, discharge not determined; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	1945	177	3.30	Feb. 20	0815	195	3.38
Jan. 16	unknown	*unknown	*5.80	Aug. 25	1015	63	2.60

No flow Jan. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	.85	1.0	1.7	7.3	e39	31	31	20	13	5.9	5.8
2	.72	.80	1.0	1.7	7.4	e38	32	31	20	13	5.7	6.5
3	.83	.75	1.0	1.7	7.4	e37	34	31	20	12	5.7	6.5
4	.83	.80	1.4	1.6	7.3	e36	35	31	19	12	5.8	6.2
5	.80	.81	1.3	1.5	7.5	34	36	30	21	12	5.6	5.8
6	.75	.82	1.3	5.5	7.8	34	34	29	21	12	5.5	5.7
7	.70	.84	2.7	29	8.9	34	32	28	20	12	5.5	5.5
8	.75	.84	1.8	e80	18	34	31	28	19	10	5.5	5.3
9	.74	.88	1.6	e4.0	14	34	30	27	18	10	5.3	5.1
10	.66	.90	1.5	e.50	e20	34	30	27	17	10	5.1	5.0
11	.63	.89	1.4	.00	e17	34	30	26	17	9.7	4.9	4.9
12	.60	.89	1.5	.06	18	34	30	26	17	9.6	4.8	4.8
13	.63	.84	1.4	9.0	17	33	30	26	17	9.5	4.9	4.9
14	.65	.80	1.4	25	18	35	30	26	16	9.3	4.8	4.9
15	.72	.78	1.4	e10	18	35	31	26	16	9.1	4.8	4.9
16	.70	.75	1.4	e150	17	35	31	27	16	9.1	4.6	4.9
17	.67	.74	1.4	65	17	36	31	26	16	8.8	4.3	4.9
18	.66	.80	1.6	85	27	38	32	25	15	8.6	4.2	4.9
19	.65	.80	1.4	e58	82	37	32	24	15	8.4	4.0	4.7
20	.66	.76	1.3	e43	e76	36	31	24	15	8.3	4.0	4.5
21	.78	.85	1.3	e24	e63	36	32	24	15	8.2	4.0	4.2
22	.79	.87	1.2	e20	e56	36	32	24	15	8.0	3.8	4.1
23	.78	.90	1.2	e14	e53	37	32	24	14	7.7	3.7	3.8
24	.83	.96	1.2	e11	e48	37	32	23	14	7.4	3.8	3.7
25	.81	.99	1.2	e10	e45	37	31	23	14	6.8	12	3.7
26	.78	1.0	1.2	e8.2	e43	36	31	23	13	6.9	6.0	3.5
27	.79	1.0	1.3	e7.8	e41	34	32	23	13	6.9	5.4	3.4
28	.83	1.0	2.1	6.6	e40	33	31	22	13	6.7	6.2	3.4
29	.84	.96	2.6	6.2	---	32	31	22	13	6.6	5.7	3.4
30	.96	1.0	2.1	6.7	---	31	31	21	13	6.4	5.3	3.4
31	.91	---	1.7	7.6	---	31	---	21	---	6.2	5.1	---
TOTAL	23.20	25.87	45.9	694.36	801.6	1087	948	799	492	284.2	161.9	142.3
MEAN	.75	.86	1.48	22.4	28.6	35.1	31.6	25.8	16.4	9.17	5.22	4.74
MAX	.96	1.0	2.7	150	82	39	36	31	21	13	12	6.5
MIN	.60	.74	1.0	.00	7.3	31	30	21	13	6.2	3.7	3.4
AC-FT	46	51	91	1380	1590	2160	1880	1580	976	564	321	282

e Estimated.

## 10257600 MISSION CREEK NEAR DESERT HOT SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.80	1.04	1.08	3.82	9.83	7.45	5.96	4.93	3.21	2.15	1.69	1.01
MAX	3.83	4.54	4.51	29.2	174	49.6	31.6	25.8	16.4	10.1	5.42	4.74
(WY)	1970	1984	1979	1980	1980	1980	1993	1993	1993	1980	1983	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1968	1969	1969	1968	1968	1989	1968	1968	1968	1972	1968	1968

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1968 - 1993		
ANNUAL TOTAL	742.88			5505.33					
ANNUAL MEAN	2.03			15.1			3.54		
HIGHEST ANNUAL MEAN							28.3		
LOWEST ANNUAL MEAN							.000		
HIGHEST DAILY MEAN	24	Apr	14	150	Jan	16	540	Feb	18 1980
LOWEST DAILY MEAN	.00	Jan	8	.00	Jan	11	.00	Oct	1 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Feb	14	.66	Oct	10	.00	Oct	1 1967
INSTANTANEOUS PEAK FLOW				--	Jan	16	1750	Aug	17 1983
INSTANTANEOUS PEAK STAGE				5.80	Jan	16	5.80	Jan	16 1993
ANNUAL RUNOFF (AC-FT)	1470			10920			2570		
10 PERCENT EXCEEDS	4.2			34			7.2		
50 PERCENT EXCEEDS	1.4			8.0			.44		
90 PERCENT EXCEEDS	.00			.81			.00		

10257720 CHINO CANYON CREEK BELOW TRAMWAY, NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°50'39", long 116°36'16", in NW 1/4 NE 1/4 sec.7, T.4 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on left bank 0.5 mi downstream from tram building, 3.5 mi west of Highway 111 on road leading to Palm Springs aerial tramway, and 5.5 mi west of Palm Springs.

DRAINAGE AREA.--4.71 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year.

REVISED RECORDS.--WDR CA-89-1: 1987(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft above sea level, from topographic map.

REMARKS.--Records fair. Two small diversions 2 mi upstream, one for city of Palm Springs and one for Palm Springs aerial tramway.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153 ft<sup>3</sup>/s, Jan. 7, 1993, gage height, 10.18 ft, from rating curve extended above 35 ft<sup>3</sup>/s on basis of critical depth computation; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 153 ft<sup>3</sup>/s, Jan. 7, gage height, 10.18 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	6.8	19	5.6	3.1	1.2	.02	.00	2.8
2	.00	.00	.00	.00	6.3	16	5.2	3.1	1.2	.02	.00	2.0
3	.00	.00	.00	.00	5.6	14	5.2	3.1	.83	.02	.00	.82
4	.00	.00	.00	.00	5.0	12	5.2	3.1	.74	.02	.00	.73
5	.00	.00	.00	.00	4.6	11	5.2	3.1	1.9	.01	.00	.90
6	.00	.00	.00	2.3	4.6	11	5.2	3.1	3.4	.02	.00	.85
7	.00	.00	.00	e43	4.7	10	4.7	3.1	2.6	.01	.00	1.0
8	.00	.00	.00	e27	23	9.5	4.0	2.8	.87	.00	.00	1.4
9	.00	.00	.00	e19	21	9.5	4.0	2.6	.63	.00	.00	1.8
10	.00	.00	.00	13	20	9.0	4.0	2.4	.41	.00	.00	1.8
11	.00	.00	.00	11	18	8.6	4.0	2.6	.31	.00	.00	1.5
12	.00	.00	.00	9.3	16	8.5	3.9	2.3	.31	.00	.00	1.5
13	.00	.00	.00	9.5	14	8.5	3.5	2.4	.36	.00	.00	1.5
14	.00	.00	.00	12	14	8.5	3.6	2.3	.40	.00	.00	1.5
15	.00	.00	.00	14	14	8.0	3.8	2.2	.54	.00	.00	1.5
16	.00	.00	.00	28	13	7.6	3.4	1.5	.46	.00	.00	1.6
17	.00	.00	.00	49	12	7.6	3.3	1.5	.58	.00	.00	1.6
18	.00	.00	.00	37	14	7.6	3.5	1.4	.14	.00	.00	1.5
19	.00	.00	.00	25	25	7.1	3.5	2.1	.14	.01	.00	1.5
20	.00	.00	.00	20	46	7.2	3.5	2.0	.20	.00	.00	1.5
21	.00	.00	.00	16	30	7.1	3.3	2.1	.27	.00	.00	1.4
22	.00	.00	.00	14	32	6.4	3.1	1.7	.12	.00	.00	1.5
23	.00	.00	.00	13	30	6.5	3.1	1.6	.20	.00	.00	1.3
24	.00	.00	.00	12	28	6.7	3.1	1.6	.23	.00	.00	1.2
25	.00	.00	.00	11	25	6.7	3.1	1.4	.17	.00	2.0	1.2
26	.00	.00	.00	9.0	24	6.7	3.1	1.3	.06	.00	3.1	1.1
27	.00	.00	.00	8.5	22	6.7	3.1	1.1	.04	.07	3.1	1.0
28	.00	.00	.00	8.0	21	6.7	3.1	1.1	.04	.00	3.1	1.3
29	.00	.00	.00	7.5	---	6.7	3.1	1.1	.03	.00	3.1	1.2
30	.00	.00	.00	7.5	---	6.7	3.1	.98	.03	.00	2.9	1.0
31	.00	---	.00	7.6	---	6.3	---	1.0	---	.00	2.7	---
TOTAL	0.00	0.00	0.00	433.20	499.6	273.4	115.5	64.78	18.41	0.20	20.00	41.50
MEAN	.0000	.0000	.0000	14.0	17.8	8.82	3.85	2.09	.61	.006	.65	1.38
MAX	.00	.00	.00	49	46	19	5.6	3.1	3.4	.07	3.1	2.8
MIN	.00	.00	.00	.00	4.6	6.3	3.1	.98	.03	.00	.00	.73
AC-FT	.00	.00	.00	859	991	542	229	128	37	.4	40	82

e Estimated.

10257720 CHINO CANYON CREEK BELOW TRAMWAY, NEAR PALM SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.27	.41	.37	2.50	3.16	2.04	1.11	.55	.19	.052	.16	.24
MAX	1.00	1.32	1.22	14.0	17.8	8.82	3.85	2.09	.61	.28	.65	1.38
(WY)	1987	1987	1987	1993	1993	1993	1993	1993	1993	1987	1993	1993
MIN	.000	.000	.000	.031	.096	.28	.11	.057	.000	.000	.000	.000
(WY)	1991	1991	1991	1991	1991	1989	1989	1989	1992	1989	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1987 - 1993			
ANNUAL TOTAL	96.50				1466.59							
ANNUAL MEAN	.26				4.02				.91			
HIGHEST ANNUAL MEAN									4.02			
LOWEST ANNUAL MEAN									.19			
HIGHEST DAILY MEAN	1.5 Feb 7				49 Jan 17				49 Jan 17 1993			
LOWEST DAILY MEAN	.00 May 21				.00 Oct 1				.00 Jun 15 1989			
ANNUAL SEVEN-DAY MINIMUM	.00 May 21				.00 Oct 1				.00 Jun 15 1989			
INSTANTANEOUS PEAK FLOW					153 Jan 7				153 Jan 7 1993			
INSTANTANEOUS PEAK STAGE					10.18 Jan 7				10.18 Jan 7 1993			
ANNUAL RUNOFF (AC-FT)	191				2910				658			
10 PERCENT EXCEEDS	.98				12				1.3			
50 PERCENT EXCEEDS	.00				1.0				.22			
90 PERCENT EXCEEDS	.00				.00				.00			

10257720 CHINO CANYON CREEK BELOW TRAMWAY, NEAR PALM SPRINGS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
APR 21...	1515	3.1	235	8.3	17.5	96	33	3.4	11	19

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	CAR- BONATE WATER WH IT FIELD MG/L AS CO3	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
APR 21...	0.5	5.4	128	1	107	8.7	3.2	0.10	20	132

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
APR 21...	150	0.18	<0.010	0.240	0.030	<0.010	30	<3	<1

## 10258000 TAHQUITZ CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°48'18", long 116°33'30", in SW 1/4 SW 1/4 sec.22, T.4 S., R.4 E., Riverside County, Hydrologic Unit 18100200, 2.2 mi southwest of Palm Springs and 7 mi upstream from mouth.

DRAINAGE AREA.--16.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to September 1982, October 1983 to current year.

REVISED RECORDS.--WSP 1244: 1948, 1951. WDR CA-88-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 762.5 ft above sea level (levels by Riverside County Flood Control District). Prior to Aug. 25, 1970, at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,900 ft<sup>3</sup>/s, Nov. 22, 1965, Jan. 25, 1969, gage height, 12.34 ft, from rating curve extended above 70 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 10.45 and 12.34 ft; maximum gage height, 15.78 ft, Sept. 7, 1981, from debris wave produced by thunderstorm following a brushfire; no flow for parts of most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 85 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	2230	*1,100	*10.10	Feb. 19	0230	133	6.94
Jan. 16	2200	502	8.74	May 16	1745	101	6.49
Feb. 8	0530	224	7.63				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.26	1.7	25	37	39	69	34	12	4.5	2.7
2	.00	.00	.27	1.4	24	35	40	70	33	12	4.3	2.8
3	.00	.12	.28	1.4	23	35	43	72	31	11	4.2	2.7
4	.00	.23	.83	1.1	22	33	48	72	30	11	4.2	2.5
5	.00	.11	.75	1.0	22	32	50	64	36	11	4.2	2.3
6	.00	.07	.57	32	21	32	46	62	36	10	4.3	2.2
7	.00	.07	2.2	402	23	31	46	62	32	9.8	4.3	2.1
8	.00	.00	1.6	331	116	32	47	61	30	9.3	3.8	1.9
9	.00	.04	.75	76	72	32	49	60	28	9.1	3.6	1.8
10	.00	.10	.65	49	55	32	50	59	27	8.8	3.5	1.8
11	.00	.13	.63	34	47	32	53	59	26	8.5	3.4	1.7
12	.00	.14	.57	32	43	32	51	60	25	8.2	3.1	1.7
13	.00	.16	.56	70	40	32	50	61	24	8.0	3.0	1.6
14	.00	.18	.54	79	38	35	49	63	23	7.7	3.0	1.6
15	.00	.17	.56	82	36	36	49	62	22	7.5	3.0	1.7
16	.00	.17	.56	308	33	37	49	74	21	7.3	3.0	1.9
17	.00	.17	.55	248	32	41	52	66	21	7.1	3.0	1.8
18	.00	.18	.62	139	48	43	54	62	20	6.9	2.8	1.8
19	.00	.18	.61	99	102	43	55	60	19	6.8	2.8	1.7
20	.00	.19	.58	80	93	43	57	58	19	6.6	2.7	1.7
21	.00	.20	.57	68	73	45	62	55	18	6.5	2.6	1.6
22	.00	.21	.55	59	63	47	63	51	17	6.4	2.5	1.5
23	.00	.21	.53	50	58	47	61	50	17	6.2	2.4	1.4
24	.00	.23	.51	44	53	47	59	47	16	6.0	2.5	1.3
25	.00	.25	.51	40	47	48	59	45	15	6.0	3.2	1.3
26	.00	.25	.51	37	45	48	63	43	15	5.8	3.8	1.2
27	.00	.26	.55	34	42	45	65	40	14	5.6	3.5	1.2
28	.00	.26	2.9	32	39	42	63	38	13	5.4	3.2	1.1
29	.00	.26	3.0	30	---	40	64	37	13	5.2	3.1	1.1
30	.00	.26	3.1	29	---	38	67	36	12	4.9	3.0	1.1
31	.00	---	2.2	29	---	38	---	35	---	4.7	2.7	---
TOTAL	0.00	4.80	28.87	2519.6	1335	1190	1603	1753	687	241.3	103.2	52.8
MEAN	.000	.16	.93	81.3	47.7	38.4	53.4	56.5	22.9	7.78	3.33	1.76
MAX	.00	.26	3.1	402	116	48	67	74	36	12	4.5	2.8
MIN	.00	.00	.26	1.0	21	31	39	35	12	4.7	2.4	1.1
AC-FT	.00	9.5	57	5000	2650	2360	3180	3480	1360	479	205	105

## 10258000 TAHQUITZ CREEK NEAR PALM SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.57	1.85	3.74	6.51	7.84	7.53	11.0	14.3	7.08	2.23	.96	.74
MAX	8.64	43.1	72.5	81.3	117	56.4	57.3	78.3	58.0	24.9	6.36	4.88
(WY)	1984	1966	1967	1993	1980	1980	1969	1969	1980	1980	1980	1976
MIN	.000	.000	.000	.000	.21	.17	.063	.000	.000	.000	.000	.000
(WY)	1948	1948	1948	1948	1964	1961	1961	1961	1961	1956	1948	1948

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1948 - 1993	
ANNUAL TOTAL	1057.11		9518.57		5.35	
ANNUAL MEAN	2.89		26.1		32.9	
HIGHEST ANNUAL MEAN					.088	
LOWEST ANNUAL MEAN					1080	
HIGHEST DAILY MEAN	18	Apr 27	402	Jan 7		Jan 25 1969
LOWEST DAILY MEAN	.00	Aug 25	.00	Oct 1		Oct 1 1947
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 25	.00	Oct 1		Oct 1 1947
INSTANTANEOUS PEAK FLOW			1100	Jan 7	2900	Nov 22 1965
INSTANTANEOUS PEAK STAGE			10.10	Jan 7	15.78	Sep 7 1981
ANNUAL RUNOFF (AC-FT)	2100		18880		3880	
10 PERCENT EXCEEDS	9.3		62		12	
50 PERCENT EXCEEDS	.75		9.8		.90	
90 PERCENT EXCEEDS	.00		.07		.00	

## SALTON SEA BASIN

10258500 PALM CANYON CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°44'42", long 116°32'05", in SW 1/4 SE 1/4 sec.11, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on right bank 0.8 mi upstream from Murray Canyon Creek and 6 mi south of Palm Springs.

DRAINAGE AREA.--93.1 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1930 to January 1942, October 1947 to current year.

REVISED RECORDS.--WSP 1314: 1936(M). WDR CA-88-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft above sea level, from topographic map. Prior to Jan. 14, 1942, at datum 0.2 ft higher.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 7.29 ft, from rating curve extended above 650 ft<sup>3</sup>/s on basis of slope-area measurements at gage height 6.38 ft and 6.81 ft; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0730	2,170	5.48	Feb. 8	0730	428	3.40
Jan. 16	2115	*4,950	*7.05	Feb. 20	0130	2,300	5.58

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.85	41	108	24	e8.5	5.4	.16	.00	.00
2	.00	.00	.00	.78	34	97	23	e9.0	5.1	.24	.00	.00
3	.00	.00	.00	.80	30	90	21	e9.5	5.9	.43	.00	.00
4	.00	.00	.00	.68	28	82	20	e10	5.9	.24	.00	.00
5	.00	.00	.00	.64	25	75	19	e12	5.2	.29	.00	.00
6	.00	.00	.00	70	24	69	19	e10	4.9	.25	.00	.00
7	.00	.00	.00	1200	23	64	18	9.0	4.8	.13	.00	.00
8	.00	.00	.67	604	234	59	16	8.9	4.8	.04	.00	.00
9	.00	.00	.09	67	225	55	15	8.8	4.4	.00	.00	.00
10	.00	.00	.00	48	139	52	14	8.9	4.1	.06	.00	.00
11	.00	.00	.00	39	100	48	12	8.8	3.7	.01	.00	.00
12	.00	.00	.00	22	81	45	12	8.8	3.5	.00	.00	.00
13	.00	.00	.00	43	70	44	11	8.8	3.4	.00	.00	.00
14	.00	.00	.00	138	64	42	10	8.7	3.2	.00	.00	.00
15	.00	.00	.00	248	62	40	9.5	9.1	2.9	.00	.00	.00
16	.00	.00	.00	1660	53	38	9.0	12	2.5	.00	.00	.00
17	.00	.00	.00	679	47	37	8.7	8.8	2.4	.00	.00	.00
18	.00	.00	.00	477	69	36	8.6	8.2	2.4	.00	.00	.00
19	.00	.00	.00	242	432	33	8.6	8.1	2.2	.00	.00	.00
20	.00	.00	.00	155	870	32	8.6	8.0	1.7	.00	.00	.00
21	.00	.00	.00	116	298	31	8.7	7.8	1.6	.00	.00	.00
22	.00	.00	.00	90	196	29	8.8	7.5	1.7	.00	.00	.00
23	.00	.00	.00	71	180	28	9.0	7.2	1.6	.00	.00	.00
24	.00	.00	.00	56	214	27	8.9	7.1	1.2	.00	.00	.00
25	.00	.00	.00	47	158	27	9.1	7.0	.85	.00	.20	.00
26	.00	.00	.00	41	145	30	9.1	6.9	.60	.00	.33	.00
27	.00	.00	.00	37	136	42	8.8	6.7	.43	.00	.15	.00
28	.00	.00	1.3	32	120	33	e8.4	6.7	.27	.00	.00	.00
29	.00	.00	.94	29	---	29	e8.2	6.3	.12	.00	.00	.00
30	.00	.00	1.3	27	---	27	e8.0	5.7	.12	.00	.00	.00
31	.00	---	1.2	56	---	26	---	5.6	---	.00	.00	---
TOTAL	0.00	0.00	5.50	6297.75	4098	1475	374.0	258.4	86.89	1.85	0.68	0.00
MEAN	.000	.000	.18	203	146	47.6	12.5	8.34	2.90	.060	.022	.000
MAX	.00	.00	1.3	1660	870	108	24	12	5.9	.43	.33	.00
MIN	.00	.00	.00	.64	23	26	8.0	5.6	.12	.00	.00	.00
AC-FT	.00	.00	11	12490	8130	2930	742	513	172	3.7	1.3	.00

e Estimated.

## 10258500 PALM CANYON CREEK NEAR PALM SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.38	.90	4.16	8.68	20.1	18.9	7.52	2.21	.68	.80	1.00	.86
MAX	5.95	20.6	39.6	203	318	188	80.8	24.1	9.87	15.1	33.0	19.5
(WY)	1984	1966	1983	1993	1980	1983	1958	1983	1980	1979	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1933	1950	1951	1951	1951	1934	1934	1931	1931	1932	1930

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1930 - 1993	
ANNUAL TOTAL	374.71		12598.07		5.47	
ANNUAL MEAN	1.02		34.5		47.4	
HIGHEST ANNUAL MEAN					.000	
LOWEST ANNUAL MEAN					1980	
HIGHEST DAILY MEAN	43	Feb 15	1660	Jan 16	2040	Feb 21 1980
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jul 16 1930
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.00	Oct 1	.00	Jul 16 1930
INSTANTANEOUS PEAK FLOW			4950	Jan 16	7000	Feb 21 1980
INSTANTANEOUS PEAK STAGE			7.05	Jan 16	7.29	Feb 21 1980
ANNUAL RUNOFF (AC-FT)	743		24990		3960	
10 PERCENT EXCEEDS	2.5		68		6.4	
50 PERCENT EXCEEDS	.00		.43		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 10259000 ANDREAS CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°45'36", long 116°32'57", in SE 1/4 SE 1/4 sec.3, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on left bank at U.S. Bureau of Indian Affairs Diversion Dam, 1.1 mi upstream from mouth, and 5.1 mi south of Palm Springs.

DRAINAGE AREA.--8.65 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1948 to current year.

REVISED RECORDS.--WDR CA-88-1: Drainage area. WDR CA-91-1: 1986(M), 1988(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 800 ft above sea level, from topographic map. Prior to Mar. 25, 1949, reference point at same site at different datum.

REMARKS.--Records fair. No regulation upstream from station. One small diversion for domestic use about 1 mi upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,960 ft<sup>3</sup>/s, Aug. 31, 1954, gage height, 7.11 ft, from rating curve extended above 80 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 100 ft<sup>3</sup>/s by theoretical computations of flow over weir:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	1930	<sup>1</sup> *592	*4.79	Feb. 8	0530	81	3.31
Jan. 16	2045	290	4.58	Feb. 20	0100	78	3.29

Minimum daily, 0.89 ft<sup>3</sup>/s, Oct. 2.

<sup>1</sup>100 ft<sup>3</sup>/s bypassed gage and control at peak, due to effect of debris in channel upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.5	1.7	3.1	18	20	12	9.7	5.8	3.6	3.0	3.0
2	.89	1.4	1.7	3.1	17	19	12	10	5.7	3.7	2.9	2.9
3	.96	1.4	2.0	2.9	16	19	12	11	5.7	3.6	3.0	2.8
4	.97	1.4	3.2	2.7	15	18	12	11	5.6	3.6	2.9	2.7
5	.97	1.4	2.2	2.6	15	18	12	9.9	6.4	3.6	2.4	2.7
6	.96	1.4	2.0	33	14	17	12	8.6	6.5	3.6	3.0	4.7
7	.93	1.4	4.3	e195	14	17	11	8.4	6.0	3.4	2.9	3.8
8	.94	1.4	3.2	104	41	18	11	8.2	5.7	3.4	2.9	2.6
9	.96	1.5	2.4	33	30	18	11	7.9	5.3	3.4	3.3	2.5
10	1.0	1.5	2.3	25	24	17	11	7.6	5.1	3.5	3.3	2.6
11	1.1	1.5	2.2	19	22	15	11	7.6	4.9	3.3	3.3	2.6
12	.96	1.5	2.3	19	21	15	10	7.6	4.8	3.2	2.8	2.6
13	.98	1.5	2.2	32	19	15	10	14	4.8	3.2	3.0	2.6
14	1.1	1.5	2.1	62	19	15	9.9	16	4.6	3.2	3.2	2.9
15	1.1	1.5	2.1	71	18	15	9.9	7.5	4.4	3.1	3.1	3.0
16	1.1	1.5	2.1	191	18	14	10	8.5	4.3	3.1	3.0	3.0
17	1.1	1.5	2.1	139	16	15	10	7.8	4.3	3.1	2.9	3.0
18	1.1	1.5	2.6	88	21	15	10	7.2	4.3	3.0	2.8	2.9
19	1.1	1.5	2.2	65	42	14	10	e7.1	4.2	3.0	2.8	2.8
20	1.1	1.6	2.1	53	54	14	10	e7.0	4.1	3.0	2.7	2.7
21	1.3	1.6	2.1	45	33	14	10	e6.9	4.6	3.1	2.7	2.7
22	1.3	1.7	2.1	38	29	13	10	e6.8	4.3	3.1	2.7	2.7
23	1.7	1.8	2.0	33	28	13	10	e6.7	4.0	3.1	2.7	2.6
24	1.5	1.8	2.0	30	27	13	10	e6.6	3.9	3.1	2.8	2.6
25	1.4	1.7	2.0	27	24	13	9.6	6.5	3.8	3.1	4.0	2.5
26	1.3	1.7	2.0	26	23	13	9.6	6.4	3.9	3.2	3.5	2.4
27	1.3	1.7	2.1	23	22	13	9.6	6.2	3.7	3.7	3.2	2.3
28	1.3	1.7	8.5	20	21	13	9.6	6.1	3.6	3.7	3.1	2.3
29	1.4	1.7	5.2	19	---	12	9.5	6.0	3.5	3.6	3.1	2.4
30	1.6	1.7	5.3	18	---	12	9.5	6.0	3.5	3.4	3.1	2.4
31	2.0	---	3.7	19	---	12	---	5.7	---	3.0	3.0	---
TOTAL	36.32	46.5	84.0	1441.4	661	469	314.2	252.5	141.3	102.7	93.1	83.3
MEAN	1.17	1.55	2.71	46.5	23.6	15.1	10.5	8.15	4.71	3.31	3.00	2.78
MAX	2.0	1.8	8.5	195	54	20	12	16	6.5	3.7	4.0	4.7
MIN	.89	1.4	1.7	2.6	14	12	9.5	5.7	3.5	3.0	2.4	2.3
AC-FT	72	92	167	2860	1310	930	623	501	280	204	185	165

e Estimated.

## 10259000 ANDREAS CREEK NEAR PALM SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.32	2.20	3.21	4.88	5.74	5.93	4.49	3.07	1.97	1.41	1.42	1.27
MAX	5.60	19.2	30.2	46.5	56.4	33.7	20.0	17.4	12.4	7.51	9.52	6.05
(WY)	1984	1966	1967	1993	1980	1980	1983	1983	1983	1983	1983	1983
MIN	.38	.60	.96	.95	1.02	.99	.68	.51	.23	.087	.14	.24
(WY)	1966	1963	1963	1976	1961	1961	1961	1961	1961	1961	1963	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1949 - 1993	
ANNUAL TOTAL	768.02		3725.32			
ANNUAL MEAN	2.10		10.2		3.06	
HIGHEST ANNUAL MEAN					12.4	
LOWEST ANNUAL MEAN					.66	
HIGHEST DAILY MEAN	14	Feb 13	195	Jan 7	395	Dec 6 1966
LOWEST DAILY MEAN	.82	Sep 29	.89	Oct 2	.00	Jun 27 1961
ANNUAL SEVEN-DAY MINIMUM	.85	Sep 25	.94	Oct 1	.00	Jul 13 1963
INSTANTANEOUS PEAK FLOW			592	Jan 7	1960	Aug 31 1954
INSTANTANEOUS PEAK STAGE			4.79	Jan 7	7.11	Aug 31 1954
ANNUAL RUNOFF (AC-FT)	1520		7390		2220	
10 PERCENT EXCEEDS	4.1		20		5.4	
50 PERCENT EXCEEDS	1.7		3.7		1.6	
90 PERCENT EXCEEDS	.94		1.5		.53	

## 10259050 PALM CANYON WASH NEAR CATHEDRAL CITY, CA

LOCATION.--Lat 33°47'49", long 116°28'44", in SE 1/4 NE 1/4 sec.29, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on right bank 500 ft downstream from Golf Club Drive, 0.4 mi upstream from Whitewater River, and 1.5 mi northeast of Cathedral City.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--January 1988 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 330 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation upstream from station. Two diversions for domestic use upstream from station on Andreas Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 8.70 ft, from rating curve extended above 1,060 ft<sup>3</sup>/s; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,280 ft<sup>3</sup>/s, Jan. 16, gage height 8.70 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e.00	e.00	.00	8.3	.00	.00	.00	.00
2	.00	.00	.00	.00	e.00	e.00	.00	7.6	.00	.00	.00	.00
3	.00	.00	.00	.00	e.00	e.00	.00	7.4	.00	.00	.00	.00
4	.00	.00	.00	.00	e.00	e.00	.00	10	.00	.00	.00	.00
5	.00	.00	.00	.00	e.00	e.00	.00	5.0	.00	.00	.00	.00
6	.00	.00	.00	49	e.00	e.00	.00	3.9	.00	.00	.00	.00
7	.00	.00	14	e1500	e40	e.00	.00	3.0	.00	.00	.00	.00
8	.00	.00	.00	e932	e75	e.00	.00	2.4	.00	.00	.00	.00
9	.00	.00	.00	64	e15	e.00	.00	1.9	.00	.00	.00	.00
10	.00	.00	.00	49	e2.0	e.00	.00	1.4	.00	.00	.00	.00
11	.00	.00	.00	15	e.00	e.00	.00	1.3	.00	.00	.00	.00
12	.00	.00	.00	14	e.00	e.00	.00	1.1	.00	.00	.00	.00
13	.00	.00	.00	37	e.00	e.00	.00	.84	.00	.00	.00	.00
14	.00	.00	.00	69	e.00	e.00	.00	1.8	.00	.00	.00	.00
15	.00	.00	.00	e200	e3.0	e.00	.00	1.2	.00	.00	.00	.00
16	.00	.00	.00	e1700	e.00	e.00	.00	4.7	.00	.00	.00	.00
17	.00	.00	.00	e1100	e.00	e.00	.00	5.6	.00	.00	.00	.00
18	.00	.00	.00	e360	e200	e.00	.00	1.3	.00	.00	.00	.00
19	.00	.00	.00	e100	e500	e.00	.00	.85	.03	.00	.00	.00
20	.00	.00	.00	e45	e100	.00	19	.34	.00	.00	.00	.00
21	.00	.00	.00	e12	e15	.00	32	.00	.00	.00	.00	.00
22	.00	.00	.00	e3.0	e2.0	.00	15	.00	.00	.00	.00	.00
23	.00	.00	.00	e.80	e35	.00	8.0	.00	.00	.00	.00	.00
24	.00	.00	.00	e.30	e.00	.00	5.3	.00	.00	.00	.00	.00
25	.00	.00	.00	e.00	e.00	.00	3.4	.00	.00	.00	.00	.00
26	.00	.00	.00	e.00	e.00	.00	4.6	.00	.00	.00	.00	.00
27	.00	.00	.00	e.00	e.00	.00	6.6	.00	.00	.00	.00	.00
28	.00	.00	.00	e.00	e.00	.00	5.9	.00	.00	.00	.00	.00
29	.00	.00	.00	e.00	---	.00	7.3	.00	.00	.00	.00	.00
30	.00	.00	.00	e.00	---	.00	7.2	.00	.00	.00	.00	.00
31	.00	---	.00	e13	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	14.00	6263.10	987.00	0.00	114.30	69.93	0.03	0.00	0.00	0.00
MEAN	.000	.000	.45	202	35.2	.000	3.81	2.26	.001	.000	.000	.000
MAX	.00	.00	14	1700	500	.00	32	10	.03	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	28	12420	1960	.00	227	139	.06	.00	.00	.00

e Estimated.

## 10259050 PALM CANYON WASH NEAR CATHEDRAL CITY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.075	33.7	6.17	2.53	.63	.38	.000	.086	.53	.000
MAX	.000	.000	.45	202	35.2	14.9	3.81	2.26	.001	.52	1.77	.000
(WY)	1988	1988	1993	1993	1993	1991	1993	1993	1993	1991	1989	1988
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1988	1988	1989	1988	1988	1988	1988	1988	1990	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1988 - 1993		
ANNUAL TOTAL	58.22			7448.36					
ANNUAL MEAN	.16			20.4			3.69		
HIGHEST ANNUAL MEAN							20.4		
LOWEST ANNUAL MEAN							.000		
HIGHEST DAILY MEAN	14	Dec	7	1700	Jan	16	1700	Jan	16 1993
LOWEST DAILY MEAN	.00	Jan	1	.00	Oct	1	.00	Oct	1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Jan	1	.00	Oct	1	.00	Oct	1 1987
INSTANTANEOUS PEAK FLOW				8280	Jan	16	8280	Jan	16 1993
INSTANTANEOUS PEAK STAGE				8.70	Jan	16	8.70	Jan	16 1993
ANNUAL RUNOFF (AC-FT)	115			14770			2680		
10 PERCENT EXCEEDS	.00			6.8			.00		
50 PERCENT EXCEEDS	.00			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 10259100 WHITEWATER RIVER AT RANCHO MIRAGE, CA

LOCATION.--Lat 33°44'58", Long 116°25'19", in NW 1/4 SW 1/4 sec.12, T.5 S., R.5 E., Riverside County, Hydrologic Unit 18100200, on right bank 0.2 mi upstream from Magnesia Spring Canyon storm channel and 2.7 mi northwest of the intersection of Highways 111 and 74.

DRAINAGE AREA.--588 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1989 to current year.

REVISED RECORDS.--WDR CA-93-1: 1989-92(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 230 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation upstream from station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs. Water from the Colorado River basin is imported for ground-water recharge and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,700 ft<sup>3</sup>/s, Jan. 7, 1993, gage height, 5.93 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,700 ft<sup>3</sup>/s, Jan. 7, gage height, 5.93 ft; no flow for many days.

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in the reports for 1989-92.

Water year	Date	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
1989	Aug. 10, 1989	614	3.09
1990	Jan. 17, 1990	1.6	1.06
1991	Mar. 1, 1991	2,560	3.92
1992	Feb. 6, 1992	131	2.38

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.01	.03	.00	1.5	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.93	.00	.00	.00	.00
4	.00	.00	1.0	.00	.00	.00	.00	1.8	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.74	.00	.00	.00	.00
6	.00	.00	.00	21	.00	.00	.00	.20	.00	.00	.00	.00
7	.00	.00	2.5	3470	.09	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.83	4160	128	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	20	72	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	11	6.8	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.96	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.10	.00	.02	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	12	.00	.14	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	214	.07	.00	.00	1.4	.00	.00	.00	.00
15	.00	.00	.00	151	1.3	.00	.00	.16	.00	.00	.00	.00
16	.00	.00	.00	4820	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	2000	.00	.00	.00	.27	.00	.00	.00	.00
18	.00	.00	.00	446	10	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	94	346	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	18	838	.08	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	2.1	54	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.01	1.8	.00	.64	.00	.00	.00	.00	.00
23	.50	.00	.00	.00	.37	.00	.97	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	6.1	.00	.80	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.25	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.31	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.84	.00	.00	.00	.00	.00
28	.00	.00	1.1	.00	.00	.00	.84	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.86	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.27	.88	.00	.00	.00	.00	.00
31	.00	---	.00	2.4	---	.12	---	.00	---	.00	.00	---
TOTAL	0.50	0.00	5.43	15441.61	1465.50	0.66	6.39	8.50	0.00	0.00	0.00	0.00
MEAN	.016	.000	.18	498	52.3	.021	.21	.27	.000	.000	.000	.000
MAX	.50	.00	2.5	4820	838	.27	.97	1.8	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.0	.00	11	30630	2910	1.3	13	17	.00	.00	.00	.00

10259100 WHITEWATER RIVER AT RANCHO MIRAGE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.004	.005	.068	125	13.7	2.33	.083	.055	.000	.005	.16	.056
MAX	.016	.021	.18	498	52.3	8.44	.21	.27	.000	.026	.78	.28
(WY)	1993	1990	1993	1993	1993	1991	1993	1993	1991	1991	1989	1991
MIN	.000	.000	.006	.012	.016	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1991	1991	1990	1990	1990	1989	1989	1989	1989	1990	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1989 - 1993		
ANNUAL TOTAL	87.92			16928.59					
ANNUAL MEAN	.24			46.4			11.9		
HIGHEST ANNUAL MEAN							46.4 1993		
LOWEST ANNUAL MEAN							.005 1990		
HIGHEST DAILY MEAN	22	Mar	2	4820	Jan	16	4820	Jan	16 1993
LOWEST DAILY MEAN	.00	Jan	1	.00	Oct	1	.00	Mar	30 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jan	6	.00	Oct	1	.00	Mar	30 1989
INSTANTANEOUS PEAK FLOW				27700	Jan	7	27700	Jan	7 1993
INSTANTANEOUS PEAK STAGE				5.93	Jan	7	5.93	Jan	7 1993
ANNUAL RUNOFF (AC-FT)	174			33580			8590		
10 PERCENT EXCEEDS	.00			.87			.00		
50 PERCENT EXCEEDS	.00			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 10259200 DEEP CREEK NEAR PALM DESERT, CA

LOCATION.--Lat 33°37'52", long 116°23'29", in NE 1/4 SE 1/4 sec.19, T.6 S., R.6 E., Riverside County, Hydrologic Unit 18100200, on left bank 500 ft downstream from unnamed tributary and 6.3 mi south of Palm Desert.

DRAINAGE AREA.--30.6 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1962 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,440 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,100 ft<sup>3</sup>/s, Sept. 10, 1976, gage height, 7.84 ft inside, 11.5 ft from floodmarks, from rating curve extended above 40 ft<sup>3</sup>/s on basis of slope-area measurement at gage heights 2.68, 5.15, and 7.84 ft; maximum gage height, 10.27 ft, Aug. 14, 1984; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 52 ft<sup>3</sup>/s on basis of slope-area measurement at gage heights 5.15 and 10.27 ft:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 24	1630	65	2.97	Jan. 16	2030	*1,830	*6.00
Dec. 28	0700	79	3.05	Feb. 8	0615	752	4.64
Jan. 8	0145	1,130	5.15	Feb. 19	2300	1,060	5.07

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.89	10	e31	e8.9	3.8	2.0	.70	e.33	.46
2	.00	.00	.00	.65	9.4	e28	8.4	3.7	2.1	.72	e.32	.44
3	.00	.00	.01	.53	8.7	e26	8.2	3.6	2.1	.70	e.31	.42
4	.00	.00	.06	.44	8.4	e23	8.0	3.6	2.1	.63	e.30	.39
5	.00	.00	.03	.40	7.9	e22	8.0	3.6	2.2	.65	e.29	.38
6	.00	.00	.02	65	7.7	e20	7.9	3.5	2.9	.67	e.29	.36
7	.00	.00	.07	322	8.0	e19	7.6	3.3	2.6	.65	e.28	.35
8	.00	.00	.11	366	335	e18	7.2	3.2	2.4	.60	e.27	.34
9	.00	.00	.20	e120	116	e17	6.9	3.0	2.1	.60	e.26	.33
10	.00	.00	.20	e40	60	e16	6.7	2.9	2.0	.64	e.25	.32
11	.00	.00	.20	e20	51	e15	6.4	2.8	1.8	.62	e.25	.31
12	.00	.00	.23	e13	e35	e14	6.3	2.8	1.7	.58	e.24	.31
13	.00	.00	.20	48	e28	e14	6.3	2.8	1.7	.55	e.24	.29
14	.00	.00	.20	180	e24	e13	6.1	3.1	1.6	.54	.23	.28
15	.00	.00	.21	160	e22	e13	6.1	2.9	1.3	e.52	.23	.27
16	.00	.00	.20	647	e19	e12	5.9	3.6	1.2	e.50	.26	.26
17	.00	.00	.21	285	e18	e12	5.6	3.1	1.2	e.49	.27	e.25
18	.00	.00	.22	133	e150	e12	5.3	2.6	1.2	e.48	.26	e.25
19	.00	.00	.21	78	331	e12	5.4	2.4	1.1	e.46	.26	e.25
20	.00	.00	.20	53	274	e11	5.1	2.3	1.1	e.45	.25	e.25
21	.00	.00	.20	41	90	e11	5.0	2.3	1.0	e.44	.24	e.25
22	.00	.00	.20	33	59	e10	4.9	2.2	1.0	e.43	.23	e.25
23	.02	.00	.20	26	52	e10	4.8	2.2	1.0	e.42	.22	e.25
24	1.6	.00	.20	21	54	e9.8	4.8	2.2	.97	e.41	.21	e.25
25	.03	.00	.20	18	48	e9.4	4.6	2.1	.92	e.40	.21	e.25
26	.01	.00	.20	15	e38	e10	4.5	2.1	.87	e.38	.31	e.25
27	.00	.00	.23	14	e36	e12	4.3	2.0	.81	e.37	.50	e.25
28	.00	.00	23	12	e33	e14	4.2	2.0	.77	e.36	.46	e.24
29	.00	.00	2.9	11	---	e12	4.0	2.0	.69	e.35	.46	e.24
30	.00	.00	2.7	9.9	---	e10	3.9	2.1	.67	e.34	.48	e.24
31	.00	---	1.3	12	---	e9.5	---	2.0	---	e.33	.46	---
TOTAL	1.66	0.00	34.11	2745.81	1933.1	465.7	181.3	85.8	45.10	15.98	9.17	8.98
MEAN	.054	.000	1.10	88.6	69.0	15.0	6.04	2.77	1.50	.52	.30	.30
MAX	1.6	.00	23	647	335	31	8.9	3.8	2.9	.72	.50	.46
MIN	.00	.00	.00	.40	7.7	9.4	3.9	2.0	.67	.33	.21	.24
AC-FT	3.3	.00	68	5450	3830	924	360	170	89	32	18	18

e Estimated.

## 10259200 DEEP CREEK NEAR PALM DESERT, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.27	1.03	2.29	5.01	8.81	6.49	2.27	.91	.38	.89	1.19	1.52
MAX	4.62	16.3	23.5	88.6	101	49.3	12.4	7.15	3.97	11.8	15.3	38.1
(WY)	1984	1966	1983	1993	1980	1983	1983	1983	1983	1979	1984	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1963	1963	1963	1963	1963	1963	1963	1962	1962	1962	1962	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1962 - 1993			
ANNUAL TOTAL	654.78				5526.71							
ANNUAL MEAN	1.79				15.1				2.57			
HIGHEST ANNUAL MEAN									15.1			
LOWEST ANNUAL MEAN									.002			
HIGHEST DAILY MEAN	38 Feb 13				647 Jan 16				850 Sep 10 1976			
LOWEST DAILY MEAN	.00 Jul 21				.00 Oct 1				.00 May 1 1962			
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 21				.00 Oct 1				.00 May 1 1962			
INSTANTANEOUS PEAK FLOW					1830 Jan 16				7100 Sep 10 1976			
INSTANTANEOUS PEAK STAGE					6.00 Jan 16				10.27 Aug 14 1984			
ANNUAL RUNOFF (AC-FT)	1300				10960				1860			
10 PERCENT EXCEEDS	4.0				25				3.2			
50 PERCENT EXCEEDS	.06				.70				.05			
90 PERCENT EXCEEDS	.00				.00				.00			

## 10259300 WHITEWATER RIVER AT INDIO, CA

LOCATION.--Lat 33°44'14", long 116°14'07", in SE 1/4 NE 1/4 sec.15, T.5 S., R.7 E., Riverside County, Hydrologic Unit 18100200, on right bank of concrete drop structure, 1,000 ft upstream from Monroe Street bridge, and 1.7 mi northwest of Indio.

DRAINAGE AREA.--1,073 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1966 to current year.

REVISED RECORDS.--WDR CA-72-1: 1971.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Oct. 1, 1979. Elevation of gage is 0 ft sea level, from topographic map. Prior to Oct. 1, 1979, water-stage recorder at site 0.5 mi upstream at different datum. Oct. 1, 1979, to Feb. 17, 1983, at datum 1.03 ft lower.

REMARKS.--Records poor. No regulation upstream from station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs. Water from the Colorado River basin is imported for ground-water recharge and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 14.41 ft, site and datum then in use, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 15.3 ft for flood of Nov. 22, 1965; no flow for all or most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2 or 3, 1938, reached a discharge of 29,000 ft<sup>3</sup>/s on basis of slope-area measurement, at site 5.0 mi upstream. Flood of Nov. 22, 1965, reached a stage of 15.3 ft, from floodmark, at site and datum used prior to Oct. 1, 1979, discharge 14,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 450 ft<sup>3</sup>/s on basis of critical-depth study:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	unknown	unknown	unknown	Feb. 20	Unknown	Unknown	Unknown
Jan. 16	unknown	unknown					

No flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
2	.00	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
3	.00	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
4	.00	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
5	.00	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
6	.00	.00	.00	e.15	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
7	.00	.00	.00	e3000	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
8	.00	.00	.00	e4600	e50	e.00	e.00	e.00	e.00	e.00	e.00	e.00
9	.00	.00	.00	e10	e10	e.00	e.00	e.00	e.00	e.00	e.00	e.00
10	.00	.00	.00	e.10	e.25	e.00	e.00	e.00	e.00	e.00	e.00	e.00
11	.00	.00	.00	e.04	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
12	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
13	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
14	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
15	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
16	.00	.00	.00	e5000	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
17	.00	.00	.00	e3000	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
18	.00	.00	.00	e300	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
19	.00	.00	.00	e5.0	e100	e.00	e.00	e.00	e.00	e.00	e.00	e.00
20	.00	.00	.00	e1.0	e1200	e.00	e.00	e.00	e.00	e.00	e.00	e.00
21	.00	.00	.00	e.05	e10	e.00	e.00	e.00	e.00	e.00	e.00	e.00
22	.00	.00	.00	e.00	e.05	e.00	e.00	e.00	e.00	e.00	e.00	e.00
23	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
24	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
25	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
26	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
27	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
28	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00	e.00
29	.00	.00	.00	e.00	---	e.00	e.00	e.00	e.00	e.00	e.00	e.00
30	.00	.00	.00	e.00	---	e.00	e.00	e.00	e.00	e.00	e.00	e.00
31	.00	---	.00	e.00	---	e.00	---	e.00	---	e.00	e.00	---
TOTAL	0.00	0.00	0.00	15916.34	1370.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	513	48.9	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	5000	1200	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	31570	2720	.00	.00	.00	.00	.00	.00	.00

e Estimated.

## 10259300 WHITEWATER RIVER AT INDIO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.010	.10	2.91	26.3	16.2	3.98	.024	.013	.011	1.37	1.36	3.18
MAX	.17	.88	61.3	513	278	56.2	.16	.35	.19	32.1	29.4	86.2
(WY)	1979	1979	1967	1993	1980	1978	1984	1972	1968	1979	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1967	1967	1968	1967	1967	1966	1966	1966	1966	1967	1966	1966

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1966 - 1993			
ANNUAL TOTAL	152.50				17286.64							
ANNUAL MEAN	.42				47.4				4.60			
HIGHEST ANNUAL MEAN									47.4			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	60				5000				5000			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW									11400			
INSTANTANEOUS PEAK STAGE									14.41			
ANNUAL RUNOFF (AC-FT)	302				34290				3330			
10 PERCENT EXCEEDS	.00				.00				.00			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 10259540 WHITEWATER RIVER NEAR MECCA, CA

LOCATION.--Lat 33°31'29", long 116°04'36", in NW 1/4 NW 1/4 sec.32, T.7 S., R.9 E., Riverside County, Hydrologic Unit 18100200, on left bank 1.6 mi upstream from mouth at Salton Sea and 3.3 mi south of Mecca.

DRAINAGE AREA.--1,495 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 221.00 ft below sea level (levels by Coachella Valley Water District). Oct. 1, 1960, to Mar. 22, 1967, at site 1.3 mi downstream and Mar. 23, 1967, to July 22, 1970, at site 0.7 mi downstream at different datums.

REMARKS.--Records poor. Most flow represents seepage and return flow from irrigated areas. No discharge records computed above 200 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,500 ft<sup>3</sup>/s (estimated), Jan. 25, 1969; minimum daily, 37 ft<sup>3</sup>/s, Nov. 25-29, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge computed, 133 ft<sup>3</sup>/s, Apr. 5; minimum daily, 63 ft<sup>3</sup>/s, Oct. 6-8, May 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	78	85	95	97	103	106	113	e70	75	102	93
2	69	80	81	91	95	98	108	120	e71	75	102	89
3	69	75	81	90	93	98	113	108	e72	75	95	88
4	68	73	86	91	90	97	110	110	e74	75	94	89
5	64	74	86	94	89	96	133	112	e75	73	95	91
6	63	73	87	94	90	101	e130	114	e76	74	98	95
7	63	73	87	150	93	115	e130	111	e77	75	105	102
8	63	73	87	---	120	109	e130	114	e79	75	102	102
9	66	73	84	---	107	106	e120	115	e81	74	102	92
10	67	74	84	e90	104	102	109	114	e82	74	106	91
11	67	74	86	e90	96	101	88	120	e84	75	100	92
12	65	78	87	e90	95	102	93	120	e84	75	100	94
13	67	78	85	e90	98	109	92	121	e84	74	95	91
14	66	78	85	100	100	106	111	122	e85	73	108	91
15	68	79	88	118	104	106	112	110	e85	74	111	92
16	66	81	91	---	96	110	103	94	e85	74	104	91
17	68	80	89	---	94	105	101	100	e84	75	95	91
18	66	81	92	98	95	103	122	96	e83	76	101	97
19	66	81	92	108	105	105	110	85	e82	77	102	93
20	65	82	93	109	---	107	111	82	e81	78	100	91
21	66	82	92	96	114	102	116	80	e80	78	103	89
22	68	84	91	95	101	108	112	76	e79	80	99	89
23	73	81	93	98	94	106	108	76	e78	81	112	90
24	73	85	91	103	94	106	105	65	e77	82	110	92
25	72	83	93	106	95	113	112	63	e76	85	109	92
26	73	84	92	105	94	117	108	66	e76	93	107	93
27	71	86	91	106	97	117	107	65	e75	93	104	91
28	71	83	92	100	105	114	112	e66	e75	94	109	90
29	70	82	91	100	---	112	117	e67	75	100	104	91
30	72	83	91	94	---	109	115	e68	75	104	100	92
31	73	---	92	99	---	108	---	e69	---	104	98	---
TOTAL	2107	2371	2745	---	---	3291	3344	2942	2360	2490	3172	2764
MEAN	68.0	79.0	88.5	---	---	106	111	94.9	78.7	80.3	102	92.1
MAX	73	86	93	---	---	117	133	122	85	104	112	102
MIN	63	73	81	---	---	96	88	63	70	73	94	88
AC-FT	4180	4700	5440	---	---	6530	6630	5840	4680	4940	6290	5480

e Estimated.

## 10259540 WHITEWATER RIVER NEAR MECCA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	99.9	94.9	95.0	107	125	124	119	118	107	107	120	115
MAX	147	149	141	236	396	222	172	173	145	198	183	220
(WY)	1976	1966	1983	1969	1980	1978	1976	1976	1975	1979	1983	1976
MIN	53.9	44.4	45.4	51.4	56.6	71.8	77.9	80.7	66.9	57.4	80.3	74.1
(WY)	1961	1961	1961	1961	1961	1961	1961	1992	1987	1987	1992	1992

## SUMMARY STATISTICS

## WATER YEARS 1961 - 1992

ANNUAL MEAN	111	
HIGHEST ANNUAL MEAN	156	1976
LOWEST ANNUAL MEAN	68.4	1961
HIGHEST DAILY MEAN	2500	Jan 25 1969
LOWEST DAILY MEAN	37	Nov 25 1960
ANNUAL SEVEN-DAY MINIMUM	37	Nov 24 1960
ANNUAL RUNOFF (AC-FT)	80380	
10 PERCENT EXCEEDS	140	
50 PERCENT EXCEEDS	108	
90 PERCENT EXCEEDS	76	

## 10260500 DEEP CREEK NEAR HESPERIA, CA

LOCATION.--Lat 34°20'28", long 117°13'39", in NE 1/4 SE 1/4 sec.18, T.3 N., R.3 W., San Bernardino County, Hydrologic Unit 18090208, on right bank 0.5 mi upstream from confluence with West Fork Mojave River at Mojave River Forks Dam, 7 mi southeast of Hesperia, and 11 mi downstream from Lake Arrowhead.

DRAINAGE AREA.--134 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1904 to September 1922, October 1929 to current year. Prior to January 1930, monthly discharge only, published in WSP 1314.

REVISED RECORDS.--WSP 1314: 1931(M). WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Broad-crested weir since December 1938. Elevation of gage is 3,050 ft above sea level, from topographic map. See WSP 1314 for history of changes prior to Dec. 10, 1938.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Slight regulation by Lake Arrowhead, capacity, 48,000 acre-ft, principally used for recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft<sup>3</sup>/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; maximum gage height, 23.81 ft, Feb. 10, 1978 (backwater from Mojave River Forks Reservoir); no flow July 17, 18, 1961.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1845	433	3.00	Feb. 8	0715	15,800	10.41
Dec. 29	1700	2,200	4.45	Feb. 19	0230	16,700	10.66
Jan. 7	2045	*18,000	*11.03	Mar. 26	unknown	unknown	unknown
Jan. 17	2100	9,830	8.40				

Minimum daily, 2.7 ft<sup>3</sup>/s, Oct. 3

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	e6.5	7.6	59	180	839	e330	128	47	e23	12	9.8
2	2.8	e6.6	7.7	53	167	756	e310	122	49	e23	11	10
3	2.7	e6.7	7.8	48	158	e710	e290	117	48	e22	11	10
4	2.9	e6.8	8.0	33	152	e670	e275	115	47	e21	10	9.1
5	3.0	e6.9	8.2	30	150	e640	e260	106	125	e21	10	8.7
6	3.1	6.9	8.3	2380	150	e610	e250	102	158	e20	9.8	8.5
7	3.0	6.9	156	9880	254	e580	e240	99	98	e20	9.8	8.4
8	2.8	6.9	87	6140	8900	e555	e230	95	84	e19	9.4	8.4
9	2.8	7.1	28	984	3820	e530	e220	90	73	19	10	8.4
10	2.8	7.2	20	401	2110	e510	e215	88	e64	18	10	8.4
11	2.9	7.3	17	380	1300	e490	e205	85	e58	18	9.6	8.4
12	3.0	7.3	18	288	832	e470	e198	84	e52	18	9.4	8.5
13	3.0	7.3	16	3380	594	e450	e192	81	e48	18	9.3	8.5
14	3.0	7.4	14	5390	510	e435	e190	79	e45	18	10	8.6
15	2.9	7.9	13	3210	437	e420	e218	79	e42	18	10	8.7
16	2.9	7.7	12	7840	403	e405	188	79	e39	18	11	9.0
17	3.0	7.6	12	7760	346	e395	186	77	e37	18	11	9.4
18	3.1	7.5	17	5460	3360	e380	179	73	e35	18	10	10
19	3.3	7.3	18	3030	11100	e370	186	70	e34	17	9.9	10
20	3.4	7.3	13	1950	5880	e360	173	68	e32	17	12	9.9
21	3.5	7.3	13	1310	3310	e350	172	67	e31	18	17	9.6
22	3.8	7.3	12	930	2590	e345	211	65	e29	18	14	9.4
23	4.2	7.2	12	695	2750	e335	169	63	e28	17	12	9.3
24	5.1	7.2	12	539	2250	e325	157	59	e27	17	11	9.4
25	6.5	7.0	11	342	1480	e315	149	58	e27	17	11	9.7
26	7.6	7.0	11	285	1370	e700	147	58	e26	16	11	11
27	6.6	7.2	11	256	1260	e660	146	57	e25	16	12	10
28	6.4	7.2	220	231	969	e550	139	55	e24	15	13	10
29	6.2	7.3	668	214	---	e470	134	53	e24	14	11	e10
30	6.3	7.5	641	211	---	e415	180	52	e23	13	10	e10
31	e6.4	---	101	202	---	e365	---	49	---	12	9.6	---
TOTAL	121.8	215.3	2200.6	63911	56782	15405	6139	2473	1479	557	336.8	279.1
MEAN	3.93	7.18	71.0	2062	2028	497	205	79.8	49.3	18.0	10.9	9.30
MAX	7.6	7.9	668	9880	11100	839	330	128	158	23	17	11
MIN	2.7	6.5	7.6	30	150	315	134	49	23	12	9.3	8.4
AC-FT	242	427	4360	126800	112600	30560	12180	4910	2930	1100	668	554

e Estimated.

## 10260500 DEEP CREEK NEAR HESPERIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.20	20.0	58.6	134	207	216	147	63.4	17.4	5.67	3.23	3.64
MAX	42.0	606	843	2062	2028	1539	747	248	67.0	25.9	29.2	54.3
(WY)	1984	1966	1922	1993	1993	1978	1958	1915	1922	1969	1983	1976
MIN	.23	1.14	2.53	4.56	6.07	4.87	3.20	2.37	1.14	.14	.13	.10
(WY)	1934	1957	1905	1951	1951	1956	1951	1934	1956	1961	1933	1933

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1905 - 1993	
ANNUAL TOTAL	25967.3		149899.6		72.8	
ANNUAL MEAN	70.9		411		411	
HIGHEST ANNUAL MEAN					3.06	
LOWEST ANNUAL MEAN					14700	
HIGHEST DAILY MEAN	3510	Feb 12	11100	Feb 19		1993
LOWEST DAILY MEAN	2.6	Jun 28	2.7	Oct 3		1951
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 28	2.9	Oct 1		1951
INSTANTANEOUS PEAK FLOW			18000	Jan 7		1969
INSTANTANEOUS PEAK STAGE			11.03	Jan 7		1961
ANNUAL RUNOFF (AC-FT)	51510		297300			1961
10 PERCENT EXCEEDS	144		669			1938
50 PERCENT EXCEEDS	8.0		27			1978
90 PERCENT EXCEEDS	3.1		6.9			

10260620 HOUSTON CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'33", long 117°16'48", in NE 1/4 SE 1/4 sec.22, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 0.1 mi east of Wildrose Road, 0.1 mi southeast of intersection of Lake Gregory and Wildrose Roads, and 0.3 mi east of Crestline.

DRAINAGE AREA.--0.35 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1979 to September 1993 (discontinued).

REVISED RECORDS.--WDR CA-82-1: 1980-81(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,540 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 411 ft<sup>3</sup>/s, Feb. 19, 1993, gage height, 7.84 ft, from rating curve extended above 70 ft<sup>3</sup>/s on basis of slope-conveyance study at gage height 7.40 ft; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 30	1815	80	6.32	Feb. 8	0215	272	7.36
Dec. 29	1145	68	6.21	Feb. 19	0800	*411	*7.84
Jan. 7	1700	106	6.52	Feb. 23	1900	51	6.03
Jan. 13	2230	120	6.62	Mar. 25	2400	73	6.26
Jan. 17	2130	219	7.14	June 5	1030	71	6.24

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.08	e.07	.44	2.0	3.9	1.9	.40	.17	.05	.04	.01
2	.01	e.01	e.05	4.0	2.0	3.4	1.7	.39	.17	.06	.05	.02
3	.01	e.01	e.05	.66	1.8	3.1	1.6	.39	.17	.05	.04	.02
4	.01	e.02	e.05	.54	e1.6	2.8	1.5	.41	.19	.07	.03	.02
5	.00	e.02	e.20	.49	e1.5	3.4	1.5	.39	9.1	.08	.03	.02
6	.00	e.01	.96	22	e1.4	4.1	1.5	.39	.40	.07	.03	.02
7	.00	e.01	19	37	10	3.8	1.4	.37	.19	.05	.03	.02
8	.00	e.01	.65	12	43	3.5	1.2	.35	.16	.05	.04	.02
9	.00	e.01	.22	4.7	11	3.3	1.1	.32	.15	.05	.04	.02
10	.00	e.01	.07	8.6	4.9	3.1	1.0	.30	.14	.05	.04	.02
11	.00	e.01	.12	3.0	3.6	3.1	.94	.30	.14	.05	.03	.02
12	.00	e.02	.06	8.0	3.0	2.9	.92	.30	.13	.05	.03	.01
13	.00	e.02	.05	26	2.7	2.7	.89	.29	.12	.05	.03	.01
14	.01	e.02	.05	18	2.7	2.9	.86	.28	.10	.05	.03	.01
15	.01	e.02	.06	19	2.4	3.1	.81	.28	.11	.04	.03	.01
16	.00	e.02	.06	24	2.4	3.1	.74	.26	.13	.05	.04	.01
17	.00	e.02	2.7	45	2.2	3.2	.72	.26	.10	.05	.03	.02
18	.00	e.02	1.2	24	31	3.0	.72	.26	.09	.05	.03	.02
19	.00	e.02	.10	9.8	66	3.0	.70	.24	.09	.06	.02	.02
20	.00	e.02	.08	5.9	32	3.1	.68	.25	.08	.04	.02	.02
21	.01	e.02	.07	4.7	13	3.2	.67	.25	.08	.04	.02	.01
22	.01	e.02	.07	3.7	11	3.4	.62	.25	.08	.04	.02	.01
23	.02	e.02	.07	3.1	27	3.3	.60	.23	.07	.04	.02	.01
24	.01	e.02	.07	2.6	11	3.4	.57	.23	.06	.07	.01	.01
25	.01	e.03	.05	2.4	6.9	5.7	.55	.21	.05	.08	.01	.01
26	.01	e.03	.06	2.3	8.3	14	.54	.22	.05	.06	.01	.01
27	.01	e.03	.59	2.1	6.5	11	.49	.21	.05	.04	.09	.01
28	.03	e.04	1.9	2.0	4.7	7.3	.46	.20	.05	.03	.00	e.01
29	.06	e.04	15	1.9	---	4.4	.46	.19	.06	.03	.01	e.01
30	9.9	e.04	3.6	2.1	---	3.2	.43	.18	.06	.04	.01	e.01
31	.21	---	.79	2.1	---	2.4	---	.18	---	.04	.01	---
TOTAL	10.33	0.67	48.07	302.13	315.6	125.8	27.77	8.78	12.54	1.58	0.87	0.44
MEAN	.33	.022	1.55	9.75	11.3	4.06	.93	.28	.42	.051	.028	.015
MAX	9.9	.08	19	45	66	14	1.9	.41	9.1	.08	.09	.02
MIN	.00	.01	.05	.44	1.4	2.4	.43	.18	.05	.03	.00	.01
AC-FT	20	1.3	95	599	626	250	55	17	25	3.1	1.7	.9

e Estimated.

10260620 HOUSTON CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.15	.33	.61	1.50	2.64	2.13	.77	.26	.12	.052	.051	.091
MAX	.47	1.35	1.76	9.75	12.3	7.23	2.34	.94	.42	.19	.31	.45
(WY)	1984	1983	1984	1993	1980	1980	1983	1980	1993	1983	1983	1982
MIN	.001	.005	.012	.095	.099	.14	.11	.022	.012	.009	.003	.000
(WY)	1991	1981	1991	1991	1987	1984	1989	1984	1984	1981	1986	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1979 - 1993			
ANNUAL TOTAL	284.16				854.58							
ANNUAL MEAN	.78				2.34							
HIGHEST ANNUAL MEAN									2.34			
LOWEST ANNUAL MEAN									.16			
HIGHEST DAILY MEAN	26				66				69			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					411				411			
INSTANTANEOUS PEAK STAGE					7.84				7.84			
ANNUAL RUNOFF (AC-FT)	564				1700				518			
10 PERCENT EXCEEDS	.75				4.7				1.2			
50 PERCENT EXCEEDS	.06				.10				.08			
90 PERCENT EXCEEDS	.01				.01				.00			

## 10260630 ABONDIGAS CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'16", long 117°15'51", in SW 1/4 SE 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on right bank 400 ft south of east gate for San Moritz Park and 1.4 mi east of Crestline.

DRAINAGE AREA.--1.15 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1979 to September 1993 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 4,540 ft above sea level, from topographic map. Prior to Oct. 1, 1983, at site 200 ft upstream at datum 5.78 ft higher.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 580 ft<sup>3</sup>/s, Feb. 27, 1983, gage height, 6.32 ft, site and datum then in use, from rating curve extended above 94 ft<sup>3</sup>/s on basis of field estimate of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 30	1645	57	7.58	Feb. 18	1930	115	9.22
Dec. 29	1200	67	7.88	Feb. 23	1315	49	7.29
Jan. 7	1915	184	10.85	Mar. 26	0015	56	7.54
Jan. 17	1830	141	9.92	June 5	1045	52	7.39
Feb. 8	0230	*203	*11.21				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.04	.34	1.0	5.9	11	6.2	1.7	.61	.37	.22	.03
2	.00	.03	.19	3.3	5.6	10	5.6	1.6	.66	.64	.23	.03
3	.00	.07	.19	1.0	5.5	9.9	5.0	1.5	.64	1.6	.22	.02
4	.00	.09	.25	.75	5.2	9.5	4.7	1.6	.67	1.3	.20	.02
5	.00	.08	.21	.71	5.0	9.4	4.7	1.4	12	1.0	.19	.02
6	.00	.06	.47	17	4.7	8.9	4.5	1.3	2.7	.96	.18	.02
7	.00	.03	13	55	12	8.0	4.2	1.3	1.4	.82	.17	.01
8	.00	.03	1.6	30	46	7.4	3.9	1.3	1.0	.66	.16	.01
9	.00	.03	.76	15	21	7.0	3.7	1.2	.87	.65	.14	.00
10	.00	.04	.45	17	12	6.8	3.6	1.2	.82	.57	.12	.00
11	.00	.07	.40	11	8.8	6.5	3.5	1.2	.76	.52	.12	.00
12	.00	.08	.38	15	7.2	6.3	3.4	1.2	.73	.49	.12	.00
13	.00	.08	.30	35	6.5	6.4	3.2	1.1	.74	.49	.19	.00
14	.00	.09	.29	38	6.1	6.4	3.0	1.1	.68	.48	.21	.00
15	.00	.09	.25	45	5.7	6.0	2.9	1.0	.64	.51	.21	.01
16	.00	.10	.25	59	5.5	5.7	2.9	1.0	.63	.49	.19	.08
17	.00	.13	1.1	77	5.1	5.5	2.8	.90	.60	.46	.14	.13
18	.00	.11	1.4	50	32	5.4	2.8	.88	.57	.37	.12	.08
19	.00	.09	.41	29	43	5.0	2.7	.82	.57	.38	.12	.05
20	.00	.10	.34	18	33	4.8	2.6	.87	.52	.38	.10	.03
21	.00	.13	.31	14	22	4.5	2.5	.86	.52	.42	.09	.03
22	.00	.13	.29	13	18	4.4	2.4	.85	.53	.39	.08	.02
23	.00	.13	.29	11	35	4.3	2.4	.85	.51	.37	.07	.01
24	.00	.13	.25	9.8	26	4.2	2.3	.84	.45	.37	.05	.01
25	.00	.13	.25	9.1	19	5.3	2.1	.81	.43	.34	.05	.01
26	.00	.16	.25	8.4	17	13	1.9	.78	.40	.29	.07	.00
27	.00	.19	.54	7.8	16	14	1.8	.78	.40	.26	.06	.00
28	.00	.19	2.2	7.2	13	8.9	1.8	.78	.41	.25	.05	e.00
29	.00	.19	11	6.7	---	7.9	1.8	.73	.39	.23	.05	e.00
30	6.3	.19	5.3	6.5	---	7.5	1.7	.68	.39	.24	.05	e.00
31	.21	---	1.5	6.4	---	6.8	---	.68	---	.23	.04	---
TOTAL	6.51	3.01	44.76	617.66	441.8	226.7	96.6	32.81	32.24	16.53	4.01	0.62
MEAN	.21	.10	1.44	19.9	15.8	7.31	3.22	1.06	1.07	.53	.13	.021
MAX	6.3	.19	13	77	46	14	6.2	1.7	12	1.6	.23	.13
MIN	.00	.03	.19	.71	4.7	4.2	1.7	.68	.39	.23	.04	.00
AC-FT	13	6.0	89	1230	876	450	192	65	64	33	8.0	1.2

e Estimated.

## 10260630 ABONDIGAS CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.20	.36	.73	2.64	3.97	3.76	1.97	.76	.27	.12	.072	.086
MAX	.87	1.81	3.11	19.9	19.1	16.0	7.04	3.18	1.16	.53	.73	.63
(WY)	1984	1983	1984	1993	1980	1983	1983	1983	1980	1993	1983	1983
MIN	.000	.000	.000	.24	.12	.27	.32	.069	.001	.000	.000	.000
(WY)	1985	1992	1991	1991	1987	1984	1984	1987	1989	1984	1981	1981

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1979 - 1993			
ANNUAL TOTAL	316.36				1523.25							
ANNUAL MEAN	.86				4.17							
HIGHEST ANNUAL MEAN									1.21			
LOWEST ANNUAL MEAN									4.17			
HIGHEST DAILY MEAN	27				77				.18			
LOWEST DAILY MEAN	.00				.00				103			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					203				580			
INSTANTANEOUS PEAK STAGE					11.21				6.32			
ANNUAL RUNOFF (AC-FT)	627				3020				878			
10 PERCENT EXCEEDS	1.3				11				2.7			
50 PERCENT EXCEEDS	.13				.64				.14			
90 PERCENT EXCEEDS	.00				.00				.00			

## MOJAVE RIVER BASIN

10260640 LAKE GREGORY AT CRESTLINE, CA

LOCATION.--Lat 34°14'35", long 117°16'22", in NW 1/4 SW 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, in boathouse on north side of Lake Gregory, 0.8 mi east of Lake Gregory Drive, and 0.9 mi east of Crestline.

DRAINAGE AREA.--2.66 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1978 to September 1993 (discontinued). Records for September 1966 through November 1971 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 4,510.00 ft, based on map from land survey of 1892; approximately 4,517.00 ft above sea level.

REMARKS.--Lake is formed by earth-type dam. Dam was completed to a height of 90 ft in 1938. Capacity is 2,070 acre-ft below spillway elevation, 4,517.0 ft. Water is released from lake to Houston Creek for water supply and recreational use in Silverwood Lake, 4.5 mi downstream. Spillway elevation is raised by addition of flashboards to accommodate summer recreational use.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents recorded, 2,360 acre-ft, Jan. 29, 1980, elevation, 4,520.33 ft; minimum, 1,900 acre-ft, several days during 1991, elevation, 4,515.02 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 2,290 acre-ft, June 5, 6, elevation, 4,519.57 ft; minimum, 2,030 acre-ft, several days in October; elevation, 4,516.54 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on surveys by California Department of Water Resources in 1892 and 1936)

4,505	1,200	4,520	2,330
4,510	1,520	4,525	2,850
4,515	1,900		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2060	2090	2060	2100	2130	2130	2110	2100	2210	2260	2240	2200
2	2060	2090	2060	2110	2120	2130	2110	2110	2210	2260	2240	2200
3	2060	2080	2060	2100	2120	2130	2110	2110	2210	2260	2240	2200
4	2060	2080	2070	2100	2120	2130	2110	2120	2210	2260	2240	2200
5	2050	2080	2070	2090	2120	2130	2110	2120	2290	2260	2230	2200
6	2050	2080	2070	2190	2120	2120	2110	2130	2280	2260	2230	2190
7	2050	2080	2150	2270	2180	2120	2110	2130	2270	2260	2230	2190
8	2050	2080	2110	2160	2190	2120	2100	2140	2270	2260	2230	2130
9	2050	2080	2100	2130	2150	2120	2100	2140	2270	2250	2230	2100
10	2050	2080	2090	2140	2130	2120	2100	2140	2270	2250	2230	2100
11	2050	2070	2090	2120	2120	2120	2100	2150	2270	2250	2230	2090
12	2050	2070	2090	2150	2120	2110	2100	2150	2270	2250	2220	2090
13	2040	2070	2090	2190	2120	2110	2100	2160	2270	2250	2220	2080
14	2040	2070	2090	2150	2110	2110	2100	2160	2260	2250	2220	2080
15	2040	2070	2090	2220	2110	2110	2100	2160	2260	2250	2220	2080
16	2040	2070	2090	2180	2110	2110	2100	2170	2260	2250	2220	2080
17	2040	2070	2110	2240	2110	2110	2100	2170	2260	2250	2220	2080
18	2040	2070	2100	2170	2230	2110	2100	2170	2260	2250	2220	2080
19	2040	2070	2100	2150	2230	2110	2100	2180	2260	2250	2220	2080
20	2040	2070	2090	2140	2170	2110	2100	2180	2260	2250	2210	2080
21	2030	2070	2090	2140	2150	2110	2100	2180	2260	2250	2210	2070
22	2030	2070	2090	2140	2140	2110	2100	2180	2260	2250	2210	2070
23	2040	2070	2090	2140	2190	2110	2100	2190	2260	2240	2210	2070
24	2040	2070	2090	2140	2150	2100	2100	2190	2260	2240	2210	2070
25	2040	2070	2090	2130	2140	2120	2100	2190	2260	2240	2210	2070
26	2030	2060	2090	2130	2150	2140	2100	2190	2260	2240	2210	2070
27	2030	2060	2100	2130	2140	2130	2100	2200	2260	2240	2210	2070
28	2030	2060	2100	2130	2130	2130	2100	2200	2260	2240	2200	e2070
29	2030	2060	2160	2130	---	2120	2100	2200	2260	2240	2200	e2070
30	2110	2060	2120	2130	---	2120	2100	2200	2260	2240	2200	e2070
31	2100	---	2100	2130	---	2110	---	2200	---	2240	2200	---
MAX	2110	2090	2160	2270	2230	2140	2110	2200	2290	2260	2240	2200
MIN	2030	2060	2060	2090	2110	2100	2100	2100	2210	2240	2200	2070
a	4517.30	4516.89	4517.38	4517.66	4517.70	4517.48	4517.30	4518.56	4519.21	4518.98	4518.52	4516.98
b	+40	-40	+40	+30	0	-20	-10	+100	+60	-20	-40	-130
CAL YR 1992	MAX 2260	MIN 2030	b	0								
WTR YR 1993	MAX 2290	MIN 2030	b	+10								

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10260650 HOUSTON CREEK BELOW LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'54", long 117°16'05", in NE 1/4 NW 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank of channel on Camp Switzerland Campgrounds, 0.2 mi downstream from Lake Gregory Spillway, 0.5 mi east of the intersection of Lake Gregory Road and Lake Gregory Drive, and 1.2 mi northeast of Crestline.

DRAINAGE AREA.--2.68 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1979 to September 1993 (discontinued).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control since November 1991. Elevation of gage is 4,440 ft above sea level, from topographic map.

REMARKS.--Records fair. Flow regulated by Lake Gregory (station 10260640) 0.2 mi upstream, usable capacity, 2,070 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 570 ft<sup>3</sup>/s, Jan. 29, 1980, gage height, 7.31 ft, from rating curve extended above 180 ft<sup>3</sup>/s on basis of velocity-area study of peak flow; maximum gage height, 7.69 ft, Jan. 7, 1993; no flow for several days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339 ft<sup>3</sup>/s, Jan. 7, gage height, 7.69 ft; minimum daily, 0.01 ft<sup>3</sup>/s, several days in July.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	6.2	.18	6.7	13	24	12	1.8	.09	.15	.04	.06
2	.29	2.5	.18	15	11	21	11	.09	.09	.17	.06	.09
3	.29	.95	e.18	9.9	11	20	10	.09	.13	.18	.05	.11
4	.20	.47	.19	5.4	10	19	9.7	.09	.20	.13	.04	.06
5	.09	.37	.19	3.1	8.6	18	9.3	.09	6.3	.11	.02	.06
6	.10	.34	.26	73	7.6	17	9.4	.09	14	.09	.02	.07
7	.10	.29	54	199	15	17	8.6	.08	5.7	.05	.04	.08
8	.14	.12	26	110	152	16	8.4	.08	2.6	.01	.05	27
9	.13	.12	7.7	36	53	15	7.7	.08	1.4	.02	.05	14
10	.13	.15	3.0	30	29	14	7.2	.07	1.3	.01	.05	3.7
11	.15	.15	1.6	29	19	14	6.7	.07	1.6	.01	.06	1.1
12	.15	.15	1.1	25	14	13	6.3	.07	1.1	.02	.03	.54
13	.14	.16	.67	64	13	12	6.2	.07	1.0	.02	.04	.27
14	.15	.17	.50	101	11	12	6.1	.08	.85	.01	.04	.17
15	.16	.18	.42	69	11	12	6.1	.09	.78	.02	.04	.11
16	.19	.18	.37	139	9.2	11	6.6	.09	.73	.01	.05	.08
17	.21	.19	1.3	180	8.1	10	6.4	.09	.43	.01	.05	.05
18	.21	.16	11	139	62	9.6	5.8	.08	.41	.01	.05	.04
19	.23	.16	4.6	51	183	9.0	5.7	.07	.52	.01	.05	.04
20	.24	.18	2.2	36	116	8.4	5.6	.07	.50	.01	.10	.04
21	.27	.17	1.2	28	45	7.8	5.3	.07	.52	.01	.04	.04
22	.26	.18	.77	21	35	7.4	5.1	.18	.37	.01	.05	.03
23	.26	.18	.58	20	62	7.3	4.6	.25	.32	.02	.04	.03
24	.27	.18	.51	19	60	6.8	4.4	.23	.29	.02	.04	.04
25	.28	.18	.47	18	36	7.6	4.6	.25	.30	.02	.05	.06
26	.28	.20	.45	17	33	30	4.6	.29	.35	.01	.08	.06
27	.29	.20	.64	15	36	34	4.4	.27	.38	.01	.10	.04
28	.31	.19	10	14	29	25	4.2	.24	.38	.01	.10	e.05
29	.31	.18	41	14	---	18	4.1	.23	.28	.01	.07	e.04
30	7.8	.18	41	13	---	15	3.9	.15	.19	.02	.06	e.04
31	16	---	14	14	---	14	---	.09	---	.04	.06	---
TOTAL	29.92	15.03	226.26	1514.1	1092.5	464.9	200.0	5.59	43.11	1.23	1.62	48.10
MEAN	.97	.50	7.30	48.8	39.0	15.0	6.67	.18	1.44	.040	.052	1.60
MAX	16	6.2	54	199	183	34	12	1.8	14	.18	.10	.27
MIN	.09	.12	.18	3.1	7.6	6.8	3.9	.07	.09	.01	.02	.03
AC-FT	59	30	449	3000	2170	922	397	11	86	2.4	3.2	95

e Estimated.

## 10260650 HOUSTON CREEK BELOW LAKE GREGORY, AT CRESTLINE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.60	1.27	2.79	7.29	11.2	8.98	2.83	1.36	.36	.10	.17	.74
MAX	3.55	7.18	8.53	48.8	52.2	29.3	12.7	6.87	1.46	.48	1.52	3.11
(WY)	1984	1983	1985	1993	1980	1980	1983	1983	1983	1983	1983	1983
MIN	.028	.045	.035	.085	.23	.31	.063	.056	.025	.013	.011	.008
(WY)	1989	1991	1991	1991	1991	1985	1989	1989	1984	1988	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1979 - 1993			
ANNUAL TOTAL	1356.22				3642.36							
ANNUAL MEAN	3.71				9.98				3.09			
HIGHEST ANNUAL MEAN									9.98			
LOWEST ANNUAL MEAN									.57			
HIGHEST DAILY MEAN	123				199				285			
LOWEST DAILY MEAN	.05				.01				.00			
ANNUAL SEVEN-DAY MINIMUM	.06				.01				.00			
INSTANTANEOUS PEAK FLOW					339				570			
INSTANTANEOUS PEAK STAGE					7.69				7.69			
ANNUAL RUNOFF (AC-FT)	2690				7220				2240			
10 PERCENT EXCEEDS	6.6				25				6.6			
50 PERCENT EXCEEDS	.17				.31				.13			
90 PERCENT EXCEEDS	.09				.04				.03			

## 10260950 WEST FORK MOJAVE RIVER ABOVE MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA

LOCATION.--Lat 34°20'20", long 117°15'25", in NW 1/4 NW sec.24, T.3 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank on upstream wingwall of concrete double-box culvert on Arrowhead Lake Road, 0.1 mi northeast of junction with Highway 174, 4.5 mi downstream from Cedar Springs Dam on Silverwood Lake, and 6.5 mi southeast of Hesperia.

DRAINAGE AREA.--70.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1974 to current year. October 1974 to September 1991 published incorrectly as station 10261000. Records for station 10261000 are not equivalent due to difference in drainage area.

REVISED RECORDS.--WDR CA-84: 1983.

GAGE.--Water-stage recorder. Elevation of gage is 3,040 ft above sea level, from topographic map.

REMARKS.--Records fair except estimated daily discharges, which are poor. Regulated by Silverwood Lake (holding basin for imported water), total capacity, 78,000 acre-ft, 4.5 mi upstream, which releases all natural inflow as soon as possible after a storm.

EXTREMES FOR THE PERIOD OF RECORD.--Maximum discharge, 11,300 ft<sup>3</sup>/s, Feb. 10, 1978, gage height unknown, on basis of slope-area measurement of peak flow; maximum gage height, 23.2 ft, Feb. 10, 1978, backwater from Mojave River Forks Reservoir; no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 26,100 ft<sup>3</sup>/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow for station 10261000 at site 1.5 mi downstream.

EXTREMES FOR 1992 WATER YEAR (NOT PREVIOUSLY PUBLISHED).--Maximum discharge, 3,910 ft<sup>3</sup>/s, Feb. 12, gage height, 9.45 ft; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,500 ft<sup>3</sup>/s, Feb. 19, gage height, 12.31 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
DAILY MEAN VALUES  
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	3.9	5.3	185	86	25	.00	.00	.00
2	.00	.00	.00	.00	3.9	8.4	180	84	24	.00	.00	e.00
3	.00	.00	.00	.00	3.8	24	151	78	22	.00	.00	e.00
4	.00	.00	.00	.00	3.3	9.2	93	70	22	.00	.00	e.00
5	.00	.00	.00	58	3.1	6.9	91	48	21	.00	.00	e.00
6	.00	.00	.00	94	4.1	6.5	69	15	19	.00	.00	e.00
7	.00	.00	.00	55	5.1	7.4	9.5	13	8.9	.00	.00	e.00
8	.00	.00	.00	53	4.7	6.2	7.9	17	8.3	.00	.00	e.00
9	.00	.00	.00	48	5.2	5.8	7.7	35	9.8	.00	.00	e.00
10	.00	.00	.00	48	24	5.9	7.7	35	18	.00	.00	e.00
11	.00	.00	.00	46	504	5.7	7.4	34	6.5	.00	.00	e.00
12	.00	.00	.00	45	1370	5.4	7.2	37	2.8	.00	.00	e.00
13	.00	.00	.00	44	1270	12	7.1	39	e2.2	.00	.00	e.00
14	.00	.00	.00	44	539	26	7.1	38	e1.2	.00	.00	e.00
15	.00	.00	.00	44	191	25	6.9	39	e.20	.00	.00	e.00
16	.00	.00	.00	44	155	24	6.7	40	.00	.00	.00	e.00
17	.00	.00	.00	44	135	24	6.6	39	.00	.00	.00	e.00
18	.00	.00	.00	41	23	23	6.6	39	.00	.00	.00	e.00
19	.00	.00	.00	42	12	23	6.3	32	.00	.00	.00	e.00
20	.00	.00	.00	43	11	65	6.2	38	.00	.00	.00	e.00
21	.00	.00	.00	46	9.0	533	14	38	.00	.00	.00	e.00
22	.00	.00	.00	57	7.7	162	66	39	.00	.00	.00	e.00
23	.00	.00	.00	57	6.6	801	56	41	.00	.00	.00	e.00
24	.00	.00	.00	59	6.2	654	6.6	38	.00	.00	.00	e.00
25	.00	.00	.00	55	5.9	840	6.2	37	.00	.00	.00	e.00
26	.00	.00	.00	9.2	5.6	838	6.4	35	.00	.00	.00	e.00
27	.00	.00	.00	4.8	5.4	679	12	34	.00	.00	.00	e.00
28	.00	.00	.00	4.2	5.3	445	47	34	.00	.00	.00	e.00
29	.00	.00	.00	4.0	5.4	429	77	34	.00	.00	.00	e.00
30	.00	.00	.00	3.9	---	343	81	28	.00	.00	.00	e.00
31	.00	---	.00	3.8	---	180	---	26	---	.00	.00	---
TOTAL	0.00	0.00	0.00	1096.90	4328.2	6222.7	1242.1	1240	190.90	0.00	0.00	0.00
MEAN	.000	.000	.000	35.4	149	201	41.4	40.0	6.36	.000	.000	.000
MAX	.00	.00	.00	94	1370	840	185	86	25	.00	.00	.00
MIN	.00	.00	.00	.00	3.1	5.3	6.2	13	.00	.00	.00	.00
AC-FT	.00	.00	.00	2180	8580	12340	2460	2460	379	.00	.00	.00

e Estimated.

## 10260950 WEST FORK MOJAVE RIVER ABOVE MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.05	1.46	13.6	36.4	134	170	58.8	35.1	13.4	.53	.058	.32
MAX	18.8	12.6	68.6	194	732	948	253	296	169	5.40	1.05	4.88
(WY)	1984	1983	1984	1978	1980	1983	1980	1978	1978	1991	1983	1976
MIN	.000	.000	.000	.000	.61	.24	.000	.000	.000	.000	.000	.000
(WY)	1975	1975	1976	1975	1991	1977	1987	1984	1975	1975	1975	1975

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR				FOR 1992 WATER YEAR				WATER YEARS 1975 - 1992			
ANNUAL TOTAL	3376.78				14320.80							
ANNUAL MEAN	9.25				39.1				38.2			
HIGHEST ANNUAL MEAN									183			
LOWEST ANNUAL MEAN									.94			
HIGHEST DAILY MEAN	401				1370				4900			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					3910				11300			
INSTANTANEOUS PEAK STAGE					9.45				23.2			
ANNUAL RUNOFF (AC-FT)	6700				28410				27690			
10 PERCENT EXCEEDS	26				57				53			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

10260950 WEST FORK MOJAVE RIVER ABOVE MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e55	3.5	24	252	680	76	10	28	46	.00	.00
2	e.00	e54	.63	22	55	182	73	9.0	64	41	.00	.00
3	e.00	e52	.62	18	49	150	71	7.5	66	36	.00	.00
4	e.00	e52	.27	15	47	145	69	7.1	65	36	.00	.00
5	e.00	e52	.27	20	57	320	68	5.8	55	36	.00	.00
6	e.00	e50	.27	152	60	593	67	5.3	55	36	.00	.00
7	.00	e50	169	237	109	583	66	4.7	56	36	.00	.00
8	.00	e50	117	410	3000	572	65	4.9	71	19	.00	.00
9	.00	e50	76	312	1330	561	63	5.2	71	.00	.00	.00
10	.00	e50	26	502	514	539	61	18	71	.00	.00	.00
11	.00	e50	5.8	475	535	552	71	51	70	.00	.00	.00
12	.00	e50	2.7	575	515	543	78	48	71	.00	.00	.00
13	.00	e50	1.1	1910	501	375	76	46	71	.00	.00	.00
14	.00	e50	1.7	1980	489	71	76	30	70	.00	.00	.00
15	.00	e50	2.2	1080	476	77	73	21	69	.00	.00	.00
16	.00	e50	2.2	1570	254	156	75	21	69	.00	.00	.00
17	.00	e50	2.5	2580	133	282	71	16	68	.00	.00	.00
18	.00	e50	2.9	2520	1210	284	65	8.8	68	.00	.00	.00
19	.00	e50	3.1	1350	3920	275	79	21	68	.00	.00	.00
20	11	e50	3.2	1080	2560	281	81	19	68	.00	.00	.00
21	e25	e50	4.0	1040	1190	280	81	19	67	.00	.00	.00
22	e40	e50	4.2	1060	804	213	82	17	67	.00	.00	.00
23	e46	e50	14	1060	1440	101	59	19	67	.00	.00	.00
24	e15	e50	37	1080	1380	95	16	19	67	.00	.00	3.6
25	.00	e50	39	930	836	84	13	19	67	.00	.00	42
26	.00	e50	41	650	1000	79	11	19	67	.00	.00	43
27	.00	e50	43	632	1020	64	9.7	19	67	.00	.00	41
28	.00	e50	22	624	992	65	9.9	19	65	.00	.00	42
29	4.5	e50	219	511	---	70	10	19	66	.00	.00	40
30	e38	e48	364	353	---	80	11	19	61	.00	.00	37
31	e23	---	175	342	---	78	---	19	---	.00	.00	---
TOTAL	202.50	1513	1383.16	25114	24728	8430	1726.6	566.3	1955	286.00	0.00	248.60
MEAN	6.53	50.4	44.6	810	883	272	57.6	18.3	65.2	9.23	.000	8.29
MAX	46	55	364	2580	3920	680	82	51	71	46	.00	43
MIN	.00	48	.27	15	47	64	9.7	4.7	28	.00	.00	.00
AC-FT	402	3000	2740	49810	49050	16720	3420	1120	3880	567	.00	493

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1993, BY WATER YEAR (WY)

MEAN	1.34	4.04	15.2	77.1	173	175	58.8	34.2	16.1	.99	.055	.74
MAX	18.8	50.4	68.6	810	883	948	253	296	169	9.23	1.05	8.29
(WY)	1984	1993	1984	1993	1993	1983	1980	1978	1978	1993	1983	1993
MIN	.000	.000	.000	.000	.61	.24	.000	.000	.000	.000	.000	.000
(WY)	1975	1975	1976	1975	1991	1977	1987	1984	1975	1975	1975	1975

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1975 - 1993
ANNUAL TOTAL	17419.46	66153.16	
ANNUAL MEAN	47.6	181	45.7
HIGHEST ANNUAL MEAN			183
LOWEST ANNUAL MEAN			.94
HIGHEST DAILY MEAN	1370	3920	4900
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		5500	11300
INSTANTANEOUS PEAK STAGE		12.31	23.2
ANNUAL RUNOFF (AC-FT)	34550	131200	33140
10 PERCENT EXCEEDS	69	547	67
50 PERCENT EXCEEDS	6.2	41	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

## 10261100 MOJAVE RIVER BELOW MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA

LOCATION.--Lat 34°21'17", long 117°14'40", in NE 1/4 NE 1/4 sec.13, T.3 N, R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 0.8 mi downstream from Mojave River Forks Reservoir, 6.2 mi downstream from Silverwood Lake on West Fork Mojave River, 6.5 mi southeast of Hesperia, and 12.2 mi downstream from Lake Arrowhead on Deep Creek (head of Mojave River).

DRAINAGE AREA.--211 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1971 to September 1974, October 1980 to current year. Prior to 1990, published as "below Forks Reservoir" and "below Mojave Forks Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 3,000 ft above sea level, from topographic map. October 1971 to September 1974, water-stage recorder at site 0.8 mi upstream on reservoir outlet channel at different datum.

REMARKS.--Records poor. Flow partially regulated by Lake Arrowhead, capacity, 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for the storage and distribution of imported water and recreation; and Mojave River Forks Reservoir, capacity 89,700 acre-ft, used for flood control. Silverwood Reservoir releases all natural inflow to the West Fork Mojave River as soon as possible after a storm. Sewage effluent from Lake Arrowhead area is released above gage at times.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft<sup>3</sup>/s, Feb. 8, 1993, maximum gage height, 7.61 ft, Jan. 7, 1993; no flow for many days in some years.

EXTREMES FOR 1992 WATER YEAR (NOT PREVIOUSLY PUBLISHED).--Maximum discharge, 8,330 ft<sup>3</sup>/s, Feb. 12, gage height, 6.52 ft; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,300 ft<sup>3</sup>/s, Feb. 8, gage height, 7.61 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
DAILY MEAN VALUES  
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	4.3	145	421	127	58	6.7	.39	.00
2	.00	.00	.00	.00	4.3	151	407	111	57	6.8	.39	.00
3	.00	.00	.00	.00	4.3	264	392	103	55	7.0	1.1	.00
4	.00	.00	.00	.00	4.3	210	316	93	54	6.4	1.2	.00
5	.00	.00	.00	49	4.3	184	302	93	52	5.7	.95	.00
6	.00	.00	.00	198	4.6	169	301	58	49	4.9	.69	.00
7	.00	.00	.00	108	48	198	214	70	20	4.7	.50	.00
8	.00	.00	.00	85	98	158	197	53	14	6.7	.32	.00
9	.00	.00	.00	68	51	149	190	96	13	11	.22	.00
10	.00	.00	.00	66	80	142	196	104	36	10	.13	.00
11	.00	.00	.00	63	628	139	205	106	14	8.3	.11	.00
12	.00	.00	.00	60	3880	135	179	107	9.1	7.1	.11	.00
13	.00	.00	.00	59	2940	140	181	103	8.0	6.7	.11	.00
14	.00	.00	.00	56	788	181	181	98	7.4	7.6	.11	.00
15	.00	.00	.00	53	301	165	174	91	7.5	6.7	1.2	.00
16	.00	.00	.00	52	253	158	169	89	7.4	5.7	1.7	.00
17	.00	.00	.00	51	231	153	171	87	7.4	4.9	.54	.00
18	.00	.00	.00	51	175	150	170	85	7.2	4.4	.13	.00
19	.00	.00	.00	49	141	147	170	78	7.2	3.3	.11	.00
20	.00	.00	.00	48	135	178	148	79	7.0	2.9	.11	.00
21	.00	.00	.00	47	141	1560	139	79	6.2	2.1	.11	.00
22	.00	.00	.00	56	139	633	202	76	5.4	2.0	.11	.00
23	.00	.00	.00	55	164	2030	184	76	5.3	1.9	.04	.00
24	.00	.00	.00	56	151	1170	124	74	5.2	1.9	.07	.00
25	.00	.00	.00	57	144	1170	119	71	4.9	1.8	.11	.00
26	.00	.00	.00	23	143	1010	115	67	3.9	1.5	.10	.00
27	.00	.00	.00	7.0	136	1000	112	69	4.1	1.4	.04	.00
28	.00	.00	.00	5.3	141	747	137	73	3.5	1.4	.00	.00
29	.00	.00	.00	5.1	144	628	141	70	4.0	.92	.00	.00
30	.00	.00	.00	4.8	---	568	135	63	5.3	.82	.00	.00
31	.00	---	.00	4.4	---	415	---	60	---	.62	.00	---
TOTAL	0.00	0.00	0.00	1436.60	11078.1	14247	6092	2609	538.0	143.86	10.70	0.00
MEAN	.000	.000	.000	46.3	382	460	203	84.2	17.9	4.64	.35	.000
MAX	.00	.00	.00	198	3880	2030	421	127	58	11	1.7	.00
MIN	.00	.00	.00	.00	4.3	135	112	53	3.5	.62	.00	.00
AC-FT	.00	.00	.00	2850	21970	28260	12080	5170	1070	285	21	.00

## 10261100 MOJAVE RIVER BELOW MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1992, BY WATER YEAR (WY)

MEAN	5.76	16.7	57.6	48.9	159	273	138	51.6	11.2	2.60	1.87	1.01
MAX	57.8	73.9	263	240	883	2004	544	333	73.8	17.1	22.7	6.94
(WY)	1984	1983	1972	1983	1983	1983	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	11.1	15.0	10.6	.20	.000	.000	.000	.000
(WY)	1986	1989	1990	1991	1987	1972	1972	1990	1989	1985	1985	1984

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1972 - 1992		
ANNUAL TOTAL	16425.20			36155.26			63.4		
ANNUAL MEAN	45.0			98.8			362		
HIGHEST ANNUAL MEAN							7.34		
LOWEST ANNUAL MEAN							11700		
HIGHEST DAILY MEAN	2660	Mar	1	3880	Feb	12		Mar	2 1983
LOWEST DAILY MEAN	.00	Jan	1	.00	Oct	1	.00	Jul	4 1981
ANNUAL SEVEN-DAY MINIMUM	.00	Jan	1	.00	Oct	1	.00	Jul	4 1981
INSTANTANEOUS PEAK FLOW				8330	Feb	12	11700	Mar	2 1983
INSTANTANEOUS PEAK STAGE				6.52	Feb	12			
ANNUAL RUNOFF (AC-FT)	32580			71710			45920		
10 PERCENT EXCEEDS	133			182			116		
50 PERCENT EXCEEDS	.00			4.7			7.0		
90 PERCENT EXCEEDS	.00			.00			.00		

## 10261100 MOJAVE RIVER BELOW MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	60	5.6	98	e432	e1520	464	161	42	28	7.4	7.5
2	.00	58	.11	85	e222	e938	408	155	79	22	6.5	8.2
3	.00	57	.04	91	e207	e860	412	140	97	21	6.2	9.1
4	.00	57	.05	67	e198	e815	436	141	95	20	6.1	8.4
5	.00	56	.04	67	e207	e960	503	141	130	19	5.8	6.6
6	.00	56	.04	e2530	e210	e1200	500	134	254	19	5.8	5.6
7	.00	55	210	e10100	e363	e1160	382	129	134	18	5.5	5.3
8	.00	54	228	e6550	e11900	e1130	346	120	149	18	5.0	5.7
9	.00	54	132	e1300	e5150	e1090	356	118	146	18	5.0	5.6
10	.00	53	89	e903	e2620	e1050	394	118	134	19	5.6	5.6
11	.00	51	33	e855	e1830	898	348	161	126	16	5.7	5.6
12	.00	51	24	e863	e1350	875	328	170	120	15	5.4	5.6
13	.00	51	21	e5290	e1090	764	309	166	120	18	5.4	5.6
14	.00	50	18	e7370	e999	436	302	159	113	21	5.5	5.6
15	.00	51	16	e4290	e913	458	336	163	105	18	6.0	5.6
16	.00	51	14	e9410	e657	496	269	161	102	16	6.0	5.6
17	.00	50	14	e10300	e479	760	265	155	99	14	5.9	6.1
18	.00	50	15	e7980	e4570	801	270	106	103	14	5.4	6.5
19	.00	50	19	e4380	e15000	760	278	97	106	13	5.1	6.4
20	.00	52	14	e3030	e8440	754	281	89	105	14	5.0	6.1
21	14	50	13	e2350	e4500	745	272	89	96	15	5.1	6.1
22	38	52	12	e1990	e3390	700	320	77	95	13	5.0	6.0
23	45	49	14	e1750	e4190	653	272	69	98	12	5.0	5.6
24	8.0	49	50	e1620	e3630	681	192	62	95	11	5.0	5.2
25	.06	49	53	e1270	e2320	639	183	68	92	11	5.0	16
26	.27	48	58	e935	e2370	633	176	75	90	11	5.4	30
27	.06	48	61	e888	e2280	465	175	68	87	11	6.0	35
28	.04	50	127	e855	e1960	393	161	60	84	11	8.6	40
29	.88	48	472	e725	---	360	159	60	81	10	7.7	44
30	36	46	773	e564	---	470	217	58	78	9.3	8.3	45
31	17	---	312	e544	---	469	---	48	---	8.4	7.5	---
TOTAL	159.31	1556	2797.88	89050	81478	23933	9314	3518	3256	483.7	182.8	358.2
MEAN	5.14	51.9	90.3	2873	2910	772	310	113	109	15.6	5.90	12.0
MAX	45	60	773	10300	15000	1520	503	170	254	28	8.6	45
MIN	.00	46	.04	67	199	360	159	48	42	8.4	5.0	5.2
AC-FT	316	3090	5550	176600	161600	47470	18470	6980	6460	959	363	712

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

MEAN	5.72	18.9	59.7	225	329	304	148	55.5	17.3	3.41	2.12	1.70
MAX	57.8	73.9	263	2873	2910	2004	544	333	109	17.1	22.7	12.0
(WY)	1984	1983	1972	1993	1993	1983	1983	1983	1993	1983	1983	1993
MIN	.000	.000	.000	.000	11.1	15.0	10.6	.20	.000	.000	.000	.000
(WY)	1986	1989	1990	1991	1987	1972	1972	1990	1989	1985	1985	1984

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1972 - 1993

ANNUAL TOTAL	40668.45	216087.99	96.4
ANNUAL MEAN	111	592	592
HIGHEST ANNUAL MEAN			1993
LOWEST ANNUAL MEAN			1990
HIGHEST DAILY MEAN	3880	15000	15000
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		21300	21300
INSTANTANEOUS PEAK STAGE		7.61	7.64
ANNUAL RUNOFF (AC-FT)	80670	428600	69840
10 PERCENT EXCEEDS	197	1140	150
50 PERCENT EXCEEDS	46	67	7.7
90 PERCENT EXCEEDS	.00	5.0	.00

## 10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA

LOCATION.--Lat 34°34'23", long 117°19'11", in SW 1/4 SE 1/4 sec.29, T.6 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 650 ft upstream from bridge on county road (formerly U.S. Highway 66), 0.6 mi downstream from Atchison, Topeka, & Santa Fe Railway bridge, 3 mi northwest of Victorville, 17.8 mi downstream from Mojave River Forks Reservoir, 24 mi downstream from Silverwood Lake on the West Fork Mojave River, and 30 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--513 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1899 to September 1906, October 1930 to current year. Monthly discharge only for January to September 1906, October, November 1930, published in WSP 1314. Prior to October 1936, published as "at Victorville" and as "near Victorville" in 1937.

CHEMICAL DATA: Specific conductance 1975-81.

WATER TEMPERATURE: Water years 1962-80.

REVISED RECORDS.--WSP 1927: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,643.01 ft above sea level. See WSP 1314 for history of gage changes prior to Mar. 28, 1938. Mar. 28, 1938, to Apr. 14, 1966, at site 350 ft upstream at datum 5.00 ft higher; Apr. 15, 1966, to July 17, 1969, at site 350 ft upstream at datum 3.00 ft higher.

REMARKS.--Records poor. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft used principally for recreation, since 1922; Silverwood Lake, capacity, 78,000 acre-ft used for storage and distribution of imported water and recreation, since 1971; and Mojave River Forks Reservoir, capacity, 89,700 acre-ft, since 1971. Diversions and pumping for irrigation and for Mojave State Fish Hatchery upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,600 ft<sup>3</sup>/s, Mar. 2, 1938, gage height, 23.7 ft, present datum, from rating curve extended above 10,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily, 1.6 ft<sup>3</sup>/s, July 25 to Aug. 5, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,400 ft<sup>3</sup>/s, Feb. 8, gage height, 7.85 ft; minimum daily, 3.0 ft<sup>3</sup>/s, Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	11	16	28	253	e1000	523	e40	15	23	6.5	4.5
2	4.4	11	16	29	187	e575	433	e37	17	16	6.5	4.5
3	4.9	11	15	27	145	e500	411	e37	8.6	16	6.5	4.3
4	5.0	11	18	26	131	e500	441	e35	16	e10	6.5	3.9
5	5.0	11	17	28	125	e550	495	e35	71	e9.5	6.5	3.7
6	5.0	11	16	60	124	e800	563	e30	46	e9.0	6.5	3.6
7	4.8	12	e180	796	129	e860	454	e30	37	e8.5	6.5	3.1
8	5.0	12	e120	2390	10200	e875	347	e25	45	e8.0	6.5	3.0
9	5.2	12	47	1020	3770	e875	355	e25	37	3.4	6.5	3.1
10	5.6	12	35	582	2490	e900	421	e20	31	3.9	6.5	3.4
11	5.8	11	32	510	1910	e900	359	e22	28	7.4	6.5	3.4
12	7.1	11	30	404	1020	e875	293	e25	38	11	7.4	3.2
13	7.0	13	28	3140	753	e850	289	e28	40	12	8.0	3.2
14	7.0	14	27	5010	715	e450	e200	e30	45	9.5	6.9	4.0
15	7.0	14	27	1200	729	e450	e150	e30	41	7.7	10	3.9
16	7.0	14	26	3330	585	e500	e140	e28	50	13	10	3.7
17	7.0	15	19	6360	346	671	e130	e28	59	11	10	4.5
18	7.2	15	15	7720	3180	830	e120	e26	59	13	9.6	5.5
19	7.6	15	15	e2100	10200	800	e110	e26	52	10	8.1	5.8
20	8.4	15	14	e1500	e13800	774	e100	e24	57	10	8.1	6.2
21	8.4	15	14	e1450	e2500	740	e100	e22	41	11	7.3	7.1
22	8.8	16	15	e1350	e2100	761	e90	e22	38	9.7	6.2	9.2
23	9.7	15	15	e1250	e1900	653	e90	e20	51	9.2	6.5	3.7
24	14	15	15	e1300	e2400	679	e80	e18	53	9.0	6.0	3.6
25	14	16	15	e1000	e1250	707	e55	e18	45	9.4	5.5	3.6
26	13	16	15	e700	e1450	691	e50	41	42	5.6	5.8	3.7
27	12	16	17	e700	e1500	565	e48	29	41	7.2	5.6	4.1
28	12	16	40	e715	e1450	451	e45	25	34	6.5	4.2	3.9
29	11	16	48	e650	---	391	e42	21	28	6.5	4.5	4.1
30	11	16	84	e450	---	465	e40	14	27	6.5	4.5	3.9
31	12	---	39	268	---	495	---	17	---	6.5	4.5	---
TOTAL	246.3	408	1030	46093	65342	21133	6974	828	1192.6	299.0	210.2	127.4
MEAN	7.95	13.6	33.2	1487	2334	682	232	26.7	39.8	9.65	6.78	4.25
MAX	14	16	180	7720	13800	1000	563	41	71	23	10	9.2
MIN	4.4	11	14	26	124	391	40	14	8.6	3.4	4.2	3.0
AC-FT	489	809	2040	91430	129600	41920	13830	1640	2370	593	417	253

e Estimated.

## MOJAVE RIVER BASIN

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1971, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.1	42.4	60.9	90.3	161	205	145	47.1	21.9	17.6	17.5	19.4
MAX	39.0	222	376	1216	2002	2229	1015	193	32.6	32.5	29.3	29.7
(WY)	1940	1966	1967	1969	1969	1938	1958	1967	1969	1969	1969	1941
MIN	13.7	22.1	26.5	33.2	30.1	28.8	25.1	18.2	14.0	10.5	8.45	10.1
(WY)	1965	1967	1965	1962	1964	1966	1966	1963	1961	1966	1966	1966

## SUMMARY STATISTICS

## WATER YEARS 1931 - 1971

ANNUAL MEAN	70.8
HIGHEST ANNUAL MEAN	402
LOWEST ANNUAL MEAN	23.2
HIGHEST DAILY MEAN	21000
LOWEST DAILY MEAN	6.0
ANNUAL SEVEN-DAY MINIMUM	6.8
INSTANTANEOUS PEAK FLOW	70600
INSTANTANEOUS PEAK STAGE	23.7
ANNUAL RUNOFF (AC-FT)	51280
10 PERCENT EXCEEDS	53
50 PERCENT EXCEEDS	30
90 PERCENT EXCEEDS	15

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.0	28.9	42.3	124	313	265	109	48.5	24.8	12.8	13.6	15.9
MAX	58.2	45.6	141	1487	2334	1585	422	261	157	22.5	23.8	41.7
(WY)	1977	1977	1972	1993	1993	1983	1978	1978	1978	1980	1979	1976
MIN	4.65	12.9	15.1	19.3	18.2	12.6	11.6	9.06	5.69	2.34	2.12	2.24
(WY)	1992	1992	1991	1990	1991	1990	1990	1990	1989	1990	1992	1992

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1972 - 1993

ANNUAL TOTAL	12988.3	143883.5	
ANNUAL MEAN	35.5	394	83.8
HIGHEST ANNUAL MEAN			394
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	1070	Feb 13	13800
LOWEST DAILY MEAN	2.0	Aug 15	3.0
ANNUAL SEVEN-DAY MINIMUM	2.0	Aug 15	3.2
INSTANTANEOUS PEAK FLOW			21400
INSTANTANEOUS PEAK STAGE			7.85
INSTANTANEOUS LOW FLOW			3.0
ANNUAL RUNOFF (AC-FT)	25760	285400	60720
10 PERCENT EXCEEDS	37	875	59
50 PERCENT EXCEEDS	14	22	25
90 PERCENT EXCEEDS	2.2	5.0	9.0

## 10262000 MOJAVE RIVER NEAR HODGE, CA

LOCATION.--Lat 34°50'09", long 117°11'27", in SE 1/4 SE 1/4 sec.28, T.9 N., R.3 W., San Bernardino County, Hydrologic Unit 18090208, at county bridge 1.5 mi north of Hodge, 10.9 mi southwest of Barstow, 42 mi downstream from Mojave River Forks Reservoir, 48 mi downstream from Silverwood Lake on West Fork Mojave River, and 54 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--1,091 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to September 1932, October 1970 to September 1993 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,260 ft above sea level, from topographic map. Prior to Oct. 1, 1970, at different datum.

REMARKS.--Records poor. Regulation by Lake Arrowhead, capacity 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for storage and distribution of imported water and recreation; and Mojave River Forks Reservoir, capacity 89,700 acre-ft. Diversion and pumping for irrigation of about 12,000 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft<sup>3</sup>/s, Feb. 10, 1978, gage height, 8.80 ft, on basis of slope-area measurement of peak flow; no flow for all or many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 9,750 ft<sup>3</sup>/s, Feb. 19, gage height 7.94; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	610	616	875	e.00	.00	e.00	.00	.00
2	.00	.00	.00	.00	507	254	830	e.00	.00	e.00	.00	.00
3	.00	.00	.00	.00	385	106	687	e.00	.00	e.00	.00	.00
4	.00	.00	.00	.00	321	95	627	e.00	.00	e.00	.00	.00
5	.00	.00	.00	.00	290	69	557	e.00	.00	e.00	.00	.00
6	.00	.00	.00	.00	264	285	557	e.00	.00	e.00	.00	.00
7	.00	.00	.00	.00	281	593	695	e.00	.00	e.00	.00	.00
8	.00	.00	.00	1650	2740	612	648	e.00	.00	e.00	.00	.00
9	.00	.00	.00	981	2140	742	480	e.00	.00	e.00	.00	.00
10	.00	.00	.00	402	1260	769	348	e.00	.00	.00	.00	.00
11	.00	.00	.00	315	1110	826	206	e.00	.00	.00	.00	.00
12	.00	.00	.00	374	971	712	141	e.00	.00	.00	.00	.00
13	.00	.00	.00	1020	852	943	110	.00	.00	.00	.00	.00
14	.00	.00	.00	3770	658	786	110	.00	.00	.00	.00	.00
15	.00	.00	.00	3470	613	533	e100	.00	.00	.00	.00	.00
16	.00	.00	.00	4340	507	433	e10	.00	.00	.00	.00	.00
17	.00	.00	.00	3500	394	601	e.00	.00	.00	.00	.00	.00
18	.00	.00	.00	6020	400	856	e.00	.00	.00	.00	.00	.00
19	.00	.00	.00	2010	3350	1020	e.00	.00	.00	.00	.00	.00
20	.00	.00	.00	677	3260	1020	e.00	.00	.00	.00	.00	.00
21	.00	.00	.00	657	603	928	e.00	.00	.00	.00	.00	.00
22	.00	.00	.00	759	206	933	e.00	.00	.00	.00	.00	.00
23	.00	.00	.00	929	111	1080	e.00	.00	e.00	.00	.00	.00
24	.00	.00	.00	962	766	1070	e.00	.00	e.00	.00	.00	.00
25	.00	.00	.00	1050	179	1090	e.00	.00	e.00	.00	.00	.00
26	.00	.00	.00	849	137	1210	e.00	.00	e.00	.00	.00	.00
27	.00	.00	.00	663	374	1360	e.00	.00	e.00	.00	.00	.00
28	.00	.00	.00	646	464	1140	e.00	.00	e.00	.00	.00	.00
29	.00	.00	.00	753	---	962	e.00	.00	e.00	.00	.00	.00
30	.00	.00	.00	723	---	861	e.00	.00	e.00	.00	.00	.00
31	.00	---	.00	656	---	962	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	37176.00	23753	23467	6981.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	1199	848	757	233	.000	.000	.000	.000	.000
MAX	.00	.00	.00	6020	3350	1360	875	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	111	69	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	73740	47110	46550	13850	.00	.00	.00	.00	.00

e Estimated.

## 10262000 MOJAVE RIVER NEAR HODGE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	1.04	55.2	171	197	65.2	19.2	4.52	.000	.012	.000
MAX	.001	.000	10.8	1199	1769	1457	372	225	113	.000	.22	.000
(WY)	1992	1931	1972	1993	1980	1983	1978	1978	1978	1931	1983	1931
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1971	1971	1971	1971	1971	1931	1931	1931	1931

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1931 - 1993

ANNUAL TOTAL	1075.80	91377.00	
ANNUAL MEAN	2.94	250	42.1
HIGHEST ANNUAL MEAN			250
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	251	Mar 28	9430
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			9750
INSTANTANEOUS PEAK STAGE			7.94
ANNUAL RUNOFF (AC-FT)	2130	181200	30470
10 PERCENT EXCEEDS	.00	850	6.1
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

## 10262500 MOJAVE RIVER AT BARSTOW, CA

LOCATION.--Lat 34°54'25", long 117°01'19", in SW 1/4 SW 1/4 sec.31, T.10 N., R.1 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 75 ft upstream from bridge on U.S. Highway 91 at Barstow, 54 mi downstream from Mojave River Forks Reservoir, 60 mi downstream from Silverwood Lake on West Fork Mojave River, and 66 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--1,291 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year.

REVISED RECORDS.--WSP 1564: 1932.

GAGE.--Water-stage recorder. Datum of gage is 2,089.34 ft above sea level.

REMARKS.--Regulation by Lake Arrowhead, capacity, 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for storage and distribution of imported water and recreation; and Mojave River Forks Reservoir, capacity, 89,700 acre-ft. Diversions and pumping for irrigation of about 15,000 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,300 ft<sup>3</sup>/s, Mar. 3, 1938, gage height, 8.60 ft on basis of slope-area measurement of peak flow; no flow for all or most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,600 ft<sup>3</sup>/s, Feb. 19, gage height, 3.39 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	e4.5	e310	.00	.00	.00	.00	.00	.00
2	e.00	e.00	e.00	e.00	e4.5	e140	.00	.00	.00	.00	.00	.00
3	e.00	e.00	e.00	e.00	e4.5	e40	.00	.00	.00	.00	.00	.00
4	e.00	e.00	e.00	e.00	e4.5	64	.00	.00	.00	.00	.00	.00
5	e.00	e.00	e.00	e.00	e4.5	77	.00	.00	.00	.00	.00	.00
6	e.00	e.00	e.00	e.00	e4.0	51	.00	.00	.00	.00	.00	.00
7	e.00	e.00	e.00	e1.0	e4.0	166	.00	.00	.00	.00	.00	.00
8	e.00	e.00	e.00	e475	e610	262	.00	.00	.00	.00	.00	.00
9	e.00	e.00	e.00	105	4850	322	.00	.00	.00	.00	.00	.00
10	e.00	e.00	e.00	.00	1630	282	.00	.00	.00	.00	.00	.00
11	e.00	e.00	e.00	.00	247	200	.00	.00	.00	.00	.00	.00
12	e.00	e.00	e.00	.00	36	232	.00	.00	.00	.00	.00	.00
13	e.00	e.00	e.00	.00	.00	334	.00	.00	.00	.00	.00	.00
14	e.00	e.00	e.00	993	.00	311	.00	.00	.00	.00	.00	.00
15	e.00	e.00	e.00	1110	.00	13	.00	.00	.00	.00	.00	.00
16	e.00	e.00	e.00	1120	.00	.00	.00	.00	.00	.00	.00	.00
17	e.00	e.00	e.00	2460	.00	.00	.00	.00	.00	.00	.00	.00
18	e.00	e.00	e.00	4060	.00	.00	.00	.00	.00	.00	.00	.00
19	e.00	e.00	e.00	1910	e9080	18	.00	.00	.00	.00	.00	.00
20	e.00	e.00	e.00	544	e12500	103	.00	.00	.00	.00	.00	.00
21	e.00	e.00	e.00	138	6360	29	.00	.00	.00	.00	.00	.00
22	e.00	e.00	e.00	33	3230	9.0	.00	.00	.00	.00	.00	.00
23	e.00	e.00	e.00	e15	1580	9.0	.00	.00	.00	.00	.00	.00
24	e.00	e.00	e.00	e7.9	1380	.00	.00	.00	.00	.00	.00	.00
25	e.00	e.00	e.00	e7.0	1680	.00	.00	.00	.00	.00	.00	.00
26	e.00	e.00	e.00	e7.0	1270	.00	.00	.00	.00	.00	.00	.00
27	e.00	e.00	e.00	e6.6	883	.00	.00	.00	.00	.00	.00	.00
28	e.00	e.00	e.00	e5.3	e550	.00	.00	.00	.00	.00	.00	.00
29	e.00	e.00	e.00	e5.2	---	.00	.00	.00	.00	.00	.00	.00
30	e.00	e.00	e.00	e5.0	---	.00	.00	.00	.00	.00	.00	.00
31	e.00	---	e.00	e4.5	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	13012.50	45916.50	2972.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	420	1640	95.9	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	4060	12500	334	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	25810	91080	5890	.00	.00	.00	.00	.00	.00

e Estimated.

## MOJAVE RIVER BASIN

10262500 MOJAVE RIVER AT BARSTOW, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.001	.39	3.73	26.6	103	122	45.1	5.75	.001	.004	.024	.018
MAX	.061	20.2	116	747	1640	1962	547	93.5	.080	.090	1.31	.71
(WY)	1959	1966	1967	1969	1993	1938	1941	1941	1972	1965	1979	1984
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1931 - 1993

ANNUAL TOTAL	14.40	61901.00	
ANNUAL MEAN	.039	170	25.1
HIGHEST ANNUAL MEAN			202
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	8.6 Mar 25	12500 Feb 20	18100 Mar 3 1938
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1930
INSTANTANEOUS PEAK FLOW		18600 Feb 19	64300 Mar 3 1938
INSTANTANEOUS PEAK STAGE		3.39 Feb 19	8.60 Mar 3 1938
ANNUAL RUNOFF (AC-FT)	29	122800	18190
10 PERCENT EXCEEDS	.00	69	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

## 10263000 MOJAVE RIVER AT AFTON, CA

LOCATION.--Lat 35°02'14", long 116°23'00", in NW 1/4 SE 1/4 sec.18, T.11 N., R.6 E., San Bernardino County, Hydrologic Unit 18090208, on right bank side of right pier of Union Pacific Railroad bridge, 0.3 mi west of Afton, and 63 mi east of Barstow.

DRAINAGE AREA.--2,121 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to September 1932, October 1952 to current year. Records for water year 1930 incomplete; yearly estimate published in WSP 1314. Records for water years 1979 and 1980 incomplete; discharge measurements only were published at that time.

REVISED RECORDS.--WSP 1564: 1931.

GAGE.--Water-stage recorder. Datum of gage is 1,398.15 ft above sea level. Dec. 21, 1929, to Sept. 30, 1932, at site 1.7 mi downstream at different datum; October 1952 to May 1978, at datum 2 ft higher.

REMARKS.--Records fair. Natural flow affected by ground-water withdrawals, diversions, municipal use, and storage in reservoirs 100 mi upstream. For description of upstream reservoirs see Mojave River at Barstow (station 10262500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft<sup>3</sup>/s, Jan. 26, 1969, gage height, 12.40 ft (present datum), from rating curve extended above 3,200 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow at times during many years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 10,000 ft<sup>3</sup>/s, Feb. 20; minimum daily, .05 ft<sup>3</sup>/s, Aug. 29 to Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.25	.48	4.3	5.4	e250	e1.8	.46	.39	.33	.21	.05
2	.13	.26	.51	5.0	7.8	e180	e1.7	.46	.34	.31	.18	.05
3	.13	.24	.52	4.9	11	e90	e1.6	.50	.38	.27	.18	.05
4	.17	.24	.57	5.3	14	e50	e1.5	.51	.40	.30	.18	.05
5	.19	.26	.58	5.9	17	e44	e1.4	.50	.45	.29	.20	.05
6	.19	.28	.56	9.9	23	e39	e1.3	.54	.39	.31	.19	.05
7	.19	.28	.60	31	28	e36	e1.2	.56	.39	.29	.18	.05
8	.22	.29	.63	209	61	e66	e1.2	.56	.40	.26	.18	.05
9	.25	.29	.64	9.0	1060	e72	e1.1	.56	.41	.28	.19	.05
10	.26	.27	.64	3.3	e550	e80	e1.1	.58	.42	.22	.19	.06
11	.28	.29	.67	2.3	e200	e90	e1.0	.79	.41	.21	.17	.06
12	.31	.34	.64	.98	e81	e60	e1.0	1.1	.33	.22	.18	.06
13	.34	.35	.64	.65	e9.0	e32	1.0	1.0	.32	.21	.20	.07
14	.31	.36	.64	.51	e.90	e17	1.0	.78	.33	.22	.20	.08
15	.38	.37	.68	.26	e.77	e11	.96	.56	.31	.23	.20	.09
16	.48	.37	.71	134	e.68	e8.6	.83	.72	.31	.26	.18	.12
17	.54	.38	.87	573	e.60	e6.6	.83	.60	.32	.22	.19	.15
18	.60	.37	1.1	2080	e.55	e5.6	.80	.45	.34	.22	.19	.18
19	.65	.37	.96	e3700	e.50	e10	.73	.38	.31	.23	.18	.21
20	.69	.36	1.2	e600	e10000	e30	.55	.37	.32	.24	.17	.22
21	.78	.37	1.3	e150	e5000	e70	.48	.40	.30	.27	.18	.24
22	.80	.39	1.5	e.26	e2200	e12	.49	.36	.30	.30	.19	.24
23	.89	.39	1.6	e.26	e1300	e6.5	.46	.35	.33	.30	.17	.25
24	1.2	.39	2.1	e.26	e1150	e4.8	.47	.34	.38	.24	.16	.24
25	80	.45	2.3	e.26	e1000	e4.0	.45	.34	.40	.22	.17	.28
26	.63	.46	2.3	.26	e920	e3.4	.40	.35	.35	.21	.18	.32
27	.27	.47	3.1	.44	e530	e3.0	.45	.37	.34	.20	.20	.32
28	.30	.47	8.0	.81	e350	e2.6	.45	.34	.36	.19	.13	.34
29	.29	.49	3.8	1.2	---	e2.4	.45	.34	.33	.21	.15	.34
30	.27	.47	3.4	2.1	---	e2.1	.46	.38	.33	.20	.06	.32
31	.27	---	3.9	3.8	---	e1.9	---	.35	---	.20	.05	---
TOTAL	92.15	10.57	47.14	7538.95	24521.20	1290.5	27.16	15.90	10.69	7.66	5.38	4.64
MEAN	2.97	.35	1.52	243	876	41.6	.91	.51	.36	.25	.17	.15
MAX	80	.49	8.0	3700	10000	250	1.8	1.1	.45	.33	.21	.34
MIN	.13	.24	.48	.26	.50	1.9	.40	.34	.30	.19	.05	.05
AC-FT	183	21	94	14950	48640	2560	54	32	21	15	11	9.2

e Estimated.

## MOJAVE RIVER BASIN

10263000 MOJAVE RIVER AT AFTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.78	.97	3.02	15.4	50.2	20.3	3.19	.72	.45	.53	1.53	.79
MAX	2.97	2.29	63.9	347	876	415	56.4	1.80	1.58	3.13	18.0	4.30
(WY)	1993	1981	1966	1969	1993	1978	1969	1931	1981	1967	1984	1988
MIN	.000	.000	.21	.34	.59	.22	.20	.099	.000	.000	.000	.000
(WY)	1967	1969	1978	1976	1975	1975	1977	1977	1976	1966	1966	1966

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1930 - 1993

ANNUAL TOTAL	428.16	33571.94	
ANNUAL MEAN	1.17	92.0	7.91
HIGHEST ANNUAL MEAN			100
LOWEST ANNUAL MEAN			.22
HIGHEST DAILY MEAN	80	Oct 25	10000
LOWEST DAILY MEAN	.00	Jul 19	.05
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 19	.05
INSTANTANEOUS PEAK FLOW			10000
INSTANTANEOUS PEAK STAGE			18000
ANNUAL RUNOFF (AC-FT)	849	66590	12.40
10 PERCENT EXCEEDS	1.3	31	5730
50 PERCENT EXCEEDS	.34	.41	1.7
90 PERCENT EXCEEDS	.04	.18	.80

## 10263500 BIG ROCK CREEK NEAR VALYERMO, CA

LOCATION.--Lat 34°25'15", long 117°50'19", in SE 1/4 NE 1/4 sec.20, T.4 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, on left bank 0.1 mi upstream from Punchbowl Canyon and 1.9 mi southeast of Valyermo.

DRAINAGE AREA.--22.9 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1923 to current year. Monthly discharge only for June 1938 to January 1939, published in WSP 1314. Prior to October 1954, published as Rock Creek near Valyermo.

REVISED RECORDS.--WSP 1314: 1938-39. WSP 1564: 1932, 1937, 1939(M). WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,050 ft above sea level, from topographic map. Prior to May 4, 1938, at same site at different datums. May 4, 1938, to Jan. 26, 1939, at site 0.2 mi downstream (below Punchbowl Canyon) at different datum.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,300 ft<sup>3</sup>/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; minimum daily, 0.70 ft<sup>3</sup>/s, Nov. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0800	90	2.69	Feb. 8	0245	963	4.28
Dec. 29	1100	53	2.54	Feb. 18	2345	*2,240	*5.62
Jan. 7	2245	1,000	4.33	June 5	1430	177	2.89
Jan. 17	1630	971	4.29				

Minimum daily, 2.9 ft<sup>3</sup>/s, Oct. 12

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.7	6.0	13	94	161	110	107	64	e33	20	19
2	7.3	6.5	7.0	12	89	154	106	108	61	32	17	17
3	7.6	6.6	8.2	11	86	147	106	113	60	32	23	17
4	6.2	6.2	8.7	9.5	83	133	112	114	63	31	33	15
5	4.8	6.1	8.4	8.7	81	136	116	105	107	32	33	13
6	5.0	5.3	8.2	86	79	133	105	103	94	32	31	14
7	4.8	4.3	35	406	120	136	101	101	82	32	30	14
8	3.9	4.6	13	323	607	133	97	94	79	31	28	14
9	3.9	5.1	9.2	113	293	129	96	89	75	30	27	12
10	3.5	5.3	7.8	80	226	120	97	89	74	29	27	12
11	3.1	6.2	7.7	64	194	116	98	95	73	30	27	11
12	2.9	6.8	7.6	60	172	116	99	93	70	30	27	12
13	3.1	6.7	7.1	414	159	113	94	89	67	29	27	12
14	3.6	6.6	6.7	484	145	120	89	89	64	28	26	12
15	3.4	6.2	6.4	345	137	126	89	88	e61	28	26	12
16	3.4	6.1	6.1	567	127	120	89	86	e58	27	25	12
17	3.5	6.7	6.5	644	126	131	89	85	e56	28	25	12
18	3.4	7.6	7.8	492	478	146	89	85	e54	26	25	12
19	3.4	8.0	7.1	294	1370	140	88	84	e52	24	27	13
20	3.3	8.7	6.6	237	525	136	87	82	e49	24	27	15
21	4.0	9.6	6.1	198	371	135	90	79	e47	24	24	15
22	4.5	10	5.8	180	348	133	91	76	e46	22	23	15
23	5.1	11	5.7	168	312	138	91	72	e44	22	22	14
24	5.8	11	5.6	153	248	142	90	71	e42	23	22	14
25	5.4	11	5.1	142	226	147	91	70	e41	21	22	13
26	5.2	11	4.5	133	210	155	100	69	e39	21	22	12
27	4.9	11	4.5	123	181	137	103	68	e38	21	21	11
28	4.8	8.8	5.1	116	177	130	103	65	e37	20	20	11
29	4.9	6.0	33	110	---	116	104	64	e36	20	20	11
30	6.6	5.8	30	105	---	110	106	65	e34	20	20	11
31	6.7	---	17	100	---	109	---	64	---	20	20	---
TOTAL	144.5	221.5	303.5	6191.2	7264	4098	2926	2662	1767	822	767	397
MEAN	4.66	7.38	9.79	200	259	132	97.5	85.9	58.9	26.5	24.7	13.2
MAX	7.6	11	35	644	1370	161	116	114	107	33	33	19
MIN	2.9	4.3	4.5	8.7	79	109	87	64	34	20	17	11
AC-FT	287	439	602	12280	14410	8130	5800	5280	3500	1630	1520	787

e Estimated.

## 10263500 BIG ROCK CREEK NEAR VALYERMO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.13	7.62	10.7	19.0	31.2	38.2	31.5	28.1	19.1	11.0	7.96	6.40
MAX	19.0	116	67.0	245	303	432	144	120	91.4	42.2	26.5	19.7
(WY)	1984	1966	1947	1969	1980	1978	1978	1941	1978	1983	1983	1983
MIN	1.05	1.09	1.80	2.10	2.39	2.40	2.67	2.35	1.61	1.15	1.09	1.01
(WY)	1952	1952	1991	1951	1951	1951	1951	1951	1961	1961	1961	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1923 - 1993	
ANNUAL TOTAL	8775.3		27563.7		18.0	
ANNUAL MEAN	24.0		75.5		90.9	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1951	
HIGHEST DAILY MEAN	456	Feb 12	1370	Feb 19	3300	Mar 2 1938
LOWEST DAILY MEAN	2.9	Oct 12	2.9	Oct 12	.70	Nov 5 1951
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 10	3.3	Oct 10	.87	Nov 3 1951
INSTANTANEOUS PEAK FLOW			2240	Feb 18	8300	Mar 2 1938
INSTANTANEOUS PEAK STAGE			5.62	Feb 18		
ANNUAL RUNOFF (AC-FT)	17410		54670		13040	
10 PERCENT EXCEEDS	49		146		37	
50 PERCENT EXCEEDS	9.4		32		7.5	
90 PERCENT EXCEEDS	4.8		5.8		2.7	

10264502 PEACH TREE CREEK NEAR LITTLEROCK, CA

LOCATION.--Lat 34°31'34", long 117°59'58", in NW 1/4 NE 1/4 sec.14, T.5 N., R.11 W., Los Angeles County, Hydrologic Unit 18090206, 150 ft northeast of junction of Zinney Road and Avenue U-3 and 1.1 mi northwest of Littlerock.

DRAINAGE AREA.--0.04 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and broad-crested weir. Elevation of gage is 2,850 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10 ft<sup>3</sup>/s, Feb. 12, Oct. 23, 1992, gage height, 1.00 ft, from rating curve extended above 5.5 ft<sup>3</sup>/s on basis of critical-depth computations; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1.5 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 23	1725	*10	*1.00	Feb. 18	1755	3.8	0.81
Oct. 30	1235	5.0	0.86	Mar. 25	2140	2.2	0.72
Dec. 29	0500	2.0	0.70				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
2	.01	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
3	.01	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
4	.00	.02	.18	.00	.00	.00	.00	.00	.00	.00	.00	.01
5	.00	.01	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
6	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.01
7	.00	.00	.16	.09	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.01	.00	.01	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.27	.43	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.23	.17	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.04	.01	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.38	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
25	.05	.00	.00	.00	.00	.18	.00	.00	.00	.00	.01	.00
26	.03	.00	.00	.00	.00	.07	.00	.00	.01	.00	.01	.00
27	.02	.00	.03	.00	.08	.00	.00	.00	.00	.00	.01	.00
28	.04	.00	.02	.00	.00	.00	.00	.00	.00	.00	.01	.00
29	.01	.00	.13	.00	---	.00	.00	.00	.00	.00	.01	.00
30	.21	.00	.01	.00	---	.00	.00	.00	.00	.00	.01	.00
31	.03	---	.00	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	0.84	0.08	0.53	1.35	0.69	0.26	0.00	0.00	0.11	0.00	0.08	0.07
MEAN	.027	.003	.017	.044	.025	.008	.000	.000	.004	.000	.003	.002
MAX	.38	.03	.18	.29	.43	.18	.00	.00	.10	.00	.01	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.7	.2	1.1	2.7	1.4	.5	.00	.00	.2	.00	.2	.1

## 10264502 PEACH TREE CREEK NEAR LITTLEROCK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.008	.001	.008	.016	.023	.013	.003	.001	.002	.002	.003	.003
MAX	.027	.003	.017	.044	.066	.044	.011	.003	.007	.006	.005	.007
(WY)	1993	1993	1993	1993	1992	1991	1992	1992	1989	1992	1989	1990
MIN	.000	.000	.000	.004	.005	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1989	1990	1989	1990	1990	1991	1991	1991	1993	1991	1991

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1989 - 1993

ANNUAL TOTAL	5.32	4.01	
ANNUAL MEAN	.015	.011	
HIGHEST ANNUAL MEAN			.007
LOWEST ANNUAL MEAN			.012
HIGHEST DAILY MEAN	.97 Feb 12	.43 Feb 18	.002 1992
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 4	.002 1990
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 11	.00 Oct 4	.00 Oct 1 1988
INSTANTANEOUS PEAK FLOW		10 Oct 23	.00 Oct 1 1988
INSTANTANEOUS PEAK STAGE		1.00 Oct 23	10 Feb 12 1992
ANNUAL RUNOFF (AC-FT)	11	8.0	1.00 Feb 12 1992
10 PERCENT EXCEEDS	.01	.01	4.9
50 PERCENT EXCEEDS	.00	.00	.01
90 PERCENT EXCEEDS	.00	.00	.00

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Feb. 14, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 1.21 in., Feb. 10, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.54 in., Jan. 6; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	---	.10	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	---	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	---	---	.00	.00	.00	.00	.00	.16	.00	.00	.00
6	.00	---	---	.54	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	---	.48	.17	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	---	.00	.27	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	---	.00	.03	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	---	.05	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	---	.20	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	---	.34	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	---	.10	.00	.01	.00	.00	.00	.00	.00	.00
15	.00	.00	---	.21	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	---	.21	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	---	.27	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	---	.33	.52	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	.00	.37	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	---	.00	.08	.00	.00	.00	.00	.00	.00	.00
21	.01	---	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	---	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.33	---	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
24	.00	---	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	---	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00
26	.00	---	.00	.00	.01	.15	.00	.00	.00	.00	.00	.00
27	.00	---	.22	.00	.29	.00	.00	.00	.00	.00	.00	.00
28	.00	---	.09	.00	.01	.04	.00	.00	.00	.00	.00	.00
29	.00	---	.22	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.12	---	.04	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.46	---	---	2.83	1.78	0.37	0.00	0.00	0.16	0.00	0.00	0.00

## 10264508 SOMERSET CREEK AT PALMDALE, CA

LOCATION.--Lat 34°34'07", long 118°05'06", in NE 1/4 NW 1/4 sec.31, T.6 N., R.11 W., Los Angeles County, Hydrologic Unit 18090206, on left bank, 100 ft south of the terminus of Westview Drive, 0.1 mi west of 25th Street East, 0.1 mi south of Avenue R-4, and 1.5 mi southeast of Palmdale.  
DRAINAGE AREA.--Indeterminate, but less than 0.50 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1989 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and weir control. Elevation of gage is 2,640 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63 ft<sup>3</sup>/s, Feb. 18, 1993, gage height, 1.55 ft, from rating curve extended above 0.12 ft<sup>3</sup>/s on basis of weir and critical-depth computations and slope-area measurement; no flow for many days each year.

EXTREMES FOR 1992.--(Not previously published.) Peak discharges greater than base discharge of 2.5 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 27	2400	2.7	0.81	Feb. 12	1210	*42	*1.33
Jan. 5	1325	18	1.01	Feb. 15	1720	14	.94
				Mar. 21	1055	23	1.08

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2.5 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 29	0905	11	0.90	Jan. 7	1530	23	1.08
Jan. 2	0515	11	0.90	Jan. 13	0815	18	1.00
				Feb. 18	1800	*63	*1.55

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
DAILY MEAN VALUES  
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	.00	.00	.00	.00	.11	.01	.01	e.00	e.00	.01
2	.00	.00	.00	.00	.00	.08	.00	.01	.01	e.00	.01	.01
3	.00	.00	.00	.08	.00	.00	.01	.01	.00	e.00	.01	.02
4	.00	.00	.00	.00	.00	.00	.01	.02	.01	e.00	.00	.01
5	.01	.00	.00	1.1	.02	.00	.03	.02	.01	e.00	.00	.01
6	.00	.00	.00	.02	.02	.04	.01	.01	.00	e.00	.00	.01
7	.00	.00	.01	.77	.01	.00	.00	.01	.00	e.00	.00	.02
8	.00	.00	.09	2.3	.00	.00	.01	.01	.00	e.00	.00	.01
9	.00	.00	.00	.01	.07	.00	.01	.01	.01	e.00	.00	.02
10	.00	.00	.02	.00	4.7	.00	.01	.01	.00	e.00	.00	.02
11	.00	.00	.00	.00	.72	.00	.01	.01	.00	e.00	.00	.02
12	.00	.00	.00	.00	3.0	.00	.01	.01	.00	e.00	.00	.03
13	.00	.00	.00	.00	.31	.00	.01	.00	.00	e.00	.00	.02
14	.00	.00	.00	.00	.01	.00	.00	.00	.00	e.00	.00	.01
15	.00	.00	.00	.00	1.4	.00	.00	.01	.00	e.00	.00	.01
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.01	.01
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.01
18	.00	.00	.00	.00	.00	.00	.01	.01	.00	e.00	.00	.01
19	.00	.00	.00	.00	.00	.00	.01	.02	.00	e.00	.01	.01
20	.01	.00	.00	.00	.00	.44	.01	.00	.00	e.00	.00	.01
21	.00	.00	.00	.00	.00	.55	.01	.01	.01	e.00	.00	.00
22	.00	.01	.00	.00	.00	.07	.01	.00	.00	e.00	.00	.00
23	.00	.00	.00	.00	.00	.58	.01	.00	.00	e.00	.00	.01
24	.00	.00	.00	.00	.00	.00	.01	.01	.00	e.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.01	.00	.00	e.00	.00	.00
26	.01	.00	.00	.00	.00	.00	.01	.01	.00	e.00	.00	.01
27	.00	.00	.06	.00	.00	.21	.00	.00	e.00	e.00	.00	.01
28	.00	.00	.13	.00	.00	.00	.00	.00	e.00	e.00	.03	.01
29	.00	.00	.11	.00	.00	.00	.01	.01	e.00	e.00	.03	.01
30	.00	.00	.00	.00	---	.00	.01	.01	e.00	e.00	.02	.01
31	.00	---	.00	.00	---	.06	---	.01	---	e.00	.02	---
TOTAL	0.04	0.01	0.42	4.28	10.26	2.03	0.34	0.24	0.06	0.00	0.14	0.34
MEAN	.001	.000	.014	.14	.35	.065	.011	.008	.002	.000	.005	.011
MAX	.01	.01	.13	2.3	4.7	.58	.11	.02	.01	.00	.03	.03
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.08	.02	.8	8.5	20	4.0	.7	.5	.1	.00	.3	.7

e Estimated.

## 10264508 SOMERSET CREEK AT PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.005	.006	.006	.052	.13	.044	.006	.007	.007	.006	.005	.007
MAX	.011	.013	.014	.14	.35	.10	.011	.012	.012	.014	.009	.016
(WY)	1990	1991	1992	1992	1992	1991	1992	1990	1989	1989	1990	1989
MIN	.001	.000	.000	.007	.010	.003	.001	.000	.002	.000	.001	.001
(WY)	1992	1992	1991	1990	1990	1990	1989	1991	1992	1992	1991	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1989 - 1992	
ANNUAL TOTAL	4.71		18.16			
ANNUAL MEAN	.013		.050		.023	
HIGHEST ANNUAL MEAN					.050	1992
LOWEST ANNUAL MEAN					.007	1990
HIGHEST DAILY MEAN	1.2	Mar 1	4.7	Feb 10	4.7	Feb 10 1992
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 2	.00	Feb 7 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 10	.00	Oct 6	.00	Feb 13 1989
INSTANTANEOUS PEAK FLOW			42	Feb 12	42	Feb 12 1992
INSTANTANEOUS PEAK STAGE			1.33	Feb 12	1.33	Feb 12 1992
ANNUAL RUNOFF (AC-FT)	9.3		36		17	
10 PERCENT EXCEEDS	.01		.02		.02	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

10264508 SOMERSET CREEK AT PALMDALE, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	.00	.02	.01	.00	.00	.02	.01	.02	.03	.04
2	.01	.00	.00	.33	.00	.00	.00	.01	.01	.02	.02	.02
3	.01	.00	.00	.00	.01	.00	.00	.00	.02	.02	.02	.02
4	.01	.00	.02	.00	.00	.00	.00	.01	.02	.01	.02	.03
5	.01	.00	.00	.00	.01	.01	.00	.01	.41	.02	.02	.04
6	.00	.00	.00	3.2	.00	.01	.00	.01	.01	.02	.01	.02
7	.00	.00	.02	6.2	.01	.01	.00	.00	.01	.02	.01	.03
8	.00	.00	.00	.03	.02	.01	.00	.01	.01	.01	.01	.02
9	.00	.00	.00	.00	e2.6	.01	.01	.01	.01	.02	.01	.01
10	.00	.00	.00	.03	e.50	.00	.01	.01	.01	.01	.01	.02
11	.00	.00	.00	.00	e.00	.00	.01	.02	.01	.01	.02	.01
12	.00	.00	.00	1.2	e.00	.00	.01	.00	.01	.01	.01	.02
13	.00	.00	.00	1.7	e.00	.00	.00	.01	.01	.01	.02	.02
14	.00	.00	.00	.50	e.00	.01	.01	.01	.02	.01	.02	.02
15	.00	.00	.00	.20	e.00	.00	.00	.01	.01	.02	.02	.02
16	.00	.00	.00	1.2	e.00	.00	.00	.01	.01	.01	.02	.01
17	.00	.01	.00	.23	e.00	.00	.00	.01	.02	.01	.02	.02
18	.00	.00	.00	1.8	e5.1	.00	.00	.01	.01	.01	.03	.03
19	.00	.00	.00	.96	e3.2	.00	.00	.01	.02	.01	.03	.02
20	.00	.00	.00	.00	2.6	.00	.01	.01	.01	.01	.02	.05
21	.01	.00	.00	.00	.48	.00	.00	.01	.01	.01	.02	.04
22	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.04
23	.01	.00	.00	.00	.14	.00	.00	.01	.01	.01	.02	.02
24	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.02	.02
25	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.02	.02
26	.00	.00	.00	.00	.04	.00	.00	.01	.02	.01	.02	.02
27	.00	.00	.06	.00	.22	.00	.01	.01	.02	.02	.02	.02
28	.00	.00	.04	.01	.00	.00	.01	.01	.02	.01	.03	.02
29	.00	.00	1.2	.01	---	.00	.01	.01	.02	.01	.03	.02
30	.01	.00	.58	.01	---	.00	.01	.01	.02	.02	.01	.02
31	.00	---	.02	.01	---	.00	---	.01	---	.02	.03	---
TOTAL	0.08	0.01	1.94	17.64	14.94	0.06	0.12	0.30	0.80	0.42	0.61	0.71
MEAN	.003	.000	.063	.57	.53	.002	.004	.010	.027	.014	.020	.024
MAX	.01	.01	1.2	6.2	5.1	.01	.01	.02	.41	.02	.03	.05
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01
AC-FT	.2	.02	3.8	35	30	.1	.2	.6	1.6	.8	1.2	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	1990	1991	1993	1993	1993	1991	1992	1990	1993	1989	1993	1993
MEAN	.004	.005	.020	.18	.23	.036	.005	.008	.011	.007	.008	.011
MAX	.011	.013	.063	.57	.53	.10	.011	.012	.027	.014	.020	.024
(WY)	1990	1991	1993	1993	1993	1991	1992	1990	1993	1989	1993	1993
MIN	.001	.000	.000	.007	.010	.002	.001	.000	.002	.000	.001	.001
(WY)	1992	1992	1991	1990	1990	1993	1989	1991	1992	1992	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1989 - 1993
ANNUAL TOTAL	19.72	37.63	
ANNUAL MEAN	.054	.10	.043
HIGHEST ANNUAL MEAN			.10
LOWEST ANNUAL MEAN			.007
HIGHEST DAILY MEAN	4.7 Feb 10	6.2 Jan 7	6.2 Jan 7 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 6	.00 Feb 7 1989
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 10	.00 Oct 6	.00 Feb 13 1989
INSTANTANEOUS PEAK FLOW		63 Feb 18	63 Feb 18 1993
INSTANTANEOUS PEAK STAGE		1.55 Feb 18	1.55 Feb 18 1993
ANNUAL RUNOFF (AC-FT)	39	75	31
10 PERCENT EXCEEDS	.02	.03	.02
50 PERCENT EXCEEDS	.00	.01	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

10264508 SOMERSET CREEK AT PALMDALE, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket raingage since Feb. 23, 1989

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.0 inches, Feb. 18, 1993; no rainfall for many days each year.

EXTREMES FOR 1992.--Maximum daily rainfall, 1.77 inches, Feb. 10; no rainfall for many days.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 2.0 inches, Feb. 18; no rainfall for many days.

 RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
 DAILY SUM VALUES  
 (NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.01	.00	.00	---	.00	.00	---	---	.00
2	.00	.00	.00	.00	.00	.20	---	.00	.00	---	.00	.00
3	.00	.00	.00	.28	.00	.00	---	.00	.00	---	.00	.00
4	.00	.00	.00	.00	.00	.00	---	.00	.00	---	.00	.00
5	.00	.00	.00	.80	.09	.00	---	.00	.00	---	.00	.00
6	.00	.00	.00	.07	.13	.08	---	.00	.00	---	.00	.00
7	.00	.00	.14	.49	.06	.00	---	.00	.00	---	.00	.00
8	.00	.00	.42	.60	.00	.00	---	.00	.00	---	.00	.00
9	.00	.00	.00	.00	.31	.00	---	.00	.00	---	.00	.00
10	.00	.00	.11	.00	1.77	.00	---	.00	.00	---	.00	.00
11	.00	.00	.00	.00	.37	.00	---	.00	.00	---	.00	.00
12	.01	.00	.00	.00	1.12	.00	.00	.00	.00	---	.02	.00
13	.00	.00	.00	.00	.26	.00	.00	.00	.00	---	.01	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.00
15	.00	.00	.00	.00	.58	.00	.00	.00	.00	---	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
20	.00	.00	.00	.00	.00	.15	.00	.00	---	---	.00	.00
21	.00	.00	.00	.00	.00	.11	.00	.00	---	---	.00	.00
22	.00	.00	.00	.00	.00	.10	.00	.00	---	---	.00	.00
23	.00	.00	.00	.00	.00	.16	.00	.00	---	---	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.02
26	.54	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
27	.00	.00	.35	.00	.00	.37	.00	.00	---	---	.00	.00
28	.00	.00	.18	.00	.00	.00	.00	.00	---	---	.00	.00
29	.00	.00	.66	.00	.00	.00	.00	.00	---	---	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	---	---	.00	.00
31	.00	---	.00	.00	---	e.13	---	.00	---	---	.00	---
TOTAL	0.55	0.00	1.86	2.25	4.69	1.30	---	0.00	---	---	---	0.02

CAL YR 1991 TOTAL 9.35

e Estimated.

## 10264508 SOMERSET CREEK AT PALMDALE, CA--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00
2	.00	.00	.00	.17	.00	.00	---	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00
4	.00	.00	.19	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.01	.00	.00	.00	.00	.00	.18	.00	.00	.00
6	.00	.00	.01	.62	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.48	.82	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.26	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.36	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.05	.07	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.38	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.32	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.06	.00	.01	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.04	.15	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.04	.34	e2.0	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.25	.64	---	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.35	---	.00	.00	.00	.00	.00	.00
21	.05	.00	.00	.00	.11	---	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.01	---	.00	.00	.00	.00	.00	.00
23	.07	.00	.00	.00	.12	---	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.11	---	.00	.00	.00	.00	.00	.00
27	.00	.00	.19	.00	.14	---	.00	.00	.00	.00	.00	.00
28	.00	.00	.08	.00	.00	---	.00	.00	.00	.00	.00	.00
29	.00	.00	.36	.00	---	---	.00	.00	.00	.00	.00	.00
30	.09	.00	.03	.00	---	---	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	---	---	.00	---	.00	.00	---
TOTAL	0.21	0.00	1.44	3.58	4.17	---	---	0.00	0.18	0.00	0.00	0.00

e Estimated.

10264510 INN CREEK AT PALMDALE, CA

LOCATION.--Lat 34°34'51", long 118°08'05", in SW 1/4 NE 1/4 sec.27, T.6 N., R.12 W., Los Angeles County, Hydrologic Unit 18090206, on left bank 100 ft north of Camino Real Avenue, 0.1 mi south of Elizabeth Lake Road, and 1 mi west of Palmdale.

DRAINAGE AREA.--0.03 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1988 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 8.32 ft, from rating curve extended above 1.4 ft<sup>3</sup>/s on basis of culvert computations; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3.5 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1430	8.9	8.79	Jan. 14	0145	11	9.41
Dec. 29	0530	5.2	7.62	Jan. 18	0125	6.2	7.92
Jan. 7	0440	8.2	8.55	Feb. 7	2350	9.8	9.12
				Feb. 18	1830	*13	*10.06

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.00	.00	.00	.00	.01	e.00	e.00	e.00	e.00	e.00	.00
2	.00	e.00	.00	.01	.00	.00	e.00	e.00	e.00	e.00	e.00	.00
3	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00	.00	.00
4	.00	.01	.08	.00	.00	.00	e.00	e.00	e.00	e.00	.01	.00
5	.00	.01	.00	.00	.00	.00	e.00	e.00	e.35	e.00	.00	.00
6	.00	.02	.00	.38	.00	.00	e.00	e.00	e.00	e.00	.00	.00
7	e.00	.02	1.5	1.4	.29	.00	e.00	e.00	e.00	e.00	.00	.00
8	e.00	.01	.00	.03	.20	.00	e.00	e.00	e.00	e.00	.00	.00
9	e.00	.01	.00	.02	.06	.00	e.00	e.00	e.00	e.00	.00	.00
10	e.00	.01	.00	.04	.03	.00	e.00	e.00	e.00	e.00	.00	.00
11	e.00	.01	.00	.01	.01	.00	e.00	e.00	e.00	e.00	.00	.00
12	e.00	.02	.00	.33	.00	.00	e.00	e.00	e.00	e.00	.00	.00
13	e.00	.01	.00	.86	.02	.00	e.00	e.00	e.00	e.00	.00	.00
14	e.00	.01	.00	.39	.01	.00	e.00	e.00	e.00	e.00	.00	.00
15	e.00	.01	.00	.23	.00	.00	e.00	e.00	e.00	e.00	.00	.00
16	e.00	.01	.00	.10	.00	.00	e.00	e.00	e.00	e.00	.00	.00
17	e.00	.01	.02	.39	.00	.00	e.00	e.00	e.00	e.00	.00	.00
18	e.00	.01	.04	.37	.79	.00	e.00	e.00	e.00	e.00	.00	.00
19	e.00	.02	.00	.06	.28	e.00	e.00	e.00	e.00	e.00	.00	.00
20	e.00	.01	.00	.01	.08	e.00	e.00	e.00	e.00	e.00	.00	.00
21	e.00	.01	.00	.01	.02	e.00	e.00	e.00	e.00	e.00	.00	.00
22	e.00	.01	.00	.00	.02	e.00	e.00	e.00	e.00	e.00	.00	.00
23	e.00	.01	.00	.00	.06	e.00	e.00	e.00	e.00	e.00	.00	.00
24	e.00	.01	.00	.00	.01	e.00	e.00	e.00	e.00	e.00	.00	.00
25	e.00	.01	.00	.00	.00	e.00	e.00	e.00	e.00	e.00	.00	.00
26	e.00	.01	.00	.00	.02	e.00	e.00	e.00	e.00	e.00	.00	.00
27	e.00	.01	.12	.00	.05	e.00	e.00	e.00	e.00	e.00	.00	.00
28	e.00	.01	.02	.00	.01	e.00	e.00	e.00	e.00	e.00	.00	.00
29	e.00	.00	.41	.00	---	e.00	e.00	e.00	e.00	e.00	.00	.00
30	e.00	.01	.01	.01	---	e.00	e.00	e.00	e.00	e.00	.00	.00
31	e.00	---	.00	.00	---	e.00	---	e.00	---	e.00	.00	---
TOTAL	0.00	0.30	2.20	4.65	1.96	0.01	0.00	0.00	0.35	0.00	0.01	0.00
MEAN	.000	.010	.071	.15	.070	.000	.000	.000	.012	.000	.000	.000
MAX	.00	.02	1.5	1.4	.79	.01	.00	.00	.35	.00	.01	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	-.6	4.4	9.2	3.9	.02	.00	.00	.7	.00	.02	.00

## 10264510 INN CREEK AT PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

MEAN	.021	.033	.030	.052	.061	.036	.002	.012	.018	.015	.018	.021
MAX	.052	.080	.071	.15	.17	.14	.004	.031	.042	.036	.066	.060
(WY)	1990	1990	1993	1993	1992	1991	1991	1989	1989	1989	1990	1990
MIN	.000	.010	.004	.015	.005	.000	.000	.000	.000	.000	.000	.000
(WY)	1993	1993	1991	1991	1989	1993	1989	1993	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	9.84		9.48			
ANNUAL MEAN	.027		.026		.027	
HIGHEST ANNUAL MEAN					.034 1990	
LOWEST ANNUAL MEAN					.023 1991	
HIGHEST DAILY MEAN	1.9	Feb 10	1.5	Dec 7	1.9	Feb 10 1992
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Dec 2 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 10	.00	Oct 1	.00	Dec 2 1988
INSTANTANEOUS PEAK FLOW			13	Feb 18	18	Feb 12 1992
INSTANTANEOUS PEAK STAGE			10.06	Feb 18	10.06	Feb 18 1993
ANNUAL RUNOFF (AC-FT)	20		19		20	
10 PERCENT EXCEEDS	.01		.02		.05	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

## ANTELOPE VALLEY

10264510 INN CREEK AT PALMDALE, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Feb. 28, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 1.93 in., Feb. 10, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.63 in., Feb. 18; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	.00	.00	.00	.00	---	---	---	---	---	.00
2	.00	---	.00	.15	.00	.00	---	---	---	---	---	.00
3	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
4	.00	.00	.19	.00	.00	.00	---	---	---	---	.00	.00
5	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
6	.00	.00	.02	.28	.00	.00	---	---	---	---	.00	.00
7	---	.00	.45	.61	.31	.00	---	---	---	---	.00	.00
8	---	.00	.00	.00	.10	.00	---	---	---	---	.00	.00
9	---	.00	.00	.01	.07	.00	---	---	---	---	.00	.00
10	---	.00	.00	.05	.00	.00	---	---	---	---	.00	.00
11	---	.00	.01	.00	.00	.00	---	---	---	---	.00	.00
12	---	.00	.00	.15	.00	.00	---	---	---	---	.00	.00
13	---	.00	.00	.37	.00	.00	---	---	---	---	.00	.00
14	---	.00	.00	.18	.00	.00	---	---	---	---	.00	.00
15	---	.00	.00	.36	.00	.00	---	---	---	---	.00	.00
16	---	.00	.00	.07	.00	.00	---	---	---	---	.00	.00
17	---	.00	.06	.25	.00	.00	---	---	---	---	.00	.00
18	---	.00	.03	.39	.63	.00	---	---	---	---	.00	.00
19	---	.00	.00	.00	.15	---	---	---	---	---	.00	.00
20	---	.00	.00	.00	.04	---	---	---	---	---	.00	.00
21	---	.00	.00	.00	.05	---	---	---	---	---	.00	.00
22	---	.00	.00	.00	.00	---	---	---	---	---	.00	.00
23	---	.00	.00	.00	.14	---	---	---	---	---	.00	.00
24	---	.00	.00	.00	.00	---	---	---	---	---	.00	.00
25	---	.00	.00	.00	.00	---	---	---	---	---	.00	.00
26	---	.00	.00	.00	.12	---	---	---	---	---	.00	.00
27	---	.00	.20	.00	.13	---	---	---	---	---	.00	.00
28	---	.00	.09	.00	.00	---	---	---	---	---	.00	.00
29	---	.00	.22	.00	---	---	---	---	---	---	.00	.00
30	---	.00	.05	.00	---	---	---	---	---	---	.00	.00
31	---	---	.00	.00	---	---	---	---	---	---	.00	---
TOTAL	---	---	1.32	2.87	1.74	---	---	---	---	---	---	0.00

10264530 PINE CREEK NEAR PALMDALE, CA

LOCATION.--Lat 34°36'09", long 118°14'48", in SE 1/4 SW 1/4 sec.15, T.6 N., R.13 W., Los Angeles County, Hydrologic Unit 18090206, on left bank at culvert on Elizabeth Lake Road and 7.5 mi northwest of Palmdale.  
DRAINAGE AREA.--1.78 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year. October 1958 to September 1973 and October 1977 to September 1988 (operated as a crest-stage partial-record station).

GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 3,010 ft above sea level, from topographic map. October 1958 to September 1973, October 1977 to September 1988, crest-stage gage at same site.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120 ft<sup>3</sup>/s, Feb. 18, 1993, gage height, 15.50 ft; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a stage of 15.33 ft, discharge, 69 ft<sup>3</sup>/s.

EXTREMES FOR 1992.--(Not previously published.) Peak discharges greater than base discharge of 5.0 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 12	1230	9.9	11.52	Mar. 27	1620	5.2	11.02
Feb. 15	0950	*11	*11.63	Apr. 1	1330	7.1	11.23

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 13	1125	9.3	12.25	Feb. 18	1800	*120	*15.50
Jan. 18	0130	23	13.82	Feb. 23	1150	34	14.92
Feb. 7	2355	29	14.29				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
DAILY MEAN VALUES  
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.43	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.12	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.11	.01	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.01	.17	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.48	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.87	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.69	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.31	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.03	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
27	.00	.00	.01	.00	.00	.54	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00
29	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.02	---	.00	---	.00	.00	---
TOTAL	0.03	0.00	0.07	0.45	3.00	1.81	0.43	0.00	0.00	0.00	0.00	0.00
MEAN	.001	.000	.002	.015	.10	.058	.014	.000	.000	.000	.000	.000
MAX	.03	.00	.05	.17	.87	.54	.43	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.06	.00	.1	.9	6.0	3.6	.9	.00	.00	.00	.00	.00

## ANTELOPE VALLEY

10264530 PINE CREEK NEAR PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.002	.005	.034	.045	.004	.000	.000	.000	.000	.000
MAX	.001	.000	.006	.015	.10	.12	.014	.000	.000	.000	.000	.000
(WY)	1992	1990	1989	1992	1992	1991	1992	1989	1989	1989	1989	1989
MIN	.000	.000	.000	.000	.006	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1991	1989	1989	1989	1989	1989	1989	1989	1989

## SUMMARY STATISTICS

## FOR 1991 CALENDAR YEAR

## FOR 1992 WATER YEAR

## WATER YEARS 1989 - 1992

ANNUAL TOTAL	4.31		5.79									
ANNUAL MEAN	.012		.016							.007		
HIGHEST ANNUAL MEAN										.016		1992
LOWEST ANNUAL MEAN										.001		1990
HIGHEST DAILY MEAN	2.3	Mar 26				.87	Feb 12			2.3	Mar 26	1991
LOWEST DAILY MEAN	.00	Jan 1				.00	Oct 1			.00	Oct 1	1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1				.00	Oct 1			.00	Oct 1	1988
INSTANTANEOUS PEAK FLOW						11	Feb 15			24	Mar 26	1991
INSTANTANEOUS PEAK STAGE						11.63	Feb 15			12.89	Mar 26	1991
ANNUAL RUNOFF (AC-FT)	8.5					11				5.4		
10 PERCENT EXCEEDS	.00					.00				.00		
50 PERCENT EXCEEDS	.00					.00				.00		
90 PERCENT EXCEEDS	.00					.00				.00		

## 10264530 PINE CREEK NEAR PALMDALE, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.37	2.4	.91	.67	.00	.00	.00	.00
2	.00	.00	.00	.04	.40	2.3	.87	.71	.00	.00	.00	.00
3	.00	.00	.00	.00	.38	2.2	.87	.67	.00	.00	.00	.00
4	.00	.00	.01	.00	.38	2.0	.67	.60	.00	.00	.00	.00
5	.00	.00	.00	.00	.35	2.0	.75	.67	.00	.00	.00	.00
6	.00	.00	.00	.15	.35	1.8	.79	.64	.00	.00	.00	.00
7	---	.00	.25	.24	1.5	1.8	.75	.60	.00	.00	.00	.00
8	---	.00	.00	.00	3.0	1.8	.71	.57	.00	.00	.00	.00
9	---	.00	.00	.00	.52	1.7	.64	.54	.00	.00	.00	.00
10	---	.00	.00	.02	.47	1.6	.64	.00	.00	.00	.00	.00
11	---	.00	.00	.00	.50	1.5	.64	.00	.00	.00	.00	.00
12	---	.00	.00	.02	.49	1.5	.67	.00	.00	.00	.00	.00
13	---	.00	.00	.71	.54	1.4	.64	.00	.00	.00	.00	.00
14	---	.00	.00	.31	.53	1.3	.60	.00	.00	.00	.00	.00
15	---	.00	.00	.53	.46	1.1	.67	.00	.00	.00	.00	.00
16	---	.00	.00	.43	.57	1.1	.60	.00	.00	.00	.00	.00
17	---	.00	.02	1.5	.74	1.0	.57	.00	.00	.00	.00	.00
18	---	.00	.01	1.4	15	.94	.64	.00	.00	.00	.00	.00
19	---	.00	.00	.14	13	.96	.67	.00	.00	.00	.00	.00
20	---	.00	.00	.15	5.3	.96	.64	.00	.00	.00	.00	.00
21	---	.00	.00	.20	3.2	.96	.54	.00	.00	.00	.00	.00
22	---	.00	.00	.76	2.9	1.0	.51	.00	.00	.00	.00	.00
23	---	.00	.00	.29	8.1	1.0	.60	.00	.00	.00	.00	.00
24	---	.00	.00	.36	3.4	1.0	.64	.00	.00	.00	.00	.00
25	---	.00	.00	.37	2.9	1.2	.64	.00	.00	.00	.00	.00
26	---	.00	.00	.37	3.3	1.4	.64	.00	.00	.00	.00	.00
27	---	.00	.01	.36	3.4	1.4	.75	.00	.00	.00	.00	.00
28	---	.00	.01	.38	2.5	1.6	.83	.00	.00	.00	.00	.00
29	---	.00	.17	.37	---	1.2	.83	.00	.00	.00	.00	.00
30	---	.00	.02	.38	---	1.0	.75	.00	.00	.00	.00	.00
31	---	---	.00	.35	---	.87	---	.00	---	.00	.00	---
TOTAL	---	0.00	0.50	9.83	74.55	43.99	20.67	5.67	0.00	0.00	0.00	0.00
MEAN	---	.000	.016	.32	2.66	1.42	.69	.18	.000	.000	.000	.000
MAX	---	.00	.25	1.5	15	2.4	.91	.71	.00	.00	.00	.00
MIN	---	.00	.00	.00	.35	.87	.51	.00	.00	.00	.00	.00
AC-FT	---	.00	1.0	19	148	87	41	11	.00	.00	.00	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993
MEAN	.000	.000	.005	.068	.56
MAX	.001	.000	.016	.32	2.66
(WY)	1992	1990	1993	1993	1993
MIN	.000	.000	.000	.000	.006
(WY)	1989	1989	1990	1991	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1989 - 1993
ANNUAL MEAN			.007
HIGHEST ANNUAL MEAN			.016
LOWEST ANNUAL MEAN			.001
HIGHEST DAILY MEAN	.87 Feb 12	15 Feb 18	15 Feb 18 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 9	.00 Nov 4	.00 Oct 1 1988
INSTANTANEOUS PEAK FLOW	11 Feb 15	120 Feb 18	120 Feb 18 1993
INSTANTANEOUS PEAK STAGE	11.63 Feb 15	15.50 Feb 18	15.50 Feb 18 1993
ANNUAL RUNOFF (AC-FT)	11		5.4
10 PERCENT EXCEEDS	.00	1.2	.01
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

10264530 PINE CREEK NEAR PALMDALE, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--January 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Feb. 22, 1989. Supplemental weight-driven recording rain gage since Jan. 23, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.84 in, Feb. 10, 1992; no rainfall for many days each year.

EXTREMES FOR 1992.--Maximum daily rainfall, 2.84 in, Feb. 10; no rainfall for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.12 in, Feb. 18; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992  
 DAILY SUM VALUES  
 (NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.01	.00	.00	---	.00	.00	---	---	.00
2	.00	.00	.00	.00	.00	.26	---	.00	.00	---	---	.00
3	.00	.00	.00	.29	.00	.00	---	.00	.00	---	.00	.00
4	.00	.00	.00	.00	.00	.00	---	.00	.00	---	.00	.00
5	.00	.00	.00	1.26	.07	.04	---	.00	.00	---	.00	.00
6	.00	.00	.00	.04	.41	.14	---	.00	.00	---	.00	.00
7	.00	.00	.11	.42	.24	.00	---	.00	.00	---	.00	.00
8	.00	.00	.50	.51	.00	.00	---	.00	.00	---	.00	.00
9	.00	.00	.00	.00	.44	.00	---	.00	.00	---	.00	.00
10	.00	.00	.12	.00	2.84	.00	---	.00	.00	---	.00	.00
11	.00	.00	.00	.00	.77	.00	---	.00	.00	---	.00	.00
12	.00	.00	.00	.00	1.49	.00	.00	.00	.00	---	.00	.00
13	.00	.00	.00	.00	.54	.00	.00	.00	.00	---	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.00
15	.00	.00	.00	.00	.83	.00	.00	.00	.00	---	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.00
17	.00	.01	.00	.00	.00	.00	.00	.00	---	---	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
20	.00	.00	.00	.00	.00	.31	.00	.00	---	---	.00	.00
21	.00	.00	.00	.00	.00	.17	.00	.00	---	---	.00	.00
22	.00	.00	.00	.00	.00	.14	.00	.00	---	---	.00	.00
23	.00	.00	.00	.00	.00	.17	.00	.00	---	---	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.00
26	.70	.00	.00	.00	.00	.06	.00	.00	---	---	.00	.00
27	.00	.00	.56	.00	.00	.41	.00	.00	---	---	.00	.00
28	.00	.00	.15	.00	.00	.00	.00	.00	---	---	.00	.00
29	.00	.00	1.25	.00	.00	.00	.00	.00	---	---	.00	.00
30	.00	.00	.08	.00	---	.00	.00	.00	---	---	.00	.00
31	.00	---	.00	.00	---	0.11	---	.00	---	---	.00	---
TOTAL	0.70	0.01	2.77	2.53	7.63	1.81	---	0.00	---	---	---	0.00

10264530 PINE CREEK NEAR PALMDALE, CA--Continued

## PRECIPITATION RECORDS--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.01	.00	.00	---	---	---	---	.00	.00
2	.00	.00	.00	.17	.00	.00	---	---	---	---	.00	.00
3	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
4	.00	.00	.22	.00	.00	.00	---	---	---	---	.00	.00
5	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
6	.00	.00	.08	.77	.00	.00	---	---	---	---	.00	.00
7	---	.00	.56	.91	.32	.00	---	---	---	---	.00	.00
8	---	.00	.00	.04	.39	.00	---	---	---	---	.00	.00
9	---	.00	.00	.00	.12	.00	---	---	---	---	.00	.00
10	---	.00	.01	.14	.00	.00	---	---	---	---	.00	.00
11	---	.00	.05	.00	.00	.00	---	---	---	---	.00	.00
12	---	.00	.00	.31	.00	.00	---	---	---	---	.00	.00
13	---	.00	.00	.56	.00	.00	---	---	---	---	.00	.00
14	---	.00	.00	.09	.00	.00	---	---	---	---	.00	.00
15	---	.00	.00	.45	.00	.00	---	---	---	---	.00	.00
16	---	.00	.00	.27	.00	.00	---	---	---	---	.00	.00
17	---	.00	.16	.44	.00	.00	---	---	---	---	.00	.00
18	---	.00	.09	.43	1.12	---	---	---	---	---	.00	.00
19	---	.00	.00	.01	.67	---	---	---	---	---	.00	.00
20	---	.00	.00	.00	.05	---	---	---	---	---	.00	.00
21	---	.00	.00	.00	.09	---	---	---	---	---	.00	.00
22	---	.00	.00	.00	.01	---	---	---	---	---	.00	.00
23	---	.00	.00	.00	.35	---	---	---	---	---	.00	.00
24	---	.00	.00	.00	.00	---	---	---	---	---	.00	.00
25	---	.00	.00	.00	.00	---	---	---	---	---	.00	.00
26	---	.00	.00	.00	.10	---	---	---	---	---	.00	.00
27	---	.00	.23	.00	.18	---	---	---	---	---	.00	.00
28	---	.00	.09	.00	.00	---	---	---	---	---	.00	.00
29	---	.00	.54	.00	---	---	---	---	---	---	.00	.00
30	---	.00	.06	.00	---	---	---	---	---	---	.00	.00
31	---	---	.00	.00	---	---	---	---	---	---	.00	---
TOTAL	---	0.00	2.09	4.60	3.40	---	---	---	---	---	0.00	0.00

10264550 CITY RANCH CREEK NEAR PALMDALE, CA

LOCATION.--Lat 34°35'00", long 118°10'36", in SE 1/4 NW 1/4 sec.29, T.6 N., R.12 W., Los Angeles County, Hydrologic Unit 18090206, on right bank at culvert on Elizabeth Lake Road and 3 mi west of Palmdale.

DRAINAGE AREA.--0.39 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,760 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 4.37 ft, from rating curve based on culvert computations; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0425	5.8	3.59	Mar. 25	2330	6.3	3.64
Feb. 18	1815	*8.1	*3.81				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.04	.50	.05	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.59	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.26	.65	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.35	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.22	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.05	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.09	1.75	0.87	0.57	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.003	.056	.031	.018	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.05	.59	.65	.35	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.2	3.5	1.7	1.1	.00	.00	.00	.00	.00	.00

## 10264550 CITY RANCH CREEK NEAR PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.007	.018	.032	.026	.000	.000	.000	.000	.000	.000
MAX	.002	.000	.030	.056	.12	.094	.000	.000	.000	.000	.000	.001
(WY)	1992	1989	1992	1993	1992	1991	1992	1989	1989	1989	1989	1991
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1990	1989	1989	1989	1989	1989	1989	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	5.04		3.28			
ANNUAL MEAN	.014		.009		.007	
HIGHEST ANNUAL MEAN					.016	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1.0	Feb 10	.65	Feb 18	1.6	Mar 26 1991
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 8	.00	Oct 1	.00	Oct 1 1988
INSTANTANEOUS PEAK FLOW			8.1	Feb 18	16	Feb 12 1992
INSTANTANEOUS PEAK STAGE			3.81	Feb 18	4.37	Feb 12 1992
ANNUAL RUNOFF (AC-FT)	10		6.5		4.9	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Feb. 23, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.09 in., Feb. 10, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.89 in., Jan. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.18	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.01	.00	.00	.00	.00	.00	.18	.00	.00	.00
6	.00	.00	.05	.66	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.47	.89	.38	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.32	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.35	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.50	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.38	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.10	.29	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.03	.45	.71	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.40	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00	.00
21	.03	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.16	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00	.00
24	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.31	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.13	.10	.00	.00	.00	.00	.00	.00
27	.00	.00	.23	.00	.12	.01	.00	.00	.00	.00	.00	.00
28	.00	.00	.08	.00	.00	.05	.00	.00	.00	.00	.00	.00
29	.00	.00	.43	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.19	.00	.03	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.44	0.00	1.64	4.00	2.54	0.47	0.00	0.00	0.18	0.00	0.00	0.00

## 10264555 ESTATES CREEK NEAR QUARTZ HILL, CA

LOCATION.--Lat 34°38'19", long 118°14'52", in SE 1/4 NW 1/4 sec.3, T.6 N., R.13 W., Los Angeles County, Hydrologic Unit 18090206, on right bank 30 ft north of Avenue M-8, 0.7 mi west of 60th Street West, and 2 mi southwest of Quartz Hill.

DRAINAGE AREA.--0.11 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1989 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and weir control. Elevation of gage is 2,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22 ft<sup>3</sup>/s, Feb. 18, 1993, gage height, 5.05 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2.0 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 8.6 ft<sup>3</sup>/s on basis of critical depth computations:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 23	1930	4.6	4.52	Jan. 13	0735	7.7	4.66
Oct. 30	1150	3.8	4.48	Feb. 18	1020	*22	*5.05
Dec. 7	1355	5.0	4.54	Feb. 23	1105	6.0	4.59
Dec. 18	0030	2.2	4.38	Feb. 27	1605	5.6	4.57
Dec. 29	0615	5.2	4.55	Mar. 25	2100	6.7	4.62
Jan. 2	0655	2.6	4.41	June 5	0635	5.6	4.57
Jan. 6	1615	13	4.83				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
2	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
4	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.01
5	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00	.01
6	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	1.4	2.4	.00	.00	.00	.00	.00	.00	.01	.01
8	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00	.01
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.02
10	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.02
11	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
12	.00	.00	.01	.53	.00	.00	.00	.00	.00	.00	.00	.02
13	.00	.00	.00	2.1	.00	.00	.00	.00	.00	.00	.00	.01
14	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00	.00	.03
15	.00	.00	.00	.86	.00	.00	.00	.00	.00	.00	.00	.04
16	.00	.00	.00	.68	.00	.00	.00	.00	.00	.00	.00	.02
17	.00	.00	.04	.83	.00	.00	.00	.00	.00	.00	.00	.02
18	.00	.00	.06	1.1	3.5	.00	.00	.00	.00	.00	.00	.01
19	.00	.00	.02	.00	2.6	.00	.00	.00	.00	.00	.00	.01
20	.00	.00	.01	.00	.16	.00	.00	.00	.00	.00	.00	.03
21	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00	.04
22	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.04
23	.05	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00	.04
24	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.05
25	.00	.00	.00	.00	.00	.71	.00	.00	.00	.00	.00	.08
26	.00	.00	.00	.00	.05	.30	.00	.00	.00	.00	.00	.04
27	.00	.00	.05	.00	.24	.00	.00	.00	.00	.00	.00	.08
28	.00	.00	.04	.00	.03	.10	.00	.00	.00	.00	.00	.09
29	.00	.00	.61	.00	---	.00	.00	.00	.00	.00	.00	.08
30	.14	.00	.16	.00	---	.00	.00	.00	.00	.00	.00	.07
31	.00	---	.01	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	0.19	0.00	2.47	10.16	7.23	1.11	0.00	0.00	0.20	0.00	0.03	0.93
MEAN	.006	.000	.080	.33	.26	.036	.000	.000	.007	.000	.001	.031
MAX	.14	.00	1.4	2.4	3.5	.71	.00	.00	.20	.00	.01	.09
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.4	.00	4.9	20	14	2.2	.00	.00	.4	.00	.06	1.8

## 10264555 ESTATES CREEK NEAR QUARTZ HILL, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.008	.004	.023	.11	.16	.073	.001	.006	.012	.009	.011	.014
MAX	.016	.010	.080	.33	.31	.19	.005	.021	.033	.029	.020	.031
(WY)	1990	1990	1993	1993	1992	1991	1990	1989	1989	1989	1990	1993
MIN	.004	.000	.000	.023	.021	.001	.000	.000	.001	.000	.001	.003
(WY)	1991	1993	1991	1990	1990	1990	1992	1992	1991	1992	1993	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1989 - 1993		
ANNUAL TOTAL	15.68			22.32					
ANNUAL MEAN	.043			.061			.034		
HIGHEST ANNUAL MEAN							.061		
LOWEST ANNUAL MEAN							.012		
HIGHEST DAILY MEAN	3.5 Feb 10			3.5 Feb 18			3.5 Feb 10 1992		
LOWEST DAILY MEAN	.00 Jan 1			.00 Oct 1			.00 May 1 1989		
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 10			.00 Oct 1			.00 Nov 21 1989		
INSTANTANEOUS PEAK FLOW				22 Feb 18			22 Feb 18 1993		
INSTANTANEOUS PEAK STAGE				5.05 Feb 18			5.05 Feb 18 1993		
ANNUAL RUNOFF (AC-FT)	31			44			25		
10 PERCENT EXCEEDS	.04			.04			.03		
50 PERCENT EXCEEDS	.00			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## PRECIPITATION RECORDS

PERIOD OF RECORD.--May 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since May 1, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.32 in., Feb. 10, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.20 in., Feb. 18; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.01
2	.00	.00	.00	.17	.00	.00	---	---	.00	.00	.01	.00
3	.00	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.00
4	.00	.00	.27	.00	.00	.00	---	---	.00	.00	.00	.00
5	.00	.01	.00	.00	.00	.00	---	---	.25	.02	.01	.00
6	.00	.01	.08	.63	.00	.00	---	---	.00	.00	.02	.00
7	.00	.00	.50	.73	.29	.00	---	---	.00	.00	.00	.00
8	.00	.00	.00	.02	.27	.00	---	---	.00	.00	.00	.00
9	.00	.01	.00	.00	.03	.00	---	---	.00	.00	.00	.00
10	.00	.00	.00	.11	.00	.00	---	---	.00	.00	.02	.00
11	.00	.01	.02	.00	.00	.00	---	---	.00	.00	.04	.00
12	.00	.00	.00	.22	.00	.00	---	---	.00	.00	.01	.00
13	.00	.01	.00	.72	.00	.00	---	---	.00	.00	.00	.00
14	.00	.00	.00	.08	.00	.00	---	---	.00	.00	.00	.00
15	.00	.00	.00	.41	.00	.00	---	---	.00	.00	.00	.00
16	.00	.00	.00	.30	.00	.00	---	---	.00	.00	.01	.00
17	.00	.00	.09	.27	.00	.00	---	---	.00	.00	.02	.00
18	.00	.00	.03	.47	1.20	---	---	---	.00	.00	.01	.00
19	.00	.00	.00	.00	.74	---	---	---	.00	.00	.00	.00
20	.01	.00	.00	.00	.04	---	---	.00	.00	.00	.00	.00
21	.06	.00	.00	.00	.08	---	---	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	---	---	.00	.00	.01	.00	.00
23	.09	.00	.00	.00	.26	---	---	.00	.00	.00	.01	.00
24	.01	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
26	.04	.00	.00	.00	.14	---	---	.01	.00	.00	.01	.00
27	.03	.00	.23	.00	.16	---	---	.00	.00	.01	.00	.00
28	.00	.00	.07	.00	.00	---	---	.00	.00	.01	.00	.00
29	.00	.00	.36	.00	---	---	---	.00	.00	.01	.00	.00
30	.25	.00	.09	.00	---	---	---	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	---	---	.00	---	.00	.01	---
TOTAL	0.49	0.05	1.74	4.13	3.21	---	---	---	0.25	0.06	0.18	0.01

10264605 JOSHUA CREEK NEAR MOJAVE, CA

LOCATION.--Lat 35°00'45", long 118°20'40", in SE 1/4 SE 1/4 sec.27, T.11 N., R.14 W., Kern County, Hydrologic Unit 18090206, on right bank at culvert on Tehachapi-Willow Springs Road 10 mi southwest of Mojave.

DRAINAGE AREA.--3.83 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year. October 1958 to September 1973 (annual maximum only).

GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 3,820 ft above sea level, from topographic map. October 1958 to September 1973, nonrecording gage at same site at different datum.

REMARKS.--Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28 ft<sup>3</sup>/s, Mar. 20, 1992, gage height, 3.09 ft, from rating curve extended above no flow on basis of three estimates of flow. No flow many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 2,540 ft<sup>3</sup>/s, Aug. 16, 1965, gage height unknown, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--No peak discharges greater than base discharge of 5.0 ft<sup>3</sup>/s. Maximum (\*) from rating curve.

Date	Time	Discharge	Gage height
Jan. 14	0010	(ft <sup>3</sup> /s) * 3.3	(ft) *2.91

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
7	.00	.00	e.69	.00	.00	.00	e.00	.00	.00	.00	.00	.00
8	.00	.00	e.47	.00	.00	.00	e.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
14	.00	.00	.00	e.71	.00	.00	e.00	.00	.00	.00	.00	.00
15	.00	.00	.00	e.06	.00	.00	e.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	e.04	e.00	e.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	e.00	e.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	e.00	e.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	e.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	1.16	0.77	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.037	.025	.001	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.69	.71	.04	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	2.3	1.5	.08	.00	.00	.00	.00	.00	.00	.00

e Estimated.

10264605 JOSHUA CREEK NEAR MOJAVE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

MEAN	.000	.000	.007	.005	.035	.009	.003	.000	.000	.000	.000	.000
MAX	.000	.000	.037	.025	.17	.046	.014	.000	.000	.000	.000	.000
(WY)	1989	1989	1993	1993	1992	1992	1992	1989	1989	1989	1989	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1989	1989	1989	1989	1989	1989	1989	1989	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	8.00		1.97			
ANNUAL MEAN	.022		.005		.005	
HIGHEST ANNUAL MEAN					.019	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	2.1	Feb 12	.71	Jan 14	2.1	Feb 12 1992
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 6	.00	Oct 1	.00	Oct 1 1988
INSTANTANEOUS PEAK FLOW			3.3	Jan 14	28	Mar 20 1992
INSTANTANEOUS PEAK STAGE			2.91	Jan 14	3.09	Mar 20 1992
ANNUAL RUNOFF (AC-FT)	16		3.9		3.5	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

## ANTELOPE VALLEY

10264605 JOSHUA CREEK NEAR MOJAVE, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to current year.

INSTRUMENTATION.--Tipping-bucket rain gage since Feb. 22, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 1.81 in, Feb. 12, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.57 in, Dec. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
2	.00	.00	.00	.14	.00	.00	---	---	---	---	.00	.00
3	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
4	.00	.00	.15	.00	.00	.00	---	---	---	---	.00	.00
5	.00	.00	.00	.00	.00	.00	---	---	---	---	.00	.00
6	.00	.00	.15	.33	.00	.00	---	---	---	---	.00	.00
7	.00	.00	.57	.37	.24	.00	---	---	---	---	.00	.00
8	.00	.00	.01	.00	.40	.00	---	---	---	---	.00	.00
9	.00	.00	.00	.00	.03	.00	---	---	---	---	.00	.00
10	.00	.00	.00	.04	.00	.00	---	---	---	---	.00	.00
11	.00	.00	.09	.00	.00	.00	---	---	---	---	.00	.00
12	.00	.00	.01	.00	.00	.00	---	---	---	---	.00	.00
13	.00	.00	.00	.45	.00	.00	---	---	---	---	.00	.00
14	.00	.00	.00	.06	.00	.00	---	---	---	---	.00	.00
15	.00	.00	.00	.47	.00	.00	---	---	---	---	.00	.00
16	.00	.00	.00	.12	.00	---	---	---	---	---	.00	.00
17	.00	.00	.18	.37	.00	---	---	---	---	---	.00	.00
18	.00	.00	.00	.38	.51	---	---	---	---	---	.00	.00
19	.00	.00	.00	.00	.35	---	---	---	---	---	.00	.00
20	.00	.00	.00	.00	.01	---	---	---	---	---	.00	.00
21	.00	.00	.00	.00	.00	---	---	---	---	---	.00	.00
22	.00	.00	.00	.00	.00	---	---	---	---	---	.00	.00
23	.13	.00	.00	.00	.32	---	---	---	---	---	.00	.00
24	.02	.00	.00	.00	.03	---	---	---	---	---	.00	.00
25	.00	.00	.00	.00	.00	---	---	---	---	---	.00	.00
26	.00	.00	.00	.00	.18	---	---	---	---	---	.00	.00
27	.00	.00	.15	.00	.08	---	---	---	---	---	.00	.00
28	.00	.00	.15	.00	.07	---	---	---	---	---	.00	.00
29	.00	.00	.28	.00	---	---	---	---	---	---	.00	.00
30	.16	.00	.00	.00	---	---	---	---	---	---	.00	.00
31	.00	---	.00	.00	---	---	---	---	---	.00	.00	---
TOTAL	0.31	0.00	1.74	2.73	2.22	---	---	---	---	---	0.00	0.00

## 10264675 ROGERS LAKE TRIBUTARY AT EDWARDS AIR FORCE BASE, CA

LOCATION.--Lat 34°58'06", long 117°53'29", in NE 1/4 NW 1/4 sec.13, T.10 N., R.10 W., Kern County, Hydrologic Unit 18090206, on right bank at culvert on U.S. Government Railroad, 330 ft east of Rosamond Boulevard, and 0.75 mi west of Rogers Lake.

DRAINAGE AREA.--1.73 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,340 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station. Inflow can occur from artificial ditch 10 ft upstream. No record Mar. 19 to Sept. 30.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11 ft<sup>3</sup>/s, Apr. 14, 1989, and Feb. 12, 1992, gage height, 4.82 ft, from rating curve on basis of culvert computations; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft<sup>3</sup>/s and maximum (\*) during period October 1992 to March 1993:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0425	5.9	4.43	Jan. 18	0220	*7.3	*4.54

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
2	.01	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
3	.01	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
4	.00	.02	.18	.00	.00	.00	.00	.00	.00	.00	.00	.01
5	.00	.01	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
6	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.01
7	.00	.00	.16	.09	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.01	.00	.01	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.27	.43	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.23	.17	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.04	.01	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.38	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
25	.05	.00	.00	.00	.00	.18	.00	.00	.00	.00	.01	.00
26	.03	.00	.00	.00	.00	.07	.00	.00	.01	.00	.01	.00
27	.02	.00	.03	.00	.08	.00	.00	.00	.00	.00	.01	.00
28	.04	.00	.02	.00	.00	.00	.00	.00	.00	.00	.01	.00
29	.01	.00	.13	.00	---	.00	.00	.00	.00	.00	.01	.00
30	.21	.00	.01	.00	---	.00	.00	.00	.00	.00	.01	.00
31	.03	---	.00	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	0.84	0.08	0.53	1.35	0.69	0.26	0.00	0.00	0.11	0.00	0.08	0.07
MEAN	.027	.003	.017	.044	.025	.008	.000	.000	.004	.000	.003	.002
MAX	.38	.03	.18	.29	.43	.18	.00	.00	.10	.00	.01	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.7	.2	1.1	2.7	1.4	.5	.00	.00	.2	.00	.2	.1

## 10264675 ROGERS LAKE TRIBUTARY AT EDWARDS AIR FORCE BASE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

MEAN	.008	.001	.008	.016	.023	.013	.003	.001	.002	.002	.003	.003
MAX	.027	.003	.017	.044	.066	.044	.011	.003	.007	.006	.005	.007
(WY)	1993	1993	1993	1993	1992	1991	1992	1992	1989	1992	1989	1990
MIN	.000	.000	.000	.004	.005	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1989	1990	1989	1990	1990	1991	1991	1991	1993	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	5.32		4.01			
ANNUAL MEAN	.015		.011		.007	
HIGHEST ANNUAL MEAN					.012	
LOWEST ANNUAL MEAN					.002	
HIGHEST DAILY MEAN	.97	Feb 12	.43	Feb 18	.97	Feb 12 1992
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 4	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.00	Oct 4	.00	Oct 1 1988
INSTANTANEOUS PEAK FLOW			10	Oct 23	10	Feb 12 1992
INSTANTANEOUS PEAK STAGE			1.00	Oct 23	1.00	Feb 12 1992
ANNUAL RUNOFF (AC-FT)	11		8.0		4.9	
10 PERCENT EXCEEDS	.01		.01		.01	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## PRECIPITATION RECORDS

PERIOD OF RECORD.--January 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Feb. 21, 1989. Supplemental weight-driven recording rain gage since Jan. 13, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 1.03 in., Feb. 12, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.46 in., Dec. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	---	---	---	---	---	---
2	.00	.00	.00	.18	.00	.00	---	---	---	---	---	---
3	.00	.00	.00	.00	.00	.00	---	---	---	---	---	---
4	.00	.00	.22	.00	.00	.00	---	---	---	---	---	---
5	.00	.00	.01	.00	.00	.00	---	---	---	---	---	---
6	.00	.00	.00	.35	.00	.00	---	---	---	---	---	---
7	.00	.00	.46	.37	.16	.00	---	---	---	---	---	---
8	.00	.00	.00	.00	.23	.00	---	---	---	---	---	---
9	.00	.00	.00	.00	.03	.00	---	---	---	---	---	---
10	.00	.00	.00	.07	.00	.00	---	---	---	---	---	---
11	.00	.00	.07	.00	.00	.00	---	---	---	---	---	---
12	.00	.00	.00	.14	.00	.00	---	---	---	---	---	---
13	.00	.00	.00	.38	.00	.00	---	---	---	---	---	---
14	.00	.00	.00	.04	.00	.00	---	---	---	---	---	---
15	.00	.00	.00	.38	.00	.00	---	---	---	---	---	---
16	.00	.00	.00	.24	.00	.00	---	---	---	---	---	---
17	.00	.00	.02	.21	.00	.00	---	---	---	---	---	---
18	.00	.00	.00	.18	.24	.00	---	---	---	---	---	---
19	.00	.00	.00	.00	.14	---	---	---	---	---	---	---
20	.00	.00	.00	.00	.00	---	---	---	---	---	---	---
21	.00	.00	.00	.00	.00	---	---	---	---	---	---	---
22	.00	.00	.00	.00	.00	---	---	---	---	---	---	---
23	.10	.00	.00	.00	.08	---	---	---	---	---	---	---
24	.05	.00	.00	.00	.00	---	---	---	---	---	---	---
25	.01	.00	.00	.00	.00	---	---	---	---	---	---	---
26	.00	.00	.00	.00	.12	---	---	---	---	---	---	---
27	.00	.00	.16	.00	.24	---	---	---	---	---	---	---
28	.00	.00	.08	.00	.01	---	---	---	---	---	---	---
29	.00	.00	.07	.00	---	---	---	---	---	---	---	---
30	.29	.00	.00	.00	---	---	---	---	---	---	---	---
31	.00	---	.01	.00	---	---	---	---	---	---	---	---
TOTAL	0.45	0.00	1.10	2.54	1.25	---	---	---	---	---	---	---

10265150 HOT CREEK AT FLUME, NEAR MAMMOTH, CA

LOCATION.--Lat 37°40'08", long 118°49'00", in SW 1/4 SE 1/4 sec.19, T.3 S., R.29 E., Mono County, Hydrologic Unit 18090102, on right bank 2.6 mi north of Whitmore Hot Springs and 8.4 mi east of Mammoth.

DRAINAGE AREA.--68.3 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1982 to current year. Daily discharges for 1986 published in Water-Resources Investigations Report 89-4033 as "Hot Creek Flume."

SPECIFIC CONDUCTANCE: Water years 1983-88.

WATER TEMPERATURE: Water years 1983-88.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 6,950 ft above sea level, from topographic map.

REMARKS.--Records good. Minor diversions for domestic and agricultural use upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173 ft<sup>3</sup>/s, June 29, 1993, gage height, 2.54 ft; minimum daily, 29 ft<sup>3</sup>/s, several days in 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 5	0500	131	2.14	June 29	1145	*173	2.54
June 21	1200	153	2.36	July 8	1145	142	2.25

Minimum daily, 29 ft<sup>3</sup>/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	37	29	31	32	32	52	53	115	127	80	59
2	33	36	30	30	34	32	52	51	108	124	77	62
3	33	36	30	30	32	33	54	50	105	136	75	60
4	33	35	30	30	33	33	57	51	104	141	75	58
5	33	36	29	30	33	33	52	49	113	128	78	58
6	33	35	29	31	33	33	49	49	100	115	77	57
7	33	38	30	31	32	33	51	51	95	131	75	56
8	33	37	29	31	33	33	53	50	99	137	74	56
9	33	35	29	31	33	34	53	51	87	132	73	55
10	33	35	29	31	33	34	e51	52	85	133	69	55
11	33	37	29	31	33	34	48	51	84	121	62	54
12	33	41	29	31	34	35	47	52	89	112	59	54
13	33	37	29	32	34	35	47	50	95	110	62	55
14	34	35	29	33	33	36	47	48	106	109	62	55
15	34	34	29	32	33	36	47	52	125	106	63	55
16	34	33	29	32	32	37	48	59	126	101	62	54
17	33	33	29	33	33	41	47	66	132	96	62	54
18	33	32	30	32	33	41	47	78	130	91	61	54
19	33	32	30	32	33	40	46	86	122	88	60	54
20	33	30	30	32	32	41	46	101	129	86	64	54
21	33	30	30	33	30	42	48	103	149	84	62	52
22	33	32	30	33	e32	44	49	109	147	82	62	52
23	33	29	30	33	34	47	49	112	110	79	61	52
24	33	29	30	33	33	54	48	112	111	84	59	51
25	33	31	30	33	32	50	49	117	127	88	56	50
26	33	30	30	33	32	46	51	121	126	91	55	50
27	33	31	29	33	32	44	52	120	149	90	55	49
28	33	30	30	34	32	44	51	115	163	89	56	49
29	34	29	31	33	---	44	52	108	166	88	55	49
30	41	29	30	33	---	46	53	101	149	85	57	48
31	38	---	30	33	---	48	---	107	---	82	60	---
TOTAL	1039	1004	917	990	915	1215	1496	2375	3546	3266	2008	1621
MEAN	33.5	33.5	29.6	31.9	32.7	39.2	49.9	76.6	118	105	64.8	54.0
MAX	41	41	31	34	34	54	57	121	166	141	80	62
MIN	32	29	29	30	30	32	46	48	84	79	55	48
AC-FT	2060	1990	1820	1960	1810	2410	2970	4710	7030	6480	3980	3220

e Estimated.

## 10265150 HOT CREEK AT FLUME, NEAR MAMMOTH, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.7	36.0	33.1	33.9	34.7	37.5	40.5	50.6	69.3	58.6	45.9	41.2
MAX	38.7	39.4	37.2	37.5	38.1	39.3	49.9	76.6	118	105	64.8	54.0
(WY)	1990	1990	1990	1990	1990	1990	1993	1993	1993	1993	1993	1993
MIN	32.8	33.5	29.6	31.9	32.7	35.0	35.4	38.4	44.5	38.4	35.8	33.8
(WY)	1991	1993	1993	1993	1993	1992	1992	1991	1992	1990	1992	1992

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1990 - 1993

ANNUAL TOTAL	13350	20392	
ANNUAL MEAN	36.5	55.9	43.1
HIGHEST ANNUAL MEAN			55.9
LOWEST ANNUAL MEAN			37.5
HIGHEST DAILY MEAN	58	May 15	166
LOWEST DAILY MEAN	29	Nov 23	29
ANNUAL SEVEN-DAY MINIMUM	29	Dec 8	29
INSTANTANEOUS PEAK FLOW			173
INSTANTANEOUS PEAK STAGE			2.54
ANNUAL RUNOFF (AC-FT)	26480	40450	31230
10 PERCENT EXCEEDS	44	110	57
50 PERCENT EXCEEDS	35	47	38
90 PERCENT EXCEEDS	30	30	33

10265160 LITTLE HOT CREEK BELOW HOT SPRINGS, NEAR MAMMOTH LAKES, CA

LOCATION.--Lat 37°41'25", long 118°50'29", in SW 1/4 NW 1/4 sec.13, T.3 S., R.28 E., Mono County, Hydrologic Unit 18090102, Inyo National Forest, on left bank 3.6 mi upstream from Owens River, 4.5 mi north of Whitmore Hot Springs, and 7.3 mi northeast of Mammoth Lakes.

DRAINAGE AREA.--6.37 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1990 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,990 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No storage or diversion upstream from station. Most of the water originates from hot springs 300 ft upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 0.82 ft<sup>3</sup>/s, July 30, 1991, gage height, 0.61 ft; minimum daily, 0.33 ft<sup>3</sup>/s, Aug. 1-3, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 2	1630	*0.70	*0.59				

Minimum daily, 0.34 ft<sup>3</sup>/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.36	.36	.36	.39	.41	.46	.40	.38	.37	.39	.39
2	.38	.36	.36	.36	.39	.40	.48	.40	.37	.36	.39	.39
3	.38	.36	.36	.36	.38	.40	.48	.40	.36	.37	.39	.39
4	.38	.38	.35	.36	.38	.40	.48	.40	.36	.37	.39	.40
5	.38	.37	.34	.36	.40	.40	.42	.40	.38	.36	.39	.40
6	.37	.38	.35	.36	.40	.38	.42	.40	.36	.37	.39	.40
7	.38	.37	.37	.38	.40	.38	.43	.40	.36	.36	.39	.40
8	.38	.37	.36	.36	.41	.38	.46	.40	.36	.37	.39	.40
9	.38	.37	.36	.38	.40	.38	.49	.40	.36	.37	.39	.40
10	.38	.34	.35	.39	.40	.39	.46	.39	.35	.37	.39	.40
11	.38	.34	.37	.38	.40	.38	.44	.38	.35	.37	.39	.41
12	.38	.34	.36	.38	.41	.38	.40	.39	.36	.37	.39	.41
13	.38	.34	.35	.39	.40	.38	.40	.38	.36	.37	.39	.41
14	.38	.34	.35	.41	.39	.39	.40	.38	.36	.37	.39	.41
15	.38	.34	.35	.40	.39	.39	.43	.38	.36	.38	.39	.41
16	.38	.35	.36	.40	.39	.38	.43	.38	.36	.39	.39	.41
17	.38	.36	.36	.41	.40	.40	.43	.38	.37	.39	.39	.42
18	.38	.36	.36	.40	.43	.39	.42	.38	.37	.38	.39	.41
19	.38	.36	.35	.38	.43	.39	.42	.37	.37	.39	.39	.40
20	.38	.36	.35	.39	.43	.40	.42	.37	.38	.39	.39	.40
21	.38	.36	.35	.39	.42	.39	.42	.37	.37	.39	.39	.40
22	.38	.36	.34	.39	.41	.40	.41	.38	.37	.39	.39	.41
23	.38	.36	.34	.39	.44	.40	.41	.37	.37	.39	.39	.41
24	.38	.36	.34	.38	.42	.43	.39	.37	.38	.39	.39	.40
25	.38	.36	.34	.38	.42	.44	.39	.37	.38	.39	.39	.40
26	.38	.36	.34	.38	.42	.44	.39	.38	.37	.39	.39	.40
27	.37	.36	.34	.38	.41	.40	.40	.38	.38	.39	.40	.40
28	.36	.36	.35	.38	.41	.41	.40	.37	.38	.39	.40	.40
29	.37	.36	.38	.38	---	.42	.40	.38	.38	.39	.40	.40
30	.40	.36	.37	.39	---	.44	.40	.38	.38	.39	.40	.40
31	.36	---	.36	.40	---	.45	---	.38	---	.39	.40	---
TOTAL	11.73	10.75	10.97	11.85	11.37	12.42	12.78	11.91	11.04	11.76	12.14	12.08
MEAN	.38	.36	.35	.38	.41	.40	.43	.38	.37	.38	.39	.40
MAX	.40	.38	.38	.41	.44	.45	.49	.40	.38	.39	.40	.42
MIN	.36	.34	.34	.36	.38	.38	.39	.37	.35	.36	.39	.39
AC-FT	23	21	22	24	23	25	25	24	22	23	24	24

## 10265160 LITTLE HOT CREEK BELOW HOT SPRINGS, NEAR MAMMOTH LAKES, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.42	.41	.41	.40	.40	.42	.44	.38	.38	.38	.39	.40
MAX	.47	.45	.45	.41	.41	.45	.45	.40	.39	.41	.44	.44
(WY)	1992	1992	1992	1991	1993	1991	1991	1992	1991	1991	1991	1991
MIN	.38	.36	.35	.38	.40	.40	.43	.37	.37	.36	.35	.37
(WY)	1993	1993	1993	1993	1992	1993	1993	1991	1993	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1991 - 1993
ANNUAL TOTAL	140.19	140.80	
ANNUAL MEAN	.38	.39	.40
HIGHEST ANNUAL MEAN			.42 1991
LOWEST ANNUAL MEAN			.39 1993
HIGHEST DAILY MEAN	.45 Mar 21	.49 Apr 9	.54 Mar 4 1991
LOWEST DAILY MEAN	.33 Aug 1	.34 Nov 10	.33 Aug 1 1992
ANNUAL SEVEN-DAY MINIMUM	.34 Aug 1	.34 Nov 10	.34 Aug 1 1992
INSTANTANEOUS PEAK FLOW		.70 Apr 2	.82 Jul 30 1991
INSTANTANEOUS PEAK STAGE		.59 Apr 2	.61 Jul 30 1991
ANNUAL RUNOFF (AC-FT)	278	279	293
10 PERCENT EXCEEDS	.42	.41	.45
50 PERCENT EXCEEDS	.38	.38	.40
90 PERCENT EXCEEDS	.35	.36	.36

## 10268225 MCGEE CREEK DIVERSION NEAR BISHOP, CA

LOCATION.--Lat 37°16'32", long 118°37'09", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank 5 ft downstream from outlet of diversion pipe, 80 ft upstream from tributary to Birch Creek, and 13.5 mi southwest of Bishop.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Cipolletti weir. Elevation of gage is 8,630 ft above sea level, from topographic map.

REMARKS.--Flow limited by size of diversion pipe from McGee Creek. Water flows down Birch Creek and then is diverted to Bishop Creek Powerplant No. 2 Conduit via Birch-McGee Creek Diversion (station 10270900).

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 17 ft<sup>3</sup>/s, July 25, 1993; minimum daily, 0.46 ft<sup>3</sup>/s, Mar. 2, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	1.4	1.0	.98	e.74	.74	1.2	2.6	8.6	11	15	6.5
2	10	1.3	1.1	1.0	e.74	.72	1.2	2.9	8.4	11	14	6.5
3	9.9	1.4	1.0	.95	e.74	.63	1.2	3.2	8.2	11	10	6.6
4	9.4	1.5	1.0	.88	e.74	.65	1.3	3.3	7.9	11	10	6.8
5	8.8	1.4	1.0	.85	e.74	.65	1.3	3.2	7.8	11	9.8	6.8
6	8.3	1.5	1.1	.83	e.74	.64	1.3	3.2	7.3	11	9.7	6.6
7	7.8	1.5	1.4	1.0	e.74	.64	1.3	3.1	6.9	11	9.5	6.3
8	7.2	1.4	1.2	.98	e.74	.72	1.3	3.1	6.8	11	9.4	6.1
9	6.5	1.4	1.1	.93	e.74	.74	1.3	3.2	6.7	11	9.2	6.0
10	5.8	1.3	1.1	.94	e.78	.74	1.3	3.4	7.2	11	9.2	5.9
11	5.1	1.4	1.1	.82	e.78	.74	1.3	3.6	7.8	11	9.2	5.9
12	3.3	1.4	1.0	.78	e.78	.74	1.3	3.8	8.2	13	9.0	5.7
13	2.2	1.4	1.0	.81	e.78	.79	1.3	4.0	8.9	16	8.9	5.4
14	1.8	1.3	.96	.96	e.78	.84	1.3	4.2	9.6	16	8.9	7.8
15	1.7	1.3	.96	.89	e.78	.84	1.3	4.2	11	16	8.9	9.7
16	1.6	1.3	.85	.80	e.78	.84	1.3	4.5	11	15	8.2	9.7
17	1.5	1.4	.98	.80	e.78	.85	1.3	4.9	12	15	7.8	9.7
18	1.4	1.2	1.1	.90	e.78	.89	1.3	5.5	12	12	7.9	9.3
19	1.3	1.3	.95	.67	.82	.84	1.3	6.1	12	8.9	7.9	9.1
20	1.3	1.3	.97	.70	.89	.88	1.4	6.7	12	13	7.5	8.9
21	1.3	1.3	.93	.69	.82	.80	1.4	7.2	12	14	7.0	9.6
22	1.4	1.2	.88	.67	.80	.92	1.4	7.8	12	14	7.1	11
23	1.4	1.1	.92	e.72	.84	1.1	1.4	8.3	12	14	7.4	10
24	1.4	1.1	.84	e.74	.86	1.2	1.5	9.1	12	16	7.9	9.7
25	1.4	1.1	.91	e.74	.73	1.2	1.6	9.5	14	17	7.8	9.1
26	1.4	.96	1.0	e.74	.81	1.2	1.7	9.3	15	16	7.3	8.5
27	1.4	1.0	1.0	e.74	.83	1.2	1.7	8.8	15	16	7.2	8.0
28	1.5	.89	.95	e.74	.78	1.2	1.9	8.4	13	16	7.0	7.4
29	1.6	.94	1.2	e.74	---	1.2	2.1	8.2	11	16	6.8	6.7
30	1.7	1.0	1.3	e.74	---	1.2	2.3	8.4	11	16	6.9	5.9
31	1.6	---	1.1	e.74	---	1.2	---	8.9	---	15	6.7	---
TOTAL	122.0	37.99	31.90	25.47	21.86	27.54	42.8	172.6	307.3	415.9	269.1	231.2
MEAN	3.94	1.27	1.03	.82	.78	.89	1.43	5.57	10.2	13.4	8.68	7.71
MAX	11	1.5	1.4	1.0	.89	1.2	2.3	9.5	15	17	15	11
MIN	1.3	.89	.84	.67	.73	.63	1.2	2.6	6.7	8.9	6.7	5.4
AC-FT	242	75	63	51	43	55	85	342	610	825	534	459

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
MEAN	2.82	1.26	1.00	.76	.69	.85	1.37	3.88	7.58	8.70	6.17	5.13
MAX	3.94	1.48	1.19	.82	.78	.89	1.77	5.57	10.2	13.4	8.68	7.71
(WY)	1993	1992	1992	1993	1993	1993	1992	1993	1993	1993	1993	1993
MIN	1.62	1.04	.76	.66	.55	.82	.91	2.60	4.71	5.55	4.63	2.71
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1991 - 1993
ANNUAL TOTAL	964.32	1705.66	
ANNUAL MEAN	2.63	4.67	3.37
HIGHEST ANNUAL MEAN			4.67 1993
LOWEST ANNUAL MEAN			2.58 1992
HIGHEST DAILY MEAN	11 Sep 30	17 Jul 25	17 Jul 25 1993
LOWEST DAILY MEAN	.64 Jan 26	.63 Mar 3	.46 Mar 2 1991
ANNUAL SEVEN-DAY MINIMUM	.68 Jan 25	.66 Mar 2	.50 Feb 19 1991
ANNUAL RUNOFF (AC-FT)	1910	3380	2440
10 PERCENT EXCEEDS	5.6	11	8.6
50 PERCENT EXCEEDS	1.7	1.5	1.6
90 PERCENT EXCEEDS	.76	.78	.74

## 10270680 GREEN CREEK CONDUIT OUTLET NEAR BISHOP, CA

LOCATION.--Lat 37°10'07", long 118°33'53", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank 75 ft downstream from outlet of diversion pipe, 0.1 mi upstream from South Lake, and 16.2 mi southwest of Bishop.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 9,800 ft above sea level, from topographic map.

REMARKS.--Flow limited by size of diversion pipe from Green Creek. Water is used for power development downstream from South lake.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 6.7 ft<sup>3</sup>/s, June 26, 27, 1993, no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	e.00	1.0	5.8	2.4	.78
2	.00	.00	.00	.00	.00	.00	.00	e.10	.83	5.9	2.3	.71
3	.00	.00	.00	.00	.00	.00	.00	e.15	.81	5.9	2.3	.67
4	.00	.00	.00	.00	.00	.00	.00	e.20	.83	5.7	2.4	.64
5	.00	.00	.00	.00	.00	.00	.00	e.25	.76	5.7	2.4	.66
6	.00	.00	.00	.00	.00	.00	.00	e.30	.63	5.7	2.3	.64
7	.00	.00	.00	.00	.00	.00	.00	e.35	.58	5.7	2.1	.61
8	.00	.00	.00	.00	.00	.00	.00	e.40	.60	5.7	1.9	.57
9	.00	.00	.00	.00	.00	.00	.00	e.45	.72	5.5	1.8	.57
10	.00	.00	.00	.00	.00	.00	.00	e.50	1.0	5.3	1.7	.52
11	.00	.00	.00	.00	.00	.00	.00	e.55	1.2	5.1	1.5	.48
12	.00	.00	.00	.00	.00	.00	.00	e.60	1.3	5.0	1.5	.45
13	.00	.00	.00	.00	.00	.00	.00	e.65	1.5	4.6	1.4	.20
14	.00	.00	.00	.00	.00	.00	.00	e.70	1.5	4.1	1.3	.00
15	.00	.00	.00	.00	.00	.00	.00	e.75	1.6	3.7	1.2	.00
16	.00	.00	.00	.00	.00	.00	.00	e.80	1.5	3.5	1.2	.00
17	.00	.00	.00	.00	.00	.00	.00	e.88	1.3	3.1	1.2	.00
18	.00	.00	.00	.00	.00	.00	.00	e.88	1.3	2.8	1.1	.00
19	.00	.00	.00	.00	.00	.00	.00	e.98	1.5	2.6	1.0	.00
20	.00	.00	.00	.00	.00	.00	.00	e.98	1.2	2.5	.91	.00
21	.00	.00	.00	.00	.00	.00	.00	e.85	1.1	2.5	.88	.00
22	.00	.00	.00	.00	.00	.00	.00	e.85	1.2	2.4	.86	.00
23	.00	.00	.00	.00	.00	.00	.00	e1.5	2.9	2.5	.82	.00
24	.00	.00	.00	.00	.00	.00	.00	e2.5	5.8	3.1	.82	.00
25	.00	.00	.00	.00	.00	.00	.00	e2.0	6.3	3.3	.82	.00
26	.00	.00	.00	.00	.00	.00	.00	e.90	6.7	3.3	.86	.00
27	.00	.00	.00	.00	.00	.00	.00	e.85	6.7	3.1	.86	.00
28	.00	.00	.00	.00	.00	.00	.00	e.85	6.4	3.0	.80	.00
29	.00	.00	.00	.00	---	.00	.00	.83	6.1	2.8	.79	.00
30	.00	.00	.00	.00	---	.00	.00	.99	5.7	2.7	.81	.00
31	.00	---	.00	.00	---	.00	---	1.1	---	2.6	.82	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.69	70.56	125.2	43.05	7.50
MEAN	.000	.000	.000	.000	.000	.000	.000	.76	2.35	4.04	1.39	.25
MAX	.00	.00	.00	.00	.00	.00	.00	2.5	6.7	5.9	2.4	.78
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.58	2.4	.79	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	47	140	248	85	15

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	1991	1991	1991	1991	1991	1991	1991	1991	1991	1991	1991	1991
MEAN	.000	.000	.000	.000	.000	.000	.005	.56	1.48	1.79	.60	.13
MAX	.000	.000	.000	.000	.000	.000	.015	.92	2.35	4.04	1.39	.25
(WY)	1991	1991	1991	1991	1991	1991	1992	1992	1993	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.96	.45	.18	.046
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1992	1991	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1991 - 1993		
ANNUAL TOTAL	85.49			270.00					
ANNUAL MEAN	.23			.74					
HIGHEST ANNUAL MEAN							.38		
LOWEST ANNUAL MEAN							.74		
HIGHEST DAILY MEAN	3.4 Jun 5			6.7 Jun 26			.18		
LOWEST DAILY MEAN	.00 Jan 1			.00 Oct 1			.74		
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1			.00 Oct 1			.18		
ANNUAL RUNOFF (AC-FT)	170			536			.00		
10 PERCENT EXCEEDS	.78			2.5			.00		
50 PERCENT EXCEEDS	.00			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 10270700 SOUTH LAKE NEAR BISHOP, CA

LOCATION.--Lat 37°10'21", long 118°33'52", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, near spillway at right abutment of Hillside Dam on South Fork Bishop Creek and 16.0 mi southwest of Bishop.

DRAINAGE AREA.--12.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1910. Usable capacity, 12,883 acre-ft between elevations 9,621.20 ft, invert of outlet tunnel, and 9,751.31 ft, crest of spillway. Water is received from Green Creek via Green Creek Conduit (station 10270680). Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 13,038 acre-ft, Aug. 4, 1993, elevation, 9,752.21 ft; minimum, 280 acre-ft, Apr. 18-25, 1993, elevation, unknown.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,038 acre-ft, Aug. 4, elevation, 9,752.21 ft; minimum, 280 acre-ft, Apr. 18-25, elevation, unknown.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 5, 1981)

9,621.2	0	9,690	4,533
9,630	417	9,710	6,654
9,650	1,493	9,730	9,392
9,670	2,820	9,756	13,704

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6901	5972	5587	5263	3482	1035	e302	e417	2225	7626	13032	12774
2	6833	5967	5564	5250	3380	982	e301	e429	2296	7880	13033	12763
3	6806	5964	5538	5253	3265	901	e300	e442	2355	8134	13033	12754
4	6776	5964	5513	5249	3159	839	e299	e454	2405	8382	13038	12742
5	6747	5961	5498	5249	3047	750	e298	e466	2482	8653	13037	12727
6	6726	5962	5482	5256	2939	e690	e297	e489	2542	8945	13028	12708
7	6707	5959	5477	5269	2836	e632	e296	e526	2599	9244	13021	12694
8	6686	5941	5472	5232	2728	e576	e295	e564	2666	9534	13009	12675
9	6663	5924	5465	5191	2623	e522	e294	e602	2752	9809	12993	12656
10	6634	5914	5448	5164	2526	e470	e293	e639	2865	10057	12985	12637
11	6600	5905	5442	5128	2431	e450	e292	e677	3004	10300	12973	12601
12	6562	5899	5425	5108	2334	e443	e291	e721	3160	10526	12971	12566
13	6525	5890	e5419	5086	2248	e436	e290	766	3350	10720	12962	12546
14	6486	5884	e5412	5067	2149	e429	e288	815	3564	10890	12960	12542
15	6452	5867	5405	5047	2055	e422	e286	854	3797	11025	12948	12537
16	6413	5852	5391	5035	1973	e415	e285	903	4011	11142	12945	12525
17	6378	5837	5385	e5005	1891	e408	e282	974	4209	11244	12947	12517
18	6342	5825	5363	4944	e1812	e401	e280	1060	4406	11344	12948	12515
19	6308	5805	5356	4837	e1734	e394	e280	1153	4627	11440	12940	12506
20	6270	5782	5349	4737	e1659	e386	e280	1245	4856	11546	12924	12496
21	6233	5770	5333	4634	1582	e379	e280	1327	5056	11647	12905	12470
22	6202	5754	5333	4528	1510	e372	e280	1411	5258	11771	12872	12419
23	6175	5728	5316	4419	1442	e365	e280	1504	5462	11905	12843	12383
24	6145	5709	5296	4312	1372	e358	e280	1629	5705	12079	12819	12344
25	6115	5691	5283	4215	1304	e351	e280	1747	5978	12270	12805	12315
26	6091	5679	5267	4107	1237	e344	e292	1826	6289	12451	12793	12270
27	6058	5667	5257	4003	e1174	e337	e316	e1872	6603	12623	12789	12233
28	6034	5645	5247	3893	e1104	e330	e345	1921	6892	12782	12794	12196
29	6005	5619	5258	3790	---	e323	e367	1978	7149	12931	12801	12151
30	5999	5604	5258	3688	---	e316	e392	2057	7384	13018	12791	12112
31	5985	---	5258	3582	---	e309	---	2142	---	13032	12784	---
MAX	6901	5972	5587	5269	3482	1035	392	2142	7384	13032	13038	12774
MIN	5985	5604	5247	3582	1104	309	280	417	2225	7626	12784	12112
a	9704.01	9700.48	9697.19	9679.40				9660.45	9716.06	9752.17	9750.74	9746.82
b	-974	-381	-346	-1676	-2478	-795	+83	+1750	+5242	+5648	-248	-672

CAL YR 1992 MAX 9361 MIN 4312 b +16  
WTR YR 1993 MAX 13038 MIN 280 b +5153

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10270800 SOUTH FORK BISHOP CREEK BELOW SOUTH LAKE, NEAR BISHOP, CA

LOCATION.--Lat 37°10'38", long 118°33'44", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank near weir on Weir Lake, 0.3 mi downstream from South Lake, and 15.7 mi southwest of Bishop.

DRAINAGE AREA.--13.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 9,580 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by South Lake (station 10270700). Green Creek Conduit (station 10270680) diverts water into basin at South Lake. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80 ft<sup>3</sup>/s, Aug. 4, 5, 1993, gage height, 1.00 ft; minimum daily, 6.8 ft<sup>3</sup>/s, Apr. 9, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 80 ft<sup>3</sup>/s, Aug. 4, 5, gage height, 1.00 ft; minimum daily, 8.4 ft<sup>3</sup>/s, Apr. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	16	15	10	55	49	9.4	13	24	14	73	33
2	33	12	15	11	60	48	9.8	13	18	14	73	33
3	22	10	16	11	64	47	8.4	14	24	14	76	33
4	21	10	15	11	62	45	9.1	14	28	15	79	33
5	18	10	15	11	60	44	9.4	14	14	15	80	33
6	17	10	16	11	60	43	9.4	14	14	15	77	33
7	17	10	15	11	59	42	9.4	15	14	16	74	33
8	16	14	14	20	59	41	9.4	15	14	16	68	36
9	18	15	14	27	59	25	9.4	15	14	16	63	36
10	19	11	14	27	58	9.4	9.4	15	15	16	57	36
11	20	13	13	27	56	9.4	9.4	16	16	16	52	35
12	22	12	13	27	55	9.4	9.4	16	13	16	47	39
13	22	11	15	27	54	9.4	9.4	17	13	16	42	26
14	22	11	15	27	54	9.0	10	17	13	17	40	20
15	22	13	11	26	53	8.8	13	24	13	18	39	20
16	22	13	13	25	52	9.6	18	28	13	18	37	20
17	22	12	13	23	51	11	19	31	13	18	36	20
18	22	12	14	44	51	11	19	41	13	17	36	20
19	22	14	13	57	50	10	19	44	13	17	34	20
20	22	18	13	58	50	9.9	18	45	13	17	40	20
21	22	17	13	57	50	9.4	16	45	13	17	42	26
22	21	15	13	57	50	9.4	14	46	13	18	44	30
23	21	15	13	57	50	9.7	15	47	13	18	44	30
24	21	16	13	56	50	9.9	19	37	14	18	44	30
25	21	17	12	56	49	10	17	30	14	18	40	30
26	20	15	12	56	49	10	13	30	14	18	38	30
27	20	14	12	56	49	10	13	30	14	18	34	30
28	20	14	11	56	49	9.4	13	30	14	19	27	30
29	20	16	11	56	---	9.4	13	30	14	19	28	30
30	19	16	11	56	---	9.4	13	30	14	46	33	30
31	20	---	10	55	---	9.4	---	31	---	70	33	---
TOTAL	658	402	413	1109	1518	596.9	383.3	807	449	600	1530	875
MEAN	21.2	13.4	13.3	35.8	54.2	19.3	12.8	26.0	15.0	19.4	49.4	29.2
MAX	34	18	16	58	64	49	19	47	28	70	80	39
MIN	16	10	10	10	49	8.8	8.4	13	13	14	27	20
AC-FT	1310	797	819	2200	3010	1180	760	1600	891	1190	3030	1740

10270800 SOUTH FORK BISHOP CREEK BELOW SOUTH LAKE, NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.3	15.6	16.0	20.0	23.3	11.6	10.2	21.2	12.7	16.8	31.9	30.6
MAX	41.0	22.9	24.8	35.8	54.2	19.3	12.8	26.0	15.4	21.5	49.4	36.4
(WY)	1992	1992	1992	1993	1993	1993	1993	1993	1992	1992	1993	1992
MIN	10.8	10.6	9.98	7.59	7.45	7.75	7.74	17.2	7.70	9.45	20.5	26.4
(WY)	1991	1991	1991	1991	1991	1991	1992	1992	1991	1991	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	6279.4				9341.2							
ANNUAL MEAN	17.2				25.6				19.5			
HIGHEST ANNUAL MEAN									25.6			
LOWEST ANNUAL MEAN									12.4			
HIGHEST DAILY MEAN	45				80				80			
LOWEST DAILY MEAN	6.9				8.4				6.8			
ANNUAL SEVEN-DAY MINIMUM	7.1				9.2				6.9			
INSTANTANEOUS PEAK FLOW					80				80			
INSTANTANEOUS PEAK STAGE					1.00				1.00			
ANNUAL RUNOFF (AC-FT)	12460				18530				14150			
10 PERCENT EXCEEDS	25				54				41			
50 PERCENT EXCEEDS	16				18				15			
90 PERCENT EXCEEDS	8.1				10				7.5			

## 10270870 LAKE SABRINA NEAR BISHOP, CA

LOCATION.--Lat 38°12'44", long 118°36'42", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in valve house at base of dam on Middle Fork Bishop Creek and 15.8 mi southwest of Bishop.

DRAINAGE AREA.--16.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1908. Usable capacity, 7,350 acre-ft between elevations 9,068.42 ft, invert of outlet, and 9,131.62 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,453 acre-ft, July 28, 1993, elevation, 9,132.15 ft; minimum, 275 acre-ft, May 15, 1993, elevation, 9,087.26 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,453 acre-ft, July 28, elevation, 9,132.15; minimum, 275 acre-ft, May 15, elevation, 9,087.26 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 12, 1981)

9,068.42	0	9,100	1,926
9,070	1	9,110	3,501
9,080	15	9,120	5,196
9,090	558	9,135	7,912

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4165	3631	3486	3365	2549	744	381	435	1456	5196	7438	7352
2	4138	3626	3476	3371	2495	659	379	478	1424	5398	7436	e7338
3	4125	3626	3468	3373	2460	576	378	506	1375	5538	7440	e7313
4	4113	3628	3458	3373	2411	541	374	484	1375	5690	7447	e7289
5	4103	3628	3450	3371	2355	539	370	445	1379	5854	7447	e7264
6	4093	3628	3451	3376	2293	531	366	409	1361	6092	7445	e7241
7	4069	3626	3466	3394	2233	524	362	374	1325	6270	7438	7225
8	4047	3623	3465	3387	2183	512	360	346	1282	6475	7422	7202
9	4036	3619	3461	3358	2116	504	357	330	1262	6659	7406	7163
10	4024	3614	3450	3342	2042	493	354	339	1291	6829	7391	7130
11	4011	3611	3458	3320	1966	483	350	353	1362	7036	7397	7088
12	3994	3608	3453	3302	1900	472	346	348	1447	7121	7406	7049
13	3980	3603	3445	3296	1820	461	342	314	1562	7229	7408	7036
14	3964	3598	3438	3289	1736	457	338	284	1711	7311	7404	7017
15	3947	3595	3435	3293	e1653	450	336	275	1897	7348	7391	7011
16	3932	3590	3430	3296	e1578	450	328	279	2076	7357	7365	7007
17	3913	3586	3428	3293	e1503	447	322	312	2242	7352	7350	7001
18	3895	3578	3422	3257	e1430	436	318	411	2413	7338	7322	6994
19	3868	3573	3409	3227	e1365	426	310	539	2612	7326	7291	6978
20	3847	3566	3404	3192	e1298	417	312	660	2838	7324	7266	6961
21	3822	3562	3396	3156	e1232	412	317	792	3031	7326	7241	6942
22	3797	3552	3386	3110	e1177	407	319	918	3209	7334	7223	6942
23	3772	3548	3379	3063	e1121	403	322	1074	3381	7354	7241	6942
24	3750	3542	3371	3014	e1065	397	322	1217	3580	7395	7276	6934
25	3729	3534	3363	2959	1003	396	328	1331	3827	7420	7318	6936
26	3707	3530	3353	2911	946	397	336	1402	4120	7443	7357	6926
27	3684	3522	3342	2850	886	394	348	1420	4429	7451	7375	6919
28	3663	3514	3342	2788	829	394	363	1411	4694	7453	7383	6919
29	3643	3503	3360	2728	---	391	384	1403	4914	7447	7383	6909
30	3651	3499	3361	2672	---	388	408	1416	5103	7451	7377	6896
31	3639	---	3361	2607	---	385	---	1452	---	7447	7367	---
MAX	4165	3631	3486	3394	2549	744	408	1452	5103	7453	7447	7352
MIN	3639	3499	3342	2607	829	385	310	275	1262	5196	7223	6896
a	9110.84	9109.99	9109.15	9104.45	9092.20	9088.46	9088.70	9096.75	9119.47	9132.12	9131.71	9129.27
b	-553	-140	-138	-754	-1778	-444	+23	+1044	+3651	+2344	-80	-471

CAL YR 1992 MAX 6118 MIN 2176 b -1051  
WTR YR 1993 MAX 7453 MIN 275 b +2704

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10270872 MIDDLE FORK BISHOP CREEK BELOW LAKE SABRINA, NEAR BISHOP, CA

LOCATION.--Lat 37°12'50", long 118°36'34", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank 800 ft downstream from Lake Sabrina Dam and 15.6 mi southwest of Bishop.

DRAINAGE AREA.--16.7 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 9,050 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Lake Sabrina (station 10270870). Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 114 ft<sup>3</sup>/s, July 26, 1993, gage height, 1.21 ft; minimum daily, 6.5 ft<sup>3</sup>/s, Mar. 19-27, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 114 ft<sup>3</sup>/s, July 26, gage height, 1.21 ft; minimum daily, 7.6 ft<sup>3</sup>/s, Nov. 26-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	14	9.6	11	39	51	10	18	68	79	94	43
2	22	11	8.4	8.2	35	51	10	16	77	81	90	44
3	15	8.8	8.2	12	25	52	11	28	82	78	94	43
4	13	8.8	8.2	12	30	26	11	47	57	75	100	43
5	13	8.2	8.2	9.1	35	13	10	53	56	77	103	43
6	13	8.2	8.2	9.9	38	13	10	53	58	76	102	43
7	18	8.2	8.2	9.9	37	13	10	52	65	77	98	43
8	18	8.2	8.2	17	36	13	10	52	71	78	91	43
9	15	8.2	9.0	24	41	13	9.8	50	68	79	81	47
10	14	8.2	11	24	44	13	9.7	43	61	80	76	47
11	14	8.2	9.4	22	43	13	9.4	43	51	81	63	47
12	15	8.2	10	25	43	13	9.4	52	49	82	50	46
13	15	8.2	11	24	45	13	9.4	64	49	83	50	34
14	15	8.2	11	22	47	10	9.8	65	44	82	52	31
15	15	8.2	11	22	47	10	10	56	38	83	54	26
16	16	8.2	10	22	48	10	14	52	36	83	52	21
17	16	8.2	10	25	50	10	13	47	36	83	51	22
18	17	7.9	11	35	46	11	13	22	37	82	57	23
19	18	8.2	13	31	42	12	13	15	38	80	54	24
20	18	8.2	11	31	49	12	10	15	38	77	51	25
21	18	8.2	11	32	53	11	8.8	15	40	77	50	24
22	19	8.2	11	34	51	11	8.8	17	44	77	41	13
23	19	8.2	11	36	46	10	8.8	19	47	80	27	13
24	19	8.2	11	36	48	10	10	30	46	88	25	16
25	18	8.1	11	36	52	10	10	40	43	103	18	15
26	18	7.6	11	36	52	10	9.3	41	39	104	21	17
27	19	7.6	11	38	51	10	9.4	51	37	106	33	14
28	19	7.6	11	39	52	10	9.4	63	38	106	38	12
29	18	9.5	11	39	---	10	12	67	41	103	38	16
30	13	10	12	39	---	10	13	67	49	100	42	15
31	15	---	12	39	---	10	---	65	---	99	43	---
TOTAL	517	256.7	317.6	800.1	1225	484	312.0	1318	1503	2639	1839	893
MEAN	16.7	8.56	10.2	25.8	43.7	15.6	10.4	42.5	50.1	85.1	59.3	29.8
MAX	22	14	13	39	53	52	14	67	82	106	103	47
MIN	13	7.6	8.2	8.2	25	10	8.8	15	36	75	18	12
AC-FT	1030	509	630	1590	2430	960	619	2610	2980	5230	3650	1770

## 10270872 MIDDLE FORK BISHOP CREEK BELOW LAKE SABRINA, NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.5	11.4	12.0	16.6	19.8	14.6	20.6	27.2	29.3	55.9	43.1	28.5
MAX	17.8	16.0	14.4	25.8	43.7	21.2	27.3	42.5	50.1	85.1	59.3	29.8
(WY)	1992	1992	1992	1993	1993	1992	1992	1993	1993	1993	1993	1993
MIN	11.8	8.56	10.2	7.63	7.11	6.91	10.4	18.7	11.6	34.6	33.8	26.9
(WY)	1991	1993	1993	1991	1991	1991	1993	1991	1991	1992	1992	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	7735.5				12104.4							
ANNUAL MEAN	21.1				33.2				24.6			
HIGHEST ANNUAL MEAN									33.2			
LOWEST ANNUAL MEAN									18.4			
HIGHEST DAILY MEAN	43				106				106			
LOWEST DAILY MEAN	7.6				7.6				6.5			
ANNUAL SEVEN-DAY MINIMUM	7.9				7.9				6.5			
INSTANTANEOUS PEAK FLOW					114				114			
INSTANTANEOUS PEAK STAGE					1.21				1.21			
ANNUAL RUNOFF (AC-FT)	15340				24010				17810			
10 PERCENT EXCEEDS	35				77				48			
50 PERCENT EXCEEDS	19				23				18			
90 PERCENT EXCEEDS	8.2				8.8				8.1			

## 10270875 INTAKE NO. 2 RESERVOIR NEAR BISHOP, CA

LOCATION.--Lat 38°14'53", long 118°34'53", in SE 1/4 SW 1/4 sec.16, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in outlet structure 50 ft upstream from Bishop Creek Dam on Middle Fork Bishop Creek and 13.0 mi southwest of Bishop.

DRAINAGE AREA.--31.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed by rock-fill dam completed in 1908. Capacity, 78 acre-ft between elevations 8,077 ft, invert of outlet, and 8,098.81 ft, crest of spillway, all of which are available for release. Water is received from South Fork Bishop Creek via conduit on right bank. Most of the water is diverted through conduit to Bishop Creek Powerplant No. 2 for power development on Bishop Creek. Figures given represent total contents.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 92 acre-ft, June 13, 1991, elevation, 8,099.98 ft; minimum, 42 acre-ft, Sept. 30, 1993, elevation, 8,095.34 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 87 acre-ft, July 30, Aug. 4, 5, elevation, 8,099.60 ft; minimum, 42 acre-ft, Sept. 30, elevation, 8,095.34 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 12, 1981)

8,077	0	8,094	32
8,082	1	8,098	68
8,086	5	8,102	120
8,090	12		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	73	72	74	70	69	73	77	83	86	86	67
2	71	76	72	70	72	67	75	74	83	85	86	70
3	67	73	70	70	69	64	74	72	84	84	86	73
4	73	71	71	75	68	67	73	67	77	85	87	74
5	71	70	71	72	68	69	72	71	77	86	87	73
6	67	68	71	71	71	72	72	70	71	86	86	73
7	71	66	75	75	72	70	72	69	65	86	86	70
8	74	69	70	71	67	69	71	71	71	86	84	67
9	72	73	68	68	67	69	71	77	73	85	83	70
10	70	67	71	73	69	70	73	72	76	85	82	70
11	68	70	73	68	71	72	74	70	75	85	81	68
12	71	70	70	72	68	68	68	78	78	85	78	73
13	71	68	70	75	68	73	65	80	80	85	78	67
14	71	67	77	73	69	74	68	80	81	84	74	74
15	70	70	73	74	68	63	73	80	81	83	69	74
16	68	71	70	71	70	68	73	81	81	81	69	70
17	68	72	72	69	73	73	72	81	81	81	67	70
18	67	69	71	69	74	65	69	80	80	81	71	71
19	71	69	75	71	68	67	71	80	81	81	69	70
20	74	72	75	70	67	73	74	80	82	81	66	67
21	75	74	73	68	71	74	72	80	81	80	69	74
22	74	71	72	71	77	73	68	81	81	81	81	71
23	74	69	72	73	70	73	64	81	82	82	80	68
24	74	68	71	71	65	69	67	83	82	84	79	70
25	73	74	72	69	68	68	75	83	83	86	77	67
26	69	73	73	68	74	69	75	81	83	85	71	70
27	70	71	74	70	71	69	72	82	82	86	72	66
28	70	67	73	73	68	69	73	82	83	85	72	52
29	72	67	69	73	---	69	75	83	82	84	69	51
30	72	68	67	71	---	74	70	84	83	87	72	42
31	68	---	73	70	---	72	---	84	---	86	68	---
MAX	75	76	77	75	77	74	75	84	84	87	87	74
MIN	67	66	67	68	65	63	64	67	65	80	66	42
a	8098.00	8098.00	8098.44	8098.19	8097.96	8098.34	8098.22	8099.41	8099.33	8099.58	8097.98	8095.34
b	-2	0	+5	-3	-2	+4	-2	+14	-1	+3	-18	-26

CAL YR 1992 MAX 77 MIN 63 b +2

WTR YR 1993 MAX 87 MIN 42 b -28

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10270877 MIDDLE FORK BISHOP CREEK BELOW INTAKE NO. 2 RESERVOIR, NEAR BISHOP, CA

LOCATION.--Lat 37°15'16", long 118°34'39", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank 0.1 mi upstream from bridge on South Lake road, 0.7 mi downstream from Bishop Creek Dam, 0.9 mi upstream from confluence with South Fork Bishop Creek, and 12.6 mi southwest of Bishop.

DRAINAGE AREA.--31.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year (low-flow records only). Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 7,830 ft above sea level, from topographic map.

REMARKS.--No records computed above 30 ft<sup>3</sup>/s. Flow regulated by Intake No. 2 Reservoir (station 10270875), where most of the water is diverted to Bishop Creek Powerplant No. 2. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.6	2.3	2.5	e2.4	2.7	2.9	3.0	---	---	---	2.7
2	2.3	2.6	2.3	2.5	e2.4	2.7	2.8	3.0	---	---	---	2.7
3	2.2	2.5	2.3	e2.5	2.3	2.7	2.8	3.0	---	---	---	2.6
4	2.2	2.5	2.3	e2.5	2.3	2.7	2.8	3.0	25	---	---	2.6
5	2.3	2.5	2.3	2.5	2.3	2.7	2.8	3.0	4.8	---	---	2.6
6	2.3	2.5	2.3	2.4	2.3	2.7	2.7	3.0	3.3	---	---	2.6
7	2.3	2.5	2.3	2.3	2.3	2.7	2.7	3.0	3.1	---	---	2.6
8	2.3	2.5	2.4	2.4	2.3	2.7	2.7	3.0	3.1	---	---	2.6
9	2.3	2.5	2.4	2.5	2.3	2.7	2.7	2.9	3.0	---	---	2.6
10	2.4	2.5	2.5	2.5	2.3	2.8	2.7	2.9	3.0	---	---	2.6
11	2.5	2.5	2.5	2.5	2.3	2.8	2.7	2.9	6.4	---	22	2.5
12	2.5	2.5	2.3	2.5	2.3	2.8	2.7	2.9	2.9	---	11	2.5
13	2.4	2.5	2.4	2.5	2.3	2.8	2.6	8.8	11	---	5.0	2.6
14	2.3	2.5	2.5	2.6	2.3	2.8	2.6	12	19	---	3.3	2.6
15	2.3	2.5	2.5	2.4	2.3	2.8	2.6	12	22	---	2.7	2.7
16	2.3	2.5	2.4	2.4	e2.3	2.8	2.6	14	24	---	2.7	2.7
17	2.3	2.5	2.3	2.5	e2.3	2.9	2.7	22	23	27	2.7	2.7
18	2.3	2.5	2.3	2.4	2.3	2.9	2.7	17	18	23	2.7	2.7
19	2.3	2.5	2.3	2.5	e2.3	2.9	2.6	13	19	21	2.6	2.7
20	3.7	2.5	2.3	2.5	e2.4	2.9	2.6	16	30	19	2.6	2.7
21	3.4	2.5	2.3	2.5	e2.4	2.9	2.7	17	23	20	2.6	2.7
22	2.6	2.5	2.3	e2.5	e2.4	2.9	2.7	16	23	19	20	2.7
23	2.6	2.5	2.3	e2.5	2.3	2.9	2.6	22	26	25	16	2.7
24	2.6	2.4	2.3	e2.5	2.4	2.9	2.6	---	30	---	13	2.7
25	2.5	2.3	2.3	e2.5	2.5	2.9	2.6	---	---	---	19	2.7
26	2.5	2.3	2.3	e2.5	2.6	3.0	2.7	30	---	---	2.7	2.7
27	2.6	2.3	2.3	e2.4	2.7	2.9	2.7	27	---	---	2.7	3.9
28	2.6	2.3	2.3	e2.4	2.7	2.9	19	---	---	---	2.7	3.5
29	2.6	2.4	2.5	e2.4	---	2.9	3.6	---	---	---	2.7	3.4
30	2.8	2.3	2.5	e2.4	---	2.9	3.0	---	---	---	2.7	3.4
31	2.6	---	e2.5	e2.4	---	2.9	---	---	---	---	2.7	---
TOTAL	77.2	74.0	73.1	76.4	66.3	87.5	98.2	---	---	---	---	83.0
MEAN	2.49	2.47	2.36	2.46	2.37	2.82	3.27	---	---	---	---	2.77
MAX	3.7	2.6	2.5	2.6	2.7	3.0	19	---	---	---	---	3.9
MIN	2.2	2.3	2.3	2.3	2.3	2.7	2.6	---	---	---	---	2.5
AC-FT	153	147	145	152	132	174	195	---	---	---	---	165

CAL YR 1992 TOTAL 903.8 MEAN 2.47 MAX 3.7 MIN 2.0 AC-FT 1790

e Estimated.

## 10270900 BIRCH-MCGEE DIVERSION TO BISHOP CREEK POWERPLANT NO. 2 NEAR BISHOP, CA

LOCATION.--Lat 37°16'26", long 118°34'45", NW 1/4 NE 1/4 sec.9, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in conduit 100 ft upstream from penstock to Bishop Creek Powerplant No. 2 and 11.9 mi southwest of Bishop.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Acoustic-velocity meter. Elevation of gage is 7,950 ft above sea level, from topographic map.

REMARKS.--Conduit diverts water from Birch Creek and discharges into penstock to Bishop Creek Powerplant No. 2. Birch Creek receives water from McGee Creek via McGee Creek Diversion (station 10268225).

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 39 ft<sup>3</sup>/s, July 26-29, 1993; minimum daily, 2.0 ft<sup>3</sup>/s, Dec. 22, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	4.7	4.0	4.0	3.7	3.8	5.2	6.5	e12	25	e28	19
2	e12	4.8	3.8	4.1	3.8	3.9	5.5	6.7	12	25	e28	18
3	e11	4.6	3.8	4.0	3.6	3.9	5.9	6.4	11	26	e27	18
4	e11	4.4	3.9	4.0	3.7	3.9	5.4	6.1	12	25	e27	19
5	e11	4.6	3.8	3.8	3.7	3.8	5.0	6.2	11	27	e26	19
6	e10	4.5	3.8	3.9	3.6	4.1	5.0	6.2	11	25	e26	19
7	e10	4.4	4.3	4.3	3.6	3.9	5.4	6.0	11	e27	e25	19
8	9.5	4.4	3.7	4.2	3.6	4.0	5.7	6.0	e11	e27	e25	18
9	9.0	4.2	3.8	4.1	3.6	4.0	5.6	6.1	e11	e27	e24	17
10	8.4	4.1	4.0	4.2	3.8	4.0	5.5	6.3	e11	e26	e24	17
11	7.7	4.4	4.1	3.9	3.8	4.0	5.2	6.5	e11	e26	23	17
12	5.8	4.1	4.1	3.8	3.8	3.9	4.9	6.7	e13	e26	25	17
13	5.1	4.2	4.1	4.1	3.8	4.2	4.8	6.7	e14	e34	25	18
14	4.6	4.2	4.1	4.1	3.7	4.4	5.4	6.8	e16	e36	25	20
15	4.4	4.2	4.0	4.1	3.7	4.3	5.4	6.9	18	e37	24	22
16	4.4	4.2	4.1	4.0	3.7	4.3	5.6	7.0	19	e37	25	23
17	4.5	4.2	4.3	4.0	3.5	5.3	5.0	7.5	19	e37	24	23
18	4.3	4.2	4.1	3.9	3.9	4.6	5.5	8.2	21	e32	23	22
19	4.3	4.2	3.9	3.8	4.1	4.4	5.9	8.9	22	e26	22	22
20	4.2	4.0	4.0	3.8	3.9	4.6	5.9	e11	e20	e30	22	21
21	4.3	4.2	4.0	3.9	3.8	4.6	5.8	e11	e19	e33	22	22
22	4.4	4.0	4.0	4.0	4.0	4.8	5.3	e12	17	e33	21	23
23	4.3	3.7	4.1	3.7	4.1	5.1	5.1	e13	16	e34	21	22
24	4.0	3.8	4.1	3.7	4.1	5.1	5.6	e13	25	e36	21	22
25	3.9	3.8	3.9	3.9	3.8	4.7	5.9	e13	e26	e38	20	21
26	4.1	3.9	3.8	3.7	3.7	4.4	5.9	e13	e26	e39	21	20
27	4.1	4.1	3.9	3.7	3.7	4.5	5.9	e12	e26	e39	21	19
28	4.1	3.7	3.9	3.8	3.7	4.4	6.0	e12	e25	e39	21	19
29	4.8	3.7	4.1	3.7	---	4.4	e6.2	e12	e25	e39	20	18
30	4.9	3.4	4.2	3.8	---	4.7	6.5	e12	25	e37	21	17
31	4.8	---	4.0	3.8	---	5.0	---	e14	---	e36	20	---
TOTAL	200.9	124.9	123.7	121.8	105.5	135.0	166.0	275.7	516	984	727	591
MEAN	6.48	4.16	3.99	3.93	3.77	4.35	5.53	8.89	17.2	31.7	23.5	19.7
MAX	12	4.8	4.3	4.3	4.1	5.3	6.5	14	26	39	28	23
MIN	3.9	3.4	3.7	3.7	3.5	3.8	4.8	6.0	11	25	20	17
AC-FT	398	248	245	242	209	268	329	547	1020	1950	1440	1170

e Estimated.

## 10270900 BIRCH-MCGEE DIVERSION TO BISHOP CREEK POWERPLANT NO. 2 NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.68	4.32	3.94	3.85	3.72	4.01	4.95	6.97	13.4	19.0	13.9	11.3
MAX	6.48	4.61	4.14	4.02	3.92	4.35	5.53	8.89	17.2	31.7	23.5	19.7
(WY)	1993	1992	1992	1992	1992	1993	1993	1993	1993	1993	1993	1993
MIN	4.65	4.16	3.70	3.61	3.48	3.55	4.23	5.36	11.2	9.81	8.35	5.62
(WY)	1991	1993	1991	1991	1991	1991	1991	1991	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	2243.3				4071.5							
ANNUAL MEAN	6.13				11.2				7.95			
HIGHEST ANNUAL MEAN									11.2			
LOWEST ANNUAL MEAN									6.13			
HIGHEST DAILY MEAN	16 Jun 11				39 Jul 26				39 Jul 26 1993			
LOWEST DAILY MEAN	3.4 Nov 30				3.4 Nov 30				2.0 Dec 22 1990			
ANNUAL SEVEN-DAY MINIMUM	3.8 Nov 28				3.6 Feb 3				3.1 Dec 22 1990			
ANNUAL RUNOFF (AC-FT)	4450				8080				5760			
10 PERCENT EXCEEDS	10				25				18			
50 PERCENT EXCEEDS	4.8				5.4				4.9			
90 PERCENT EXCEEDS	3.9				3.8				3.7			

## 10270960 COYOTE CREEK NEAR BISHOP, CA

LOCATION.--Lat 37°18'54", long 118°30'33", SW 1/4 NW 1/4 sec.30, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, on left bank 30 ft upstream from mouth and 7.2 mi southwest of Bishop.

DRAINAGE AREA.--25.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 5,470 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No storage or diversion upstream from station. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14 ft<sup>3</sup>/s, May 10, 1993, gage height, 1.13 ft; minimum daily, 1.8 ft<sup>3</sup>/s, several days in 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft<sup>3</sup>/s, May 10, gage height, 1.13 ft; minimum daily, 2.3 ft<sup>3</sup>/s, Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.3	3.1	3.2	3.2	3.3	4.2	8.8	6.2	2.8	2.6	2.9
2	2.3	3.4	3.0	3.2	3.1	3.4	4.3	8.9	5.7	2.8	2.6	2.9
3	2.3	3.5	2.9	3.1	3.1	3.3	4.5	9.6	5.2	2.8	2.7	2.9
4	2.4	3.3	2.8	3.1	3.1	3.3	4.6	8.6	5.2	2.8	3.0	2.8
5	2.5	3.3	2.8	3.1	3.2	3.4	4.3	6.6	5.3	2.8	3.2	2.8
6	2.5	3.1	2.9	3.1	3.2	3.4	4.1	8.0	5.0	2.7	3.3	2.6
7	2.5	3.1	2.9	3.1	3.2	3.5	4.0	7.8	4.8	2.7	3.0	2.5
8	2.5	3.1	2.7	3.2	3.3	3.4	4.2	7.7	4.7	2.6	2.8	2.6
9	2.5	3.0	3.0	3.2	3.3	3.4	4.4	8.3	4.6	2.6	3.0	2.5
10	2.6	2.8	3.2	3.2	3.2	3.4	4.6	9.0	4.6	2.6	2.9	2.5
11	2.6	2.9	3.2	3.1	3.2	3.4	4.5	8.7	4.6	2.6	2.8	2.5
12	2.5	3.0	3.1	3.1	3.2	3.3	4.3	7.6	4.4	2.6	2.8	2.6
13	2.5	3.0	3.0	3.1	3.2	3.4	4.1	6.6	4.4	2.6	2.8	2.6
14	2.5	3.0	3.1	3.3	3.2	3.6	4.0	6.5	4.3	2.6	2.8	2.8
15	2.5	3.0	3.1	3.3	3.2	3.6	4.2	6.2	4.2	2.6	2.9	2.9
16	2.4	3.0	3.0	3.3	3.2	3.6	4.3	6.3	4.1	2.7	2.9	2.7
17	2.4	3.1	2.8	3.3	3.2	3.9	4.5	6.6	4.1	2.7	2.9	2.9
18	2.4	3.0	3.1	3.3	3.3	3.7	4.4	7.0	3.9	2.6	2.8	2.9
19	2.5	2.9	3.0	3.2	3.4	3.6	4.5	6.6	3.8	2.6	2.8	2.9
20	2.5	2.7	3.0	3.2	3.3	3.8	5.1	6.6	3.4	2.6	2.8	2.8
21	2.6	2.9	3.0	3.3	3.2	3.9	5.7	7.4	3.4	2.6	2.8	2.8
22	2.9	3.0	3.0	3.3	3.2	4.0	5.6	7.1	3.2	2.7	2.8	2.9
23	2.9	2.8	3.0	3.2	3.3	4.0	5.5	7.2	3.1	2.7	2.7	2.9
24	2.9	2.7	3.0	3.2	3.3	3.9	5.3	7.9	3.1	2.8	2.7	3.0
25	2.9	2.9	3.0	3.2	3.3	3.9	6.0	7.7	3.0	2.8	2.7	2.9
26	3.0	3.0	3.0	3.2	3.3	4.0	6.8	6.9	2.9	2.8	2.8	2.9
27	3.0	3.0	3.0	3.2	3.3	3.8	6.8	6.2	2.9	2.7	2.8	2.9
28	3.0	2.9	3.0	3.2	3.3	3.8	7.3	5.9	2.8	2.6	2.8	2.8
29	3.0	2.5	3.1	3.2	---	3.8	7.8	5.7	2.9	2.6	2.9	2.8
30	3.2	2.7	2.6	3.2	---	3.8	8.4	5.9	2.8	2.6	2.9	2.9
31	3.0	---	3.3	3.2	---	4.0	---	6.3	---	2.6	2.9	---
TOTAL	81.6	89.9	92.7	99.1	90.5	112.6	152.3	226.2	122.6	82.9	88.2	83.4
MEAN	2.63	3.00	2.99	3.20	3.23	3.63	5.08	7.30	4.09	2.67	2.85	2.78
MAX	3.2	3.5	3.3	3.3	3.4	4.0	8.4	9.6	6.2	2.8	3.3	3.0
MIN	2.3	2.5	2.6	3.1	3.1	3.3	4.0	5.7	2.8	2.6	2.6	2.5
AC-FT	162	178	184	197	180	223	302	449	243	164	175	165

## 10270960 COYOTE CREEK NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.81	3.16	3.07	3.18	3.39	3.59	4.80	5.09	3.25	2.33	2.30	2.39
MAX	3.09	3.30	3.15	3.25	3.61	3.67	5.08	7.30	4.09	2.67	2.85	2.78
(WY)	1991	1991	1991	1991	1991	1991	1993	1993	1993	1993	1993	1993
MIN	2.63	3.00	2.99	3.10	3.23	3.46	4.35	3.28	2.51	2.01	1.92	2.07
(WY)	1993	1993	1993	1992	1993	1992	1991	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	1074.3				1322.0							
ANNUAL MEAN	2.94				3.62				3.28			
HIGHEST ANNUAL MEAN									3.62			
LOWEST ANNUAL MEAN									2.97			
HIGHEST DAILY MEAN	6.5 Apr 11				9.6 May 3				9.6 May 3 1993			
LOWEST DAILY MEAN	1.8 Jul 20				2.3 Oct 1				1.8 Jul 20 1992			
ANNUAL SEVEN-DAY MINIMUM	1.8 Jul 29				2.4 Oct 1				1.8 Jul 29 1992			
INSTANTANEOUS PEAK FLOW					14 May 10				14 May 10 1993			
INSTANTANEOUS PEAK STAGE					1.13 May 10				1.13 May 10 1993			
ANNUAL RUNOFF (AC-FT)	2130				2620				2380			
10 PERCENT EXCEEDS	3.6				5.9				4.4			
50 PERCENT EXCEEDS	3.0				3.1				3.1			
90 PERCENT EXCEEDS	2.0				2.6				2.1			

## 10270985 ABELOUR DITCH NEAR BISHOP, CA

LOCATION.--Lat 37°20'30", long 118°28'41", SE 1/4 NE 1/4 sec.17, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, on left bank 400 ft upstream from Highway 168 road crossing, 0.6 mi downstream from outlet in penstock to Bishop Creek Powerplant No. 6, and 4.8 mi west of Bishop.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 4,750 ft above sea level, from topographic map.

REMARKS.--Ditch diverts water from Bishop Creek Powerplant No. 6 Penstock for irrigation and domestic use.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the

U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2.9 ft<sup>3</sup>/s, Aug. 23, 24, 28-30, 1993; minimum daily, 1.3 ft<sup>3</sup>/s, Dec. 23, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.0	1.6	1.8	1.9	1.8	1.9	1.8	2.5	2.6	2.6	2.5
2	1.9	2.0	1.6	1.8	2.0	1.8	2.2	1.8	2.5	2.6	2.6	2.3
3	2.0	2.0	1.6	1.8	1.9	1.8	2.2	2.0	2.5	2.6	2.6	2.3
4	2.1	2.0	1.7	1.9	1.5	2.0	2.2	1.9	2.5	2.6	2.6	2.2
5	2.0	2.0	1.7	1.8	2.0	2.2	2.2	1.9	2.4	2.6	2.6	2.2
6	2.0	2.0	1.7	1.4	2.0	2.2	2.2	1.9	2.4	2.6	2.7	2.3
7	2.0	2.0	1.7	1.8	2.0	2.2	2.1	1.9	2.4	2.6	2.7	2.3
8	2.0	2.0	1.8	1.8	1.9	2.2	2.1	2.0	2.4	2.6	2.7	2.3
9	2.0	1.8	1.8	1.7	1.8	2.2	2.1	2.0	2.4	2.6	2.6	2.3
10	2.0	1.6	1.8	1.6	1.8	2.4	2.1	1.8	2.4	2.6	2.6	2.3
11	2.0	1.6	1.8	e1.8	1.8	2.4	2.0	1.8	2.4	2.6	2.6	2.2
12	2.0	1.7	1.8	e1.9	1.8	2.3	2.0	1.8	2.4	2.6	2.6	2.3
13	1.9	1.7	1.8	2.0	1.8	2.3	2.0	1.9	2.4	2.6	2.5	2.4
14	2.0	1.6	1.8	2.0	1.8	2.3	2.1	2.2	2.4	2.6	2.5	2.6
15	1.9	1.6	1.8	2.0	1.8	2.0	2.1	2.4	2.5	2.6	2.5	2.6
16	1.9	1.7	1.8	2.0	1.8	1.9	2.0	2.4	2.5	2.5	2.5	2.6
17	1.9	1.7	1.8	2.0	1.8	1.9	1.9	2.5	2.5	2.5	2.5	2.7
18	1.9	1.7	1.8	1.9	1.8	1.8	1.9	2.5	2.5	2.5	2.5	2.6
19	2.0	1.7	1.8	1.8	1.8	1.8	2.0	2.5	2.5	2.5	2.5	2.6
20	2.0	1.7	1.8	1.9	1.8	1.8	2.0	2.5	2.5	2.5	2.5	2.6
21	1.9	1.7	1.8	1.8	1.8	1.8	2.0	2.5	2.5	2.5	2.5	2.3
22	2.0	1.7	1.8	1.9	1.8	1.8	2.0	2.5	2.5	2.5	2.7	2.0
23	1.9	1.7	1.8	2.0	1.7	1.8	2.0	2.5	2.5	2.5	2.9	1.8
24	2.0	1.7	1.8	2.0	1.7	1.8	2.0	2.5	2.5	2.5	2.9	2.1
25	2.0	1.7	1.8	2.0	1.7	1.8	2.0	2.5	2.6	2.5	2.7	2.1
26	2.0	1.7	1.8	2.0	1.8	1.8	1.9	2.5	2.6	2.6	2.6	2.1
27	1.9	1.6	1.8	2.0	1.8	1.8	2.0	2.5	2.5	2.6	2.7	2.1
28	2.0	1.6	1.8	2.0	1.8	1.8	1.9	2.5	2.5	2.6	2.9	2.1
29	1.9	1.6	1.8	1.9	---	1.8	1.9	2.5	2.5	2.6	2.9	2.2
30	1.9	1.6	1.8	2.0	---	1.8	1.8	2.5	2.5	2.6	2.9	2.1
31	1.9	---	1.8	1.9	---	1.8	---	2.5	---	2.6	2.8	---
TOTAL	60.8	52.7	54.8	58.2	50.9	61.1	60.8	69.0	74.2	79.6	82.0	69.1
MEAN	1.96	1.76	1.77	1.88	1.82	1.97	2.03	2.23	2.47	2.57	2.65	2.30
MAX	2.1	2.0	1.8	2.0	2.0	2.4	2.2	2.5	2.6	2.6	2.9	2.7
MIN	1.9	1.6	1.6	1.4	1.5	1.8	1.8	1.8	2.4	2.5	2.5	1.8
AC-FT	121	105	109	115	101	121	121	137	147	158	163	137

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
MEAN	1.91	1.81	1.79	1.82	1.84	1.88	1.93	2.00	2.15	2.14	2.13	2.05
MAX	1.96	1.88	1.82	1.88	2.00	1.97	2.03	2.23	2.47	2.57	2.65	2.30
(WY)	1993	1992	1991	1993	1992	1993	1993	1993	1993	1993	1993	1993
MIN	1.87	1.76	1.77	1.75	1.70	1.70	1.86	1.88	1.80	1.91	1.85	1.89
(WY)	1991	1993	1993	1992	1991	1991	1991	1991	1992	1992	1991	1991

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1991 - 1993

ANNUAL TOTAL	691.2	773.2	
ANNUAL MEAN	1.89	2.12	1.96
HIGHEST ANNUAL MEAN			2.12
LOWEST ANNUAL MEAN			1.85
HIGHEST DAILY MEAN	2.2	2.9	2.9
LOWEST DAILY MEAN	1.5	1.4	1.3
ANNUAL SEVEN-DAY MINIMUM	1.6	1.6	1.6
ANNUAL RUNOFF (AC-FT)	1370	1530	1420
10 PERCENT EXCEEDS	2.0	2.6	2.4
50 PERCENT EXCEEDS	1.9	2.0	1.9
90 PERCENT EXCEEDS	1.7	1.8	1.7

## 10271200 BISHOP CREEK ABOVE POWERPLANT NO. 6, NEAR BISHOP, CA

LOCATION.--Lat 37°21'00", long 118°27'42", in SE 1/4 SE 1/4 sec.9, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, on left bank adjacent to Powerplant No. 6 tailrace and 3.8 mi west of Bishop.

DRAINAGE AREA.--104 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. If records for Bishop Creek Powerplant No. 6 Conduit (station 10271060) are combined with this record, a record equivalent to that published since October 1936 as Bishop Creek below Powerplant No. 6, near Bishop, discontinued September 1990, can be obtained. Monthly and yearly mean discharge prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 4,510 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated for power development by South Lake, Lake Sabrina, and Intake No. 2 Reservoir (stations 10270700, 10270870, and 10270875), combined capacity, 20,311 acre-ft, and five powerplants. Water is diverted into basin via Birch-McGee Diversion (station 10270900). Water is diverted out of basin via Abelour Ditch (station 10270985) for irrigation and domestic use. Diversion to Bishop Creek Powerplant No. 6 bypasses this station and is published as a line item below.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 126 ft<sup>3</sup>/s, July 13, 1993, gage height, 1.90 ft; no flow on many days in 1991 and 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 126 ft<sup>3</sup>/s, July 13, gage height, 1.90 ft; minimum daily discharge, 0.02 ft<sup>3</sup>/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.22	.17	.18	.37	.17	.17	.10	44	55	105	1.6
2	.02	.22	.18	.20	.31	.18	.19	.12	34	71	100	2.0
3	.04	.25	.17	.14	.28	.17	.26	.11	35	66	99	2.2
4	.06	.19	.17	.21	.21	.19	.21	.09	36	59	110	2.0
5	.08	.22	.17	.22	.18	.30	.20	.08	8.5	68	119	2.0
6	.07	.20	.20	.17	.25	.60	.21	.13	4.6	75	116	2.0
7	.09	.19	.24	.13	.24	.61	.23	.18	4.1	75	106	2.0
8	.09	.21	.20	.13	.25	.61	.27	.14	3.3	77	90	2.0
9	.08	.18	.19	.10	.24	.61	.35	.12	3.1	76	72	2.0
10	.10	.21	.19	.11	.22	.54	.30	.53	3.1	69	59	2.0
11	.09	.19	.20	.12	.15	.27	.25	.96	5.7	70	45	2.0
12	.08	.18	.17	.20	.16	.24	.18	.35	1.7	69	25	2.1
13	.07	.17	.18	.21	.15	.21	.20	8.3	6.2	62	11	2.0
14	.09	.15	.18	.27	.16	.20	.21	16	17	63	7.7	2.0
15	.07	.16	.16	.25	.15	.20	.24	15	20	55	5.4	2.0
16	.09	.18	.17	.31	.14	.20	.26	16	23	45	3.5	2.0
17	.12	.16	.19	.21	.15	.19	.19	23	21	39	1.7	2.3
18	.12	.20	.16	.16	.21	.20	.17	32	21	37	1.6	2.3
19	.09	.17	.19	.15	.30	.21	.15	31	23	34	1.9	2.3
20	.09	.19	.19	.13	.24	.20	.14	34	32	34	2.2	2.3
21	.12	.19	.18	.13	.20	.20	.13	35	32	33	2.0	2.5
22	.13	.18	.20	.13	.18	.20	.11	32	28	32	2.8	2.1
23	.12	.21	.20	.14	.21	.20	.20	36	30	35	1.5	1.8
24	.13	.19	.19	.10	.20	.20	.17	45	34	47	1.5	1.7
25	.13	.21	.18	.09	.17	.25	.16	46	38	67	12	1.7
26	.15	.20	.16	.11	.20	.29	.15	38	42	77	5.1	1.7
27	.14	.19	.18	.09	.18	.23	.13	28	40	75	1.5	1.7
28	.14	.20	.20	.11	.18	.22	.12	34	40	76	1.5	1.7
29	.14	.19	.25	.10	---	.23	.12	36	38	72	1.4	1.7
30	.26	.19	.22	.25	---	.26	.12	37	34	75	1.3	1.7
31	.25	---	.18	.45	---	.20	---	46	---	103	1.2	---
TOTAL	3.29	5.79	5.81	5.30	5.88	8.58	5.79	591.21	702.3	1891	1112.8	59.4
MEAN	.11	.19	.19	.17	.21	.28	.19	19.1	23.4	61.0	35.9	1.98
MAX	.26	.25	.25	.45	.37	.61	.35	46	44	103	119	2.5
MIN	.02	.15	.16	.09	.14	.17	.11	.08	1.7	32	1.2	1.6
AC-FT	6.5	11	12	11	12	17	11	1170	1390	3750	2210	118
a	3830	2730	2810	5370	6700	3950	3700	8320	8500	8790	8230	5650

a Diversion, in acre-feet to Bishop Creek Powerplant No. 6, provided by Southern California Edison Co.

## 10271200 BISHOP CREEK ABOVE POWERPLANT NO. 6, NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.16	.22	.24	.26	.95	1.97	.19	6.45	7.99	20.8	12.1	.81
MAX	.19	.28	.33	.39	2.35	5.46	.21	19.1	23.4	61.0	35.9	1.98
(WY)	1991	1992	1992	1992	1992	1991	1991	1993	1993	1993	1993	1993
MIN	.11	.19	.19	.17	.21	.19	.18	.12	.064	.035	.048	.082
(WY)	1993	1991	1993	1993	1993	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	116.98				4397.15							
ANNUAL MEAN	.32				12.0				4.39			
HIGHEST ANNUAL MEAN									12.0			
LOWEST ANNUAL MEAN									.34			
HIGHEST DAILY MEAN	31				119				119			
LOWEST DAILY MEAN	.00				.02				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.06				.00			
INSTANTANEOUS PEAK FLOW					126				126			
INSTANTANEOUS PEAK STAGE					1.90				1.90			
ANNUAL RUNOFF (AC-FT)	232				8720				3180			
ANNUAL DIVERSION (AC-FT) a	48570				68560							
10 PERCENT EXCEEDS	.33				45				2.4			
50 PERCENT EXCEEDS	.15				.23				.20			
90 PERCENT EXCEEDS	.02				.12				.08			

a Diversion, in acre-feet to Bishop Creek Powerplant No. 6, provided by Southern California Edison Co.

## 10287060 LUNDY LAKE NEAR LEE VINING, CA

LOCATION.--Lat 38°01'56", long 119°13'11", in NW 1/4 SE 1/4 sec.16, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, near right abutment of spillway of Lundy Lake Dam on Mill Creek and 7.6 mi northwest of Lee Vining.

DRAINAGE AREA.--16.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1910. Usable capacity, 4,113 acre-ft between elevations 7,766.43 ft, invert of outlet, and 7,807.81 ft, crest of spillway. Figures given represent usable contents. Water is used for power development and irrigation downstream.

COOPERATION.--Records were collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,150 acre-ft, July 10, 1993, elevation, 7,808.09 ft; minimum, 440 acre-ft, Apr. 19, 1993, elevation, 7,773.08 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,150 acre-ft, July 10, elevation, 7,808.09 ft; minimum, 440 acre-ft, Apr. 19, elevation, 7,773.08 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 17, 1981)

7,766.43	0	7,790	2,001
7,770	213	7,800	3,126
7,780	1,027	7,810	4,406

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	534	574	503	684	778	600	804	532	1413	3376	4020	3251
2	533	578	504	691	778	579	816	550	1429	3488	4005	3236
3	534	584	507	695	776	568	815	622	1433	3590	3998	3220
4	534	584	512	699	777	563	797	665	1436	3673	3988	3205
5	533	e584	515	700	777	552	769	667	1434	3766	3980	3194
6	533	583	525	710	777	544	732	659	1417	3871	3966	3178
7	533	584	535	725	779	536	694	643	1395	3988	3941	3163
8	532	585	547	731	780	529	658	630	1367	4094	3898	3146
9	531	586	550	733	782	523	615	617	1343	4149	3851	3128
10	530	589	556	744	773	520	576	616	1337	4150	3796	3110
11	529	590	566	749	761	520	540	627	1362	4147	3738	3087
12	525	594	571	753	750	524	507	639	1398	4149	3673	3062
13	525	594	574	752	744	525	480	642	1448	4141	3607	3044
14	523	576	578	756	744	533	464	646	1520	4133	3539	3020
15	521	534	583	760	741	537	458	652	1628	4122	3470	3009
16	520	495	588	763	739	547	452	659	1741	4111	3437	2999
17	520	e457	595	767	706	573	452	695	1829	4092	3427	2989
18	518	e460	602	768	690	579	443	757	1916	4063	3416	2980
19	519	e463	606	770	684	600	440	839	2025	4043	3402	2966
20	520	e467	610	771	685	616	447	913	2174	4022	3391	2959
21	522	e470	613	773	669	632	452	969	2272	4005	3381	2952
22	524	e472	618	774	660	652	460	1013	2355	3981	3371	2945
23	525	e475	622	773	666	669	469	1066	2427	3976	3361	2938
24	527	e479	627	773	656	688	473	1138	2511	3990	3349	2934
25	529	e482	632	773	647	710	488	1210	2599	4017	3339	2925
26	530	e487	637	776	636	728	496	1258	2744	4045	3327	2916
27	533	e490	640	776	624	744	507	1289	2926	4063	3315	2908
28	539	e492	648	777	614	758	512	1308	3094	4076	3305	2901
29	552	e495	665	776	---	767	513	1312	3203	4069	3290	2891
30	565	499	671	779	---	773	517	1322	3285	4057	3278	2882
31	569	---	674	778	---	787	---	1376	---	4040	3265	---
MAX	569	594	674	779	782	787	816	1376	3285	4150	4020	3251
MIN	518	457	503	684	614	520	440	532	1337	3376	3265	2882
a	7774.67	7773.82	7775.94	7777.16	7775.22	7777.27	7774.04	7783.77	7801.31	7807.26	7801.15	7797.94
b	+37	-70	+175	+104	-164	+173	-270	+859	+1909	+755	-775	-383

CAL YR 1992 MAX 1252 MIN 440 b -581  
WTR YR 1993 MAX 4150 MIN 440 b +2350

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10287069 MILL CREEK FLUME BELOW LUNDY LAKE, NEAR LEE VINING, CA

LOCATION.--Lat 38°01'59", long 119°12'56", in SE 1/4 NE 1/4 sec.16, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, on left bank, 20 ft upstream from Deer Creek, 70 ft downstream from road culvert, 1,400 ft downstream from Lundy Lake Dam, and 7.5 mi northwest of Lee Vining.

DRAINAGE AREA.--18.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. If records for Upper Conway Ditch and Lundy Powerplant tailrace (stations 10287145 and 10287195) are combined with this record, a record equivalent to that published since October 1942 as Mill Creek below Lundy Lake, near Mono Lake can be obtained. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and 5-ft Cipolletti weir (since May 12, 1992) set in Parshall flume. Elevation of gage is 7,760 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Lundy Lake (station 10287060). Most of the water is diverted at Lundy Lake via Lundy Powerplant to Upper Conway Ditch and Lundy Powerplant Tailrace for power development and irrigation.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64 ft<sup>3</sup>/s, July 12, 1993, gage height, 1.53 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64 ft<sup>3</sup>/s, July 12, gage height, 1.53 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	.00	.00	.00	.00	.00	.00	.00	.00	4.1	9.3	5.3
2	2.1	.00	.00	.00	.00	.00	.00	.00	.00	4.7	9.3	5.2
3	2.0	.00	.00	.00	.00	.00	.00	.00	.00	5.3	9.3	5.2
4	2.0	.00	.03	.00	.00	.00	.00	.00	.00	5.9	9.3	5.2
5	2.1	.00	.00	.00	.00	.00	.00	.00	.00	6.4	9.3	5.2
6	2.1	.00	.00	.00	.00	.00	.00	.00	.00	6.9	9.3	5.1
7	2.1	.00	.00	.00	.00	.00	.00	.00	.00	7.5	9.3	4.9
8	2.1	.00	.00	.00	.00	.00	.00	.00	.00	8.3	9.1	4.9
9	2.1	.00	.00	.00	.00	.00	.00	.00	.00	28	8.8	4.9
10	2.1	.00	.00	.00	.00	.00	.00	.00	.00	52	8.6	4.8
11	2.1	.00	.00	.00	.00	.00	.00	.00	.00	50	8.4	4.7
12	2.1	.00	.00	.00	.00	.00	.00	.00	.00	54	8.0	4.7
13	2.1	.00	.00	.00	.00	.00	.00	.00	.00	44	7.6	4.7
14	2.1	.00	.00	.00	.00	.00	.00	.00	.00	34	7.4	4.5
15	2.1	.00	.00	.00	.00	.00	.00	.00	.00	23	7.2	4.4
16	2.1	.00	.00	.00	.00	.00	.00	.00	.00	13	6.7	4.2
17	2.1	.00	.00	.00	.00	.00	.00	.00	.00	9.9	6.5	3.9
18	2.1	.00	.00	.00	.00	.00	.00	.00	.05	9.4	6.5	3.9
19	2.1	.14	.00	.00	.00	.00	.00	.00	.19	9.5	6.4	3.7
20	1.7	.15	.00	.00	.00	.00	.00	.00	.41	9.1	6.3	3.6
21	1.2	.00	.00	.00	.00	.00	.00	.00	.66	9.0	6.3	3.6
22	1.2	.00	.00	.00	.00	.00	.00	.00	.79	8.8	6.1	3.6
23	1.2	.00	.00	.00	.00	.00	.00	.00	.86	8.6	6.0	3.5
24	1.2	.00	.00	.00	.00	.00	.00	.12	1.1	8.6	6.0	3.5
25	1.2	.00	.00	.00	.00	.00	.00	.00	1.3	8.7	6.0	3.5
26	1.2	.00	.00	.00	.00	.00	.00	.00	1.5	9.0	5.9	3.4
27	.51	.00	.00	.00	.00	.00	.00	.00	1.9	9.0	5.7	3.3
28	.00	.00	.00	.00	.00	.00	.00	.00	2.6	9.4	5.7	3.3
29	.00	.00	.00	.00	---	.00	.00	.00	3.2	9.7	5.6	3.3
30	.00	.00	.00	.00	---	.00	.00	.00	3.7	9.6	5.4	3.3
31	.00	---	.00	.00	---	.00	---	.00	---	9.5	5.4	---
TOTAL	49.11	0.29	0.03	0.00	0.00	0.00	0.00	0.12	18.26	484.9	226.7	127.3
MEAN	1.58	.010	.001	.000	.000	.000	.000	.004	.61	15.6	7.31	4.24
MAX	2.1	.15	.03	.00	.00	.00	.00	.12	3.7	54	9.3	5.3
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.1	5.4	3.3
AC-FT	97	.6	.06	.00	.00	.00	.00	.2	36	962	450	252

10287069 MILL CREEK FLUME BELOW LUNDY LAKE, NEAR LEE VINING, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.64	.003	.000	.000	.000	.000	.000	.002	1.30	6.86	3.85	2.72
MAX	1.58	.010	.001	.000	.000	.000	.001	.004	1.77	15.6	7.31	4.24
(WY)	1993	1993	1993	1991	1991	1991	1992	1993	1992	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.61	2.00	2.00	1.74
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1993	1992	1992	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	291.94				906.71							
ANNUAL MEAN	.80				2.48				1.29			
HIGHEST ANNUAL MEAN									2.48			
LOWEST ANNUAL MEAN									.69			
HIGHEST DAILY MEAN	2.7 Jun 4				54 Jul 12				54 Jul 12 1993			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 28				.00 Oct 1 1990			
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1				.00 Oct 28				.00 Oct 1 1990			
INSTANTANEOUS PEAK FLOW					64 Jul 12				64 Jul 12 1993			
INSTANTANEOUS PEAK STAGE					1.53 Jul 12				1.53 Jul 12 1993			
ANNUAL RUNOFF (AC-FT)	579				1800				937			
10 PERCENT EXCEEDS	2.2				7.8				2.9			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 10287145 UPPER CONWAY DITCH NEAR LEE VINING, CA

LOCATION.--Lat 38°02'32", long 119°10'18", in SE 1/4 SW 1/4 sec.12, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, on left bank, 200 ft downstream from ditch inlet and Lundy Powerplant, and 6.6 mi northwest of Lee Vining.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 7,020 ft above sea level, from topographic map.

REMARKS.--Flow regulated at Lundy Powerplant during irrigation season.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 14 ft<sup>3</sup>/s, July 19, 1991; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	5.7	8.4	10	3.9
2	.00	.00	.00	.00	.00	.00	.00	.00	5.7	8.4	11	3.9
3	.00	.00	.00	.00	.00	.00	.00	.00	5.7	8.5	11	4.0
4	.00	.00	.00	.00	.00	.00	.00	.00	5.7	8.6	10	4.0
5	.00	.00	.00	.00	.00	.00	.00	.00	5.9	8.6	9.6	4.1
6	.00	.00	.00	.00	.00	.00	.00	.00	5.9	8.6	9.6	4.2
7	.00	.00	.00	.00	.00	.00	.00	.00	5.5	8.7	9.5	4.2
8	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.7	9.5	4.2
9	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.8	9.5	4.4
10	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.7	9.5	4.2
11	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.7	9.5	4.1
12	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.7	9.5	4.1
13	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.6	9.5	4.1
14	.00	.00	.00	.00	.00	.00	.00	.00	5.6	8.8	9.3	4.2
15	.00	.00	.00	.00	.00	.00	.00	.00	5.6	9.0	9.4	2.6
16	.00	.00	.00	.00	.00	.00	.00	.00	5.7	9.0	9.0	1.5
17	.00	.00	.00	.00	.00	.00	.00	.00	6.4	9.0	8.4	1.6
18	.00	.00	.00	.00	.00	.00	.00	.00	6.9	9.0	7.5	1.6
19	.00	.00	.00	.00	.00	.00	.00	.00	6.8	9.0	7.6	1.6
20	.00	.00	.00	.00	.00	.00	.00	.00	6.9	9.0	5.9	.90
21	.00	.00	.00	.00	.00	.00	.00	.00	7.0	9.0	3.7	.16
22	.00	.00	.00	.00	.00	.00	.00	.00	7.0	9.0	3.9	.07
23	.00	.00	.00	.00	.00	.00	.00	.00	7.6	9.0	4.9	e.00
24	.00	.00	.00	.00	.00	.00	.00	.00	7.6	9.0	4.8	e.00
25	.00	.00	.00	.00	.00	.00	.00	.00	7.6	9.0	4.2	e.00
26	.00	.00	.00	.00	.00	.00	.00	.00	7.6	9.0	3.9	e.00
27	.00	.00	.00	.00	.00	.00	.00	2.9	7.6	9.0	3.9	e.00
28	.00	.00	.00	.00	.00	.00	.00	5.7	8.1	9.2	3.9	e.00
29	.00	.00	.00	.00	---	.00	.00	5.7	8.4	9.3	3.8	e.00
30	.00	.00	.00	.00	---	.00	.00	5.7	8.4	9.3	3.8	e.00
31	.00	---	.00	.00	---	.00	---	5.7	---	9.2	3.9	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.70	194.5	274.8	229.5	67.63
MEAN	.000	.000	.000	.000	.000	.000	.000	.83	6.48	8.86	7.40	2.25
MAX	.00	.00	.00	.00	.00	.00	.00	5.7	8.4	9.3	11	4.4
MIN	.00	.00	.00	.00	.00	.00	.00	.00	5.5	8.4	3.7	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	51	386	545	455	134

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

MEAN	.000	.000	.000	.000	.000	.000	.000	.67	7.64	9.59	8.72	2.52
MAX	.000	.001	.000	.000	.000	.000	.000	1.18	9.77	11.9	12.0	4.23
(WY)	1991	1992	1991	1991	1991	1991	1991	1992	1991	1991	1991	1991
MIN	.000	.000	.000	.000	.000	.000	.000	.000	6.48	7.97	6.75	1.08
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1993	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1991 - 1993	
ANNUAL TOTAL	725.29		792.13			
ANNUAL MEAN	1.98		2.17		2.44	
HIGHEST ANNUAL MEAN					3.18	
LOWEST ANNUAL MEAN					1.98	
HIGHEST DAILY MEAN	12	Jun 13	11	Aug 2	14	Jul 19 1991
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1990
ANNUAL RUNOFF (AC-FT)	1440		1570		1770	
10 PERCENT EXCEEDS	8.2		8.7		10	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 10287195 LUNDY POWERPLANT TAILRACE NEAR LEE VINING, CA

LOCATION.--Lat 38°02'34", long 119°10'18", in SE 1/4 SW 1/4 sec.12, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, on right bank 200 ft downstream from Lundy Powerplant and 6.6 mi northwest of Lee Vining.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and culvert control. Elevation of gage is 7,020 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Water is diverted from Lundy Lake (station 10287060) to Lundy Powerplant. Diversion upstream during irrigation season to Upper Conway Ditch (station 10287145).

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 64 ft<sup>3</sup>/s, May 21-25, 1993; minimum daily, 4.4 ft<sup>3</sup>/s, Aug. 29 to Sept. 1, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	5.2	5.2	5.3	8.3	13	9.9	29	51	55	56	20
2	5.3	5.0	5.3	5.3	8.3	13	10	31	50	55	56	20
3	5.3	5.3	5.3	5.5	8.3	14	22	11	50	55	56	20
4	5.3	5.4	5.3	5.4	8.3	13	28	14	50	55	56	20
5	5.3	5.3	5.3	5.5	8.3	13	33	37	50	55	56	20
6	5.3	5.2	5.3	5.5	8.3	13	37	41	51	55	56	20
7	5.3	5.3	5.3	5.5	8.3	13	37	41	49	55	55	20
8	5.3	5.2	5.3	5.4	8.3	13	37	41	50	55	56	20
9	5.3	5.2	5.3	5.4	8.3	13	38	41	50	55	55	20
10	5.3	5.3	5.3	5.5	12	11	37	41	50	55	55	20
11	5.3	5.2	5.3	5.4	13	10	38	42	50	55	56	20
12	5.3	5.3	5.3	6.9	13	10	34	46	50	55	55	20
13	5.3	5.3	5.3	8.2	10	10	32	48	50	55	55	20
14	5.3	15	5.3	8.3	8.2	11	27	48	50	55	55	20
15	5.3	25	5.3	8.3	8.3	11	23	48	50	55	55	16
16	5.3	25	5.3	8.3	8.3	11	22	48	50	55	35	14
17	5.1	25	5.3	8.3	22	11	22	48	51	55	21	13
18	4.9	14	5.3	8.3	17	10	22	51	51	55	22	13
19	5.0	5.2	5.3	8.3	12	9.4	20	52	51	55	21	13
20	4.9	5.1	5.3	8.3	12	9.5	17	57	52	55	21	13
21	4.9	5.2	5.3	8.3	12	9.6	17	64	52	55	20	12
22	5.0	5.2	5.3	8.3	12	9.6	17	64	51	55	20	12
23	5.0	5.2	5.3	8.3	12	9.8	18	64	51	55	20	12
24	5.0	5.2	5.3	8.3	13	9.9	19	64	51	55	20	12
25	5.0	5.2	5.3	8.3	13	10	16	64	51	55	20	12
26	5.0	5.2	5.3	8.3	13	10	17	62	51	55	20	12
27	5.0	5.2	5.3	8.3	13	10	19	55	51	55	20	12
28	5.0	5.2	5.3	8.3	13	10	23	51	53	55	20	12
29	5.0	5.2	5.3	8.3	---	12	26	51	55	55	20	12
30	5.0	5.2	5.3	8.3	---	13	26	51	55	55	20	12
31	5.1	---	5.3	8.3	---	9.8	---	51	---	55	20	---
TOTAL	159.7	234.5	164.2	224.2	311.5	345.6	743.9	1456	1527	1705	1173	482
MEAN	5.15	7.82	5.30	7.23	11.1	11.1	24.8	47.0	50.9	55.0	37.8	16.1
MAX	5.3	25	5.3	8.3	22	14	38	64	55	55	56	20
MIN	4.9	5.0	5.2	5.3	8.2	9.4	9.9	11	49	55	20	12
AC-FT	317	465	326	445	618	685	1480	2890	3030	3380	2330	956

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	5.49	6.31	6.01	7.54	8.99	9.76	15.7	37.7	41.9	28.6	16.2	9.83
MEAN	5.49	6.31	6.01	7.54	8.99	9.76	15.7	37.7	41.9	28.6	16.2	9.83
MAX	5.88	7.82	7.36	9.87	11.1	13.1	24.8	47.0	50.9	55.0	37.8	16.1
(WY)	1992	1993	1992	1992	1993	1992	1993	1993	1993	1993	1993	1993
MIN	5.15	5.33	5.30	5.50	5.33	5.00	7.12	20.5	32.6	10.7	4.87	5.16
(WY)	1993	1991	1993	1991	1991	1991	1991	1991	1992	1992	1992	1992

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1991 - 1993

ANNUAL TOTAL	5061.2	8526.6	
ANNUAL MEAN	13.8	23.4	16.2
HIGHEST ANNUAL MEAN			23.4
LOWEST ANNUAL MEAN			11.3
HIGHEST DAILY MEAN	60	May 17	64
LOWEST DAILY MEAN	4.4	Aug 29	4.9
ANNUAL SEVEN-DAY MINIMUM	4.5	Aug 27	5.0
ANNUAL RUNOFF (AC-FT)	10040	16910	11740
10 PERCENT EXCEEDS	38	55	50
50 PERCENT EXCEEDS	9.8	13	8.3
90 PERCENT EXCEEDS	5.0	5.3	5.1

## 10287260 WAUGH LAKE NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'04", long 119°10'52", unsurveyed, T.2 S., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, near outlet at base of Rush Creek Meadows Dam on Rush Creek and 6.0 mi southwest of town of June Lake.

DRAINAGE AREA.--15.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed by concrete dam completed in 1925. Total capacity, 5,277 acre-ft between elevations 9,368.60 ft, invert of outlet, and 9,415.61 ft, crest of spillway, all of which are available for release. Figures given represent total contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,499 acre-ft, May 30, 1992, elevation, 9,416.80 ft; minimum, no storage in each year.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 5,461 acre-ft, July 5, elevation, 9,416.60 ft; minimum, no storage for many days.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 18, 1981)

9,375	0	9,400	2,670
9,380	148	9,405	3,447
9,385	681	9,410	4,277
9,390	1,283	9,418	5,727
9,395	1,948		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	8.8	1912	5424	5375	5310
2	.00	.00	.00	.00	.00	.00	.00	2.0	1917	5431	5383	5308
3	.00	.00	.00	.00	.00	.00	.00	.00	1917	5385	5383	5308
4	.00	.00	.00	.00	.00	.00	.00	.00	1944	5416	5381	5312
5	.00	.00	.00	.00	.00	.00	.00	.00	1906	5461	5379	5316
6	.00	.00	.00	.00	.00	.00	.00	.00	1824	5456	5366	5316
7	.00	.00	.00	.00	.00	.00	.00	.00	1738	5443	5353	5310
8	.00	.00	.00	.00	.00	.00	.00	.00	1696	5381	5336	5306
9	.00	.00	.00	.00	.00	.00	.00	.00	1766	5364	5325	5236
10	.00	.00	.00	.00	.00	.00	.00	213	2027	5358	5323	5107
11	.00	.00	.00	.00	.00	.00	.00	146	2314	5360	5319	4977
12	.00	.00	.00	.00	.00	.00	.00	11	2591	5325	5319	4849
13	.00	.00	.00	.00	.00	.00	.00	11	2943	5284	5325	4719
14	.00	.00	.00	.00	.00	.00	.00	20	3349	5416	5329	4496
15	.00	.00	.00	.00	.00	.00	.00	87	3642	5405	5329	4204
16	.00	.00	.00	.00	.00	.00	.00	330	3763	5394	5323	3914
17	.00	.00	.00	.00	.00	.00	.00	525	3847	5396	5321	3625
18	.00	.00	.00	.00	.00	.00	.00	710	3969	5396	5319	3344
19	.00	.00	.00	.00	.00	.00	.00	829	4197	5396	5316	3071
20	.00	.00	.00	.00	.00	.00	.00	947	4303	5396	5314	2807
21	.00	.00	.00	.00	.00	.00	.00	1013	4345	5392	5314	2548
22	.00	.00	.00	.00	.00	.00	.00	1064	4390	5413	5314	2299
23	.00	.00	.00	.00	.00	.00	.00	1185	4477	5431	5319	2054
24	.00	.00	.00	.00	.00	.00	.00	1323	4612	5435	5325	1821
25	.00	.00	.00	.00	.00	.00	.00	1359	4821	5437	5325	1595
26	.00	.00	.00	.00	.00	.00	.00	1365	5124	5407	5321	1381
27	.00	.00	.00	.00	.00	.00	.00	1429	5409	5403	5317	1175
28	.00	.00	.00	.00	.00	.00	.00	1460	5415	5385	5314	981
29	.00	.00	.00	.00	---	.00	.00	1530	5364	5379	5314	797
30	.00	.00	.00	.00	---	.00	.00	1694	5375	5370	5312	623
31	.00	---	.00	.00	---	.00	---	1883	---	5371	5312	---
MAX	.00	.00	.00	.00	.00	.00	.00	1883	5415	5461	5383	5316
MIN	.00	.00	.00	.00	.00	.00	.00	.00	1696	5284	5312	623
a	9370.77	9370.30	9371.48	9370.55	9370.62	9370.83	9372.96	9394.53	9416.14	9416.12	9415.80	9384.48
b	0	0	0	0	0	0	0	+1883	+3492	-4	-59	-4689

CAL YR 1992 MAX 5499 MIN .00 b 0  
WTR YR 1993 MAX 5461 MIN .00 b +623

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## 10287280 GEM LAKE NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'07", long 119°08'25", unsurveyed, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in valve house 100 ft downstream from left abutment of dam on Rush Creek and 4.0 mi southwest of town of June Lake.

DRAINAGE AREA.--22.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by concrete dam completed in 1916. Usable capacity, 17,798 acre-ft between elevations 8,964.33 ft, invert of outlet, and 9,053.64 ft, crest of upper spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,222 acre-ft, Aug. 6, 1993, elevation, 9,051.61 ft; minimum, 895 acre-ft, Apr. 24, 1993, elevation, 8,982.55 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,222 acre-ft, Aug. 6, elevation, 9,051.61 ft; minimum, 895 acre-ft, Apr. 24, elevation, 8,982.55 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Sept. 1, 1981)

8,980	441	9,010	6,547
8,985	1,348	9,025	10,121
8,990	2,300	9,040	14,023
9,000	4,345	9,055	18,187

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12511	11177	9119	7339	5891	4216	1611	e1340	6647	14478	17126	14584
2	12440	11123	9071	7287	5831	4152	1561	e1352	6740	14654	17134	14505
3	12375	11049	8998	7220	5767	4083	1519	e1386	6838	14763	17171	14419
4	12299	10987	8931	7174	5707	4018	1472	e1423	6946	14839	17185	14343
5	12233	10931	8851	7100	5654	3955	1412	1432	7034	14978	17213	14289
6	12155	10886	8817	7064	5594	3892	1344	1421	7091	15186	17222	14181
7	12089	10830	8788	7054	5543	3824	1272	1406	7139	15353	17213	14087
8	12011	10758	8737	6992	5490	3749	1213	1375	7209	15458	17154	14004
9	11946	10680	8667	6942	5437	3691	1115	1414	7274	15504	17070	13948
10	11876	10624	8610	6900	5368	3614	1110	1605	7383	15507	16982	13956
11	11795	10556	8557	6843	5305	3555	1111	1871	7504	15496	16884	13964
12	11725	10495	8480	6802	5244	3414	1089	2077	7628	15645	16752	13967
13	11648	10420	8413	6776	5174	3282	1083	2204	7792	15896	16626	13975
14	11617	10367	8361	6756	5103	3150	1063	2323	7969	15990	16500	14066
15	11614	10289	8306	6740	5024	3007	1034	2454	8265	16060	16383	14206
16	11606	10216	8256	6703	4955	2875	1011	2655	8629	16099	16243	14351
17	11609	10161	8206	6681	4909	2745	1010	2942	8984	16113	16102	14489
18	11609	10079	8144	6637	4862	2607	996	3294	9341	16165	15963	14611
19	11593	9981	8092	6594	4817	2473	972	3637	9723	16196	15822	14747
20	11593	9889	8018	6483	4778	2327	957	3972	10113	16224	15681	14856
21	11588	9825	7971	6488	4713	2184	944	4302	10475	16263	15543	14965
22	11588	9750	7905	6438	4656	2131	917	4628	10814	16319	15430	15074
23	11586	9683	7830	6399	4600	2075	899	4983	11166	16425	15348	15170
24	11586	9609	7761	6338	4540	2022	895	5346	11542	16567	15268	15260
25	11586	9555	7698	6277	4478	1986	906	5709	11925	16755	15208	15320
26	11557	9481	7628	6226	4417	e1934	968	5934	12322	16906	15151	15375
27	11480	9395	7572	6230	4358	e1877	901	6033	12798	17008	15066	15458
28	11405	9329	7541	6138	4280	e1818	1036	6114	13352	17075	14946	15507
29	11346	9251	7504	6096	---	e1761	1235	6203	13803	17106	14872	15540
30	11300	9185	7448	6028	---	e1703	e1331	6334	14211	17126	14790	15568
31	11236	---	7388	5979	---	1660	---	6520	---	17126	14679	---
MAX	12511	11177	9119	7339	5891	4216	1611	6520	14211	17126	17222	15568
MIN	11236	9185	7388	5979	4280	1660	895	1340	6647	14478	14679	13948
a	9029.40	9021.21	9013.66	9007.48	8999.70	8986.68	8909.88	9040.70	9051.27	9042.43	9045.68	9045.68
b	-1351	-2051	-1797	-1409	-1699	-2620	-329	+5189	+7691	+2915	-2447	+889

CAL YR 1992 MAX 13057 MIN 1217 b -1738  
WTR YR 1993 MAX 17222 MIN 895 b +2981

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

10287285 AGNEW LAKE NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'30", long 119°07'52", unsurveyed, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in boat house at left abutment of dam on Rush Creek and 3.3 mi southwest of town of June Lake.

DRAINAGE AREA.--23.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by concrete dam completed in 1916. Usable capacity, 810 acre-ft between elevations 8,470.00 ft, invert of outlet, and 8,495.88 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 847 acre-ft, July 1, 1993, elevation, 8,496.79 ft; minimum, 22 acre-ft, Feb. 28, 1991, elevation, 8,470.97 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 847 acre-ft, July 1, elevation, 8,496.79 ft; minimum, 28 acre-ft, for many days, elevation, 8,471.21 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 25, 1981)

8,470	0	8,485	415
8,475	122	8,490	587
8,480	260	8,498	896

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	799	28	29	29	29	29	36	39	525	847	813	811
2	799	28	29	29	29	29	36	39	541	846	813	811
3	800	28	29	29	29	29	36	39	556	846	813	810
4	801	28	29	29	29	29	36	38	572	846	813	811
5	802	28	29	29	29	29	36	39	590	846	813	811
6	802	28	29	29	29	29	37	41	601	846	810	810
7	803	28	29	29	29	29	37	44	610	846	811	811
8	803	28	29	30	29	29	37	51	622	846	811	811
9	804	28	29	30	29	29	37	60	637	846	809	811
10	804	28	29	30	29	29	37	73	657	846	810	811
11	806	28	29	30	29	29	37	89	682	846	811	809
12	806	28	29	30	29	29	36	104	706	817	811	808
13	806	28	29	30	29	29	35	117	732	816	812	808
14	773	28	29	30	29	34	37	130	764	815	809	805
15	712	28	29	30	29	35	37	142	798	814	808	806
16	639	28	29	30	29	33	36	158	819	815	810	806
17	569	28	29	30	29	36	35	179	819	814	811	807
18	497	28	29	30	29	36	34	207	819	813	810	808
19	428	28	29	30	29	36	36	234	819	813	808	807
20	359	28	29	30	29	36	38	259	818	814	808	807
21	290	28	29	29	29	36	38	284	814	814	810	808
22	218	28	29	29	29	34	38	307	818	814	811	809
23	148	28	29	29	29	34	38	332	819	815	811	809
24	107	29	29	29	29	36	38	360	819	814	807	810
25	86	29	29	29	29	36	39	387	819	814	806	810
26	70	29	29	29	29	36	39	411	820	814	807	811
27	30	29	29	29	29	36	39	430	820	813	809	811
28	29	29	30	29	29	36	39	446	818	813	809	811
29	28	29	29	29	---	36	39	460	818	813	809	811
30	28	29	29	29	---	36	39	478	819	813	810	811
31	28	---	29	29	---	33	---	503	---	813	811	---
MAX	806	29	30	30	29	36	39	503	820	847	813	811
MIN	28	28	29	29	29	29	34	38	525	813	806	805
a	8471.21	8471.24	8471.24	8471.24	8471.26	8471.43	8471.68	8487.63	8496.09	8495.96	8495.89	8495.90
b	-773	+1	0	0	0	+4	+6	+464	+316	-6	-2	0

CAL YR 1992 MAX 811 MIN 27 b +1  
WTR YR 1993 MAX 847 MIN 28 b +10

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## 10287289 RUSH CREEK FLUME BELOW AGNEW LAKE, NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'33", long 119°07'47", in NE 1/4 SW 1/4 sec.20, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank 600 ft downstream from Agnew Lake Dam, and 3.4 mi southwest of town of June Lake.

DRAINAGE AREA.--23.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. If records for Rush Creek Powerplant tailrace (station 10287300) are combined with this record, a record equivalent to that published since October 1951 as Rush Creek below Agnew Lake (station 10287290) can be obtained. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume. A 4-ft Cipolletti weir is set in the Parshall flume at times. Elevation of gage is 8,440 ft above sea level, from topographic map.

REMARKS.--Flow regulated for power development by Waugh, Gem, and Agnew Lakes (stations 10287260, 10287280, and 10287285). Most of the water is diverted at either Gem or Agnew Lakes to Rush Creek Powerplant tailrace via Rush Creek Powerplant.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 199 ft<sup>3</sup>/s, July 1, 1993, gage height, 2.83 ft; maximum gage height, 2.99 ft, Oct. 26, 1991; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 199 ft<sup>3</sup>/s, July 1, gage height, 2.83 ft; no flow, Oct. 15-25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	.40	e.55	e.20	e.50	1.3	e4.9	.27	90	3.1	1.4
2	.79	.97	.35	e.55	e.20	e.50	1.2	e5.5	.23	189	3.4	1.4
3	.04	.84	.36	e.50	e.20	e.50	1.4	6.2	.23	187	2.9	1.2
4	.04	.84	.30	e.50	e.20	e.55	1.5	e6.4	.38	186	2.5	.79
5	.01	.78	.82	e.45	e.20	e.55	1.5	3.4	.52	186	2.3	.51
6	.01	.77	.43	e.45	e.20	e.55	1.5	.08	.54	189	3.2	.45
7	.02	.71	1.4	e.40	e.20	e.65	1.4	.05	.56	190	2.0	.36
8	.06	.65	.76	e.40	e.25	e.65	1.4	.05	.63	189	1.9	.36
9	.01	.55	.02	e.40	e.25	e.65	e1.5	.12	.59	188	2.4	.36
10	.05	.46	.43	e.40	e.25	e.70	1.5	.12	.54	187	1.9	.38
11	.02	.48	1.5	e.30	e.25	e.75	e1.4	.11	.54	187	1.8	.47
12	.16	.48	1.6	e.30	e.25	e.80	1.4	.09	.54	113	1.4	.45
13	.26	.50	1.1	e.30	e.35	e.85	1.3	.02	.45	8.6	1.5	.32
14	.12	.49	.85	e.30	e.35	.90	1.2	.03	.45	7.5	2.7	.75
15	.00	.54	.74	e.30	e.35	.94	e1.4	.06	.45	7.0	1.7	.37
16	.00	.55	.59	e.30	e.35	.94	1.4	.13	5.3	6.3	1.5	.36
17	.00	.55	.81	e.30	e.35	1.5	1.5	.16	14	5.3	1.4	.31
18	.00	.53	e.80	e.25	e.35	1.4	1.5	.18	14	5.9	1.9	.24
19	.00	.62	e.80	e.25	e.40	1.3	1.5	.12	15	5.1	1.9	.38
20	.00	.55	e.80	e.25	e.40	1.2	e1.6	.12	16	3.8	1.6	.36
21	.00	.70	e.75	e.25	e.40	1.2	e1.8	.12	15	3.7	1.4	.28
22	.00	.47	e.75	e.25	e.45	1.3	e2.0	.12	11	4.6	1.4	.27
23	.00	.44	e.75	e.25	e.45	1.4	e2.1	.10	13	4.4	1.5	.36
24	.00	.42	e.70	e.25	e.45	1.4	e1.8	.12	14	5.0	2.5	.28
25	.00	.38	e.70	e.25	e.45	1.4	2.1	.09	15	5.3	1.6	.26
26	4.7	.39	e.70	e.25	e.45	1.7	e2.8	e.15	18	4.6	1.4	.27
27	22	.41	e.65	e.25	e.50	1.3	3.1	.27	19	4.9	1.4	.23
28	7.5	.40	e.65	e.25	e.50	1.2	3.4	.27	18	4.2	1.5	.18
29	2.7	.36	e.65	e.25	---	1.0	e3.8	.27	14	3.7	1.4	.10
30	2.4	.38	e.60	e.25	---	.95	e4.6	.27	13	3.0	1.4	.08
31	1.5	---	e.60	e.25	---	1.0	---	.23	---	2.7	1.4	---
TOTAL	43.49	17.31	22.36	10.20	9.20	30.23	55.9	29.85	221.22	2176.6	59.9	13.53
MEAN	1.40	.58	.72	.33	.33	.98	1.86	.96	7.37	70.2	1.93	.45
MAX	22	1.1	1.6	.55	.50	1.7	4.6	6.4	19	190	3.4	1.4
MIN	.00	.36	.02	.25	.20	.50	1.2	.02	.23	2.7	1.4	.08
AC-FT	86	34	44	20	18	60	111	59	439	4320	119	27

e Estimated.

10287289 RUSH CREEK FLUME BELOW AGNEW LAKE, NEAR JUNE LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.48	.97	.52	.40	.42	.67	.70	.42	2.52	24.1	.97	.33
MAX	2.32	1.60	.72	.59	.71	.98	1.86	.96	7.37	70.2	1.93	.45
(WY)	1992	1991	1993	1992	1992	1993	1993	1993	1993	1993	1993	1993
MIN	.73	.58	.23	.27	.19	.33	.053	.067	.049	.19	.44	.21
(WY)	1991	1993	1991	1991	1991	1991	1991	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	179.80				2689.79							
ANNUAL MEAN	.49				7.37				2.83			
HIGHEST ANNUAL MEAN									7.37			
LOWEST ANNUAL MEAN									.55			
HIGHEST DAILY MEAN	22				190				190			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					199				199			
INSTANTANEOUS PEAK STAGE					2.83				2.99			
ANNUAL RUNOFF (AC-FT)	357				5340				2050			
10 PERCENT EXCEEDS	.84				5.4				1.8			
50 PERCENT EXCEEDS	.36				.60				.38			
90 PERCENT EXCEEDS	.03				.12				.05			

## 10287300 RUSH CREEK POWERPLANT TAILRACE NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'59", long 119°07'17", in NE 1/4 NE 1/4 sec.20, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, on left bank 200 ft downstream from Rush Creek Powerplant, 0.1 mi upstream from Reversed Creek, and 2.8 mi southwest of town of June Lake.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Elevation of gage is 7,230 ft above sea level, from topographic map.

REMARKS.--Flow is water diverted at either Gem or Agnew Lakes (stations 10287280 and 10287285) to Rush Creek Powerplant.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 105 ft<sup>3</sup>/s, May 25, 1993; minimum daily, 5.2 ft<sup>3</sup>/s, Apr. 30, May 1, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	35	35	34	34	39	39	76	102	e104	101	68
2	34	35	22	34	35	39	39	95	101	e104	102	68
3	35	35	35	34	34	39	39	95	101	e104	102	69
4	35	35	35	34	34	39	39	97	101	e104	102	64
5	35	35	35	34	35	39	39	99	101	e104	102	67
6	35	30	35	34	34	39	39	99	101	e104	102	67
7	35	35	35	34	34	39	39	99	101	e104	102	66
8	35	35	35	34	34	39	39	99	101	e104	102	67
9	35	35	35	34	34	39	39	99	101	e104	101	67
10	35	35	35	34	34	39	31	99	101	e104	102	65
11	35	35	35	34	34	39	27	100	100	e104	102	69
12	35	34	35	34	36	61	27	100	101	e104	102	69
13	35	34	35	34	38	73	25	100	101	102	102	69
14	33	35	35	34	38	73	25	100	101	101	102	70
15	30	35	34	34	38	73	25	100	102	101	102	70
16	36	35	34	34	38	73	25	100	e104	101	102	70
17	36	35	34	34	39	74	25	93	e104	101	102	70
18	36	35	34	35	40	73	25	96	e104	101	102	70
19	36	44	34	35	39	74	25	99	e104	101	102	71
20	36	47	34	43	39	74	25	102	e104	101	102	64
21	37	35	34	33	39	74	25	102	e104	101	102	68
22	39	35	35	34	39	52	28	102	102	98	86	67
23	39	35	34	34	39	39	30	102	e104	101	68	67
24	22	35	34	34	39	39	30	104	e104	101	67	67
25	14	35	34	34	39	39	30	105	e104	101	67	67
26	19	35	34	34	39	39	30	103	e104	101	68	69
27	35	35	34	34	39	37	43	102	e104	101	68	69
28	35	35	34	34	39	39	38	101	e104	101	68	69
29	35	35	34	34	---	39	36	101	e104	101	68	69
30	35	35	34	34	---	39	39	101	e104	101	68	69
31	35	---	34	34	---	39	---	103	---	101	68	---
TOTAL	1042	1064	1056	1064	1033	1552	965	3073	3074	3165	2836	2041
MEAN	33.6	35.5	34.1	34.3	36.9	50.1	32.2	99.1	102	102	91.5	68.0
MAX	39	47	35	43	40	74	43	105	104	104	102	71
MIN	14	30	22	33	34	37	25	76	100	98	67	64
AC-FT	2070	2110	2090	2110	2050	3080	1910	6100	6100	6280	5630	4050

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
MEAN	34.6	31.5	31.1	29.3	29.9	38.5	33.3	57.6	58.9	54.6	50.2	46.5
MAX	36.4	35.5	35.4	35.6	36.9	50.1	60.9	99.1	102	102	91.5	68.0
(WY)	1991	1993	1992	1992	1993	1993	1992	1993	1993	1993	1993	1993
MIN	33.6	23.5	23.9	18.1	16.8	19.9	6.87	35.7	35.5	26.6	24.3	35.3
(WY)	1993	1991	1991	1991	1991	1991	1991	1992	1992	1992	1992	1991

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1991 - 1993

ANNUAL TOTAL	13372	21965	
ANNUAL MEAN	36.5	60.2	
HIGHEST ANNUAL MEAN			41.4
LOWEST ANNUAL MEAN			60.2
HIGHEST DAILY MEAN	100	105	27.4
LOWEST DAILY MEAN	14	14	105
ANNUAL SEVEN-DAY MINIMUM	21	25	5.2
ANNUAL RUNOFF (AC-FT)	26520	43570	6.4
10 PERCENT EXCEEDS	36	102	30000
50 PERCENT EXCEEDS	36	39	99
90 PERCENT EXCEEDS	22	34	35
			22

## 10287650 SADDLEBAG LAKE NEAR LEE VINING, CA

LOCATION.--Lat 37°57'56", long 119°16'18", unsurveyed, T.1 N., R.24 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, near left abutment of dam on Lee Vining Creek and 8.2 mi west of Lee Vining.

DRAINAGE AREA.--16.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1921. Usable capacity, 9,789 acre-ft between elevations 10,048.80 ft, invert of outlet, and 10,090.40 ft, crest of spillway. At times, a cofferdam 600 ft upstream affects the storage below about 800 acre-ft, due to the constriction of flow past the cofferdam. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,425 acre-ft, Sept. 16, 17, 1993, elevation, 10,082.01 ft; minimum, 692 acre-ft, Apr. 23-30, May 3-5, 1991, elevation, 10,052.55 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,425 acre-ft, Sept. 16, 17, elevation, 10,082.01 ft; minimum, 768 acre-ft, Apr. 26, 27, elevation, 10,052.95 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Feb. 8, 1985)

10,050	217	10,070	4,392
10,055	1,163	10,080	6,890
10,060	2,172	10,091	9,970

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3735	3547	3139	2938	2365	e1885	e1070	821	e2279	4774	6874	7360
2	3731	3531	3137	2927	2336	e1879	e1020	852	2323	4897	6906	7369
3	3726	3506	3117	2907	e2323	1828	e970	881	2357	4997	6956	7371
4	3722	3495	3111	2894	e2304	1798	e925	896	2414	5094	6993	7377
5	3715	3475	3091	2873	e2296	1767	e880	904	2445	5207	7041	7382
6	3706	3454	3104	2857	e2277	1739	e840	934	2475	5322	7089	7401
7	3704	3445	3113	2870	e2258	1708	825	948	2494	5446	7121	7406
8	3692	3443	3115	2849	e2252	1684	823	959	2515	5550	7142	7409
9	3688	3432	3122	2829	e2218	1658	817	981	2551	5650	7163	7414
10	3681	3419	3111	2816	e2212	1628	810	1023	2620	5740	7187	7414
11	3672	3405	3131	2788	e2193	1601	804	1064	2684	5833	7200	7417
12	3667	3392	3128	2771	e2174	1571	804	1101	2758	5927	7211	7419
13	3658	3381	3106	2760	e2166	1547	798	1130	2844	5995	7216	7422
14	3651	3370	3075	2749	e2137	1533	790	1151	2946	6062	7235	7422
15	3647	3363	3069	2745	e2137	1505	781	1200	3058	6113	7259	7419
16	3640	3350	3049	2728	e2106	1481	781	1242	3173	6138	7256	7425
17	3633	3341	3062	2721	e2089	1481	792	1299	3254	6174	7264	7425
18	3629	3330	3053	2695	e2072	1451	788	1370	3345	6202	7270	7419
19	3619	3328	3034	2659	e2048	1430	781	1445	3459	6253	7286	7414
20	3606	3312	3016	2654	e2043	1404	777	1521	3590	6289	7288	7409
21	3608	3294	3005	2635	e2023	1382	775	1593	3681	6330	7291	7390
22	3601	3292	2983	2628	e2006	1354	769	1654	3751	6369	7294	7379
23	3595	3277	2970	2600	e1988	1332	777	1735	3834	6431	7299	7374
24	3592	3263	2955	2575	e1969	1322	771	1824	3930	6486	7312	7360
25	3583	3246	2942	2549	e1959	1307	771	1900	4050	6551	7320	7350
26	3579	3226	2927	2520	e1930	1289	768	1959	4186	6610	7328	7334
27	3576	3210	2910	2488	e1924	1267	768	2006	4340	6663	7331	7326
28	3567	3199	2914	2462	e1908	1253	771	e2056	4463	6720	7331	7312
29	3581	3184	2953	2439	---	1224	781	e2099	4563	6759	7342	7307
30	3597	3166	2940	2416	---	e1180	800	e2141	4659	6796	7350	7299
31	3570	---	2929	2393	---	e1120	---	e2197	---	6835	7352	---
MAX	3735	3547	3139	2938	2365	1885	1070	2197	4659	6835	7352	7425
MIN	3567	3166	2910	2393	1908	1120	768	821	2279	4774	6874	7299
a	10066.44	10064.63	10063.55	10061.05			10053.12		10071.12	10079.79	10081.74	10081.54
b	-170	-404	-237	-536	-485	-788	-320	+1397	+2462	+2176	+517	-53

CAL YR 1992 MAX 4141 MIN 1503 b -891  
WTR YR 1993 MAX 7425 MIN 768 b +3559

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## MONO LAKE BASIN

10287700 TIOGA LAKE NEAR LEE VINING, CA

LOCATION.--Lat 37°55'41", long 119°15'01", in SE 1/4 SE 1/4 sec.19, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, at left abutment of dam on Glacier Creek and 7.4 mi west of Lee Vining.

DRAINAGE AREA.--3.67 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1928. Usable capacity, 1,254 acre-ft between elevations 9,626.72 ft, invert of outlet, and 9,650.28 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,278 acre-ft, June 13, 1991, elevation, 9,650.60 ft; minimum, 88 acre-ft, several days, elevation, 9,628.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,274 acre-ft, July 2, elevation, 9,650.55 ft; minimum, 88 acre-ft, Dec. 28, elevation, 9,628.95 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 19, 1981)

9,626.72	0	9,640	609
9,630	131	9,646	962
9,635	356	9,652	1,383

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	987	437	102	113	106	109	108	120	357	1270	1269	1261
2	978	409	103	111	106	108	108	128	354	1274	1267	1261
3	966	386	103	109	105	107	108	134	360	1270	1267	1260
4	956	359	104	108	105	106	109	129	378	1268	1267	1260
5	943	335	103	107	105	106	108	125	383	1269	1267	1261
6	932	311	108	108	104	105	108	127	386	1268	1265	1261
7	918	290	112	113	103	105	108	123	382	1269	1265	1261
8	895	268	111	111	106	104	107	123	387	1267	1265	1254
9	874	248	112	110	107	104	108	128	404	1264	1265	1241
10	856	230	111	111	106	104	107	138	451	1262	1265	1226
11	837	210	113	109	107	103	107	137	499	1261	1264	1212
12	818	193	112	110	106	103	107	152	543	1259	1265	1198
13	799	177	109	111	106	103	106	152	596	1257	1265	1185
14	780	162	107	112	106	106	106	153	655	1256	1264	1170
15	762	148	106	112	105	105	107	155	717	1256	1265	1157
16	744	135	105	111	106	107	107	160	753	1255	1265	1143
17	719	121	110	112	107	111	110	178	773	1254	1265	1127
18	707	114	110	110	111	109	110	203	798	1253	1262	1110
19	690	111	108	108	114	108	109	229	836	1257	1262	1094
20	672	109	107	112	117	108	109	257	860	1263	1262	1078
21	657	107	106	113	116	108	109	276	871	1265	1262	1062
22	639	108	105	113	114	107	110	293	893	1265	1262	1046
23	622	106	103	111	117	107	111	321	933	1268	1260	1030
24	606	106	101	110	115	108	110	347	978	1269	1260	1015
25	590	105	100	109	114	110	110	359	1031	1269	1260	998
26	573	104	98	108	113	111	110	356	1094	1269	1261	983
27	559	105	96	108	111	109	111	352	1157	1268	1261	967
28	537	105	88	107	110	109	113	346	1200	1268	1260	951
29	514	104	89	107	---	108	115	340	1225	1267	1260	936
30	492	103	115	107	---	108	118	352	1248	1268	1261	922
31	464	---	111	107	---	108	---	365	---	1269	1261	---
MAX	987	437	115	113	117	111	118	365	1248	1274	1269	1261
MIN	464	103	88	107	103	103	106	120	354	1253	1260	922
a	9637.21	9629.32	9629.51	9629.40	9629.48	9629.42	9629.68	9635.18	9650.19	9650.48	9650.37	9645.36
b	-536	-361	+8	-4	+3	-2	+10	+247	+883	+21	-8	-339

CAL YR 1992 MAX 1270 MIN 88 b +17  
WTR YR 1993 MAX 1274 MIN 88 b -78

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## 10287760 ELLERY LAKE NEAR LEE VINING, CA

LOCATION.--Lat 37°56'08", long 119°13'50", in SW 1/4 NW 1/4 sec.21, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in valve house at base of Rhinedollar Dam on Lee Vining Creek and 6.3 mi west of Lee Vining.

DRAINAGE AREA.--16.7 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1927. Usable capacity, 493 acre-ft between elevations 9,478.53 ft, invert of outlet, and 9,492.53 ft, crest of spillway. Radial gates are occasionally closed, which increases elevation to 9,496.53 ft and capacity to 749 acre-ft. Lake receives water from Saddlebag and Tioga Lakes (stations 10287650 and 10287700) and releases it via Poole Powerplant Conduit to Poole Powerplant. Figures given represent usable contents.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 637 acre-ft, May 15, 1992, elevation, 9,494.81 ft; minimum, 282 acre-ft, Oct. 28, 1992, elevation, 9,488.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 605 acre-ft, July 5, elevation, 9,494.31 ft; minimum, 282 acre-ft, Oct. 28, elevation, 9,488.85 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Southern California Edison Co., dated Aug. 18, 1981)

9,485	96	9,493	522
9,489	290	9,497	780

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	435	378	414	460	463	397	435	434	430	547	410	431
2	436	395	415	463	459	395	453	438	404	575	425	425
3	435	412	413	466	452	e392	443	412	411	563	441	428
4	435	431	413	469	440	e387	428	395	436	565	444	440
5	434	448	411	472	428	e384	433	403	406	605	441	448
6	429	458	418	488	415	e392	437	393	368	591	431	451
7	416	e470	420	503	403	e401	428	370	355	573	413	452
8	423	e481	427	497	399	e410	417	388	374	558	393	451
9	431	e480	430	483	396	e419	417	419	398	541	386	458
10	435	e481	440	471	392	e428	417	408	421	523	387	465
11	438	e475	445	456	386	e437	419	385	438	530	387	468
12	439	e460	450	446	380	e444	423	378	456	516	386	465
13	438	e448	453	432	375	e452	427	378	502	491	387	459
14	437	e442	457	425	369	e459	428	403	553	452	393	451
15	434	e442	458	428	366	e467	434	410	561	428	396	442
16	433	e441	460	433	362	e474	434	396	545	407	391	434
17	434	e438	460	438	368	e482	430	444	541	395	385	428
18	435	e437	458	447	393	e490	425	500	548	406	390	424
19	437	e442	460	453	407	e497	422	520	575	425	393	426
20	431	e444	462	459	426	e501	420	517	530	442	395	428
21	419	e438	461	462	446	e506	424	520	526	449	395	432
22	406	e435	460	460	466	e512	431	517	519	452	405	434
23	387	e424	461	458	458	e484	437	524	524	498	424	435
24	369	415	460	461	438	452	436	525	536	481	440	437
25	340	417	459	467	423	452	439	520	556	466	455	437
26	313	418	458	470	415	444	440	e505	577	431	453	438
27	286	418	456	473	411	442	448	475	579	431	449	438
28	282	418	454	473	405	444	459	430	548	442	446	438
29	309	415	448	470	---	444	444	406	521	435	445	438
30	335	414	442	470	---	453	433	443	524	424	442	438
31	358	---	448	468	---	452	---	465	---	408	438	---
MAX	439	481	462	503	466	512	459	525	579	605	455	468
MIN	282	378	411	425	362	384	417	370	355	395	385	424
a	9490.23	9491.20	9491.78	9492.12	9491.05	9491.84	9491.52	9492.06	9493.03	9491.10	9491.60	9491.60
b	-76	+56	+34	+20	-63	+47	-19	+32	+59	-116	+30	0

CAL YR 1992 MAX 637 MIN 282 b -1  
WTR YR 1993 MAX 605 MIN 282 b +4

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 10287770 LEE VINING CREEK BELOW RHINEDOLLAR DAM, NEAR LEE VINING, CA

LOCATION.--Lat 37°56'10", long 119°13'48", in SW 1/4 NW 1/4 sec.21, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank 100 ft downstream from Rhinedollar Dam Spillway and 6.3 mi west of Lee Vining.

DRAINAGE AREA.--16.7 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 9,450 ft above sea level, from topographic map.

REMARKS.--Flow regulated for power development by Saddlebag, Tioga, and Ellery Lakes (stations 10287650, 10287700, and 10287760). Most of the water is diverted at Ellery Lake to Poole Powerplant via Poole Powerplant Conduit intake. Estimated discharges are on days when flow released directly from conduit bypasses the gage.

COOPERATION.--Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 118 ft<sup>3</sup>/s, June 20, 1993, gage height, 1.99 ft; maximum gage height, 5.52 ft, Mar. 22, 1993, (backwater from snow); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 118 ft<sup>3</sup>/s, June 20, gage height, 1.99 ft; maximum gage height, 5.52 ft, Mar. 22, (backwater from snow); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e10	.00	.00	.00	.00	.00	e5.0	e.00	.00	25	.00	.00
2	e10	.00	.00	.00	.00	.00	e10	e.00	.00	35	.00	.00
3	e10	.00	.00	.00	.00	.00	e5.0	e.00	.00	37	.00	.00
4	e10	.00	.00	.00	.00	.00	e.00	e.00	.00	29	.00	.00
5	e10	.00	.00	.00	.00	.00	e.00	e.00	.00	21	.00	.00
6	e10	.00	.00	.00	.00	.00	e.00	e.00	.00	59	.00	.00
7	e7.4	.00	.00	.00	.00	.00	e.00	e.00	.00	64	.00	.00
8	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	51	.00	.00
9	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	36	.00	.00
10	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	23	.00	.00
11	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	17	.00	.00
12	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	18	.00	.00
13	.00	.00	.00	.00	.00	.00	e.00	e.00	.11	7.9	.00	.00
14	.00	.00	.00	.00	.00	.00	e.00	e.00	18	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	e.00	e.00	56	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	e.00	e.00	57	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	e.00	e.00	40	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	e.00	.39	41	.00	.00	.00
19	.00	.00	.00	.00	.00	e.04	e.00	20	57	.00	.00	.00
20	.00	.00	.00	.00	.00	e1.6	e.00	29	85	.00	.00	.00
21	.00	.00	.00	.00	.00	e5.1	e.00	30	29	.00	.00	.00
22	.00	.00	.00	.00	.00	e9.7	e.00	19	24	.00	.00	.00
23	.00	.00	.00	.00	.00	e9.0	e.00	26	17	.01	.00	.00
24	.00	.00	.00	.00	.00	.00	e.00	41	26	4.8	.00	.00
25	.00	.00	.00	.00	.00	.00	e.00	33	40	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	e.00	10	64	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	e.00	.93	84	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	e.00	.00	71	.00	.00	.00
29	.00	.00	.00	.00	---	.00	e.00	.00	34	.00	.00	.00
30	.00	.00	.00	.00	---	.00	e.00	.00	18	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	67.40	0.00	0.00	0.00	0.00	25.44	20.00	209.32	761.11	427.71	0.00	0.00
MEAN	2.17	.000	.000	.000	.000	.82	.67	6.75	25.4	13.8	.000	.000
MAX	10	.00	.00	.00	.00	9.7	10	41	85	64	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	134	.00	.00	.00	.00	50	40	415	1510	848	.00	.00
a	963	1010	871	1240	1120	1200	1280	4710	5310	5230	2260	1180

e Estimated.

a Diversion, in acre-feet, to Poole Powerplant, provided by Southern California Edison Co.

## 10287770 LEE VINING CREEK BELOW RHINEDOLLAR DAM, NEAR LEE VINING, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.65	.000	.000	.000	.13	1.15	.22	2.38	10.2	4.60	.13	.31
MAX	2.78	.000	.000	.000	.40	2.62	.67	6.75	25.4	13.8	.39	.94
(WY)	1991	1991	1991	1991	1991	1992	1993	1993	1993	1993	1992	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.046	.000	.000	.000	.000
(WY)	1992	1991	1991	1991	1992	1991	1991	1991	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1991 - 1993			
ANNUAL TOTAL	199.28				1510.98							
ANNUAL MEAN	.54				4.14				1.73			
HIGHEST ANNUAL MEAN									4.14			
LOWEST ANNUAL MEAN									.36			
HIGHEST DAILY MEAN	10 Mar 5				85 Jun 20				85 Jun 20 1993			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 8				.00 Oct 1 1990			
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1				.00 Oct 8				.00 Oct 1 1990			
INSTANTANEOUS PEAK FLOW					118 Jun 20				118 Jun 20 1993			
INSTANTANEOUS PEAK STAGE					5.52 Mar 22				5.52 Mar 22 1993			
ANNUAL RUNOFF (AC-FT)	395				3000				1250			
ANNUAL DIVERSION (AC-FT) a	16530				26390							
10 PERCENT EXCEEDS	.00				13				.22			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

a Diversion, in acre-feet, to Poole Powerplant, provided by Southern California Edison Co.

## PACIFIC SLOPE BASINS IN CALIFORNIA

## TIJUANA RIVER BASIN

## 11011000 BARRETT LAKE NEAR DULZURA, CA

LOCATION.--Lat 32°30'46", long 116°40'11", in NW 1/4 NW 1/4 sec.22, T.17 S., R.3 E., San Diego County, Hydrologic Unit 18070305, on Barrett Dam outlet tower, 7.2 mi downstream from Morena Reservoir, and 7.0 mi northeast of Dulzura.

DRAINAGE AREA.--245 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1960 to September 1966 (monthend contents only, published in WSP 1928), published as Cottonwood Creek at Barrett Dam. October 1986 to September 1993 (discontinued); October 1986 to June 1988, monthend contents only.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by city of San Diego). Prior to July 6, 1988, nonrecording gage. Prior to September 1966, at datum 1,446.12 ft higher.

REMARKS.--Reservoir is formed by gravity-concrete and masonry dam built in 1922. Total capacity at top of flash gates on spillway, 44,760 acre-ft, elevation, 1,615.00 ft. Capacity at permanent spillway level, 37,950 acre-ft, elevation, 1,607.00 ft. Dead storage below lowest outlet, 719 acre-ft, elevation, 1,505.00 ft. Water from Barrett Lake is diverted out of basin to Lower Otay Lake (station 11014550) by Dulzura Conduit for municipal use.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 43,100 acre-ft, July 2-13, 1993, elevation, 1,613.08 ft; minimum, 4,690 acre-ft, Nov. 4-20, 1990, elevation, 1,538.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 43,100 acre-ft, July 2-13, elevation, 1,613.08 ft; minimum, 17,300 acre-ft, Nov. 30 to Dec. 3, 17, elevation, 1,575.66 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on table dated Mar. 27, 1956)

1,530	3,140	1,560	10,600	1,590	25,600
1,540	4,960	1,570	14,600	1,600	32,500
1,550	7,420	1,580	19,600	1,615	44,800

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17700	17500	17400	17500	e38200	38400	38200	e40400	42400	e43000	42500	42100
2	17600	17500	17400	17500	e38200	38400	38200	e40300	42400	e43100	42500	42000
3	17600	17500	17400	17500	e38200	38400	38200	e40400	42500	e43100	42500	42000
4	17600	17400	17400	17600	e38200	38400	38200	e40500	42500	e43100	42400	42000
5	17600	17400	17400	17600	e38200	38400	38200	e40600	42600	e43100	42400	42000
6	17600	e17400	17400	17800	e38200	38300	38200	e40700	42600	e43100	42400	42000
7	17600	e17400	17400	20600	e38200	38300	38200	e40800	42700	e43100	42400	41900
8	17600	e17400	17400	22900	e38400	38300	38300	e40900	42700	e43100	42400	41800
9	17600	17400	17400	23200	e38700	38300	e38200	e41000	42800	e43100	42300	41700
10	17600	17400	17500	23600	e38500	38300	e38200	e41100	42800	43100	42300	41600
11	17600	e17400	17500	e23700	e38400	38300	e38200	41200	42800	43100	42300	41500
12	17600	e17400	17400	e23900	e38400	e38300	e38200	41200	42900	43100	42300	41300
13	17500	e17400	17400	e24400	38300	e38300	e38200	41300	42900	43000	42300	41200
14	17500	e17400	17400	e25500	38300	e38300	e38200	41400	42900	43000	42300	41100
15	17500	e17400	17400	e26700	38300	e38300	e38200	41400	42900	43000	42200	41000
16	17500	e17400	17400	e29000	38300	e38300	e38100	41500	43000	43000	42200	40900
17	17500	e17400	17500	e33600	38200	e38300	e38400	41600	43000	43000	42200	40800
18	17500	e17400	e17400	e35600	38500	e38300	e38600	41700	43000	42900	42200	40600
19	17500	e17400	e17400	e38500	39000	38200	e38700	41800	43000	42900	42200	40500
20	17500	17400	e17400	e38600	39000	38200	e38900	41800	43000	42900	42200	40400
21	17500	17400	e17400	e38500	38700	38200	e39000	41900	43000	42900	42100	40300
22	17500	17400	e17500	e38400	38600	38200	e39200	41900	43000	42800	42100	40200
23	17500	17400	e17500	e38400	38500	38200	39400	42000	e43000	42800	42100	40100
24	17500	17400	17400	e38400	38700	38200	39500	42100	e43000	42800	42100	40000
25	17500	17400	17400	e38400	38500	38200	39600	42100	e43000	42800	42100	39900
26	17500	17400	17500	e38300	38500	38300	39700	42100	e43000	42700	42100	39700
27	17500	17400	17500	e38300	38500	38300	39900	42200	e43000	42700	42100	39600
28	17500	17400	17500	e38300	38500	38300	40000	42200	e43000	42600	42100	39500
29	17500	17400	17500	e38200	---	38300	e40000	42300	e43000	42600	42100	39400
30	17500	17400	17500	e38200	---	38300	e40100	42300	e43000	42600	42100	39300
31	17500	---	17500	e38200	---	38200	---	42400	---	42500	42100	---
MAX	17700	17500	17500	38600	39000	38400	40100	42400	43000	43100	42500	42100
MIN	17500	17400	17400	17500	38200	38200	38100	40300	42400	42500	42100	39300
a	1575.82	1575.72	1576.06	1607.30	1607.66	1607.37	1609.64	1612.28	1613.06	1612.47	1611.94	1608.67
b	-200	-100	+100	+20700	+300	-300	+1900	+2300	+600	-500	-400	-2800

CAL YR 1992 MAX 19000 MIN 15700 b +1800  
WTR YR 1993 MAX 43100 MIN 17400 b +21600

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA

LOCATION.--Lat 32°34'30", long 116°45'11", in NW 1/4 SW 1/4 sec.26, T.18 S., R.2 E., San Diego County, Hydrologic Unit 18070305, on right bank 0.8 mi upstream from confluence with Tecate Creek, 5.1 mi south of Dulzura, and 11.3 mi downstream from Barrett Lake.

DRAINAGE AREA.--310 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1936 to current year.

REVISED RECORDS.--WSP 1245: 1937-1938. WSP 1928: Drainage area.

GAGE.--No estimated daily discharges. Water-stage recorder. Datum of gage is 569.40 ft above sea level (levels by International Boundary and Water Commission).

REMARKS.--Records fair. Flow regulated by Morena Reservoir, capacity, 50,210 acre-ft, and Barrett Lake (station 11011000), capacity, 44,760 acre-ft. Water diverted from Barrett Lake through San Diego and Dulzura Conduits to Lower Otay Lake (station 11014550).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 11.15 ft, from rating curve extended above 8,700 ft<sup>3</sup>/s; no flow for part of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,190 ft<sup>3</sup>/s, Jan. 16, gage height, 8.00 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	287	620	184	9.0	11	14	20	17
2	.00	.00	.00	.00	234	541	172	8.7	11	15	21	17
3	.00	.00	.00	.00	205	478	163	8.9	11	16	22	17
4	.00	.00	.00	.00	181	429	152	9.1	11	16	22	17
5	.00	.00	.00	.00	160	386	146	9.4	15	17	21	17
6	.00	.00	.00	2.9	152	353	142	8.8	21	17	21	16
7	.00	.00	.00	818	145	327	140	8.5	19	17	21	19
8	.00	.00	.00	1330	916	310	134	8.9	18	18	20	65
9	.00	.00	.00	155	1270	291	127	8.4	16	17	20	69
10	.00	.00	.00	81	767	278	121	7.6	15	17	19	71
11	.00	.00	.00	63	512	265	117	7.6	13	16	19	70
12	.00	.00	.00	106	389	250	114	8.0	13	17	19	70
13	.00	.00	.00	452	337	233	111	7.8	13	17	20	69
14	.00	.00	.00	1010	308	229	102	7.4	13	17	21	62
15	.00	.00	.00	803	284	222	87	7.5	11	17	22	67
16	.00	.00	.00	2400	262	217	35	8.1	11	18	22	71
17	.00	.00	.00	1470	244	212	27	8.7	11	17	22	78
18	.00	.00	.00	1600	267	207	22	8.2	10	16	22	75
19	.00	.00	.00	1760	1690	202	19	8.2	9.8	17	22	75
20	.00	.00	.00	1450	2740	196	17	8.2	11	25	21	76
21	.00	.00	.00	1050	1590	190	15	8.4	11	26	18	74
22	.00	.00	.00	790	1010	182	14	8.8	10	26	18	73
23	.00	.00	.00	614	812	173	14	9.7	11	26	19	71
24	.00	.00	.00	503	1290	167	13	10	11	26	19	69
25	.00	.00	.00	426	1030	163	12	10	10	26	18	67
26	.00	.00	.00	381	764	211	11	11	11	26	18	66
27	.00	.00	.00	345	840	367	11	11	11	34	18	66
28	.00	.00	.00	301	702	320	10	11	12	36	18	66
29	.00	.00	.00	277	---	283	10	11	13	35	17	65
30	.00	.00	.00	253	---	221	9.5	11	14	23	17	66
31	.00	---	.00	317	---	199	---	11	---	21	17	---
TOTAL	0.00	0.00	0.00	18757.90	19388	8722	2251.5	279.9	377.8	646	614	1721
MEAN	.000	.000	.000	605	692	281	75.0	9.03	12.6	20.8	19.8	57.4
MAX	.00	.00	.00	2400	2740	620	184	11	21	36	22	78
MIN	.00	.00	.00	.00	145	163	9.5	7.4	9.8	14	17	16
AC-FT	.00	.00	.00	37210	38460	17300	4470	555	749	1280	1220	3410

## TIJUANA RIVER BASIN

11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	.67	2.58	18.0	50.8	63.0	36.7	12.4	4.41	1.45	1.20	1.23
MAX	3.16	18.8	40.5	605	1200	1443	676	296	99.5	47.5	24.4	57.4
(WY)	1981	1984	1984	1993	1980	1983	1941	1983	1980	1980	1980	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1937	1937	1950	1951	1951	1951	1955	1947	1940	1939	1938	1937

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1937 - 1993			
ANNUAL TOTAL	662.62				52758.10							
ANNUAL MEAN	1.81				145				15.9			
HIGHEST ANNUAL MEAN									243			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	44 Feb 16				2740 Feb 20				8430 Feb 21 1980			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 1				.00 Oct 1 1936			
ANNUAL SEVEN-DAY MINIMUM	.00 May 30				.00 Oct 1				.00 Oct 1 1936			
INSTANTANEOUS PEAK FLOW					3190 Jan 16				11700 Feb 21 1980			
INSTANTANEOUS PEAK STAGE					8.00 Jan 16				11.15 Feb 21 1980			
ANNUAL RUNOFF (AC-FT)	1310				104600				11480			
10 PERCENT EXCEEDS	6.2				373				8.5			
50 PERCENT EXCEEDS	.00				17				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 11012500 CAMPO CREEK NEAR CAMPO, CA

LOCATION.--Lat 32°35'28", long 116°31'29", in NE 1/4 SE 1/4 sec.24, T.18 S., R.4 E., San Diego County, Hydrologic Unit 18070305, on left bank just upstream from bridge on State Highway 94 and 3.5 mi southwest of Campo.

DRAINAGE AREA.--85.0 mi<sup>2</sup>, of which 3 mi<sup>2</sup> are in Mexico.

PERIOD OF RECORD.--October 1936 to current year.

REVISED RECORDS.--WSP 1635: 1937-38(M), 1940(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 2,178.92 ft above sea level. Prior to Dec. 1, 1954, at datum 1 ft higher.

REMARKS.--Records poor. Peaks are attenuated by small conservation reservoir 1 mi upstream since August 1956. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,580 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 6.86 ft, from rating curve extended above 340 ft<sup>3</sup>/s; no flow for part of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft<sup>3</sup>/s, Jan. 16, gage height, 6.86 ft; minimum daily, .17 ft<sup>3</sup>/s, Nov. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.26	.26	.42	e14	e100	60	e30	19	e7.8	5.4	e3.5
2	.20	.24	.28	.46	e14	e89	50	e30	18	e7.6	4.6	e3.4
3	.24	.23	.33	.42	e13	e82	41	e31	22	e7.3	4.5	e3.4
4	.26	.22	.61	.41	e13	e79	42	31	25	e6.9	3.9	e3.3
5	.24	.24	.38	.43	e13	e76	44	29	23	e6.6	3.8	e3.3
6	.22	.22	.33	3.3	e13	e73	45	27	33	e6.4	3.8	e3.3
7	.20	.22	.53	539	e15	e70	46	25	30	6.0	3.7	e3.3
8	.19	.24	.48	661	e286	e67	44	20	25	6.2	3.5	e3.2
9	.20	.25	.37	34	e150	e65	41	16	17	6.3	3.4	e3.2
10	.20	.26	.34	16	e45	e63	39	18	14	6.2	3.4	e3.2
11	.21	.22	.35	21	e39	e63	36	19	18	5.0	3.3	e3.2
12	.22	.21	.44	101	e36	e62	32	18	17	5.7	3.5	e3.1
13	.25	.22	.35	152	e34	e61	31	13	16	6.7	3.7	e3.1
14	.28	.21	.35	337	e32	e61	29	13	15	e6.5	4.3	e3.1
15	.29	.17	.35	170	e31	e60	29	16	14	e6.5	4.7	3.3
16	.27	.18	.34	745	e31	e60	23	15	13	e6.4	4.7	3.4
17	.26	.21	.35	341	e30	e59	28	13	12	e6.4	4.6	3.8
18	.27	.24	.44	493	e35	e58	28	13	11	e6.4	4.6	4.4
19	.27	.23	.35	372	e98	e56	30	16	11	e6.3	4.4	4.2
20	.28	.23	.35	90	e150	e55	30	17	11	e6.3	3.8	4.1
21	.32	.22	.35	41	e105	e52	32	18	10	e6.3	2.9	4.4
22	.30	.24	.34	e33	e92	e49	e34	19	10	6.2	2.7	4.0
23	.57	.26	.32	e27	e82	e46	e34	20	11	6.5	2.5	3.8
24	.32	.24	.32	e23	e96	e44	e33	21	10	6.5	e2.3	3.5
25	.27	.23	.32	e22	e73	e42	e33	22	e9.5	6.4	e10	3.4
26	.26	.23	.33	e20	e72	138	e32	20	e9.1	6.6	e3.9	2.8
27	.27	.23	.42	e18	e110	171	e32	18	e8.8	7.2	e3.8	1.9
28	.29	.25	.96	e17	e106	132	e31	15	e8.6	7.8	e3.7	1.8
29	.31	.25	.50	e16	---	100	e31	18	e8.3	7.6	e3.6	2.2
30	.33	.25	.47	e16	---	91	e30	18	e8.0	6.7	e3.5	2.4
31	.31	---	.43	e15	---	74	---	19	---	5.5	e3.5	---
TOTAL	8.28	6.90	12.34	4325.44	1828	2298	1070	618	457.3	202.8	124.0	99.0
MEAN	.27	.23	.40	140	65.3	74.1	35.7	19.9	15.2	6.54	4.00	3.30
MAX	.57	.26	.96	745	286	171	60	31	33	7.8	10	4.4
MIN	.18	.17	.26	.41	13	42	23	13	8.0	5.0	2.3	1.8
AC-FT	16	14	24	8580	3630	4560	2120	1230	907	402	246	196

e Estimated.

## TIJUANA RIVER BASIN

11012500 CAMPO CREEK NEAR CAMPO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.75	1.31	2.28	5.27	7.38	11.2	7.25	3.37	1.76	.96	.94	.71
MAX	14.3	20.7	25.7	140	74.5	153	121	52.2	30.4	20.1	26.5	16.5
(WY)	1984	1984	1984	1993	1980	1983	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1937	1949	1949	1957	1957	1956	1957	1957	1950	1947	1946	1947

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1937 - 1993	
ANNUAL TOTAL	341.74		11050.06			
ANNUAL MEAN	.93		30.3		3.57	
HIGHEST ANNUAL MEAN					39.6	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	10	Mar 8	745	Jan 16	745	Jan 16 1993
LOWEST DAILY MEAN	.15	Sep 30	.17	Nov 15	.00	Oct 1 1936
ANNUAL SEVEN-DAY MINIMUM	.17	Sep 25	.20	Nov 11	.00	Oct 1 1936
INSTANTANEOUS PEAK FLOW			1580	Jan 16	1580	Jan 16 1993
INSTANTANEOUS PEAK STAGE			6.86	Jan 16	6.86	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	678		21920		2590	
10 PERCENT EXCEEDS	2.3		68		8.5	
50 PERCENT EXCEEDS	.44		6.9		.10	
90 PERCENT EXCEEDS	.21		.25		.00	

## 11014000 JAMUL CREEK NEAR JAMUL, CA

LOCATION.--Lat 32°38'15", long 116°53'00", in NW 1/4 NE 1/4 sec.4, T.18 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on right bank 300 ft upstream from Otay Road crossing at upper end of Lower Otay Lake, 1.4 mi downstream from Dulzura Creek, and 5.5 mi south of Jamul.

DRAINAGE AREA.--70.1 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1940 to December 1940, April 1941 to September 1978, October 1985 to current year.

REVISED RECORDS.--WSP 1565: 1952, 1954. WSP 1715: 1944, 1946. WDR CA-73-1: Drainage area.

GAGE.--Water-stage recorder and broad-crested weir control with low-water venturi-type flume. Datum of gage is 511.64 ft above sea level. Prior to Oct. 1, 1951, at datum 1.00 ft higher.

REMARKS.--Records poor. No regulation upstream from station. Water is diverted from Cottonwood Creek at Barrett Lake (station 11011000) via San Diego and Dulzura Conduit into Dulzura Creek, a tributary to Jamul Creek, and is included in discharge for this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s, Dec. 1, 1947, gage height, 6.42 ft, present datum, from rating curve extended above 1,200 ft<sup>3</sup>/s; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0230	2,410	5.08	Feb. 20	1030	1,330	4.29
Jan. 16	1415	*3,910	*6.19	Feb. 24	0745	730	3.96
Feb. 8	0600	236	3.47				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.19	e52	116	23	3.5	.74	.00	.00	.00
2	.00	.00	.00	.26	e36	110	22	3.4	.46	.00	.00	.00
3	.00	.00	.00	.20	32	106	20	3.2	.32	.00	.00	.00
4	.00	.00	1.7	.19	30	101	19	3.0	.34	.00	.00	.00
5	.00	.00	.33	.19	27	98	18	3.0	1.1	.00	.00	.00
6	.00	.00	.18	22	25	95	18	2.9	2.3	.00	.00	.00
7	.00	.00	7.7	1210	25	e79	17	2.8	1.7	.00	.00	.00
8	.00	.00	.19	1090	120	e73	16	2.8	1.5	.00	.00	.00
9	.00	.00	.00	152	137	e60	15	2.5	1.2	.00	.00	.00
10	.00	.00	.00	109	99	e46	14	2.2	.89	.00	.00	.00
11	.00	.00	.00	92	80	e38	13	2.1	.68	.00	.00	.00
12	.00	.00	.00	139	61	e35	12	2.0	.49	.00	.00	.00
13	.00	.00	.00	286	55	e33	12	1.8	.47	.00	.00	.00
14	.00	.00	.00	1090	52	e30	11	1.7	.50	.00	.00	.00
15	.00	.00	.00	778	46	e30	10	1.6	.58	.00	.00	.00
16	.00	.00	.00	2320	41	e30	9.6	1.7	.53	.00	.00	.00
17	.00	.00	.00	1520	53	e29	10	1.8	.43	.00	.00	.00
18	.00	.00	.00	1460	75	28	10	1.7	.35	.00	.00	.00
19	.00	.00	.00	1120	204	26	9.3	1.5	.30	.00	.00	.00
20	.00	.00	.00	e300	779	25	8.5	1.4	.21	.00	.00	.00
21	.00	.00	.00	e230	283	24	7.7	1.4	.15	.00	.00	.00
22	.00	.00	.00	159	170	22	6.9	1.4	.12	.00	.00	.00
23	.00	.00	.00	139	136	21	6.1	1.4	.11	.00	.00	.00
24	.00	.00	.00	121	392	19	5.6	1.5	.09	.00	.00	.00
25	.00	.00	.00	e98	189	26	8.5	1.4	.08	.00	.00	.00
26	.00	.00	.00	e91	154	68	15	1.1	.08	.00	.00	.00
27	.00	.00	.08	e80	149	46	9.5	1.1	.05	.00	.00	.00
28	.00	.00	2.2	e71	126	52	4.2	1.0	.05	.00	.00	.00
29	.00	.00	.46	e62	---	35	4.1	.75	.02	.00	.00	.00
30	.00	.00	.32	e55	---	28	4.2	.61	.02	.00	.00	.00
31	.00	---	.20	e81	---	25	---	.68	---	.00	.00	---
TOTAL	0.00	0.00	13.36	12876.03	3628	1554	359.2	58.94	15.86	0.00	0.00	0.00
MEAN	.000	.000	.43	415	130	50.1	12.0	1.90	.53	.000	.000	.000
MAX	.00	.00	7.7	2320	779	116	23	3.5	2.3	.00	.00	.00
MIN	.00	.00	.00	.19	25	19	4.1	.61	.02	.00	.00	.00
AC-FT	.00	.00	26	25540	7200	3080	712	117	31	.00	.00	.00

e Estimated.

11014000 JAMUL CREEK NEAR JAMUL, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.15	7.82	9.27	17.3	15.0	25.0	16.1	13.4	13.9	11.2	9.55	8.02
MAX	40.2	45.6	62.5	415	130	234	101	49.1	49.6	42.7	44.3	37.4
(WY)	1948	1946	1946	1993	1993	1978	1958	1954	1952	1952	1952	1947
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1950	1951	1951	1958	1961	1959	1955	1956	1953	1950	1949	1949

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1940 - 1993			
ANNUAL TOTAL	1087.88				18505.39							
ANNUAL MEAN	2.97				50.7				12.5			
HIGHEST ANNUAL MEAN									50.7			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	59				2320				2320			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					3910				4000			
INSTANTANEOUS PEAK STAGE					6.19				6.42			
ANNUAL RUNOFF (AC-FT)	2160				36710				9050			
10 PERCENT EXCEEDS	9.5				96				37			
50 PERCENT EXCEEDS	.00				.11				.20			
90 PERCENT EXCEEDS	.00				.00				.00			

## 11014550 LOWER OTAY LAKE NEAR CHULA VISTA, CA

LOCATION.--Lat 32°36'33", long 116°55'38", in NE 1/4 NE 1/4 sec.13, T.18 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on right bank, 30 ft west of right end of Savage Dam on Otay River, and 9.0 mi east of Chula Vista.

DRAINAGE AREA.--99.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1945 to September 1959 (published with Otay River at Savage Dam, station 11014500); October 1972 to September 1993 (discontinued). Prior to October 1987 monthend contents only. Monthend gage heights October 1936 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

REVISED RECORD.--WDR CA-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by county of San Diego). October 1972 to current year, supplementary water-stage recorder for flood warning only, on right bank 30 ft upstream from dam at datum 397.20 ft higher.

REMARKS.--Reservoir is formed by gravity section concrete and masonry dam, built in 1919. Maximum capacity at top of spillway gates, 56,520 acre-ft, elevation, 490.70 ft. Capacity at permanent spillway level, 49,510 acre-ft, elevation, 484.70 ft. Dead storage below lowest outlet, 1,150 acre-ft, elevation, 395.05 ft. Dulzura Conduit carries water from Barrett Lake (station 11011000) to Dulzura Creek, where water is carried to the reservoir by Jamul Creek (station 11014000). Reservoir storage includes supplemental Colorado River water. Small diversions for local use near reservoir. Water used for municipal supply by city of San Diego.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 51,860 acre-ft, spilling, Mar. 3, 1983, elevation, 486.78 ft; minimum observed, 3,160 acre-ft, Dec. 31, 1951, elevation, 407.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,350 acre-ft, spilling, Jan. 19, elevation, 486.34 ft; minimum, 27,760 acre-ft, Dec. 10, 14, elevation 460.95 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey dated Apr. 3, 1956)

430	10,090	445	17,340	470	35,100
435	12,250	450	20,280	480	44,500
440	14,660	460	27,060	489	54,460

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30760	e29250	e28060	e28300	49550	49720	49440	48950	46610	44170	41810	39650
2	30710	e29230	e28010	e28320	49530	49680	49460	48880	46510	44090	41740	39560
3	30630	e29160	e27940	e28370	49500	49640	49480	48800	46420	44010	41670	39470
4	30590	e29120	e27910	e28390	49500	49620	49490	48730	46330	43950	41590	39380
5	30560	e29050	e27840	e28400	49480	49590	49470	48660	46310	43870	41510	39300
6	30510	e29010	e27790	e28400	49480	49570	49480	48600	46280	43780	41420	39200
7	30460	e28920	e27790	e28400	49500	49550	49560	48530	46210	43620	41350	39110
8	30420	e28880	e27790	e32120	49720	49530	49580	48460	46140	43530	41270	39000
9	30350	e28850	e27790	33860	49820	49540	49570	48400	46070	43430	41210	38900
10	30280	e28820	e27760	34290	49750	49530	49570	48310	45980	43370	41120	33 10
11	e30250	e28780	e27770	34600	49690	49520	49560	48210	45880	43310	41070	38740
12	e30170	e28720	e27780	35080	49650	49490	49540	48150	45790	43270	40980	38690
13	e30090	e28680	e27810	36150	49600	49480	49530	48080	45710	43220	40920	38610
14	e30030	e28650	e27760	38400	49580	49490	49500	48030	45630	43140	40850	38530
15	e29970	e28670	e27870	40700	49550	49490	49480	47940	45530	43060	40780	38470
16	e29930	e28540	e27880	46670	49530	49480	49480	47850	45450	42960	40700	38410
17	e29850	e28480	e27910	49430	49540	49480	49470	47790	45380	42890	40610	38350
18	e29820	e28440	e27940	51310	49550	49470	49450	47710	45290	42810	40550	38280
19	e29790	e28350	e27990	50670	49900	49460	49440	47640	45230	42730	40470	38230
20	e29710	e28350	e28020	50220	50480	49440	49430	47560	45150	42650	40390	38160
21	e29710	e28300	e28030	49980	50110	49430	49410	47500	45050	42570	40340	38100
22	e29650	e28300	e28040	49860	49910	49410	49380	47420	44960	42500	40280	38030
23	e29630	e28290	e28080	49780	49860	49390	49350	47350	44880	42420	40230	37970
24	e29600	e28250	e28090	49720	50130	49370	49310	47270	44780	42340	40150	37890
25	e29550	e28240	e28110	49660	49960	49360	49280	47200	44680	42270	40110	37840
26	e29440	e28180	e28100	49630	49880	49450	49240	47100	44600	42200	40060	37770
27	e29400	e28180	e28090	49580	49830	49460	49180	47010	44510	42130	39980	37700
28	e29350	e28120	e28090	49550	49770	49490	49110	46920	44430	42070	39930	37620
29	e29350	e28090	e28350	49540	---	49480	49060	46850	44330	42040	39870	37550
30	e29330	e28060	e28280	49530	---	49460	49010	46780	44240	41960	39820	37480
31	e29300	---	e28280	49580	---	49440	---	46700	---	41880	39740	---
MAX	30760	29250	28350	51310	50480	49720	49580	48950	46610	44170	41810	39650
MIN	29300	28060	27760	28300	49480	49360	49010	46700	44240	41880	39740	37480
a	462.98	461.36	461.65	484.77	484.94	484.64	484.26	482.12	479.75	477.39	475.14	472.71
b	-1510	-1240	+220	+21300	+190	-330	-430	-2310	-2460	-2360	-2140	-2260

CAL YR 1992 MAX 39280 MIN 27760 b -9,600  
WTR YR 1993 MAX 51310 MIN 27760 b +6,670

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SWEETWATER RIVER BASIN

11015000 SWEETWATER RIVER NEAR DESCANSO, CA

LOCATION.--Lat 32°50'05", long 116°37'20", in NW 1/4 SE 1/4 sec.25, T.15 S., R.3 E., San Diego County, Hydrologic Unit 18070304, near right bank at Los Terrenitos Road bridge, 0.7 mi downstream from unnamed tributary, and 1.3 mi south of Descanso.

DRAINAGE AREA.--45.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1905 to September 1927 (monthly discharge only for some months, published in WSP 1315-B), October 1956 to current year. Prior to October 1927, records unadjusted for diversion. October 1956 to September 1977, both unadjusted records and combined records of river plus diversion (station 11015001) were published. No diversion since November 1976.

REVISED RECORD.--WSP 1315-B: 1922(M). WDR CA-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,269.24 ft above sea level. Prior to June 25, 1927, nonrecording gages at several sites and datums, upstream about 0.1 mi. Diversion gage at site 0.3 mi upstream, October 1956 to September 1984, at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s, Feb. 16, 1927, gage height, 13.2 ft, from floodmarks, site and datum then in use, on basis of slope-area measurement of peak flow; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0445	3,470	10.39	Feb. 24	1145	560	7.46
Jan. 16	1600	*4,220	*10.90	Mar. 27	0115	136	6.15
Feb. 9	0145	529	7.41	May 15	1845	231	6.44
Feb. 20	0200	2,490	9.61				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.05	.24	1.2	79	e135	50	18	7.3	3.2	1.3	.61
2	.00	.03	.32	1.7	68	e120	48	17	7.3	3.3	1.2	.51
3	.00	.03	.50	2.0	62	e109	46	16	7.2	3.3	1.1	.40
4	.00	.08	.91	1.6	58	e98	44	18	7.3	3.3	1.0	.34
5	.00	.13	.32	1.4	53	e87	44	18	9.9	3.2	.93	.28
6	.00	.14	.20	57	51	e84	44	18	14	3.2	.81	.30
7	.00	.18	3.3	1580	51	e82	42	18	11	3.0	.77	.29
8	.00	.23	2.3	1410	245	e80	40	17	9.8	2.9	.69	.27
9	.00	.21	1.1	137	321	e78	39	15	8.4	2.7	.70	.24
10	.00	.11	.77	86	178	e76	37	15	7.4	2.5	.65	.22
11	.00	.08	.74	64	119	e74	34	14	6.9	2.4	.61	.20
12	.00	.07	1.3	50	100	e73	34	14	6.6	2.4	.61	.22
13	.00	.06	.84	176	90	e72	33	14	6.3	2.3	.68	.28
14	.00	.06	.64	434	84	e71	33	13	6.0	2.2	.76	.33
15	.00	.08	.50	383	79	e70	33	35	5.8	2.2	.98	.36
16	.00	.09	.45	1850	77	e68	32	21	5.6	2.2	.95	.53
17	.00	.11	.41	654	72	e66	31	13	5.4	2.1	.82	.59
18	.00	.13	1.0	795	134	62	30	11	5.0	1.9	.68	.52
19	.00	.14	.56	423	850	57	30	15	4.8	2.0	.61	.40
20	.00	.15	.46	207	1450	55	e29	12	4.6	2.0	.52	.38
21	.00	.14	.44	153	340	53	e28	11	4.5	2.0	.48	.40
22	.00	.17	.35	128	200	49	e27	9.6	4.5	2.0	.45	.35
23	.00	.30	.28	114	188	47	e26	8.7	4.5	1.9	.42	.31
24	.00	.21	.27	104	423	45	e25	8.6	4.0	1.9	.37	.31
25	.00	.20	.27	97	255	44	e24	8.7	3.6	1.9	.58	.30
26	.00	.19	.27	94	205	77	e24	8.8	3.8	1.8	.77	.25
27	.00	.24	.40	88	229	106	22	8.5	3.8	1.7	.74	.23
28	.00	.29	2.2	83	198	92	21	8.3	3.5	1.6	.68	.22
29	.09	.24	1.5	80	---	78	20	8.0	3.4	1.5	.63	.22
30	.11	.22	1.7	76	---	61	19	7.6	3.2	1.4	.57	.23
31	.13	---	1.4	88	---	54	---	7.4	---	1.3	.59	---
TOTAL	0.33	4.36	25.94	9418.9	6259	2323	989	427.2	185.4	71.3	22.65	10.09
MEAN	.011	.15	.84	304	224	74.9	33.0	13.8	6.18	2.30	.73	.34
MAX	.13	.30	3.3	1850	1450	135	50	35	14	3.3	1.3	.61
MIN	.00	.03	.20	1.2	51	44	19	7.4	3.2	1.3	.37	.20
AC-FT	.7	8.6	51	18680	12410	4610	1960	847	368	141	45	20

e Estimated.

## SWEETWATER RIVER BASIN

183

11015000 SWEETWATER RIVER NEAR DESCANSO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.20	1.64	5.28	13.9	28.4	35.5	18.4	7.01	2.46	.71	.46	.34
MAX	3.53	24.0	83.5	304	336	382	138	68.5	25.5	8.68	8.45	6.16
(WY)	1984	1966	1967	1993	1980	1983	1983	1983	1983	1980	1983	1978
MIN	.000	.000	.000	.000	.000	.042	.010	.000	.000	.000	.000	.000
(WY)	1957	1957	1957	1961	1961	1961	1961	1961	1959	1957	1957	1957

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1957 - 1993			
ANNUAL TOTAL	1333.42				19737.17							
ANNUAL MEAN	3.64				54.1				9.42			
HIGHEST ANNUAL MEAN									71.2			
LOWEST ANNUAL MEAN									.004			
HIGHEST DAILY MEAN	58				1850				2500			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					4220				6750			
INSTANTANEOUS PEAK STAGE					10.90				12.31			
ANNUAL RUNOFF (AC-FT)	2640				39150				6830			
10 PERCENT EXCEEDS	9.5				97				12			
50 PERCENT EXCEEDS	.51				3.2				.25			
90 PERCENT EXCEEDS	.00				.08				.00			

## 11020600 EL CAPITAN LAKE NEAR LAKESIDE, CA

LOCATION.--Lat 32°52'56", long 116°48'30", in SE 1/4 NE 1/4 sec.7, T.15 S., R.2 E., San Diego County, Hydrologic Unit 18070304, on left bank 100 ft upstream from El Capitan Dam on San Diego River and 7.0 mi east of Lakeside.

DRAINAGE AREA.--188 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1936 to September 1966 (published with San Diego River at El Capitan Dam, station 11020500), October 1972 to September 1993 (discontinued). Monthend contents only October 1972 to September 1987. October 1936 to September 1945, published in WSP 1315-B, not equivalent owing to exclusion of greater part of flow released from Cuyamaca Reservoir.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by city of San Diego). Prior to October 1987, nonrecording gage at same site.

REMARKS.--Reservoir is formed by hydraulic fill-rock embankment, completed in 1935. Capacity of reservoir at spillway level, 112,810 acre-ft, elevation, 750.00 ft. Dead storage below lowest outlet, 59 acre-ft, elevation, 574.00 ft. Reservoir storage includes supplemental Colorado River water. No significant diversion upstream from reservoir. Inflow partly regulated by Cuyamaca Reservoir, capacity, 11,740 acre-ft. Water is released as required for municipal use and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 114,500 acre-ft, spilling, Mar. 7, 1980, elevation, 751.09 ft; minimum observed, 2,252 acre-ft, May 1, 1957, elevation, 606.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 113,200 acre-ft, spilling, Mar. 28-30, elevation, 750.30 ft; minimum, 44,170 acre-ft, Nov. 23, elevation, 692.76 ft.

Capacity table (elevation in feet, and contents, in acre-feet)  
(Based on table dated May 25, 1956)

500	1,450	640	11,310	700	50,730
610	2,820	650	15,530	720	71,790
620	4,940	660	20,650	740	97,790
630	7,820	680	33,780	753	117,550

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47070	46530	44710	47700	83630	106700	113000	111800	109800	108100	104600	100000
2	46930	46450	44780	47800	83780	107500	113000	111700	109700	107900	104400	99890
3	46890	46300	44850	47890	83930	108100	113000	111600	109700	107800	104300	99730
4	46860	46190	44940	47980	84060	108700	113000	111400	109600	107800	104200	99560
5	46780	46070	45030	48120	84170	109200	112900	111400	109600	107700	104100	99380
6	46770	45950	45130	48590	84350	109700	112900	111300	109700	107600	103900	99220
7	46760	45830	45370	52850	84570	110200	113000	111200	109700	107500	103800	99080
8	46750	45710	45460	57070	85550	110600	112900	111200	109700	107400	103700	98920
9	46730	45590	45560	57760	86970	111000	112900	111100	109700	107300	103600	98710
10	46690	45470	45640	58170	87750	111400	112800	111000	109700	107100	103500	98540
11	46670	45350	45720	58580	88280	111800	112800	110800	109600	107000	103400	98350
12	46650	45250	45800	59040	88720	112200	112800	110700	109600	106900	103200	98180
13	46640	45150	45890	60460	89110	112500	112800	110600	109600	106700	103100	97990
14	46630	45040	45970	63770	89450	112800	112700	110500	109500	106600	103000	97820
15	46610	44950	46030	e65000	89760	112900	112700	110400	109500	106500	102800	97630
16	46590	44830	46130	e70000	90070	113000	112700	110300	109400	106400	102600	97460
17	46590	44710	46220	e72000	90390	113000	112600	110200	109300	106300	102500	97300
18	46570	44610	46320	e74500	90940	113000	112600	110200	109300	106100	102300	97130
19	46560	44500	46400	e78000	93710	112900	112600	110200	109200	106000	102200	96990
20	46560	44390	46470	e79000	97600	112900	112600	110100	109200	105900	102100	96820
21	46550	44310	46560	e80000	99000	112900	112600	110100	109100	105800	101900	96650
22	46540	44220	46660	81100	100000	112900	112400	110100	109000	105600	101700	96490
23	46550	44190	46750	81550	100900	112900	112300	110100	109000	105600	101500	96330
24	46560	44220	46840	81870	102800	112900	112300	110000	108900	105400	101400	96210
25	46530	44310	46910	82190	103000	112900	112300	110000	108900	105300	101200	96050
26	46550	44390	47010	82440	104100	112900	112200	110000	108800	105200	101100	95920
27	46530	44480	47150	82670	105100	113100	112100	110000	108700	105200	100900	95780
28	46520	44550	47320	82890	106000	113100	112000	109900	108600	105200	100700	95630
29	46510	44580	47430	83080	---	113200	112000	109900	108400	105000	100500	95450
30	46520	44630	47520	83260	---	113100	111900	109800	108200	104900	100300	95280
31	46530	---	47600	83450	---	113000	---	109800	---	104800	100200	---
MAX	47070	46530	47600	83450	106000	113200	113000	111800	109800	108100	104600	100000
MIN	46510	44190	44710	47700	83630	106700	111900	109800	108200	104800	100200	95280
a	695.45	693.29	696.63	729.49	745.58	750.17	749.47	748.14	747.10	744.75	741.66	738.24
b	-680	-1900	+2970	+35850	+22550	+7000	-1100	-2100	-1600	-3400	-4600	-4920

CAL YR 1992 MAX 60940 MIN 44190 b -11650  
WTR YR 1993 MAX 113200 MIN 44190 b +48070

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 11022100 SAN VICENTE RESERVOIR NEAR LAKESIDE, CA

LOCATION.--Lat 32°54'45", long 116°55'25", in SW 1/4 NW 1/4 sec.31, T.14 S., R.1 E., San Diego County, Hydrologic Unit 18070304, at outlet tower near center of upstream face of San Vicente Dam on San Vicente Creek and 3.6 mi north of Lakeside.

DRAINAGE AREA.--74.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to September 1961 (published with San Vicente Creek at San Vicente Dam, at Foster, station 11022000), October 1972 to current year. Monthend contents only October 1972 to September 1987.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by county of San Diego). October 1972 to current year, supplementary water-stage recorder used for flood warning only, at same site at datum 560 ft higher. Prior to October 1987, nonrecording gage at same site.

REMARKS.--Reservoir is formed by concrete-gravity dam, constructed in 1941-43 by city of San Diego; storage began during construction period. Capacity of reservoir at spillway level, 90,230 acre-ft, elevation, 650 ft. Dead storage below lowest outlet, 350 acre-ft, elevation, 493.0 ft. Reservoir storage includes supplemental water from the San Diego River, Santa Ysabel Creek, and Colorado River basins. No diversion upstream from reservoir. Water is released as required for municipal use.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 94,200 acre-ft, spilling, Feb. 21, 1980, elevation, 653.54 ft; minimum observed, 12,390 acre-ft, Nov. 1, 1947, elevation, 549.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 91,550 acre-ft, Feb. 20, elevation, 651.23 ft; minimum, 66,470 acre-ft, Nov. 9, elevation, 626.38 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on table provided by city of San Diego, dated Feb. 18, 1944)

610	51,870	640	79,800
620	60,610	650	90,230
630	69,920	654	94,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66880	66730	67830	70260	88450	90440	89010	88620	86340	87780	88200	87170
2	66900	66630	67830	70380	88370	90430	88880	88510	86370	87800	88250	87040
3	66920	66580	67870	70470	88280	90400	88730	88430	86430	87810	88340	86930
4	66940	66560	67950	70550	88160	90410	88570	88290	86490	87820	88410	86840
5	66950	66550	68040	70630	88110	90410	88410	88170	86650	87840	88470	86770
6	66950	66530	68110	71000	88200	90410	88310	88060	86790	87860	88550	86640
7	66950	66500	68350	73260	88330	90390	88330	87960	86850	87870	88640	86480
8	66910	66480	68450	74860	89260	90380	88430	87880	86910	87890	88650	86320
9	66890	66520	68540	75240	89860	90340	88530	87800	86970	87920	88680	86160
10	66880	66570	68630	75430	90150	90310	88680	87660	87030	87940	88750	86020
11	66870	66600	68700	75540	90260	90270	88810	87600	87080	87960	88780	85930
12	66850	66630	68780	75920	90340	90220	88930	87540	87190	87970	88800	85850
13	66830	66730	68860	76690	90120	90130	89040	87460	87310	87990	88820	85730
14	66820	66830	68940	78700	90230	90080	89140	87360	87370	88000	88840	85600
15	66830	66920	69030	79920	90210	90040	89250	87240	87400	88020	88870	85450
16	66810	67000	69110	82920	90200	89970	89360	87160	87430	88040	88880	85300
17	66780	67060	69190	84660	90180	89910	89450	87080	87480	88060	88910	85150
18	66770	67170	69250	86480	90410	89810	89570	87000	87520	88070	88870	85020
19	66760	67260	69300	87650	91510	89720	89620	86920	87570	88110	88780	84910
20	66750	67340	69370	88210	91090	89640	89530	86810	87620	88120	88670	84770
21	66730	67500	69430	88480	90720	89570	89480	86670	87640	88100	88570	84640
22	66730	67640	69480	88640	90560	89480	89370	86590	87640	88080	88480	84540
23	66760	67690	69540	88720	90580	89380	89300	86580	87650	88070	88360	84500
24	66770	67700	69580	88730	90680	89270	89260	86550	87670	88060	88230	84420
25	66770	67720	69620	88720	90560	89180	89220	86500	87700	88050	88070	84320
26	66750	67740	69670	88690	90520	89230	89120	86460	87720	88030	87930	84250
27	66730	67800	69760	88640	90520	89260	89040	86430	87750	88010	87780	84160
28	66730	67810	69860	88550	90490	89320	88970	86390	87760	87960	87630	84070
29	66730	67790	69970	88470	---	89290	88850	86350	87760	88000	87490	83970
30	66740	67810	70050	88370	---	89230	88750	86340	87770	88070	87370	83880
31	66740	---	70160	88480	---	89130	---	86330	---	88150	87260	---
MAX	66950	67810	70160	88730	91510	90440	89620	88620	87770	88150	88910	87170
MIN	66730	66480	67830	70260	88110	89130	88310	86330	86340	87780	87260	83880
a	626.67	627.80	630.25	648.37	650.24	648.98	648.62	646.33	647.70	648.06	647.22	643.98
b	-140	+1070	+2350	+18320	+2010	-1360	-380	-2420	+1440	+380	-890	-3380

CAL YR 1992 MAX 74740 MIN 60780 b +7790  
WTR YR 1993 MAX 91510 MIN 66480 b +17000

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 11022200 LOS COCHES CREEK NEAR LAKESIDE, CA

LOCATION.--Lat 32°50'10", long 116°53'58", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on upstream right bank side of bridge on Old Highway 8, 2.7 mi upstream from mouth, and 1.9 mi southeast of Lakeside.

DRAINAGE AREA.--12.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to current year.

REVISED RECORDS.--WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 474 ft<sup>3</sup>/s, Mar. 27, 1991, gage height, 7.47 ft; minimum daily, 0.07 ft<sup>3</sup>/s, July 12, 13, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 23	2000	86	4.27	Feb. 8	Unknown	Unknown	Unknown
Dec. 7	1500	111	4.65	Feb. 19	Unknown	Unknown	Unknown
Dec. 28	0200	72	4.02	Feb. 24	1045	65	3.90
Jan. 7	0930	292	6.42	Mar. 28	1600	68	3.96
Jan. 16	1230	*462	*7.41	June 5	1845	55	3.76

Minimum daily, 0.11 ft<sup>3</sup>/s, Oct. 1, 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.21	.15	.70	e6.8	14	5.1	3.0	1.5	.37	.39	e.39
2	.12	.20	.16	5.0	e6.1	11	4.8	2.5	1.4	.37	.41	e.39
3	.13	.18	.34	.96	e5.8	9.5	4.3	2.6	1.3	.36	.40	e.39
4	.13	.18	2.2	.78	e5.0	8.0	4.0	2.1	1.5	.30	e.41	e.38
5	.13	.18	.30	1.1	e4.6	6.9	4.0	2.7	11	.27	e.41	e.38
6	.13	.17	.25	73	e4.4	6.2	4.8	2.0	1.8	.26	e.41	e.38
7	.12	.17	27	149	e4.1	5.7	4.0	1.8	.81	.31	e.40	e.37
8	.11	.17	4.6	64	e110	5.0	4.9	1.9	.72	.35	e.40	e.37
9	.11	.17	.52	15	e52	4.1	4.4	1.7	.68	.38	e.40	e.37
10	.11	.17	.42	14	e31	3.8	3.7	1.7	.62	.36	e.40	e.36
11	.12	.16	.46	6.1	e17	3.5	3.0	1.6	.56	.37	e.40	e.35
12	.13	.16	.55	37	e13	3.7	3.5	1.6	.55	.35	e.40	e.35
13	.15	.16	.42	59	e11	3.7	2.6	1.6	.61	.36	e.40	e.34
14	.14	.15	.43	78	e8.0	3.5	2.7	2.2	.57	.39	e.39	e.34
15	.13	.15	.44	104	e6.2	3.4	3.1	1.8	.51	.39	e.39	e.34
16	.13	.15	.44	160	e5.1	3.6	3.1	2.2	.48	.37	e.39	e.34
17	.14	.16	.45	82	e4.5	3.6	2.3	2.4	.45	.34	e.39	e.33
18	.15	.17	2.6	113	e25	3.8	2.6	1.8	.43	.36	e.39	e.33
19	.15	.16	.55	52	e140	3.7	2.4	2.2	.40	.35	e.39	e.33
20	.15	.16	.52	34	e78	6.2	2.4	1.9	.38	.38	e.39	e.32
21	.15	.15	.50	27	e39	4.5	2.4	2.0	.37	.38	e.39	e.32
22	.15	.17	.46	23	e20	5.0	2.0	2.6	.42	.38	e.39	e.32
23	5.9	.19	.43	21	e15	4.1	2.6	1.6	.39	.44	e.39	e.32
24	.42	.16	.45	20	24	5.3	2.6	1.8	.39	.46	e.39	e.32
25	.22	.15	.42	18	21	4.4	3.1	1.8	.36	.43	e.43	e.31
26	.20	.14	.42	16	22	18	3.1	1.5	.38	.48	e.41	e.31
27	.21	.15	4.3	13	22	6.3	2.7	1.7	.39	.59	e.40	e.30
28	.22	.16	17	13	18	19	2.0	2.1	.34	.58	e.40	e.30
29	.27	.15	2.7	17	---	5.1	2.1	1.7	.34	.53	e.39	e.30
30	1.6	.15	.89	19	---	4.6	2.3	1.7	.38	.47	e.39	e.30
31	.31	---	.74	12	---	4.8	---	1.7	---	.41	e.39	---
TOTAL	12.24	4.95	71.11	1247.64	718.6	194.0	96.6	61.5	30.03	12.14	12.33	10.25
MEAN	.39	.16	2.29	40.2	25.7	6.26	3.22	1.98	1.00	.39	.40	.34
MAX	5.9	.21	.27	160	140	19	5.1	3.0	11	.59	.43	.39
MIN	.11	.14	.15	.70	4.1	3.4	2.0	1.5	.34	.26	.39	.30
AC-FT	24	9.8	141	2470	1430	385	192	122	60	24	24	20

e Estimated.

## 11022200 LOS COCHES CREEK NEAR LAKESIDE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.55	1.41	2.20	5.64	4.67	4.32	1.64	.85	.51	.31	.25	.27
MAX	1.37	4.58	6.09	40.2	25.7	19.1	3.22	1.98	1.00	.61	.40	.49
(WY)	1988	1984	1985	1993	1993	1991	1993	1993	1993	1991	1993	1986
MIN	.19	.16	.32	.66	1.09	.78	.45	.25	.17	.12	.16	.13
(WY)	1991	1993	1990	1989	1989	1989	1989	1984	1984	1984	1989	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1984 - 1993	
ANNUAL TOTAL	569.22		2471.39			
ANNUAL MEAN	1.56		6.77		1.88	
HIGHEST ANNUAL MEAN					6.77	
LOWEST ANNUAL MEAN					.50	
HIGHEST DAILY MEAN	27	Jan 5	160	Jan 16	160	Jan 16 1993
LOWEST DAILY MEAN	.10	Sep 24	.11	Oct 1	.07	Jul 12 1984
ANNUAL SEVEN-DAY MINIMUM	.11	Sep 24	.12	Oct 5	.08	Jul 7 1984
INSTANTANEOUS PEAK FLOW			462	Jan 16	474	Mar 27 1991
INSTANTANEOUS PEAK STAGE			7.41	Jan 16	7.47	Mar 27 1991
ANNUAL RUNOFF (AC-FT)	1130		4900		1360	
10 PERCENT EXCEEDS	2.6		17		2.4	
50 PERCENT EXCEEDS	.52		.52		.50	
90 PERCENT EXCEEDS	.14		.16		.19	

## 11022350 FORESTER CREEK AT EL CAJON, CA

LOCATION.--Lat 32°49'16", long 116°58'32", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on right bank at downstream side of bridge on Billy Mitchell Drive, 0.8 mi upstream from unnamed tributary, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--21.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to September 1993 (discontinued).

REVISED RECORDS.--WDR CA-89-1: 1984-86, 1988(M).

GAGE.--Water-stage recorder. Elevation of gage is 370 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft<sup>3</sup>/s, Jan. 13, 1993, gage height, 11.09 ft, from rating curve extended above 900 ft<sup>3</sup>/s on basis of step-backwater computation; minimum daily, 0.14 ft<sup>3</sup>/s, Oct. 7, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 900 ft<sup>3</sup>/s on basis of step-backwater computation:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1445	953	7.17	Jan. 30	1400	963	7.19
Jan. 7	0745	3,430	10.24	Feb. 7	0015	1,210	7.64
Jan. 13	2230	*4,400	*11.09	Feb. 18	0800	1,660	8.31

Minimum daily, 0.14 ft<sup>3</sup>/s, Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.37	.31	.66	4.6	e24	4.1	e2.6	e.46	e.18	e.22	e.21
2	.52	.39	.48	23	4.4	e15	4.2	e2.5	e.40	e.18	e.22	e.21
3	.58	.37	17	.94	4.2	e11	4.1	e2.4	e.37	e.18	e.22	e.20
4	.43	.32	37	.57	3.9	e9.0	4.2	e2.3	e.35	e.18	e.22	e.20
5	.17	.34	1.0	5.2	3.8	e7.5	4.4	e5.5	e55	e.18	e.22	e.19
6	.17	.32	.48	355	39	e6.5	4.2	e2.5	e4.0	e.18	e.22	e.18
7	.14	.41	189	557	162	e5.8	4.2	e2.3	e.60	e.18	e.22	e.18
8	.15	.41	13	87	18	e5.0	4.1	e2.1	e.40	e.18	e.22	e.18
9	.22	.47	.67	5.9	7.4	e4.6	3.9	e1.9	e.32	e.18	e.22	e.18
10	.20	.45	.61	20	5.5	e4.2	3.8	e1.8	e.28	e.18	e.22	e.17
11	.19	.31	.64	2.9	5.0	e4.0	3.7	e1.7	e.28	e.18	e.22	e.17
12	.18	.37	3.7	155	5.0	e3.9	3.8	e1.6	e.29	e.18	e.22	e.17
13	.22	.47	.38	279	4.6	e3.9	3.8	e1.6	e.28	e.19	e.22	e.17
14	.25	.43	.34	89	4.3	e3.8	3.4	e1.5	e.26	e.19	e.22	e.17
15	.21	.39	.39	341	4.2	e3.8	3.4	e1.5	e.24	e.19	e.22	e.16
16	.22	.38	.38	403	4.2	e3.8	3.4	e6.5	e.23	e.19	e.22	e.16
17	.26	.39	.36	198	126	e3.7	3.2	e1.5	e.22	e.19	e.22	e.16
18	.17	.40	21	268	242	e3.7	3.0	e1.4	e.21	e.19	e.22	e.16
19	.23	.40	.39	37	18	e3.7	3.5	e1.4	e.20	e.19	e.22	e.16
20	.24	.38	.31	17	9.5	e8.5	3.5	e1.3	e.20	e.20	e.22	e.16
21	.30	.26	.34	13	e5.0	e6.0	3.4	e1.2	e.20	e.20	e.22	e.16
22	.35	.32	.34	11	e4.8	e5.0	3.7	e5.0	e.20	e.21	e.22	e.16
23	23	.48	.30	9.3	e4.5	e4.5	3.9	e1.1	e.19	e.22	e.22	e.16
24	.78	.34	.33	7.8	e65	e4.5	3.6	e1.0	e.19	e.23	e.22	e.16
25	.36	.28	.41	7.2	e45	6.0	3.5	e.90	e.19	e.24	e.22	e.16
26	.33	.25	.32	6.5	e50	104	3.5	e.85	e.19	e.26	e.22	e.16
27	.34	.24	49	5.9	e60	6.5	3.4	e.78	e.18	e.27	e.22	e.16
28	.33	.31	67	5.6	e35	59	3.1	e.72	e.18	e.26	e.22	e.16
29	4.9	.33	14	5.3	---	4.8	e2.9	e.68	e.18	e.25	e.22	e.16
30	24	.31	1.6	48	---	4.2	e2.7	e.60	e.18	e.23	e.22	e.16
31	1.5	---	.67	5.0	---	4.1	---	e.52	---	e.22	e.22	---
TOTAL	61.31	10.89	421.75	2969.77	944.9	344.0	109.6	59.25	66.47	6.28	6.82	5.14
MEAN	1.98	.36	13.6	95.8	33.7	11.1	3.65	1.91	2.22	.20	.22	.17
MAX	24	.48	189	557	242	104	4.4	6.5	55	.27	.22	.21
MIN	.14	.24	.30	.57	3.8	3.7	2.7	.52	.18	.18	.22	.16
AC-FT	122	22	837	5890	1870	682	217	118	132	12	14	10

e Estimated.

## 11022350 FORESTER CREEK AT EL CAJON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.91	8.54	10.5	16.3	13.7	14.2	4.10	1.77	1.83	1.29	1.01	1.69
MAX	13.3	48.6	29.2	95.8	33.7	59.0	15.9	2.56	4.51	3.06	1.81	5.06
(WY)	1988	1986	1985	1993	1993	1991	1988	1986	1990	1991	1986	1986
MIN	.58	.36	1.41	2.14	1.26	1.16	1.40	1.04	.79	.20	.22	.17
(WY)	1991	1993	1990	1989	1984	1984	1989	1991	1991	1993	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1984 - 1993			
ANNUAL TOTAL	2416.19				5006.18							
ANNUAL MEAN	6.60				13.7				6.54			
HIGHEST ANNUAL MEAN									13.7			
LOWEST ANNUAL MEAN									2.47			
HIGHEST DAILY MEAN	316				557				645			
LOWEST DAILY MEAN	.14				.14				.14			
ANNUAL SEVEN-DAY MINIMUM	.18				.16				.16			
INSTANTANEOUS PEAK FLOW					4400				4400			
INSTANTANEOUS PEAK STAGE					11.09				11.09			
ANNUAL RUNOFF (AC-FT)	4790				9930				4740			
10 PERCENT EXCEEDS	5.1				17				4.4			
50 PERCENT EXCEEDS	.80				.45				1.3			
90 PERCENT EXCEEDS	.26				.18				.48			

## 11022480 SAN DIEGO RIVER AT MAST ROAD, NEAR SANTEE, CA

LOCATION.--Lat 32°49'29", long 117°03'17", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, near left bank at Mast Road Bridge, 0.7 mi upstream from Old Mission Dam site, 2.8 mi west of Santee, and 14.2 mi downstream from El Capitan Lake.

DRAINAGE AREA.--368 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1912 to December 1915, April 1916 to current year. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP-1315-B. Prior to September 1981 published as "near Santee".

REVISED RECORDS.--WSP 1565: 1955-56. WSP 1635: 1922, 1926(M), 1927. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 300 ft above sea level, from topographic map. Prior to Nov. 10, 1920, nonrecording gage at site 0.7 mi downstream at different datum. Nov. 10, 1920, to Jan. 19, 1982, at site 2.6 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Cuyamaca Reservoir, capacity, 11,740 acre-ft, El Capitan Lake (station 11020600), and San Vicente Reservoir (station 11022100). Diversions by city of San Diego for municipal supply and by Helix Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,400 ft<sup>3</sup>/s, Feb. 16, 1927, gage height, 18.1 ft, site and datum then in use, from floodmarks, on basis of slope-area measurement of peak flow; no flow for many days some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 70,200 ft<sup>3</sup>/s, Jan. 27, 1916, gage height, 25.1 ft, site and datum in use prior to Nov. 10, 1920, from floodmarks, based on slope-conveyance computation of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,460 ft<sup>3</sup>/s, Jan. 16, gage height, 11.56 ft, from rating curve extended above 2,030 ft<sup>3</sup>/s; minimum daily, 1.1 ft<sup>3</sup>/s, Oct. 11, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	3.2	1.6	18	77	287	127	13	8.5	5.9	3.6	3.0
2	1.5	2.8	1.7	45	62	246	101	14	8.1	5.6	3.7	2.9
3	1.5	2.8	2.1	19	52	222	86	14	7.7	5.1	4.1	2.9
4	1.5	2.7	56	15	46	195	79	12	8.0	5.4	4.1	2.9
5	1.4	2.6	7.7	17	40	175	73	11	61	5.4	3.4	2.8
6	1.4	2.4	4.4	481	39	174	65	12	23	4.8	3.7	2.8
7	1.4	1.9	250	1190	55	165	61	12	17	5.3	3.5	2.8
8	1.3	1.8	59	992	477	151	58	12	16	5.4	3.4	4.6
9	1.2	1.7	25	266	337	138	55	12	14	5.0	3.4	2.9
10	1.2	1.7	23	189	216	121	52	12	11	4.5	3.4	2.8
11	1.1	1.7	19	120	166	100	43	11	9.2	4.4	3.4	2.9
12	1.2	1.6	20	276	134	84	35	11	8.5	4.4	3.3	2.9
13	1.2	1.6	15	434	110	75	28	10	8.4	4.1	3.2	2.8
14	1.2	1.6	13	969	91	67	24	10	8.2	3.9	3.1	2.8
15	1.2	1.6	13	1000	75	56	21	8.9	7.5	3.9	3.0	2.9
16	1.2	1.5	11	1950	64	44	19	11	7.1	3.9	3.0	3.3
17	1.1	1.6	9.5	1240	59	36	18	16	6.6	5.8	3.1	3.1
18	1.2	1.6	36	1280	172	35	18	9.6	6.5	5.9	3.0	3.3
19	1.2	1.6	10	679	674	40	18	8.7	6.6	5.2	2.9	2.9
20	1.2	1.6	8.8	328	1660	44	16	8.7	6.8	4.9	2.9	2.9
21	1.2	1.5	8.7	221	969	45	18	9.2	7.0	3.9	2.9	4.3
22	1.2	1.6	10	165	529	45	17	10	6.5	4.6	2.8	2.8
23	1.9	1.7	8.5	135	449	44	18	10	6.1	5.1	2.8	2.7
24	4.8	1.7	8.1	110	594	43	16	10	5.9	4.6	2.8	2.7
25	2.1	1.7	7.7	92	466	43	16	8.7	5.5	4.3	2.8	2.6
26	1.7	1.6	7.5	76	411	175	14	8.7	5.4	5.2	2.8	2.6
27	1.7	1.6	32	64	369	82	12	9.0	5.5	5.0	2.8	2.5
28	1.7	1.7	143	54	319	221	14	8.2	5.7	5.1	2.9	2.3
29	4.5	1.7	42	48	---	209	12	8.3	5.8	4.8	2.8	2.4
30	11	1.6	26	43	---	223	11	8.6	6.0	3.8	2.9	2.5
31	17	---	22	194	---	169	---	8.6	---	4.1	3.0	---
TOTAL	91.5	56.0	901.3	12710	8712	3754	1145	328.2	309.1	149.3	98.5	87.6
MEAN	2.95	1.87	29.1	410	311	121	38.2	10.6	10.3	4.82	3.18	2.92
MAX	19	3.2	250	1950	1660	287	127	16	61	5.9	4.1	4.6
MIN	1.1	1.5	1.6	15	39	35	11	8.2	5.4	3.8	2.8	2.3
AC-FT	181	111	1790	25210	17280	7450	2270	651	613	296	195	174

11022480 SAN DIEGO RIVER AT MAST ROAD, NEAR SANTEE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.03	5.46	21.6	31.5	94.2	82.0	49.9	18.4	4.74	3.02	2.78	1.81
MAX	20.8	78.8	728	410	1871	683	1324	379	181	156	139	38.3
(WY)	1988	1986	1922	1993	1927	1941	1941	1915	1980	1980	1980	1980
MIN	.000	.000	.000	.000	.000	.019	.000	.000	.000	.000	.000	.000
(WY)	1913	1913	1913	1951	1951	1951	1951	1913	1913	1912	1913	1913

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1912 - 1993	
ANNUAL TOTAL	7731.8		28342.5			
ANNUAL MEAN	21.1		77.7		26.0	
HIGHEST ANNUAL MEAN					219	
LOWEST ANNUAL MEAN					.002	
HIGHEST DAILY MEAN	466	Feb 6	1950	Jan 16	27300	Feb 16 1927
LOWEST DAILY MEAN	1.1	Oct 11	1.1	Oct 11	.00	Jun 19 1912
ANNUAL SEVEN-DAY MINIMUM	1.2	Oct 11	1.2	Oct 11	.00	Jun 19 1912
INSTANTANEOUS PEAK FLOW			3460	Jan 16	45400	Feb 16 1927
INSTANTANEOUS PEAK STAGE			11.56	Jan 16	18.10	Feb 16 1927
ANNUAL RUNOFF (AC-FT)	15340		56220		18850	
10 PERCENT EXCEEDS	48		191		27	
50 PERCENT EXCEEDS	4.2		8.5		1.2	
90 PERCENT EXCEEDS	1.4		1.6		.00	

## 11023000 SAN DIEGO RIVER AT FASHION VALLEY, AT SAN DIEGO, CA

LOCATION.--Lat 32°45'54", long 117°10'04", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on left bank 2.6 mi upstream from mouth, 500 ft upstream from Fashion Valley Road crossing, 0.4 mi downstream from unnamed tributary, and 26.4 mi downstream from El Capitan Lake.

DRAINAGE AREA.--429 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1912 to January 1916 published as San Diego River at San Diego (monthly discharge only, published in WSP 1315-B), January 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft above sea level, from topographic map. See WSP 1315-B for history of changes for period October 1912 to January 1916.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Cuyamaca Reservoir, capacity, 11,740 acre-ft; El Capitan Lake (station 11020600), and San Vicente Reservoir (station 11022100). Diversions by city of San Diego for municipal supply and by Helix Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,000 ft<sup>3</sup>/s, Jan. 27, 1916, gage height, 19.3 ft, site and datum then in use, estimated on basis of upstream station, San Diego River near Santee; no flow at times during most years. Maximum discharge recorded since storage began in El Capitan Lake and San Vicente Reservoir, 8,280 ft<sup>3</sup>/s, Mar. 2, 1983, gage height, 13.11 ft, from rating curve extended above 5,800 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,950 ft<sup>3</sup>/s, Jan. 16, gage height, 12.48 ft; minimum daily, 0.05 ft<sup>3</sup>/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	7.8	.97	26	186	323	168	24	8.7	5.3	4.8	1.5
2	.06	3.7	.92	39	126	283	136	24	8.3	5.3	4.5	1.3
3	.05	2.6	1.2	56	99	247	113	24	8.3	5.4	4.2	1.2
4	.09	2.0	11	35	81	223	99	25	8.4	5.4	3.8	1.2
5	.15	1.7	41	18	70	195	91	22	56	5.3	3.4	1.4
6	.21	1.3	33	374	64	187	85	19	105	5.0	3.4	1.5
7	.54	1.2	251	1610	78	186	78	18	45	4.8	3.5	1.5
8	1.1	1.3	291	1550	1320	177	74	19	24	4.4	3.7	1.3
9	.90	1.3	76	477	658	165	72	19	15	4.0	3.5	1.2
10	.79	1.3	38	258	375	153	71	18	17	3.9	3.3	1.4
11	.87	1.4	29	181	245	135	68	18	15	3.9	3.3	1.6
12	.92	1.5	26	275	182	113	62	16	13	3.9	3.0	1.7
13	.92	1.4	22	677	149	101	55	15	12	3.6	2.8	1.7
14	.89	1.4	16	1330	128	95	49	14	10	3.2	2.8	1.6
15	.78	1.3	13	1060	107	85	47	14	9.3	3.1	2.8	1.6
16	.61	1.3	11	3690	89	75	42	14	8.8	3.1	2.6	1.7
17	.58	1.2	9.4	2720	77	65	40	15	8.3	3.0	2.4	1.7
18	.73	1.2	43	2400	74	58	39	16	7.8	3.0	2.2	1.7
19	.82	1.2	33	1520	830	58	38	16	7.7	2.9	2.1	1.7
20	.78	1.1	18	574	2250	63	37	14	7.6	2.8	2.0	1.7
21	.81	1.1	11	369	1520	67	35	12	7.5	2.9	1.9	1.5
22	.97	1.2	7.9	273	744	67	36	12	7.0	3.0	2.0	1.5
23	3.8	1.3	6.4	218	565	66	36	13	6.8	3.0	2.0	1.4
24	9.9	1.1	6.1	182	886	65	37	13	6.6	2.8	1.9	1.4
25	5.7	1.1	6.3	157	582	68	35	13	6.2	3.1	1.9	1.5
26	3.3	1.3	5.7	139	504	334	33	12	6.2	3.6	1.8	1.9
27	2.5	1.5	12	117	473	199	31	10	6.1	3.7	1.7	1.9
28	2.1	1.6	217	99	370	258	28	9.5	5.7	3.4	1.7	1.8
29	2.5	1.5	138	86	---	257	27	9.5	5.3	3.6	1.8	1.9
30	3.5	1.3	79	77	---	246	26	9.1	5.2	4.2	1.7	1.9
31	13	---	41	599	---	229	---	9.1	---	4.8	1.6	---
TOTAL	60.04	50.2	1494.89	21186	12832	4843	1788	486.2	457.8	119.4	84.1	46.9
MEAN	1.94	1.67	48.2	683	458	156	59.6	15.7	15.3	3.85	2.71	1.56
MAX	13	7.8	291	3690	2250	334	168	25	105	5.4	4.8	1.9
MIN	.05	1.1	.92	18	64	58	26	9.1	5.2	2.8	1.6	1.2
AC-FT	119	100	2970	42020	25450	9610	3550	964	908	237	167	93

## 11023000 SAN DIEGO RIVER AT FASHION VALLEY, AT SAN DIEGO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.08	31.1	51.2	105	100	168	50.1	18.9	7.03	2.92	2.78	3.75
MAX	31.2	144	143	683	458	777	242	135	21.3	8.93	9.47	20.0
(WY)	1987	1986	1985	1993	1993	1983	1983	1983	1983	1983	1983	1986
MIN	.000	.000	.000	14.5	20.5	8.38	7.69	3.55	1.30	.25	.54	.033
(WY)	1982	1982	1982	1989	1989	1984	1989	1984	1985	1985	1985	1984

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1982 - 1993			
ANNUAL TOTAL	14264.61				43448.53				45.5			
ANNUAL MEAN	39.0				119				125			
HIGHEST ANNUAL MEAN									11.5			
LOWEST ANNUAL MEAN									4760			
HIGHEST DAILY MEAN	1050				3690				Mar 3 1983			
LOWEST DAILY MEAN	.05				.05				Oct 1 1981			
ANNUAL SEVEN-DAY MINIMUM	.13				.18				Oct 1 1981			
INSTANTANEOUS PEAK FLOW	3250				4950				8280			
INSTANTANEOUS PEAK STAGE	11.19				12.48				13.11			
ANNUAL RUNOFF (AC-FT)	28290				86180				32970			
10 PERCENT EXCEEDS	88				253				92			
50 PERCENT EXCEEDS	5.6				9.5				7.0			
90 PERCENT EXCEEDS	.49				1.2				.48			

11023330 LOS PENASQUITOS CREEK BELOW POWAY CREEK, NEAR POWAY, CA

LOCATION.--Lat 32°56'58", long 117°04'08", in NE 1/4 NE 1/4 sec.22, T.14 S., R.2 W., San Diego County, Hydrologic Unit 18070304, on right bank 10 ft upstream from concrete ford on Cobblestone Creek Road, 0.2 mi downstream from confluence of Poway and Pomerado Creeks, and 2.0 mi southwest of Poway.

DRAINAGE AREA.--31.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to September 1993 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 415 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated by small conservation reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,990 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 11.11 ft, from rating curve extended above 300 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 9.58 and 11.11 ft; no flow at times during some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s (revised) and maximum (\*), from rating curve extended as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1345	723	6.63	Feb. 8	0300	Unknown	8.74
Jan. 7	2345	2,320	8.66	Feb. 19	1815	Unknown	8.10
Jan. 18	1430	*2,540	*8.86				

Minimum daily, 0.09 ft<sup>3</sup>/s, Oct. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	.66	.69	.82	e22	e49	e5.1	e4.1	e1.1	e1.1	e.97	e.91
2	.63	.60	.69	31	e17	e35	e4.9	e3.7	e1.1	e1.3	e.96	e.91
3	.59	.58	.94	2.3	e13	e31	e4.7	e3.6	e1.0	e1.3	e.95	e.91
4	.58	.50	44	.82	e11	e29	e4.4	e3.5	e1.0	e1.3	e.95	e.91
5	.58	.58	3.1	.85	e8.4	e27	e4.3	e3.4	e35	e1.3	e.95	e.91
6	.62	.58	.69	356	e7.1	e24	e4.1	e3.3	e14	e1.4	e.94	e.90
7	.42	.63	212	968	e8.1	e22	e4.0	e3.1	e3.0	e1.9	e.94	e.90
8	.39	.69	11	387	e600	e22	e4.0	e3.0	e1.8	e1.3	e.94	e.90
9	.43	.69	.70	85	e250	e19	e3.9	e2.5	e1.6	e1.1	e.94	e.96
10	.41	.69	.69	45	e90	e18	e3.8	e2.2	e1.4	e1.1	e.94	e1.0
11	.31	.69	.87	20	e52	e16	e3.7	e1.9	e1.3	e1.1	e.94	e1.0
12	.34	.69	.89	123	e35	e15	e3.7	e1.6	e1.2	e1.1	e.94	e1.0
13	.46	.69	.69	326	e27	e15	e3.6	e2.1	e1.2	e1.1	e.94	e1.0
14	.58	.69	.79	485	e23	e14	e3.6	e1.8	e1.2	e1.0	e.94	e1.0
15	.37	.69	.82	516	e19	e14	e3.6	e1.5	e1.2	e1.0	e.93	e1.0
16	.20	.69	.83	872	e16	e12	e3.5	e1.6	e1.2	e1.0	e.93	e1.0
17	.18	.69	.82	482	e14	e11	e3.4	e1.6	e1.2	e1.0	e.93	e1.1
18	.20	.69	28	1060	e200	e11	e3.3	e1.6	e1.3	e.99	e.93	e1.1
19	.17	.69	.90	248	e540	e11	e3.2	e1.5	e1.4	e.98	e.93	e1.1
20	.16	.69	.82	124	e400	e11	e3.1	e1.4	e1.2	e.98	e.93	e1.1
21	.16	.69	.82	e82	e170	e10	e3.0	e1.4	e1.1	e.98	e.93	e1.0
22	.09	.69	.82	e60	e120	e10	e2.9	e1.4	e1.0	e.98	e.93	e.90
23	12	.72	.82	e37	e100	e10	e3.2	e1.5	e1.1	e.98	e.92	e.90
24	2.1	.69	.82	e22	e190	e10	e3.4	e1.6	e1.2	e1.2	e.92	e.90
25	.65	.69	.82	e15	e85	e10	e3.4	e1.6	e1.3	e1.1	e.92	e.90
26	.60	.69	.82	e11	e80	e94	e3.6	e1.3	e1.2	e1.3	e.92	e.90
27	.61	.69	40	e13	e83	e25	e3.6	e1.3	e1.1	e1.4	e.92	e.90
28	.62	.69	89	e16	e64	e66	e3.9	e1.2	e1.4	e2.3	e.92	e.90
29	2.9	.69	36	e14	---	e8.6	e4.1	e1.2	e1.4	e2.1	e.92	e.90
30	23	.69	13	e13	---	e6.0	e4.7	e1.1	e1.1	e1.1	e.92	e.90
31	9.9	---	.98	e31	---	e5.4	---	e1.1	---	e1.0	e.92	---
TOTAL	60.83	20.03	493.83	6446.79	3244.6	661.0	113.7	63.7	85.3	37.79	28.96	28.71
MEAN	1.96	.67	15.9	208	116	21.3	3.79	2.05	2.84	1.22	.93	.96
MAX	23	.72	212	1060	600	94	5.1	4.1	35	2.3	.97	1.1
MIN	.09	.50	.69	.82	7.1	5.4	2.9	1.1	1.0	.98	.92	.90
AC-FT	121	40	980	12790	6440	1310	226	126	169	75	57	57

e Estimated.

## 11023330 LOS PENASQUITOS CREEK BELOW POWAY CREEK, NEAR POWAY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	2.76	4.60	18.7	22.7	26.1	5.28	1.45	.62	.40	.35	.50
MAX	3.02	14.3	19.2	208	160	169	21.8	7.84	2.84	2.09	.95	1.90
(WY)	1988	1986	1985	1993	1980	1983	1975	1983	1993	1991	1977	1986
MIN	.008	.010	.024	.090	.13	.074	.014	.045	.020	.000	.000	.000
(WY)	1971	1978	1970	1970	1972	1972	1972	1970	1971	1972	1972	1972

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1970 - 1993	
ANNUAL TOTAL	3568.13		11285.24			
ANNUAL MEAN	9.75		30.9		7.15	
HIGHEST ANNUAL MEAN					30.9	
LOWEST ANNUAL MEAN					.35	
HIGHEST DAILY MEAN	350	Feb 15	1060	Jan 18	1060	Jan 18 1993
LOWEST DAILY MEAN	.09	Oct 22	.09	Oct 22	.00	Oct 27 1970
ANNUAL SEVEN-DAY MINIMUM	.17	Oct 16	.17	Oct 16	.00	Oct 27 1970
INSTANTANEOUS PEAK FLOW			2540	Jan 18	4990	Feb 21 1980
INSTANTANEOUS PEAK STAGE			8.86	Jan 18	11.11	Feb 21 1980
ANNUAL RUNOFF (AC-FT)	7080		22380		5180	
10 PERCENT EXCEEDS	11		44		6.5	
50 PERCENT EXCEEDS	.97		1.2		.50	
90 PERCENT EXCEEDS	.58		.69		.02	

11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA

LOCATION.--Lat 32°56'35", long 117°07'15", in Los Penasquitos Grant, San Diego County, Hydrologic Unit 18070304, on left bank 1.0 mi downstream from Cypress Creek and 5.5 mi southwest of Poway.

DRAINAGE AREA.--42.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated by several conservation reservoirs upstream from station. Pumping from wells along stream for irrigation. Flow augmented by reclaimed water from Poway area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 10.26 ft, from rating curve extended above 1,400 ft<sup>3</sup>/s; no flow at times in 1968, 1972, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1615	561	5.11	Feb. 8	Unknown	Unknown	Unknown
Jan. 7	1115	2,150	7.84	Feb. 19	1930	1,970	7.71
Jan. 18	Unknown	*2,580	*8.29				

Minimum daily, 1.1 ft<sup>3</sup>/s, Oct. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.3	1.4	2.8	e31	53	5.5	6.1	2.1	2.1	1.8	1.7
2	1.1	3.7	1.5	28	e25	47	5.4	5.7	2.0	2.3	1.6	1.7
3	1.3	1.6	1.8	8.8	e20	42	5.0	5.6	2.1	2.3	1.7	1.6
4	1.3	1.4	25	3.1	e18	38	4.7	5.5	2.0	2.3	1.8	1.7
5	1.3	1.4	19	2.5	e16	34	5.1	5.1	51	2.3	1.9	1.6
6	1.3	1.4	2.6	281	e15	30	5.2	4.4	24	2.4	1.8	1.6
7	1.4	1.4	185	1140	e20	27	4.9	4.2	3.8	2.9	1.9	1.6
8	1.4	1.4	34	e550	e850	26	5.0	4.0	2.8	2.3	1.7	1.7
9	1.4	1.5	4.4	e150	e275	23	4.9	3.5	2.6	2.1	1.6	1.9
10	1.4	1.5	2.8	e80	e120	22	4.9	3.2	2.3	2.1	1.7	2.0
11	1.4	1.4	2.3	33	e60	23	5.0	3.0	2.2	2.0	1.7	2.0
12	1.4	1.4	5.8	142	43	23	5.3	2.6	2.1	2.1	1.6	2.0
13	1.7	1.4	2.6	342	33	17	5.4	3.0	2.1	2.1	1.6	2.0
14	2.3	1.4	2.0	e500	27	16	5.0	2.7	2.1	1.9	1.5	2.1
15	2.1	1.4	1.8	e430	22	16	5.1	2.5	2.0	1.8	1.5	2.0
16	1.7	1.4	1.8	e1120	18	16	5.3	2.6	2.1	2.0	1.6	2.2
17	1.6	1.4	1.7	e610	16	14	5.6	2.6	2.0	2.0	1.6	2.2
18	1.6	1.6	14	e1070	170	14	5.3	2.6	2.3	1.9	1.7	2.1
19	1.6	1.6	3.1	e300	646	14	5.4	2.5	2.5	1.8	1.6	2.2
20	1.6	1.6	1.9	e130	446	13	5.3	2.4	2.4	1.8	1.8	2.1
21	1.6	1.5	1.7	e43	172	14	5.0	2.4	2.2	1.8	1.7	2.2
22	1.6	1.4	1.7	e33	113	13	4.9	2.4	2.1	1.8	1.6	2.2
23	7.5	3.1	1.7	e26	114	13	5.2	2.5	2.1	1.9	1.6	2.1
24	12	1.9	1.7	e21	219	12	5.4	2.5	2.2	2.2	1.6	2.2
25	2.0	1.5	1.7	e18	100	13	5.4	2.6	2.2	2.1	1.7	2.0
26	1.6	1.4	1.7	e16	88	114	5.7	2.3	2.2	2.2	1.6	2.0
27	1.6	1.5	10	e20	93	38	5.6	2.2	2.3	2.4	1.6	1.9
28	1.5	1.6	103	e29	80	83	5.9	2.3	2.5	2.8	1.6	1.9
29	4.6	1.6	24	e23	---	9.1	6.2	2.2	2.5	2.6	1.6	1.9
30	9.8	1.4	28	e20	---	6.7	6.7	2.1	2.1	2.1	1.6	1.9
31	23	---	4.3	e50	---	5.8	---	2.0	---	1.9	1.8	---
TOTAL	96.8	49.1	494.0	7222.2	3850	829.6	159.3	99.3	138.9	66.3	51.7	58.3
MEAN	3.12	1.64	15.9	233	137	26.8	5.31	3.20	4.63	2.14	1.67	1.94
MAX	23	3.7	185	1140	850	114	6.7	6.1	51	2.9	1.9	2.2
MIN	1.1	1.4	1.4	2.5	15	5.8	4.7	2.0	2.0	1.8	1.5	1.6
AC-FT	192	97	980	14330	7640	1650	316	197	276	132	103	116

e Estimated.

11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.26	5.04	9.27	22.1	27.5	31.7	7.09	2.31	1.16	.81	.76	1.01
MAX	4.97	28.7	51.6	233	215	213	26.4	12.5	4.63	2.81	1.85	4.10
(WY)	1988	1986	1966	1993	1980	1983	1975	1983	1993	1991	1971	1986
MIN	.030	.10	.23	.23	.41	.75	.26	.14	.056	.009	.020	.028
(WY)	1976	1978	1974	1976	1965	1965	1977	1974	1974	1977	1975	1975

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1965 - 1993			
ANNUAL TOTAL	4746.53				13115.5							
ANNUAL MEAN	13.0				35.9				9.09			
HIGHEST ANNUAL MEAN									35.9			
LOWEST ANNUAL MEAN									.80			
HIGHEST DAILY MEAN	461				1140				1400			
LOWEST DAILY MEAN	.91				1.1				.00			
ANNUAL SEVEN-DAY MINIMUM	1.0				1.3				.00			
INSTANTANEOUS PEAK FLOW					2580				4750			
INSTANTANEOUS PEAK STAGE					8.29				10.26			
ANNUAL RUNOFF (AC-FT)	9410				26010				6590			
10 PERCENT EXCEEDS	20				48				9.1			
50 PERCENT EXCEEDS	1.8				2.3				1.2			
90 PERCENT EXCEEDS	1.2				1.5				.22			

## 11025500 SANTA YSABEL CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°06'25", long 116°51'55", in NW 1/4 NE 1/4 sec.27, T.12 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on left bank 1.6 mi downstream from Temescal Creek, 4.5 mi north of Ramona, and 5.0 mi downstream from Lake Sutherland.

DRAINAGE AREA.--112 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1912 to February 1923 (monthly discharge only for November and December 1919), October 1943 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 847.88 ft above sea level (levels by city of San Diego Water Department). See WSP 1315-B for history of changes prior to Feb. 3, 1923.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Lake Sutherland, capacity, 29,680 acre-ft, since July 1954. Some small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,400 ft<sup>3</sup>/s, Jan. 27, 1916, gage height, 14.0 ft, datum then in use, from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of slope-conveyance study of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,150 ft<sup>3</sup>/s, Jan. 16, gage height, 8.44 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	e.08	e1.7	e170	349	e105	e23	11	5.1	2.9	1.9
2	.01	.00	e.10	e10	e120	e310	e102	e23	11	4.9	2.7	1.7
3	.02	.00	e.14	e2.4	e100	e260	e100	e22	11	4.8	2.6	1.5
4	.01	.00	e.45	e2.2	e95	e210	e99	e23	12	4.9	2.4	1.4
5	.00	.00	e.55	e2.1	e90	e175	e98	e22	16	4.8	2.2	1.4
6	.00	.00	e.60	e100	e85	e155	95	e22	28	4.9	2.1	1.4
7	.00	.00	e8.0	e500	e82	e140	e80	e21	18	4.8	2.2	1.2
8	.00	.01	e1.4	791	e780	e130	e72	e20	16	4.5	2.2	1.1
9	.00	.01	e1.0	111	e400	e115	e65	e19	14	4.4	2.1	1.0
10	.00	.01	e.90	43	e250	e110	e57	e18	12	4.4	2.1	.99
11	.00	.01	e.85	42	e160	e100	e52	e17	11	4.3	2.0	1.0
12	.00	.01	e.80	20	e110	e94	e47	e17	11	4.2	1.9	1.2
13	.00	.01	e.72	250	95	e88	e43	e17	11	4.3	2.0	1.3
14	.00	.01	e.67	e750	87	e83	e41	e18	10	4.2	2.2	1.4
15	.00	.02	e.62	e140	80	e78	e38	e18	9.7	4.2	2.3	1.6
16	.00	.02	e.60	e900	75	e74	e36	e17	9.1	4.1	2.3	1.9
17	.00	e.02	e.57	e700	71	e71	e34	e17	8.7	4.0	2.2	2.1
18	.00	e.02	e.55	e475	162	e68	e33	e17	8.7	3.9	2.2	2.0
19	.00	e.02	e.52	e280	809	e65	e32	e16	8.2	3.6	2.0	1.8
20	.01	e.02	e.50	e200	838	e63	e31	e16	7.4	3.6	1.8	1.8
21	.01	e.02	e.49	e190	536	e60	e30	e15	7.3	3.6	1.6	1.9
22	.01	e.03	e.49	e180	518	e58	e29	14	7.4	3.7	1.5	1.9
23	.00	e.03	e.48	e170	455	e57	e28	14	7.3	3.8	1.7	4.0
24	.00	e.03	e.48	e168	777	e55	e26	14	7.0	3.6	1.7	3.4
25	.00	e.03	e.47	e165	550	e54	e25	13	6.5	3.5	1.6	2.1
26	.01	e.04	e.55	e125	447	e61	e25	13	5.9	3.5	1.5	1.6
27	.01	e.04	e1.0	e98	445	e250	e24	12	5.9	3.7	1.6	1.3
28	.01	e.05	e10	e77	383	e200	e24	12	5.7	3.8	1.6	1.2
29	.00	e.05	e2.3	e62	---	e150	e23	12	5.3	3.8	1.7	1.2
30	.00	e.06	e2.0	e50	---	e120	e23	12	5.0	3.5	1.7	1.2
31	.00	---	e1.8	e210	---	e108	---	11	---	3.2	1.9	---
TOTAL	0.11	0.57	39.68	6815.4	8770	3911	1517	525	307.1	127.6	62.5	49.49
MEAN	.004	.019	1.28	220	313	126	50.6	16.9	10.2	4.12	2.02	1.65
MAX	.02	.06	10	900	838	349	105	23	28	5.1	2.9	4.0
MIN	.00	.00	.08	1.7	71	54	23	11	5.0	3.2	1.5	.99
AC-FT	.2	1.1	79	13520	17400	7760	3010	1040	609	253	124	98

e Estimated.

## 11025500 SANTA YSABEL CREEK NEAR RAMONA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.76	4.16	28.3	106	70.6	72.7	38.9	27.8	9.07	2.83	1.53	.98
MAX	16.9	17.3	330	1690	345	249	153	221	47.0	15.6	10.5	8.63
(WY)	1917	1947	1922	1916	1916	1922	1922	1915	1915	1915	1916	1916
MIN	.000	.000	.000	1.70	3.54	6.37	4.75	1.10	.037	.000	.000	.000
(WY)	1948	1949	1951	1948	1912	1951	1951	1947	1951	1946	1921	1921

## SUMMARY STATISTICS

## WATER YEARS 1912 - 1954

ANNUAL MEAN	30.7	
HIGHEST ANNUAL MEAN	206	1916
LOWEST ANNUAL MEAN	1.77	1951
HIGHEST DAILY MEAN	14100	Jan 27 1916
LOWEST DAILY MEAN	.00	Aug 16 1912
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 17 1912
INSTANTANEOUS PEAK FLOW	28400	Jan 27 1916
INSTANTANEOUS PEAK STAGE	14.00	Jan 27 1916
ANNUAL RUNOFF (AC-FT)	22250	
10 PERCENT EXCEEDS	50	
50 PERCENT EXCEEDS	4.1	
90 PERCENT EXCEEDS	.00	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.47	2.26	5.95	16.0	44.7	42.7	19.6	7.61	3.18	1.00	.74	.44
MAX	6.30	43.5	124	220	795	425	207	110	42.2	13.8	11.9	7.07
(WY)	1981	1966	1967	1993	1980	1980	1983	1983	1983	1980	1983	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1956	1956	1956	1959	1961	1961	1961	1959	1956	1956	1956	1956

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1956 - 1993

ANNUAL TOTAL	661.79	22125.45	
ANNUAL MEAN	1.81	60.6	11.9
HIGHEST ANNUAL MEAN			131
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	35	Mar 21	900
LOWEST DAILY MEAN	.00	Aug 12	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 12	.00
INSTANTANEOUS PEAK FLOW			3150
INSTANTANEOUS PEAK STAGE			8.44
ANNUAL RUNOFF (AC-FT)	1310	43890	8600
10 PERCENT EXCEEDS	5.1	163	12
50 PERCENT EXCEEDS	.17	4.9	.08
90 PERCENT EXCEEDS	.00	.01	.00

11028500 SANTA MARIA CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°03'08", long 116°56'41", in SE 1/4 SE 1/4 sec.11, T.13 S., R.1 W., San Diego County, Hydrologic Unit 18070304, on left bank 3.8 mi northwest of Ramona, 3.1 mi northwest of Jensen's, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--57.6 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1912 to September 1920, October 1946 to current year.

REVISED RECORDS.--WSP 1285: 1952. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Concrete control since October 1946. Datum of gage is 1,294.44 ft above sea level. Prior to Oct. 1, 1946, at same site, at datum 1.78 ft lower.

REMARKS.--Records poor. No regulation upstream from station. Land application of treated sewage effluent upstream from the gage beginning December 1972 contributes to low flows.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 14.39 ft, from rating curve extended above 130 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 4.56 ft and slope-conveyance study at gage height 14.39 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0215	2,170	5.92	Feb. 19	2200	*3,550	*7.35
Jan. 18	1615	2,990	6.81	Feb. 24	0345	1,060	4.44
Jan. 31	0545	973	4.30	Feb. 27	0745	544	3.59
Feb. 8	0715	1,960	5.67	Mar. 28	2200	482	3.23

No flow Sept. 6-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.58	.44	.74	e210	e160	e39	10	2.1	.02	.25	.13
2	.11	.60	.25	1.1	e165	e115	e32	9.7	2.1	.02	.35	.02
3	.12	.12	.25	.78	e122	e97	e30	9.4	2.0	.17	.05	.02
4	.10	.05	.74	.64	e100	e90	e29	10	1.8	.65	.27	.01
5	.15	.06	.42	.45	e70	e85	e28	9.3	5.2	.40	.17	.01
6	.14	.08	.20	.87	e55	70	e26	8.6	11	.27	.25	.00
7	.13	.10	2.0	975	e48	60	24	8.9	6.0	.32	.42	.00
8	.36	.10	.66	1160	1260	55	22	9.2	5.2	.25	.50	.00
9	.47	.14	.63	309	738	51	21	6.8	4.0	.36	.57	.00
10	.57	.40	.26	169	e310	47	21	4.8	2.0	.36	.13	.09
11	.61	.46	.32	125	e142	47	20	5.7	1.4	.15	.09	.17
12	.62	.20	1.0	151	e102	40	19	5.9	1.1	.06	.50	.19
13	.14	.09	1.1	632	e81	34	18	5.5	1.2	.04	.44	.19
14	.08	.12	1.2	1600	e74	32	16	5.0	.96	.03	.31	.18
15	.46	.11	1.3	845	e68	27	17	3.7	.95	.03	.39	.02
16	.19	.14	1.2	1880	e59	23	16	7.6	.63	.10	.61	.02
17	.09	.65	1.1	1230	e52	22	15	6.6	.69	.57	.09	.01
18	.09	.70	1.7	1900	447	22	16	4.8	.29	.75	.07	.02
19	.08	.32	1.3	1070	1710	e21	15	3.6	.15	.77	.06	.33
20	.09	.51	1.3	683	1340	e20	13	3.3	.11	.10	.05	.37
21	.10	.21	.2	511	589	e19	12	3.7	.08	.04	.03	.43
22	.10	.15	.75	415	388	e18	12	3.7	.03	.03	.02	.49
23	.09	.20	.51	e320	381	e17	12	4.0	.02	.03	.01	.51
24	.09	.20	.78	e280	758	e17	13	4.1	.02	.03	.01	.61
25	.14	.18	1.0	e175	361	e16	14	3.2	.02	.03	.01	.18
26	.19	.14	1.1	e130	315	e35	12	2.5	.02	.05	.13	.60
27	.22	.18	1.9	e97	388	191	11	2.4	.02	.05	.38	.61
28	.43	.32	3.0	e70	241	199	11	2.2	.02	.07	.51	.20
29	.70	.65	1.1	e53	---	e100	11	2.0	.01	.06	.68	.04
30	.45	.84	1.0	e44	---	e72	11	1.9	.02	.11	.51	.02
31	.46	---	.78	e372	---	e50	---	2.2	---	.27	.06	---
TOTAL	7.67	8.60	30.49	15286.71	10574	1852	556	170.3	49.14	6.19	7.92	5.47
MEAN	.25	.29	.98	493	378	59.7	18.5	5.49	1.64	.20	.26	.18
MAX	.70	.84	3.0	1900	1710	199	39	10	11	.77	.68	.61
MIN	.08	.05	.20	.45	48	16	11	1.9	.01	.02	.01	.00
AC-FT	15	17	60	30320	20970	3670	1100	338	97	12	16	11

e Estimated.

## SAN DIEGUITO RIVER BASIN

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11028500 SANTA MARIA CREEK NEAR RAMONA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.049	.46	1.47	25.2	25.4	23.9	5.41	1.88	.42	.064	.10	.034
MAX	.45	10.9	26.5	545	443	288	54.4	31.0	7.66	1.28	4.03	.22
(WY)	1987	1966	1967	1916	1980	1983	1983	1915	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1914	1916	1920	1920	1951	1951	1950	1949	1920	1913	1913	1913

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1913 - 1993	
ANNUAL TOTAL	1240.21		28554.49			
ANNUAL MEAN	3.39		78.2		7.08	
HIGHEST ANNUAL MEAN					78.2	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	175	Feb 15	1900	Jan 18	4960	Jan 27 1916
LOWEST DAILY MEAN	.00	Jul 17	.00	Sep 6	.00	Dec 17 1912
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 17	.01	Sep 3	.00	Dec 17 1912
INSTANTANEOUS PEAK FLOW			3550	Feb 19	15200	Feb 21 1980
INSTANTANEOUS PEAK STAGE			7.35	Feb 19	14.39	Feb 21 1980
ANNUAL RUNOFF (AC-FT)	2460		56640		5130	
10 PERCENT EXCEEDS	4.7		162		2.4	
50 PERCENT EXCEEDS	.44		.78		.00	
90 PERCENT EXCEEDS	.00		.04		.00	

## SAN DIEGUITO RIVER BASIN

11030020 LAKE HODGES NEAR ESCONDIDO, CA

LOCATION.--Lat 33°02'46", long 117°07'39", in SE 1/4 NW 1/4 sec.18, T.13 S., R.2 W., San Diego County, Hydrologic Unit 18070304, 300 ft upstream from right upstream end of Hodges Dam on San Dieguito River, 6.4 mi southwest of Escondido, and 20 mi southwest of Sutherland Reservoir.

DRAINAGE AREA.--303 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1945 to September 1968 (published with San Dieguito River at Lake Hodges, station 11030000), October 1972 to September 1993 (discontinued). Monthend contents only October 1972 to September 1987. Monthend gage heights, February 1919 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by county of San Diego). Prior to Oct. 1, 1972, nonrecording gage at site 800 ft upstream on right bank at same datum. October 1972 to current year, supplementary water-stage recorder used for flood warning only, on left upstream face of dam at datum 200 ft higher.

REMARKS.--Reservoir is formed by multiple-arch reinforced concrete dam, constructed in 1917-19. Storage began in February 1919. Capacity of reservoir at spillway level, 33,550 acre-ft, elevation, 315.0 ft. Dead storage below lowest outlet, 1,160 acre-ft, elevation 254.0 ft, included in these records. Reservoir can be drawn down below lowest outlet by pumping. Water drawn from Lake Hodges passes through a conduit to San Dieguito re-regulating reservoir, from which it is released as required for municipal use. Diversions for irrigation upstream from Lake Hodges.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 41,620 acre-ft, spilling, Feb. 21, 1980, elevation, 321.50 ft; minimum observed, 114 acre-ft, Oct. 31, 1965, elevation, 235.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,170 acre-ft, Jan. 13, elevation, 317.85 ft (spilling); minimum, 22,650 acre-ft, Dec. 3, 4, elevation 304.86 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on table provided by city of San Diego, dated July 1, 1953)

280	7,340	300	18,530
285	9,440	305	22,780
290	11,950	310	27,780
295	14,950	315	33,550

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24160	23440	22710	23560	33340	33920	33560	33250	32500	31220	30420	e29160
2	24160	23430	22680	23630	33320	33890	33550	33250	32530	31200	30420	e29110
3	24110	23430	22670	23630	33330	33850	33540	33230	32730	31060	30330	e29070
4	24100	23390	22710	23630	e33320	33820	33510	33200	32840	30950	30240	e29000
5	24080	23390	22700	23650	e33310	33770	33490	33220	32890	30890	30170	e28950
6	24080	23370	22690	24250	e33310	33750	33490	33220	32930	31140	30200	e28900
7	24010	23340	23020	33460	e33300	33760	33460	33220	33000	30780	30170	e28860
8	23970	23310	23060	33340	e35000	33720	33440	33220	33050	30490	30340	e28820
9	23940	23300	23070	33660	e34200	33690	33400	32410	32750	30510	30260	e28790
10	23910	23280	23070	34980	e33710	33660	33390	32840	31730	30580	30180	e28750
11	23870	23250	23080	34520	e33660	33660	33360	33180	31540	30700	30110	e28700
12	23850	23220	23100	35290	e33640	33660	33360	33160	31860	30910	30140	e28660
13	23830	23180	23100	36310	e33620	33650	33350	33130	32210	30820	30030	e28620
14	23840	23160	23100	35110	33570	33640	33330	32900	32180	30820	30050	e28570
15	23840	23140	23100	35410	33540	33620	33330	32830	31840	31000	29990	e28530
16	23810	23110	23100	34220	33510	33610	33330	33120	31730	30690	29980	e28480
17	23780	23090	23110	33920	33500	33600	33320	33120	31450	30800	29890	e28440
18	23690	23060	23150	33790	33670	33600	33320	33090	31600	31000	29840	e28400
19	23670	23030	23140	33700	35520	33590	33330	33090	31360	30860	29800	e28350
20	23640	22990	23150	33570	34900	33570	33270	33110	31270	30950	29750	e28310
21	23620	22970	23150	33540	34290	33570	33020	33060	31280	30860	29690	e28260
22	23610	22930	23160	33480	34150	33560	33280	33010	31130	30780	29640	e28210
23	23620	22910	23170	33440	34200	33540	33270	33050	31200	30870	29580	e28160
24	23590	22880	23170	33410	34590	33530	33280	33060	31170	30660	29530	e28110
25	23560	22860	23160	33390	34210	33510	33280	33060	31310	30970	29470	28080
26	23530	22830	23170	33390	34090	33740	33280	33020	31270	30860	29450	28060
27	23520	22810	23250	33530	34110	33770	33280	33010	31290	30860	e29400	27990
28	23500	22780	23410	33530	33990	33800	33250	32960	31240	30830	e29360	27960
29	23470	22750	23510	33410	---	33760	33250	32800	31240	30820	e29310	27910
30	23470	22720	23560	33360	---	33660	33250	32790	31040	30790	e29270	27870
31	23470	---	23560	33340	---	33610	---	32620	---	30730	e29200	---
MAX	24160	23440	23560	36310	35520	33920	33560	33250	33050	31220	30420	29160
MIN	23470	22720	22670	23560	33300	33510	33020	32410	31040	30490	29200	27870
a	305.74	304.94	305.83	314.83	315.35	315.05	314.76	314.24	312.91	312.65	311.30	310.08
b	-770	-750	+840	+9780	+650	-380	-360	-630	-1580	-310	-1530	-1330

CAL YR 1992 MAX 29400 MIN 21030 b +2530  
WTR YR 1993 MAX 36310 MIN 22670 b +3630

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11030700 LAKE WOHLFORD NEAR ESCONDIDO, CA

LOCATION.--Lat 33°09 59", long 117°00'14", in NW 1/4 NE 1/4 sec.5, T.12 S., R.1 W., San Diego County, Hydrologic Unit 18070303, near left abutment of Lake Wohlford Dam, 4.7 mi southeast of Valley Center Post Office, and 5.7 mi northeast of Escondido.

DRAINAGE AREA.--7.96 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1972 to September 1993 (discontinued). October 1933 to September 1972 in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by city of Escondido Engineering Department). Since October 1972, supplementary water-stage recorder for flood warning only, at same site at different datum.

REMARKS.--Reservoir is formed by earthfill dam riprapped upstream and downstream, with concrete spillway anchored to natural rock. Dam was completed in 1932. Capacity at spillway level, 6,940 acre-ft, elevation, 1,480.0 ft. Dead storage below lowest outlet, 131 acre-ft, elevation, 1,420 ft. Reservoir storage includes supplemental water diverted from the San Luis Rey River via Escondido Mutual Water Co.'s canal to Lake Wohlford Reservoir. Stored water is released for municipal use by Vista Irrigation District and city of Escondido.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 7,140 acre-ft, Feb. 21, 1980, elevation, 1,480.9 ft; minimum, 1,050 acre-ft, Dec. 23-25, 1978, elevation, 1,440.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,070 acre-ft, Feb. 9, elevation, 1,480.57 ft; minimum, 3,590 acre-ft, Dec. 2, elevation, 1,462.44 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on table provided by city of Escondido, dated March 1955)

1,440	1,000	1,455	2,510	1,470	4,910
1,445	1,410	1,460	3,220	1,475	5,880
1,450	1,910	1,465	4,020	1,481	7,160

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5260	4220	3600	3750	6920	6670	6470	6760	6210	5270	3830	3880
2	5260	4180	3600	3760	6900	6630	6540	6730	6210	5130	3820	3880
3	5270	4140	3600	3770	6880	6590	6580	6670	6190	4990	3820	3880
4	5280	4110	3600	3780	6850	6540	6600	6640	6150	4870	3830	3880
5	5280	4070	3600	3780	6820	6480	6610	6610	6150	4770	3840	3880
6	5280	4040	3610	3920	6790	6430	6640	6540	6140	4680	3840	3880
7	5280	4000	3640	4420	6780	6370	6670	6470	6150	4630	3840	3870
8	5290	3960	3660	4540	7060	6310	6700	6410	6160	4580	3840	3880
9	5290	3920	e3660	4570	7050	6220	6720	6340	6180	4530	3850	3880
10	5320	3880	e3660	4600	7010	6120	6730	6310	6150	4490	3860	3890
11	5370	3830	3660	4600	6960	6030	6730	6310	6120	4450	3860	3890
12	5420	3790	3660	4680	6910	5930	6730	6320	6090	4400	3860	3880
13	5330	3750	e3660	4820	6870	5840	6740	6330	6060	4350	3860	3890
14	5250	3710	e3660	5110	6830	5750	6750	6340	6030	4340	3870	3890
15	5160	3680	e3660	5260	6780	5650	6760	6360	6000	4310	3870	3880
16	5080	3630	e3660	6060	6750	5590	6780	6380	5960	4270	3880	3890
17	5000	3620	e3650	6310	6730	5550	6790	6430	5920	4220	3880	3890
18	4920	3620	e3660	6620	6760	5530	6800	6450	5890	4200	3880	3900
19	4830	3620	e3660	6720	6980	5530	6810	6470	5850	4170	3880	3910
20	4740	3620	e3660	6780	7040	5530	6830	6480	5830	4130	3880	3920
21	4660	3620	e3660	6830	7020	5550	6840	6470	5800	4120	3880	3920
22	4580	3620	e3670	6870	6990	5620	6850	6450	5760	4080	3880	3930
23	4530	3620	3670	6890	6960	5700	6860	6450	5720	4040	3880	3930
24	4490	3620	3670	6920	6950	5770	6870	6430	5680	4010	3890	3940
25	4440	3620	3670	6940	6890	5830	6880	6400	5640	3990	3890	3930
26	4400	3610	3670	6950	6830	5910	6870	6350	5600	3950	3890	3930
27	4360	3610	3680	6940	6760	6000	6830	6340	5570	3910	3890	3930
28	4350	3610	3700	6940	6700	6090	6830	6300	5530	3900	3890	3930
29	4320	3600	3730	6930	---	6180	6810	6280	5480	3910	3890	3920
30	4290	3600	3730	6920	---	6280	6780	6260	5420	3880	3880	3910
31	4250	---	3740	6940	---	6370	---	6240	---	3850	3880	---
MAX	5420	4220	3740	6950	7060	6670	6880	6760	6210	5270	3890	3940
MIN	4250	3600	3600	3750	6700	5530	6470	6240	5420	3850	3820	3870
a	1466.37	1462.49	1463.34	1479.98	1478.93	1477.40	1479.30	1476.74	1472.69	1464.03	1464.18	1464.37
b	-1000	-650	+140	+3200	-240	-330	+410	-540	-820	-1570	+30	+30

CAL YR 1992 MAX 6400 MIN 3600 b +30  
WTR YR 1993 MAX 7060 MIN 3600 b -1340

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SAN LUIS REY RIVER BASIN

11039800 SAN LUIS REY RIVER AT COUSER CANYON BRIDGE, NEAR PALA, CA

LOCATION.--Lat 33°20'26", long 117°07'50", in NW 1/4 NE 1/4 sec.6, T.10 S., R.2 W., in San Diego County, Hydrologic Unit 18070303, on left bank 10 ft upstream from bridge on Couser Canyon Road, 6.5 mi northeast of Bonsall, and 27 mi downstream from Lake Henshaw.

DRAINAGE AREA.--364 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to September 1993 (discontinued). Discharge measurements only, January to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 280 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Gage destroyed during floods of January 1993. Station discontinued effective Sept. 30, 1993. Several small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,700 ft<sup>3</sup>/s, Mar. 27, 1991, gage height, 5.56 ft; maximum probably exceeded during floods of January 1993, but discharge, gage height, date, and time unknown; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown, gage height, unknown; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	---	---	---	---	---	---	---	---
2	.00	.00	.00	.00	---	---	---	---	---	---	---	---
3	.00	.00	.00	.00	---	---	---	---	---	---	---	---
4	.00	.00	.00	.00	---	---	---	---	---	---	---	---
5	.00	.00	.00	---	---	---	---	---	---	---	---	---
6	.00	.00	.00	---	---	---	---	---	---	---	---	---
7	.00	.00	.00	---	---	---	---	---	---	---	---	---
8	.00	.00	.00	---	---	---	---	---	---	---	---	---
9	.00	.00	.00	---	---	---	---	---	---	---	---	---
10	.00	.00	.00	---	---	---	---	---	---	---	---	---
11	.00	.00	.00	---	---	---	---	---	---	---	---	---
12	.00	.00	.00	---	---	---	---	---	---	---	---	---
13	.00	.00	.00	---	---	---	---	---	---	---	---	---
14	.00	.00	.00	---	---	---	---	---	---	---	---	---
15	.00	.00	.00	---	---	---	---	---	---	---	---	---
16	.00	.00	.00	---	---	---	---	---	---	---	---	---
17	.00	.00	.00	---	---	---	---	---	---	---	---	---
18	.00	.00	.00	---	---	---	---	---	---	---	---	---
19	.00	.00	.00	---	---	---	---	---	---	---	---	---
20	.00	.00	.00	---	---	---	---	---	---	---	---	---
21	.00	.00	.00	---	---	---	---	---	---	---	---	---
22	.00	.00	.00	---	---	---	---	---	---	---	---	---
23	.00	.00	.00	---	---	---	---	---	---	---	---	---
24	.00	.00	.00	---	---	---	---	---	---	---	---	---
25	.00	.00	.00	---	---	---	---	---	---	---	---	---
26	.00	.00	.00	---	---	---	---	---	---	---	---	---
27	.00	.00	.00	---	---	---	---	---	---	---	---	---
28	.00	.00	.00	---	---	---	---	---	---	---	---	---
29	.00	.00	.00	---	---	---	---	---	---	---	---	---
30	.00	.00	.00	---	---	---	---	---	---	---	---	---
31	.00	---	.00	---	---	---	---	---	---	---	---	---
TOTAL	0.00	0.00	0.00	---	---	---	---	---	---	---	---	---
MEAN	.000	.000	.000	---	---	---	---	---	---	---	---	---
MAX	.00	.00	.00	---	---	---	---	---	---	---	---	---
MIN	.00	.00	.00	---	---	---	---	---	---	---	---	---
AC-FT	.00	.00	.00	---	---	---	---	---	---	---	---	---

CAL YR 1992 TOTAL 84.62 MEAN .23 MAX 14 MIN .00 AC-FT 168

11039800 SAN LUIS REY RIVER AT COUSER CANYON BRIDGE, NEAR PALA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.018	.53	.93	2.06	1.66	10.4	1.87	.25	.039	.006	.000	.000
MAX	.11	2.75	3.99	9.20	6.11	51.5	4.71	.81	.24	.034	.000	.000
(WY)	1987	1988	1988	1988	1988	1991	1991	1987	1987	1987	1987	1987
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1989	1989	1990	1990	1990	1990	1989	1988	1988	1987	1987

## SUMMARY STATISTICS

WATER YEARS 1987 - 1992

ANNUAL MEAN	1.49	
HIGHEST ANNUAL MEAN	4.76	1991
LOWEST ANNUAL MEAN	.000	1990
HIGHEST DAILY MEAN	547	Mar 27 1991
LOWEST DAILY MEAN	.00	Oct 1 1986
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1986
INSTANTANEOUS PEAK FLOW	1700	Mar 27 1991
INSTANTANEOUS PEAK STAGE	5.56	Mar 27 1991
ANNUAL RUNOFF (AC-FT)	1080	
10 PERCENT EXCEEDS	3.0	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

## DISCHARGE MEASUREMENTS, JANUARY 1993 TO SEPTEMBER 1993

Date	Time	Discharge (ft <sup>3</sup> /s)
Jan. 7	1535	817
Jan. 12	1433	11
Jan. 14	0855	1,310

## SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA

LOCATION (REVISED).--Lat 33°13'05", long 117°21'34", in SE 1/4 SW 1/4 sec.13, T.11 S., R.5 W., San Diego County, Hydrologic Unit 18070303, on right bank 1.9 mi upstream from bridge on Interstate Highway 5, 2.4 mi upstream from mouth, and 1.9 mi northeast of Oceanside.

DRAINAGE AREA.--557 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to current year. Discharge measurements only Oct. 1, 1992, to Aug. 16, 1993.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft above sea level, from topographic map. April 1912 to September 1914, nonrecording gage at site 0.4 mi downstream at different datum. January 1916, nonrecording gage 1.4 mi downstream at different datum. October 1929 to Nov. 9, 1981, at site 0.8 mi downstream at different datum.

REMARKS.--Gage out of operation for channel work from Oct. 1, 1992, to Aug. 16, 1993. Records fair from Aug. 17 to Sept. 30. Flow regulated by Lake Henshaw, capacity, 194,300 acre-ft since 1923. Several diversions for irrigation and domestic use upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft<sup>3</sup>/s, Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in some years. Since regulation by Lake Henshaw, maximum discharge, 25,700 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 21.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,700 ft<sup>3</sup>/s, Jan. 16, gage height, 21.70 ft; minimum daily recorded, 6.5 ft<sup>3</sup>/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	10
2	---	---	---	---	---	---	---	---	---	---	---	10
3	---	---	---	---	---	---	---	---	---	---	---	8.1
4	---	---	---	---	---	---	---	---	---	---	---	8.6
5	---	---	---	---	---	---	---	---	---	---	---	9.1
6	---	---	---	---	---	---	---	---	---	---	---	9.3
7	---	---	---	---	---	---	---	---	---	---	---	8.1
8	---	---	---	---	---	---	---	---	---	---	---	7.5
9	---	---	---	---	---	---	---	---	---	---	---	8.0
10	---	---	---	---	---	---	---	---	---	---	---	8.2
11	---	---	---	---	---	---	---	---	---	---	---	8.3
12	---	---	---	---	---	---	---	---	---	---	---	8.9
13	---	---	---	---	---	---	---	---	---	---	---	9.2
14	---	---	---	---	---	---	---	---	---	---	---	9.5
15	---	---	---	---	---	---	---	---	---	---	---	9.0
16	---	---	---	---	---	---	---	---	---	---	---	9.2
17	---	---	---	---	---	---	---	---	---	---	16	9.6
18	---	---	---	---	---	---	---	---	---	---	16	9.9
19	---	---	---	---	---	---	---	---	---	---	13	8.7
20	---	---	---	---	---	---	---	---	---	---	12	8.5
21	---	---	---	---	---	---	---	---	---	---	11	7.7
22	---	---	---	---	---	---	---	---	---	---	11	8.7
23	---	---	---	---	---	---	---	---	---	---	9.6	12
24	---	---	---	---	---	---	---	---	---	---	13	14
25	---	---	---	---	---	---	---	---	---	---	14	e13
26	---	---	---	---	---	---	---	---	---	---	11	e12
27	---	---	---	---	---	---	---	---	---	---	8.8	e10
28	---	---	---	---	---	---	---	---	---	---	10	e8.5
29	---	---	---	---	---	---	---	---	---	---	10	e7.2
30	---	---	---	---	---	---	---	---	---	---	9.7	e6.5
31	---	---	---	---	---	---	---	---	---	---	9.9	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	277.3
MEAN	---	---	---	---	---	---	---	---	---	---	---	9.24
MAX	---	---	---	---	---	---	---	---	---	---	---	14
MIN	---	---	---	---	---	---	---	---	---	---	---	6.5
AC-FT	---	---	---	---	---	---	---	---	---	---	---	550

e Estimated.

## 11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.70	8.70	20.5	40.0	102	125	53.2	26.4	13.8	7.32	5.79	3.47
MAX	54.6	144	196	451	1858	1096	432	346	293	207	213	85.9
(WY)	1984	1984	1979	1980	1980	1980	1980	1980	1980	1980	1980	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1930	1930	1930	1930	1931	1931	1930	1930	1930

## SUMMARY STATISTICS

## WATER YEARS 1930 - 1993

ANNUAL MEAN	33.7	
HIGHEST ANNUAL MEAN	415	1980
LOWEST ANNUAL MEAN	.000	1931
HIGHEST DAILY MEAN	11300	Mar 3 1938
LOWEST DAILY MEAN	.00	Oct 1 1929
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1929
INSTANTANEOUS PEAK FLOW	25700	Jan 16 1993
INSTANTANEOUS PEAK STAGE	21.70	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	24410	
10 PERCENT EXCEEDS	53	
50 PERCENT EXCEEDS	.20	
90 PERCENT EXCEEDS	.00	

## DISCHARGE MEASUREMENTS, OCTOBER 1992 TO AUGUST 1993

Date	Time	Discharge (ft <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s)
Jan. 16	--	25,700	July 8	1735	17.7
Jan. 18	1350	9,710	July 20	1030	14.6
Jan. 19	1240	2,640	Aug. 4	1020	13.5
Feb. 9	1445	1,960	Aug. 16	1555	15.4

## SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to August 1993 (discontinued).

CHEMICAL DATA: Water years 1978 to May 1992.

BIOLOGICAL DATA: Water years 1978-81.

SPECIFIC CONDUCTANCE: Water years 1978-81.

WATER TEMPERATURE: Water years 1971-81.

SEDIMENT DATA: Water years 1969 to August 1993 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1978, December 1983 to September 1984.

REMARKS:--Channel construction began Nov. 22, 1991, about 1 mi upstream from gage site and continued throughout the gage reach during the current year. Surface-water record data collection temporarily was discontinued in September 1992 and reestablished in August 1993.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN 18...	1645	E11500	12.5	9890	307000	17	20	22
FEB 09...	1630	E1860	15.0	5070	25500	9	11	13
JUL 20...	1130	15	22.5	70	2.8	--	--	--
AUG 16...	1630	15	28.0	13	0.53	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
JAN 18...	30	39	47	67	84	98	100	--
FEB 09...	18	23	30	41	69	92	98	100
JUL 20...	--	--	64	--	--	--	--	--
AUG 16...	--	--	84	--	--	--	--	--

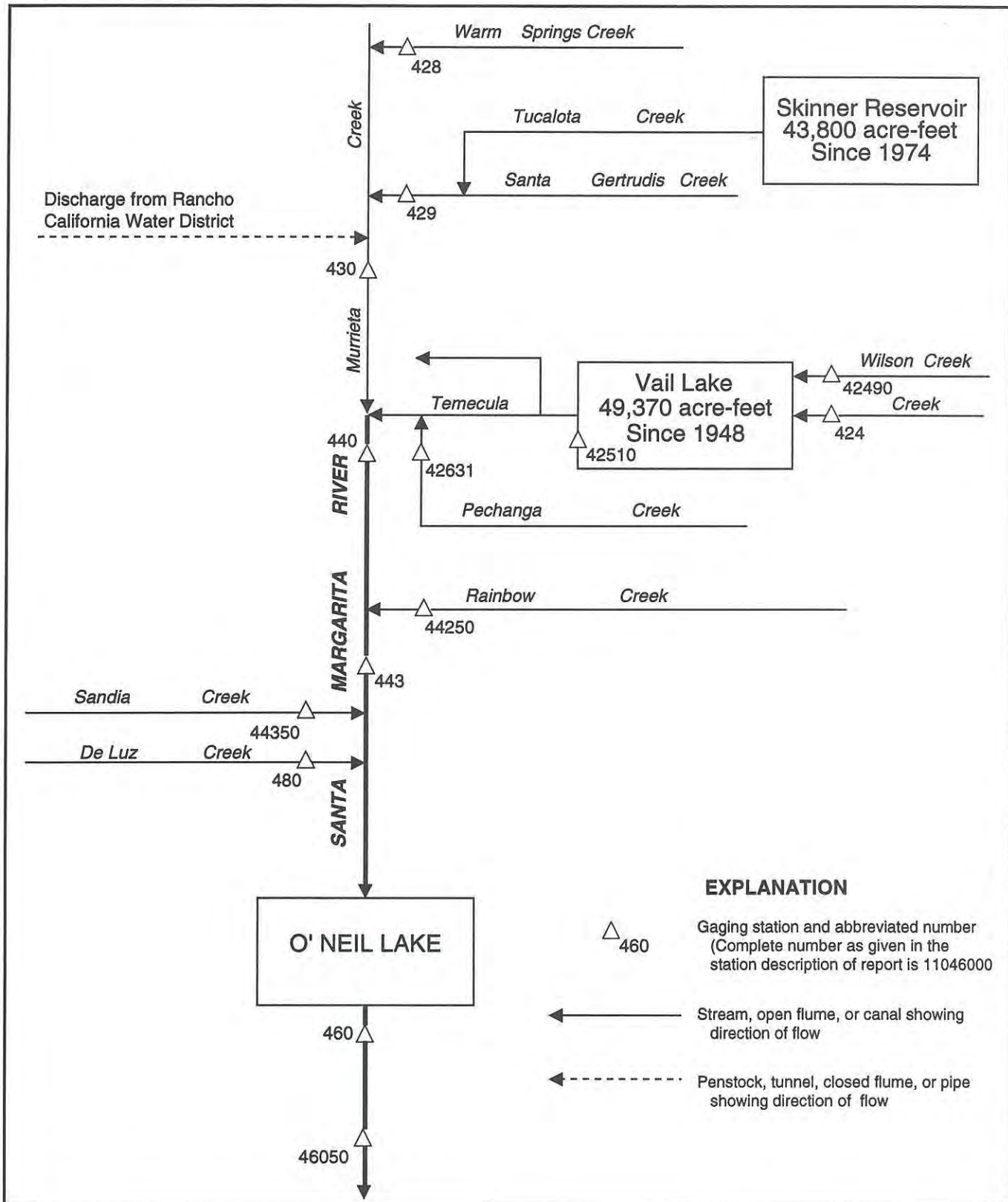


Figure 18. Diversions and storage in Santa Margarita River basin.

## 11042400 TEMECULA CREEK NEAR AGUANGA, CA

LOCATION.--Lat 33°27'33", long 116°55'22", in SW 1/4 SW 1/4 sec.19, T.8 S., R.1 E., Riverside County, Hydrologic Unit 18070302, on right bank 1.6 mi downstream from Long Canyon and 3.5 mi northwest of Aguanga.

DRAINAGE AREA.--131 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1957 to current year.

REVISED RECORDS.--WDR CA-89-1: 1958(P), 1966(M), 1979(M), 1980(M), 1986(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,590 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Pumping upstream from station for irrigation of less than 1,000 acres.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 14.6 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of critical depth computation; no flow for several days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1600	218	4.08	Feb. 8	0430	1,610	5.87
Jan. 7	0400	1,890	6.42	Feb. 19	2115	3,650	9.39
Jan. 16	Unknown	*8,100	1*14.60				

Minimum daily, 0.22 ft<sup>3</sup>/s, Oct. 1, 8, 9.

<sup>1</sup> From flood mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.78	1.1	4.7	26	e70	26	e18	14	e8.2	e6.6	7.2
2	.23	.60	1.3	5.3	22	e69	e26	e18	14	e8.0	e6.6	7.3
3	.26	.51	1.5	5.1	16	e65	e25	e18	14	e8.0	e6.6	7.3
4	.27	.49	1.9	3.9	14	e60	e23	e18	14	e8.0	e6.4	7.8
5	.26	.50	1.7	3.8	11	e54	e21	e18	17	9.1	e6.4	7.8
6	.25	.60	1.6	556	9.2	e49	e21	e18	20	9.1	e6.4	7.7
7	.23	.66	32	e820	9.5	e43	e20	e19	16	8.5	e6.4	6.0
8	.22	.82	7.2	e300	702	e40	e20	e19	14	8.0	e6.4	5.4
9	.22	.83	3.0	e22	348	e39	e20	e19	13	8.0	e6.4	5.3
10	.23	.76	2.7	e44	139	38	e20	e19	13	7.8	e6.2	5.1
11	.23	.76	2.5	e20	80	36	e21	e18	12	7.5	e6.2	5.0
12	.24	.78	2.5	e30	36	34	e21	17	12	7.3	e6.2	5.3
13	.28	.72	2.3	e300	51	33	e20	17	11	7.3	e6.2	5.6
14	.30	.72	2.2	e580	54	32	e20	16	11	7.5	6.4	5.9
15	.32	.78	2.1	e520	56	31	e20	19	10	7.4	6.5	6.0
16	.34	.82	2.1	e3600	62	30	e20	20	9.5	7.2	6.5	6.1
17	.35	.76	2.0	e1300	42	29	e20	17	9.3	7.2	6.5	6.3
18	.35	.82	4.3	e2200	277	27	e20	16	8.9	7.0	6.6	6.2
19	.35	.89	3.0	e270	1360	26	e21	15	e9.6	7.1	6.6	6.1
20	.38	.92	2.5	e150	1290	26	e20	15	e9.0	7.1	6.0	5.7
21	.44	.95	2.3	e80	339	25	e19	15	e9.0	7.2	5.7	5.9
22	.45	1.0	2.2	e65	224	24	e19	15	e9.0	7.1	5.8	6.0
23	.54	1.0	1.9	e50	e240	23	e19	16	e8.6	7.0	5.8	6.0
24	.65	.96	1.7	e43	e150	22	e19	16	e8.6	6.9	5.8	5.7
25	.54	.96	1.7	e34	e85	22	e19	14	e8.6	7.1	7.3	5.8
26	.51	.96	1.7	e32	e80	31	e19	14	e8.5	7.2	7.5	5.8
27	.50	1.1	2.0	30	e75	39	e19	15	e8.4	6.9	7.2	5.7
28	.54	1.1	14	28	e72	37	e19	15	e8.4	e6.6	7.3	5.5
29	.57	.99	10	27	---	31	e18	15	e8.2	e6.6	7.1	5.6
30	.67	1.1	27	26	---	28	e18	14	e8.2	e6.6	7.1	5.7
31	.82	---	8.1	31	---	26	---	14	---	e6.6	7.0	---
TOTAL	11.76	24.64	152.1	11180.8	5869.7	1139	613	517	336.8	231.1	201.7	182.8
MEAN	.38	.82	4.91	361	210	36.7	20.4	16.7	11.2	7.45	6.51	6.09
MAX	.82	1.1	32	3600	1360	70	26	20	20	9.1	7.5	7.8
MIN	.22	.49	1.1	3.8	9.2	22	18	14	8.2	6.6	5.7	5.0
AC-FT	23	49	302	22180	11640	2260	1220	1030	668	458	400	363

e Estimated.

11042400 TEMECULA CREEK NEAR AGUANGA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.18	3.25	5.79	17.9	27.8	21.0	11.2	4.46	2.23	1.33	1.20	1.13
MAX	7.94	47.9	66.0	361	266	105	87.3	21.6	13.1	8.19	9.40	6.93
(WY)	1984	1966	1967	1993	1980	1991	1958	1980	1980	1980	1983	1980
MIN	.000	.000	.000	.094	.70	.41	.34	.16	.067	.000	.000	.000
(WY)	1958	1963	1963	1963	1965	1965	1961	1961	1966	1964	1957	1957

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1957 - 1993	
ANNUAL TOTAL	1739.01		20460.40		8.11	
ANNUAL MEAN	4.75		56.1		56.1	
HIGHEST ANNUAL MEAN					.28	
LOWEST ANNUAL MEAN					3600	
HIGHEST DAILY MEAN	155	Feb 15	3600	Jan 16	3600	Jan 16 1993
LOWEST DAILY MEAN	.18	Sep 24	.22	Oct 1	.00	Aug 1 1957
ANNUAL SEVEN-DAY MINIMUM	.19	Sep 18	.23	Oct 6	.00	Aug 1 1957
INSTANTANEOUS PEAK FLOW			8100	Jan 16	8100	Jan 16 1993
INSTANTANEOUS PEAK STAGE			14.60	Jan 16	14.60	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	3450		40580		5870	
10 PERCENT EXCEEDS	9.3		52		11	
50 PERCENT EXCEEDS	1.0		8.2		1.3	
90 PERCENT EXCEEDS	.24		.70		.00	

11042490 WILSON CREEK ABOVE VAIL LAKE, NEAR RADEC, CA

LOCATION.--Lat 33°29'12", long 116°54'37", in SE 1/4 SE 1/4 sec.7, T.8 S., R.1 E., Riverside County, Hydrologic Unit 18070302, on right bank 1.7 mi north of Radec and 3.9 mi northwest of Aguanga.

DRAINAGE AREA.--122 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,630 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation upstream from station. Pumping and diversion upstream from station for local irrigation.

EXTREME FOR PERIOD OF RECORD.--Maximum discharge, 1,150 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, unknown, from rating curve extended above 45 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 16	unknown	*1,150	*unknown	Feb. 8	unknown	unknown	unknown

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.34
2	.00	.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.35
3	.00	.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.37
4	.00	.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.39
5	.00	e.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.40
6	.00	e.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.41
7	.00	e.00	e.00	e5.0	e.00	.00	.00	.00	.00	.00	.00	e.43
8	.00	e.00	e.00	e30	e150	.00	.00	.00	.00	.00	.00	e.45
9	.00	e.00	.00	.00	e12	.00	.00	.00	.00	.00	.00	e.47
10	.00	e.00	.00	.00	e.50	.00	.00	.00	.00	.00	.00	e.48
11	.00	e.00	.00	.00	e.04	.00	.00	.00	.00	.00	e.01	e.47
12	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.01	e.47
13	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.01	e.48
14	.00	e.00	.00	e10	.00	.00	.00	.00	.00	.00	e.03	e.48
15	.00	e.00	.00	e3.0	.00	.00	.00	.00	.00	.00	e.04	e.48
16	.00	e.00	.00	e450	.00	.00	.00	.00	.00	.00	e.06	e.47
17	.00	e.00	.00	e150	.00	.00	.00	.00	.00	.00	e.08	e.48
18	.00	e.00	.00	e100	e2.0	.00	.00	.00	.00	.00	e.10	e.48
19	.00	e.00	.00	e35	e5.0	.00	.00	.00	.00	.00	e.12	e.49
20	.00	e.00	.00	e10	e35	.00	.00	.00	.00	.00	e.14	e.49
21	.00	e.00	.00	e5.0	e1.0	.00	.00	.00	.00	.00	e.15	e.49
22	.00	e.00	.00	e2.0	e.20	.00	.00	.00	.00	.00	e.17	e.50
23	.00	e.00	.00	e.70	e.05	.00	.00	.00	.00	.00	e.19	e.50
24	.00	e.00	.00	e.25	e5.0	.00	.00	.00	.00	.00	e.20	e.50
25	.00	e.00	.00	e.10	e4.0	.00	.00	.00	.00	.00	e.22	e.49
26	.00	e.00	.00	e.03	e.05	.00	.00	.00	.00	.00	e.24	e.50
27	.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00	e.25	e.50
28	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.27	e.50
29	.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	e.28	e.51
30	.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	e.30	e.51
31	.00	---	.00	e.00	---	.00	---	.00	---	.00	e.32	---
TOTAL	0.00	0.00	0.00	801.08	214.84	0.00	0.00	0.00	0.00	0.00	3.19	13.88
MEAN	.000	.000	.000	25.8	7.67	.000	.000	.000	.000	.000	.10	.46
MAX	.00	.00	.00	450	150	.00	.00	.00	.00	.00	.32	.51
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.34
AC-FT	.00	.00	.00	1590	426	.00	.00	.00	.00	.00	6.3	28

e Estimated.

11042490 WILSON CREEK ABOVE VAIL LAKE, NEAR RADEC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.000	6.47	1.95	.27	.000	.000	.000	.000	.026	.12
MAX	.000	.000	.000	25.8	7.67	1.08	.000	.000	.000	.000	.10	.46
(WY)	1990	1990	1990	1993	1993	1991	1990	1990	1990	1990	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	3.56		1032.99			
ANNUAL MEAN	.010		2.83			
HIGHEST ANNUAL MEAN					.73	
LOWEST ANNUAL MEAN					2.83	
HIGHEST DAILY MEAN	1.7 Feb 15		450 Jan 16		.000	
LOWEST DAILY MEAN	.00 Jan 1		.00 Oct 1		.00	
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 8		.00 Oct 1		.00	
INSTANTANEOUS PEAK FLOW			1150 Jan 16		1150	
ANNUAL RUNOFF (AC-FT)	7.1		2050		532	
10 PERCENT EXCEEDS	.00		.48		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11042510 VAIL LAKE NEAR TEMECULA, CA

LOCATION.--Lat 33°29'44", long 116°58'33", in Pauba Grant, Riverside County, Hydrologic Unit 18070302, near center of Vail Dam on Temecula Creek, 0.2 mi downstream from Arroyo Seco, and 10 mi east of Temecula.

DRAINAGE AREA.--320 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1960 to September 1985 (monthend contents only). Prior to October 1977, published with Temecula Creek at Vail Dam. October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by the U.S. Bureau of Reclamation). June 4, 1969, to September 1985, nonrecording gage.

REMARKS.--Reservoir is formed by concrete arch-type dam, completed in June 1949. Total capacity, 49,370 acre-ft between elevations 1,352.5 ft, bottom of lowest outlet, and 1,470 ft, crest of spillway, all of which is available for release. There had been no spill from Nov. 13, 1948, date of closure, to Feb. 20, 1980, when a peak spill of about 8,000 ft<sup>3</sup>/s occurred (from theoretical discharge curve). Water is released down Temecula Creek for diversion about 1 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 52,670 acre-ft, Feb. 21, 1980, elevation, 1,473.0 ft, from highwater mark; minimum 1,038 acre-ft, Oct. 31, 1960, elevation, 1,379.44 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,270 acre-ft, Feb. 20, spilling, elevation, 1,470.83 ft; minimum, 20,920 acre-ft, Dec. 25, 26, elevation, 1,437.29 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on table dated Dec. 22, 1953)

1,390	2,400	1,420	11,400	1,450	30,420
1,400	4,530	1,430	16,390	1,460	39,280
1,410	7,560	1,440	22,780	1,475	54,940

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22150	21470	20990	20970	40140	49630	49160	48820	44570	39070	34700	29700
2	22080	21450	20980	20980	40060	49610	49210	48700	44390	38900	34520	29630
3	22050	21430	20970	20980	40020	49610	49260	48550	44210	38740	34340	29510
4	22000	21390	20970	20970	39970	49600	49330	48410	44020	38560	34180	29370
5	21970	21380	20970	20960	39920	49600	49350	48280	43840	38400	34010	29260
6	21940	21360	20970	21350	39900	49600	49390	48160	43650	38250	33820	29080
7	21920	21340	21040	23000	39890	49570	49380	48030	43480	38100	33630	28940
8	21870	21310	21060	24590	41450	49560	49330	47920	43270	37930	33470	28800
9	21850	21310	21050	24880	43750	49530	49250	47810	43100	37780	33310	28690
10	21820	21290	21040	25100	43990	49500	49200	47650	42910	37640	33130	28560
11	21800	21280	21040	25230	44150	49510	49140	47510	42710	37490	32950	28410
12	21780	21260	21020	25390	44260	49490	49140	47450	42540	37340	32760	28260
13	21760	21250	21020	25870	44340	49490	49150	47340	42370	37180	32600	28120
14	21730	21230	21010	26950	44350	49450	49210	47260	42190	37030	32430	27990
15	21710	21220	21000	27600	44370	49430	49240	47160	41990	36880	32270	27850
16	21690	21210	20990	33190	44390	49430	49270	47040	41800	36740	32110	27720
17	21670	21190	20980	36240	44420	49410	49330	46930	41610	36580	31950	27570
18	21650	21180	21000	38780	44700	49380	49330	46810	41440	36430	31760	27460
19	21630	21160	20980	39480	46340	49370	49350	46700	41270	36270	31580	27320
20	21610	21150	20970	39800	50270	49350	49360	46570	41080	36120	31420	27180
21	21590	21130	20960	e39930	49980	49340	49340	46390	40870	36050	31260	27050
22	21570	21120	20950	e40100	49850	49290	49330	46200	40680	35910	31080	26980
23	21590	21110	20940	40210	49770	49240	e49340	46040	40520	35780	30870	26980
24	21590	21100	20930	40290	49860	49200	49340	45880	40350	35730	30710	26950
25	21570	21080	20920	40270	49750	49160	49350	45740	40160	35650	30570	26890
26	21560	21070	20920	40250	49720	49150	e49340	45580	39980	35630	30440	26820
27	21550	21040	20930	40240	49690	49190	49330	45400	39800	35530	30340	26720
28	21540	21040	20950	40230	49670	49210	49250	45230	39600	35370	30170	26600
29	21520	21040	20950	40220	---	49240	49130	45080	39410	35200	29970	26460
30	21500	21020	20970	40200	---	49230	48950	44910	39250	35040	29840	26340
31	21480	---	20980	40180	---	49220	---	44750	---	34880	29780	---
MAX	22150	21470	21060	40290	50270	49630	49390	48820	44570	39070	34700	29700
MIN	21480	21020	20920	20960	39890	49150	48950	44750	39250	34880	29780	26340
a	1438.13	1437.45	1437.38	1460.95	1470.28	1469.86	1469.61	1465.59	1460.28	1455.20	1449.53	1444.86
b	-710	-460	-40	+19200	+9490	-450	-270	-4200	-5500	-4370	-5100	-3440

CAL YR 1992 MAX 24050 MIN 19930 b +1010  
WTR YR 1993 MAX 50270 MIN 20920 b +4150

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11042631 PECHANGA CREEK NEAR TEMECULA, CA

LOCATION.--Lat 33°28'06", long 117°07'40", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank on upstream side of Highway S-16 Bridge, 0.4 mi upstream from Temecula Creek, and 2.1 mi southeast of Temecula.

DRAINAGE AREA.--13.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year. Discharge measurements only, October 1991 to September 1992.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,010 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,120 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 8.12 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 6	1315	677	5.16	Feb. 18	Unknown	Unknown	Unknown
Jan. 16	Unknown	*3,120	*8.12	Feb. 25	0630	65	4.11
Feb. 8	Unknown	Unknown	Unknown	Mar. 26	0400	52	4.15

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e1.0	19	1.5	1.0	.48	.42	e.15	.03
2	.00	.00	.00	.00	e1.0	19	.74	.99	.36	.42	e.10	.02
3	.00	.00	.00	.00	e1.0	13	.68	.98	.33	.43	e.15	.01
4	.00	.00	.00	.00	e1.0	22	.61	.77	.33	.67	e.15	.01
5	.00	.00	.00	.00	e1.5	12	.46	1.2	1.2	.26	e.15	.02
6	.00	.00	.00	50	e2.5	17	.75	1.3	.41	.30	e.15	.03
7	.00	.00	1.7	134	e60	12	.83	.91	.52	.36	e.15	.01
8	.00	.00	.00	33	e170	13	.53	2.5	.25	.21	e.15	.02
9	.00	.00	.00	7.3	e11	11	.50	.66	.66	.13	e.20	.01
10	.00	.00	.00	7.8	e6.9	9.9	.43	.90	.45	.14	e.20	.00
11	.00	.00	.00	5.9	e6.0	8.3	.75	.74	.43	.31	e.15	.00
12	.00	.00	.00	8.4	e5.8	12	.56	.76	.56	.13	e.15	.00
13	.00	.00	.00	24	e5.5	11	.56	.96	.81	.12	e.20	.00
14	.00	.00	.00	68	e5.0	6.8	.58	1.4	.45	.14	.12	.00
15	.00	.00	.00	31	e4.8	8.0	.56	.93	.60	.11	.14	.00
16	.00	.00	.00	e900	e10	9.4	.61	.48	e.60	.10	.28	.00
17	.00	.00	.00	e400	e12	9.2	.75	.40	e.70	.16	.43	.00
18	.00	.00	.00	e190	e100	4.8	.49	.45	e.70	.25	.49	.00
19	.00	.00	.00	e60	63	8.6	.47	1.1	.74	.17	.54	.00
20	.00	.00	.00	e20	52	7.9	.35	.95	.50	e.20	.36	.00
21	.00	.00	.00	e9.0	28	5.8	.25	.80	.46	e.20	.47	.03
22	.00	.00	.00	e5.0	13	9.7	.46	.76	.46	e.20	.29	.00
23	.00	.00	.00	e3.0	13	8.3	.73	1.4	.46	e.20	.21	.00
24	.00	.00	.00	e1.6	15	8.7	.61	1.1	.49	e.20	.05	.00
25	.00	.00	.00	e1.0	20	4.6	.24	.99	.36	e.20	.04	.00
26	.00	.00	.00	e.80	29	10	.21	.87	.36	e.20	.04	.00
27	.00	.00	.00	e.60	27	2.4	.25	1.4	.45	e.20	.03	.00
28	.00	.00	1.0	e.55	18	2.4	.31	.93	.35	e.20	.03	.00
29	.00	.00	1.1	e.96	---	.91	1.0	.67	.43	e.20	.03	.00
30	.00	.00	.94	e.84	---	2.1	1.6	.35	.33	e.15	.04	.00
31	.00	---	.00	e3.5	---	1.2	---	.90	---	e.15	.03	---
TOTAL	0.00	0.00	4.74	1966.25	683.0	290.01	18.37	29.55	15.23	7.13	5.67	0.19
MEAN	.000	.000	.15	63.4	24.4	9.36	.61	.95	.51	.23	.18	.006
MAX	.00	.00	1.7	900	170	22	1.6	2.5	1.2	.67	.54	.03
MIN	.00	.00	.00	.00	1.0	.91	.21	.35	.25	.10	.03	.00
AC-FT	.00	.00	9.4	3900	1350	575	36	59	30	14	11	.4

e Estimated.

## SANTA MARGARITA RIVER BASIN

11042631 PECHANGA CREEK NEAR TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.001	.006	.053	10.6	4.08	2.10	.11	.16	.085	.038	.030	.001
MAX	.003	.033	.15	63.4	24.4	9.36	.61	.95	.51	.23	.18	.006
(WY)	1988	1988	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1991	1992	1989	1989	1988	1988	1988	1988	1988

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1988 - 1993

ANNUAL TOTAL	4.74	3020.14	
ANNUAL MEAN	.013	8.27	1.43
HIGHEST ANNUAL MEAN			8.27 1993
LOWEST ANNUAL MEAN			.000 1992
HIGHEST DAILY MEAN	1.7 Dec 7	900 Jan 16	900 Jan 16 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1987
INSTANTANEOUS PEAK FLOW		3120 Jan 16	3120 Jan 16 1993
INSTANTANEOUS PEAK STAGE		8.12 Jan 16	8.12 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	9.4	5990	1040
10 PERCENT EXCEEDS	.00	11	.26
50 PERCENT EXCEEDS	.00	.33	.00
90 PERCENT EXCEEDS	.00	.00	.00

11042800 WARM SPRINGS CREEK NEAR MURRIETA, CA

LOCATION.--Lat 33°31'56", long 117°10'34", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank at upstream end of Jefferson Road Bridge, 0.6 mi upstream from mouth, and 2.8 mi southeast of Murrieta.

DRAINAGE AREA.--55.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,040 ft above sea level, from topographic map.

REMARKS.--Records poor. Gage out of operation for channel work (lining) from Nov. 5, 1991, to June 10, 1992. Rancho California Water District can discharge into creek from automated pump, approximately 0.1 mi upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,570 ft<sup>3</sup>/s, Jan. 17, 1993, gage height, 8.59 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0330	381	5.05	Feb. 8	0445	2,730	7.16
Jan. 17	0130	*5,570	*8.59	Feb. 18	1700	904	5.69

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.4	.00	9.1	1.8	13	1.4	.00	.00	.00	.00	.00
2	.00	.98	.00	7.9	1.5	14	1.6	.00	.00	.00	.00	.00
3	.00	.57	1.1	9.9	1.7	14	1.9	.00	.00	.00	.00	.00
4	.00	.00	2.5	5.1	1.6	14	.99	.00	.00	.00	.00	.00
5	.00	e.00	1.6	.30	2.5	13	.59	.00	.00	.00	.00	.00
6	.00	e.00	.00	119	3.5	14	.12	.00	.00	.00	.00	.00
7	.00	e.00	5.4	219	5.6	12	.00	.73	.00	.00	.00	.00
8	.00	e.00	.70	75	1020	13	.00	.00	.00	.00	.00	.00
9	.00	e.00	.02	7.4	142	16	.00	.00	.00	.00	.00	.00
10	.00	e.00	.83	15	39	16	.00	.00	.00	.00	.00	.00
11	.00	e.00	.20	3.8	26	18	.00	.00	.00	.00	.00	.00
12	.00	e.00	.39	13	28	14	.00	.01	.00	.00	.00	.00
13	.00	.00	.00	242	23	11	.00	e38	.00	.00	.00	.00
14	.00	.00	.00	413	22	11	.00	e20	.00	.00	.00	.00
15	.00	.00	.17	255	20	8.4	.00	.00	.00	.00	.00	.00
16	.00	.00	.31	2070	18	7.2	.00	.00	.00	.00	.00	.00
17	.00	.00	.72	1780	16	8.3	.00	.00	.00	.00	.00	.00
18	.00	.00	2.9	1470	259	6.5	.00	.00	.00	.00	.00	.00
19	.00	.00	1.3	195	426	5.2	.00	.00	.00	.00	.00	.00
20	.00	.00	2.6	35	327	8.2	.00	.00	.00	.00	.00	.00
21	.00	.00	.18	17	75	4.6	.00	.00	.00	.00	.00	.00
22	.00	.00	2.4	7.6	36	3.8	.00	.00	.00	.00	.00	.00
23	1.8	.00	1.9	4.6	39	3.0	.00	.00	.00	.00	.00	.00
24	1.9	.00	.82	2.4	53	3.7	.00	.00	.00	.00	.00	.00
25	1.6	.00	1.1	2.2	21	3.0	.00	.00	.00	.00	.00	.00
26	.78	.00	.90	2.0	17	4.9	.00	.00	.00	.00	.00	.00
27	1.3	.00	2.4	1.6	20	6.5	.00	.00	.00	.00	.00	.00
28	1.4	.00	9.8	1.5	16	2.7	.00	.00	.00	.00	.00	.00
29	.90	.00	9.7	1.4	---	3.2	.00	.00	.00	.00	.00	.00
30	2.6	.00	13	1.3	---	2.2	.00	.00	.00	.00	.00	.00
31	2.1	---	7.4	12	---	1.9	---	.00	---	.00	.00	---
TOTAL	14.38	3.95	70.34	6998.10	2661.2	276.3	6.60	58.74	0.00	0.00	0.00	0.00
MEAN	.46	.13	2.27	226	95.0	8.91	.22	1.89	.000	.000	.000	.000
MAX	2.6	2.4	13	2070	1020	18	1.9	38	.00	.00	.00	.00
MIN	.00	.00	.00	.30	1.5	1.9	.00	.00	.00	.00	.00	.00
AC-FT	29	7.8	140	13880	5280	548	13	117	.00	.00	.00	.00

e Estimated.

## SANTA MARGARITA RIVER BASIN

11042800 WARM SPRINGS CREEK NEAR MURRIETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.14	.10	.72	45.5	19.9	16.6	.19	.39	.000	.010	.000	.000
MAX	.46	.31	2.27	226	95.0	74.0	.56	1.89	.000	.063	.000	.000
(WY)	1993	1988	1993	1993	1993	1991	1988	1993	1988	1988	1988	1988
MIN	.000	.000	.000	.091	.004	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1989	1989	1988	1989	1989	1988	1989	1988	1988

## SUMMARY STATISTICS

## FOR 1993 WATER YEAR

## WATER YEARS 1988 - 1993

ANNUAL TOTAL	10089.61	
ANNUAL MEAN	27.6	6.94
HIGHEST ANNUAL MEAN		27.6 1993
LOWEST ANNUAL MEAN		.063 1989
HIGHEST DAILY MEAN	2070 Jan 16	2070 Jan 16 1993
LOWEST DAILY MEAN	.00 Oct 1	.00 Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1	.00 Oct 1 1987
INSTANTANEOUS PEAK FLOW	5570 Jan 17	5570 Jan 17 1993
INSTANTANEOUS PEAK STAGE	8.59 Jan 17	8.59 Jan 17 1993
ANNUAL RUNOFF (AC-FT)	20010	5020
10 PERCENT EXCEEDS	16	.24
50 PERCENT EXCEEDS	.00	.00
90 PERCENT EXCEEDS	.00	.00

## 11042900 SANTA GERTRUDIS CREEK NEAR TEMECULA, CA

LOCATION.--Lat 33°31'32", long 117°09'36", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank 1.0 mi upstream from Murrieta Creek, 1.5 mi downstream from Tualota Creek, and 2.2 mi northeast of Temecula.

DRAINAGE AREA.--92.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year. Discharge measurements only, October 1991 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 1,045 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated by Skinner Reservoir, capacity, 43,800 acre-ft. Flow less than 1 ft<sup>3</sup>/s from local landscape-irrigation runoff at times bypasses station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 8.47 ft, from rating curve extended above 1,470 ft<sup>3</sup>/s; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,500 ft<sup>3</sup>/s, Jan. 16, gage height, 8.47 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	20	28	55	44	.04	.00	.00	.00
2	.00	.00	.00	.30	22	25	57	40	.00	.00	.00	.00
3	.00	.00	.00	.68	20	25	57	41	.00	.00	.00	.00
4	.00	.00	.00	.63	15	23	51	41	.00	.00	.00	.00
5	.00	.00	.00	.00	18	22	42	40	.54	.00	.00	.00
6	.00	.00	.00	72	18	19	48	39	.74	.00	.00	.00
7	.00	.00	11	86	19	18	40	37	.00	.00	.00	.00
8	.00	.00	2.2	31	332	20	45	41	.00	.00	.00	.00
9	.00	.00	.42	15	33	20	40	34	.00	.00	.00	.00
10	.00	.00	.00	32	10	21	45	40	.00	.00	.00	.00
11	.00	.00	.39	23	10	22	46	38	.00	.00	.00	.00
12	.00	.00	.19	28	7.7	28	e48	39	.00	.00	.00	.00
13	.00	.00	.00	86	15	35	e49	48	.00	.00	.00	.00
14	.00	.00	.00	104	16	39	49	35	.00	.00	.00	.00
15	.00	.00	.00	111	14	55	48	40	.00	.00	.00	.00
16	.00	.00	1.9	e1340	12	61	e50	34	.00	.00	.00	.00
17	.00	.00	3.6	280	14	64	e50	34	.00	.00	.00	.00
18	.00	.00	3.2	e880	181	57	e49	35	.00	.00	.00	.00
19	.00	.00	.00	46	287	56	e49	29	.00	.00	.00	.00
20	.00	.00	.00	17	178	44	e48	33	.00	.00	.00	.00
21	.00	.00	.00	13	47	48	e47	26	.00	.00	.00	.00
22	.00	.00	.02	7.1	28	53	47	27	.00	.00	.00	.00
23	.00	.00	.16	14	51	47	45	21	.00	.00	.00	.00
24	.00	.00	.07	20	47	49	e45	18	.00	.00	.00	.00
25	.00	.00	.03	21	29	51	e45	18	.00	.00	.00	.00
26	.00	.00	.00	20	29	57	e44	6.3	.00	.00	.00	.00
27	.00	.00	.69	12	28	58	43	.07	.00	.00	.00	.00
28	.00	.00	1.0	20	28	75	42	.07	.00	.00	.00	.00
29	.00	.00	.74	19	---	62	e40	.07	.00	.30	.00	.00
30	.00	.00	.71	21	---	58	37	.07	.00	.36	.00	.00
31	.00	---	.00	31	---	57	---	.07	---	.03	.00	---
TOTAL	0.00	0.00	26.32	3350.71	1528.7	1297	1402	878.65	1.32	0.69	0.00	0.00
MEAN	.000	.000	.85	108	54.6	41.8	46.7	28.3	.044	.022	.000	.000
MAX	.00	.00	11	1340	332	75	57	48	.74	.36	.00	.00
MIN	.00	.00	.00	.00	7.7	18	37	.07	.00	.00	.00	.00
AC-FT	.00	.00	52	6650	3030	2570	2780	1740	2.6	1.4	.00	.00

e Estimated.

## SANTA MARGARITA RIVER BASIN

11042900- SANTA GERTRUDIS CREEK NEAR TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.002	.000	.20	21.8	11.2	13.2	9.62	5.67	.009	.004	.000	.003
MAX	.010	.000	.85	108	54.6	41.8	46.7	28.3	.044	.022	.000	.017
(WY)	1990	1988	1993	1993	1993	1993	1993	1993	1993	1993	1988	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1990	1991	1988	1988	1989	1988	1988	1988	1988	1988

## SUMMARY STATISTICS

## FOR 1993 WATER YEAR

## WATER YEARS 1988 - 1993

ANNUAL TOTAL	8485.39	
ANNUAL MEAN	23.2	5.13
HIGHEST ANNUAL MEAN		23.2 1993
LOWEST ANNUAL MEAN		.006 1990
HIGHEST DAILY MEAN	1340	1340 Jan 16 1993
LOWEST DAILY MEAN	.00	.00 Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	.00 Oct 1 1987
INSTANTANEOUS PEAK FLOW	11500	11500 Jan 16 1993
INSTANTANEOUS PEAK STAGE	8.47	8.47 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	16830	3710
10 PERCENT EXCEEDS	49	5.0
50 PERCENT EXCEEDS	.00	.00
90 PERCENT EXCEEDS	.00	.00

## 11043000 MURRIETA CREEK AT TEMECULA, CA

LOCATION.--Lat 33°28'47", long 117°08'35", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on right bank 0.4 mi upstream from confluence with Temecula Creek, 1.0 mi south of Temecula, and 12 mi downstream from Skinner Reservoir on Tualota Creek.

DRAINAGE AREA.--222 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1924 to current year. Prior to September 1930 monthly discharges only, published in WSP 1315-B.

REVISED RECORDS.--WSP 1345: 1952. WSP 1635: 1932, 1937. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Aug. 30, 1981. Elevation of gage is 970 ft above sea level, from topographic map. See WSP 1735 for history of changes prior to Dec. 16, 1938.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated since 1974 by Skinner Reservoir, capacity, 43,800 acre-ft. Pumping upstream from station for irrigation. Rancho California Water District can discharge into creek, approximately 0.1 mi upstream, to supplement low flow. Varying amounts of backwater caused by beaver dams during low flow periods.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 17.24 ft, on basis of slope-area measurement of peak flow; no flow for many days 1989-93.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1545	273	3.09	Feb. 8	0330	12,400	12.70
Jan. 6	1030	5,090	9.43	Feb. 18	Unknown	8,490	10.75
Jan. 16	Unknown	*25,000	*17.24	Mar. 26	0445	265	2.63
Jan. 31	0245	350	2.86	June 5	1500	157	2.26

No flow for several days in November and December.

REVISIONS.--The maximum discharges reported for water years 1991 and 1992 have been revised to 8,650 ft<sup>3</sup>/s, Mar. 27, 1991, gage height, 11.53 ft, and 5,970 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 10.02 ft, superseding figures published in the reports for 1991 and 1992. Peak discharge for Mar. 1, 1991 (0715 hours), has been revised to 8,610 ft<sup>3</sup>/s, gage height, 11.51 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.2	.73	2.3	50	118	56	36	2.0	.02	.25	.04
2	2.4	.72	3.4	9.9	40	101	54	36	2.2	.02	.21	.04
3	2.4	.00	2.5	5.7	40	90	52	36	4.3	.03	.25	.04
4	2.3	.00	14	1.0	34	90	50	35	7.9	.09	.25	.04
5	2.0	.00	6.7	3.2	31	83	48	34	46	.30	.25	.08
6	2.1	.00	2.5	1400	28	74	46	36	9.0	.41	.25	.08
7	2.2	.00	110	1910	55	69	44	39	1.4	.40	.25	.05
8	2.8	.10	28	597	4310	67	42	40	1.1	.16	.25	.05
9	3.5	.05	.91	63	728	65	39	41	1.2	.12	.31	.03
10	4.2	.83	.02	118	209	58	40	42	1.3	.07	.31	.14
11	2.3	.02	.15	60	127	59	43	40	1.3	.09	.19	.16
12	2.2	.28	.05	85	100	60	41	33	1.3	.10	.21	.30
13	2.2	.01	.00	741	90	62	42	30	1.2	.10	.30	.24
14	2.2	.29	.05	1400	76	59	41	27	1.1	.06	.13	.23
15	2.2	.05	.00	1270	64	57	41	26	.92	.30	.14	.25
16	2.5	.74	.37	e7790	54	59	41	24	.89	e.30	.10	.22
17	2.4	.07	.18	e3000	53	66	41	23	.47	e.30	.10	.21
18	2.5	.55	11	e5000	e900	63	40	22	1.2	e.30	.09	.29
19	1.1	.07	.27	e630	e3000	64	42	23	.75	e.30	.07	.20
20	2.6	.77	.15	314	1720	60	39	22	.73	e.31	.07	.20
21	2.8	.07	.00	193	434	58	38	22	.81	e.31	.06	.43
22	2.5	.09	.00	136	400	54	37	22	e.70	e.32	.06	.32
23	3.5	.07	.82	e120	443	53	38	21	.72	e.32	.05	.26
24	6.2	.06	.20	e90	349	50	38	19	.23	e.32	.05	.29
25	2.3	.06	.00	e70	167	49	37	15	.37	e.33	.06	.31
26	2.4	.05	.00	e56	165	136	37	7.6	.24	e.33	.05	.29
27	2.6	.05	3.3	46	193	93	37	2.5	.15	e.33	.05	.37
28	2.4	.09	55	42	120	114	38	2.1	.17	.33	.05	.74
29	2.3	.08	19	40	---	83	36	1.9	.03	.33	.06	.77
30	6.2	1.4	23	35	---	68	36	1.8	.02	.25	.05	.73
31	9.9	---	4.1	141	---	60	---	1.7	---	.25	.05	---
TOTAL	91.6	7.77	286.40	25369.1	13980	2242	1254	761.6	89.70	7.20	4.57	7.40
MEAN	2.95	.26	9.24	818	499	72.3	41.8	24.6	2.99	.23	.15	.25
MAX	9.9	1.4	110	7790	4310	136	56	42	46	.41	.31	.77
MIN	1.1	.00	.00	1.0	28	49	36	1.7	.02	.02	.05	.03
AC-FT	182	15	568	50320	27730	4450	2490	1510	178	14	9.1	15

e Estimated.

## SANTA MARGARITA RIVER BASIN

11043000 MURRIETA CREEK AT TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1973, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	2.57	7.27	18.2	36.5	32.0	7.85	.92	.55	.41	.40	.65
MAX	1.87	47.3	63.2	289	604	479	167	9.65	1.73	1.20	1.23	9.40
(WY)	1969	1966	1941	1943	1969	1938	1958	1941	1941	1941	1941	1939
MIN	.10	.055	.11	.078	.20	.21	.18	.20	.13	.10	.092	.12
(WY)	1971	1970	1970	1970	1968	1965	1970	1968	1970	1970	1969	1970

## SUMMARY STATISTICS

WATER YEARS 1931 - 1973

ANNUAL TOTAL	
ANNUAL MEAN	8.86
HIGHEST ANNUAL MEAN	56.9
LOWEST ANNUAL MEAN	.39
HIGHEST DAILY MEAN	7200
LOWEST DAILY MEAN	.02
ANNUAL SEVEN-DAY MINIMUM	.03
INSTANTANEOUS PEAK FLOW	17500
INSTANTANEOUS PEAK STAGE	13.80
ANNUAL RUNOFF (AC-FT)	6420
10 PERCENT EXCEEDS	2.9
50 PERCENT EXCEEDS	.60
90 PERCENT EXCEEDS	.20

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.37	1.33	3.16	73.1	91.5	73.5	10.5	5.26	1.46	1.11	1.09	1.86
MAX	3.28	6.48	11.7	818	838	420	85.4	44.2	4.96	2.48	3.05	10.6
(WY)	1988	1983	1985	1993	1980	1978	1980	1980	1978	1985	1985	1976
MIN	.26	.000	.000	.39	.55	.093	.073	.19	.41	.23	.15	.17
(WY)	1975	1990	1990	1975	1977	1990	1989	1988	1975	1993	1993	1977

## SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1974 - 1993

ANNUAL TOTAL	6227.75	44101.34	
ANNUAL MEAN	17.0	121	21.8
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			1.02
HIGHEST DAILY MEAN	1000	Feb 12	7790
LOWEST DAILY MEAN	.00	Jan 2	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.02
INSTANTANEOUS PEAK FLOW			25000
INSTANTANEOUS PEAK STAGE			17.24
ANNUAL RUNOFF (AC-FT)	12350	87470	15780
10 PERCENT EXCEEDS	9.1	100	7.7
50 PERCENT EXCEEDS	1.9	2.3	.82
90 PERCENT EXCEEDS	.00	.05	.11

## 11044000 SANTA MARGARITA RIVER NEAR TEMECULA, CA

LOCATION.--Lat 33°28'26", long 117°08'29", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank at upper end of Temecula Canyon, 0.1 mi downstream from confluence of Murrieta and Temecula Creeks, 1.4 mi south of Temecula, 10 mi downstream from Vail Dam, and about 12 mi downstream from Skinner Reservoir.

DRAINAGE AREA.--588 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1923 to current year. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

REVISED RECORDS.--WSP 981: 1927(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Nov. 3, 1966; buried by sand Nov. 19, 1985, uncovered by high flow in March 1991. Elevation of gage is 950 ft above sea level, from topographic map. Prior to Nov. 3, 1966, at site 100 ft downstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated since November 1948 by Vail Lake (station 11042510) on Temecula Creek, and since 1974 by Skinner Reservoir. Rancho California Water District can discharge into Murrieta Creek, approximately 0.1 mi upstream, to supplement low flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 22.5 ft, from rating curve extended above 4,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily, 0.16 ft<sup>3</sup>/s, Mar. 31, Apr. 1, 11, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,000 ft<sup>3</sup>/s, Jan. 16, gage height, 22.5 ft; minimum daily, 1.0 ft<sup>3</sup>/s, several days in November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.2	e1.5	4.4	64	e170	62	45	8.5	2.1	2.5	3.2
2	2.6	2.4	e5.0	14	48	e140	60	45	7.0	2.1	3.1	3.1
3	2.9	1.5	e4.0	7.7	47	108	57	45	7.5	2.1	3.0	6.2
4	3.0	1.3	e20	3.3	53	97	57	45	7.7	2.3	3.6	20
5	3.0	1.5	e12	4.4	56	87	54	45	64	2.0	4.3	20
6	3.0	1.4	e5.0	2310	56	78	53	45	20	2.1	4.4	8.7
7	3.1	1.3	e135	2950	84	74	52	50	5.9	2.2	3.9	7.8
8	3.1	1.5	e40	689	7290	68	50	49	4.5	2.2	4.1	9.2
9	3.2	1.5	e9.0	68	e1500	72	48	46	6.2	2.2	4.1	9.6
10	2.7	1.9	2.8	204	e300	68	50	45	6.2	2.3	4.4	7.7
11	3.0	1.4	2.1	71	e160	72	51	48	4.4	2.7	7.2	6.8
12	3.1	1.4	2.7	99	e140	73	51	59	2.8	2.8	9.3	8.8
13	3.1	1.4	1.4	969	e110	74	52	51	3.1	3.4	7.7	10
14	3.1	1.3	1.6	2100	e100	71	50	47	4.2	3.7	8.3	10
15	3.0	e1.0	1.4	1720	e85	69	50	50	2.8	3.7	10	12
16	3.0	e1.5	1.7	e13000	e75	70	50	49	2.3	3.3	12	11
17	3.0	e1.0	1.4	e5000	e70	79	50	47	2.5	3.0	15	10
18	3.3	e1.5	16	e7000	e1500	86	50	49	2.3	3.0	14	9.6
19	3.7	e1.0	2.4	e890	e4000	93	49	48	2.2	2.7	14	9.1
20	3.4	e1.5	2.3	e500	e2200	87	48	48	2.2	2.3	15	11
21	3.8	e1.0	1.8	e250	e500	85	47	48	2.2	2.3	15	11
22	3.8	e1.0	1.6	e200	e450	84	44	48	2.1	2.2	14	11
23	5.1	e1.0	2.0	e185	e550	84	44	48	2.1	2.4	16	2.8
24	11	e1.0	2.4	e120	e400	82	44	44	2.2	2.0	17	2.0
25	3.7	e1.0	1.5	e89	e210	82	44	37	2.0	1.7	14	2.0
26	4.2	e1.0	1.4	e65	e220	248	44	17	2.3	1.6	14	1.8
27	3.7	e1.0	4.6	e59	e250	145	44	7.5	2.2	1.6	17	1.7
28	3.7	e1.0	109	e50	e200	193	44	7.1	2.3	1.7	14	1.7
29	3.6	e1.0	31	50	---	98	44	8.1	2.0	1.8	20	1.7
30	8.3	e2.0	58	47	---	79	44	7.2	2.1	2.3	15	1.7
31	16	---	6.5	175	---	67	---	5.8	---	2.4	3.8	---
TOTAL	127.8	41.5	487.1	38893.8	20718	2983	1487	1233.7	187.8	74.2	309.7	231.2
MEAN	4.12	1.38	15.7	1255	740	96.2	49.6	39.8	6.26	2.39	9.99	7.71
MAX	16	3.2	135	13000	7290	248	62	59	64	3.7	20	20
MIN	2.6	1.0	1.4	3.3	47	67	44	5.8	2.0	1.6	2.5	1.7
AC-FT	253	82	966	77150	41090	5920	2950	2450	373	147	614	459

e Estimated.

## 11044000 SANTA MARGARITA RIVER NEAR TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1948, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.04	10.4	21.4	32.6	114	90.3	26.7	10.2	7.01	5.41	5.01	5.93
MAX	11.8	39.3	99.9	369	1205	1007	226	40.2	15.1	9.90	9.65	19.4
(WY)	1942	1945	1941	1943	1927	1938	1941	1941	1941	1941	1941	1939
MIN	3.77	3.11	4.97	8.03	7.59	5.90	4.19	3.62	3.12	1.55	1.90	2.31
(WY)	1925	1930	1930	1936	1925	1931	1928	1929	1929	1929	1926	1926

## SUMMARY STATISTICS

## WATER YEARS 1923 - 1948

ANNUAL MEAN	28.2
HIGHEST ANNUAL MEAN	101
LOWEST ANNUAL MEAN	6.22
HIGHEST DAILY MEAN	19900
LOWEST DAILY MEAN	.90
ANNUAL SEVEN-DAY MINIMUM	.99
INSTANTANEOUS PEAK FLOW	25000
INSTANTANEOUS PEAK STAGE	14.60
ANNUAL RUNOFF (AC-FT)	20390
10 PERCENT EXCEEDS	21
50 PERCENT EXCEEDS	8.5
90 PERCENT EXCEEDS	3.5

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1973, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.39	6.24	8.90	21.8	36.7	18.6	12.4	3.97	3.35	2.79	3.01	3.06
MAX	6.04	53.3	41.4	251	638	212	177	6.70	5.59	4.69	6.38	6.55
(WY)	1954	1966	1966	1952	1969	1952	1958	1949	1949	1949	1953	1953
MIN	2.05	2.22	2.69	2.73	2.54	2.57	2.35	2.39	2.19	1.51	1.28	1.45
(WY)	1967	1967	1965	1965	1965	1965	1972	1970	1973	1972	1972	1970

## SUMMARY STATISTICS

## WATER YEARS 1949 - 1973

ANNUAL MEAN	10.2
HIGHEST ANNUAL MEAN	62.5
LOWEST ANNUAL MEAN	2.96
HIGHEST DAILY MEAN	7730
LOWEST DAILY MEAN	.30
ANNUAL SEVEN-DAY MINIMUM	.67
INSTANTANEOUS PEAK FLOW	14600
INSTANTANEOUS PEAK STAGE	15.32
ANNUAL RUNOFF (AC-FT)	7390
10 PERCENT EXCEEDS	7.3
50 PERCENT EXCEEDS	3.7
90 PERCENT EXCEEDS	2.2

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.61	4.19	5.94	101	125	94.4	13.9	7.78	2.84	2.19	2.48	3.18
MAX	5.01	32.8	21.9	1255	1105	438	85.6	46.6	6.87	4.55	9.99	13.9
(WY)	1988	1986	1985	1993	1980	1978	1980	1980	1978	1980	1993	1976
MIN	1.25	.27	.51	2.35	1.84	.36	.32	.58	.72	.58	.91	1.33
(WY)	1982	1989	1990	1976	1989	1988	1989	1988	1984	1984	1984	1987

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1974 - 1993

ANNUAL TOTAL	9138.33	66774.8	
ANNUAL MEAN	25.0	183	30.0
HIGHEST ANNUAL MEAN			183
LOWEST ANNUAL MEAN			2.17
HIGHEST DAILY MEAN	1190	Feb 12	13000
LOWEST DAILY MEAN	.73	May 14	1.0
ANNUAL SEVEN-DAY MINIMUM	1.0	May 27	1.0
INSTANTANEOUS PEAK FLOW			31000
INSTANTANEOUS PEAK STAGE			22.50
ANNUAL RUNOFF (AC-FT)	18130		132400
10 PERCENT EXCEEDS	17		140
50 PERCENT EXCEEDS	3.1		9.3
90 PERCENT EXCEEDS	1.3		1.7

## 11044250 RAINBOW CREEK NEAR FALLBROOK, CA

LOCATION.--Lat 33°24'27", long 117°12'00", NW 1/4 SE 1/4 sec.9, T.9 S., R.3 W., San Diego County, Hydrologic Unit 18070302, on left bank 1.0 mi upstream of the confluence with Santa Margarita River and 3.4 mi northeast of Fallbrook.

DRAINAGE AREA.--10.3 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1989 to current year.

REVISED RECORDS.--WDR CA-91-1: 1990(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 540 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Undetermined amount of water upstream from station used for irrigation by a local nursery. Water is imported for domestic use and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft<sup>3</sup>/s (estimated), Jan. 16, 1993, gage height, unknown, on basis of slope-area measurement of peak flow; minimum daily, 0.11 ft<sup>3</sup>/s, Oct. 13-15, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	unknown	unknown	unknown	Feb. 8	unknown	unknown	unknown
Jan. 16	unknown	*8,000	*unknown	Feb. 18	unknown	unknown	unknown

Minimum daily, 0.12 ft<sup>3</sup>/s, Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.32	.23	.97	e12	e24	e9.0	e1.8	e1.4	e.52	e.33	.38
2	.48	.22	.37	.44	e10	e20	e8.2	e1.8	e1.3	e.52	e.33	1.8
3	.54	.20	2.2	2.6	e9.0	e18	e7.8	e1.7	e1.3	e.51	e.34	.41
4	.59	.12	3.6	1.0	e8.4	e17	e7.2	e1.7	e1.3	e.50	e.34	.34
5	.81	.18	1.1	.66	e7.6	e15	e6.6	e1.7	e4.0	e.50	e.34	.34
6	.63	.32	.63	.63	e7.0	e14	e6.0	e1.7	e1.5	e.49	.30	.32
7	.56	.15	18	e100	e8.0	e14	e5.6	e1.7	e1.3	e.48	.30	.33
8	.31	.51	2.0	e58	e150	e13	e5.2	e1.7	e1.0	e.47	.30	.33
9	.31	.42	.52	e47	e100	e13	e4.8	e1.7	e.90	e.46	.30	.32
10	.13	.19	e.40	e42	e50	e12	e4.5	e1.6	e.86	e.45	.32	.33
11	.23	.15	e.40	e38	e40	e12	e4.2	e1.6	e.80	e.44	.34	.33
12	.39	.14	1.0	e34	e30	e11	e3.9	e1.6	e.74	e.43	.32	.35
13	.46	.14	.78	e130	e28	e11	e3.7	e1.6	e.70	e.42	.32	.35
14	.36	.14	.48	e100	e26	e10	e3.4	e1.6	e.70	e.41	.34	.36
15	.26	.23	.36	e200	e21	e10	e3.3	e1.6	e.66	e.40	.35	.39
16	.28	.31	.57	e800	e19	e9.0	e3.1	e1.6	e.64	e.39	.34	.40
17	.32	.32	.27	e450	e16	e8.8	e3.0	e1.5	e.62	e.39	.34	.41
18	.35	.32	.26	e370	e120	e8.6	e2.9	e1.5	e.62	e.38	.35	.41
19	.29	.36	2.5	e200	e250	e8.4	e2.7	e1.5	e.60	e.38	.36	.40
20	.26	.35	.55	e100	e150	e8.2	e2.6	e1.5	e.60	e.36	.38	.41
21	.19	.18	.65	e80	e100	e8.2	e2.5	e1.5	e.58	e.35	.37	.41
22	.18	.29	.49	e60	e74	e8.2	e2.4	e1.5	e.58	e.34	.35	.40
23	1.6	.45	.25	e45	e62	e8.2	e2.3	e1.5	e.56	e.34	.35	.39
24	.59	.24	.17	e33	e70	e8.2	e2.2	e1.5	e.56	e.34	.36	.37
25	.31	.19	.14	e25	e50	e10	e2.1	e1.5	e.54	e.34	.34	.36
26	.26	.20	.31	e22	e54	e21	e2.1	e1.4	e.54	e.33	.32	.34
27	.15	.15	.27	e18	e47	e13	e2.0	e1.4	e.54	e.33	.35	.31
28	.16	.26	1.8	e16	e30	e18	e2.0	e1.4	e.54	e.33	.34	.32
29	.45	.43	8.2	e15	---	e13	e1.9	e1.4	e.54	e.33	.36	.31
30	3.7	.31	3.8	e13	---	e11	e1.9	e1.4	e.54	e.33	.36	.33
31	1.4	---	4.5	e15	---	e9.6	---	e1.4	---	e.33	.36	---
TOTAL	16.88	7.79	56.80	3017.30	1549.0	385.4	119.1	48.6	27.06	12.59	10.50	12.25
MEAN	.54	.26	1.83	97.3	55.3	12.4	3.97	1.57	.90	.41	.34	.41
MAX	3.7	.51	18	800	250	24	9.0	1.8	4.0	.52	.38	1.8
MIN	.13	.12	.14	.44	7.0	8.2	1.9	1.4	.54	.33	.30	.31
AC-FT	33	15	113	5980	3070	764	236	96	54	25	21	24

e Estimated.

11044250 RAINBOW CREEK NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.44	.44	1.04	25.6	16.4	9.60	2.71	1.18	.89	.58	.48	.44
MAX	.54	.69	1.83	97.3	55.3	16.2	3.97	1.57	1.53	.90	.68	.52
(WY)	1993	1990	1993	1993	1993	1991	1993	1993	1990	1990	1991	1990
MIN	.35	.26	.46	.65	2.16	1.35	1.47	.83	.56	.41	.34	.38
(WY)	1992	1993	1991	1991	1990	1990	1990	1991	1991	1993	1993	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1990 - 1993			
ANNUAL TOTAL	725.94				5263.27							
ANNUAL MEAN	1.98				14.4				6.19			
HIGHEST ANNUAL MEAN									14.4			
LOWEST ANNUAL MEAN									1.90			
HIGHEST DAILY MEAN	53				800				800			
LOWEST DAILY MEAN	.12				.12				.11			
ANNUAL SEVEN-DAY MINIMUM	.19				.19				.14			
INSTANTANEOUS PEAK FLOW					8000				8000			
ANNUAL RUNOFF (AC-FT)	1440				10440				4480			
10 PERCENT EXCEEDS	3.7				25				5.6			
50 PERCENT EXCEEDS	.57				.64				.66			
90 PERCENT EXCEEDS	.26				.30				.30			

## 11044300 SANTA MARGARITA RIVER AT FALLBROOK PUBLIC UTILITY DISTRICT SUMP, NEAR FALLBROOK, CA

LOCATION.--Lat 33°24'49", long 117°14'25", in NW 1/4 NW 1/4 sec.7, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank 0.3 mi upstream of confluence with Sandia Creek and 2.9 mi north of Fallbrook.

DRAINAGE AREA.--620 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 330 ft above sea level, from topographic map.

REMARKS.--Records poor through April 24 and fair thereafter. Flow partly regulated since November 1948 by Vail Lake (station 11042510) and since 1974 by Skinner Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft<sup>3</sup>/s, estimated, based on regression equation and flood routing of upstream flows, Jan. 16, 1993, gage height, 15.89 ft; no flow several days in 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,000 ft<sup>3</sup>/s, Jan. 16, gage height 15.89 ft, from rating curve extended above 700 ft<sup>3</sup>/s based on regression equation as explained above. Minimum daily, 2.0 ft<sup>3</sup>/s, Nov. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	13	e3.6	9.4	e100	e210	e86	78	30	9.8	9.1	5.5
2	3.5	6.7	e5.0	10	e64	e180	e78	62	30	9.8	9.3	6.0
3	3.5	3.4	e6.8	21	e62	e160	e76	61	31	9.9	9.4	4.6
4	3.5	2.7	24	9.1	e68	e140	e75	61	33	11	9.1	4.3
5	2.6	2.5	44	6.0	e72	e137	e74	59	78	11	10	4.6
6	2.6	2.5	38	e2600	e75	e135	e73	56	73	11	11	4.7
7	2.8	2.3	267	e3400	e125	e125	e72	60	45	11	9.8	5.8
8	2.6	2.5	187	e800	e7800	e120	e72	63	41	12	8.6	6.1
9	2.8	3.2	21	e140	e1700	e118	e72	62	40	13	8.5	6.9
10	3.0	2.9	6.5	e270	e400	e115	e71	62	39	14	9.6	8.6
11	2.9	3.1	4.9	e150	e225	e112	e71	62	34	14	10	9.1
12	2.5	2.8	5.8	200	e200	e112	e70	62	29	14	10	9.5
13	2.5	2.2	5.7	1250	e145	e110	e70	62	26	14	10	10
14	2.2	2.5	4.6	e2500	e130	e105	e70	60	21	13	13	11
15	2.5	2.5	4.6	e2300	e118	e102	e69	58	19	12	13	13
16	2.2	2.2	5.4	e14300	e105	e100	e68	58	17	11	13	13
17	2.1	2.0	5.7	e5900	e100	e96	e68	58	16	11	12	14
18	2.4	3.1	12	e7700	e1690	e95	e68	58	15	11	9.8	14
19	3.0	e3.0	16	e1200	e4700	e94	e68	56	15	11	9.2	14
20	2.8	e2.9	8.0	e700	e2500	e92	e67	56	16	11	10	15
21	2.5	e2.9	6.6	e365	e700	e90	e67	56	14	10	10	16
22	2.9	e3.0	5.0	e300	e600	e88	e66	56	13	11	10	12
23	4.3	e3.0	4.8	e260	e720	e86	e66	58	11	11	9.5	15
24	6.3	e2.9	4.6	e180	e510	e85	e67	60	10	13	9.4	8.9
25	8.0	e2.9	4.1	e130	e280	e84	68	54	9.2	13	10	7.4
26	6.4	e3.0	4.1	e95	e300	e320	71	45	8.3	12	10	6.8
27	6.6	e3.0	3.6	e80	e350	e220	69	31	8.4	11	9.3	6.5
28	7.0	e3.0	125	e74	e250	e250	68	29	9.3	10	9.7	6.2
29	7.4	e3.1	32	e70	---	e150	64	28	13	10	11	6.1
30	7.2	e3.1	79	e67	---	e110	68	30	9.8	9.8	12	6.2
31	34	---	20	e225	---	e92	---	30	---	9.1	8.5	---
TOTAL	148.1	97.9	964.4	45311.5	24089	4033	2112	1691	754.0	354.4	313.8	270.8
MEAN	4.78	3.26	31.1	1462	860	130	70.4	54.5	25.1	11.4	10.1	9.03
MAX	34	13	267	14300	7800	320	86	78	78	14	13	16
MIN	2.1	2.0	3.6	6.0	62	84	64	28	8.3	9.1	8.5	4.3
AC-FT	294	194	1910	89880	47780	8000	4190	3350	1500	703	622	537

e Estimated.

## 11044300 SANTA MARGARITA RIVER AT FALLBROOK PUBLIC UTILITY DISTRICT SUMP, NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.49	2.55	13.2	378	273	175	26.5	20.3	10.6	5.47	5.44	5.51
MAX	6.71	3.26	31.1	1462	860	490	70.4	54.5	25.1	11.4	10.1	9.03
(WY)	1990	1993	1993	1993	1993	1991	1993	1993	1993	1993	1993	1993
MIN	4.31	1.48	1.66	4.65	22.8	2.50	4.51	6.28	5.78	2.11	1.00	1.22
(WY)	1991	1992	1990	1991	1990	1990	1990	1990	1992	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1990 - 1993		
ANNUAL TOTAL	10776.75			80139.9					
ANNUAL MEAN	29.4			220			76.0		
HIGHEST ANNUAL MEAN							220		
LOWEST ANNUAL MEAN							5.99		
HIGHEST DAILY MEAN	1580			Feb 13			14300		
LOWEST DAILY MEAN	.14			Jan 25			2.0		
ANNUAL SEVEN-DAY MINIMUM	.50			Jan 30			2.3		
INSTANTANEOUS PEAK FLOW							34000		
INSTANTANEOUS PEAK STAGE							15.89		
ANNUAL RUNOFF (AC-FT)	21380			159000			55060		
10 PERCENT EXCEEDS	27			204			68		
50 PERCENT EXCEEDS	5.9			14			5.3		
90 PERCENT EXCEEDS	2.6			3.0			1.7		

11044350 SANDIA CREEK NEAR FALLBROOK, CA

LOCATION.--Lat 33°25'03", long 117°14'47", SE 1/4 SE 1/4 sec.1, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank 0.4 mi north of intersection of Sandia and Rock Mountain Roads, 0.2 mi upstream from mouth, and 3.3 mi north of Fallbrook.

DRAINAGE AREA.--21.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1989 to current year.

REVISED RECORDS.--WDR CA-91-1: 1990(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 330 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Daily discharges estimated from Jan. 5 to Sept. 30 (gage destroyed in flood of Jan. 16, 1993). No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 17.60 ft, from floodmarks (may have been affected by backwater from the Santa Margarita River); minimum daily, 0.15 ft<sup>3</sup>/s, Sept. 13, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	Unknown	1,290	7.80	Feb. 18	Unknown	Unknown	Unknown
Jan. 16	Unknown	*5,100	*17.60	Mar. 26	Unknown	Unknown	Unknown
Feb. 8	Unknown	Unknown	Unknown				

Minimum daily, 0.90 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	2.1	1.1	4.3	e23	e80	e21	e8.6	e10	e5.9	e1.7	e1.3
2	1.1	2.1	1.1	5.2	e20	e65	e20	e8.5	e10	e5.8	e1.7	e1.3
3	1.6	1.9	1.3	4.9	e17	e58	e19	e8.5	e11	e5.6	e1.7	e1.3
4	1.6	2.1	2.4	4.1	e16	e53	e19	e8.4	e12	e5.4	e1.6	e1.3
5	1.7	2.0	2.0	e3.5	e14	e50	e18	e8.4	e15	e5.2	e1.6	e1.3
6	1.4	2.0	1.9	e200	e15	e47	e18	e8.4	e13	e5.1	e1.6	e1.3
7	1.5	1.9	10	e400	e19	e45	e18	e8.4	e11	e5.0	e1.6	e1.3
8	1.5	2.0	7.4	e200	e450	e43	e17	e8.4	e10	e4.7	e1.6	e1.3
9	1.3	2.4	5.2	e100	e150	e41	e17	e8.4	e9.5	e4.6	e1.6	e1.3
10	1.1	2.4	3.6	e84	e90	e39	e17	e8.5	e8.8	e4.5	e1.6	e1.3
11	1.9	2.2	3.5	e76	e70	e37	e17	e8.6	e8.2	e4.4	e1.5	e1.3
12	2.7	2.0	2.8	e70	e60	e35	e16	e8.7	e7.8	e4.3	e1.5	e1.3
13	2.2	2.1	2.5	e350	e58	e33	e16	e8.8	e7.4	e4.2	e1.5	e1.2
14	3.1	2.0	2.9	e300	e52	e31	e15	e9.0	e7.0	e4.1	e1.5	e1.2
15	3.3	2.0	3.0	e800	e43	e29	e15	e9.2	e6.8	e4.0	e1.5	e1.2
16	1.3	2.6	3.5	e2000	e37	e28	e14	e9.4	e6.6	e3.7	e1.5	e1.2
17	2.0	2.3	3.4	e900	e34	e27	e14	e9.6	e6.5	e3.5	e1.5	e1.2
18	1.6	2.4	3.9	e700	e450	e27	e14	e9.8	e6.4	e3.2	e1.4	e1.2
19	1.7	2.5	2.2	e300	e600	e27	e13	e11	e6.3	e3.0	e1.4	e1.2
20	2.5	2.1	1.6	e200	e350	e27	e13	e10	e6.2	e2.8	e1.4	e1.2
21	2.6	1.7	1.9	e150	e180	e26	e12	e10	e6.2	e2.6	e1.4	e1.2
22	2.4	1.8	1.5	e100	e140	e25	e12	e10	e6.2	e2.5	e1.4	e1.2
23	2.8	2.1	1.4	e86	e150	e24	e11	e10	e6.2	e2.4	e1.4	e1.2
24	2.9	2.2	1.3	e70	e140	e24	e11	e10	e6.2	e2.3	e1.4	e1.2
25	2.4	2.1	1.4	e50	e105	e25	e10	e10	e6.2	e2.2	e1.4	e1.2
26	2.1	1.7	1.4	e44	e110	e40	e10	e10	e6.2	e2.1	e1.4	e1.2
27	2.0	1.8	1.5	e38	e98	e27	e9.8	e11	e6.2	e2.0	e1.3	e1.2
28	2.2	1.7	7.9	e33	e90	e35	e9.4	e12	e6.2	e1.9	e1.3	e1.2
29	2.4	1.7	6.8	e29	---	e25	e9.0	e11	e6.2	e1.9	e1.3	e1.2
30	3.8	1.5	7.2	e26	---	e23	e8.8	e10	e6.0	e1.8	e1.3	e1.1
31	3.6	---	5.1	e30	---	e22	---	e10	---	e1.8	e1.3	---
TOTAL	65.20	61.4	102.7	7358.0	3581	1118	434.0	292.6	241.3	112.5	45.9	37.1
MEAN	2.10	2.05	3.31	237	128	36.1	14.5	9.44	8.04	3.63	1.48	1.24
MAX	3.8	2.6	10	2000	600	80	21	12	15	5.9	1.7	1.3
MIN	.90	1.5	1.1	3.5	14	22	8.8	8.4	6.0	1.8	1.3	1.1
AC-FT	129	122	204	14590	7100	2220	861	580	479	223	91	74

e Estimated.

11044350 SANDIA CREEK NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.38	1.64	2.56	62.3	39.8	31.5	11.2	6.81	4.81	2.18	1.49	1.06
MAX	2.10	2.05	3.31	237	128	64.8	14.6	9.44	8.04	3.63	2.41	1.30
(WY)	1993	1993	1993	1993	1993	1991	1991	1993	1993	1993	1992	1992
MIN	1.09	1.34	1.88	2.77	5.34	4.28	4.93	2.89	2.08	.54	.51	.44
(WY)	1990	1992	1990	1991	1991	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	2476.16		13449.70			
ANNUAL MEAN	6.77		36.8		13.8	
HIGHEST ANNUAL MEAN					36.8	
LOWEST ANNUAL MEAN					2.65	
HIGHEST DAILY MEAN	156	Mar 23	2000	Jan 16	2000	Jan 16 1993
LOWEST DAILY MEAN	.82	Sep 13	.90	Oct 1	.15	Sep 13 1990
ANNUAL SEVEN-DAY MINIMUM	.99	Sep 25	1.2	Sep 24	.23	Sep 8 1990
INSTANTANEOUS PEAK FLOW			5100	Jan 16	5100	Jan 16 1993
INSTANTANEOUS PEAK STAGE			17.60	Jan 16	17.60	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	4910		26680		10000	
10 PERCENT EXCEEDS	14		62		17	
50 PERCENT EXCEEDS	3.3		5.8		2.5	
90 PERCENT EXCEEDS	1.5		1.3		.98	

## SANTA MARGARITA RIVER BASIN

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11044800 DE LUZ CREEK NEAR DE LUZ, CA

LOCATION.--Lat 33°25'11", long 117°19'15", in SW 1/4 SE 1/4 sec. 5, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank 4.85 mi upstream from mouth and 1.2 mi south of De Luz.

DRAINAGE AREA.--33.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1992 to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 270 ft above sea level, from topographic map. February 1951 to September 1965 and October 1989 to September 1991, at site 4.2 mi downstream (published as 11044900, De Luz Creek near Fallbrook).

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 15.13 ft, on basis of flow-over-road computation; minimum daily, 0.35 ft<sup>3</sup>/s, Sept. 24, 25.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 385 ft<sup>3</sup>/s on basis of flow-over-road computation:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0345	1,370	8.85	Feb. 8	0245	1,580	8.23
Jan. 16	1715	*9,700	*15.13	Feb. 18	1630	2,280	9.16

Minimum daily, 0.35 ft<sup>3</sup>/s, Sept. 24, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.85	e2.4	1.3	3.5	35	127	28	9.8	13	4.5	e.91	e.49
2	e.85	e2.1	1.3	4.2	31	116	25	9.2	8.7	3.9	e.89	e.46
3	e.87	e2.0	1.3	5.0	28	90	25	6.5	10	3.2	e.86	e.47
4	e.86	e1.8	1.4	6.3	25	72	23	8.0	12	3.6	e.83	e.47
5	e.87	e1.5	1.4	6.4	23	65	24	9.7	16	3.8	e.85	e.46
6	e.87	e1.3	1.4	264	23	55	25	9.5	13	3.3	e.84	e.43
7	e.88	e1.2	14	613	29	53	23	8.0	13	3.0	e.81	e.41
8	e.90	e1.2	5.1	338	657	51	22	9.9	13	2.7	e.79	e.44
9	e.90	e1.1	3.7	150	261	51	22	7.7	11	2.6	e.79	e.46
10	e.91	e1.1	3.3	132	141	46	22	8.5	7.7	2.7	e.75	e.43
11	e.90	e1.0	3.0	115	110	42	20	7.0	7.4	2.5	e.70	e.41
12	e.90	e1.0	2.8	110	95	36	19	10	8.0	3.4	e.68	e.40
13	e.91	e1.0	2.4	548	90	33	18	9.3	7.0	3.3	e.64	e.40
14	e.91	1.1	2.3	530	76	32	20	11	5.7	2.2	e.65	e.41
15	e.92	1.2	2.0	817	65	31	17	11	5.3	3.0	e.61	e.42
16	e.92	1.2	1.9	3220	59	29	19	9.1	6.5	2.7	e.60	e.40
17	e.91	1.1	2.0	1420	51	28	17	10	6.9	2.6	e.58	e.39
18	e.93	1.2	2.1	1130	647	28	19	9.8	6.1	2.4	e.57	e.37
19	e.93	1.2	2.1	514	950	28	16	14	5.6	2.2	e.58	e.37
20	e.93	1.2	2.1	334	576	28	16	9.5	4.4	1.6	e.60	e.36
21	e.94	1.2	2.1	242	301	29	15	9.5	4.2	e1.6	e.59	e.38
22	e.94	1.2	2.0	183	220	30	14	9.9	4.4	e1.5	e.56	e.36
23	e1.1	1.2	1.9	139	239	30	14	8.1	4.3	e1.3	e.53	e.36
24	e1.0	1.3	1.8	110	233	30	14	9.8	4.2	e1.3	e.55	e.35
25	e.96	1.4	1.8	78	164	31	12	7.9	3.8	e1.0	e.53	e.35
26	e.95	1.2	1.8	68	169	63	11	11	3.5	e.94	e.55	e.36
27	e.95	1.2	1.9	56	156	41	9.4	11	4.3	e.90	e.51	e.36
28	e.95	1.3	2.5	50	141	57	11	15	e4.0	e.89	e.50	e.36
29	e.97	1.2	3.2	45	---	40	9.9	7.7	3.7	e.88	e.50	e.36
30	e2.5	1.2	3.2	41	---	34	10	7.9	3.2	e.90	e.47	e.37
31	e4.0	---	3.0	45	---	30	---	7.1	---	e.95	e.49	---
TOTAL	33.18	39.3	82.1	11317.4	5595	1456	540.3	292.4	219.9	71.36	20.31	12.06
MEAN	1.07	1.31	2.65	365	200	47.0	18.0	9.43	7.33	2.30	.66	.40
MAX	4.0	2.4	14	3220	950	127	28	15	16	4.5	.91	.49
MIN	.85	1.0	1.3	3.5	23	28	9.4	6.5	3.2	.88	.47	.35
AC-FT	66	78	163	22450	11100	2890	1070	580	436	142	40	24

e Estimated.

## SANTA MARGARITA RIVER BASIN

11044800 DE LUZ CREEK NEAR DE LUZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.07	1.31	2.65	365	200	47.0	18.0	9.43	7.33	2.30	.66	.40
MAX	1.07	1.31	2.65	365	200	47.0	18.0	9.43	7.33	2.30	.66	.40
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	1.07	1.31	2.65	365	200	47.0	18.0	9.43	7.33	2.30	.66	.40
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993

## SUMMARY STATISTICS

## FOR 1993 WATER YEAR

ANNUAL TOTAL	19679.31	
ANNUAL MEAN	53.9	
HIGHEST DAILY MEAN	3220	Jan 16
LOWEST DAILY MEAN	.35	Sep 24
ANNUAL SEVEN-DAY MINIMUM	.36	Sep 22
INSTANTANEOUS PEAK FLOW	9700	Jan 16
INSTANTANEOUS PEAK STAGE	15.13	Jan 16
ANNUAL RUNOFF (AC-FT)	39030	
10 PERCENT EXCEEDS	101	
50 PERCENT EXCEEDS	3.8	
90 PERCENT EXCEEDS	.53	

## 11046000 SANTA MARGARITA RIVER AT YSIDORA, CA

LOCATION.--Lat 33°18'40", long 117°20'47", in NW 1/4 NW 1/4 sec.18, T.10 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Pendleton Marine Corps Base, on right bank upstream side of Basilone Road Bridge, 7.9 mi upstream from mouth, and 5.2 mi upstream from Ysidora.

DRAINAGE AREA.--723 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1923 to current year. Low-flow records not equivalent prior to Dec. 10, 1980, due to installation of conservation ponds above downstream site.

REVISED RECORDS.--WDR CA-87-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 75 ft above sea level, from topographic map. February 1923 to Feb. 16, 1927, at site 4.4 mi downstream at different datum (destroyed by flood). Feb. 17, 1927, to Feb. 1, 1931, no gage in operation; records based on discharge measurements. Feb. 2, 1931, to Feb. 24, 1970, at site 5.4 mi downstream at different datum; Feb. 25, 1970, to Dec. 10, 1980, at site 6.2 mi downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated by Vail Lake (station 11042510) since November 1948 and by Skinner Reservoir since 1974.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft<sup>3</sup>/s, estimated, based on regression equation and flood routing of upstream flows, Jan. 16, 1993, gage height, 20.47 ft; no flow for all or part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,000 ft<sup>3</sup>/s, estimated as explained above, Jan. 16, gage height, 20.47 ft; no flow on Sept. 30, because of channel construction upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	14	2.5	65	e250	e571	167	92	e47	e10	e7.0	e7.0
2	.61	12	2.6	58	e230	e485	163	98	e47	e10	e7.0	e6.0
3	.50	7.4	2.9	56	e200	e429	165	93	e45	e9.5	e7.0	e4.0
4	.45	4.9	3.1	58	e210	e353	153	88	e50	e10	e6.9	e3.5
5	.32	3.0	3.6	56	e190	e333	149	86	e75	e11	e6.9	e3.0
6	4.3	2.3	8.1	2060	e190	e327	136	86	e55	e10	e6.7	e3.5
7	10	2.2	9.9	6240	e230	e296	132	86	e50	e11	e6.4	e4.0
8	11	2.2	163	2580	e9200	e248	133	84	e47	e11	e6.3	e5.0
9	12	1.9	126	526	e2300	e218	142	90	e45	e12	e6.6	e6.0
10	12	1.8	63	294	e700	e211	128	86	e45	e12	e7.0	e7.0
11	12	1.6	56	255	e500	e220	127	79	e41	e11	e7.0	e7.2
12	10	1.6	51	105	e400	216	144	82	e38	e11	e7.5	e7.0
13	8.3	1.7	47	1080	357	212	119	73	e35	e10	e8.0	e7.0
14	7.6	1.7	46	3690	335	213	118	78	e30	e10	e9.0	e7.1
15	6.1	1.6	43	e4000	310	214	111	69	e25	e9.5	e10	e8.0
16	5.7	1.4	37	e22000	293	218	108	69	e23	e8.5	e10	e7.3
17	6.2	1.4	34	e9000	302	212	104	67	e23	e8.5	e9.5	e8.0
18	5.4	1.5	33	e9800	e2900	210	101	65	e22	e8.3	e9.0	e7.5
19	5.0	1.8	42	e2200	e6400	202	105	e60	e21	e8.2	e9.5	e7.5
20	5.5	1.6	44	e1400	e3600	203	100	e60	e20	e8.2	e10	e7.0
21	5.0	1.7	40	e900	e1200	200	98	e60	e19	e8.0	e10	e6.5
22	5.2	1.9	39	e700	e1100	196	98	e56	e18	e8.2	e10	e7.0
23	5.3	1.9	38	e600	e1200	188	100	e56	e17	e8.0	e10	e6.5
24	5.1	2.0	39	e450	e971	177	96	e53	e16	e7.8	e9.0	e5.0
25	4.9	2.1	39	e350	e737	173	93	e50	e15	e8.0	e9.0	e4.0
26	5.0	1.9	38	e300	e675	232	90	e48	e13	e7.8	e8.0	e2.0
27	5.3	2.0	36	e250	e692	194	88	e50	e12	e8.0	e8.0	e1.0
28	5.5	2.2	60	e230	e606	210	85	e50	e11	e7.4	e7.4	e.70
29	6.0	2.2	87	e220	---	176	87	e48	e11	e7.0	e8.0	e.50
30	6.1	2.4	82	e200	---	161	95	e47	e10	e7.4	e7.5	e.00
31	6.5	---	85	e380	---	150	---	e47	---	e7.0	e8.0	---
TOTAL	183.51	87.9	1400.7	70103	36278	7648	3535	2156	926	284.3	252.2	155.80
MEAN	5.92	2.93	45.2	2261	1296	247	118	69.5	30.9	9.17	8.14	5.19
MAX	12	14	163	22000	9200	571	167	98	75	12	10	8.0
MIN	.32	1.4	2.5	56	190	150	85	47	10	7.0	6.3	.00
AC-FT	364	174	2780	139000	71960	15170	7010	4280	1840	564	500	309

e Estimated.

## SANTA MARGARITA RIVER BASIN

11046000 SANTA MARGARITA RIVER AT YSIDORA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1948, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.31	6.31	30.9	58.5	152	190	58.9	11.8	3.21	.54	.29	.88
MAX	13.3	65.8	141	532	1002	1730	465	101	28.7	3.15	2.30	13.5
(WY)	1942	1945	1941	1943	1937	1938	1941	1941	1941	1936	1935	1939
MIN	.000	.000	.000	.000	1.32	1.18	1.33	.000	.000	.000	.000	.000
(WY)	1924	1924	1948	1948	1925	1925	1925	1948	1923	1923	1923	1923

## SUMMARY STATISTICS

WATER YEARS 1923 - 1948

ANNUAL MEAN	43.3
HIGHEST ANNUAL MEAN	169
LOWEST ANNUAL MEAN	.77
HIGHEST DAILY MEAN	15500
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	33600
INSTANTANEOUS PEAK STAGE	18.00
ANNUAL RUNOFF (AC-FT)	31390
10 PERCENT EXCEEDS	53
50 PERCENT EXCEEDS	1.6
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1980, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.007	1.31	4.30	69.8	153	84.3	26.3	3.84	.65	.17	.036	.030
MAX	.23	41.7	71.7	749	2249	1071	379	52.7	12.1	3.14	.80	.67
(WY)	1970	1966	1967	1978	1980	1978	1958	1980	1979	1979	1980	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1949	1949	1949	1949	1950	1950	1949	1949	1949	1949	1949	1949

## SUMMARY STATISTICS

WATER YEARS 1949 - 1980

ANNUAL MEAN	27.9
HIGHEST ANNUAL MEAN	282
LOWEST ANNUAL MEAN	.000
HIGHEST DAILY MEAN	18000
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	24000
INSTANTANEOUS PEAK STAGE	18.80
ANNUAL RUNOFF (AC-FT)	20250
10 PERCENT EXCEEDS	4.4
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.58	17.6	33.6	206	156	172	46.1	20.6	8.95	2.81	3.46	1.44
MAX	39.3	62.0	124	2261	1296	797	202	89.1	30.9	9.69	31.6	5.19
(WY)	1984	1984	1984	1993	1993	1983	1983	1983	1993	1983	1983	1993
MIN	.000	.000	.013	4.74	8.27	3.85	4.16	1.58	.000	.000	.000	.000
(WY)	1982	1985	1990	1991	1989	1987	1984	1984	1984	1981	1981	1981

## SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1981 - 1993

ANNUAL TOTAL	18065.97	123010.41	
ANNUAL MEAN	49.4	337	55.8
HIGHEST ANNUAL MEAN			337
LOWEST ANNUAL MEAN			4.59
HIGHEST DAILY MEAN	2350	Feb 13	22000
LOWEST DAILY MEAN	.32	Oct 5	.00
ANNUAL SEVEN-DAY MINIMUM	.56	Sep 29	1.6
INSTANTANEOUS PEAK FLOW			44000
INSTANTANEOUS PEAK STAGE			20.47
ANNUAL RUNOFF (AC-FT)	35830		244000
10 PERCENT EXCEEDS	81		366
50 PERCENT EXCEEDS	12		38
90 PERCENT EXCEEDS	1.8		2.6

## 11046050 SANTA MARGARITA RIVER AT MOUTH NEAR OCEANSIDE, CA

LOCATION.--Lat 33°14'08", long 117°24'27", in SW 1/4 NE 1/4 sec.9, T.11 S., R.8 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank 300 ft downstream from bridge on Interstate Highway 5, 0.5 mi upstream from mouth, and 3.5 mi northwest of Oceanside.

DRAINAGE AREA.--744 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1989 to current year. Unpublished records for water year 1989 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 2.78 ft below sea level.

REMARKS.--Gage height generally affected by tide.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.10 ft, from floodmarks and hydrographers' notes, Jan. 16, 1993; minimum daily, 3.31 ft, Feb. 28, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 15.10 ft, Jan. 16; minimum daily, 3.31 ft, Feb. 28.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.58	4.12	3.81	4.03	e3.73	e3.33	e3.47	e3.66	e3.98	4.57	4.48	4.71
2	4.58	e4.03	4.26	4.04	e3.88	e3.43	e3.72	e3.64	e4.25	4.63	4.44	4.60
3	4.40	e4.01	4.43	4.09	e4.00	e3.53	e3.77	e3.79	4.31	4.67	4.45	4.56
4	4.36	e3.90	4.53	4.07	e4.20	e3.63	e3.84	e4.02	4.41	4.65	4.38	4.55
5	4.47	4.06	4.38	4.29	e4.30	e3.74	e3.99	e3.89	4.44	4.57	4.35	4.53
6	4.42	4.17	4.42	e5.10	e4.34	e3.85	e3.91	e3.76	4.34	4.46	4.26	4.46
7	e4.28	4.32	4.84	7.25	e4.40	e3.94	e3.77	e3.86	4.23	4.49	4.18	4.46
8	e4.37	4.54	4.82	7.19	e5.35	e3.97	e3.61	e3.90	4.23	4.50	4.01	4.55
9	4.39	4.66	4.58	e6.37	e4.78	e3.87	e3.50	e3.72	4.11	4.68	3.89	4.62
10	4.35	4.59	4.58	e5.80	e3.90	e3.77	e3.49	e3.60	3.89	4.77	3.81	4.66
11	4.33	4.46	4.53	5.62	e3.65	e3.73	e3.50	e3.65	3.98	4.61	3.96	4.72
12	4.37	e4.46	4.56	5.19	e3.53	e3.56	e3.55	e3.70	4.09	4.63	4.16	4.97
13	4.38	4.44	4.22	5.59	e3.51	e3.56	e3.62	e3.58	4.03	4.69	4.27	5.10
14	4.35	4.33	3.97	6.72	e3.69	e3.58	e3.55	e3.56	3.99	4.81	4.38	5.01
15	4.33	4.19	3.93	6.36	e3.71	e3.56	e3.45	e3.67	4.11	4.92	4.48	5.00
16	4.26	4.18	3.85	e11.50	e3.73	e3.58	e3.46	e3.68	4.31	5.00	4.73	4.94
17	e4.14	4.18	3.88	e9.20	e3.78	e3.65	e3.44	3.86	4.38	5.06	4.59	4.88
18	e4.00	4.29	4.15	5.97	e4.29	e3.75	e3.45	e3.79	4.53	5.08	4.58	4.84
19	e4.23	4.37	4.09	4.90	5.33	e3.73	e3.61	e3.80	4.44	4.98	4.50	4.74
20	4.39	4.63	4.13	e4.15	5.13	e3.76	e3.54	e4.00	4.42	4.88	4.36	4.52
21	4.48	4.54	4.21	e4.03	4.34	e3.78	e3.54	e3.93	4.33	4.74	4.37	4.35
22	e4.62	4.67	4.24	e4.00	e4.04	e3.74	e3.71	e3.98	4.37	4.60	4.30	4.26
23	e4.70	4.75	4.20	e3.94	e3.97	e3.73	e3.71	e3.91	4.37	4.55	4.14	4.21
24	e4.85	4.63	4.27	e3.84	4.06	e3.85	e3.61	e3.83	4.29	4.48	4.23	4.21
25	e4.91	4.49	4.22	e3.73	e3.67	e4.03	e3.54	e3.77	4.29	4.43	4.49	4.35
26	e4.90	4.28	4.09	e3.69	e3.59	e4.10	e3.61	e3.88	4.32	4.38	4.51	4.39
27	4.86	4.23	4.10	e3.66	e3.54	e3.76	e3.68	e3.81	4.27	4.37	4.49	4.37
28	e4.54	4.34	4.14	e3.60	e3.31	e3.61	e3.57	e3.70	4.31	4.41	4.65	4.45
29	4.51	4.08	4.12	e3.60	---	e3.51	e3.51	e3.63	4.40	4.45	4.81	4.47
30	4.35	3.74	4.14	e3.75	---	e3.46	e3.59	e3.66	4.44	4.45	4.84	4.37
31	4.30	---	4.07	e3.70	---	e3.47	---	e3.76	---	4.43	4.78	---
MAX	4.91	4.75	4.84	11.50	5.35	4.10	3.99	4.02	4.53	5.08	4.84	5.10
MIN	4.00	3.74	3.81	3.60	3.31	3.33	3.44	3.56	3.89	4.37	3.81	4.21

CAL YR 1992 MAX 6.92 MIN 3.74  
WTR YR 1993 MAX 11.50 MIN 3.31

e Estimated.

## 11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°30'09", long 117°38'50", in NW 1/4 SE 1/4 sec.6, T.8 S., R.8 W., Orange County, Hydrologic Unit 18070301, on right bank 20 ft downstream from La Novia Street Bridge, 1.3 mi upstream from Arroyo Trabuco Creek, and 0.8 mi east of San Juan Capistrano.

DRAINAGE AREA.--109 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year. October 1985 to September 1986, published as San Juan Creek at San Juan Capistrano.

GAGE.--Water-stage recorder. Elevation of gage is 100 ft above sea level, from topographic map.

REMARKS.--Records fair. No estimated daily discharges. No regulation upstream from station. Capistrano Water Co. diverts water 2.0 mi upstream. Various amounts of diverted water reach station as irrigation return flow. October 1928 to September 1969 and October 1969 to September 1985, data published as San Juan Creek near San Juan Capistrano (Station 11046500) and San Juan Creek at San Juan Capistrano (station 11046550), which are located approximately 1.9 mi upstream and 1.0 mi downstream, respectively. Data for these sites are roughly equivalent.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,320 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 18.64 ft; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a discharge of 22,400 ft<sup>3</sup>/s, at site 1.9 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1030	350	14.27	Feb. 8	2345	2,240	17.00
Jan. 8	0130	1,660	16.03	Feb. 20	0130	3,510	17.60
Jan. 16	1915	*8,320	*18.64				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.91	1.2	6.1	107	313	63	36	11	4.5	2.3	1.2
2	.00	.78	1.3	9.3	102	265	61	36	11	4.2	2.4	1.2
3	.00	.70	1.4	7.7	98	227	58	34	11	4.2	2.6	1.4
4	.00	.48	1.4	5.0	94	200	56	36	11	4.8	2.6	1.4
5	.00	.21	1.4	4.6	98	157	55	34	26	4.1	2.2	1.5
6	.00	.08	1.5	202	96	126	55	32	18	4.7	2.2	1.5
7	.00	.18	109	917	100	108	53	32	13	3.3	2.4	1.3
8	.00	.56	29	755	1010	102	52	31	12	3.5	2.4	1.2
9	.00	.59	9.4	176	979	99	51	30	11	3.4	2.4	1.2
10	.00	.59	9.4	132	528	96	50	28	8.7	3.3	2.5	1.3
11	.00	.59	8.7	104	453	94	48	26	7.3	3.2	2.4	1.3
12	.00	.57	7.7	75	395	93	48	25	8.0	3.2	2.4	1.4
13	.00	.45	7.0	147	337	91	46	24	7.9	3.2	2.4	1.6
14	.00	.31	6.3	523	287	84	44	23	8.6	3.1	2.3	2.2
15	.00	.29	6.1	961	216	79	42	22	8.8	2.7	2.4	2.4
16	.00	.35	5.6	3860	162	76	41	20	8.0	2.5	2.3	2.5
17	.00	.40	5.4	2280	129	74	42	19	7.3	2.5	2.3	2.6
18	.00	.47	5.8	3310	621	72	43	18	6.8	2.5	2.3	2.7
19	.00	.66	5.1	1270	1740	70	45	18	6.7	2.5	2.4	2.7
20	.00	.78	4.5	713	2110	71	43	14	6.5	2.5	2.4	2.5
21	.00	.81	3.6	564	855	68	44	12	6.1	2.5	2.6	2.6
22	.00	.88	3.4	459	626	65	44	11	5.7	2.5	2.7	2.8
23	.00	1.1	3.2	375	578	63	44	11	4.7	2.5	2.4	2.8
24	.00	1.1	2.9	302	582	62	42	12	4.8	1.7	2.2	2.4
25	.00	1.1	2.9	248	445	67	42	12	5.3	2.6	2.1	2.4
26	.00	1.1	2.9	204	498	117	40	11	4.4	3.5	1.4	2.4
27	.00	1.2	3.4	166	460	109	38	10	4.5	2.6	1.1	2.2
28	.00	1.2	5.8	141	349	118	36	10	4.4	2.4	1.1	2.1
29	.00	1.2	14	124	---	84	34	11	4.5	2.5	1.4	2.2
30	.92	1.2	12	118	---	70	37	11	4.3	2.5	1.3	2.4
31	1.0	---	6.8	117	---	65	---	11	---	2.4	1.2	---
TOTAL	1.92	20.84	288.1	18275.7	14055	3385	1397	660	257.3	95.6	67.1	59.4
MEAN	.062	.69	9.29	590	502	109	46.6	21.3	8.58	3.08	2.16	1.98
MAX	1.0	1.2	109	3860	2110	313	63	36	26	4.8	2.7	2.8
MIN	.00	.08	1.2	4.6	94	62	34	10	4.3	1.7	1.1	1.2
AC-FT	3.8	41	571	36250	27880	6710	2770	1310	510	190	133	118

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.048	.72	3.09	76.5	74.5	37.0	9.99	3.46	1.41	.47	.27	.25
MAX	.20	3.93	9.29	590	502	109	46.6	21.3	8.58	3.08	2.16	1.98
(WY)	1986	1986	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	.000	.000	.000	.51	1.17	.55	.037	.000	.000	.000	.000	.000
(WY)	1987	1987	1990	1990	1989	1990	1989	1987	1986	1986	1986	1986

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1986 - 1993		
ANNUAL TOTAL	4481.43			38562.96					
ANNUAL MEAN	12.2			106			17.0		
HIGHEST ANNUAL MEAN							106		
LOWEST ANNUAL MEAN							.61		
HIGHEST DAILY MEAN	459			Mar 23			3860		
LOWEST DAILY MEAN	.00			Jul 20			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			Aug 2			.00		
INSTANTANEOUS PEAK FLOW							8320		
INSTANTANEOUS PEAK STAGE							18.64		
ANNUAL RUNOFF (AC-FT)	8890			76490			12340		
10 PERCENT EXCEEDS	19			209			10		
50 PERCENT EXCEEDS	1.4			5.8			.27		
90 PERCENT EXCEEDS	.00			.43			.00		

WATER-QUALITY RECORDS

San Juan Creek at San Juan Capistrano.

**WATER TEMPERATURE:** Water years 1986 to 1988.

SEDIMENT DATA: Water years 1986 to 1993 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1985 to September 1988.

**SUSPENDED-SEDIMENT DISCHARGE:** October 1985 to September 1988.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

		DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DATE	TIME							
NOV 06...	1015	0.12	15.5	2	0.00	--	--	--
DEC 07...	1135	191	13.0	1880	970	66	73	76
10...	1115	10	14.0	27	0.73	--	--	--
JAN 06...	1720	213	14.0	1440	828	82	85	88
07...	0955	1630	13.0	1930	8490	38	43	44
13...	1145	126	14.5	339	115	--	--	--
17...	1000	2260	15.0	3520	21500	26	29	33
28...	1145	149	16.0	187	75	--	--	--
FEB 08...	1310	758	15.5	1760	3600	26	27	30
19...	1000	1500	15.0	2920	11800	12	14	18
APR 09...	0910	51	--	10	1.4	--	--	--
MAY 20...	1145	14	24.0	8	0.30	--	--	--
JUL 08...	1300	3.8	28.5	10	0.10	--	--	--
AUG 25...	1055	2.4	25.0	0	0.0	--	--	--
		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 06..	--	--	--	--	--	--	--	--
DEC 07...	89	95	98	99	100	--	--	--
10...	--	--	--	--	--	--	--	--
JAN 06...	95	99	99	99	99	100	--	--
07...	53	63	72	77	80	86	97	100
13...	--	--	86	89	92	98	100	--
17...	41	51	62	76	85	96	100	--
28...	--	--	16	--	--	--	--	--
FEB 08...	34	40	47	57	72	93	100	--
19...	21	24	29	36	47	74	95	100
APR 09...	--	--	52	65	81	100	--	--
MAY 20...	--	--	--	--	--	--	--	--
JUL 08...	--	--	97	--	--	--	--	--
AUG 25...	--	--	--	--	--	--	--	--

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM
MAY								
20...	1240	1	14	--	1	5	16	37
20...	1250	1	14	1	2	7	17	27
20...	1255	1	14	1	4	15	38	62
20...	1300	1	14	--	--	1	7	18
20...	1305	1	14	--	1	6	12	32

DATE	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 128 MM
MAY							
20...	61	76	88	95	100	--	--
20...	32	38	43	53	77	79	100
20...	74	80	85	91	94	100	--
20...	29	39	48	60	74	100	--
20...	58	72	84	97	100	--	--

## PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SAM- PLING METHOD, CODES	SAMPLER TYPE (CODE)	BAG MESH SIZE BEDLOAD SAMPLER (MM)	TETHER LINE USED IN SAMPLING (YES=1) (CODE)	START- ING TIME (2400 HOURS)	END- ING TIME (2400 HOURS)	TIME ON BED FOR BED LOAD SAMPLE (SEC)	HORI- ZONTAL WIDTH OF VER- TICAL (FEET)
DEC									
07...	1215	1000	1150	0.250	0	1210	1220	15	4.0
07...	1230	1000	1150	0.250	0	1225	1235	15	4.0
JAN									
06...	1840	1000	1150	0.250	0	1835	1845	10	6.0
06...	1855	1000	1150	0.250	0	1850	1900	10	6.0
07...	1100	1000	1100	0.250	0	1050	1105	10	10.0
07...	1115	1000	1100	0.250	0	1110	1125	10	10.0
13...	1200	1000	1150	0.250	0	1155	1205	10	2.0
13...	1210	1000	1150	0.250	0	1205	1215	10	2.0
17...	1115	1000	1100	0.250	0	1105	1120	10	10.0
17...	1130	1000	1100	0.250	0	1125	1140	10	10.0
28...	1150	1000	1150	0.250	0	1150	1155	10	3.0
28...	1200	1000	1150	0.250	0	1200	1205	10	3.0
FEB									
08...	1340	1000	1100	0.250	0	1330	1345	10	8.0
08...	1400	1000	1100	0.250	0	1350	1410	10	8.0
19...	1045	1000	1100	0.250	0	1040	1055	10	9.0
19...	1100	1000	1100	0.250	0	1055	1115	10	9.0

## SAN JUAN CREEK BASIN

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMT (NUM)	VER- TICALS IN COM- POSITE SAMPLE (NUM)	NUMBER OF SAM- PLING POINTS (COUNT)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DISCH, BEDLOAD AV UNIT FOR COM POSITE T/D/FT	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
DEC									
07...	2	31	31	2.00	168	13.0	0.77	76	--
07...	2	31	31	2.00	151	13.0	0.45	76	--
JAN									
06...	2	18	18	3.00	323	14.0	0.13	37	1
06...	2	18	18	3.00	310	14.0	0.56	37	--
07...	2	17	17	5.00	1450	13.0	2.00	637	--
07...	2	17	17	5.00	1440	13.0	5.50	637	--
13...	2	23	23	1.00	126	14.5	4.30	152	--
13...	2	23	23	1.00	123	14.5	2.30	152	--
17...	2	17	17	5.00	1660	15.0	6.40	960	1
17...	2	17	17	5.00	1610	15.0	4.90	960	1
28...	2	23	23	1.50	149	16.0	5.00	348	--
28...	2	23	23	1.50	149	16.0	5.10	348	--
FEB									
08...	2	18	18	4.00	734	15.5	6.90	1020	1
08...	2	18	18	4.00	722	15.5	7.30	1020	1
19...	2	18	18	4.50	1470	15.0	6.80	939	1
19...	2	18	18	4.50	1440	15.0	4.80	939	--
DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
DEC									
07...	1	9	42	84	97	100	--	--	--
07...	1	8	39	79	95	98	100	--	--
JAN									
06...	2	14	48	80	92	100	--	--	--
06...	--	6	40	80	93	98	100	--	--
07...	5	25	52	67	74	80	90	100	--
07...	3	14	36	54	64	75	86	97	100
13...	1	17	55	82	94	98	100	--	--
13...	1	14	56	84	95	98	100	--	--
17...	8	34	61	70	76	81	91	100	--
17...	6	21	49	65	74	82	90	97	100
28...	1	25	64	87	95	98	99	100	--
28...	1	26	68	87	95	99	100	--	--
FEB									
08...	9	33	65	82	88	90	94	98	100
08...	7	29	61	80	88	91	96	100	--
19...	7	28	53	64	68	74	85	99	100
19...	6	26	45	52	54	58	66	98	100

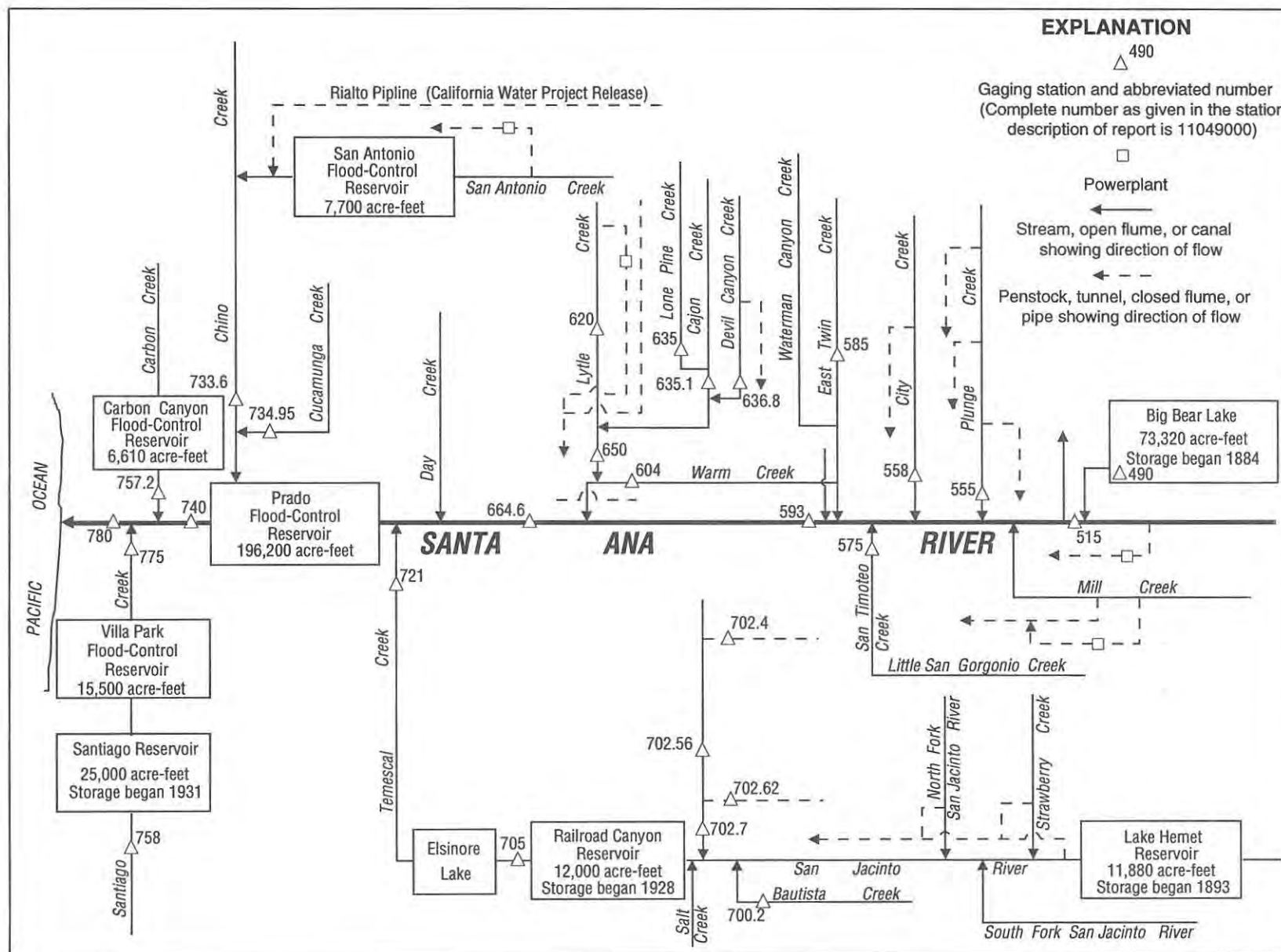


Figure 19. Diversions and storage in Santa Ana River basin.

## 11049000 BIG BEAR LAKE NEAR BIG BEAR LAKE, CA

LOCATION.--Lat 34°14'33", long 116°58'33", in SW 1/4 sec.22, T.2 N., R.1 W., San Bernardino County, Hydrologic Unit 18070203, at Big Bear Lake Dam on Bear Creek, 4 mi west of town of Big Bear Lake, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--38.9 mi<sup>2</sup>, excludes Baldwin Lake drainage included in reports prior to 1983.

PERIOD OF RECORD.--October 1950 to current year. February 1884 to September 1950 in files of Bear Valley Mutual Water Co.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 6,670.9 ft above sea level (levels by Bear Valley Mutual Water Co.). Prior to 1912 at old dam 200 ft upstream at same datum, spillway at elevation 6723.3 ft.

REMARKS.--Lake is formed by multiple-arch concrete dam, completed in 1912, replacing existing lower dam built in 1884; storage began in spring of 1884. Capacity (based on July 1977 resurvey; present capacity table put into use August 1977), 73,320 acre-ft at elevation 6,743.3 ft, top of dam. No dead storage. There were no releases for irrigation. See schematic diagram of Santa Ana River basin.

COOPERATION.--Record of contents provided by Big Bear Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents unknown, lake spilled in 1969, 1970, 1980, 1983; minimum contents observed, 530 acre-ft, Nov. 24, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents unknown, lake spilled in 1916, 1917, 1922, 1923, 1938, 1939; lake dry October, November 1898, August to November 1899, October, November 1904.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 73,080 acre-ft, Apr. 27; minimum contents observed, 38,890 acre-ft, Nov. 30.

## MONTHEND CONTENTS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Contents (acre-feet)	Change in Contents (acre-feet)
Sept. 30.....	40,830	--
Oct. 31.....	40,260	-570
Nov. 30.....	38,890	-1,370
Dec. 31.....	-- (frozen)	--
CAL YR 1992.....	--	1,340
Jan. 31.....	58,990	20,100
Feb. 28.....	71,320	12,330
Mar. 31.....	71,190	-130
Apr. 30.....	73,080	1,890
May 31.....	72,650	-430
June 30.....	72,790	140
July 31.....	71,040	-1,750
Aug. 31.....	69,570	-1,470
Sept. 30.....	68,270	-1,300
WTR YR 1993.....	--	27,440

## 11051500 SANTA ANA RIVER NEAR MENTONE, CA

LOCATION.--Lat 34°06'30", long 117°05'59", in SW 1/4 SW 1/4 sec.4, T.1 S., R.2 W., San Bernardino County, Hydrologic Unit 18070203, on right bank near mouth of canyon, 1.6 mi upstream from Mill Creek, 3.2 mi northeast of Mentone, and 16 mi downstream from Big Bear Lake.

DRAINAGE AREA.--210 mi<sup>2</sup>, including area tributary to Baldwin Lake at head of Bear Valley.

PERIOD OF RECORD.--July 1896 to current year. Prior to October 1914, records for river only not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon. Monthly discharge only for January 1910, January and February 1916 published in WSP 1315-B.

REVISED RECORDS.--WSP 931: 1940. WSP 1635: 1918, 1920(M), 1922, 1937, 1943(M). WSP 1928: Drainage area. WSP 2128: 1910.

GAGE.--Three water-stage recorders. Main gage on right bank of river, canal gage on powerhouse diversion, and since 1970, supplementary gage on left bank of river. Elevation of the main and supplementary gages is 1,950 ft above sea level, from topographic map. Prior to Sept. 2, 1917, nonrecording gages at several sites within 1.5 mi upstream at various datums. Sept. 3, 1917, to May 27, 1969, water-stage recorder at site 0.2 mi upstream at different datum. Canal gage at different datum.

REMARKS.--Records fair. Flow partly regulated by Big Bear Lake (station 11049000). For records of combined discharge of Santa Ana River and Southern California Edison Co.'s canal below Powerplant No. 2, which diverts upstream from station, see following page. Prior to Oct. 1, 1952, and since Apr. 26, 1976, Bear Valley Mutual Water Co. pumps water into channel above canal gage. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 52,300 ft<sup>3</sup>/s, Mar. 2, 1938, gage height, 14.3 ft, site and datum then in use, on basis of slope-area measurement of peak flow; no flow at times in some years.

Combined river and canal: Maximum discharge, 52,300 ft<sup>3</sup>/s, Mar. 2, 1938; minimum daily, 5.3 ft<sup>3</sup>/s, July 22, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Combined river and canal: Flood of Feb. 23, 1891, 53,700 ft<sup>3</sup>/s, from notes provided by F.C. Finkle, consulting engineer, Los Angeles.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 7,010 ft<sup>3</sup>/s, Jan. 7, gage height, 11.18 ft; minimum daily, 0.73 ft<sup>3</sup>/s, Nov. 24.

Combined river and canal: Maximum discharge, 7,010 ft<sup>3</sup>/s, Jan. 7; minimum daily, 27.0 ft<sup>3</sup>/s, Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	39	e1.0	17	209	409	211	224	112	80	25	16
2	1.2	28	e1.2	30	199	393	197	216	120	79	24	16
3	1.5	8.4	e1.4	22	189	399	193	232	111	79	25	15
4	1.5	9.8	e2.1	17	182	396	206	254	109	77	23	15
5	1.3	7.8	e1.7	15	169	382	217	244	225	76	24	15
6	1.0	5.2	e1.6	289	144	328	199	235	255	89	22	14
7	.95	3.7	e28	2680	117	296	188	232	197	96	21	14
8	1.3	3.3	21	1090	868	294	247	226	128	73	21	13
9	1.2	2.7	9.2	574	656	287	263	224	114	70	21	13
10	.96	2.6	5.2	313	479	282	277	211	109	66	20	12
11	1.2	e2.5	4.1	274	355	279	280	190	107	64	19	12
12	.97	e2.6	7.1	264	276	270	282	176	107	63	19	17
13	.99	e1.4	5.1	485	258	263	344	158	108	61	19	19
14	1.0	e.94	4.7	698	233	273	419	146	111	59	19	15
15	1.0	e.94	4.2	737	218	280	416	147	109	59	19	15
16	1.3	e.83	4.3	2820	195	277	362	151	109	56	29	14
17	1.5	e1.3	4.3	2400	169	297	266	148	113	53	18	15
18	1.4	e1.3	13	1790	438	403	262	142	105	50	16	15
19	1.4	e1.3	11	1010	1440	474	297	140	103	48	15	14
20	1.3	e1.3	9.9	727	1280	493	316	142	102	47	14	13
21	1.1	e.94	8.4	591	752	484	274	140	103	46	14	13
22	1.2	e.83	4.9	493	600	485	244	136	98	46	14	e13
23	1.2	e.83	4.4	428	594	488	229	134	94	44	14	e14
24	6.3	e.73	3.7	375	579	509	223	132	94	43	24	e13
25	8.1	e.94	3.4	337	493	520	217	129	89	42	21	e13
26	3.4	e.94	3.2	304	474	578	222	126	87	40	18	e13
27	2.4	e.94	3.0	285	470	663	224	122	90	39	21	e13
28	3.2	e.94	61	266	440	588	225	118	92	37	18	e13
29	3.9	e.94	98	247	---	477	219	113	84	36	18	e12
30	15	e.83	91	236	---	316	219	109	84	32	16	e12
31	48	---	51	225	---	242	---	109	---	26	16	---
TOTAL	117.77	133.77	472.1	20039	12476	12125	7738	5206	3469	1776	607	421
MEAN	3.80	4.46	15.2	646	446	391	258	168	116	57.3	19.6	14.0
MAX	48	39	98	2820	1440	663	419	254	255	96	29	19
MIN	.95	.73	1.0	15	117	242	188	109	84	26	14	12
AC-FT	234	265	936	39750	24750	24050	15350	10330	6880	3520	1200	835

e Estimated.

## SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.76	8.39	26.0	40.8	80.8	92.4	64.7	45.4	21.3	11.2	6.29	6.34
MAX	77.8	206	536	646	1052	1405	413	411	277	174	124	134
(WY)	1970	1966	1967	1993	1980	1938	1969	1969	1969	1969	1969	1969
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1934	1934	1949	1936	1961	1951	1959	1959	1959	1934	1934	1933

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1915 - 1993	
ANNUAL TOTAL	5073.12		64580.64			
ANNUAL MEAN	13.9		177		32.5	
HIGHEST ANNUAL MEAN					283	
LOWEST ANNUAL MEAN					.012	
HIGHEST DAILY MEAN	305	Feb 12	2820	Jan 16	15500	Mar 2 1938
LOWEST DAILY MEAN	.00	Jan 24	.73	Nov 24	.00	Nov 21 1932
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 24	.88	Nov 21	.00	Nov 21 1932
INSTANTANEOUS PEAK FLOW			7010	Jan 7	52300	Mar 2 1938
INSTANTANEOUS PEAK STAGE			11.18	Jan 7	14.30	Mar 2 1938
ANNUAL RUNOFF (AC-FT)	10060		128100		23570	
10 PERCENT EXCEEDS	37		452		73	
50 PERCENT EXCEEDS	2.2		79		1.7	
90 PERCENT EXCEEDS	.33		1.3		.00	

## 11051501 SANTA ANA RIVER NEAR MENTONE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SANTA ANA RIVER AND SOUTHERN  
CALIFORNIA EDISON CO.'S CANAL NEAR MENTONE, CA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	41	e35	58	e218	435	294	309	196	171	108	86
2	29	42	e36	71	208	419	284	300	201	169	107	86
3	30	35	e35	59	197	432	287	316	194	169	108	84
4	30	35	e38	53	190	460	298	342	192	167	104	82
5	30	36	e37	52	178	472	310	331	277	165	106	81
6	29	36	e37	311	169	419	289	319	255	169	102	79
7	29	37	e65	2680	174	391	283	316	232	172	101	79
8	28	36	53	1090	876	390	337	312	222	161	100	77
9	28	37	43	574	656	383	346	309	206	157	100	76
10	28	36	41	313	479	379	354	296	197	153	99	74
11	28	e33	40	274	392	375	356	271	195	149	96	71
12	27	e35	45	264	353	366	362	251	195	149	96	71
13	28	e33	39	485	328	361	e359	242	192	147	96	76
14	29	e33	38	698	310	371	e419	229	191	145	96	75
15	30	e33	38	737	290	378	e416	234	193	143	93	76
16	30	e33	37	2820	261	376	e377	238	197	139	94	76
17	29	e33	37	2400	242	396	356	234	193	136	94	79
18	29	e34	54	1790	494	e403	353	228	193	133	90	78
19	29	e35	40	1010	1440	e474	348	227	192	131	88	76
20	29	e35	37	727	1280	e493	337	229	192	129	86	74
21	32	e36	40	591	752	e484	324	227	191	129	85	73
22	34	e37	40	493	600	e485	319	222	187	129	84	e73
23	35	e36	39	428	594	e488	320	220	183	126	84	e73
24	44	e36	38	375	590	e509	314	218	180	125	77	e73
25	42	e36	37	337	519	e520	308	214	180	124	86	e73
26	35	e35	37	304	502	624	312	213	177	122	89	e71
27	33	e35	38	285	498	675	313	210	172	121	99	e71
28	33	e35	73	271	466	603	313	206	173	118	92	e71
29	36	e34	99	257	---	502	307	200	175	117	91	e67
30	47	e35	92	247	---	358	305	196	170	116	87	e70
31	49	---	70	e235	---	326	---	195	---	111	86	---
TOTAL	997	1063	1428	20289	13256	13747	9900	7854	5893	4392	2924	2271
MEAN	32.2	35.4	46.1	654	473	443	330	253	196	142	94.3	75.7
MAX	49	42	99	2820	1440	675	419	342	277	172	108	86
MIN	27	33	35	52	169	326	283	195	170	111	77	67
AC-FT	1980	2110	2830	40240	26290	27270	19640	15580	11690	8710	5800	4500

e estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

MEAN	49.3	45.4	59.2	91.4	122	133	117	99.4	74.1	63.4	57.6	55.2
MAX	122	219	538	1439	1052	1402	413	450	277	175	124	137
(WY)	1984	1966	1967	1916	1980	1938	1969	1983	1969	1922	1969	1969
MIN	10.4	12.5	14.4	19.0	18.3	21.6	20.6	19.2	15.1	9.36	9.91	9.75
(WY)	1991	1991	1991	1991	1991	1965	1961	1961	1989	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1912 - 1993	
ANNUAL TOTAL	19860		84014			
ANNUAL MEAN	54.3		230		80.4	
HIGHEST ANNUAL MEAN					366	
LOWEST ANNUAL MEAN					18.6	
HIGHEST DAILY MEAN	307		2820		16000	
LOWEST DAILY MEAN	21		27		5.3	
ANNUAL SEVEN-DAY MINIMUM	24		28		8.1	
INSTANTANEOUS PEAK FLOW			7010		52300	
ANNUAL RUNOFF (AC-FT)	39390		166600		58280	
10 PERCENT EXCEEDS	108		476		136	
50 PERCENT EXCEEDS	42		165		49	
90 PERCENT EXCEEDS	28		35		24	

## 11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA

LOCATION.--Lat 34°07'06", long 117°08'27", in NE 1/4 NE 1/4 sec.1, T.1 S., R.3 W., San Bernardino County, Hydrologic Unit 18070203, on left bank at mouth of canyon at crossing of North Fork Ditch siphon, and 1.8 mi northeast of East Highlands.

DRAINAGE AREA.--16.9 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1919 to current year; combined records of creek and diversions, March 1951 to current year.

REVISED RECORDS.--WSP 1635: 1924, 1926, 1935-36(M), 1943, 1944(M), 1945, 1946(M), 1947, 1950(M).

WSP 1715: 1956-58(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder on creek. Since March 1951 water-stage recorder and weir on upper diversion, discontinued Sept. 30, 1991, reactivated July 27, 1993; water-stage recorder and concrete-lined canal on middle diversion; crest-stage gage and sharp-crested weir on lower diversion. Elevation of creek gage is 1,590 ft above sea level, from topographic map. Prior to Oct. 1, 1969, creek gage at datum 4.00 ft higher. Diversions all at different datums.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Diversion from Alder Creek to Upper Plunge Creek area was active 1904-67. Diversions for irrigation are made at sites 0.5, 1.0, and 2.5 mi upstream from station. Water has been diverted upstream from station for irrigation during entire period of record. Combined discharge of Plunge Creek and diversions is given on following page. No flow in lower diversion since May 29, 1966. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 5,340 ft<sup>3</sup>/s, Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.

Combined creek and diversions: Maximum discharge, 4,770 ft<sup>3</sup>/s, Dec. 6, 1966; no flow Nov. 12, 1964, Sept. 29, 1965, Aug. 4, 1987, several days in November 1988, September 1991, many days in 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Creek only		Combined creek and diversions	
		Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	
Jan. 7	0715	*1,540	*6.33	*1,540	
Jan. 16	0245	1,100	5.87	1,100	
Feb. 8	0430	744	5.40	744	
Feb. 19	2200	711	5.35	711	

Creek only: No flow for several days.

Combined creek and diversions: No flow for several days in October.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.40	e.82	7.1	44	118	49	8.7	5.3	3.1	1.5	.06
2	.00	e.20	e.80	14	41	112	47	8.3	5.5	3.1	1.1	.05
3	.02	e.23	e.81	10	38	107	45	9.0	6.1	3.1	.79	.04
4	.00	e.23	e.90	7.2	32	100	42	11	6.0	3.2	.74	.02
5	.00	e.24	e.88	6.1	26	96	41	12	32	3.3	.70	.02
6	.00	e.24	e.82	77	20	94	42	12	17	3.2	.64	.02
7	.01	e.24	e20	720	28	88	42	11	12	3.1	.71	.02
8	.02	e.25	6.6	276	244	79	40	8.7	e8.1	3.0	.64	.07
9	.02	e.25	1.8	115	136	72	39	8.5	e4.8	2.8	.60	.22
10	.02	e.26	1.2	78	e100	66	38	7.9	e5.0	2.5	.60	.06
11	.00	e.26	1.7	62	e69	61	37	8.0	e4.8	2.4	.64	.00
12	.00	e.30	4.1	64	57	57	36	8.7	e4.9	2.4	.67	.01
13	.01	e.35	2.5	144	51	53	34	7.9	e4.9	2.5	.77	.07
14	.05	e.36	2.3	215	49	52	31	7.0	e4.8	2.4	.68	.09
15	.04	e.39	2.2	249	45	50	30	6.7	e4.6	2.4	.63	.06
16	.04	e.45	2.2	727	41	47	26	6.8	e5.5	2.3	.61	.10
17	.02	e.50	2.3	680	38	46	23	5.8	e5.6	2.2	.56	.15
18	.00	e.52	7.9	490	114	45	22	5.8	e5.6	2.0	.50	.16
19	.00	e.53	4.5	267	292	43	19	5.9	e4.9	1.9	.48	.11
20	.03	e.56	3.5	185	420	42	15	6.8	e4.2	1.9	.46	.10
21	.05	e.57	3.1	145	221	40	13	6.7	e4.9	2.1	.45	.12
22	.03	e.58	2.8	128	164	39	11	6.2	e5.0	2.2	.45	.14
23	.04	e.67	2.7	110	178	37	12	6.2	e4.2	2.0	.44	.10
24	.04	e.73	2.6	96	166	36	13	5.9	e3.7	2.0	.42	.07
25	.07	e.72	2.4	56	141	35	11	5.1	e3.4	1.9	.42	.05
26	.07	e.71	2.4	68	136	57	12	5.3	e3.6	2.0	.42	.11
27	.08	e.73	2.8	56	138	104	10	5.5	e3.6	3.0	.45	.14
28	.11	e.76	16	54	129	70	9.3	5.2	e3.4	3.0	.44	.16
29	.13	e.80	54	53	---	57	8.7	5.0	3.2	2.5	.43	.16
30	e1.6	e.81	30	50	---	54	8.7	5.0	3.2	1.9	.42	.12
31	e1.0	---	13	47	---	52	---	5.1	---	2.2	.26	---
TOTAL	3.50	13.84	199.63	5256.4	3158	2009	806.7	227.7	189.8	77.6	18.62	2.60
MEAN	.11	.46	6.44	170	113	64.8	26.9	7.35	6.33	2.50	.60	.087
MAX	1.6	.81	54	727	420	118	49	12	32	3.3	1.5	.22
MIN	.00	.20	.80	6.1	20	35	8.7	5.0	3.2	1.9	.26	.00
AC-FT	6.9	27	396	10430	6260	3980	1600	452	376	154	37	5.2

e Estimated.

## SANTA ANA RIVER BASIN

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11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.25	1.95	6.75	12.0	21.8	22.3	12.8	3.65	.87	.24	.15	.34
MAX	3.47	44.7	106	170	224	176	74.2	30.2	9.96	3.87	4.87	10.9
(WY)	1984	1966	1967	1993	1969	1938	1958	1983	1983	1983	1983	1978
MIN	.000	.000	.000	.003	.000	.029	.000	.000	.000	.000	.000	.000
(WY)	1920	1921	1930	1963	1961	1961	1961	1919	1919	1919	1919	1919

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1919 - 1993		
ANNUAL TOTAL	2099.95			11963.39					
ANNUAL MEAN	5.74			32.8			6.89		
HIGHEST ANNUAL MEAN							42.5		
LOWEST ANNUAL MEAN							.050		
HIGHEST DAILY MEAN	213			Feb 12			727		
LOWEST DAILY MEAN	.00			Jun 6			1840		
ANNUAL SEVEN-DAY MINIMUM	.00			Jun 21			.00		
INSTANTANEOUS PEAK FLOW							.00		
INSTANTANEOUS PEAK STAGE							1540		
ANNUAL RUNOFF (AC-FT)	4170			23730			6.33		
10 PERCENT EXCEEDS	16			90			Jan 7		
50 PERCENT EXCEEDS	.69			4.1			5340		
90 PERCENT EXCEEDS	.00			.07			.00		

## 11055501 PLUNGE CREEK NEAR EAST HIGHLANDS, CA--Continued

PLUNGE CREEK AND DIVERSIONS NEAR EAST HIGHLAND, CA,  
COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.40	e.82	7.1	44	118	49	9.5	6.4	5.7	e3.7	e2.1
2	.00	e.20	e.80	14	41	112	47	9.1	6.5	5.5	e3.3	e2.0
3	.02	e.23	e.81	10	38	107	45	10	7.6	5.4	e3.0	e2.0
4	.00	e.23	e.90	7.2	32	100	42	13	6.8	5.3	e2.9	e2.0
5	.00	e.24	e.88	6.1	26	96	41	14	33	5.3	e2.9	e2.0
6	.00	e.24	e.82	77	20	94	42	14	18	5.2	e2.8	e2.0
7	.01	e.24	e20	721	28	88	42	13	13	4.9	e2.9	e2.0
8	.02	e.25	6.6	278	244	79	40	10	e8.8	4.6	e2.8	e2.1
9	.02	e.25	1.8	115	136	72	39	10	e5.9	4.3	e2.8	e2.2
10	.02	e.26	1.2	78	e100	66	38	9.4	e6.2	4.0	e2.8	e2.1
11	.00	e.26	1.7	62	e69	61	37	9.5	e6.0	4.0	e2.7	e1.9
12	.00	e.30	4.1	64	57	57	36	10	e6.1	3.9	e2.8	e1.9
13	.01	e.35	2.5	144	51	53	34	9.3	e6.0	4.0	e2.9	e2.0
14	.05	e.36	2.3	215	49	52	32	8.3	e5.9	4.2	e2.8	e2.0
15	.04	e.39	2.2	249	45	50	31	8.0	e5.6	4.3	e2.7	e2.0
16	.04	e.45	2.2	729	41	47	27	8.1	e6.5	4.1	e2.7	e2.0
17	.02	e.50	2.3	682	38	46	24	7.1	e6.6	4.1	e2.7	e2.0
18	.00	e.52	7.9	492	114	45	23	7.2	e6.6	3.9	e2.6	e2.1
19	.00	e.53	4.5	269	292	43	20	7.3	e6.0	3.9	e2.6	e2.0
20	.03	e.56	3.5	186	420	42	16	8.3	e5.4	3.9	e2.6	e2.0
21	.05	e.57	3.1	145	221	40	14	8.1	e6.2	4.0	e2.4	e2.0
22	.03	e.58	2.8	128	164	39	12	7.5	e6.7	4.3	e2.4	e2.0
23	.04	e.67	2.7	110	178	37	13	7.5	e6.4	4.1	e2.4	e2.0
24	.04	e.73	2.6	96	166	36	14	7.2	e6.1	4.2	e2.4	e2.0
25	.07	e.72	2.4	56	141	35	12	6.3	e6.1	4.4	e2.4	e2.0
26	.07	e.71	2.4	68	136	57	13	6.5	e6.5	4.3	e2.4	e2.0
27	.08	e.73	2.8	56	138	104	11	6.7	e6.6	e5.2	e2.4	e2.0
28	.11	e.76	16	54	129	70	10	6.3	e6.4	e5.2	e2.4	e2.1
29	.13	e.80	54	53	---	57	9.6	6.1	6.1	e4.7	e2.4	e2.1
30	e1.6	e.81	30	50	---	54	9.5	6.1	5.9	e4.1	e2.4	e2.0
31	e1.0	---	13	47	---	52	---	6.2	---	e4.4	e2.3	---
TOTAL	3.50	13.84	199.63	5268.4	3158	2009	823.1	269.6	235.9	139.4	83.3	60.6
MEAN	.11	.46	6.44	170	113	64.8	27.4	8.70	7.86	4.50	2.69	2.02
MAX	1.6	.81	54	729	420	118	49	14	33	5.7	3.7	2.2
MIN	.00	.20	.80	6.1	20	35	9.5	6.1	5.4	3.9	2.3	1.9
AC-FT	6.9	27	396	10450	6260	3980	1630	535	468	276	165	120

e Estimated

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.38	3.56	8.06	16.9	23.6	24.1	14.2	6.87	3.44	1.79	1.31	1.48
MAX	7.23	45.2	106	170	224	126	79.0	31.9	14.2	7.44	7.43	14.1
(WY)	1984	1966	1967	1993	1969	1978	1958	1983	1980	1980	1983	1978
MIN	.033	.003	.77	1.00	1.50	1.62	1.33	.97	.63	.26	.028	.011
(WY)	1992	1992	1963	1963	1961	1961	1961	1961	1961	1992	1992	1992

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1951 - 1993

ANNUAL TOTAL	2149.05	12264.27	
ANNUAL MEAN	5.87	33.6	8.85
HIGHEST ANNUAL MEAN			44.4
LOWEST ANNUAL MEAN			1.00
HIGHEST DAILY MEAN	213	729	1840
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		1540	4770
ANNUAL RUNOFF (AC-FT)	4260	24330	6410
10 PERCENT EXCEEDS	16	90	15
50 PERCENT EXCEEDS	1.1	6.0	2.3
90 PERCENT EXCEEDS	.01	.25	.60

## 11055800 CITY CREEK NEAR HIGHLAND, CA

LOCATION.--Lat 34°08'38", long 117°11'16", in SW 1/4 NW 1/4 sec.27, T.1 N., R.3 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 0.6 mi upstream from Highland Avenue and 1.5 mi northeast of Highland. DRAINAGE AREA.--19.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1919 to current year; combined records of creek and City Creek Water Co.'s canal, June 1924 to September 1986, October 1988 to current year.

REVISED RECORDS.--WSP 1635: 1920(M), 1923(M), 1937(M), 1939(M), 1946. WSP 1928: Drainage area.

GAGE.--Water-stage recorder on creek; water-stage recorder on canal. Elevation of creek gage is 1,580 ft above sea level, from topographic map. Prior to Mar. 1, 1939, at site 0.2 mi downstream at different datum. Canal gage at different datum.

REMARKS.--Records fair. No regulation upstream from station. City Creek Water Co.'s canal diverted from a site 0.5 mi upstream from station for irrigation throughout period of record until Sept. 30, 1986, and resumed diversion on Mar. 31, 1989. See schematic diagram of Santa Ana River basin. Combined discharge of City Creek and canal is given on following page.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 7,000 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 9.39 ft, from rating curve extended above 580 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 8.82 ft; no flow for many days in some years.

Combined creek and canal: Maximum discharge, 7,000 ft<sup>3</sup>/s, Feb. 25, 1969; no flow at times in some years. EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 110 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Creek only		Combined creek and canal	
		Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	
Dec. 29	1330	209	5.07	210	
Jan. 7	2015	*1,910	*7.68	*1,910	
Jan. 17	0630	1,160	6.91	1,160	
Feb. 8	0630	690	6.24	690	
Feb. 20	0345	1,110	6.85	1,110	
Mar. 27	0200	155	4.74	155	
June 5	1330	112	4.46	112	

Creek only: Minimum daily, 0.22 ft<sup>3</sup>/s, Oct. 1.

Combined creek and canal: Minimum daily, 0.40 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	1.6	2.6	18	e43	135	60	24	17	11	7.4	4.1
2	.26	1.2	2.6	27	e38	125	56	24	17	11	7.1	3.9
3	.37	1.2	2.5	20	e34	117	53	25	17	11	6.9	3.9
4	.47	1.5	2.7	16	e30	110	51	26	17	11	e6.2	3.7
5	.43	1.7	2.9	14	33	103	51	25	47	11	e6.1	3.7
6	.37	1.7	2.7	109	32	98	49	24	33	11	e5.7	3.7
7	.33	1.7	37	775	36	93	46	24	24	11	e5.4	3.5
8	.29	1.8	18	364	310	87	43	23	21	11	e5.2	3.3
9	.31	2.0	9.1	131	199	83	41	22	18	10	e4.6	3.1
10	.34	2.1	7.0	95	138	79	40	21	16	10	4.9	3.0
11	.38	1.9	6.1	86	112	75	39	21	16	9.8	4.9	2.9
12	.36	1.9	6.8	77	98	71	38	21	16	9.3	4.8	3.2
13	.49	1.8	5.6	168	87	68	37	21	15	9.3	5.2	4.2
14	.69	1.8	5.3	284	80	66	36	21	15	9.0	5.7	4.4
15	.84	1.8	5.1	260	74	64	36	20	14	8.8	6.0	4.1
16	.91	1.9	4.9	737	69	61	35	21	14	8.7	5.8	4.6
17	.83	2.0	5.0	783	64	59	34	20	14	8.7	5.4	5.5
18	.78	2.1	10	621	127	58	34	20	13	8.7	5.0	5.4
19	.80	2.1	6.5	331	464	55	33	19	13	8.4	4.7	4.6
20	.82	2.2	5.8	213	728	53	32	20	13	8.4	4.5	4.5
21	.83	2.3	5.4	163	301	51	30	20	13	8.1	4.4	4.8
22	1.0	2.4	5.0	134	215	49	30	19	13	8.1	4.3	4.7
23	.93	2.5	4.8	120	231	47	30	20	13	8.1	4.2	4.3
24	1.8	2.5	4.8	115	224	46	29	19	12	8.1	4.0	3.8
25	1.7	2.5	4.7	e105	185	46	28	19	12	8.1	4.0	3.4
26	1.1	2.5	4.7	e90	169	71	27	18	12	8.1	4.1	3.3
27	1.1	2.5	4.8	e80	168	110	27	18	12	8.1	4.3	3.1
28	1.2	2.5	16	e68	150	84	27	18	12	8.1	4.3	3.1
29	1.5	2.5	67	e60	---	73	25	17	11	8.1	4.4	3.3
30	8.2	2.6	51	e54	---	67	25	16	11	7.9	4.5	3.4
31	4.7	---	25	e48	---	63	---	16	---	7.6	4.3	---
TOTAL	34.35	60.8	341.4	6166	4439	2367	1122	642	491	285.5	158.3	116.5
MEAN	1.11	2.03	11.0	199	159	76.4	37.4	20.7	16.4	9.21	5.11	3.88
MAX	8.2	2.6	67	783	728	135	60	26	47	11	7.4	5.5
MIN	.22	1.2	2.5	14	30	46	25	16	11	7.6	4.0	2.9
AC-FT	68	121	677	12230	8800	4690	2230	1270	974	566	314	231

e Estimated.

11055800 CITY CREEK NEAR HIGHLAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.97	3.34	8.83	16.1	31.0	29.0	18.0	7.07	2.55	.93	.54	.59
MAX	8.48	43.4	89.5	199	451	219	148	44.6	21.7	11.7	9.56	5.70
(WY)	1984	1966	1967	1993	1969	1938	1926	1983	1983	1980	1983	1976
MIN	.000	.000	.000	.13	.35	.18	.033	.000	.000	.000	.000	.000
(WY)	1927	1922	1930	1936	1924	1926	1934	1934	1924	1924	1920	1920

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1920 - 1993			
ANNUAL TOTAL	2941.47				16223.85							
ANNUAL MEAN	8.04				44.4				9.79			
HIGHEST ANNUAL MEAN									75.3			
LOWEST ANNUAL MEAN									.46			
HIGHEST DAILY MEAN	152				783				3360			
LOWEST DAILY MEAN	.22				.22				.00			
ANNUAL SEVEN-DAY MINIMUM	.26				.34				.00			
INSTANTANEOUS PEAK FLOW					1910				7000			
INSTANTANEOUS PEAK STAGE					7.68				9.39			
ANNUAL RUNOFF (AC-FT)	5830				32180				7090			
10 PERCENT EXCEEDS	19				107				19			
50 PERCENT EXCEEDS	2.6				12				1.1			
90 PERCENT EXCEEDS	.51				1.8				.00			

## 11055801 CITY CREEK NEAR HIGHLAND, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF CITY CREEK AND CITY CREEK  
WATER CO.'S CANAL NEAR HIGHLAND, CA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	3.2	3.0	18	e43	135	60	24	17	11	7.4	4.1
2	.45	2.3	3.0	28	e38	125	56	24	17	11	7.1	3.9
3	.56	2.0	2.9	21	e34	117	53	25	17	11	6.9	3.9
4	.66	2.2	3.6	16	e30	110	51	26	17	11	e6.2	3.7
5	.62	2.4	4.0	14	33	103	51	25	47	11	e6.1	3.7
6	.55	2.3	3.6	111	32	98	49	24	33	11	e5.7	3.7
7	.51	2.3	41	776	36	93	46	24	24	11	e5.4	3.5
8	.47	2.4	20	365	310	87	43	23	21	11	e5.2	3.3
9	.49	2.6	9.3	132	199	83	41	22	18	10	e4.6	3.1
10	.52	2.7	7.0	97	138	79	40	21	16	10	4.9	3.0
11	.56	2.4	6.1	87	112	75	39	21	16	9.8	4.9	2.9
12	.53	2.4	6.8	79	98	71	38	21	16	9.3	4.8	3.2
13	.67	2.2	5.6	170	87	68	37	21	15	9.3	5.2	4.2
14	.88	2.2	5.3	284	80	66	36	21	15	9.0	5.7	4.4
15	1.0	2.2	5.1	260	74	64	36	20	14	8.8	6.0	4.1
16	1.1	2.3	4.9	737	69	61	35	21	14	8.7	5.8	4.6
17	1.0	2.4	5.0	783	64	59	34	20	14	8.7	5.4	5.5
18	.98	2.6	10	621	127	58	34	20	13	8.7	5.0	5.4
19	1.0	2.5	6.5	331	464	55	33	19	13	8.4	4.7	4.6
20	1.0	2.6	5.8	213	728	53	32	20	13	8.4	4.5	4.5
21	1.0	2.7	5.4	163	301	51	30	20	13	8.1	4.4	4.8
22	1.2	2.8	5.0	134	215	49	30	19	13	8.1	4.3	4.7
23	1.1	2.9	4.8	120	231	47	30	20	13	8.1	4.2	4.3
24	2.6	2.9	4.8	115	224	46	29	19	12	8.1	4.0	3.8
25	4.1	2.9	4.7	e105	185	46	28	19	12	8.1	4.0	3.4
26	1.8	2.9	4.7	e90	169	71	27	18	12	8.1	4.1	3.3
27	1.6	2.9	4.8	e80	168	110	27	18	12	8.1	4.3	3.1
28	1.6	2.9	16	e68	150	84	27	18	12	8.1	4.3	3.1
29	2.1	2.9	69	e60	---	73	25	17	11	8.1	4.4	3.3
30	10	3.0	53	e54	---	67	25	16	11	7.9	4.5	3.4
31	8.0	---	26	e48	---	63	---	16	---	7.6	4.3	---
TOTAL	49.05	77.0	356.7	6180	4439	2367	1122	642	491	285.5	158.3	116.5
MEAN	1.58	2.57	11.5	199	159	76.4	37.4	20.7	16.4	9.21	5.11	3.88
MAX	10	3.2	69	783	728	135	60	26	47	11	7.4	5.5
MIN	.40	2.0	2.9	14	30	46	25	16	11	7.6	4.0	2.9
AC-FT	97	153	708	12260	8800	4690	2230	1270	974	566	314	231

e Estimated.

MEAN	2.15	4.72	9.31	17.1	32.2	30.3	19.7	9.81	5.29	2.56	1.63	1.59
MAX	10.2	44.1	89.9	199	451	221	148	44.6	21.7	12.6	11.0	7.05
(WY)	1984	1966	1967	1993	1969	1938	1926	1983	1983	1980	1983	1983
MIN	.13	.36	.69	2.07	2.55	2.89	2.14	.72	.72	.11	.051	.066
(WY)	1991	1991	1991	1936	1964	1961	1961	1934	1989	1990	1989	1990

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1924 - 1993

ANNUAL TOTAL	3051.53	16284.05	
ANNUAL MEAN	8.34	44.6	11.3
HIGHEST ANNUAL MEAN			77.8
LOWEST ANNUAL MEAN			2.04
HIGHEST DAILY MEAN	153	783	3360
LOWEST DAILY MEAN	.40	.40	.00
ANNUAL SEVEN-DAY MINIMUM	.45	.52	.00
INSTANTANEOUS PEAK FLOW		1910	7000
ANNUAL RUNOFF (AC-FT)	6050	32300	8150
10 PERCENT EXCEEDS	19	107	19
50 PERCENT EXCEEDS	3.0	12	3.6
90 PERCENT EXCEEDS	.79	2.4	.40

## 11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA

LOCATION.--Lat 34°03'46", long 117°16'16", in NE 1/4 NW 1/4 sec.26, T.1 S., R.4 W., San Bernardino County, Hydrologic Unit 18070203, on left bank 200 ft upstream from Redlands Boulevard Bridge and 0.6 mi northwest of Loma Linda.

DRAINAGE AREA.--125 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1954 to September 1965, February 1968 to September 1975, April 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,030 ft above sea level, from topographic map. Prior to April 1979, water-stage recorder at site 0.2 mi downstream at different datum.

REMARKS.--Records poor. No regulation upstream from station. Natural flow affected by pumping and return flow from irrigated areas. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 8.2 ft, from floodmark, from rating curve extended above 2,100 ft<sup>3</sup>/s on basis of slope-conveyance study of peak flow, at site and datum then in use; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1315	613	4.43	Feb. 19	2400	2,300	5.72
Dec. 29	1500	455	4.22	Feb. 24	0015	275	3.67
Jan. 7	2345	3,290	6.27	Mar. 27	0245	585	4.20
Jan. 16	Unknown	4,580	6.86	June 5	1830	356	3.83
Feb. 8	Unknown	*5,000	*7.03				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.84	3.1	.00	e.10	1.8	.14	.13	.46	.00	.65	.00
2	.79	.56	2.7	.93	e.00	.40	.21	.05	.30	.00	.62	.01
3	.69	.00	2.9	.03	e.00	.41	.15	.25	.08	.00	.14	.00
4	.93	.00	14	.00	e.00	.43	.08	.23	.06	.00	.16	.01
5	.07	.00	4.1	.00	e.00	.27	.15	.05	52	.00	.04	.00
6	.05	.00	2.9	128	e.00	.00	.28	.05	1.2	.00	.00	.02
7	.20	.00	199	e1180	e50	.00	.12	.19	.22	.00	.00	.00
8	1.3	.00	.94	e150	e600	.00	.09	.05	.53	.00	.03	.00
9	1.4	.00	.00	e19	e20	.00	.08	.00	.00	.00	.01	.00
10	.41	.00	.00	e4.0	e1.0	.04	.10	.00	.00	.00	.00	.00
11	.95	.00	.00	e2.4	e.05	.15	.06	.03	.00	.00	.00	.00
12	1.1	.25	.00	e4.5	e.00	.19	.05	.04	.00	.00	.00	.00
13	.83	.37	.00	e10	e.00	.19	.00	.00	.00	.00	.00	.03
14	.41	.17	.00	e50	e.00	.38	.00	.02	.00	.00	.04	.00
15	.03	.00	.00	e200	e.00	.43	.00	.07	.00	.00	.00	.00
16	.59	.00	.00	e830	e.00	e.35	.01	.26	.00	.00	.00	.00
17	.68	.00	.17	e800	e1.0	.27	.05	.01	.00	.00	.00	.00
18	.78	.00	.46	e100	e70	.75	.13	.00	.00	.00	.00	.00
19	1.1	.21	.00	e15	393	.12	.20	.00	.00	.00	.01	.00
20	.76	.13	.00	e2.5	518	.09	.06	.00	.00	.00	.00	.00
21	1.2	.00	.00	e.35	6.4	.11	.15	.05	.00	.00	.11	.02
22	2.5	1.3	.00	e.10	1.9	.45	.03	.31	.00	.00	.41	.00
23	5.7	1.3	.00	e.00	40	.24	.02	.38	.00	.79	.30	.02
24	1.4	.57	.00	e.00	47	.24	.00	.30	.00	.06	.04	.02
25	1.7	.47	.00	e.00	2.1	.14	.00	.32	.00	.03	.00	.00
26	1.7	.89	.00	e.00	4.6	45	.02	.11	.00	.07	.00	.00
27	1.7	.93	2.7	e.00	2.4	52	.08	.23	.00	.35	.05	.06
28	2.0	1.3	8.0	e.00	8.4	6.8	.42	.20	.00	.60	.07	.07
29	2.3	.90	61	e.00	---	.28	.48	.46	.00	.25	.03	.00
30	10	2.2	2.6	e.51	---	.15	.14	.55	.00	.51	.18	.01
31	9.4	---	.00	e2.9	---	.23	---	.53	---	.42	.08	---
TOTAL	53.26	12.39	304.57	3500.22	1765.95	111.91	3.30	4.87	54.85	3.08	2.97	0.27
MEAN	1.72	.41	9.82	113	63.1	3.61	.11	.16	1.83	.099	.096	.009
MAX	10	2.2	199	1180	600	52	.48	.55	52	.79	.65	.07
MIN	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	106	25	604	6940	3500	222	6.5	9.7	109	6.1	5.9	.5

e Estimated.

## 11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.94	1.57	2.27	9.09	12.6	6.18	1.56	.93	.84	.70	.70	.85
MAX	2.27	11.6	11.6	113	186	53.7	16.8	3.65	2.20	3.65	1.76	3.03
(WY)	1988	1983	1985	1993	1969	1991	1958	1969	1989	1968	1965	1965
MIN	.11	.11	.19	.079	.17	.14	.000	.071	.079	.081	.047	.009
(WY)	1989	1992	1986	1972	1968	1987	1979	1980	1980	1980	1990	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1955 - 1993	
ANNUAL TOTAL	2179.91		5817.64		3.17	
ANNUAL MEAN	5.96		15.9		21.7	
HIGHEST ANNUAL MEAN					.74	
LOWEST ANNUAL MEAN					3500	
HIGHEST DAILY MEAN	433	Feb 12	1180	Jan 7	Feb 25 1969	
LOWEST DAILY MEAN	.00	Jan 10	.00	Nov 3	.00 Feb 4 1968	
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 25	.00	Nov 3	.00 Apr 15 1969	
INSTANTANEOUS PEAK FLOW			5000	Feb 8	15000 Feb 25 1969	
INSTANTANEOUS PEAK STAGE			7.03	Feb 8	8.20 Feb 25 1969	
ANNUAL RUNOFF (AC-FT)	4320		11540		2300	
10 PERCENT EXCEEDS	3.2		3.5		1.9	
50 PERCENT EXCEEDS	.52		.06		.64	
90 PERCENT EXCEEDS	.00		.00		.00	

## SANTA ANA RIVER BASIN

11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1979 to December 1981, December 1991 to December 1992.

WATER TEMPERATURE: April 1979 to December 1981.

SEDIMENT DATA: April 1979 to December 1981, December 1991 to December 1992.

## SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
DEC 29...	1330	70	11.5	20800	3930

11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA

LOCATION.--Lat 34°10'45", long 117°15'53", in NE 1/4 NE 1/4 sec.14, T.1 N., R.4 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 1,000 ft upstream from Del Rosa Water Co.'s Diversion, 0.5 mi south of Arrowhead Springs, and 1.0 mi downstream from Strawberry Creek.

DRAINAGE AREA.--8.80 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1919 to current year. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

REVISED RECORDS.--WSP 1635: 1924(M), 1927, 1928(M), 1929, 1932(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,590 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. One small diversion dam for domestic use upstream from station. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,710 ft<sup>3</sup>/s, Jan. 29, 1980, gage height, 8.35 ft, on basis of slope-area measurement of peak flow; no flow at times in 1929, 1931-35.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 120 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 8.35 ft:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 30	1815	64	2.84	Feb. 8	0330	1,070	5.53
Dec. 7	1715	93	3.06	Feb. 19	0200	703	4.93
Dec. 29	1345	155	3.39	Mar. 27	0045	64	2.95
Jan. 7	Unknown	*Unknown	*8.07	June 5	1200	84	2.96
Jan. 17	0445	1,360	5.94				

Minimum daily, 0.19 ft<sup>3</sup>/s, Oct. 1, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	1.5	1.3	10	e19	e80	21	11	7.9	5.5	3.2	2.2
2	.24	1.1	1.4	19	e16	e70	19	11	8.1	5.5	3.0	2.2
3	.37	1.0	1.5	11	e14	e60	18	13	8.1	5.5	2.9	2.1
4	.37	1.3	2.4	12	e12	e53	18	13	8.1	5.7	2.9	2.1
5	.36	1.2	1.8	11	e13	e49	18	13	26	5.7	2.8	2.1
6	.47	.92	1.7	79	e12	e46	20	12	13	5.4	2.7	2.3
7	.30	1.0	39	e378	e14	e42	18	12	10	5.4	2.7	2.1
8	.23	1.1	10	e105	e180	e39	17	11	8.4	5.8	2.7	2.0
9	.19	1.1	4.2	e70	e120	e36	17	11	7.7	5.6	2.7	1.8
10	.22	1.1	2.7	e48	e92	e34	16	10	7.4	5.5	2.6	1.7
11	.23	1.1	2.5	e40	e82	e32	16	11	7.1	5.4	2.5	1.9
12	.24	1.1	2.7	e38	e71	e31	15	11	7.0	5.1	2.6	2.0
13	.24	1.1	2.7	e108	e63	e29	14	10	7.0	5.2	2.7	2.3
14	.35	1.1	2.7	e210	e57	e27	14	9.9	6.7	5.0	2.7	2.1
15	.33	1.1	2.3	e180	e52	e26	14	9.8	6.6	4.9	2.8	2.2
16	.39	1.0	2.3	e320	e49	e25	14	9.8	6.3	5.0	2.7	2.5
17	.33	.98	2.8	e340	e46	24	14	9.5	6.2	4.9	2.6	2.6
18	.28	1.2	6.9	e250	e100	23	14	9.4	6.1	4.9	2.5	2.9
19	.37	1.1	2.8	e150	e310	22	13	9.0	5.9	4.5	2.5	2.7
20	.39	1.2	2.5	e100	e400	21	13	9.6	6.1	4.4	2.4	2.6
21	.53	1.1	2.5	e72	e210	20	12	9.6	5.8	4.5	2.3	2.7
22	.68	1.1	2.7	e60	e165	19	12	9.3	6.1	4.5	2.4	2.6
23	.91	1.2	2.6	e57	e180	18	12	10	6.2	4.2	2.3	2.6
24	1.2	1.2	2.5	e53	e160	18	12	9.2	6.1	4.3	2.2	2.4
25	1.3	1.3	2.8	e52	e120	18	12	8.9	5.8	4.5	2.2	2.3
26	.93	1.2	3.4	e45	e110	32	11	8.9	5.6	4.1	2.3	2.3
27	.72	1.2	3.6	e40	e108	38	11	8.7	5.7	3.9	2.3	2.2
28	1.0	1.2	8.2	e34	e92	33	11	8.4	5.6	3.8	2.3	2.2
29	1.3	1.2	41	e28	---	27	11	8.2	5.5	3.6	2.3	2.5
30	15	1.3	36	e25	---	23	11	8.0	5.4	3.4	2.3	2.6
31	4.0	---	14	e22	---	22	---	7.9	---	3.2	2.2	---
TOTAL	33.66	34.30	215.5	2967	2867	1037	438	313.1	227.5	148.9	79.3	68.8
MEAN	1.09	1.14	6.95	95.7	102	33.5	14.6	10.1	7.58	4.80	2.56	2.29
MAX	15	1.5	41	378	400	80	21	13	26	5.8	3.2	2.9
MIN	.19	.92	1.3	10	12	18	11	7.9	5.4	3.2	2.2	1.7
AC-FT	67	68	427	5890	5690	2060	869	621	451	295	157	136

e Estimated.

## 11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.46	2.50	4.96	7.52	12.2	13.3	8.10	4.71	2.78	1.60	1.23	1.14
MAX	11.4	20.3	43.6	95.7	102	101	38.3	19.3	11.6	9.40	11.9	4.94
(WY)	1984	1966	1967	1993	1993	1991	1978	1983	1983	1983	1983	1983
MIN	.20	.47	.51	.91	1.14	1.27	.56	.66	.56	.18	.20	.20
(WY)	1965	1965	1990	1963	1964	1972	1977	1934	1961	1964	1964	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1921 - 1993	
ANNUAL TOTAL	1277.34		8430.06			
ANNUAL MEAN	3.49		23.1		5.09	
HIGHEST ANNUAL MEAN					23.1	
LOWEST ANNUAL MEAN					.85	
HIGHEST DAILY MEAN	179	Feb 12	400	Feb 20	795	Feb 25 1969
LOWEST DAILY MEAN	.17	Sep 17	.19	Oct 1	.10	Aug 23 1929
ANNUAL SEVEN-DAY MINIMUM	.19	Sep 15	.24	Oct 7	.11	Jul 11 1964
INSTANTANEOUS PEAK FLOW					3710	Jan 29 1980
INSTANTANEOUS PEAK STAGE			8.07	Jan 7	8.35	Jan 29 1980
ANNUAL RUNOFF (AC-FT)	2530		16720		3690	
10 PERCENT EXCEEDS	5.0		55		9.0	
50 PERCENT EXCEEDS	1.2		5.8		1.9	
90 PERCENT EXCEEDS	.31		1.1		.50	

## 11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°03'54", long 117°17'58", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, on left bank, 0.4 mi downstream from E Street Bridge, 0.4 mi upstream from Warm Creek, 1.2 mi downstream from San Timoteo Creek, 2.8 mi south of San Bernardino, and 26 mi downstream from Big Bear Lake.  
DRAINAGE AREA.--541 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1939 to September 1954, October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 940 ft above sea level, from topographic map. Prior to Nov. 10, 1950, water-stage recorder on right bank 0.4 mi upstream at datum 964.50 ft above sea level. Nov. 11, 1950, to Sept. 30, 1954, water-stage recorder on both banks 0.4 mi upstream at datum 964.50 ft above sea level. Oct. 1, 1966, to Sept. 30, 1976, water-stage recorder on right bank 0.4 mi upstream at datum 954.50 ft above sea level. Oct. 1, 1976, to Sept. 30, 1977, gage was removed for channel construction. Oct. 1, 1977, to Jan. 28, 1981, water-stage recorder on right bank 0.5 mi upstream at elevation 950 ft above sea level, from topographic map.

REMARKS.--Records fair except for discharges above 200 ft<sup>3</sup>/s and estimated daily discharges, which are poor. Flow partly regulated by Big Bear Lake (station 11049000). Natural flow of stream affected by ground-water withdrawals and diversion for domestic use and irrigation upstream from station. Effluent from sewage reclamation plant 1.0 mi upstream has caused sustained flow past gage since 1967. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 11.9 ft, site and datum then in use; no flow for many days many years prior to 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 30	2045	1,190	4.68	Feb. 8	0330	13,000	6.67
Dec. 7	1445	4,400	5.63	Feb. 20	0030	12,800	6.66
Dec. 29	1300	3,480	5.44	Mar. 26	2145	3,390	5.42
Jan. 7	2230	*15,300	*6.86	June 5	1430	3,700	5.49
Jan. 17	0600	13,300	6.70				

Minimum daily, 30 ft<sup>3</sup>/s, Jan. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	37	36	e45	e91	e523	e342	e284	139	e45	38	93
2	35	36	35	e37	e84	e512	e312	e252	153	e44	39	71
3	34	35	36	e37	e74	e501	e277	e312	141	e43	39	49
4	34	37	89	e30	e64	e491	e277	e349	146	e43	36	40
5	37	37	43	e30	e60	e480	e298	e342	e432	e42	36	42
6	37	37	37	e768	e57	e470	e291	e291	e415	e42	40	41
7	35	36	e1400	e7650	e91	e460	e342	e258	e271	47	36	43
8	34	36	e140	e3300	e3520	e451	e389	e258	e152	50	35	39
9	36	35	43	e1030	e1090	e442	e398	e246	e118	54	37	40
10	33	35	40	e738	e581	e442	e406	e239	e99	57	38	42
11	33	36	39	e442	e357	e433	e398	e228	97	53	37	41
12	35	34	38	e291	e258	e415	e406	e216	82	52	37	36
13	33	34	39	e738	e228	e442	e451	e217	75	50	36	40
14	34	34	34	e1920	e222	e451	e501	208	74	50	37	37
15	34	34	36	e1660	e200	e460	e534	202	67	54	35	50
16	35	36	36	e6730	e185	e470	e451	224	68	52	38	47
17	34	35	36	e6510	e157	e451	e415	203	70	53	39	48
18	34	34	e104	e4900	e451	e501	e406	197	68	52	39	46
19	35	34	37	e1250	e2440	e512	e406	177	65	52	40	49
20	35	35	35	e669	e4250	e534	e389	164	59	47	40	45
21	34	37	35	e501	e656	e546	e326	167	61	e49	39	37
22	35	36	37	e357	e523	e557	e291	191	57	e48	37	48
23	39	37	37	e284	e520	e556	e284	223	56	e48	41	62
24	39	34	38	e264	e605	e555	e284	193	53	47	42	43
25	40	36	34	e222	e525	e557	e277	187	52	48	41	36
26	38	36	35	e170	e501	e738	e277	171	47	47	41	41
27	34	32	52	e124	e491	e910	e271	162	46	45	42	40
28	34	34	389	e115	e460	e683	e284	147	46	46	95	38
29	39	35	e702	e110	---	e470	e291	145	46	44	142	38
30	246	36	e195	e107	---	e365	e277	135	e45	43	132	37
31	139	---	e47	e101	---	e349	---	135	---	38	125	---
TOTAL	1409	1060	3934	41130	18741	15727	10551	6723	3300	1485	1529	1359
MEAN	45.5	35.3	127	1327	669	507	352	217	110	47.9	49.3	45.3
MAX	246	37	1400	7650	4250	910	534	349	432	57	142	93
MIN	33	32	34	30	57	349	271	135	45	38	35	36
AC-FT	2790	2100	7800	81580	37170	31190	20930	13340	6550	2950	3030	2700

e Estimated.

## 11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.88	3.47	20.9	23.7	20.6	37.4	27.2	11.3	2.39	.93	.87	.63
MAX	3.35	21.3	117	109	72.2	183	237	145	31.2	9.87	8.37	6.32
(WY)	1942	1945	1946	1943	1945	1943	1941	1941	1941	1940	1940	1939
MIN	.000	.007	.000	1.90	2.41	1.70	1.14	.14	.000	.000	.000	.000
(WY)	1951	1952	1951	1948	1942	1951	1951	1942	1950	1950	1942	1948

## SUMMARY STATISTICS

## WATER YEARS 1939 - 1954

ANNUAL MEAN	12.7	
HIGHEST ANNUAL MEAN	56.6	1941
LOWEST ANNUAL MEAN	.78	1951
HIGHEST DAILY MEAN	2350	Jan 23 1943
LOWEST DAILY MEAN	.00	Jun 19 1940
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 10 1940
ANNUAL RUNOFF (AC-FT)	9190	
10 PERCENT EXCEEDS	16	
50 PERCENT EXCEEDS	1.0	
90 PERCENT EXCEEDS	.00	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.7	43.5	79.8	154	234	227	132	102	62.9	41.1	37.0	34.6
MAX	117	191	469	1327	2096	1279	742	707	339	162	160	75.0
(WY)	1984	1984	1967	1993	1980	1980	1980	1983	1983	1969	1983	1983
MIN	12.4	13.2	14.8	13.2	11.6	10.6	12.5	9.35	13.0	9.08	9.97	9.93
(WY)	1968	1972	1970	1972	1968	1972	1972	1967	1971	1967	1967	1967

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1967 - 1993

ANNUAL TOTAL	27999	106948	
ANNUAL MEAN	76.5	293	97.8
HIGHEST ANNUAL MEAN			441
LOWEST ANNUAL MEAN			17.2
HIGHEST DAILY MEAN	2010	Feb 12	7650
LOWEST DAILY MEAN	30	Jan 19	30
ANNUAL SEVEN-DAY MINIMUM	31	Feb 21	34
INSTANTANEOUS PEAK FLOW			15300
INSTANTANEOUS PEAK STAGE			6.86
ANNUAL RUNOFF (AC-FT)	55540	212100	70820
10 PERCENT EXCEEDS	76	515	152
50 PERCENT EXCEEDS	38	57	35
90 PERCENT EXCEEDS	33	35	14

11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983-86, 1988 to current year.

WATER TEMPERATURE: November 1982 to September 1983.

SEDIMENT DATA: Water years 1983-86, 1988 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1982 to September 1983.

SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1983.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT										
06...	1300	45	29.0	4	0.49	--	--	--	--	--
20...	1320	43	28.0	4	0.46	75	--	--	--	--
NOV										
24...	1410	41	23.5	6	0.66	66	--	--	--	--
DEC										
16...	1220	44	22.0	39	4.6	--	--	--	--	--
30...	1215	202	15.0	3330	1820	16	--	--	--	--
APR										
06...	1315	356	19.5	707	680	25	33	61	93	100
MAY										
12...	1240	228	21.5	678	417	10	--	--	--	--
JUN										
01...	1530	140	27.0	236	89	14	--	--	--	--
JUL										
07...	1100	53	29.0	396	57	11	--	--	--	--
SEP										
01...	1000	94	23.5	1080	274	65	--	--	--	--

## SANTA ANA RIVER BASIN

11060400 WARM CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°04'42", long 117°17'58", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, on left bank 0.2 mi downstream from Interstate Highway 215 Bridge and 2.0 mi southwest of San Bernardino.

DRAINAGE AREA.--11.0 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1964 to September 1972, October 1974 to current year.

REVISED RECORDS.--WDR CA-83-1: Drainage area. WDR CA-92-1: 1978(M), 1980-81(M), 1983-86(M).

GAGE.--Water-stage recorder. Elevation of gage is 960 ft above sea level, from topographic map. Prior to Oct. 1, 1974, at site 0.1 mi upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural channel prior to October 1972; concrete-lined channel since October 1974. Possible diversion during high flows into Warm Creek from Lytle Creek flood detention basin 3.4 mi upstream. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft<sup>3</sup>/s, Mar. 4, 1978, gage height, 4.88 ft, from rating curve extended above 420 ft<sup>3</sup>/s on basis of step-backwater analysis; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft<sup>3</sup>/s, Feb. 8, gage height, 2.53 ft, from rating curve extended above 420 ft<sup>3</sup>/s on basis of step-backwater analysis; no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	.01	.07	1.0	e8.0	6.0	4.9	2.9	1.2	.59	.04	.00
2	.69	.01	.00	13	e7.1	5.2	5.2	2.7	.80	.93	.52	.05
3	.75	.08	.08	1.2	e6.5	5.4	5.4	3.1	.56	.42	.00	.00
4	.69	.20	13	1.0	e5.0	6.1	5.0	3.1	.93	.41	.55	.00
5	.82	.00	.18	1.2	4.8	5.5	5.0	2.9	56	.26	.25	.00
6	.89	.00	.17	219	3.2	5.4	5.0	3.1	8.1	.23	.00	.01
7	1.1	.01	251	335	41	5.4	5.0	3.7	.74	.49	.00	.28
8	1.0	.01	2.8	33	221	5.4	5.1	3.2	.81	.26	.00	.00
9	.91	.01	.75	e10	55	5.4	4.9	2.9	.96	.22	.00	.00
10	.76	.00	.60	e6.0	7.1	5.5	5.1	2.7	.75	.15	.01	.00
11	.57	.01	.88	e4.0	3.4	5.9	4.9	2.5	.78	.14	.17	.01
12	.71	.04	.76	e3.5	3.4	5.4	5.6	2.1	.78	.16	.46	.00
13	.86	.17	.55	e10	3.1	5.4	5.0	2.6	.78	.39	.67	.00
14	.71	.66	.71	e45	3.2	5.4	5.1	2.3	.77	.04	.00	.01
15	.63	.10	1.7	e57	3.5	5.5	4.7	2.9	.79	.00	.00	.04
16	.53	.16	.73	e230	4.0	5.2	4.9	6.1	.73	.00	.00	.37
17	.60	.02	11	e140	3.6	5.4	4.7	5.1	.72	.00	.00	.19
18	.54	.17	10	e40	106	5.4	4.6	8.8	.66	.00	.00	.00
19	.58	.29	.74	e25	139	5.2	5.5	1.8	.58	.00	.00	.00
20	.68	.00	.66	e16	105	5.3	4.8	1.8	.58	.02	.01	.26
21	.82	.00	.75	e12	4.7	5.4	4.4	3.4	.58	.00	.25	.13
22	.57	.01	.66	e10	4.5	5.5	4.2	1.6	.58	.00	.15	.30
23	8.2	1.5	.68	e9.0	63	5.7	4.2	1.6	.58	.00	.10	.18
24	1.1	1.9	.78	e8.1	6.7	5.8	4.0	1.5	.59	.00	.00	.16
25	.55	.00	.89	e7.9	4.9	6.1	3.6	1.4	.57	.00	.00	.34
26	.39	.01	.91	e6.5	13	97	3.6	1.4	.57	.00	.00	.17
27	1.3	.01	19	e6.0	8.8	8.0	5.3	1.4	.58	.00	.00	.27
28	1.5	.00	40	e5.8	5.3	24	3.0	1.3	.51	.00	.00	.36
29	2.7	.09	134	e5.7	---	5.6	3.0	1.4	.43	.03	.00	.39
30	83	.12	11	e6.0	---	5.4	3.1	1.4	.39	.00	.00	.45
31	.65	---	1.3	e10	---	5.4	---	1.3	---	.04	.00	---
TOTAL	115.41	5.59	506.35	1277.9	843.8	283.3	138.8	84.0	83.40	4.78	3.18	3.97
MEAN	3.72	.19	16.3	41.2	30.1	9.14	4.63	2.71	2.78	.15	.10	.13
MAX	83	1.9	251	335	221	97	5.6	8.8	56	.93	.67	.45
MIN	.39	.00	.00	1.0	3.1	5.2	3.0	1.3	.39	.00	.00	.00
AC-FT	229	11	1000	2530	1670	562	275	167	165	9.5	6.3	7.9

e Estimated.

11060400 WARM CREEK NEAR SAN BERNARDINO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1972, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.11	2.77	4.73	4.68	4.19	1.15	1.82	.033	.000	.000	.003	.006
MAX	.49	13.1	14.0	32.7	29.6	4.35	11.5	.24	.000	.003	.026	.050
(WY)	1970	1966	1972	1969	1969	1970	1965	1969	1965	1968	1967	1965
MIN	.000	.000	.41	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1969	1969	1972	1967	1972	1966	1965	1965	1965	1965	1966

## SUMMARY STATISTICS

WATER YEARS 1965 - 1972

ANNUAL MEAN	1.61
HIGHEST ANNUAL MEAN	5.16
LOWEST ANNUAL MEAN	.33
HIGHEST DAILY MEAN	488
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	2200
INSTANTANEOUS PEAK STAGE	5.55
ANNUAL RUNOFF (AC-FT)	1170
10 PERCENT EXCEEDS	.00
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.81	11.8	14.3	19.7	44.6	41.1	15.5	14.3	11.2	10.5	10.4	9.58
MAX	32.4	33.1	41.6	41.2	418	376	44.2	86.7	43.6	34.5	50.6	30.3
(WY)	1984	1986	1985	1993	1978	1978	1986	1980	1980	1980	1983	1983
MIN	.12	.13	.40	.11	.85	2.51	.17	.37	.067	.11	.061	.023
(WY)	1978	1980	1980	1976	1977	1977	1977	1978	1978	1979	1979	1979

## SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1975 - 1993

ANNUAL TOTAL	2952.90	3350.48	
ANNUAL MEAN	8.07	9.18	17.6
HIGHEST ANNUAL MEAN			70.5
LOWEST ANNUAL MEAN			1.91
HIGHEST DAILY MEAN	251	Dec 7	3400
LOWEST DAILY MEAN	.00	Nov 5	.00
ANNUAL SEVEN-DAY MINIMUM	.01	Nov 5	.00
INSTANTANEOUS PEAK FLOW			1200
INSTANTANEOUS PEAK STAGE			2.53
ANNUAL RUNOFF (AC-FT)	5860	6650	12740
10 PERCENT EXCEEDS	7.7	9.4	28
50 PERCENT EXCEEDS	1.7	.88	8.7
90 PERCENT EXCEEDS	.20	.00	.09

## 11062000 LYTLE CREEK NEAR FONTANA, CA

LOCATION.--Lat 34°12'44", long 117°27'26", in NW 1/4 SE 1/4 sec.36, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 75 ft upstream from highway culvert crossing, 0.7 mi upstream from right tributary, 2.3 mi downstream from Lytle Creek Conduit, and 8 mi north of Fontana.

DRAINAGE AREA.--46.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1918 to current year. Combined records of Lytle Creek and diversions, October 1898 to December 1899, October 1904 to current year (published as "at mouth of canyon near Rialto" 1898-99, as "near San Bernardino" 1904-18, and as Lytle Creek and Fontana pipeline near Fontana 1919-31). Monthly discharge only for some periods published in WSP 1315-B.

REVISED RECORDS.--WSP 1011: 1943. WDR CA-83-1: Drainage area.

GAGE.--Water-stage recorder on creek. Elevation of gage is 2,380 ft above sea level, from topographic map.

October 1918 to Mar. 21, 1938, at site 1 mi downstream at different datum. Mar. 22, 1938, to Nov. 20, 1963, at site 75 ft downstream at datum 4.58 ft lower. Water-stage recorders and sharp-crested weirs on conduit since June 3, 1949, and infiltration line since Oct. 1, 1971.

REMARKS.--Records poor. No regulation upstream from station. Southern California Edison Co.'s Lytle Creek conduit diverts 2.3 mi upstream for power development and Fontana Union Water Co. collects water from an infiltration line upstream for irrigation and domestic use. See schematic diagram of Santa Ana River basin. For records of combined discharge of Lytle Creek and diversions, see following page.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 35,900 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 15.0 ft, from floodmark, from rating curve extended above 570 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 10.78 and 15.0 ft; no flow at times most years.

Combined creek and diversions: Maximum discharge, 35,900 ft<sup>3</sup>/s, Jan. 25, 1969; minimum daily, 2.6 ft<sup>3</sup>/s, Nov. 28, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Creek only		Combined creek and diversions	
		Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	
Dec. 7	0845	521	3.96	524	
Dec. 29	1200	651	4.33	660	
Jan. 7	2315	2,610	8.16	2,610	
Jan. 17	2100	1,990	7.19	1,990	
Feb. 8	0215	*3,150	*8.95	*3,150	
Feb. 18	2315	1,870	6.98	1,870	
Mar. 26	0045	384	3.61	386	
June 5	1615	331	3.57	333	

Creek only: Minimum daily, 6.8 ft<sup>3</sup>/s, Dec. 27.

Combined creek and diversions: Minimum daily, 27 ft<sup>3</sup>/s, Dec. 2, 25, 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	14	8.4	27	129	288	291	201	160	103	67	38
2	e15	14	8.3	29	124	283	285	209	161	117	74	36
3	e15	12	8.3	23	116	293	287	215	159	115	74	36
4	e15	12	9.2	19	114	297	293	200	166	116	73	36
5	e15	12	9.0	17	102	265	251	200	229	112	72	36
6	e15	11	8.8	261	100	255	241	202	238	114	73	35
7	e15	11	223	929	166	263	234	201	223	105	73	37
8	e14	12	40	729	1120	252	239	195	213	102	67	35
9	e14	12	17	319	598	254	227	194	188	102	61	34
10	e14	12	15	259	429	249	249	203	150	107	61	33
11	e14	12	15	221	405	264	271	194	137	107	61	33
12	13	12	15	213	377	256	275	200	134	103	60	33
13	13	12	14	740	341	233	287	198	135	105	58	34
14	12	11	13	825	318	248	249	206	122	106	59	34
15	13	9.9	11	728	303	263	231	203	127	104	60	33
16	13	9.9	11	984	290	269	209	197	121	103	59	36
17	11	9.9	12	1090	289	291	216	206	118	102	53	37
18	11	9.9	16	1230	637	263	215	194	119	98	46	36
19	11	9.7	12	684	713	236	212	163	118	92	43	35
20	11	9.7	11	615	617	240	201	186	108	92	44	35
21	11	10	9.7	526	534	268	197	182	109	91	43	36
22	10	10	9.1	474	518	253	211	188	107	89	41	36
23	10	10	8.6	435	490	242	210	189	98	88	43	36
24	11	9.9	8.0	396	414	251	211	176	97	86	45	35
25	11	9.9	7.5	378	367	271	213	171	99	85	40	34
26	11	9.9	6.9	335	361	303	203	173	91	83	38	34
27	11	9.8	6.8	302	345	252	200	169	96	84	38	33
28	11	9.5	17	247	312	282	201	160	103	82	36	31
29	11	9.0	180	154	---	258	202	166	99	84	39	33
30	34	8.8	96	144	---	275	206	159	99	79	39	33
31	26	---	46	137	---	285	---	159	---	72	39	---
TOTAL	426	324.8	872.6	13470	10629	8202	7017	5859	4124	3028	1679	1043
MEAN	13.7	10.8	28.1	435	380	265	234	189	137	97.7	54.2	34.8
MAX	34	14	223	1230	1120	303	293	215	238	117	74	38
MIN	10	8.8	6.8	17	100	233	197	159	91	72	36	31
AC-FT	845	644	1730	26720	21080	16270	13920	11620	8180	6010	3330	2070

e Estimated.

## 11062000 LYTLE CREEK NEAR FONTANA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.53	7.39	9.85	25.6	41.3	52.8	29.4	19.7	14.0	10.0	6.83	5.51
MAX	48.2	275	151	552	633	752	254	189	157	131	80.5	65.7
(WY)	1984	1966	1967	1969	1980	1938	1978	1993	1983	1983	1969	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1919 - 1993	
ANNUAL TOTAL	14599.86		56674.4		19.0	
ANNUAL MEAN	39.9		155		177	
HIGHEST ANNUAL MEAN					1969	
LOWEST ANNUAL MEAN					1919	
HIGHEST DAILY MEAN	673	Feb 12	1230	Jan 18	8950	Mar 2 1938
LOWEST DAILY MEAN	.00	Jan 2	6.8	Dec 27	.00	Oct 1 1918
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 17	8.1	Dec 21	.00	Oct 1 1918
INSTANTANEOUS PEAK FLOW			3150	Feb 8	35900	Jan 25 1969
INSTANTANEOUS PEAK STAGE			8.95	Feb 8	15.00	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	28960		112400		13730	
10 PERCENT EXCEEDS	75		303		40	
50 PERCENT EXCEEDS	23		103		.00	
90 PERCENT EXCEEDS	8.4		11		.00	

## 11062001 LYTLE CREEK NEAR FONTANA, CA--Continued

LYTLE CREEK, SOUTHERN CALIFORNIA EDISON CO.'S LYTLE CREEK CONDUIT, AND  
FONTANA UNION WATER CO.'S INFILTRATION LINE DIVERSIONS  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	37	28	46	148	290	293	220	162	122	86	57
2	e35	34	27	48	143	286	287	228	163	137	93	55
3	e35	32	28	42	135	297	289	235	161	135	93	55
4	e35	32	29	38	133	299	295	219	168	136	92	55
5	e35	32	29	36	121	267	253	219	231	131	91	55
6	e35	31	29	268	119	257	243	221	240	133	92	54
7	e35	31	230	931	185	265	236	220	225	124	92	56
8	e34	32	48	731	1120	254	241	214	215	121	86	54
9	e34	32	37	321	600	256	229	213	190	121	80	53
10	e34	32	35	261	431	251	251	223	152	126	80	52
11	e34	32	35	223	407	265	273	214	151	126	76	52
12	33	32	35	215	379	258	277	220	153	122	76	52
13	33	32	34	742	352	235	289	218	154	124	77	53
14	32	31	33	827	337	250	251	226	141	125	78	53
15	33	29	31	730	322	265	233	223	147	123	79	52
16	33	30	31	986	309	271	211	216	140	122	78	55
17	31	30	32	1090	308	293	218	226	138	121	72	56
18	31	30	36	1230	650	265	217	214	138	117	65	55
19	31	30	32	686	715	238	214	177	137	111	62	54
20	31	30	31	617	619	242	213	188	127	111	63	54
21	31	30	30	528	536	270	216	184	128	110	62	55
22	30	30	29	476	520	255	230	190	126	108	60	55
23	30	30	29	437	492	244	229	191	117	107	62	55
24	31	30	28	409	416	253	230	178	116	105	64	54
25	31	30	27	397	369	273	232	173	118	104	59	53
26	31	30	27	354	363	305	222	175	110	102	57	53
27	31	30	27	321	347	254	219	171	115	103	57	52
28	31	29	37	266	314	284	220	162	122	101	54	50
29	31	29	191	173	---	260	221	168	118	96	58	52
30	51	29	100	163	---	277	225	161	118	98	58	52
31	36	---	57	156	---	287	---	161	---	91	58	---
TOTAL	1033	928	1432	13748	10890	8266	7257	6248	4521	3613	2260	1613
MEAN	33.3	30.9	46.2	443	389	267	242	202	151	117	72.9	53.8
MAX	51	37	230	1230	1120	305	295	235	240	137	93	57
MIN	30	29	27	36	119	235	211	161	110	91	54	50
AC-FT	2050	1840	2840	27270	21600	16400	14390	12390	8970	7170	4480	3200

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1993, BY WATER YEAR (WY)

MEAN	26.4	28.6	31.1	56.8	68.3	79.4	57.1	47.2	39.1	32.8	30.0	27.7
MAX	71.9	285	168	650	653	785	264	225	164	131	107	81.5
(WY)	1984	1966	1967	1916	1980	1938	1978	1978	1978	1969	1969	1978
MIN	7.54	8.05	7.65	11.0	11.7	12.1	10.8	10.9	9.41	7.05	6.98	6.43
(WY)	1962	1991	1951	1951	1899	1965	1899	1961	1990	1899	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1899 - 1993	
ANNUAL TOTAL	22793		61809			
ANNUAL MEAN	62.3		169		43.9	
HIGHEST ANNUAL MEAN					194	
LOWEST ANNUAL MEAN					10.7	
HIGHEST DAILY MEAN	688		1230		8960	
LOWEST DAILY MEAN	22		27		2.6	
ANNUAL SEVEN-DAY MINIMUM	23		28		4.0	
INSTANTANEOUS PEAK FLOW			3150		35900	
ANNUAL RUNOFF (AC-FT)	45210		122600		31790	
10 PERCENT EXCEEDS	105		317		76	
50 PERCENT EXCEEDS	42		122		26	
90 PERCENT EXCEEDS	29		31		12	

11063500 LONE PINE CREEK NEAR KEENBROOK, CA

LOCATION.--Lat 34°15'59", long 117°27'47", in SE 1/4 SW 1/4 sec.12, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 50 ft upstream from the Atchison, Topeka, & Santa Fe Railway Co. bridge, 150 ft upstream from confluence with Cajon Creek, and 1.1 mi north of Keenbrook.

DRAINAGE AREA.--15.1 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1919 to September 1938, June 1949 to current year.

REVISED RECORDS.--WSP 1635: 1920-22(M), 1924-25(M), 1926-27, 1928(M), 1930, 1931(M), 1932-33, 1934-36(M).  
WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft above sea level. Prior to Mar. 2, 1938, water-stage recorder (destroyed by flood), and Mar. 2 to Sept. 30, 1938, nonrecording gage at same site at datum 0.98 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,180 ft<sup>3</sup>/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; no flow Aug. 6-8, Sept. 29, 30, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0930	242	3.85	Jan. 18	0315	424	4.86
Dec. 29	1045	128	3.01	Feb. 8	0145	*817	*6.39
Jan. 7	2300	252	3.91	Feb. 19	0415	411	4.80
Jan. 14	0315	353	4.51				

Minimum daily, 0.88 ft<sup>3</sup>/s, Oct. 17, 18, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	1.0	1.2	1.4	1.6	22	11	e9.1	7.9	5.4	e6.7	6.4
2	.92	1.0	1.2	1.4	1.5	20	11	e9.1	8.1	5.6	e6.6	6.6
3	.97	1.0	1.3	1.3	1.4	19	11	e9.0	8.0	6.1	e6.6	6.6
4	.92	1.0	1.3	1.2	1.3	17	11	e9.0	8.2	6.0	e6.7	6.5
5	.92	1.0	1.4	1.1	1.3	17	11	e9.0	9.3	5.6	e6.6	6.3
6	.92	1.0	1.5	18	1.2	16	11	e8.9	7.9	5.3	e6.5	6.1
7	.92	1.0	48	43	15	16	11	e8.9	7.6	5.3	e6.5	6.1
8	.92	1.1	3.6	18	139	15	11	e8.9	7.4	5.3	e6.5	6.1
9	.92	1.2	1.7	6.7	e15	15	11	e8.8	7.3	5.4	e6.5	6.1
10	.92	1.1	2.1	4.8	e4.7	15	11	e8.8	7.3	5.6	6.3	6.0
11	.91	1.1	1.9	3.5	e4.5	15	11	e8.8	7.3	5.7	6.4	6.0
12	.89	1.1	1.6	7.5	4.0	15	11	8.8	7.2	6.0	6.7	6.1
13	.92	1.0	1.4	91	4.4	15	10	8.5	e7.3	6.1	6.8	6.1
14	.92	1.2	1.3	55	4.7	15	10	8.2	e7.2	6.1	6.7	6.0
15	.92	1.1	1.3	26	4.9	15	10	8.1	e7.1	6.0	6.6	6.0
16	.91	1.1	1.2	26	5.0	14	10	7.9	e7.0	5.7	6.5	6.1
17	.88	1.2	1.2	68	5.7	14	10	e8.0	e6.9	5.9	6.5	6.1
18	.88	1.2	1.5	131	89	14	10	e8.0	e6.8	6.0	6.5	6.1
19	.89	1.2	1.4	38	136	13	9.7	e8.1	e6.6	6.0	6.5	6.0
20	.88	1.2	1.4	21	68	13	9.7	8.3	e6.5	6.0	6.5	6.0
21	.92	1.2	1.4	13	49	13	9.6	8.3	e6.4	6.2	6.6	6.1
22	1.0	1.2	1.4	8.8	39	12	9.5	8.0	e6.3	6.0	6.7	6.2
23	1.0	1.2	1.5	7.0	33	12	9.4	8.1	e6.3	6.0	6.7	6.0
24	1.0	1.2	1.5	5.6	32	12	9.2	8.1	e6.1	6.1	6.7	5.9
25	1.0	1.2	1.4	4.6	28	13	9.1	8.2	e6.0	6.3	6.8	5.9
26	1.0	1.2	1.3	3.6	27	12	e9.1	8.2	e5.9	6.2	6.8	5.8
27	1.0	1.2	1.3	2.9	30	10	e9.1	7.7	e5.8	6.2	6.8	5.7
28	1.0	1.2	1.6	2.4	25	11	e9.0	7.2	e5.6	6.4	6.8	5.9
29	1.0	1.2	19	2.1	---	10	e9.0	7.2	e5.4	6.5	6.8	5.9
30	1.1	1.2	1.9	1.9	---	10	e9.1	7.5	5.3	6.7	6.6	5.9
31	1.0	---	1.6	1.8	---	11	---	7.6	---	6.8	6.4	---
TOTAL	29.27	33.8	111.4	617.6	771.2	441	303.5	258.3	208.0	184.5	204.9	182.6
MEAN	.94	1.13	3.59	19.9	27.5	14.2	10.1	8.33	6.93	5.95	6.61	6.09
MAX	1.1	1.2	48	131	139	22	11	9.1	9.3	6.8	6.8	6.6
MIN	.88	1.0	1.2	1.1	1.2	10	9.0	7.2	5.3	5.3	6.3	5.7
AC-FT	58	67	221	1230	1530	875	602	512	413	366	406	362

e Estimated.

## SANTA ANA RIVER BASIN

11063500 LONE PINE CREEK NEAR KEENBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.89	1.11	1.85	2.26	4.08	4.65	1.99	1.57	1.28	1.07	1.05	1.01
MAX	5.35	6.51	15.0	24.1	40.6	98.1	11.0	8.91	7.41	5.95	6.61	6.09
(WY)	1984	1966	1923	1969	1969	1938	1980	1980	1980	1993	1993	1993
MIN	.079	.091	.095	.094	.10	.10	.10	.10	.10	.10	.090	.093
(WY)	1991	1991	1991	1991	1964	1964	1961	1928	1928	1928	1965	1965

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1920 - 1993	
ANNUAL TOTAL	691.21		3346.07			
ANNUAL MEAN	1.89		9.17		1.91	
HIGHEST ANNUAL MEAN					11.4	
LOWEST ANNUAL MEAN					.11	
HIGHEST DAILY MEAN	125	Feb 12	139	Feb 8	1480	Mar 2 1938
LOWEST DAILY MEAN	.11	Jan 16	.88	Oct 17	.00	Aug 6 1965
ANNUAL SEVEN-DAY MINIMUM	.16	Jan 11	.90	Oct 14	.06	Aug 2 1965
INSTANTANEOUS PEAK FLOW			817	Feb 8	6180	Mar 2 1938
INSTANTANEOUS PEAK STAGE			6.39	Feb 8		
ANNUAL RUNOFF (AC-FT)	1370		6640		1380	
10 PERCENT EXCEEDS	1.6		15		3.9	
50 PERCENT EXCEEDS	.92		6.4		.50	
90 PERCENT EXCEEDS	.58		1.0		.10	

## 11063510 CAJON CREEK BELOW LONE PINE CREEK, NEAR KEENBROOK, CA

LOCATION.--Lat 34°16'04", long 117°27'58", in NW 1/4 NW 1/4 sec.13, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on left bank 0.25 mi downstream from Lone Pine Creek and 0.95 mi north of Keenbrook.

DRAINAGE AREA.--56.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1971 to September 1977, October 1983 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above sea level, from topographic map. Oct. 1, 1971, to Sept. 30, 1977, at site 0.25 mi upstream at abandoned diversion dam at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Concrete control installed Oct. 1, 1987. No regulation or diversion upstream from station. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,700 ft<sup>3</sup>/s, Feb. 8, 1993, gage height, 8.48 ft, from rating curve extended above 180 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 8.48 ft; minimum daily, 1.7 ft<sup>3</sup>/s, Sept. 5, 6, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 180 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 6.02 and 8.48 ft:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1030	723	6.15	Jan. 18	0345	2,470	6.85
Dec. 29	1045	326	5.39	Feb. 8	0100	*6,700	*8.48
Jan. 7	2345	1,130	6.01	Feb. 19	Unknown	1,130	6.01
Jan. 14	0330	2,040	6.62				

Minimum daily, 3.9 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	7.0	8.5	e7.0	41	e53	37	21	17	16	15	e15
2	4.3	7.2	8.6	e6.9	39	e51	36	20	18	16	15	e15
3	4.5	7.2	6.9	e6.8	39	47	33	21	18	16	15	e16
4	4.5	7.2	6.9	e6.8	39	43	32	20	18	17	15	e15
5	4.4	7.2	6.0	e6.7	39	42	31	19	23	16	15	e15
6	4.3	7.1	6.3	83	38	41	31	18	19	16	15	e15
7	4.5	7.1	218	176	110	38	30	17	19	16	15	e16
8	4.6	7.3	23	159	e850	36	32	16	17	16	15	e16
9	4.7	7.4	11	52	e92	34	30	16	15	17	15	e15
10	4.7	7.2	6.9	44	e60	36	32	16	15	17	14	e15
11	4.6	7.1	6.2	42	e53	37	31	17	16	16	14	e15
12	4.3	7.1	e6.5	92	e48	39	29	17	16	16	15	e16
13	4.6	7.2	e6.7	629	e45	40	29	17	14	16	15	e16
14	5.0	7.1	e6.6	334	e40	38	29	16	13	16	15	e16
15	5.0	7.0	e6.5	228	e38	38	29	16	13	17	15	e16
16	5.0	6.9	e6.5	236	e39	38	29	16	17	17	15	e15
17	4.5	6.9	e6.4	467	e40	39	29	18	18	17	15	e15
18	4.5	6.9	e8.0	799	e400	38	27	16	16	17	e15	e15
19	4.8	6.9	e7.1	155	e600	36	25	17	14	16	e15	e15
20	5.3	6.9	e6.7	98	e140	38	25	17	12	14	e15	e15
21	5.4	7.1	e6.5	73	e110	37	25	17	13	15	e15	e15
22	5.5	7.2	e6.4	62	e91	34	24	16	15	15	e16	e14
23	5.9	6.7	e6.5	54	e82	33	22	16	14	16	e16	e14
24	5.9	6.7	e6.6	46	e76	34	23	17	13	16	e16	e15
25	6.1	6.8	e6.7	46	e70	36	23	18	13	16	e15	e15
26	6.1	7.9	e6.7	44	e65	50	25	17	16	17	e16	e14
27	6.2	8.3	e9.0	44	e60	43	21	18	15	16	e16	e15
28	6.4	8.4	e15	42	e56	52	20	17	17	15	e15	e15
29	6.7	8.5	e65	41	---	39	20	17	15	15	e15	e15
30	7.7	8.5	e7.8	41	---	38	21	17	16	14	e16	e15
31	6.7	---	e7.2	42	---	38	---	17	---	15	e15	---
TOTAL	160.6	218.0	512.7	4163.2	3400	1236	830	538	475	495	469	454
MEAN	5.18	7.27	16.5	134	121	39.9	27.7	17.4	15.8	16.0	15.1	15.1
MAX	7.7	8.5	218	799	850	53	37	21	23	17	16	16
MIN	3.9	6.7	6.0	6.7	38	33	20	16	12	14	14	14
AC-FT	319	432	1020	8260	6740	2450	1650	1070	942	982	930	901

e Estimated.

11063510 CAJON CREEK BELOW LONE PINE CREEK, NEAR KEENBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.97	5.44	9.44	18.3	21.5	15.8	9.53	7.43	5.57	4.84	4.57	5.87
MAX	14.8	13.2	26.5	134	121	39.9	27.7	17.4	15.8	16.0	15.1	24.5
(WY)	1984	1984	1972	1993	1993	1993	1993	1993	1993	1993	1993	1976
MIN	2.00	1.97	2.05	2.33	5.06	4.31	2.93	3.39	1.98	2.05	2.12	1.99
(WY)	1991	1992	1991	1991	1977	1990	1977	1976	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1972 - 1993	
ANNUAL TOTAL	5118.4		12951.5			
ANNUAL MEAN	14.0		35.5		9.38	
HIGHEST ANNUAL MEAN					35.5	
LOWEST ANNUAL MEAN					3.80	
HIGHEST DAILY MEAN	427	Feb 12	850	Feb 8	850	Feb 8 1993
LOWEST DAILY MEAN	2.3	Jan 1	3.9	Oct 1	1.7	Sep 5 1989
ANNUAL SEVEN-DAY MINIMUM	2.7	Jan 17	4.3	Oct 1	1.8	Sep 2 1989
INSTANTANEOUS PEAK FLOW			6700	Feb 8	6700	Feb 8 1993
INSTANTANEOUS PEAK STAGE			8.48	Feb 8	8.48	Feb 8 1993
ANNUAL RUNOFF (AC-FT)	10150		25690		6800	
10 PERCENT EXCEEDS	23		51		15	
50 PERCENT EXCEEDS	6.4		16		5.1	
90 PERCENT EXCEEDS	4.2		6.5		2.6	

11063680 DEVIL CANYON CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°12'30", long 117°19'50", in Muscupiabe Grant, San Bernardino County, Hydrologic Unit 18070203, on left bank 0.6 mi downstream from confluence of East and West Forks and 7.5 mi northwest of San Bernardino.  
DRAINAGE AREA.--5.49 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to current year. Monthly figures only for January 1914, published in WSP 1315-B.  
REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder on creek; flowmeter on diversion. Elevation of gage is 2,080 ft above sea level, from topographic map. Prior to December 1919, nonrecording gage at site 0.5 mi downstream at different datum. December 1919 to July 1969, at site 0.4 mi downstream at different datum. July 1969 to September 1972, present gage used as supplementary gage. Oct. 1, 1973, to Feb. 25, 1974, supplementary gage at site 0.5 mi downstream at different datum.

REMARKS.--Records fair. No estimated daily discharges. No regulation upstream from station. City of San Bernardino diverts upstream from station for municipal supply. See schematic diagram of Santa Ana River basin. Records given below are for creek only unless otherwise indicated.  
COOPERATION.--Records of diversion were provided by city of San Bernardino.

EXTREMES FOR PERIOD OF RECORD (1913-14 and since 1919).--Maximum discharge, 3,720 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 5.40 ft, site and datum then in use, on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 29	1200	80	5.78	Feb. 8	0300	174	6.21
Jan. 7	1745	376	6.50	Feb. 19	0915	*407	*6.58
Jan. 14	0345	191	6.15	Mar. 26	0030	56	5.63

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.3	.00	5.0	9.0	48	23	11	6.1	4.7	4.5	3.2
2	.00	.93	.00	6.0	7.8	43	21	11	6.1	4.7	4.4	3.2
3	.00	.81	.00	4.3	7.2	38	20	11	6.1	4.9	4.3	3.1
4	.00	.76	.36	3.7	6.2	35	19	11	6.1	5.0	4.3	3.1
5	.00	.65	.00	3.4	5.5	33	19	11	16	5.0	4.2	3.1
6	.00	.39	.13	38	5.2	31	19	9.8	11	5.0	4.1	3.1
7	.00	.00	19	109	9.0	30	18	9.5	8.1	4.7	4.1	3.1
8	.00	.00	5.5	66	77	29	18	9.1	7.2	4.6	4.1	3.1
9	.00	.00	4.0	34	51	28	18	9.1	5.8	4.5	4.1	3.1
10	.00	.00	3.5	29	30	28	18	9.1	4.9	4.5	4.0	3.1
11	.00	.00	3.5	24	22	26	17	8.5	4.2	4.5	3.9	3.1
12	.00	.00	3.4	24	20	25	17	7.8	4.0	4.5	4.0	3.1
13	.00	.00	3.1	69	17	24	16	7.8	3.7	4.7	4.0	2.8
14	.00	.00	3.1	106	16	24	16	7.5	3.6	4.6	4.1	2.8
15	.00	.00	2.9	96	14	23	16	7.2	3.4	4.6	4.1	2.8
16	.00	.00	2.8	128	13	22	15	7.2	3.3	4.7	4.0	3.0
17	.00	.00	4.6	134	13	21	15	7.2	3.3	4.6	3.8	3.1
18	.00	.00	7.9	118	46	21	15	7.2	3.3	4.5	3.7	3.1
19	.00	.00	3.1	85	116	20	14	7.2	3.3	4.5	3.7	3.0
20	.00	.00	1.2	67	111	20	14	7.2	3.3	4.5	3.6	2.8
21	.00	.00	1.1	49	96	20	13	7.2	3.2	4.7	3.6	2.9
22	.00	.00	1.0	36	94	19	13	7.2	3.3	4.7	3.6	2.8
23	.01	.00	.70	29	106	19	13	7.2	3.0	4.7	3.5	2.8
24	.04	.00	.26	24	92	18	13	7.2	3.0	4.7	3.5	2.8
25	.00	.00	.23	20	75	19	12	7.2	3.0	4.7	3.4	2.8
26	.00	.00	.22	15	70	32	11	7.0	2.9	4.7	3.3	2.8
27	.03	.00	1.3	12	69	31	11	6.7	2.9	4.6	3.3	2.8
28	.15	.00	6.8	11	58	30	11	6.7	2.8	4.5	3.3	2.8
29	.19	.00	22	10	---	27	11	6.7	2.8	4.9	3.4	2.8
30	11	.00	15	11	---	25	11	6.7	2.7	4.6	3.4	2.8
31	2.5	---	6.7	10	---	24	---	6.5	---	4.5	3.3	---
TOTAL	13.92	4.84	123.40	1376.4	1255.9	833	467	252.7	142.4	144.6	118.6	88.9
MEAN	.45	.16	3.98	44.4	44.9	26.9	15.6	8.15	4.75	4.66	3.83	2.96
MAX	11	1.3	22	134	116	48	23	11	16	5.0	4.5	3.2
MIN	.00	.00	.00	3.4	5.2	18	11	6.5	2.7	4.5	3.3	2.8
AC-FT	28	9.6	245	2730	2490	1650	926	501	282	287	235	176
a	97	109	310	2760	2530	1750	1060	639	421	287	235	176

a Combined discharge, in acre-feet, of Devil Canyon Creek and city of San Bernardino Diversion.

11063680 DEVIL CANYON CREEK NEAR SAN BERNARDINO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.29	.91	1.70	3.28	6.51	7.25	4.24	2.02	.83	.45	.31	.30
MAX	3.36	12.9	14.0	44.4	108	72.9	28.3	15.2	5.31	4.66	3.83	3.33
(WY)	1984	1966	1967	1993	1980	1938	1978	1983	1983	1993	1993	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1926	1926	1926	1926	1948	1951	1951	1951	1947	1926	1925	1924

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1920 - 1993

ANNUAL TOTAL	671.46	4821.66	
ANNUAL MEAN	1.83	13.2	
HIGHEST ANNUAL MEAN			2.30
LOWEST ANNUAL MEAN			16.1
HIGHEST DAILY MEAN	47	134	556
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		407	3720
INSTANTANEOUS PEAK STAGE		6.58	5.40
ANNUAL RUNOFF (AC-FT)	1330	9560	1660
10 PERCENT EXCEEDS	4.7	30	4.8
50 PERCENT EXCEEDS	.00	4.6	.10
90 PERCENT EXCEEDS	.00	.00	.00

## 11065000 LYTLE CREEK AT COLTON, CA

LOCATION.--Lat 34°04'44", long 117°18'17", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, on right bank 400 ft downstream from Colton Avenue, 1,930 ft upstream from outlet end of channel, and 1.3 mi northeast of Colton.

DRAINAGE AREA.--186 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1957 to September 1983, October 1984 to current year.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 974.67 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records poor. Flow partly regulated by Lytle Creek spreading grounds 3.2 mi upstream. Diversions upstream from station for irrigation, power development, domestic use, and ground-water replenishment. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s, Mar. 4, 1978, gage height, 14.8 ft, from rating curve extended above 4,200 ft<sup>3</sup>/s on basis of discharge for design flood at gage height 21.4 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,540 ft<sup>3</sup>/s, Feb. 19, gage height, 6.29 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e1.1	e.00	3.7	e9.0	e15	e10	e3.4	e1.4	e.00	e.00	.00
2	e.00	e.30	e.00	4.9	e4.5	e11	e9.7	e3.3	e1.3	e.00	e.00	.00
3	e.00	e.00	e.00	4.0	e4.0	e10	e9.5	e3.3	e1.2	e.00	e.00	.00
4	e.00	e.00	e3.0	3.4	e3.8	e9.1	e9.2	e3.2	e1.5	e.00	e.00	.00
5	e.00	e.00	e.05	3.1	e3.6	e8.2	e8.0	e3.2	67	e.00	e.00	.00
6	e.00	e.00	e.00	245	e3.5	e7.8	e7.6	3.3	21	e.00	e.00	.00
7	e.00	e.00	e444	e950	e30	e7.4	e7.2	3.1	15	e.00	e.00	.00
8	e.00	e.00	e39	e449	e852	e6.9	e6.8	3.0	13	e.00	e.00	.00
9	e.00	e.00	e12	e5.0	e85	e6.4	e6.5	3.0	12	e.00	e.00	.00
10	e.00	e.00	e6.0	e4.2	e40	e6.1	e6.3	2.6	11	e.00	e.00	.00
11	e.00	e.00	e1.0	e3.5	e17	e5.9	e6.0	2.6	11	e.00	e.00	.00
12	e.00	e.00	e.25	e2.6	e11	e5.7	e5.7	2.3	10	e.00	e.00	.00
13	e.00	e.00	e.02	e736	e5.5	e5.5	e5.4	2.1	8.8	e.00	e.00	.00
14	e.00	e.00	e.00	e708	e5.2	e5.4	e5.3	2.1	e6.0	e.00	.00	.00
15	e.00	e.00	e.00	e450	e4.8	e5.2	e5.2	1.9	e4.0	e.00	.00	.00
16	e.00	e.00	e.00	e510	e4.4	e5.0	e5.0	2.1	e2.0	e.00	.00	.00
17	e.00	e.00	e1.0	e707	e3.9	e4.8	e4.8	2.1	e1.5	e.00	.00	.00
18	e.00	e.00	.06	e801	e175	e4.6	e4.7	2.0	e1.1	e.00	.00	.00
19	e.00	e.00	.00	e120	e1130	e4.6	e4.6	2.0	e.90	e.00	.00	.00
20	e.00	e.00	.00	e70	e60	e4.5	e4.5	2.1	e.65	e.00	.00	.00
21	e.00	e.00	.00	e30	e18	e4.4	e4.4	1.9	e.50	e.00	.00	.00
22	e.00	e.00	.00	e15	e17	e4.3	e4.3	1.7	e.41	e.00	.00	.00
23	e9.0	e.00	.00	e10	e100	e4.2	e4.2	1.7	e.26	e.00	.00	.00
24	e1.6	e.00	.00	e9.0	e20	e4.2	e4.1	1.7	e.10	e.00	.00	.00
25	e.15	e.00	.00	e8.0	e18	e4.1	e3.9	1.7	e.05	e.00	.00	.00
26	e.00	e.00	.00	e7.0	e30	83	e3.8	1.7	e.00	e.00	.00	.00
27	e.00	e.00	3.6	e6.7	e22	24	e3.7	e1.6	e.00	e.00	.00	.00
28	e.00	e.00	5.4	e6.5	e17	34	e3.6	e1.6	e.00	e.00	.00	.00
29	e.00	e.00	184	e6.0	---	e14	e3.5	e1.5	e.00	e.00	.00	.00
30	e94	e.00	6.4	e5.0	---	e13	e3.4	e1.5	e.00	e.00	.00	.00
31	e3.5	---	3.8	e18	---	e12	---	e1.5	---	e.00	.00	---
TOTAL	108.25	1.40	709.58	5901.6	2694.2	340.3	170.9	70.8	191.67	0.00	0.00	0.00
MEAN	3.49	.047	22.9	190	96.2	11.0	5.70	2.28	6.39	.000	.000	.000
MAX	94	1.1	444	950	1130	83	10	3.4	67	.00	.00	.00
MIN	.00	.00	.00	2.6	3.5	4.1	3.4	1.5	.00	.00	.00	.00
AC-FT	215	2.8	1410	11710	5340	675	339	140	380	.00	.00	.00

e Estimated.

## 11065000 LYTLE CREEK AT COLTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.84	5.23	8.81	21.1	31.3	21.9	5.03	4.87	2.71	1.33	.87	.89
MAX	15.8	79.1	104	318	363	326	57.3	87.6	61.3	35.4	17.1	9.58
(WY)	1981	1966	1966	1969	1980	1978	1969	1969	1978	1978	1969	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1958	1958	1959	1963	1961	1959	1961	1959	1958	1958	1958	1958

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1958 - 1993

ANNUAL TOTAL	4485.41		10188.70									
ANNUAL MEAN	12.3		27.9							8.65		
HIGHEST ANNUAL MEAN										65.4		1969
LOWEST ANNUAL MEAN										.008		1977
HIGHEST DAILY MEAN	860	Feb 12			1130	Feb 19			5040		Jan 25	1969
LOWEST DAILY MEAN	.00	Jan 1			.00	Oct 1			.00		Oct 1	1957
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 17			.00	Oct 1			.00		Oct 1	1957
INSTANTANEOUS PEAK FLOW					4540	Feb 19			17500		Mar 4	1978
INSTANTANEOUS PEAK STAGE					6.29	Feb 19			14.80		Mar 4	1978
ANNUAL RUNOFF (AC-FT)	8900				20210				6270			
10 PERCENT EXCEEDS	5.9				17				4.4			
50 PERCENT EXCEEDS	.00				1.1				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA

LOCATION.--Lat 33°58'07", long 117°26'51", in NE 1/4 SW 1/4 sec.30, T.2 S., R.5 W., Riverside County, Hydrologic Unit 18070203, on right bank (left bank since June 17, 1993) at MWD pipeline crossing, 0.8 mi downstream from Union Pacific Railroad Bridge, 1.1 mi upstream from bridge on Van Buren Boulevard, and 3.3 mi north of Arlington.

DRAINAGE AREA.--852 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1970 to current year.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 685 ft above sea level, from topographic map. Gage moved to left bank at present datum on June 17, 1993. Prior to Oct. 1, 1984, water-stage recorder at site 300 ft upstream on left bank at different datum.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (station 11049000). Natural streamflow affected by ground-water withdrawals, diversions for irrigation, and return flows from irrigated areas. The records at this station are equivalent to those collected at Santa Ana River at Riverside Narrows, near Arlington minus the flow at Riverside Water-Quality Control Plant at Riverside Narrows, near Arlington.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft<sup>3</sup>/s, Mar. 2, 1983, gage height, 15.38 ft, site and datum then in use, from rating curve extended above 5,100 ft<sup>3</sup>/s on basis of area-velocity study; maximum gage height, 20.23 ft, Mar. 4, 1978; minimum daily, 15 ft<sup>3</sup>/s, Sept. 7, 8, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1927, 100,000 ft<sup>3</sup>/s, Mar. 2, 1938, on basis of slope-area measurement at site 1.1 mi downstream. Flood of Jan. 22, 1862, 320,000 ft<sup>3</sup>/s, on basis of slope-conveyance study at site 8.2 mi upstream. Stage at that site was 5 ft higher than that of Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1645	9,350	12.20	Feb. 8	Unknown	Unknown	Unknown
Dec. 29	1545	4,770	9.49	Feb. 20	Unknown	Unknown	Unknown
Jan. 7	2000	*16,000	*14.77	Mar. 26	Unknown	Unknown	Unknown
Jan. 16	1915	11,100	12.67	June 5	Unknown	Unknown	Unknown

Minimum daily, 27 ft<sup>3</sup>/s, Aug. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	80	57	132	155	e580	e410	e300	e160	47	33	41
2	39	68	58	157	123	e580	e405	e350	e155	51	33	40
3	38	52	57	98	100	e560	e390	e410	e155	47	33	34
4	39	51	105	61	81	e540	e400	e390	e150	47	33	32
5	39	51	78	50	66	e530	e390	e340	e560	48	32	37
6	42	51	66	1450	84	e500	e400	e305	e350	49	31	37
7	40	48	2890	e10600	67	e495	e410	e300	e230	51	31	34
8	38	46	466	e5000	e4500	e490	e420	e300	e130	53	30	36
9	38	51	e174	e1600	e2000	e495	e440	e290	e110	53	30	31
10	36	46	e101	e900	e1300	e500	e430	e270	e96	51	30	34
11	37	45	e64	e590	e900	e500	e430	e250	e82	53	28	33
12	39	48	64	e360	e330	e495	e440	e240	e78	53	27	38
13	38	47	56	1700	e290	e480	e490	e235	e74	56	28	36
14	40	45	55	3040	e280	e485	e540	e235	e66	45	31	31
15	40	47	56	2840	e260	e505	e590	e270	e68	38	30	33
16	42	50	56	8260	e250	e500	e500	e230	e70	38	31	36
17	38	50	55	5850	e200	e525	e460	e225	e68	38	32	33
18	39	53	134	5620	e450	e560	e450	e220	e66	38	33	31
19	41	49	63	e3030	e4300	e570	e430	e210	e62	38	32	33
20	42	50	56	e1700	e2200	e580	e400	e200	e60	37	33	38
21	42	51	56	e1000	e810	e595	e350	e225	e60	40	33	41
22	42	49	57	e740	e690	e610	e340	e260	e58	40	36	40
23	53	55	57	e360	e680	e610	e345	e230	59	41	33	45
24	57	56	57	e340	e760	e610	e350	e215	56	40	30	38
25	54	57	57	e310	e660	e690	e340	e190	52	41	30	41
26	52	53	54	e240	e640	e800	e340	e170	44	41	30	41
27	52	51	65	212	e620	e980	e335	e170	47	41	31	40
28	56	52	388	225	e590	e620	e335	e160	49	42	34	32
29	61	51	1140	180	---	e450	e330	e170	48	42	41	31
30	140	54	468	171	---	e440	e330	e165	48	37	40	34
31	194	---	206	178	---	e420	---	e160	---	36	45	---
TOTAL	1585	1557	7316	56994	23386	17295	12220	7685	3311	1372	1004	1081
MEAN	51.1	51.9	236	1839	835	558	407	248	110	44.3	32.4	36.0
MAX	194	80	2890	10600	4500	980	590	410	560	56	45	45
MIN	36	45	54	50	66	420	330	160	44	36	27	31
AC-FT	3140	3090	14510	113000	46390	34300	24240	15240	6570	2720	1990	2140

e Estimated.

## 11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.6	71.4	98.6	212	254	293	147	106	70.7	47.6	47.1	48.2
MAX	194	259	292	1839	1411	1381	604	666	351	145	233	129
(WY)	1988	1984	1984	1993	1980	1983	1983	1983	1983	1983	1983	1976
MIN	20.5	21.2	23.3	24.7	23.1	23.7	23.1	22.3	20.2	16.8	17.9	18.0
(WY)	1974	1975	1974	1972	1972	1972	1971	1972	1981	1981	1981	1974

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1970 - 1993			
ANNUAL TOTAL	41299				134806							
ANNUAL MEAN	113				369				123			
HIGHEST ANNUAL MEAN									416			
LOWEST ANNUAL MEAN									29.0			
HIGHEST DAILY MEAN	3620				Feb 12				11500			
LOWEST DAILY MEAN	32				Sep 30				15			
ANNUAL SEVEN-DAY MINIMUM	37				Sep 29				16			
INSTANTANEOUS PEAK FLOW					16000				Jan 7			
INSTANTANEOUS PEAK STAGE					14.77				Jan 7			
ANNUAL RUNOFF (AC-FT)	81920				267400				20.23			
10 PERCENT EXCEEDS	135				610				174			
50 PERCENT EXCEEDS	54				66				52			
90 PERCENT EXCEEDS	39				34				22			

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1970 to current year.

SPECIFIC CONDUCTANCE: Water years 1970-78.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT					
06...	1245	38	962	23.5	596
20...	1500	30	990	23.0	608
NOV					
24...	1245	40	945	16.0	624
DEC					
15...	1410	48	955	17.0	594
30...	1215	326	374	13.0	220
JAN					
26...	1555	247	510	17.0	289
FEB					
09...	1445	1700	247	13.5	155
MAR					
03...	0930	608	348	12.0	208
25...	1545	E680	345	16.5	222
APR					
06...	1100	408	392	16.0	242
MAY					
12...	1615	235	510	26.5	306
JUN					
02...	0930	153	701	20.0	436
23...	1550	52	967	31.0	596
JUL					
13...	0930	40	1020	20.5	656
27...	1110	41	1120	21.0	700
AUG					
10...	0935	31	1150	24.0	732
31...	1530	44	1050	29.0	656
SEP					
17...	1500	27	<sup>1</sup> 1110	26.0	672
30...	1315	32	1150	28.5	704

## 11070020 BAUTISTA CREEK AT HEAD OF FLOOD CONTROL CHANNEL, NEAR HEMET, CA

LOCATION.--Lat 33°42'42", long 116°52'04", in NW 1/4 NE 1/4 sec.27, T.5 S., R.1 E., Riverside County, Hydrologic Unit 18070202, on right bank at the head of the concrete-lined flood channel, 3.7 mi upstream from the mouth, and 3.0 mi southeast of Valle Vista.

DRAINAGE AREA.--47.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder, concrete control and crest-stage gage. Elevation of gage is 2,080 ft above sea level, from topographic map. Prior to October 1988 at datum 10.00 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation upstream from station. Sand and gravel operations upstream from station may reduce runoff and cause peak attenuation. Minor diversion upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,310 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 3.53 ft, from rating curve developed on basis of critical-depth computations at concrete control; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*), from rating curve developed on basis of critical-depth computations at concrete control:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0830	440	2.27	Feb. 8	0630	232	1.83
Jan. 16	2130	*1,310	*3.53	Feb. 20	0115	467	2.32

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.48	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	111	.11	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	79	73	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.55	52	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.79	39	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	1.7	e14	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	e.52	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	52	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	40	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	298	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	e150	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	e185	.03	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	41	43	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	3.7	175	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	65	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	54	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	54	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	30	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	15	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	4.1	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	4.6	.91	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.94	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.08	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	962.82	624.30	1.39	0.00	0.00	0.07	0.00	0.00	0.00
MEAN	.000	.000	.000	31.1	22.3	.045	.000	.000	.002	.000	.000	.000
MAX	.00	.00	.00	298	175	.91	.00	.00	.07	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	1910	1240	2.8	.00	.00	.1	.00	.00	.00

e Estimated.

## 11070020 BAUTISTA CREEK AT HEAD OF FLOOD CONTROL CHANNEL, NEAR HEMET, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.020	5.23	3.85	2.03	.054	.000	.000	.000	.030	.000
MAX	.000	.000	.12	31.1	22.3	12.1	.33	.000	.002	.000	.18	.000
(WY)	1988	1988	1988	1993	1993	1991	1988	1992	1993	1988	1988	1988
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1989	1989	1989	1989	1989	1988	1988	1988	1989	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1988 - 1993	
ANNUAL TOTAL	22.56		1588.58			
ANNUAL MEAN	.062		4.35		.92	
HIGHEST ANNUAL MEAN					4.35	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	21	Feb 15	298	Jan 16	298	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1987
INSTANTANEOUS PEAK FLOW			1310	Jan 16	1310	Jan 16 1993
INSTANTANEOUS PEAK STAGE			3.53	Jan 16	3.53	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	45		3150		669	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11070240 SUNNYMEAD CHANNEL AT ALESSANDRO BOULEVARD, NEAR SUNNYMEAD, CA

LOCATION.--Lat 33°55'02", long 117°14'34", in SW 1/4 SW 1/4 sec.7, T.3 S., R.3 W., Riverside County, Hydrologic Unit 18070202, on left bank 1.6 mi south of Sunnymead.

DRAINAGE AREA.--13.3 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge records for the period January 1970 to June 1975 available in U.S. Geological Survey Open-File Report 79-1256. October 1989 to Apr. 19, 1993 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,570 ft above sea level, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 8.87 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 680 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1600	643	7.70	Jan. 16	1500	*1,030	*8.84
Dec. 29	1215	425	6.84	Feb. 8	0100	856	8.30
Jan. 6	2130	713	7.94	Feb. 20	0030	234	5.43

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	.06	.06	.06	1.3	.00	---	---	---	---	---
2	e.00	e.00	.02	1.2	.21	1.2	.00	---	---	---	---	---
3	e.00	e.00	.03	.10	.41	.66	.00	---	---	---	---	---
4	e.00	e.00	6.9	.06	.09	.42	.00	---	---	---	---	---
5	e.00	.00	.19	.08	.12	.23	.00	---	---	---	---	---
6	e.00	.00	.23	.79	.15	.09	.00	---	---	---	---	---
7	e.00	.00	154	210	12	.03	.00	---	---	---	---	---
8	e.00	.00	17	72	169	.00	.00	---	---	---	---	---
9	e.00	.00	.17	5.4	13	.00	.00	---	---	---	---	---
10	e.00	.00	.09	5.1	5.3	.00	.00	---	---	---	---	---
11	e.00	.00	.03	.22	.33	.00	.00	---	---	---	---	---
12	e.00	.00	.04	4.6	.32	.00	.00	---	---	---	---	---
13	e.00	.00	.01	7.9	.39	.00	.00	---	---	---	---	---
14	e.00	.00	.06	4.1	1.6	.02	.00	---	---	---	---	---
15	e.00	.00	.11	71	.64	.00	.00	---	---	---	---	---
16	e.00	.00	.08	233	.71	.00	.00	---	---	---	---	---
17	e.00	.00	.53	138	.82	.00	.00	---	---	---	---	---
18	e.00	.00	2.6	132	33	.00	.00	---	---	---	---	---
19	e.00	.01	.09	18	24	.00	.00	---	---	---	---	---
20	e.00	.02	.14	2.1	51	.00	---	---	---	---	---	---
21	e.00	.04	.16	1.1	2.9	.00	---	---	---	---	---	---
22	e.00	.06	.14	.97	5.5	.00	---	---	---	---	---	---
23	e.00	.07	.11	.89	21	.00	---	---	---	---	---	---
24	e.00	.44	.17	.02	27	.00	---	---	---	---	---	---
25	e.00	.31	.26	.00	3.6	.00	---	---	---	---	---	---
26	e.00	.14	.22	.00	7.0	.00	---	---	---	---	---	---
27	e.00	.00	3.8	.00	2.7	.77	---	---	---	---	---	---
28	e.00	.01	9.1	.00	1.7	7.6	---	---	---	---	---	---
29	e.00	.03	31	.01	---	.43	---	---	---	---	---	---
30	e.00	.00	2.9	.03	---	.00	---	---	---	---	---	---
31	e.00	---	.19	2.2	---	.00	---	---	---	---	---	---
TOTAL	0.00	1.13	230.43	989.14	384.55	12.75	---	---	---	---	---	---
MEAN	.000	.038	7.43	31.9	13.7	.41	---	---	---	---	---	---
MAX	.00	.44	154	233	169	7.6	---	---	---	---	---	---
MIN	.00	.00	.01	.00	.06	.00	---	---	---	---	---	---
AC-FT	.00	2.2	457	1960	763	25	---	---	---	---	---	---

e Estimated.

## 11070240 SUNNYMEAD CHANNEL AT ALESSANDRO BOULEVARD, NEAR SUNNYMEAD, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.048	.12	1.38	6.56	4.61	2.48	.089	.036	.009	.026	.005	.007
MAX	.30	.49	7.43	31.9	13.7	17.2	.37	.32	.044	.11	.019	.026
(WY)	1992	1973	1993	1993	1993	1991	1990	1990	1990	1991	1991	1990
MIN	.000	.005	.000	.000	.003	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1975	1974	1972	1971	1971	1971	1970	1970	1970	1970	1970

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## WATER YEARS 1970 - 1993

ANNUAL TOTAL	784.56		
ANNUAL MEAN	2.14		
HIGHEST ANNUAL MEAN			1.48
LOWEST ANNUAL MEAN			2.23
HIGHEST DAILY MEAN			.57
LOWEST DAILY MEAN	154	Feb 12	233
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 12	.00
INSTANTANEOUS PEAK FLOW	.00	Jan 12	.00
INSTANTANEOUS PEAK STAGE			1300
ANNUAL RUNOFF (AC-FT)	1560		8.87
10 PERCENT EXCEEDS	.54		1070
50 PERCENT EXCEEDS	.00		.10
90 PERCENT EXCEEDS	.00		.00

## 11070240 SUNNYMEAD CHANNEL AT ALESSANDRO BOULEVARD, NEAR SUNNYMEAD, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--March 1990 to May 9, 1993 (discontinued). Precipitation records for the period January 1970 to June 1975 available in U.S. Geological Survey Open-File Report 79-1256.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Mar. 5, 1990.

REMARKS.--Periods of missing record because of instrument failures.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded daily rainfall, 2.27 in, Dec. 7, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.27 in, Dec. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	.00	.00	---	.00	.00	.00	---	---	---	---
2	.00	---	.00	.10	---	.00	.00	.00	---	---	---	---
3	.00	---	.00	.00	---	.00	.00	.00	---	---	---	---
4	.00	---	.38	.00	---	.00	.00	.00	---	---	---	---
5	.00	---	.00	.02	.00	.00	.00	.00	---	---	---	---
6	---	---	.02	e.53	.00	.00	.00	.00	---	---	---	---
7	---	---	2.27	---	.64	.00	.00	.00	---	---	---	---
8	---	---	.00	---	e1.04	.00	.00	.00	---	---	---	---
9	---	---	.00	---	---	.00	.00	.00	---	---	---	---
10	---	---	.00	---	---	.00	.00	---	---	---	---	---
11	---	---	.02	---	---	.00	.00	---	---	---	---	---
12	---	---	.00	---	e.00	.00	.00	---	---	---	---	---
13	---	---	.00	---	.00	.00	.00	---	---	---	---	---
14	---	---	.00	e.00	.13	.00	.00	---	---	---	---	---
15	---	---	.00	1.32	.00	.00	.00	---	---	---	---	---
16	---	---	.00	1.55	---	.00	.00	---	---	---	---	---
17	---	---	.00	.63	---	.00	.00	---	---	---	---	---
18	---	---	.04	1.13	e.16	.00	.00	---	---	---	---	---
19	---	---	.00	.01	.53	.00	.00	---	---	---	---	---
20	---	---	.00	.00	.22	.00	.00	---	---	---	---	---
21	---	---	.00	.00	.00	.00	.00	---	---	---	---	---
22	---	---	.00	.00	.00	.00	.00	---	---	---	---	---
23	---	---	.00	.00	.08	.00	.00	---	---	---	---	---
24	---	.00	.00	.00	.13	.00	.00	---	---	---	---	---
25	---	.00	.00	.00	.00	.01	.00	---	---	---	---	---
26	---	.00	.00	.00	.03	.21	.00	---	---	---	---	---
27	---	.00	.30	.00	.01	.00	.00	---	---	---	---	---
28	---	.00	.21	.00	.00	.09	.00	---	---	---	---	---
29	---	.00	.57	.00	---	.00	.00	---	---	---	---	---
30	---	.00	.07	.02	---	.00	.00	---	---	---	---	---
31	---	---	.00	.13	---	.00	---	---	---	---	---	---
TOTAL	---	---	3.88	---	---	0.31	0.00	---	---	---	---	---

e Estimated.

11070256 FERRIS VALLEY STORM DRAIN AT NANDINO AVENUE, NEAR MARCH AIR FORCE BASE, CA

LOCATION.--Lat 33°52'01", long 117°12'43", in SE 1/4 NE 1/4 sec.32, T.3 S., R.3 W., Riverside County, Hydrologic Unit 18070202, on right bank 3.5 mi southeast of March Air Force Base.

DRAINAGE AREA.--50.6 mi<sup>2</sup>.

PERIOD OF RECORD.--Records for January 1970 to September 1975, available in files of the Geological Survey. October 1989 to Apr. 19, 1993 (discontinued).

PRECIPITATION: Water years 1989-92.

GAGE.--Water-stage recorder, crest-stage gage, and broad-crested weir. Elevation of gage is 1,445 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,880 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 8.24 ft; on basis of critical-depth computation; no flow for several days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum(\*);

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1215	2,880	6.39	Feb. 8	Unknown	Unknown	Unknown
Dec. 29	1300	1,140	4.62	Feb. 19	2230	1,000	4.44
Jan. 6	2230	2,900	6.41	Feb. 24	0515	351	3.36
Jan. 16	Unknown	*Unknown	*Unknown	Mar. 26	0500	232	3.06

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.09	.21	2.1	e1.5	.41	.10	---	---	---	---	---
2	.00	.00	.10	20	e.50	.45	.10	---	---	---	---	---
3	.00	.00	.03	6.5	e.70	.54	.04	---	---	---	---	---
4	.00	.00	22	2.7	e.05	.37	.04	---	---	---	---	---
5	.00	.00	.70	4.8	e.04	.39	.00	---	---	---	---	---
6	.19	.00	.15	484	e.10	1.7	.00	---	---	---	---	---
7	.06	.00	876	1050	e15	3.8	.00	---	---	---	---	---
8	.00	.00	44	264	e950	1.9	.04	---	---	---	---	---
9	.00	.00	.81	57	e175	5.1	.00	---	---	---	---	---
10	.00	.00	.43	94	e21	.68	.00	---	---	---	---	---
11	.00	.00	.30	22	e10	.35	.00	---	---	---	---	---
12	.11	.00	.00	59	e7.0	.68	.00	---	---	---	---	---
13	.02	.00	10	103	e5.0	.38	.00	---	---	---	---	---
14	.00	.00	.38	98	e20	.89	.00	---	---	---	---	---
15	.04	.00	.04	494	e35	.61	.00	---	---	---	---	---
16	.01	.00	.00	e1000	e5.0	.29	.00	---	---	---	---	---
17	.00	.00	.00	e400	e1.0	.26	.00	---	---	---	---	---
18	.00	.00	16	e850	169	.28	.00	---	---	---	---	---
19	.03	.00	.63	e100	170	.22	.00	---	---	---	---	---
20	.05	.00	.17	e15	185	.23	---	---	---	---	---	---
21	.00	.00	.01	e3.0	7.8	.17	---	---	---	---	---	---
22	.00	.00	.00	e2.0	10	.20	---	---	---	---	---	---
23	10	.00	.00	e1.0	64	.15	---	---	---	---	---	---
24	1.6	.00	.00	e.50	118	.16	---	---	---	---	---	---
25	.06	.00	.00	e.00	5.6	.15	---	---	---	---	---	---
26	.00	.07	.00	e.00	9.0	73	---	---	---	---	---	---
27	.00	.00	10	e.00	3.5	4.5	---	---	---	---	---	---
28	.04	.00	84	e.00	.45	36	---	---	---	---	---	---
29	1.9	.04	134	e.00	---	.51	---	---	---	---	---	---
30	14	.32	41	e.00	---	.24	---	---	---	---	---	---
31	5.4	---	4.4	e20	---	.02	---	---	---	---	---	---
TOTAL	33.51	0.52	1245.36	5152.60	1989.24	134.63	---	---	---	---	---	---
MEAN	1.08	.017	40.2	166	71.0	4.34	---	---	---	---	---	---
MAX	14	.32	876	1050	950	73	---	---	---	---	---	---
MIN	.00	.00	.00	.00	.04	.02	---	---	---	---	---	---
AC-FT	66	1.0	2470	10220	3950	267	---	---	---	---	---	---

e Estimated.

## SANTA ANA RIVER BASIN

11070256 PERRIS VALLEY STORM DRAIN AT NANDINO AVENUE, NEAR MARCH AIR FORCE BASE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.33	.91	7.31	36.1	18.8	9.74	.37	.27	.19	.42	.34	.17
MAX	1.08	3.53	40.2	166	71.0	48.5	1.56	1.29	.60	1.08	.72	.57
(WY)	1993	1973	1993	1993	1993	1991	1975	1990	1990	1992	1990	1990
MIN	.000	.000	.000	3.08	.16	.026	.005	.000	.000	.054	.094	.000
(WY)	1974	1975	1974	1973	1974	1971	1971	1970	1970	1973	1991	1973

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## WATER YEARS 1970 - 1993

ANNUAL TOTAL	3977.55		
ANNUAL MEAN	10.9		
HIGHEST ANNUAL MEAN			4.48
LOWEST ANNUAL MEAN			7.79
HIGHEST DAILY MEAN			1.60
LOWEST DAILY MEAN	876	Dec 7	1050
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW	.00	Jan 23	.00
INSTANTANEOUS PEAK STAGE			4880
ANNUAL RUNOFF (AC-FT)	7890		8.24
10 PERCENT EXCEEDS	6.7		3250
50 PERCENT EXCEEDS	.06		1.1
90 PERCENT EXCEEDS	.00		.00

## 11070262 PERRIS VALLEY STORM DRAIN LATERAL "B" NEAR MARCH AIR FORCE BASE, CA

LOCATION.--Lat 33°51'32", long 117°13'32", in NE 1/4 NE 1/4 sec.6, T.4 S., R.3 W., Riverside County, Hydrologic Unit 18070202, on right bank 0.5 mi southeast of March Air Force Base.

DRAINAGE AREA.--10.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1989 to April 1993 (discontinued). October 1969 to July 1975, published as "near March Field" in U.S. Geological Survey Open-File Report 79-1256.

PRECIPITATION: Dec. 20 to Sept. 30, 1991

GAGE.--Water-stage recorder. Elevation of gage is 1,470 ft above sea level, from topographic map. November 1969 to July 1975, at same site at different datum.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 307 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 5.09 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1300	131	3.73	Feb. 8	0245	119	3.63
Dec. 29	1630	26	2.61	Feb. 19	2345	71	3.11
Jan. 7	2130	122	3.65	Mar. 26	1715	12	2.45
Jan. 16	1800	*135	*3.77				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.03	.00	---	---	---	---	---
2	.00	.00	.00	.00	.00	.06	.00	---	---	---	---	---
3	.00	.00	.00	.00	.00	.00	.00	---	---	---	---	---
4	.00	.00	.00	.00	1.2	.00	.00	---	---	---	---	---
5	.00	.00	.00	.00	.21	.00	.00	---	---	---	---	---
6	.00	.00	.00	19	.54	.00	.00	---	---	---	---	---
7	.00	.00	40	54	2.4	.00	.00	---	---	---	---	---
8	.00	.00	2.9	25	48	.00	.00	---	---	---	---	---
9	.00	.00	.01	.00	11	.00	.00	---	---	---	---	---
10	.00	.00	.00	.16	.52	.00	.00	---	---	---	---	---
11	.00	.00	.00	.00	.58	.00	.00	---	---	---	---	---
12	.00	.00	.00	1.1	.57	.00	.00	---	---	---	---	---
13	.00	.00	.00	1.1	.22	.00	.00	---	---	---	---	---
14	.00	.00	.00	2.3	.03	.00	.00	---	---	---	---	---
15	.00	.00	.00	26	.27	.00	.00	---	---	---	---	---
16	.00	.00	.00	62	.34	.00	.00	---	---	---	---	---
17	.00	.00	.00	27	.29	.00	.00	---	---	---	---	---
18	.00	.00	.00	60	13	.00	.00	---	---	---	---	---
19	.00	.00	.00	7.0	13	.00	.00	---	---	---	---	---
20	.00	.00	.00	.65	23	.00	---	---	---	---	---	---
21	.00	.00	.00	.35	1.2	.00	---	---	---	---	---	---
22	.00	.00	.00	.22	.38	.00	---	---	---	---	---	---
23	.00	.00	.00	.09	.63	.00	---	---	---	---	---	---
24	.00	.00	.00	.05	5.2	.00	---	---	---	---	---	---
25	.00	.00	.00	.30	1.0	.00	---	---	---	---	---	---
26	.00	.00	.00	.01	.42	2.7	---	---	---	---	---	---
27	.00	.00	.00	.00	.39	.02	---	---	---	---	---	---
28	.00	.00	.19	.00	.00	.68	---	---	---	---	---	---
29	.00	.00	4.9	.00	---	.00	---	---	---	---	---	---
30	.00	.00	.08	.00	---	.00	---	---	---	---	---	---
31	.00	---	.00	.58	---	.00	---	---	---	---	---	---
TOTAL	0.00	0.00	48.08	286.91	124.39	3.49	---	---	---	---	---	---
MEAN	.000	.000	1.55	9.26	4.44	.11	---	---	---	---	---	---
MAX	.00	.00	40	62	48	2.7	---	---	---	---	---	---
MIN	.00	.00	.00	.00	.00	.00	---	---	---	---	---	---
AC-FT	.00	.00	95	569	247	6.9	---	---	---	---	---	---

11070262 PERRIS VALLEY STORM DRAIN LATERAL "B" NEAR MARCH AIR FORCE BASE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.004	.051	.45	2.76	2.21	.68	.000	.001	.001	.010	.002	.001
MAX	.015	.19	1.55	9.26	4.44	2.50	.000	.002	.002	.031	.006	.002
(WY)	1991	1992	1993	1993	1993	1991	1990	1990	1990	1990	1991	1990
MIN	.000	.000	.004	.003	.065	.002	.000	.000	.000	.000	.000	.000
(WY)	1990	1993	1991	1990	1990	1990	1990	1991	1991	1991	1992	1991

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## WATER YEARS 1990 - 1993

ANNUAL TOTAL	175.74		
ANNUAL MEAN	.48		
HIGHEST ANNUAL MEAN			.25
LOWEST ANNUAL MEAN			.37
HIGHEST DAILY MEAN			.018
LOWEST DAILY MEAN	46	Feb 12	1992
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	1990
INSTANTANEOUS PEAK FLOW	.00	Jan 9	1993
INSTANTANEOUS PEAK STAGE			.00
ANNUAL RUNOFF (AC-FT)	349		.00
10 PERCENT EXCEEDS			.03
50 PERCENT EXCEEDS			.00
90 PERCENT EXCEEDS			.00

## 11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA

LOCATION.--Lat 33°48'04", long 117°12'19", in SW 1/4 SW 1/4 sec.21, T.4 S., R.3 W., Riverside County, Hydrologic Unit 18070202, on right bank 1.9 mi northeast of Perris and 2.0 mi upstream from San Jacinto River.

DRAINAGE AREA.--93.3 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to September 1975, October 1989 to current year.

REVISED RECORDS.--WDR CA-92-1: 1991(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,410 ft above sea level, from topographic map. October 1969 to September 1975, at same site at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Some regulation by percolation basins upstream from station. Some pumping for irrigation upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft<sup>3</sup>/s, Feb. 12, 1992, gage height, 7.81 ft, from rating curve extended above 330 ft<sup>3</sup>/s on basis of slope area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft<sup>3</sup>/s, and maximum (\*), from rating curve extended as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1500	2,340	5.98	Feb. 8	0300	*2,700	*6.34
Jan. 7	2115	2,040	5.65	Feb. 20	0100	1,170	4.56
Jan. 16	1930	2,610	6.25				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.00	.00	.00	1.9	.00	e.00	e.00	.00	e.00	.00	.00
2	.00	e.00	.00	2.0	.25	.00	e.00	e.00	.00	e.00	.00	.00
3	.00	e.00	.00	.66	.49	.00	e.00	e.00	.00	e.00	.00	.00
4	.00	e.00	19	.00	.11	.00	e.00	e.00	e.75	e.00	.00	.00
5	.00	.00	2.5	.00	.00	.00	e.00	e.00	e9.0	e.00	.00	.00
6	e.00	.00	.00	298	.00	.00	e.00	e.00	e1.2	e.00	.00	.00
7	e.00	.00	799	1020	14	.00	e.00	e.00	e.51	e.00	.00	.00
8	e.00	.00	73	301	1120	.08	e.00	e.00	e.05	e.00	.00	.00
9	e.00	.00	2.0	29	201	1.4	e.00	e.00	.00	e.00	.00	.00
10	e.00	.00	.22	33	25	.36	e.00	e.00	.00	e.00	.00	.00
11	e.00	.00	.30	5.9	12	.00	e.00	e.00	.00	e.00	e.00	.00
12	e.00	.00	.00	17	5.2	.00	e.00	e.00	.00	e.00	e.00	.00
13	e.00	.00	3.4	53	3.7	.00	e.00	e.00	e.00	e.00	.00	.00
14	e.00	.00	.12	62	24	.00	e.00	e.02	e.00	e.00	.00	.00
15	e.00	.00	.00	449	43	.00	e.00	e3.0	e.00	.00	.00	.00
16	e.00	.00	.00	1270	2.9	.00	e.00	e.01	e.00	.00	.00	.00
17	e.00	.00	.00	495	.73	.00	e.00	e.00	e.00	.00	.00	.00
18	e.00	.00	5.1	985	e82	.00	e.00	.00	e.00	.00	.00	.00
19	e.00	.00	.12	106	e158	.00	e.00	.00	e.00	.00	.00	.00
20	e.00	.00	.00	20	384	.00	e.00	.00	e.00	.00	.00	.00
21	e.00	.00	.00	6.0	12	.00	e.00	.00	e.00	.00	.00	.00
22	e.00	.00	.00	2.5	1.8	.00	e.00	.00	e.00	.00	.00	.00
23	e.00	.00	.00	1.5	72	.00	e.00	.00	e.00	e.00	.00	.00
24	e.00	.00	.00	.73	260	.00	e.00	.00	e.00	e.00	.00	.00
25	e.00	.00	.00	.00	17	.01	e.00	.00	e.00	e.00	.00	.00
26	e.00	.00	.00	.00	4.1	95	e.00	.00	e.00	.00	.00	.00
27	e.00	.00	1.4	.00	5.4	25	e.00	.00	e.00	e.00	.00	.00
28	e.00	.00	60	.00	.05	e5.0	e.00	.00	e.00	e.00	.00	.00
29	e.00	.00	94	.00	---	e.05	e.00	.00	e.00	e.00	.00	.00
30	e5.7	.00	28	.00	---	e.00	e.00	.00	e.00	e.00	.00	.00
31	e25	---	.53	26	---	e.00	---	.00	---	e.00	.00	---
TOTAL	30.70	0.00	1088.69	5183.29	2450.63	126.90	0.00	3.03	11.51	0.00	0.00	0.00
MEAN	.99	.000	35.1	167	87.5	4.09	.000	.098	.38	.000	.000	.000
MAX	25	.00	799	1270	1120	95	.00	3.0	9.0	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	61	.00	2160	10280	4860	252	.00	6.0	23	.00	.00	.00

e Estimated.

11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.14	.64	5.04	22.1	21.0	11.5	.19	.12	.047	.009	.000	.000
MAX	.99	3.78	35.1	167	87.5	70.7	1.32	1.06	.38	.089	.000	.000
(WY)	1993	1973	1993	1993	1993	1991	1975	1990	1993	1992	1970	1970
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1970	1972	1970	1975	1971	1972	1970	1970	1970	1970	1970	1970

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1970 - 1993	
ANNUAL TOTAL	4069.74		8894.75			
ANNUAL MEAN	11.1		24.4		4.99	
HIGHEST ANNUAL MEAN					24.4	
LOWEST ANNUAL MEAN					.30	
HIGHEST DAILY MEAN	934	Feb 12	1270	Jan 16	1270	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1969
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 10	.00	Oct 1	.00	Oct 1 1969
INSTANTANEOUS PEAK FLOW			2700	Feb 8	4400	Feb 12 1992
INSTANTANEOUS PEAK STAGE			6.34	Feb 8	7.81	Feb 12 1992
ANNUAL RUNOFF (AC-FT)	8070		17640		3620	
10 PERCENT EXCEEDS	2.8		13		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--October 1989 to current year.

INSTRUMENTATION.--Recording tipping-bucket rain gage since Oct. 17, 1989.

REMARKS.--Periods of missing record due to instrument failures.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.81 in, Dec. 7, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.81 in, Dec. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	.00	.00	.00	.00	.00	.00	---	.00	.00	.00
2	.00	---	.00	.13	---	.00	.00	.00	---	.00	.00	.00
3	.00	---	.00	.01	---	.00	.00	.00	---	.00	.00	.00
4	.00	---	.37	.00	---	.00	.00	.00	---	.00	.00	.00
5	.00	---	.00	.03	.00	.00	.00	.00	---	.00	.00	.00
6	---	---	.01	1.54	.00	.00	.00	.00	---	---	.00	.00
7	---	---	2.81	1.36	.75	.00	.00	.00	---	---	.00	.00
8	---	---	.01	---	.73	.00	.00	.00	---	---	.00	.00
9	---	---	.00	---	---	.00	.00	.00	---	.00	.00	.00
10	---	---	.00	---	---	.00	.00	---	---	.00	.00	.00
11	---	---	.00	---	---	.00	.00	---	---	.00	.00	.00
12	---	---	.00	---	---	.00	.00	---	.00	.00	.00	.00
13	---	---	.00	---	.00	.00	.00	---	.00	.00	.00	.00
14	---	---	.00	---	.21	.00	.00	---	.00	.00	.00	.00
15	---	---	.00	1.37	.00	.00	.00	---	.00	.00	.00	.00
16	---	---	.00	1.27	---	.00	.00	---	.00	.00	.00	.00
17	---	---	.05	.60	---	.00	.00	---	.00	.00	.00	.00
18	---	---	.07	1.17	.19	.00	.00	---	.00	.00	.00	.00
19	---	---	.00	.00	.60	.00	.00	---	.00	---	.00	.00
20	---	---	.00	.00	.35	.00	.00	---	.00	.00	.00	.00
21	---	---	.00	.00	.00	.00	.00	---	.00	.00	.00	.00
22	---	---	.00	.01	.00	.00	.00	---	.00	.00	.00	.00
23	---	---	.00	.00	.13	.00	.00	---	.00	.00	.00	.00
24	---	---	.00	.00	.02	.00	.00	---	---	.00	.00	.00
25	---	.00	.00	.00	.00	.02	.00	---	---	.00	.00	.00
26	---	.00	.00	.00	.01	.31	.00	---	.00	.00	.00	.00
27	---	.00	.38	.00	.01	.00	.00	---	.00	.00	.00	.00
28	---	.00	.22	.00	.00	.08	.00	---	.00	.00	.00	.00
29	---	.00	.60	.00	---	.00	.00	---	.00	.00	.00	.00
30	---	.00	.04	.06	---	.00	.00	---	.00	.00	.00	.00
31	---	---	.00	.24	---	.01	---	---	---	.00	.00	---
TOTAL	---	---	4.56	---	---	0.42	0.00	---	---	---	0.00	0.00

## 11070500 SAN JACINTO RIVER NEAR ELSINORE, CA

LOCATION.--Lat 33°39'51", long 117°17'35", in SE 1/4 NE 1/4 sec.9, T.6 S., R.4 W., Riverside County, Hydrologic Unit 18070203, on right bank 2.0 mi east of Elsinore, 2.1 mi downstream from Railroad Canyon Dam, and 36 mi downstream from Lake Hemet.

DRAINAGE AREA.--723 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1916 to current year. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-72-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,270 ft above sea level, from topographic map. Prior to Feb. 13, 1916, nonrecording gage at site 0.7 mi downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, nonrecording gage at present site, at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow partly regulated by Lake Hemet, capacity 13,500 acre-ft, and since 1928 by Railroad Canyon Reservoir, capacity, 12,000 acre-ft, 2.1 mi upstream from station. Diversions for irrigation and domestic use upstream from Railroad Canyon Reservoir. Temescal Water Co. diverted 1,270 acre-ft during the current year from Railroad Canyon Reservoir for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft<sup>3</sup>/s, Feb. 17, 1927, gage height, 11.8 ft, from rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,880 ft<sup>3</sup>/s, Jan. 17, gage height, 10.68 ft; no flow for several days in October and November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.08	e.27	1.3	63	446	73	26	12	1.1	.75	1.2
2	.06	.01	e.28	1.5	46	370	70	25	12	1.1	.96	1.1
3	.18	.13	e.27	1.3	38	309	67	25	12	1.1	.95	.97
4	.16	.00	e.30	1.2	33	261	65	23	12	1.1	.89	.82
5	.07	.00	e.31	1.2	30	213	62	23	14	1.1	.93	.88
6	.06	.00	e.32	72	28	181	59	23	16	1.1	1.1	1.0
7	.01	.02	e12	1220	30	149	58	22	17	1.1	.63	1.2
8	.00	.05	e3.4	1000	2500	123	55	22	15	1.1	.60	1.3
9	.00	.08	e1.5	349	2910	105	52	22	13	.99	.75	1.0
10	.00	.05	1.4	119	812	92	50	20	11	1.1	1.2	.90
11	.00	.00	1.2	81	798	85	47	21	10	1.2	.55	.95
12	.00	.00	1.2	45	805	78	46	21	10	1.2	.64	1.2
13	.01	.00	1.1	98	637	73	43	20	9.5	1.3	.73	1.3
14	.05	.00	1.0	378	466	73	40	19	9.5	1.3	.82	1.5
15	.02	.00	1.1	546	401	67	39	19	9.6	1.3	1.1	1.3
16	.04	.00	1.0	3680	274	59	39	19	9.0	1.4	1.2	1.7
17	.04	.00	1.1	4490	205	54	38	19	8.3	1.4	1.6	2.1
18	.05	.03	1.5	4150	439	50	35	18	2.8	1.5	1.3	2.0
19	.07	.11	1.3	2120	2700	47	34	17	2.1	1.7	1.3	1.9
20	.06	.17	1.2	1100	2650	44	33	17	1.8	1.6	1.3	1.9
21	.06	.22	1.2	1020	1310	43	33	17	1.8	1.3	1.5	1.9
22	.06	.21	1.2	692	1710	41	31	17	1.9	1.3	1.6	1.8
23	.17	.22	1.2	460	1620	38	30	17	1.8	1.2	1.4	1.8
24	.35	e.25	1.2	322	1570	35	29	14	1.5	1.3	1.3	1.7
25	.16	e.24	1.2	224	1010	33	29	14	1.4	1.4	1.0	1.6
26	.09	e.24	1.2	157	825	41	28	13	1.3	1.4	.99	1.6
27	.05	e.25	1.2	110	723	104	27	12	1.2	1.5	.97	1.5
28	.05	e.25	2.9	85	561	101	26	12	1.2	1.5	1.0	1.4
29	.05	e.26	6.0	68	---	125	26	12	1.3	1.2	1.4	1.4
30	.09	e.27	3.2	56	---	98	26	12	1.2	1.1	1.5	1.5
31	.20	---	1.5	69	---	83	---	12	---	.87	1.3	---
TOTAL	2.22	3.14	53.75	22717.5	25194	3621	1290	573	221.2	38.86	33.26	42.42
MEAN	.072	.10	1.73	733	900	117	43.0	18.5	7.37	1.25	1.07	1.41
MAX	.35	.27	12	4490	2910	446	73	26	17	1.7	1.6	2.1
MIN	.00	.00	.27	1.2	28	33	26	12	1.2	.87	.55	.82
AC-FT	4.4	6.2	107	45060	49970	7180	2560	1140	439	77	66	84

e Estimated.

## SANTA ANA RIVER BASIN

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11070500 SAN JACINTO RIVER NEAR ELSINORE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	.75	5.33	35.5	92.0	73.9	24.4	5.61	.75	.63	.42	.53
MAX	22.0	28.1	268	1303	2116	802	333	132	13.8	19.7	14.6	15.4
(WY)	1938	1938	1922	1916	1980	1983	1941	1983	1937	1938	1937	1938
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1917	1917	1917	1921	1921	1921	1921	1921	1918	1918	1918	1917

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1916 - 1993	
ANNUAL TOTAL	3787.07		53790.35			
ANNUAL MEAN	10.3		147		17.6	
HIGHEST ANNUAL MEAN					232	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	577	Feb 13	4490	Jan 17	14000	Jan 28 1916
LOWEST DAILY MEAN	.00	Aug 17	.00	Oct 8	.00	Jul 28 1916
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 17	.00	Nov 11	.00	Jul 28 1916
INSTANTANEOUS PEAK FLOW			6880	Jan 17	16000	Feb 17 1927
INSTANTANEOUS PEAK STAGE			10.68	Jan 17	11.80	Feb 17 1927
ANNUAL RUNOFF (AC-FT)	7510		106700		12720	
10 PERCENT EXCEEDS	6.7		288		3.7	
50 PERCENT EXCEEDS	.29		1.7		.01	
90 PERCENT EXCEEDS	.00		.07		.00	

## 11072100 TEMESCAL CREEK ABOVE MAIN STREET, AT CORONA, CA

LOCATION.--Lat 33°53'21", long 117°33'43", in La Sierra Grant, Riverside County, Hydrologic Unit 18070203, on right bank 500 ft upstream from Main Street Bridge in Corona and 1.5 mi upstream from topographic boundary of Prado Flood Control basin.

DRAINAGE AREA.--224 mi<sup>2</sup>, excludes 768 mi<sup>2</sup> above Lake Elsinore.

PERIOD OF RECORD.--December 1980 to July 1983, February 1984 to current year. December 1967 to September 1974, water-stage recorder at site 1.2 mi downstream at different datum (published as Station 11072200, Temescal Creek at Corona, CA).

GAGE.--Water-stage recorder and concrete-lined flood control channel. Elevation of gage is 600 ft above sea level, from topographic map. December 1980 to July 1983 at site 500 ft downstream at different datum.

REMARKS.--Records poor. Flow regulated by several small storage reservoirs. Many diversions upstream from station for irrigation. Water discharged to channel from Arlington Desalter at times since September 1990; records for water years 1981 to 1990 and 1991 to current year are not equivalent.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,720 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 11.67 ft; minimum daily, 0.27 ft<sup>3</sup>/s, Sept. 25, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge 8,850 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 8.17 ft, from floodmark, at old site (Station 11072200) 1.2 mi downstream on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft<sup>3</sup>/s, Jan. 7, gage height, 6.49 ft, from floodmark; minimum daily, 0.50 ft<sup>3</sup>/s, Jan. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.2	30	5.7	e46	217	72	33	12	15	21	18
2	12	11	22	21	e34	198	69	30	9.4	22	22	17
3	14	8.3	9.9	5.9	e35	185	64	34	8.1	25	21	18
4	13	10	40	3.6	e36	173	65	33	6.0	25	21	17
5	12	11	15	.50	e41	161	67	31	159	25	18	17
6	13	11	30	288	e43	154	65	33	7.9	33	19	18
7	14	11	376	468	e45	145	57	38	5.0	37	18	17
8	14	12	3.4	270	e970	143	47	36	4.3	34	16	16
9	16	13	1.2	24	e570	137	46	33	4.1	32	15	17
10	15	13	1.1	28	e330	135	43	34	3.6	30	17	16
11	17	12	1.9	2.7	216	126	40	31	3.6	27	18	8.8
12	17	13	1.0	81	174	116	40	33	3.9	26	18	3.6
13	16	15	.78	56	146	112	39	34	4.3	26	18	4.7
14	16	15	.93	97	161	108	42	32	4.0	24	20	4.4
15	17	17	1.2	249	121	104	45	34	4.9	24	23	7.6
16	17	18	.94	1010	106	96	48	26	3.7	23	21	9.9
17	19	20	1.0	514	94	97	48	29	4.1	22	18	8.2
18	20	21	4.3	639	517	93	44	29	4.6	21	19	8.6
19	13	21	.86	262	1660	92	41	30	6.2	21	20	9.0
20	3.8	21	.79	138	1190	91	41	29	7.0	21	19	7.2
21	8.1	23	.79	66	661	89	38	31	8.1	21	22	8.2
22	21	25	2.9	e51	515	89	36	29	12	22	26	7.9
23	52	24	7.3	e43	466	87	35	26	13	25	28	8.2
24	29	24	8.6	e40	450	80	36	29	13	22	26	6.7
25	13	25	8.9	e43	323	81	36	30	15	22	25	6.1
26	11	25	9.3	e40	331	198	40	27	17	23	25	6.7
27	10	28	29	e36	300	104	40	25	16	25	19	7.2
28	10	28	57	e32	240	144	40	22	17	25	17	6.5
29	12	26	116	e30	---	88	36	17	14	26	18	6.6
30	29	28	29	e28	---	81	36	12	14	25	17	7.9
31	11	---	6.3	e27	---	74	---	12	---	22	18	---
TOTAL	495.9	538.5	817.39	4599.40	9821	3798	1396	902	404.8	771	623	315.0
MEAN	16.0	17.9	26.4	148	351	123	46.5	29.1	13.5	24.9	20.1	10.5
MAX	52	28	376	1010	1660	217	72	38	159	37	28	18
MIN	3.8	8.3	.78	.50	34	74	35	12	3.6	15	15	3.6
AC-FT	984	1070	1620	9120	19480	7530	2770	1790	803	1530	1240	625

e Estimated.

## 11072100 TEMESCAL CREEK ABOVE MAIN STREET, AT CORONA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.62	15.1	23.8	23.0	14.5	40.9	13.1	12.0	9.35	7.15	6.45	6.99
MAX	16.1	55.9	126	116	25.5	237	39.3	43.7	30.0	10.9	13.4	11.3
(WY)	1986	1981	1981	1981	1981	1983	1983	1983	1983	1985	1990	1985
MIN	2.36	4.67	2.53	7.01	7.42	6.26	4.02	3.77	1.12	1.20	1.79	1.09
(WY)	1985	1987	1982	1989	1982	1990	1989	1982	1982	1982	1982	1981

## SUMMARY STATISTICS

## WATER YEARS 1981 - 1990

ANNUAL MEAN	12.4	
HIGHEST ANNUAL MEAN	33.7	1981
LOWEST ANNUAL MEAN	6.10	1987
HIGHEST DAILY MEAN	1720	Mar 1 1983
LOWEST DAILY MEAN	.27	Sep 25 1981
ANNUAL SEVEN-DAY MINIMUM	.56	Sep 23 1981
INSTANTANEOUS PEAK FLOW	4720	Mar 1 1983
INSTANTANEOUS PEAK STAGE	11.67	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	8990	
10 PERCENT EXCEEDS	27	
50 PERCENT EXCEEDS	6.1	
90 PERCENT EXCEEDS	2.7	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.6	13.4	19.2	60.9	146	69.0	17.8	15.4	11.6	16.6	16.2	12.5
MAX	16.0	17.9	26.4	148	351	123	46.5	29.1	14.0	24.9	20.1	14.3
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1991	1993	1993	1991
MIN	13.0	6.97	15.5	14.0	37.4	29.3	2.89	3.24	7.33	11.4	14.0	10.5
(WY)	1991	1992	1991	1992	1992	1992	1991	1992	1992	1992	1991	1993

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1991 - 1993

ANNUAL TOTAL	5904.53	24481.99	
ANNUAL MEAN	16.1	67.1	33.9
HIGHEST ANNUAL MEAN			67.1
LOWEST ANNUAL MEAN			14.2
HIGHEST DAILY MEAN	376	Dec 7	1660
LOWEST DAILY MEAN	.34	Jul 3	.50
ANNUAL SEVEN-DAY MINIMUM	.89	Jan 13	1.1
INSTANTANEOUS PEAK FLOW	2160	Feb 12	3560
INSTANTANEOUS PEAK STAGE	5.55	Feb 12	6.49
ANNUAL RUNOFF (AC-FT)	11710		48560
10 PERCENT EXCEEDS	25		144
50 PERCENT EXCEEDS	9.9		24
90 PERCENT EXCEEDS	1.2		6.0
			24550
			46
			13
			2.2

## 11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA

LOCATION.--Lat 34°00'14", long 117°43'34", in Santa Ana del Chino Grant, San Bernardino County, Hydrologic Unit 18070203, on right bank 300 ft downstream from Schaefer Avenue, 0.8 mi downstream from San Antonio Creek, and 1.5 mi southwest of Chino.

DRAINAGE AREA.--48.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR CA-84-1: 1983(M).

GAGE.--Water-stage recorder. Concrete dikes formed low-water control from October 1975 to Apr. 16, 1991. Elevation of gage is 685 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow mostly regulated by San Antonio Flood-Control Reservoir, capacity, 7,700 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversions for power, domestic use, irrigation, and return flow from irrigated areas. California Water Project reported releases of 6,900 acre-ft to the basin via San Antonio Creek from Rialto Pipeline below San Antonio Dam at a site 10 mi upstream. Chino Basin Municipal Water District took all of the imported water for ground-water replenishment in the Montclair Spreading Grounds upstream of this site. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft<sup>3</sup>/s, Feb. 27, 1983, gage height, 10.32 ft, from rating curve extended above 560 ft<sup>3</sup>/s on basis of slope-conveyance study; no flow May 21, June 30, July 1, Oct. 30, Nov. 3, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 9.23 ft, present datum, discharge, 9,200 ft<sup>3</sup>/s, on basis of contracted-opening measurement at site 6.1 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,350 ft<sup>3</sup>/s, Jan. 7, gage height, 8.50 ft; minimum daily, 0.32 ft<sup>3</sup>/s, Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	.54	.55	.76	1.4	39	.98	1.1	.92	.88	.87	.70
2	.41	.41	.58	95	1.3	19	.92	1.1	.97	.85	.76	.64
3	.39	.41	.49	.96	1.5	6.1	.92	1.1	.92	.82	.72	.71
4	.45	.41	2.0	.92	1.3	8.8	.92	1.1	.92	.92	.69	.75
5	.43	.55	.57	.82	1.3	3.8	1.1	.92	131	.79	.68	.61
6	.47	.54	.72	785	1.3	6.4	1.2	.92	1.2	.91	.63	.74
7	.32	.46	982	1380	220	7.5	1.3	1.0	.92	1.0	.77	.92
8	.35	.50	1.2	41	611	5.7	2.0	.92	.92	.87	.71	.80
9	.47	.52	.86	2.6	26	1.9	1.3	.96	1.0	.90	.85	.66
10	.33	.47	.76	49	2.3	1.9	1.3	1.0	.92	1.0	.63	.70
11	.35	.41	2.4	1.7	1.6	1.9	1.3	.92	.92	.92	.69	.79
12	.37	.55	.57	109	1.6	1.9	1.5	.92	.92	1.0	.71	.69
13	.37	.57	.60	236	1.6	1.9	1.5	.87	.92	.97	.63	.84
14	.43	.50	.66	279	48	1.9	1.6	.76	.92	.82	.61	.76
15	.43	.48	.66	439	1.7	1.9	1.6	.96	.92	.76	.72	.69
16	.41	.41	.56	362	1.3	1.9	1.5	.89	.92	.92	.68	.73
17	.45	.47	14	378	1.3	1.9	1.1	.76	.92	.93	.84	.81
18	.41	.50	2.3	478	729	1.9	1.1	.76	.94	.93	.70	.75
19	.41	.53	.73	28	532	1.9	1.5	.87	1.3	.97	.67	.67
20	.51	.44	.78	27	205	1.9	1.7	.79	1.3	.86	.60	.73
21	.59	.41	.78	25	4.9	1.9	1.2	.76	1.1	.89	.64	.73
22	.55	.41	.76	24	3.0	1.6	1.1	.86	.99	.92	.66	.64
23	43	.51	.68	23	173	1.6	1.1	.92	.99	.88	.65	.66
24	18	.58	.62	23	6.8	1.6	1.1	.92	.97	.86	.72	.79
25	.70	.67	.62	13	15	70	1.1	.94	1.0	.78	.63	.80
26	.62	.57	.62	1.6	43	96	1.1	.92	1.1	.84	.72	.55
27	.62	.50	51	1.6	37	1.6	1.5	.97	1.0	.91	.66	.64
28	.55	.50	96	1.6	40	13	1.7	.92	.96	.90	.75	.63
29	1.1	.46	313	1.6	---	1.3	1.5	.92	.91	.88	.79	.65
30	84	.50	40	1.7	---	1.1	1.1	.92	.86	.78	.69	.65
31	.98	---	.91	13	---	.92	---	.92	---	.82	.72	---
TOTAL	158.91	14.78	1517.98	4822.86	2713.2	309.72	38.84	28.59	159.55	27.48	21.79	21.43
MEAN	5.13	.49	49.0	156	96.9	9.99	1.29	.92	5.32	.89	.70	.71
MAX	84	.67	982	1380	729	96	2.0	1.1	131	1.0	.87	.92
MIN	.32	.41	.49	.76	1.3	.92	.92	.76	.86	.76	.60	.55
AC-FT	315	29	3010	9570	5380	614	77	57	316	55	43	43

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.4	16.7	30.9	35.5	37.5	32.4	7.78	7.33	16.7	17.7	13.0	10.3
MAX	126	113	189	186	193	257	68.6	90.4	184	176	191	96.9
(WY)	1979	1976	1976	1976	1980	1978	1974	1974	1976	1974	1974	1974
MIN	.061	.23	.53	.55	.33	.30	.14	.22	.062	.069	.14	.13
(WY)	1978	1978	1970	1972	1972	1972	1977	1973	1977	1977	1976	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1970 - 1993			
ANNUAL TOTAL	3259.46				9835.13							
ANNUAL MEAN	8.91				26.9				20.0			
HIGHEST ANNUAL MEAN									92.4			
LOWEST ANNUAL MEAN									3.24			
HIGHEST DAILY MEAN	982				1380				2060			
LOWEST DAILY MEAN	.32				.32				.00			
ANNUAL SEVEN-DAY MINIMUM	.37				.37				.02			
INSTANTANEOUS PEAK FLOW					7350				12700			
INSTANTANEOUS PEAK STAGE					8.50				10.32			
ANNUAL RUNOFF (AC-FT)	6470				19510				14470			
10 PERCENT EXCEEDS	2.2				25				71			
50 PERCENT EXCEEDS	.89				.92				.97			
90 PERCENT EXCEEDS	.50				.50				.27			

## 11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA

LOCATION.--Lat 33°58'58", long 117°35'55", in SW 1/4 NE 1/4 sec.22, T.2 S., R.7 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 300 ft upstream from Merrill Avenue Bridge and 4.6 mi west of Mira Loma.

DRAINAGE AREA.--75.8 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1968 to July 1977, January 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 660 ft above sea level, from topographic map. Prior to July 1977 at site 100 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Channel is a trapezoidal concrete floodway; records for low and medium flows prior to July 31, 1977, are not equivalent (channel concrete lined since July 31, 1977). Chino Basin Municipal Water District Tertiary Plant No. 1 began discharging effluent 1.5 mi upstream from station on May 8, 1985. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft<sup>3</sup>/s, Feb. 27, 1983, gage height, 7.85 ft, from floodmark on basis of slope-conveyance study of peak flow; prior to operation of Plant No. 1, no flow for most of some years; minimum daily, since 1985, 2.5 ft<sup>3</sup>/s, June 6, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,400 ft<sup>3</sup>/s, Jan. 7, gage height, 5.40 ft, minimum daily, 17 ft<sup>3</sup>/s, Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	25	25	19	35	48	32	30	33	20	26	34
2	41	23	26	75	35	46	39	29	26	28	24	39
3	43	25	24	25	35	45	41	27	27	29	25	37
4	42	21	60	23	41	43	40	24	30	25	24	35
5	45	20	34	24	48	44	43	21	186	25	25	31
6	41	24	51	595	46	47	47	21	30	36	27	27
7	40	23	1070	2130	158	44	44	23	28	34	26	34
8	45	22	65	341	1370	47	41	25	40	e30	30	28
9	44	23	40	105	292	50	45	22	38	e30	32	32
10	38	25	28	105	112	59	51	22	28	e28	33	31
11	40	24	29	39	45	70	44	30	33	e32	17	33
12	31	23	30	105	31	67	32	35	32	e30	23	32
13	48	22	27	472	29	68	29	31	35	e31	26	32
14	53	23	24	559	77	63	30	38	35	e29	21	29
15	55	23	23	681	34	57	29	39	32	e29	29	31
16	49	21	23	550	29	52	29	36	35	e32	28	33
17	43	28	62	683	25	54	33	36	35	28	28	32
18	39	25	45	901	629	55	31	42	35	30	29	33
19	39	25	24	223	1030	58	29	28	34	36	26	39
20	36	24	23	112	503	58	55	30	32	31	35	36
21	36	24	24	63	173	59	31	33	36	23	35	33
22	34	26	25	50	87	56	27	38	29	30	37	31
23	52	26	27	44	265	47	22	35	33	26	34	32
24	36	25	31	46	132	33	22	32	26	23	38	38
25	35	26	37	46	83	57	24	31	34	22	31	30
26	40	25	39	40	72	197	25	35	31	29	38	33
27	35	25	78	34	56	44	27	33	28	31	40	40
28	35	25	113	31	55	54	30	26	30	35	30	32
29	33	25	364	28	---	22	29	28	24	23	37	29
30	233	29	77	25	---	21	29	26	23	19	44	33
31	39	---	26	54	---	23	---	31	---	18	35	---
TOTAL	1465	725	2574	8228	5527	1688	1030	937	1098	872	933	989
MEAN	47.3	24.2	83.0	265	197	54.5	34.3	30.2	36.6	28.1	30.1	33.0
MAX	233	29	1070	2130	1370	197	55	42	186	36	44	40
MIN	31	20	23	19	25	21	22	21	23	18	17	27
AC-FT	2910	1440	5110	16320	10960	3350	2040	1860	2180	1730	1850	1960

e Estimated.

## 11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1977, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.021	1.15	1.55	18.2	4.65	1.91	1.35	.065	.001	.000	.000	.11
MAX	.19	6.07	7.91	149	30.7	7.94	13.1	.54	.007	.000	.000	1.03
(WY)	1972	1971	1972	1969	1969	1969	1969	1977	1969	1968	1968	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1969	1969	1970	1975	1972	1972	1968	1968	1968	1968	1968	1968

## SUMMARY STATISTICS

## WATER YEARS 1968 - 1977

ANNUAL TOTAL	
ANNUAL MEAN	2.73
HIGHEST ANNUAL MEAN	16.8
LOWEST ANNUAL MEAN	.16
HIGHEST DAILY MEAN	2600
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	9100
INSTANTANEOUS PEAK STAGE	7.08
ANNUAL RUNOFF (AC-FT)	1980
10 PERCENT EXCEEDS	.10
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1984, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.49	11.3	7.69	34.1	65.0	46.3	12.1	3.43	.48	.37	1.47	1.08
MAX	11.1	27.9	24.7	149	216	205	63.4	19.8	2.30	1.22	6.99	3.45
(WY)	1984	1983	1984	1983	1980	1983	1983	1983	1983	1983	1983	1983
MIN	.091	.002	.006	1.67	1.29	2.44	.056	.063	.008	.019	.009	.011
(WY)	1981	1980	1980	1984	1984	1984	1981	1979	1979	1981	1979	1979

## SUMMARY STATISTICS

## WATER YEARS 1979 - 1984

ANNUAL MEAN	17.5
HIGHEST ANNUAL MEAN	53.4
LOWEST ANNUAL MEAN	1.51
HIGHEST DAILY MEAN	2530
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	16100
INSTANTANEOUS PEAK STAGE	7.85
ANNUAL RUNOFF (AC-FT)	12700
10 PERCENT EXCEEDS	10
50 PERCENT EXCEEDS	.13
90 PERCENT EXCEEDS	.01

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.6	32.2	41.1	74.7	77.9	55.8	29.4	27.2	29.4	27.4	28.5	36.5
MAX	52.9	55.1	83.0	265	197	102	43.5	44.9	57.1	46.2	51.8	52.0
(WY)	1988	1986	1993	1993	1993	1991	1992	1992	1992	1992	1992	1986
MIN	20.4	23.4	21.0	26.1	34.9	25.3	20.5	18.5	18.1	19.3	18.5	16.4
(WY)	1987	1989	1987	1989	1989	1988	1987	1988	1988	1987	1987	1988

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1986 - 1993

ANNUAL TOTAL	22148	26066	
ANNUAL MEAN	60.5	71.4	41.1
HIGHEST ANNUAL MEAN			71.4
LOWEST ANNUAL MEAN			26.6
HIGHEST DAILY MEAN	1250	Feb 12	2130
LOWEST DAILY MEAN	20	Nov 5	17
ANNUAL SEVEN-DAY MINIMUM	23	Nov 2	23
INSTANTANEOUS PEAK FLOW			10400
INSTANTANEOUS PEAK STAGE			5.40
ANNUAL RUNOFF (AC-FT)	43930	51700	29740
10 PERCENT EXCEEDS	68	73	53
50 PERCENT EXCEEDS	46	33	27
90 PERCENT EXCEEDS	25	23	18

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA  
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 33°53'00", long 117°38'40", in La Sierra Grant, Riverside County, Hydrologic Unit 18070203, on left bank of outlet channel, 2,500 ft downstream from axis of Prado Dam, and 4.5 mi west of Corona.

DRAINAGE AREA.--1,490 mi<sup>2</sup>, excludes 768 mi<sup>2</sup> above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to November 1939 (irrigation seasons only), March 1940 to current year. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, and Santa Fe Railroad Bridge, near Prado" May 1932 to November 1939, and as "below Prado Dam, near Prado" March 1940 to September 1950.

GAGE.--Water-stage recorder and concrete control since August 1944. Datum of gage is approximately 449 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Mar. 18, 1940, at about same site at various datums.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1940 by Prado flood-control reservoir, capacity, 196,200 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. During the current year, no California Water Project releases were made. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,440 ft<sup>3</sup>/s, Feb. 21, 1980, gage height, 6.88 ft; minimum daily, 2.4 ft<sup>3</sup>/s, July 29 to Aug. 3, Sept. 20, 1978 (result of gate closure).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 100,000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow at site 2.5 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,190 ft<sup>3</sup>/s, Jan. 19, gage height, 7.29 ft; minimum daily, 5.8 ft<sup>3</sup>/s, Sept. 21 (result of gate closure).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	113	187	494	620	1270	569	495	292	265	e168	118
2	143	193	180	340	460	1040	564	490	292	292	e166	122
3	144	238	181	403	326	899	562	485	294	283	e166	121
4	147	281	197	574	326	929	564	475	293	271	e163	116
5	153	306	218	510	327	911	492	460	250	255	e161	115
6	158	297	220	258	328	879	531	458	212	237	e159	115
7	155	286	517	1280	326	878	461	462	304	213	e157	118
8	151	278	915	4700	3010	632	417	451	363	193	e157	115
9	150	297	773	5150	5870	614	516	442	341	193	e154	115
10	142	276	670	4430	5650	772	572	446	332	194	e152	116
11	144	191	645	5950	4380	754	573	451	331	198	e152	119
12	170	168	638	4480	1540	764	530	450	332	200	e150	119
13	174	168	624	4080	709	797	486	407	330	198	e148	121
14	159	164	533	5850	710	796	606	391	338	196	144	122
15	163	170	478	4820	713	591	644	389	343	192	144	120
16	165	171	471	4540	1390	596	566	390	339	192	141	121
17	166	174	464	4840	1420	608	607	404	320	192	138	129
18	171	180	486	4840	404	675	610	406	313	188	132	131
19	174	188	491	5720	2550	850	533	431	297	190	129	130
20	173	185	484	6210	6080	980	538	424	295	187	133	49
21	176	176	476	6040	6140	977	546	416	264	185	131	5.8
22	177	176	466	6020	5940	709	490	409	258	186	130	46
23	169	184	452	5990	5730	692	507	399	264	185	129	71
24	191	193	436	6020	5720	809	505	418	262	185	127	104
25	206	185	418	5920	5630	832	507	352	259	185	126	126
26	203	175	391	4500	4480	1670	514	300	257	184	126	124
27	145	174	335	1650	2230	1790	524	298	252	182	123	124
28	180	173	346	856	1530	1140	523	292	247	e182	123	125
29	169	175	298	2260	---	984	548	292	242	e180	126	124
30	104	182	434	473	---	695	524	292	238	e177	135	125
31	111	---	495	621	---	553	---	292	---	e170	123	---
TOTAL	4969	6117	13919	109819	74539	27086	16129	12567	8754	6330	4413	3306.8
MEAN	160	204	449	3543	2662	874	538	405	292	204	142	110
MAX	206	306	915	6210	6140	1790	644	495	363	292	168	131
MIN	104	113	180	258	326	553	417	292	212	170	123	5.8
AC-FT	9860	12130	27610	217800	147800	53730	31990	24930	17360	12560	8750	6560

e Estimated.

## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	93.7	121	188	285	347	359	228	150	124	97.9	82.4	76.4
MAX	344	312	709	3543	2681	2556	1101	843	736	366	352	187
(WY)	1984	1966	1967	1993	1980	1980	1980	1983	1983	1980	1983	1983
MIN	22.4	33.5	39.5	49.2	49.7	54.3	43.3	35.2	29.0	17.7	14.8	16.2
(WY)	1962	1963	1963	1963	1961	1961	1961	1961	1961	1960	1960	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	108737		287948.8		179	
ANNUAL MEAN	297		789		789	
HIGHEST ANNUAL MEAN					36.4	
LOWEST ANNUAL MEAN					1993	
HIGHEST DAILY MEAN	4010	Feb 14	6210	Jan 20	6440	Feb 23 1980
LOWEST DAILY MEAN	104	Oct 30	5.8	Sep 21	2.4	Jul 29 1978
ANNUAL SEVEN-DAY MINIMUM	119	Aug 21	75	Sep 20	3.0	Sep 24 1973
INSTANTANEOUS PEAK FLOW			7190	Jan 19	7440	Feb 21 1980
INSTANTANEOUS PEAK STAGE			7.29	Jan 19	7.29	Jan 19 1993
ANNUAL RUNOFF (AC-FT)	215700		571100		129400	
10 PERCENT EXCEEDS	505		1580		301	
50 PERCENT EXCEEDS	175		298		100	
90 PERCENT EXCEEDS	129		127		36	

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.  
 CHEMICAL DATA: Water years 1967 to current year.  
 BIOLOGICAL DATA: Water years 1975-81.  
 SPECIFIC CONDUCTANCE: Water years 1970 to current year.  
 WATER TEMPERATURE: Water years 1970 to current year.  
 SEDIMENT DATA: Water years 1974 to current year.

PERIOD OF DAILY RECORD.--  
 CHLORIDE: October 1970 to September 1971.  
 SPECIFIC CONDUCTANCE: October 1969 to current year.  
 WATER TEMPERATURE: October 1969 to current year.  
 SUSPENDED-SEDIMENT DISCHARGE: October 1973 to June 1982.

INSTRUMENTATION.--Water-quality monitor recording specific conductance and water temperature since October 1969.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Specific-conductance and water-temperature values are affected by releases from Prado Dam.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,830 microsiemens, Apr. 30, 1971; minimum recorded, 220 microsiemens, Feb. 20, 1978.  
 WATER TEMPERATURE: Maximum recorded, 36.0°C, Sept. 4, 1972, Sept. 8, 1984; minimum recorded, 2.5°C, Dec. 30, 1969.  
 SEDIMENT CONCENTRATION: Maximum daily mean, 2,870 mg/L, Mar. 5, 1978; minimum daily mean, 3 mg/L, Apr. 2, 1980, and several days during 1982.  
 SEDIMENT LOAD: Maximum daily, 18,900 tons, Mar. 5, 1978; minimum daily, 0.58 ton, Sept. 20, 1978.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,210 microsiemens, Aug. 2, 3; minimum recorded, 242 microsiemens, Jan. 15.  
 WATER TEMPERATURE: Maximum recorded, 29.0°C, Aug. 5; minimum recorded, 9.5°C, Dec. 23.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
06...	0830	159	1100	--	19.0	--	--	--	--	--	--
20...	1630	172	1070	--	19.5	--	--	--	--	--	--
NOV											
10...	1115	280	1160	7.8	17.0	10	754	8.1	85	8400	2300
24...	1015	192	1120	--	13.0	--	--	--	--	--	--
DEC											
10...	1315	648	460	--	11.5	--	--	--	--	--	--
30...	1600	495	456	--	12.5	--	--	--	--	--	--
JAN											
26...	1215	5980	575	7.8	12.5	54	746	8.4	81	26000	23000
FEB											
09...	1635	5770	465	--	14.0	--	--	--	--	--	--
MAR											
02...	1330	892	687	--	13.5	--	--	--	--	--	--
25...	1100	826	665	8.0	18.5	37	748	9.3	101	K290	K200
APR											
07...	1200	304	747	--	17.5	--	--	--	--	--	--
MAY											
12...	1145	443	790	8.2	21.0	13	744	8.4	97	--	--
JUN											
02...	1330	295	901	--	--	--	--	--	--	--	--
23...	1100	263	982	--	23.0	--	--	--	--	--	--
JUL											
13...	1510	205	1060	7.9	25.0	660	747	6.2	77	2000	400
27...	1530	182	1070	--	24.0	--	--	--	--	--	--
AUG											
10...	1535	152	1000	--	27.0	--	--	--	--	--	--
31...	1100	125	1020	--	22.0	--	--	--	--	--	--
SEP											
15...	1130	123	1060	7.9	20.5	49	748	8.0	91	K1000	2600
30...	1545	122	1120	--	21.5	--	--	--	--	--	--

## SANTA ANA RIVER BASIN

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11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3
NOV 10...	310	--	88	22	100	40	2	12	--	--
JAN 26...	150	0	40	11	34	29	1	30	185	0 152
MAR 25...	210	42	60	15	50	33	1	6.5	207	0 170
MAY 12...	230	43	67	16	65	37	2	7.7	222	5 190
JUL 13...	300	96	84	21	99	41	3	9.6	244	0 200
SEP 15...	310	96	87	22	99	40	2	10	259	0 212

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 06...	--	--	--	--	678	--	--	--	--	--
20...	--	--	--	--	656	--	--	--	--	--
NOV 10...	140	130	0.50	21	720	687	0.98	0.120	0.120	6.00
24...	--	--	--	--	648	--	--	--	--	--
DEC 10...	--	--	--	--	274	--	--	--	--	--
30...	--	--	--	--	276	--	--	--	--	--
JAN 26...	50	45	0.30	15	351	332	0.48	--	0.080	--
FEB 09...	--	--	--	--	291	--	--	--	--	--
MAR 02...	--	--	--	--	422	--	--	--	--	--
25...	84	55	0.30	20	404	411	0.55	--	0.120	--
MAY 12...	94	72	0.40	18	485	476	0.66	--	0.070	--
JUN 02...	--	--	--	--	574	--	--	--	--	--
23...	--	--	--	--	638	--	--	--	--	--
JUL 13...	130	110	0.50	23	672	637	0.91	--	0.120	--
27...	--	--	--	--	662	--	--	--	--	--
AUG 10...	--	--	--	--	638	--	--	--	--	--
31...	--	--	--	--	616	--	--	--	--	--
SEP 15...	130	110	0.50	24	649	642	0.88	--	0.580	--
30...	--	--	--	--	682	--	--	--	--	--

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV 10...	5.80	0.740	0.740	2.1	2.90	2.50	2.50	2.20	<10	34
JAN 26...	1.20	--	3.40	9.1	3.00	2.10	--	1.90	--	--
MAR 25...	3.60	--	0.180	0.90	0.710	0.670	--	0.650	30	37
MAY 12...	4.10	--	0.240	0.90	0.980	0.910	--	0.940	<10	40
JUL 13...	8.40	--	0.420	6.1	5.20	0.770	--	0.750	--	--
SEP 15...	6.80	--	0.390	0.70	1.20	0.170	--	0.160	<10	49

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 10...	<3	15	10	270	10	3	<1	<1.0	560	6
MAR 25...	<3	5	12	54	<10	<1	<1	<1.0	370	8
MAY 12...	<3	4	11	58	<10	1	<1	<1.0	410	6
SEP 15...	<3	190	7	110	10	3	<1	<1.0	550	7

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DEPTH	SAMPLE	SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN,	SEDI- MENT, SUS- PENDED (MG/L)	SED.
		AT SAMPLE LOC- ATION, TOTAL (FEET)	LOC- ATION, CROSS SECTION (FT FM L BANK)		WATER WHOLE FIELD (STAND- ARD UNITS)		(MM OF HG)		(PER- CENT SATUR- ATION)		SIEVE DIAM. % FINER THAN .062 MM
MAY											
12...*	1050	2.75	22.0	790	8.1	21.0	744	8.4	97	23	95
12...*	1055	2.76	50.0	795	8.3	21.0	744	8.4	97	22	90
12...*	1100	2.66	75.0	795	8.2	21.0	744	8.4	97	22	92
12...*	1110	2.90	103	800	8.2	21.0	744	8.4	97	22	86
12...*	1115	2.85	131	790	8.1	21.0	744	8.4	97	19	94
SEP											
15...*	1550	1.52	7.00	1060	8.0	23.0	748	7.7	92	--	--
15...*	1555	1.62	14.0	1060	8.0	22.5	748	7.7	91	--	--
15...*	1605	1.70	21.0	1060	8.0	22.5	748	7.7	91	--	--
15...*	1610	1.76	27.0	1040	8.0	22.5	748	7.7	91	--	--
15...*	1620	1.72	33.0	1030	8.0	22.5	748	7.6	90	--	--

\* Instantaneous discharge at the time of cross-sectional measurements: May 12, 448 ft<sup>3</sup>/s; Sept. 15, 118 ft<sup>3</sup>/s.

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 10...	1115	280	17.0	26	20	89
JAN 26...	1215	5980	12.5	120	1940	82
MAR 25...	1100	826	18.5	37	83	99
MAY 12...	1125	448	21.0	21	25	91
JUL 13...	1510	205	25.0	3020	1670	100

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1110	1090	965	923	1030	1010	572	479	816	799	675	638
2	1120	1100	961	882	1040	994	725	543	818	800	699	675
3	1110	1100	883	746	1010	994	725	586	818	796	715	688
4	1110	1090	925	789	1020	801	711	629	826	798	731	712
5	1110	1100	1030	915	969	870	753	662	832	814	747	728
6	1110	1050	1060	983	968	948	906	675	843	816	761	735
7	1090	1050	1080	1030	957	435	877	440	837	819	761	748
8	1080	1040	1130	1070	504	453	440	333	843	550	772	743
9	1060	1030	1150	1110	453	432	336	324	550	457	770	758
10	1060	1030	1180	1140	540	430	358	326	470	445	768	753
11	1060	1030	1150	1120	629	470	349	329	473	445	763	749
12	1080	1040	1140	1110	619	549	335	303	511	464	766	748
13	1090	1060	1140	1110	588	458	358	326	559	511	762	750
14	1080	1060	1140	1100	747	557	368	281	597	550	760	746
15	1070	1040	1130	1100	746	676	383	242	635	597	753	734
16	1060	1040	1160	1100	775	686	405	337	673	635	759	737
17	1060	1040	1130	1110	764	705	360	337	701	663	754	735
18	1070	1040	1120	1100	774	684	382	360	728	701	753	739
19	1060	1040	1120	1100	763	653	376	363	740	566	756	737
20	1080	1050	1130	1100	792	753	408	366	567	493	754	730
21	1080	1060	1130	1100	892	772	431	399	508	489	737	716
22	1080	1040	1130	1090	891	831	444	422	509	485	725	702
23	1070	1030	1130	1090	1000	891	468	435	508	491	711	677
24	1150	942	1110	1090	1050	960	500	468	525	498	677	662
25	1070	1050	1100	1080	1040	979	563	500	544	516	681	650
26	1070	1050	1100	1060	1080	1010	593	553	572	534	663	598
27	1100	1050	1070	1040	1100	1070	626	591	619	572	608	561
28	1100	1050	1060	1040	1080	517	681	625	647	610	599	573
29	1120	1050	1070	1030	676	556	704	659	---	---	614	599
30	1120	1060	1040	1010	625	445	758	702	---	---	629	607
31	1060	927	---	---	519	466	801	757	---	---	645	619
MONTH	1150	927	1180	746	1100	430	906	242	843	445	772	561
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	670	645	813	794	---	---	---	---	1180	1130	1030	970
2	686	661	815	804	---	---	---	---	1210	1150	1030	971
3	701	676	826	805	---	---	---	---	1210	1160	1050	972
4	706	692	827	816	---	---	---	---	1170	1080	1100	1030
5	722	697	828	817	---	---	---	---	1090	1040	1110	1070
6	737	712	819	799	---	---	---	---	1090	1050	1100	1070
7	770	727	810	790	---	---	---	---	1070	1030	1090	1040
8	771	760	811	800	---	---	---	---	1040	990	1050	1030
9	772	752	822	802	---	---	---	---	1000	980	1040	1010
10	763	752	823	813	---	---	---	---	1000	942	1040	1000
11	764	744	834	823	---	---	---	---	995	926	1040	1010
12	775	754	845	824	---	---	---	---	1020	972	1030	1010
13	786	775	855	835	---	---	---	---	1080	1010	1030	1010
14	777	757	865	845	---	---	---	---	1130	1040	1030	1010
15	768	758	875	855	---	---	---	---	1100	1070	1050	1010
16	758	739	875	865	---	---	---	---	1080	1060	1050	1010
17	750	740	885	875	---	---	---	---	1060	1030	1040	989
18	761	740	885	855	---	---	---	---	1080	1030	995	966
19	772	751	865	845	---	---	---	---	1090	1070	993	968
20	783	772	855	845	---	---	1080	1070	1090	1060	---	---
21	784	774	865	845	---	---	1160	1080	1080	1060	---	---
22	795	774	865	845	---	---	1130	1060	1080	1050	---	---
23	816	785	855	845	---	---	1090	1050	1070	1050	---	---
24	827	806	855	845	---	---	1090	1060	1070	1050	---	---
25	828	807	855	845	---	---	1070	1020	1070	1050	1110	1060
26	819	809	865	845	---	---	1030	976	1070	1050	1110	1050
27	810	800	---	---	---	---	1070	977	1060	1040	1080	1040
28	811	791	---	---	---	---	1030	964	1060	1040	1090	1020
29	812	792	---	---	---	---	1000	964	1050	1030	1110	1040
30	813	802	---	---	---	---	1070	990	1050	1020	1120	1060
31	---	---	---	---	---	---	1140	1070	1030	966	---	---
MONTH	828	645	---	---	---	---	---	---	1210	926	---	---

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	21.0	19.0	17.5	14.0	11.0	12.5	12.0	13.0	13.0	13.5	13.0
2	23.5	20.5	18.5	17.5	14.0	11.5	12.5	12.0	13.0	12.5	14.0	13.0
3	22.0	19.0	18.0	17.0	14.5	12.0	12.0	11.5	13.0	12.5	14.5	13.5
4	22.0	19.0	17.0	16.5	14.0	13.0	11.5	11.5	13.5	13.0	15.0	14.0
5	22.5	19.0	17.0	16.5	14.5	12.0	11.5	11.0	13.5	13.0	15.0	14.0
6	22.5	19.5	17.0	16.0	15.0	13.5	11.0	10.5	14.0	13.0	15.5	14.5
7	22.5	19.0	16.5	16.0	15.0	11.5	11.0	10.5	14.0	13.0	16.0	15.0
8	22.0	19.0	16.5	16.0	12.0	11.5	12.5	11.0	15.0	13.5	16.0	15.5
9	21.5	18.5	17.5	16.5	11.5	11.0	12.5	12.0	14.5	14.0	16.5	16.0
10	22.0	18.5	18.0	17.0	11.5	11.0	12.0	12.0	14.0	14.0	17.0	16.0
11	22.0	19.0	17.0	14.5	11.5	11.0	12.5	12.0	14.5	14.0	17.0	16.5
12	21.5	19.5	17.0	14.0	11.5	11.0	12.5	12.5	14.5	14.0	17.5	16.5
13	21.5	20.0	17.5	14.0	11.0	10.5	12.5	12.5	15.0	14.0	17.5	16.5
14	21.0	20.0	17.5	14.5	11.5	10.5	12.5	12.0	14.5	14.0	17.5	17.0
15	21.0	19.0	17.5	15.0	11.0	11.0	13.0	12.5	15.0	14.0	18.0	17.0
16	20.5	18.5	17.5	15.5	11.0	10.5	13.0	12.5	14.5	14.0	18.0	17.5
17	20.5	18.0	17.5	15.5	10.5	10.5	13.5	13.0	14.5	14.0	18.0	17.5
18	20.5	19.0	18.0	16.0	11.0	10.5	13.0	13.0	15.0	14.5	18.5	18.0
19	20.0	18.5	17.5	15.5	10.5	10.0	13.0	12.5	15.5	14.0	19.0	18.0
20	20.5	18.0	17.0	15.0	10.5	10.0	12.5	12.0	14.5	13.5	19.0	18.0
21	20.5	19.5	15.5	13.5	10.5	10.0	12.5	12.0	13.5	13.0	18.5	17.5
22	21.0	18.5	15.5	12.5	10.5	10.0	12.5	12.0	13.0	13.0	18.5	17.5
23	21.0	19.5	15.5	14.0	10.5	9.5	12.5	12.0	13.5	13.0	18.5	17.5
24	21.5	19.5	15.0	13.0	11.0	10.0	12.5	12.0	13.5	13.0	19.0	18.5
25	20.0	19.5	14.5	12.5	12.0	10.5	12.5	12.5	13.5	13.0	19.0	17.5
26	20.0	19.5	14.5	12.5	12.0	11.5	12.5	12.5	13.5	13.0	18.0	16.5
27	20.5	19.5	15.0	12.5	13.5	11.5	13.0	12.5	13.5	13.0	16.5	15.0
28	20.0	19.5	15.0	12.0	13.5	11.5	13.0	12.5	13.5	12.5	16.0	14.0
29	20.0	19.0	14.0	12.5	13.0	12.0	13.0	12.5	---	---	15.5	14.5
30	20.5	19.0	14.0	12.0	13.0	12.5	14.0	13.0	---	---	15.5	15.0
31	20.0	18.5	---	---	12.5	12.0	13.5	13.0	---	---	16.0	15.5
MONTH	24.5	18.0	19.0	12.0	15.0	9.5	14.0	10.5	15.5	12.5	19.0	13.0
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	16.0	21.5	20.5	22.0	21.0	24.0	23.0	28.5	21.5	27.0	21.5
2	17.0	16.5	21.5	21.0	22.0	20.5	24.0	23.5	28.5	22.5	27.0	22.0
3	17.0	16.5	21.5	21.0	22.0	20.5	24.5	23.5	28.0	23.0	27.0	22.0
4	17.5	17.0	21.5	20.5	22.0	20.5	24.5	23.0	28.5	23.0	27.5	22.5
5	18.0	17.0	21.0	19.5	21.5	19.0	24.5	22.0	29.0	23.0	26.0	21.5
6	18.5	17.0	21.0	19.5	19.0	16.5	25.5	22.5	28.5	23.0	26.0	21.0
7	18.0	16.5	21.0	20.0	18.0	16.5	26.5	22.5	27.5	23.0	26.5	21.0
8	17.5	16.5	21.0	19.5	19.0	17.5	26.5	22.5	27.0	21.0	26.0	20.5
9	18.0	17.0	21.0	20.0	19.5	18.5	27.0	22.0	27.0	22.0	26.0	21.0
10	18.5	17.5	21.0	20.5	20.0	19.0	27.0	21.5	27.5	21.5	26.5	22.0
11	18.5	18.0	21.5	20.5	20.5	19.5	27.0	21.0	27.5	21.0	26.0	22.0
12	18.5	18.0	21.5	20.5	21.0	20.0	27.0	21.5	26.5	20.5	25.0	22.0
13	19.0	17.5	21.5	19.5	21.5	20.5	26.5	21.5	26.0	21.0	24.5	21.5
14	18.5	17.0	21.0	20.0	22.0	21.0	26.0	20.5	25.5	21.0	24.5	20.5
15	18.5	17.5	21.0	20.0	22.5	21.5	26.5	20.5	26.0	21.0	23.0	20.5
16	18.5	17.5	21.0	20.5	23.0	22.0	25.5	21.0	26.0	20.5	22.0	20.5
17	18.5	17.5	22.0	21.0	24.0	22.0	26.0	20.5	26.5	20.5	23.0	19.5
18	18.5	18.0	22.0	20.5	23.5	22.5	26.5	21.0	26.5	21.0	23.0	18.0
19	19.5	18.0	22.0	20.5	23.5	22.5	26.0	21.0	26.5	21.5	23.0	19.0
20	19.0	18.0	22.0	21.0	23.5	23.0	26.0	19.5	26.5	21.0	---	---
21	19.5	18.5	22.0	21.0	24.0	22.5	25.5	21.0	26.0	20.0	---	---
22	19.5	18.5	22.0	20.5	23.5	22.0	25.0	20.5	26.5	20.5	---	---
23	19.5	19.0	21.5	21.0	23.5	22.0	25.5	21.0	26.0	20.5	---	---
24	19.5	19.0	21.5	20.5	23.5	22.5	26.0	21.5	26.5	20.0	---	---
25	19.5	19.0	21.5	20.5	24.0	23.0	25.5	21.5	27.0	21.0	21.0	20.5
26	20.0	19.0	21.5	20.5	24.5	23.5	25.0	21.5	28.0	21.5	21.0	20.5
27	20.5	19.5	21.5	20.0	24.5	23.5	25.0	21.5	27.0	22.0	21.0	20.5
28	20.5	19.5	21.5	20.5	24.0	23.5	25.0	21.0	27.0	21.5	21.0	20.5
29	20.5	20.0	21.5	20.0	24.0	23.0	26.0	21.5	26.5	21.0	21.5	21.0
30	21.0	20.0	21.5	20.5	24.0	23.0	27.5	20.5	26.5	21.5	22.0	21.5
31	---	---	22.0	21.0	---	---	28.0	21.5	26.5	21.0	---	---
MONTH	21.0	16.0	22.0	19.5	24.5	16.5	28.0	19.5	29.0	20.0	---	---

## SANTA ANA RIVER BASIN

11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA

LOCATION.--Lat 33°54'48", long 117°50'30", in SW 1/4 NE 1/4 sec.17, T.3 S., R.9 W., Orange County, Hydrologic Unit 18070106, on right wall of outlet channel 250 ft downstream from toe of Carbon Canyon Dam and 2.4 mi northwest of Yorba Linda.

DRAINAGE AREA.--19.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1961 to current year.

REVISED RECORDS.--WDR CA-88-1: 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 396.35 ft, U.S. Army Corps of Engineers datum. Prior to Dec. 3, 1971, at datum 2.00 ft higher.

REMARKS.--Records fair except for discharges below 10 ft<sup>3</sup>/s, which are poor. Flow regulated by Carbon Canyon flood-control reservoir, capacity, 6,610 acre-ft. No diversion upstream from station. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 796 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 5.11 ft, present datum, from rating curve extended above 110 ft<sup>3</sup>/s on basis of optical current-meter measurement at 241 ft<sup>3</sup>/s and normal depth solution for discharge computation at gage height 4.27 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 260 ft<sup>3</sup>/s, Feb. 8, gage height, 3.51 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.06	.11	6.7	.82	e.04	.00	.00	.00	.01
2	.00	.00	.00	2.0	.05	7.1	.71	e.04	.00	.00	.00	.04
3	.00	.00	.00	.14	.00	6.3	.71	e.03	.00	.00	.00	.02
4	.00	.00	.00	.10	.00	5.3	.60	e.02	.00	.00	.00	.02
5	.00	.00	.00	.04	.00	5.2	.58	e.02	.37	.00	.02	.02
6	.00	.00	.00	64	.00	4.9	.51	e.02	.01	.00	.02	.01
7	.00	.00	38	220	.64	4.5	.47	e.02	.00	.00	.02	.00
8	.00	.00	.43	63	51	4.5	.47	e.00	.01	.00	.02	.00
9	.00	.00	.04	4.0	44	4.1	.39	e.00	.02	.00	.02	.00
10	.00	.00	.04	10	4.3	3.7	.36	e.00	.02	.00	.02	.00
11	.00	.00	.04	3.2	3.1	3.4	.28	.00	.02	.00	.02	.00
12	.00	.00	.03	8.6	1.8	2.7	.28	.00	.02	.00	.02	.00
13	.00	.00	.01	32	2.8	2.5	.28	.00	.02	.00	.02	.00
14	.00	.00	.00	39	1.2	2.4	.28	.00	.02	.00	.02	.00
15	.00	.00	.00	101	1.7	2.1	.24	.00	.02	.00	.02	.00
16	.00	.00	.00	140	.66	2.1	.21	.00	.02	.00	.00	.00
17	.00	.00	.00	98	.59	2.3	.21	.00	.02	.00	.01	.00
18	.00	.00	.00	161	51	2.2	.21	.00	.02	.00	.02	.00
19	.00	.00	.00	29	134	2.1	.21	.00	.02	.00	.03	.00
20	.00	.00	.00	8.9	110	2.3	.15	.00	.00	.00	.04	.00
21	.00	.00	.00	5.5	31	2.4	.15	.00	.00	.00	.04	.00
22	.00	.00	.00	5.3	10	1.0	.15	.00	.00	.00	.02	.00
23	.00	.00	.00	3.2	19	.15	.15	.00	.00	.00	.01	.00
24	.00	.00	.00	2.5	20	.15	.13	.00	.00	.00	.01	.00
25	.00	.00	.00	1.0	7.2	1.6	.10	.00	.00	.00	.02	.00
26	.00	.00	.00	.51	9.2	6.2	.10	.00	.00	.00	.02	.00
27	.00	.00	.00	.44	7.7	.79	.11	.00	.00	.00	.01	.03
28	.00	.00	.00	.32	5.7	3.9	.10	.00	.00	.01	.00	.00
29	.00	.00	14	.21	---	.95	.06	.00	.00	.02	.00	.00
30	.00	.00	1.3	.21	---	.84	e.05	.00	.00	.00	.00	.00
31	.00	---	.08	.58	---	.84	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	53.97	1003.81	516.75	95.22	9.07	0.19	0.61	0.03	0.45	0.15
MEAN	.000	.000	1.74	32.4	18.5	3.07	.30	.006	.020	.001	.015	.005
MAX	.00	.00	38	220	134	7.1	.82	.04	.37	.02	.04	.04
MIN	.00	.00	.00	.04	.00	.15	.05	.00	.00	.00	.00	.00
AC-FT	.00	.00	107	1990	1020	189	18	.4	1.2	.06	.9	.3

e Estimated.

## 11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.039	.18	.50	2.35	4.91	4.54	.52	.18	.062	.045	.019	.014
MAX	.61	1.87	6.36	32.4	46.9	36.2	5.67	3.44	1.14	.67	.29	.22
(WY)	1964	1968	1967	1993	1980	1983	1980	1980	1980	1983	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1962	1963	1963	1964	1962	1962	1962	1962	1962	1962	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1962 - 1993	
ANNUAL TOTAL	361.02		1680.25			
ANNUAL MEAN	.99		4.60		1.10	
HIGHEST ANNUAL MEAN					7.27	
LOWEST ANNUAL MEAN					.004	
HIGHEST DAILY MEAN	92	Feb 12	220	Jan 7	322	Mar 2 1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00	Oct 1	.00	Oct 1 1961
INSTANTANEOUS PEAK FLOW			260	Feb 8	796	Mar 1 1983
INSTANTANEOUS PEAK STAGE			3.51	Feb 8	5.11	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	716		3330		794	
10 PERCENT EXCEEDS	.06		5.0		.25	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## SANTA ANA RIVER BASIN

11075800 SANTIAGO CREEK AT MODJESKA, CA

LOCATION.--Lat 33°42'46", long 117°38'39", in NE 1/4 NE 1/4 sec.30, T.5 S., R.7 W., Orange County, Hydrologic Unit 18070203, on right bank at Santiago Canyon Road Bridge, 0.9 mi northwest of Modjeska, 1.0 mi downstream from Harding Creek, and 1.5 mi downstream from Modjeska Reservoir.

DRAINAGE AREA.--13.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1961 to current year.

REVISED RECORDS.--WDR CA-73-1: 1969. WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,210 ft above sea level, from topographic map. Prior to Sept. 10, 1969, at site 0.6 mi upstream at datum approximately 48 ft higher. Sept. 10, 1969, to Feb. 6, 1985, at site 0.6 mi upstream at datum approximately 44 ft higher.

REMARKS.--Records poor. Slight regulation by Modjeska Reservoir on Harding Creek. Santiago County Water District diverts water at Modjeska Reservoir on Harding Creek. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,520 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 6.18 ft, site and datum then in use, from rating curve extended above 840 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 870 ft<sup>3</sup>/s, on basis of culvert computation of peak flow:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	2100	998	9.34	Feb. 8	0500	657	7.70
Jan. 17	2045	*1,370	*9.95	Feb. 20	Unknown	585	7.56

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.00	e.00	1.8	21	87	20	6.5	5.3	.23	.00	.00
2	.00	e.00	e.00	1.8	18	80	19	6.4	5.1	.20	.00	.00
3	.00	e.00	e.00	1.6	15	73	18	6.6	5.1	.14	.00	.00
4	.00	e.00	e.00	1.2	11	65	18	6.9	5.1	.35	.00	.00
5	.00	e.00	e.00	.98	6.1	60	17	6.9	19	.47	.00	.00
6	.00	e.00	e.00	88	4.2	55	17	6.7	12	.21	.00	.00
7	.00	e.00	10	384	12	51	16	7.0	8.2	.10	.00	.00
8	.00	e.00	2.3	341	456	47	15	6.9	7.3	.00	.00	.00
9	.00	e.00	.51	42	225	45	14	6.5	5.6	.00	.00	.00
10	.00	e.00	.16	14	e130	41	14	6.3	4.6	.00	.00	.00
11	.00	e.00	.07	5.5	e80	39	14	6.5	4.3	.00	.00	.00
12	.00	e.00	.04	2.3	51	36	13	7.0	4.0	.00	.00	.00
13	.00	e.00	.02	51	38	33	13	7.0	3.8	.00	.00	.00
14	.00	e.00	.01	190	33	32	11	6.8	3.5	.00	.00	.00
15	.00	e.00	.01	240	29	30	11	6.8	3.1	.00	.00	.00
16	.00	e.00	.00	869	28	29	10	6.9	2.8	.00	.00	.00
17	.00	e.00	.02	938	26	27	9.7	7.2	2.7	.00	.00	.00
18	.00	e.00	.06	1050	e90	26	9.2	7.3	2.5	.00	.00	.00
19	.00	e.00	.02	463	e401	25	8.9	7.0	2.0	.00	.00	.00
20	.00	e.00	.02	195	e398	24	8.5	7.1	2.0	.00	.00	.00
21	.00	e.00	.01	129	213	23	8.0	7.7	1.9	.00	.00	.00
22	.00	e.00	.01	99	149	22	7.8	7.7	1.9	.00	.00	.00
23	.00	e.00	.00	82	138	21	8.0	7.6	1.9	.00	.00	.00
24	.00	e.00	.00	68	127	20	7.8	7.7	1.5	.00	.00	.00
25	.00	e.00	.00	57	113	20	7.4	7.1	1.2	.00	.00	.00
26	.00	e.00	.00	49	112	31	7.7	7.0	.96	.00	.00	.00
27	.00	e.00	.00	43	107	27	7.5	6.8	.85	.00	.00	.00
28	e.00	e.00	.07	39	98	30	7.5	6.6	.79	.00	.00	.00
29	e.00	e.00	15	37	---	26	6.9	6.4	.66	.00	.00	.00
30	e.00	e.00	7.5	31	---	23	6.9	5.8	.41	.00	.00	.00
31	e.00	---	2.8	24	---	21	---	5.3	---	.00	.00	---
TOTAL	0.00	0.00	38.63	5538.18	3129.3	1169	351.8	212.0	120.07	1.70	0.00	0.00
MEAN	.000	.000	1.25	179	112	37.7	11.7	6.84	4.00	.055	.000	.000
MAX	.00	.00	15	1050	456	87	20	7.7	19	.47	.00	.00
MIN	.00	.00	.00	.98	4.2	20	6.9	5.3	.41	.00	.00	.00
AC-FT	.00	.00	77	10980	6210	2320	698	421	238	3.4	.00	.00

e Estimated.

## 11075800 SANTIAGO CREEK AT MODJESKA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	2.08	6.23	17.4	32.9	22.4	6.49	3.36	1.48	.42	.16	.086
MAX	5.00	33.4	97.4	179	376	137	33.7	27.0	7.82	2.84	1.68	1.07
(WY)	1984	1966	1967	1993	1969	1978	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.050	.15	.017	.000	.000	.000	.000	.000
(WY)	1962	1962	1963	1963	1965	1965	1992	1992	1987	1963	1962	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1962 - 1993	
ANNUAL TOTAL	1772.22		10560.68			
ANNUAL MEAN	4.84		28.9		7.64	
HIGHEST ANNUAL MEAN					47.2	
LOWEST ANNUAL MEAN					.21	
HIGHEST DAILY MEAN	204	Mar 23	1050	Jan 18	3590	Feb 24 1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 2	.00	Oct 1	.00	Oct 1 1961
INSTANTANEOUS PEAK FLOW			1370	Jan 17	6520	Feb 25 1969
INSTANTANEOUS PEAK STAGE			9.95	Jan 17	6.18	Feb 25 1969
ANNUAL RUNOFF (AC-FT)	3520		20950		5530	
10 PERCENT EXCEEDS	6.6		53		10	
50 PERCENT EXCEEDS	.00		.85		.32	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11077500 SANTIAGO CREEK AT SANTA ANA, CA

LOCATION.--Lat 33°46'13", long 117°53'01", in SW 1/4 NW 1/4 sec.1, T.5 S., R.10 W., Orange County, Hydrologic Unit 18070203, on left bank 127 ft upstream from Bristol Street Bridge at Santa Ana and 1,700 ft upstream from mouth at Santa Ana River.

DRAINAGE AREA.--98.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1315-B.

REVISED RECORDS.--WSP 1635: 1934, 1935(M), 1936. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 105.00 ft, Orange County Environmental Management Agency bench mark. Prior to Sept. 8, 1969, at site 0.1 mi upstream at different datum; Sept. 9, 1969, to July 21, 1976, at site 127 ft downstream at datum 2.66 ft lower.

REMARKS.--Records poor. Flow regulated since December 1931 by Santiago Reservoir, capacity, 25,000 acre-ft; since January 1963 by Villa Park flood-control reservoir, capacity, 15,500 acre-ft, and affected by intervening gravel pits. Diversions upstream from station by Irvine Company and Serrano and Carpenter Irrigation Districts. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 9.10 ft, site and datum then in use; maximum gage height, 9.85 ft, Jan. 16, 1952, site and datum then in use; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,080 ft<sup>3</sup>/s, Feb. 19, gage height, 6.64 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	.00	e40	e21	e.00	e.00	e.00	e.00	e.00	e.00
2	e.00	e.00	e.00	11	e50	e20	e.00	e.00	e.00	e.00	e.00	e.00
3	e.00	e.00	e.00	.16	e30	e19	e.00	e.00	e.00	e.00	e.00	e.00
4	e.00	e.00	e.00	.00	e20	e18	e.00	e.00	e.00	e.00	e.00	e.00
5	e.00	e.00	e.00	.00	e4.0	e45	e.00	e.00	e7.0	e.00	e.00	e.00
6	e.00	e.00	e.00	200	1.3	e20	e.00	e.00	e.15	e.00	e.00	e.00
7	e.00	e.00	e30	151	18	e10	e.00	e.00	e.00	e.00	e.00	e.00
8	e.00	e.00	e.00	8.0	151	e6.0	e.00	e.00	e.00	e.00	e.00	e.00
9	e.00	e.00	e.00	2.3	1040	e3.5	e.00	e.00	e.00	e.00	e.00	e.00
10	e.00	e.00	e.00	6.3	855	e2.0	e.00	e.00	e.00	e.00	e.00	e.00
11	e.00	e.00	e.00	.66	578	e1.2	e.00	e.00	e.00	e.00	e.00	e.00
12	e.00	e.00	e.00	13	e450	e.70	e.00	e.00	e.00	e.00	e.00	e.00
13	e.00	e.00	e.00	22	170	e.40	e.00	e.00	e.00	e.00	e.00	e.00
14	e.00	e.00	e.00	14	116	e.20	e.00	e.00	e.00	e.00	e.00	e.00
15	e.00	e.00	e.00	139	21	e.10	e.00	e.00	e.00	e.00	e.00	e.00
16	e.00	e.00	e.00	99	76	e.00	e.00	e.00	e.00	e.00	e.00	e.00
17	e.00	e.00	e.00	1110	72	e.00	e.00	e.00	e.00	e.00	e.00	e.00
18	e.00	e.00	e.00	e1200	111	e.00	e.00	e.00	e.00	e.00	e.00	e.00
19	e.00	e.00	e.00	e1100	1350	e.00	e.00	e.00	e.00	e.00	e.00	e.00
20	e.00	e.00	e.00	e850	2060	e.00	e.00	e.00	e.00	e.00	e.00	e.00
21	e.00	e.00	e.00	e680	1830	e.00	e.00	e.00	e.00	e.00	e.00	e.00
22	e.00	e.00	e.00	e550	763	e.00	e.00	e.00	e.00	e.00	e.00	e.00
23	e.00	e.00	e.00	e450	585	e.00	e.00	e.00	e.00	e.00	e.00	e.00
24	e.00	e.00	e.00	e340	396	e.00	e.00	e.00	e.00	e.00	e.00	e.00
25	e.00	e.00	e.00	e280	e300	e3.0	e.00	e.00	e.00	e.00	e.00	e.00
26	e.00	e.00	e.00	e220	e200	e10	e.00	e.00	e.00	e.00	e.00	e.00
27	e.00	e.00	e.00	e180	e80	e4.0	e.00	e.00	e.00	e.00	e.00	e.00
28	e.00	e.00	21	e160	e50	e5.0	e.00	e.00	e.00	e.00	e.00	e.00
29	e.00	e.00	19	e100	---	e.50	e.00	e.00	e.00	e.00	e.00	e.00
30	e.00	e.00	2.4	e80	---	e.02	e.00	e.00	e.00	e.00	e.00	.00
31	e.00	---	.01	e60	---	e.00	---	e.00	---	e.00	e.00	---
TOTAL	0.00	0.00	72.41	8026.42	11417.3	189.62	0.00	0.00	7.15	0.00	0.00	0.00
MEAN	.000	.000	2.34	259	408	6.12	.000	.000	.24	.000	.000	.000
MAX	.00	.00	30	1200	2060	45	.00	.00	7.0	.00	.00	.00
MIN	.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	144	15920	22650	376	.00	.00	14	.00	.00	.00

e Estimated.

## 11077500 SANTIAGO CREEK AT SANTA ANA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.079	.37	2.20	5.64	9.28	29.7	7.56	.32	.002	.000	.000	.053
MAX	2.61	3.03	9.71	62.3	94.6	329	159	3.85	.050	.000	.000	1.20
(WY)	1935	1945	1937	1952	1937	1938	1941	1941	1941	1931	1931	1939
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1936	1952	1931	1932	1931	1931	1931	1931	1931

## SUMMARY STATISTICS

## WATER YEARS 1931 - 1963

ANNUAL MEAN	4.60
HIGHEST ANNUAL MEAN	40.0
LOWEST ANNUAL MEAN	.067
HIGHEST DAILY MEAN	2320
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	4400
INSTANTANEOUS PEAK STAGE	9.85
ANNUAL RUNOFF (AC-FT)	3330
10 PERCENT EXCEEDS	.40
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.21	1.97	2.12	13.1	40.7	20.8	.63	.058	.012	.020	.064	.12
MAX	4.29	7.80	10.1	259	616	253	4.52	1.25	.24	.58	1.60	1.59
(WY)	1984	1983	1967	1993	1969	1978	1965	1977	1993	1984	1977	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1969	1964	1972	1964	1966	1966	1964	1964	1964	1964	1964

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1964 - 1993

ANNUAL TOTAL	722.03	19712.90	
ANNUAL MEAN	1.97	54.0	6.46
HIGHEST ANNUAL MEAN			71.7
LOWEST ANNUAL MEAN			.18
HIGHEST DAILY MEAN	212	Feb 12	2060
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00
INSTANTANEOUS PEAK FLOW			3080
INSTANTANEOUS PEAK STAGE			6.64
ANNUAL RUNOFF (AC-FT)	1430	39100	4680
10 PERCENT EXCEEDS	.00	74	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

## SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA

LOCATION.--Lat 33°45'04", long 117°54'27", in NW 1/4 SE 1/4 sec.10, T.5 S., R.10 W., Orange County, Hydrologic Unit 18070203, on right bank 850 ft upstream from Fifth Street Bridge in Santa Ana and 1.6 mi downstream from Santiago Creek.

DRAINAGE AREA.--1,700 mi<sup>2</sup>, excludes 768 mi<sup>2</sup> above Lake Elsinore.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1923 to September 1989, October 1990 to current year. Discharge measurements only, October 1989 to September 1990.

REVISED RECORDS.--WSP 1635: 1940(M), 1944. WDR CA-74-1: Drainage area. WDR CA-79-1: 1978(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 70 ft, above sea level, from topographic map. Oct. 1, 1990, to Feb. 12, 1991, at site 900 ft downstream at different datum. See WDR CA-90-1 for complete history of location and datum changes.

REMARKS.--Records poor. Natural flow affected by ground-water withdrawals, diversions, importation by Metropolitan Water District, municipal use, return flow from irrigation. Since 1940, natural flow affected by Prado Flood-Control Reservoir, capacity, 196,200 acre-ft; three small flood-control reservoirs, combined capacity, 31,900 acre-ft; Big Bear Lake (station 11049000); and Santiago Reservoir, capacity, 25,000 acre-ft. Discharge up to 100 ft<sup>3</sup>/s can be diverted from Carbon Creek to Coyote Creek 1.5 mi upstream from mouth of Carbon Creek. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,300 ft<sup>3</sup>/s, Mar. 3, 1938, gage height, 10.20 ft, site and datum then in use, on basis of slope-area measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,300 ft<sup>3</sup>/s, Jan. 16, gage height, 7.88 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.3	.00	.87	587	983	125	e1.8	.09	.00	.00	.00
2	.00	1.5	.00	82	606	967	132	e1.6	.09	.00	.00	.00
3	.00	.87	.00	4.2	294	682	122	e1.7	.09	e.00	.00	.00
4	.00	.18	.00	1.3	86	653	128	e1.6	.07	e.00	.00	.00
5	.00	.00	.00	.82	126	708	78	e1.7	450	e.00	.00	.00
6	.00	.00	.00	1730	156	617	24	e1.5	86	e.00	.00	.00
7	.00	.00	2380	2860	265	600	24	e1.4	3.0	e.00	.00	.20
8	.00	.00	583	4060	3210	515	10	e1.2	1.4	e.00	.00	.18
9	.00	.00	4.2	5530	6450	177	1.2	e1.3	13	e.00	.00	.12
10	.00	.00	1.6	3910	5890	360	6.4	e1.0	27	.00	.00	.09
11	.00	.00	8.5	5220	e5100	432	47	1.5	11	.00	.00	.04
12	.00	.00	17	4880	e2250	315	47	1.1	4.4	.00	.00	.04
13	.00	.00	3.9	3960	e800	340	17	1.4	1.7	.00	.00	.10
14	.00	.00	1.7	6080	e460	317	1.6	1.3	.71	.00	.00	.17
15	.00	.00	.77	7140	e750	262	74	.86	.61	.00	.00	.11
16	.00	.00	.46	7500	e1200	123	83	.73	.92	.00	.00	.17
17	.00	.00	.40	7750	e1550	169	51	.57	.48	.00	.00	.27
18	.00	.00	3.4	e7500	e520	209	70	.77	.28	.00	.00	.28
19	.00	.00	.90	e7900	e2900	189	67	1.0	.19	.00	.00	.26
20	.00	.00	.58	6970	7960	434	19	.66	.19	.00	.00	.12
21	.00	.00	.72	6180	6710	416	30	.48	.19	.00	.00	.04
22	.00	.00	.57	5900	6270	373	51	.30	.16	.00	.00	.09
23	.06	.00	.35	5580	5800	132	5.3	.54	.15	.00	.00	.18
24	1.7	.00	.19	4210	5380	252	2.7	.68	.31	.00	.00	.17
25	.72	.00	.10	5580	5090	434	2.4	.38	.27	.00	.00	.16
26	.22	.00	.05	5110	5060	1640	1.7	.30	.22	.00	.00	.16
27	.01	.00	.33	2600	2120	1460	1.9	.21	.10	.00	.00	.18
28	.00	.00	54	461	1180	1490	1.6	.18	.01	.00	.00	.20
29	.00	.00	303	2340	---	665	e1.8	.16	.00	.00	.00	.18
30	19	.00	17	1120	---	510	e1.7	.12	.00	.00	.00	.19
31	4.9	---	1.9	668	---	251	---	.09	---	.00	.00	---
TOTAL	26.61	5.85	3384.62	122828.19	78770	16675	1227.3	28.13	602.63	0.00	0.00	3.70
MEAN	.86	.19	109	3962	2813	538	40.9	.91	20.1	.000	.000	.12
MAX	19	3.3	2380	7900	7960	1640	132	1.8	450	.00	.00	.28
MIN	.00	.00	.00	.82	86	123	1.2	.09	.00	.00	.00	.00
AC-FT	53	12	6710	243600	156200	33070	2430	56	1200	.00	.00	7.3

e Estimated.

## 11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1939, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.50	.46	5.97	5.50	106	137	29.0	.63	.000	.000	.000	.097
MAX	7.94	2.43	29.3	34.2	1028	2029	358	4.65	.000	.000	.000	1.65
(WY)	1935	1924	1939	1934	1927	1938	1926	1938	1923	1923	1923	1939
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1924	1925	1926	1926	1925	1929	1930	1925	1923	1923	1923	1923

## SUMMARY STATISTICS

## WATER YEARS 1923 - 1939

ANNUAL MEAN	23.7
HIGHEST ANNUAL MEAN	178
LOWEST ANNUAL MEAN	.000
HIGHEST DAILY MEAN	20300
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	46300
INSTANTANEOUS PEAK STAGE	10.20
ANNUAL RUNOFF (AC-FT)	17190
10 PERCENT EXCEEDS	3.6
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.70	12.3	37.6	142	241	237	62.4	17.6	8.66	.46	2.15	1.55
MAX	179	154	428	3962	3014	2342	889	613	433	22.9	102	40.6
(WY)	1984	1984	1985	1993	1980	1969	1980	1983	1983	1980	1983	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1940	1940	1940	1976	1949	1949	1949	1940	1940	1940	1940	1940

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1940 - 1993

ANNUAL TOTAL	25439.70	223552.03	
ANNUAL MEAN	69.5	612	63.0
HIGHEST ANNUAL MEAN			612
LOWEST ANNUAL MEAN			.006
HIGHEST DAILY MEAN	2850	Feb 15	7960
LOWEST DAILY MEAN	.00	Jan 9	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00
INSTANTANEOUS PEAK FLOW			13300
INSTANTANEOUS PEAK STAGE			7.88
ANNUAL RUNOFF (AC-FT)	50460	443400	45660
10 PERCENT EXCEEDS	20	2170	10
50 PERCENT EXCEEDS	.00	.40	.00
90 PERCENT EXCEEDS	.00	.00	.00

## SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-71, 1973 to current year.

WATER TEMPERATURE: Water years 1968-69, 1971, 1973-80, 1982-87.

SEDIMENT DATA: Water years 1968-71, 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1967 to September 1969, October 1970 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

SUSPENDED-SEDIMENT DISCHARGE: October 1967 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	
JAN									
06...	1245	1480	11.5	3180	12700	16	19	22	
10...	1330	3270	11.5	2320	20500	16	17	17	
12...	1515	6630	12.0	3170	56700	8	8	9	
12...	1540	6560	12.0	2000	35400	--	--	--	
16...	1345	10500	14.5	2940	83300	11	13	14	
16...	1415	11200	14.5	2830	85600	--	--	--	
FEB									
26...	1015	5130	--	1310	18100	--	--	--	
MAR									
31...	0940	359	--	150	145	--	--	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
JAN									
06...	27	31	36	39	45	79	98	100	
10...	18	21	24	29	41	81	97	100	
12...	11	13	17	22	34	65	93	100	
12...	--	--	28	--	--	--	--	--	
16...	18	22	28	38	55	86	97	100	
16...	--	--	43	--	--	--	--	--	
FEB									
26...	--	--	25	33	52	87	98	100	
MAR									
31...	--	--	60	--	--	--	--	--	

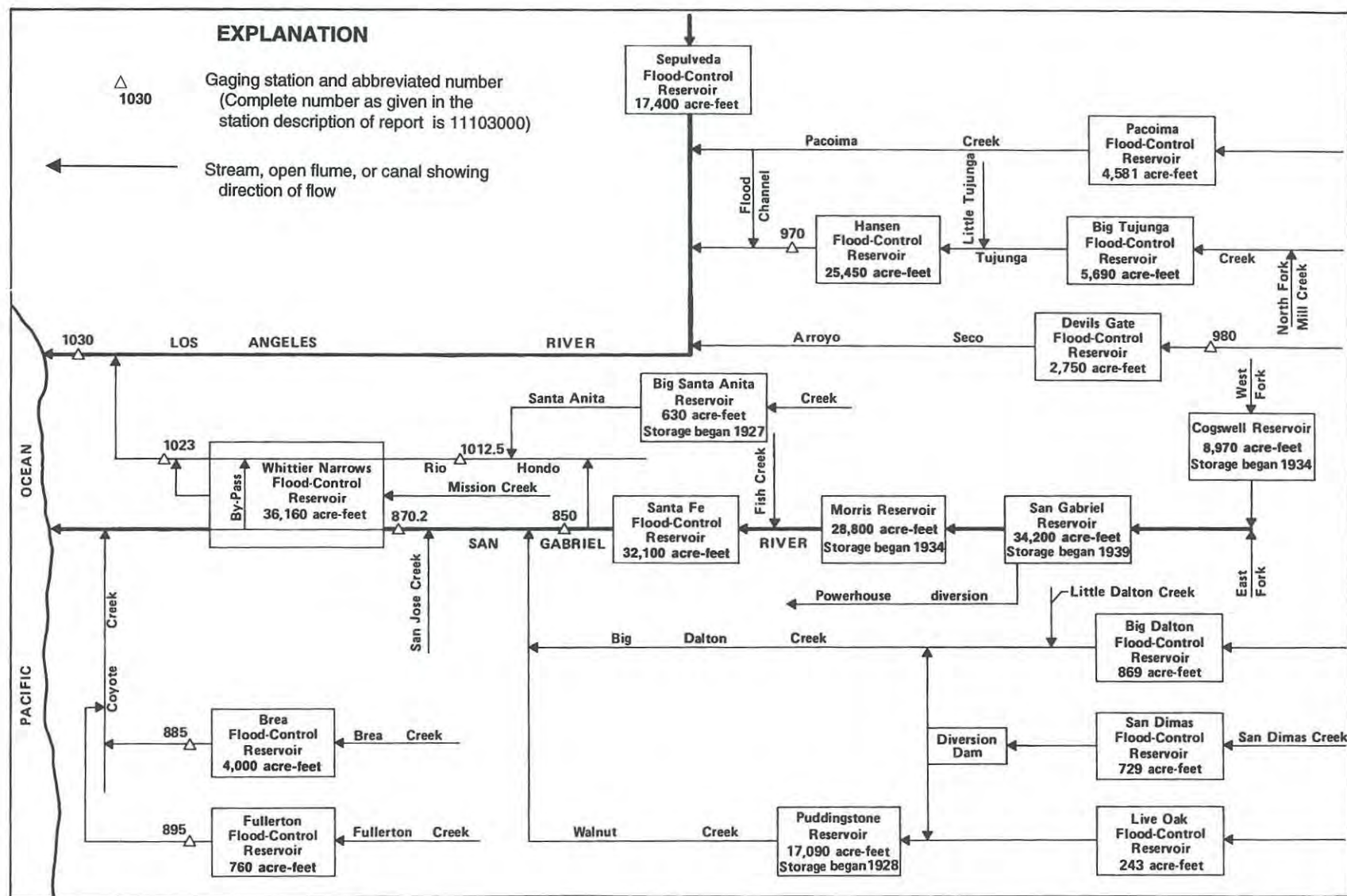


Figure 20. Diversions and storage in San Gabriel and Los Angeles River basins.

## SAN GABRIEL RIVER BASIN

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA

LOCATION.--Lat 34°06'44", long 117°58'07", in NE 1/4 SW 1/4 sec.6, T.1 S., R.10 W., Los Angeles County, Hydrologic Unit 18070106, on left bank at stilling basin of outlet of Santa Fe Flood-Control Dam, 500 ft downstream from axis of dam, and 1.7 mi north of Baldwin Park.

DRAINAGE AREA.--236 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WSP 1315-B and 1635: 1943(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair. Flow regulated by Cogswell and San Gabriel Flood-Control Reservoirs, combined capacity, 43,170 acre-ft; Morris Reservoir, capacity, 28,800 acre-ft; and Santa Fe Flood-Control Reservoir, capacity, 32,100 acre-ft. Diversions upstream from station for irrigation, power development, and ground-water replenishment. At times water is diverted from side of stilling basin to headwaters of Rio Hondo; 30,370 acre-ft were diverted during the current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion to Rio Hondo provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,900 ft<sup>3</sup>/s, Jan. 26, 1969, gage height, 22.20 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,800 ft<sup>3</sup>/s, Feb. 19, gage height, 18.36 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	548	47	287	107	2570	91	67	.00	28	9.1	7.7
2	.00	537	132	239	101	93	167	67	.00	30	9.1	7.6
3	.00	524	153	49	101	653	204	67	.00	11	9.1	6.5
4	.00	522	159	6.0	101	1330	209	67	.00	.00	9.1	4.9
5	.00	595	147	22	101	636	213	67	.00	.00	9.1	1.3
6	.00	827	127	88	101	383	215	64	.00	.00	9.1	.00
7	.00	510	134	102	101	387	153	64	.00	6.4	9.1	.00
8	.00	438	165	113	127	397	81	64	.53	15	9.1	.00
9	.00	427	276	111	1010	408	78	64	1.7	18	5.0	.00
10	.00	414	452	412	2630	262	78	77	2.0	19	.00	.00
11	.00	378	468	666	2400	146	75	84	2.1	20	.00	.00
12	.00	175	460	285	1190	57	61	84	2.3	20	.00	.00
13	5.4	.03	451	135	705	44	40	84	4.5	19	.00	.00
14	3.2	.02	365	9070	716	44	40	94	9.9	19	.00	.00
15	.00	.00	311	9210	2130	44	40	105	18	19	.00	.00
16	.00	.00	311	6300	6510	60	40	105	26	19	.00	.00
17	.00	.00	311	4920	8010	69	40	104	26	19	.00	.00
18	.00	.00	311	9860	2200	69	40	100	26	19	.00	.00
19	.03	.00	311	6730	8630	69	40	93	26	19	.00	.00
20	.01	.00	311	4670	5700	69	68	87	26	19	.00	.00
21	.00	.00	311	3450	5610	69	77	84	26	19	.00	.00
22	.00	.00	303	2560	5320	67	72	84	26	12	.00	.00
23	.00	.00	303	2310	3550	67	72	81	26	11	.00	.00
24	.00	.00	294	2220	1580	105	71	30	26	11	.00	.00
25	.00	.00	282	1210	2480	535	69	.13	26	11	.00	.00
26	.00	.00	281	88	3120	1410	69	.04	26	11	.00	.00
27	110	.00	282	57	1090	1630	67	.03	27	11	.00	.00
28	437	.00	288	119	1580	1300	67	.02	27	9.1	.00	.00
29	488	.00	308	95	---	543	67	.02	e27	9.1	.00	.00
30	688	.00	327	92	---	72	67	.02	e27	9.1	.20	.00
31	581	---	322	106	---	72	---	.01	---	9.1	6.6	---
TOTAL	2312.64	5895.05	8703	65582.0	67001	13660	2671	1887.27	435.03	442.80	84.60	28.00
MEAN	74.6	197	281	2116	2393	441	89.0	60.9	14.5	14.3	2.73	.93
MAX	688	827	468	9860	8630	2570	215	105	27	30	9.1	7.7
MIN	.00	.00	47	6.0	101	44	40	.01	.00	.00	.00	.00
AC-FT	4590	11690	17260	130100	132900	27090	5300	3740	863	878	168	56

e Estimated.

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.84	19.4	33.0	145	247	204	66.2	54.7	26.1	6.36	5.95	11.0
MAX	74.6	577	514	2151	3259	2465	616	480	414	170	121	206
(WY)	1993	1966	1947	1969	1969	1978	1978	1958	1958	1962	1962	1946
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1943	1943	1943	1945	1947	1947	1945	1945	1945	1943	1943	1943

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1943 - 1993	
ANNUAL TOTAL	39700.25		168702.39			
ANNUAL MEAN	108		462		67.5	
HIGHEST ANNUAL MEAN					540	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1790	Feb 14	9860	Jan 18	26000	Jan 26 1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1942
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 26	.00	Oct 1	.00	Oct 1 1942
INSTANTANEOUS PEAK FLOW			14800	Feb 19	30900	Jan 26 1969
INSTANTANEOUS PEAK STAGE			18.36	Feb 19	22.20	Jan 26 1969
ANNUAL RUNOFF (AC-FT)	78750		334600		48920	
10 PERCENT EXCEEDS	348		760		74	
50 PERCENT EXCEEDS	1.3		40		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## SAN GABRIEL RIVER BASIN

11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°02'03", long 118°02'14", in La Puente Grant, Los Angeles County, Hydrologic Unit 18070106, at Peck Road 0.8 mi downstream from San Jose Flood Channel, 1.2 mi upstream from axis of Whittier Narrows Dam, and 1.8 mi south of El Monte.

DRAINAGE AREA.--442 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1957, October 1963 to current year.

REVISED RECORDS.--WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good except discharges below 200 ft<sup>3</sup>/s, which are fair. Flow regulated by several reservoirs, combined capacity, 123,000 acre-ft. Many diversions upstream from station for irrigation, power development, and ground-water replenishment. Colorado River water released to the San Gabriel River at a site 14.9 mi upstream from gage, at Metropolitan Water District aqueduct crossing on San Dimas Creek for ground-water replenishment. Los Angeles County Department of Public Works diverted 30,370 acre-ft from San Gabriel River below Santa Fe Dam to Rio Hondo during the current year. See schematic diagram of San Gabriel and Los Angeles River basins. Satellite telemark at station.

COOPERATION.--Records of diversion to Rio Hondo provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft<sup>3</sup>/s, Jan. 25, 1969, from rating curve extended above 29,000 ft<sup>3</sup>/s, gage height, 10.90 ft; no flow for part of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,000 ft<sup>3</sup>/s, Jan. 18, gage height, 10.01 ft; minimum daily, 3.7 ft<sup>3</sup>/s, Dec. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	6.3	260	51	182	3330	118	54	18	5.1	60	65
2	25	5.0	226	644	167	251	159	57	59	5.0	61	75
3	57	17	10	56	171	571	194	87	93	4.7	60	68
4	49	5.0	19	47	151	1380	200	52	85	4.7	55	63
5	50	15	7.0	46	139	652	199	53	1500	7.7	59	64
6	49	42	6.6	6020	129	403	177	49	30	7.5	31	59
7	93	45	7040	9900	1280	405	158	48	19	7.0	32	72
8	52	46	33	1590	4520	396	81	48	13	8.2	45	65
9	51	45	3.7	929	2120	375	77	50	16	7.0	57	54
10	52	44	7.5	838	3650	298	69	48	67	15	52	47
11	45	40	78	751	3440	196	68	57	105	12	50	52
12	56	90	48	1720	1420	115	65	79	94	12	69	56
13	55	147	46	3060	382	92	40	52	96	20	48	47
14	84	148	75	13400	1050	94	37	64	77	49	45	53
15	54	144	111	15000	1960	82	34	76	54	67	51	55
16	59	112	96	11800	8500	91	31	82	47	66	60	57
17	69	81	281	10500	10400	104	29	80	43	62	47	66
18	66	144	144	16300	8340	109	27	81	43	60	63	44
19	45	154	118	9910	14900	123	74	92	45	60	75	52
20	30	142	112	7040	10600	134	24	75	26	52	72	46
21	60	206	123	5280	8740	126	70	89	33	61	69	51
22	61	232	148	3950	8090	120	56	89	44	63	72	71
23	106	190	148	3610	6770	103	62	81	52	55	64	80
24	196	168	121	3110	2890	115	84	64	51	46	66	85
25	64	119	122	2070	4290	1100	71	30	49	55	67	68
26	60	162	120	216	5920	2740	85	27	45	60	66	44
27	47	232	218	57	3330	1600	81	17	51	71	68	92
28	45	233	750	181	3900	1480	65	16	52	63	69	85
29	90	229	2470	175	---	624	61	16	54	60	67	82
30	1540	238	245	151	---	101	56	19	34	64	70	80
31	63	---	16	233	---	111	---	17	---	60	59	---
TOTAL	3410	3481.3	13202.8	128635	117431	17421	2552	1749	2995	1189.9	1829	1898
MEAN	110	116	426	4150	4194	562	85.1	56.4	99.8	38.4	59.0	63.3
MAX	1540	238	7040	16300	14900	3330	200	92	1500	71	75	92
MIN	25	5.0	3.7	46	129	82	24	16	13	4.7	31	44
AC-FT	6760	6910	26190	255100	232900	34550	5060	3470	5940	2360	3630	3760

## SAN GABRIEL RIVER BASIN

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11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	88.4	153	161	388	603	398	117	90.0	61.6	56.8	56.1	78.2
MAX	208	782	426	4150	4497	3796	590	274	254	230	208	205
(WY)	1979	1966	1993	1993	1980	1978	1978	1983	1976	1973	1973	1978
MIN	.000	.000	9.84	19.0	.000	.000	.47	.14	.000	.000	.000	.000
(WY)	1956	1978	1977	1968	1956	1956	1956	1957	1956	1956	1956	1957

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1956 - 1993		
ANNUAL TOTAL	59804.49			295794.0					
ANNUAL MEAN	163			810			185		
HIGHEST ANNUAL MEAN							810		
LOWEST ANNUAL MEAN							24.4		
HIGHEST DAILY MEAN	7040			Dec 7			24800		
LOWEST DAILY MEAN	.00			Jan 1			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			Jan 10			.00		
INSTANTANEOUS PEAK FLOW				34000			46600		
INSTANTANEOUS PEAK STAGE				10.01			10.90		
ANNUAL RUNOFF (AC-FT)	118600			586700			134400		
10 PERCENT EXCEEDS	210			2000			212		
50 PERCENT EXCEEDS	32			69			66		
90 PERCENT EXCEEDS	.00			26			.00		

11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA

LOCATION.--Lat 33°53'16", long 117°55'32", in NE 1/4 NE 1/4 sec.28, T.3 S., R.10 W., Orange County, Hydrologic Unit 18070106, on right bank 0.2 mi downstream from Brea Dam and 1 mi north of Fullerton.

DRAINAGE AREA.--21.6 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1942 to current year.

REVISED RECORDS.--WSP 1041: 1944(M). WSP 1635: 1956, 1958. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 200 ft above sea level, from topographic map. Prior to Dec. 4, 1964, at datum 1.03 ft higher.

REMARKS.--No estimated daily discharges. Records poor except for discharges above 100 ft<sup>3</sup>/s, which are fair. Flow regulated by Brea Flood-Control Reservoir, capacity, 4,000 acre-ft. No diversion upstream from station. Since August 1966 low flow mostly the result of irrigation wastewater from golf course 0.8 mi upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,700 ft<sup>3</sup>/s, Feb. 18, 1980; no flow for parts of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft<sup>3</sup>/s, Dec. 7, gage height, 5.18 ft; minimum daily, 0.01 ft<sup>3</sup>/s, Dec. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.5	2.4	.49	3.0	13	6.4	3.5	.94	2.4	1.7	1.2
2	1.5	2.1	2.4	16	4.1	12	6.0	3.4	1.2	2.5	1.9	1.4
3	1.5	1.9	2.3	1.0	3.1	9.8	5.7	3.6	1.3	2.5	1.3	1.2
4	2.4	1.7	5.1	.40	3.7	8.9	5.5	3.2	1.4	2.6	1.1	1.3
5	2.1	2.5	3.0	1.0	1.9	8.7	5.3	3.2	82	2.5	1.1	1.1
6	1.8	2.7	183	401	1.7	8.6	6.0	4.6	10	2.1	1.1	1.2
7	1.5	2.4	290	582	54	8.6	5.5	3.5	3.9	3.1	1.4	1.3
8	1.8	1.9	19	129	344	8.2	5.6	3.1	4.1	2.1	.99	1.3
9	1.5	2.5	8.8	44	81	7.4	6.2	2.5	3.1	2.6	1.1	1.4
10	1.9	2.1	3.6	88	29	6.9	5.0	2.5	2.1	2.0	.93	1.3
11	1.7	1.9	6.4	46	16	6.7	4.9	2.3	2.1	2.0	1.1	1.1
12	3.1	1.8	1.7	80	14	6.9	4.8	1.7	1.6	2.0	1.1	1.1
13	1.5	1.6	1.3	132	13	7.4	5.1	2.1	1.5	1.9	.98	.91
14	1.7	1.5	.52	124	17	7.0	4.8	3.4	1.7	1.8	1.2	1.5
15	1.8	1.4	.08	272	13	6.0	5.0	3.6	1.4	1.9	1.1	1.3
16	1.3	1.3	.01	251	9.2	6.0	5.0	3.6	1.2	2.0	1.3	1.6
17	1.5	1.4	2.3	159	7.9	5.8	5.4	4.3	.88	1.9	1.5	1.8
18	1.6	1.3	.65	425	248	5.7	5.3	4.2	.78	1.7	1.3	2.0
19	2.9	1.6	.29	82	427	5.5	4.8	4.5	.83	1.8	1.5	1.9
20	1.6	1.2	.11	30	216	5.3	4.2	2.6	.75	1.6	1.8	2.3
21	2.0	1.4	.41	15	41	5.6	4.2	1.9	.93	1.5	1.4	2.1
22	1.7	1.3	.37	15	26	6.3	4.1	2.6	.87	1.5	1.1	2.0
23	1.9	1.1	.23	12	129	6.3	3.8	3.0	2.6	1.8	1.2	1.7
24	6.1	1.4	.17	11	43	6.5	4.0	2.4	3.0	1.8	1.1	1.8
25	1.5	1.4	.25	10	20	42	3.9	1.1	2.9	2.0	1.5	1.6
26	1.4	1.7	.10	9.4	83	105	3.9	1.4	2.4	2.1	1.2	1.8
27	1.4	2.1	22	11	20	12	3.6	1.3	2.1	2.0	1.9	1.6
28	1.3	2.1	2.9	6.4	15	43	3.3	.94	2.1	2.1	1.8	2.5
29	3.0	2.6	160	5.4	---	10	3.5	.58	2.1	1.9	2.4	2.0
30	56	2.6	25	5.3	---	7.5	3.6	.60	3.8	1.5	1.9	2.1
31	5.7	---	13	6.6	---	6.4	---	.80	---	1.5	1.3	---
TOTAL	118.5	55.0	757.39	2970.99	1883.6	405.0	144.4	82.02	145.58	62.7	42.30	47.41
MEAN	3.82	1.83	24.4	95.8	67.3	13.1	4.81	2.65	4.85	2.02	1.36	1.58
MAX	56	2.7	290	582	427	105	6.4	4.6	82	3.1	2.4	2.5
MIN	1.3	1.1	.01	.40	1.7	5.3	3.3	.58	.75	1.5	.93	.91
AC-FT	235	109	1500	5890	3740	803	286	163	289	124	84	94

## 11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.97	2.96	4.13	8.60	12.6	8.82	2.77	.72	.48	.41	.54	.75
MAX	15.3	31.6	26.6	95.8	165	79.9	50.3	4.49	4.85	2.67	4.68	7.02
(WY)	1984	1984	1989	1993	1980	1978	1983	1977	1993	1991	1983	1986
MIN	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1943	1943	1951	1951	1951	1951	1950	1942	1942	1942	1942	1942

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1942 - 1993			
ANNUAL TOTAL	4223.28				6714.89							
ANNUAL MEAN	11.5				18.4				3.61			
HIGHEST ANNUAL MEAN									20.9			
LOWEST ANNUAL MEAN									.001			
HIGHEST DAILY MEAN	366				582				1700			
LOWEST DAILY MEAN	.01				.01				.00			
ANNUAL SEVEN-DAY MINIMUM	.23				.23				.00			
INSTANTANEOUS PEAK FLOW					1100				a			
INSTANTANEOUS PEAK STAGE					5.18				a			
ANNUAL RUNOFF (AC-FT)	8380				13320				2610			
10 PERCENT EXCEEDS	15				23				2.7			
50 PERCENT EXCEEDS	2.5				2.3				.20			
90 PERCENT EXCEEDS	1.3				1.1				.00			

a Instantaneous peak discharge and stage for period of record are unknown, but probably occurred on February 18, 1980.

## SAN GABRIEL RIVER BASIN

11089500 FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CA

LOCATION.--Lat 33°53'45", long 117°53'07", in NW 1/4 SW 1/4 sec.24, T.3 S., R.10 W., Orange County, Hydrologic Unit 18070106, on left bank of outlet channel of Fullerton Dam and 1.6 mi southeast of Brea.

DRAINAGE AREA.--4.94 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1245: 1950(M). WSP 1928: Drainage area. WDR CA-82-1: 1981.

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above sea level, from topographic map. V-notch sharp-crested weir used Oct. 25, 1946, to Feb. 2, 1956. Prior to Dec. 3, 1971, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Fullerton flood-control reservoir, capacity, 760 acre-ft (resurvey of 1970). Small tributary formerly entering below station diverted into reservoir since December 1954. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 392 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 8.25 ft, present datum; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 369 ft<sup>3</sup>/s, Dec. 7, gage height, 8.21 ft; minimum daily, 0.21 ft<sup>3</sup>/s, Nov. 4,5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	6.9	.36	.40	.43	.86	.53	.59	.45	.39	.46	.42
2	.32	.29	.36	16	1.1	.81	.51	.51	.37	.37	.43	.37
3	.32	.23	.54	.57	.60	.81	.51	.52	.44	.40	.39	.35
4	.31	.21	.91	.43	.58	.81	.51	.49	.42	.37	.39	.35
5	.38	.21	.44	.43	.51	.70	.51	.45	32	.39	.42	.35
6	.40	1.4	.48	116	.51	.70	.66	.45	.68	.40	.39	.37
7	.35	.31	210	187	26	.70	.51	.45	.46	.38	.38	.36
8	.38	.30	2.5	41	111	.70	.56	.45	.44	.39	.34	.32
9	.35	.35	.65	3.5	28	.70	.51	.43	.39	.37	.34	.30
10	.34	.36	.71	27	.82	.70	.51	.43	.39	.37	.37	.30
11	.32	.32	2.3	3.0	.64	.70	.51	.46	.37	.35	.40	.33
12	.36	.38	.46	26	.58	.67	.51	.41	.43	.37	.38	.35
13	.42	.33	.37	54	.51	.60	.48	.41	.42	.43	.33	.35
14	.36	.35	.39	40	1.2	.60	.43	.40	.44	.37	.36	.37
15	.37	.31	.36	126	.63	.60	.51	.42	.41	.36	.36	.37
16	.35	.36	.36	74	.71	.71	.48	.44	.38	.36	.40	.36
17	.37	.44	2.6	55	1.1	.67	.45	.47	.40	.35	.41	.33
18	.30	.42	2.3	88	63	.70	.44	.46	.37	.34	.41	.38
19	.35	.44	.31	1.6	98	.67	.45	.41	.41	.38	.37	.37
20	.38	.38	.30	.98	50	.60	.46	.43	.37	.42	.30	.40
21	.69	.33	.35	.79	1.1	.60	.43	.41	.43	.38	.30	.41
22	.42	.36	.30	.70	.94	.63	.49	.41	.63	.42	.30	.36
23	.49	.40	.30	.62	30	.68	.52	.39	.52	.38	.32	.36
24	.66	.39	.32	.58	7.0	.72	.48	.40	.57	.41	.35	.35
25	.43	.35	.33	.51	.94	23	.51	.42	.54	.39	.30	.36
26	.37	.31	.35	.51	30	41	.54	.37	.45	.45	.30	.32
27	.39	.34	3.9	.51	1.2	1.1	.61	.47	.37	.47	.30	.35
28	.36	.44	13	.57	1.2	17	.59	.39	.40	.51	.32	.33
29	.43	.27	59	.51	---	.66	.61	.39	.42	.52	.31	.32
30	4.8	.31	3.7	.51	---	.60	.63	.37	.43	.50	.33	.35
31	5.9	---	.50	.66	---	.59	---	.51	---	.54	.34	---
TOTAL	22.00	17.79	308.75	867.38	458.30	100.59	15.45	13.61	44.80	12.53	11.10	10.61
MEAN	.71	.59	9.96	28.0	16.4	3.24	.51	.44	1.49	.40	.36	.35
MAX	5.9	6.9	210	187	111	41	.66	.59	32	.54	.46	.42
MIN	.30	.21	.30	.40	.43	.59	.43	.37	.37	.34	.30	.30
AC-FT	44	35	612	1720	909	200	31	27	89	25	22	21

## 11089500 FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.030	.034	.99	.41	.75	.058	.000	.002	.001	.000	.000
MAX	.000	.31	.19	6.62	3.34	4.60	.36	.003	.020	.016	.000	.000
(WY)	1942	1945	1946	1952	1944	1943	1952	1945	1942	1942	1942	1942
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1942	1942	1942	1942	1942	1942	1943	1943	1942	1942

## SUMMARY STATISTICS

## WATER YEARS 1942 - 1954

ANNUAL MEAN	.19	
HIGHEST ANNUAL MEAN	.92	1952
LOWEST ANNUAL MEAN	.000	1948
HIGHEST DAILY MEAN	79	Jan 19 1952
LOWEST DAILY MEAN	.00	Oct 1 1941
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1941
INSTANTANEOUS PEAK FLOW	298	Mar 16 1943
INSTANTANEOUS PEAK STAGE	3.80	Mar 16 1943
ANNUAL RUNOFF (AC-FT)	137	
10 PERCENT EXCEEDS	.00	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	1.08	1.86	3.75	4.45	3.10	.89	.37	.30	.29	.35	.44
MAX	5.31	5.76	9.96	28.0	25.0	18.6	6.28	1.92	1.49	1.01	1.72	2.53
(WY)	1984	1986	1993	1993	1980	1983	1958	1977	1993	1991	1977	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1955	1955	1963	1964	1966	1955	1961	1955	1955	1955	1955

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1955 - 1993

ANNUAL TOTAL	1315.30	1882.91	
ANNUAL MEAN	3.59	5.16	1.44
HIGHEST ANNUAL MEAN			5.16
LOWEST ANNUAL MEAN			.028
HIGHEST DAILY MEAN	210	Dec 7	210
LOWEST DAILY MEAN	.21	Nov 4	.21
ANNUAL SEVEN-DAY MINIMUM	.30	Jun 13	.31
INSTANTANEOUS PEAK FLOW			369
INSTANTANEOUS PEAK STAGE			8.21
ANNUAL RUNOFF (AC-FT)	2610	3730	1040
10 PERCENT EXCEEDS	2.1	2.5	.97
50 PERCENT EXCEEDS	.36	.43	.19
90 PERCENT EXCEEDS	.30	.33	.00

## 11097000 BIG TUJUNGA CREEK BELOW HANSEN DAM, CA

LOCATION.--Lat 34°15'13", long 118°23'17", in Mission San Fernando Grant, Los Angeles County, Hydrologic Unit 18070105, in city of Los Angeles, on left bank of outlet channel 0.5 mi downstream from Hansen Dam, 0.1 mi upstream from Glen Oaks Boulevard, and 3 mi southeast of San Fernando.

DRAINAGE AREA.--153 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1932 to February 1938, August 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1975, published as Tujunga Creek below Hansen Dam.

REVISED RECORDS.--WDR CA-84-1: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 943.32 ft above sea level (U.S. Army Corps of Engineers benchmark). See WSP 1735 for history of changes prior to Oct. 1, 1953.

REMARKS.--No estimated daily discharges. Records poor. Flow regulated since July 1931 by Big Tujunga Flood-Control Reservoir, capacity, 5,690 acre-ft, and since September 1940 by Hansen Flood-Control Reservoir, capacity, 25,450 acre-ft. Several small diversions for domestic use and irrigation. Since about 1948, Los Angeles County Department of Public Works has diverted water 0.3 mi upstream from gage to spreading grounds, as shown in footnote below table. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft<sup>3</sup>/s, Feb. 10, 1978, Mar. 2, 1983; maximum gage height, 7.64 ft, Mar. 2, 1983; no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 54,000 ft<sup>3</sup>/s, estimated, Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,600 ft<sup>3</sup>/s, Feb. 19, gage height, 4.75 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	24	.49	54	47	1410	118	222	94	23	.00	.50
2	9.7	18	.12	49	44	1140	200	243	91	2.0	.00	.50
3	9.7	16	.00	41	41	817	200	284	91	.50	.00	.50
4	9.7	25	.00	39	41	696	194	303	91	.50	.00	.50
5	8.6	30	.00	35	96	543	216	310	179	.50	.00	.50
6	8.0	29	.00	10	130	177	226	314	114	1.7	.00	.50
7	8.3	26	75	615	595	429	225	272	45	.50	.00	.50
8	9.5	20	1.3	1020	1710	489	232	159	.50	.50	.00	22
9	10	17	.00	911	2310	176	255	155	.26	.50	.00	33
10	12	16	.00	397	1360	254	264	160	.00	.50	.00	33
11	12	16	.00	114	818	275	256	159	.00	.50	18	32
12	11	16	.00	186	731	321	246	157	.00	.50	24	35
13	12	16	.00	830	753	302	240	71	.00	2.8	24	37
14	13	16	.00	1800	757	289	226	9.7	41	4.7	24	29
15	12	16	.00	1680	744	269	231	9.7	83	32	24	31
16	12	16	.00	1680	722	231	235	9.7	77	42	24	32
17	12	16	.09	1770	819	196	235	9.7	76	38	24	33
18	12	16	.00	3400	1270	153	235	9.7	73	35	25	32
19	12	16	.00	2230	3760	163	235	9.7	72	38	26	32
20	13	16	.00	1070	3150	164	235	90	68	39	26	32
21	15	16	.00	1130	1520	166	225	141	58	36	26	33
22	14	16	.00	1060	1860	70	228	143	34	38	26	33
23	15	12	.00	942	2870	3.6	243	143	37	41	26	33
24	19	6.1	.00	692	2470	3.4	237	138	32	41	29	31
25	15	5.4	.00	554	1690	124	206	116	21	41	13	30
26	12	4.6	.00	216	1240	330	207	116	23	36	.50	28
27	12	3.8	.00	194	1260	3.4	181	103	22	21	.50	27
28	12	3.4	.00	110	1300	28	189	106	28	.00	.50	28
29	12	2.5	48	67	---	5.7	210	107	50	.00	.50	11
30	82	.50	24	57	---	226	197	110	57	.00	.50	.00
31	43	---	91	50	---	1.9	---	106	---	.00	.50	---
TOTAL	467.2	451.30	240.00	23003	34108	9456.0	6627	4286.2	1557.76	516.70	362.00	670.50
MEAN	15.1	15.0	7.74	742	1218	305	221	138	51.9	16.7	11.7	22.3
MAX	82	30	91	3400	3760	1410	264	314	179	42	29	37
MIN	8.0	.50	.00	10	41	1.9	118	9.7	.00	.00	.00	.00
AC-FT	927	895	476	45630	67650	18760	13140	8500	3090	1020	718	1330
a	927	1076	2856	48710	68475	28640	18010	11780	5360	2470	1585	1735

a Combined discharge, in acre-feet, of creek and diversion.

## 11097000 BIG TUJUNGA CREEK BELOW HANSEN DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.45	8.07	3.44	39.9	95.8	80.8	27.0	15.9	5.30	1.55	1.01	2.90
MAX	32.2	153	65.3	742	1218	1387	252	285	64.6	26.8	18.4	41.4
(WY)	1984	1984	1984	1993	1993	1983	1983	1983	1978	1979	1979	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1948	1948	1950	1949	1949	1950	1950	1949	1948	1948	1948	1948

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1948 - 1993			
ANNUAL TOTAL	25955.64				81745.66							
ANNUAL MEAN	70.9				224				23.3			
HIGHEST ANNUAL MEAN									224			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	3350				Feb 11				11400			
LOWEST DAILY MEAN	.00				Jan 1				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				Jan 7				.00			
INSTANTANEOUS PEAK FLOW					5600				Feb 19			
INSTANTANEOUS PEAK STAGE					4.75				Feb 19			
ANNUAL RUNOFF (AC-FT)	51480				162100				16870			
10 PERCENT EXCEEDS	109				726				8.7			
50 PERCENT EXCEEDS	12				32				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 11098000 ARROYO SECO NEAR PASADENA, CA

LOCATION.--Lat 34°13'20", Long 118°10'36", in NW 1/4 NE 1/4 sec.31, T.2 N., R.12 W., Los Angeles County, Hydrologic Unit 18070105, on right bank 0.7 mi east of Angeles Crest Highway, 1.5 mi upstream from Millard Canyon, and 5.5 mi northwest of Pasadena.

DRAINAGE AREA.--16.0 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1910 to January 1913 (fragmentary), April 1913 to November 1915, April 1916 to current year.

REVISED RECORDS.--WSP 1315-B: 1914(M), 1918(M), 1920-21(M). WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Broad-crested weir since November 1938. Datum of gage is 1,397.88 ft above sea level. Prior to Oct. 1, 1916, nonrecording gage at different datum. Oct. 1, 1916, to Oct. 19, 1945, water-stage recorder at datum 4.00 ft lower.

REMARKS.--Records good except those for estimated daily discharges and discharges below 1 ft<sup>3</sup>/s, which are fair. No regulation or diversion upstream from station. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,620 ft<sup>3</sup>/s, Mar. 2, 1938, gage height, 9.42 ft, present datum, on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0900	224	3.06	Jan. 17	1700	*1,710	*5.25
Dec. 29	1045	329	3.33	Feb. 8	1600	569	3.76
Jan. 7	2145	1,490	5.02	Feb. 18	2230	1,680	5.22
Jan. 13	1630	1,180	4.65	Feb. 23	1330	705	3.98

Minimum daily, .68 ft<sup>3</sup>/s, Oct. 7

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	3.7	1.9	17	46	161	46	19	11	5.5	5.8	2.2
2	.87	2.8	1.9	19	42	143	43	19	11	5.8	5.5	2.4
3	.90	2.4	1.9	14	39	130	40	20	11	6.5	5.7	2.2
4	.80	2.0	2.0	11	36	117	37	20	11	7.0	5.6	1.9
5	.75	2.1	2.0	10	33	105	36	18	40	7.4	5.5	1.9
6	.72	2.0	2.1	56	31	96	35	18	16	6.8	5.3	2.1
7	.68	1.9	83	471	38	89	33	18	13	6.2	5.2	2.6
8	.69	2.0	20	256	272	83	31	17	12	6.0	4.8	2.4
9	.74	1.9	8.2	99	163	78	29	16	11	5.9	4.2	2.3
10	.75	1.9	5.7	72	114	74	29	15	9.9	5.8	4.3	2.3
11	.77	2.0	4.8	52	88	71	27	16	9.6	6.1	4.3	2.3
12	.78	1.9	4.6	61	79	67	27	16	9.6	5.1	4.2	2.5
13	.86	1.8	4.4	550	73	64	26	15	9.7	5.2	4.4	2.8
14	.91	1.9	4.3	458	74	62	25	14	9.3	5.2	4.7	2.9
15	.91	1.9	4.2	260	70	58	24	16	8.8	5.2	4.7	3.0
16	.89	2.0	4.1	255	65	55	24	17	8.6	5.4	4.5	3.3
17	.88	2.0	4.5	622	61	52	24	14	8.5	4.9	4.5	3.4
18	1.0	2.0	9.9	693	390	49	23	13	8.1	5.0	4.1	3.4
19	1.1	2.1	5.6	363	879	45	22	13	7.9	5.1	4.5	3.2
20	1.2	2.0	4.8	257	500	42	22	13	7.9	5.0	4.4	3.1
21	1.2	2.0	4.6	204	337	38	22	13	8.4	5.2	4.2	3.2
22	1.1	2.0	4.4	150	262	36	22	13	7.9	5.5	4.1	3.3
23	1.1	2.0	4.2	120	430	34	22	13	7.6	5.6	3.5	3.2
24	1.5	2.0	3.9	96	326	33	22	13	6.8	5.9	3.1	2.9
25	1.6	2.0	3.8	83	263	e30	22	13	6.8	6.0	2.9	2.6
26	1.7	1.9	3.7	76	232	e99	22	13	6.4	6.8	2.7	2.5
27	1.6	1.9	3.7	69	208	69	21	12	6.8	7.1	3.0	1.7
28	1.6	1.9	7.6	62	183	72	21	12	6.6	7.0	2.9	1.7
29	1.6	1.9	133	58	---	60	21	12	6.8	6.8	2.9	1.7
30	50	1.8	71	54	---	54	20	12	5.9	6.4	2.8	1.9
31	11	---	27	51	---	50	---	11	---	6.1	2.5	---
TOTAL	90.96	61.7	446.8	5619	5334	2216	818	464	303.9	183.5	130.8	76.9
MEAN	2.93	2.06	14.4	181	190	71.5	27.3	15.0	10.1	5.92	4.22	2.56
MAX	50	3.7	133	693	879	161	46	20	40	7.4	5.8	3.4
MIN	.68	1.8	1.9	10	31	30	20	11	5.9	4.9	2.5	1.7
AC-FT	180	122	886	11150	10580	4400	1620	920	603	364	259	153

e Estimated.

11098000 ARROYO SECO NEAR PASADENA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.16	4.00	9.09	18.5	33.1	28.3	14.2	6.58	3.35	1.65	1.00	1.04
MAX	8.54	97.4	132	251	344	235	91.5	48.0	19.2	10.7	7.70	8.26
(WY)	1984	1966	1922	1969	1914	1938	1941	1983	1983	1969	1983	1976
MIN	.000	.060	.12	.58	.93	1.16	.69	.50	.35	.042	.000	.000
(WY)	1927	1934	1991	1991	1924	1961	1961	1961	1961	1960	1925	1925

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1911 - 1993	
ANNUAL TOTAL	7487.31		15745.56		10.1	
ANNUAL MEAN	20.5		43.1		57.8	
HIGHEST ANNUAL MEAN					1969	
LOWEST ANNUAL MEAN					1951	
HIGHEST DAILY MEAN	736	Feb 11	879	Feb 19	3690	Feb 20 1914
LOWEST DAILY MEAN	.68	Oct 7	.68	Oct 7	.00	Aug 18 1920
ANNUAL SEVEN-DAY MINIMUM	.73	Oct 5	.73	Oct 5	.00	Aug 18 1920
INSTANTANEOUS PEAK FLOW					8620	Mar 2 1938
INSTANTANEOUS PEAK STAGE					9.42	Mar 2 1938
ANNUAL RUNOFF (AC-FT)	14850		31230		7290	
10 PERCENT EXCEEDS	55		96		16	
50 PERCENT EXCEEDS	4.3		7.6		1.8	
90 PERCENT EXCEEDS	.97		1.9		.20	

## 11101250 RIO HONDO ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°03'30", long 118°04'15", in Potrero Grande Grant, Los Angeles County, Hydrologic Unit 18070105, on right bank 0.3 mi downstream from Garvey Avenue, 0.4 mi downstream from Rubio Wash, 2.8 mi upstream from axis of Whittier Narrows Dam, and 2.2 mi west of El Monte.

DRAINAGE AREA.--91.2 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1956 to current year.

GAGE.--Water-stage recorder. Concrete trapezoidal channel. Datum of gage is 217.8 ft above sea level.

REMARKS.--Records fair. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs, and Sierra Madre, Las Flores, and Rubio debris basins, combined capacity, 2,195 acre-ft. Many diversions upstream from station for domestic use and irrigation. Los Angeles County Department of Public Works diverted 30,370 acre-ft from San Gabriel River below Santa Fe Dam to Rio Hondo during current year. See schematic diagram of San Gabriel and Los Angeles River basins. U.S. Army Corps of Engineers gage-height telemeter at station.

COOPERATION.--Records of diversion provided by the Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,200 ft<sup>3</sup>/s, Feb. 16, 1980, gage height, 7.35 ft; no flow for some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,500 ft<sup>3</sup>/s, Jan. 14, gage height, 6.38 ft; minimum daily, 0.20 ft<sup>3</sup>/s, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	151	.94	.55	29	222	67	.94	9.2	e68	.79	47
2	.72	133	.98	171	16	207	75	.97	9.2	e69	89	49
3	.53	124	1.4	.55	34	175	77	2.3	13	e72	166	51
4	.40	111	8.1	3.8	28	144	80	1.6	23	e65	156	52
5	.96	71	.79	3.9	24	121	77	.96	704	e51	141	53
6	.66	1.7	41	1730	24	111	62	1.8	7.5	e42	129	51
7	1.1	.90	2520	2940	890	105	47	.94	3.7	e41	121	48
8	.73	.86	5.0	1590	1770	66	68	.96	38	e50	111	45
9	.61	1.5	3.2	291	279	87	70	.76	34	e55	108	30
10	.80	.71	6.3	291	98	100	70	4.0	25	e61	114	1.4
11	.64	.54	6.4	21	61	126	69	6.5	e49	e68	111	1.3
12	.65	.54	.51	461	47	156	68	16	e58	e66	102	1.0
13	.75	.41	.26	1950	57	154	64	7.9	e67	e71	87	1.3
14	.87	.40	1.4	2480	558	164	64	6.6	e73	e83	60	1.1
15	.66	.44	1.1	2490	153	556	66	6.2	e76	e88	38	.95
16	.67	.48	.87	1700	64	88	64	5.5	e77	91	26	.91
17	8.2	2.0	136	2460	51	74	63	3.7	e77	90	18	.92
18	32	.65	15	3560	2330	415	61	2.3	e69	89	10	1.4
19	49	.60	.35	1480	2890	295	61	1.4	e70	89	7.5	1.3
20	60	.57	.20	646	2070	100	41	3.9	e71	88	5.4	1.5
21	77	.66	.86	331	1100	83	3.0	7.1	e73	88	2.9	.84
22	70	.41	9.1	221	575	75	2.7	9.0	e73	92	1.6	1.9
23	113	.73	27	204	1670	80	5.6	10	e71	96	1.2	.72
24	139	1.1	23	198	1070	81	1.4	9.1	e72	96	12	.70
25	102	1.2	19	116	827	757	1.1	13	e65	94	31	.79
26	102	.63	16	67	765	917	1.0	12	e60	93	55	.50
27	64	.54	143	69	531	75	1.6	11	e62	91	72	.72
28	93	.60	239	81	448	402	1.3	11	e74	51	86	.90
29	158	.42	934	218	---	60	1.6	9.7	e77	6.0	96	.76
30	1220	.86	77	45	---	65	1.1	9.9	e70	1.3	66	.95
31	184	---	.93	48	---	66	---	9.5	---	.77	46	---
TOTAL	2482.70	609.45	4238.69	25867.80	18459	6127	1334.4	186.53	2250.6	2106.07	2070.39	447.86
MEAN	80.1	20.3	137	834	659	198	44.5	6.02	75.0	67.9	66.8	14.9
MAX	1220	151	2520	3560	2890	917	80	16	704	96	166	53
MIN	.40	.40	.20	.55	16	60	1.0	.76	3.7	.77	.79	.50
AC-FT	4920	1210	8410	51310	36610	12150	2650	370	4460	4180	4110	888

e Estimated.

## 11101250 RIO HONDO ABOVE WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.5	40.8	44.3	88.0	144	96.6	41.6	23.5	21.4	14.4	10.1	10.1
MAX	253	284	178	834	860	796	236	168	141	187	112	109
(WY)	1984	1966	1978	1993	1969	1983	1983	1986	1992	1983	1991	1982
MIN	.59	.087	.49	.95	.34	.31	.47	.41	.13	.26	.035	.097
(WY)	1978	1957	1959	1976	1961	1956	1977	1959	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1956 - 1993	
ANNUAL TOTAL	35824.75		66180.49		45.9	
ANNUAL MEAN	97.9		181		187	
HIGHEST ANNUAL MEAN					187	
LOWEST ANNUAL MEAN					6.01	
HIGHEST DAILY MEAN	2900		3560		7700	
LOWEST DAILY MEAN	.20		.20		.00	
ANNUAL SEVEN-DAY MINIMUM	.40		.50		.00	
INSTANTANEOUS PEAK FLOW			12500		18200	
INSTANTANEOUS PEAK STAGE			6.38		7.35	
ANNUAL RUNOFF (AC-FT)	71060		131300		33280	
10 PERCENT EXCEEDS	183		309		88	
50 PERCENT EXCEEDS	5.8		51		1.9	
90 PERCENT EXCEEDS	.43		.73		.45	

## 11102300 RIO HONDO BELOW WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°01'00", long 118°05'15", in Paso de Bartolo Grant, Los Angeles County, Hydrologic Unit 18070105, on right levee 0.2 mi upstream from Beverly Boulevard, 0.4 mi downstream from axis of Whittier Narrows Dam, and 1.0 mi northeast of Montebello.

DRAINAGE AREA.--124 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 175 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair except for discharges below 100 ft<sup>3</sup>/s, which are poor. Flow regulated by Whittier Narrows Flood-Control Reservoir, capacity, 36,160 acre-ft. There are several small flood-control reservoirs (combined capacities, 1,700 acre-ft) and several small debris basins above Whittier Narrows Dam. Many diversions for domestic use and irrigation. At times flow is diverted from San Gabriel River to Rio Hondo from sites below Santa Fe Dam and above Whittier Narrows Dam. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,800 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 13.82 ft, from rating curve extended above 15,000 ft<sup>3</sup>/s on basis of gate openings at dam at gage heights 12.32 and 13.82 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,100 ft<sup>3</sup>/s, Feb. 18, gage height, 11.99 ft; minimum daily, 40 ft<sup>3</sup>/s, Jan. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	265	323	41	111	243	217	144	84	286	50	213
2	69	248	282	379	115	219	302	143	99	314	152	228
3	130	245	112	40	166	216	434	135	180	305	340	253
4	119	231	191	42	164	186	510	147	157	268	323	267
5	117	200	240	64	101	174	423	132	1300	222	303	263
6	116	101	280	4000	96	220	400	137	71	123	303	251
7	156	103	7810	10200	524	311	347	144	64	88	270	137
8	108	128	437	1590	5880	304	254	139	87	131	235	99
9	116	116	71	823	1690	298	255	132	87	160	227	89
10	123	105	61	261	2910	242	238	197	92	151	234	98
11	123	100	69	196	2710	194	241	241	177	167	242	89
12	126	108	64	436	1110	208	249	275	204	169	267	92
13	136	153	51	2750	234	216	435	238	230	192	288	97
14	166	156	58	7710	1010	231	280	222	251	202	255	111
15	139	153	110	10100	1330	217	240	215	257	217	243	116
16	136	153	118	6850	6640	224	280	206	262	237	179	148
17	168	130	184	5430	9820	213	306	196	306	242	127	189
18	199	153	147	11900	8260	236	334	203	327	240	136	146
19	241	153	68	5410	10800	601	382	182	330	231	214	147
20	240	176	63	2790	8650	296	404	186	331	229	225	135
21	273	192	94	1150	7120	328	352	192	333	233	221	143
22	304	220	189	239	5000	269	269	178	345	250	235	191
23	330	224	236	209	1990	258	279	157	342	256	243	212
24	387	244	215	210	607	660	249	160	361	276	267	212
25	320	261	208	250	498	1060	205	168	369	308	263	192
26	326	293	207	198	449	1700	189	158	358	250	247	84
27	290	311	231	98	435	161	176	136	355	224	273	210
28	263	332	657	78	340	459	146	109	358	192	282	201
29	428	359	2010	91	---	148	151	103	341	73	269	203
30	1320	388	652	91	---	136	145	101	316	64	230	223
31	473	---	51	98	---	172	---	91	---	60	200	---
TOTAL	7552	6001	15489	73724	78760	10400	8692	5167	8374	6360	7343	5039
MEAN	244	200	500	2378	2813	335	290	167	279	205	237	168
MAX	1320	388	7810	11900	10800	1700	510	275	1300	314	340	267
MIN	69	100	51	40	96	136	145	91	64	60	50	84
AC-FT	14980	11900	30720	146200	156200	20630	17240	10250	16610	12620	14560	9990

## 11102300 RIO HONDO BELOW WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	105	138	158	339	550	360	121	107	91.3	72.5	58.7	78.6
MAX	302	362	522	2378	3459	2265	371	261	355	205	244	413
(WY)	1984	1992	1992	1993	1969	1983	1983	1983	1992	1993	1991	1991
MIN	.001	7.08	10.3	29.2	22.1	15.6	4.25	10.6	.093	1.10	4.74	.13
(WY)	1978	1978	1977	1976	1984	1972	1977	1972	1977	1972	1980	1972

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1967 - 1993		
ANNUAL TOTAL	85378.67			232901					
ANNUAL MEAN	233			638					
HIGHEST ANNUAL MEAN							180		
LOWEST ANNUAL MEAN							638		
HIGHEST DAILY MEAN	7810			11900			40.9		
LOWEST DAILY MEAN	.07			40			21200		
ANNUAL SEVEN-DAY MINIMUM	3.1			68			.00		
INSTANTANEOUS PEAK FLOW				30100			.00		
INSTANTANEOUS PEAK STAGE				11.99			38800		
ANNUAL RUNOFF (AC-FT)	169300			462000			13.82		
10 PERCENT EXCEEDS	431			654			130100		
50 PERCENT EXCEEDS	104			223			247		
90 PERCENT EXCEEDS	14			98			81		
							2.9		

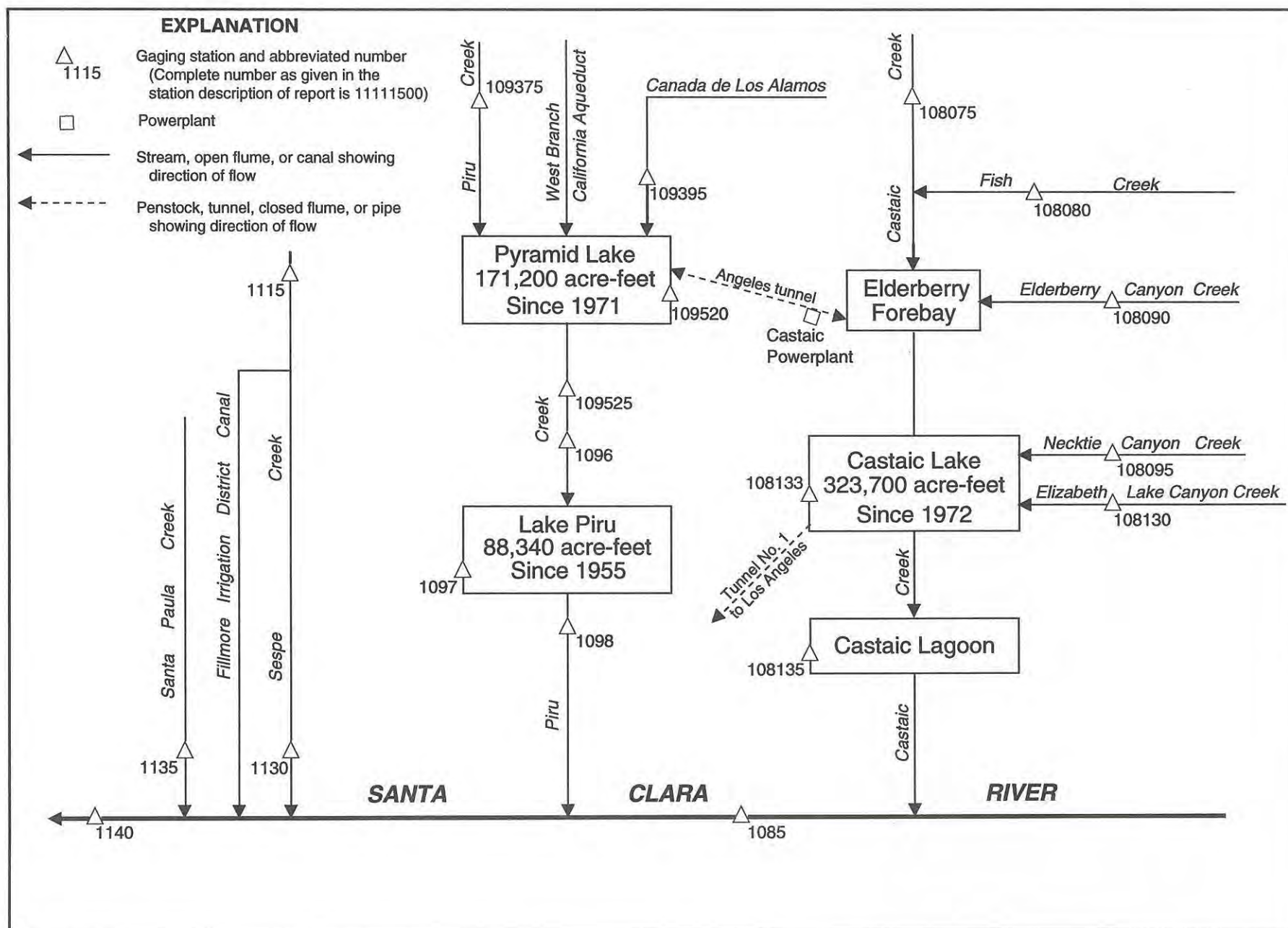


Figure 21. Diversions and storage in Santa Clara River basin.

## 11108075 CASTAIC CREEK ABOVE FISH CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°36'23", long 118°39'51", in SW 1/4 SE 1/4 sec.15, T.6 N., R.17 W, Los Angeles County, Hydrologic Unit 18070102, on left bank 100 ft upstream from bridge, 1.4 mi north of Castaic Powerplant, and 8.5 mi northwest of Castaic.

DRAINAGE AREA.--37.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1978 (published as Castaic Creek One Mile above Fish Creek), October 1988 to current year. October 1968 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 1,640 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor natural inflow to Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft<sup>3</sup>/s, Mar. 4, 1978, gage height, 7.00 ft, from information furnished by California Department of Water Resources; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s, Jan. 19, 1969, gage height unknown, from information furnished by California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 661 ft<sup>3</sup>/s, Jan. 18, gage height, 3.80 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.30	2.4	15	70	41	15	6.8	2.7	1.9	.84
2	.00	.00	.40	8.4	15	65	40	15	6.5	2.7	1.8	.83
3	.00	.00	.50	5.6	14	65	39	14	6.2	2.9	1.7	.82
4	.00	.00	.60	4.0	11	50	37	13	6.1	3.4	1.7	.81
5	.00	.00	.60	3.4	10	46	34	14	12	3.4	1.7	.81
6	.00	.00	.50	4.3	9.0	44	34	12	13	3.0	1.6	.80
7	.00	.00	35	56	10	43	32	12	7.0	2.7	1.6	.80
8	.00	.00	5.0	46	200	43	31	11	6.0	2.5	1.6	.79
9	.00	.00	3.0	24	125	42	30	11	5.8	2.4	1.5	.78
10	.00	.00	1.2	22	66	42	29	10	5.6	2.4	1.5	.76
11	.00	.00	1.1	22	45	39	27	10	5.1	2.2	1.5	.74
12	.00	.00	1.0	34	60	38	26	9.9	5.0	2.1	1.5	.74
13	.00	.00	1.0	276	45	34	24	9.5	5.0	2.2	1.4	.78
14	.00	.00	1.0	225	40	30	24	9.5	4.9	2.4	1.4	.80
15	.00	.00	.90	227	37	29	23	9.4	4.8	2.3	1.4	.82
16	.00	.00	.80	192	35	28	22	9.3	4.5	2.3	1.4	.84
17	.00	.00	1.0	232	33	26	21	9.2	4.3	2.2	1.3	.82
18	.00	.00	1.0	515	265	25	20	9.0	4.2	2.2	1.3	.81
19	.00	.00	1.0	183	270	24	20	8.8	4.1	2.1	1.3	.80
20	.00	.00	1.0	91	218	24	19	8.8	4.0	2.1	1.2	.78
21	.00	.00	1.0	71	175	24	19	8.6	3.7	2.1	1.2	.76
22	.00	.00	1.0	54	150	23	19	8.6	3.5	2.1	1.2	.74
23	.00	.00	1.2	42	400	22	18	8.5	3.4	2.2	1.1	.70
24	.00	.00	1.0	36	225	21	18	8.5	3.2	2.3	1.0	.68
25	.00	.00	1.3	34	200	80	17	8.4	3.0	2.1	1.0	.66
26	.00	.10	1.4	32	125	130	17	8.3	3.0	2.1	1.0	.64
27	.00	.10	1.6	27	100	60	16	8.2	2.9	2.1	.90	.60
28	.00	.10	2.0	25	90	54	16	7.5	2.8	2.0	.90	.58
29	.00	.10	7.2	22	---	50	15	7.4	2.7	2.0	.90	.58
30	.00	.20	7.3	20	---	46	15	7.2	2.7	1.9	.85	.56
31	.00	---	5.0	18	---	42	---	7.0	---	1.9	.84	---
TOTAL	0.00	0.60	86.90	2554.1	2988.0	1359	743	308.6	151.8	73.0	41.19	22.47
MEAN	.000	.020	2.80	82.4	107	43.8	24.8	9.95	5.06	2.35	1.33	.75
MAX	.00	.20	35	515	400	130	41	15	13	3.4	1.9	.84
MIN	.00	.00	.30	2.4	9.0	21	15	7.0	2.7	1.9	.84	.56
AC-FT	.00	1.2	172	5070	5930	2700	1470	612	301	145	82	45

## 11108075 CASTAIC CREEK ABOVE FISH CREEK, NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.018	.018	1.16	14.7	46.1	33.3	9.78	3.64	1.50	.63	.36	.27
MAX	.13	.11	4.44	82.4	133	149	27.2	10.7	5.06	2.35	1.33	1.16
(WY)	1977	1977	1978	1993	1978	1978	1978	1978	1993	1993	1993	1978
MIN	.000	.000	.000	.000	.073	.10	.018	.000	.000	.000	.000	.000
(WY)	1978	1978	1989	1990	1990	1990	1990	1989	1989	1989	1989	1977

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1977 - 1993

ANNUAL TOTAL	3636.00	8328.66	
ANNUAL MEAN	9.93	22.8	9.07
HIGHEST ANNUAL MEAN			28.6
LOWEST ANNUAL MEAN			.016
HIGHEST DAILY MEAN	675	515	1610
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Mar 4
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 22	.00 Oct 1	.00 Jul 5
INSTANTANEOUS PEAK FLOW		661	6300
INSTANTANEOUS PEAK STAGE		3.80 Jan 18	7.00 Mar 4
ANNUAL RUNOFF (AC-FT)	7210	16520	6570
10 PERCENT EXCEEDS	19	46	16
50 PERCENT EXCEEDS	.71	3.0	.01
90 PERCENT EXCEEDS	.00	.00	.00

## 11108080 FISH CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°36'09", long 118°39'43", NE 1/4 NE 1/4 sec.22, T.6 N., R.17 W., Los Angeles County, Hydrologic Unit 18070102, on right bank 700 ft upstream from confluence of Fish Creek with Castaic Creek and 8.1 mi northwest of Castaic.

DRAINAGE AREA.--27.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. June 1965 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 1,620 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharge. Station is used to monitor natural inflow to Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,260 ft<sup>3</sup>/s, estimated, Mar. 4, 1978, gage height, 4.80 ft, from information furnished by California Department of Water Resources; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 5,990 ft<sup>3</sup>/s, Feb. 24, 1969, gage height, 4.98 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 947 ft<sup>3</sup>/s, Jan. 18, gage height, 3.74 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	3.5	24	114	58	19	10	3.0	1.3	.17
2	.00	.00	.00	12	24	111	54	19	10	3.0	1.1	.15
3	.00	.00	.00	8.0	23	111	47	18	10	3.3	.96	.13
4	.00	.00	.00	5.7	20	96	46	18	10	3.8	.93	.12
5	.00	.00	.00	4.8	18	82	47	17	20	3.9	.83	.12
6	.00	.00	.00	6.1	16	72	49	16	21	3.5	.67	.11
7	.00	.00	11	80	19	70	46	16	14	3.2	.65	.10
8	.00	.00	1.8	65	400	69	45	16	12	3.0	.66	.10
9	.00	.00	.15	27	298	67	42	15	9.8	2.9	.57	.09
10	.00	.00	.00	21	140	61	41	14	8.9	2.9	.51	.08
11	.00	.00	.03	16	114	56	40	15	8.4	2.7	.50	.07
12	.00	.00	.03	20	110	52	37	15	7.9	2.6	.50	.07
13	.00	.00	.11	192	91	50	33	14	7.1	2.7	.57	.07
14	.00	.00	.15	159	79	47	32	14	6.9	2.9	.75	.07
15	.00	.00	.15	176	68	43	31	14	6.4	2.8	.82	.08
16	.00	.00	.13	163	58	40	31	13	6.2	2.6	.81	.09
17	.00	.00	.18	249	54	39	30	13	5.7	2.5	.71	.11
18	.00	.00	.18	673	166	37	28	13	5.5	2.4	.60	.17
19	.00	.00	.20	236	449	36	27	12	5.3	2.3	.56	.18
20	.00	.00	.23	130	326	34	26	13	5.2	2.3	.50	.16
21	.00	.00	.25	102	203	33	25	12	4.9	2.3	.46	.15
22	.00	.00	.26	77	161	31	25	12	4.8	2.3	.42	.17
23	.00	.00	.28	60	450	31	24	12	4.4	2.1	.37	.18
24	.00	.00	.30	51	277	30	23	12	3.9	2.4	.31	.17
25	.00	.00	.33	48	208	106	23	13	3.7	2.5	.26	.15
26	.00	.00	.35	45	188	167	21	12	3.5	2.5	.24	.13
27	.00	.00	.41	38	162	73	20	11	3.5	2.4	.22	.12
28	.00	.00	.76	35	141	94	19	11	3.5	2.2	.21	.10
29	.00	.00	8.5	32	---	75	18	10	3.4	2.0	.19	.08
30	.00	.00	7.2	28	---	69	19	9.7	3.2	1.8	.21	.06
31	.00	---	4.7	26	---	63	---	9.9	---	1.5	.21	---
TOTAL	0.00	0.00	37.68	2789.1	4287	2059	1007	428.6	229.1	82.3	17.60	3.55
MEAN	.000	.000	1.22	90.0	153	66.4	33.6	13.8	7.64	2.65	.57	.12
MAX	.00	.00	11	673	450	167	58	19	21	3.9	1.3	.18
MIN	.00	.00	.00	3.5	16	30	18	9.7	3.2	1.5	.19	.06
AC-FT	.00	.00	75	5530	8500	4080	2000	850	454	163	35	7.0

## SANTA CLARA RIVER BASIN

11108080 FISH CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.39	17.0	57.4	43.1	13.9	5.34	2.30	.74	.096	.017
MAX	.000	.000	1.22	90.0	153	182	42.5	17.5	7.64	2.65	.57	.12
(WY)	1977	1977	1993	1993	1993	1978	1978	1978	1993	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1977	1977	1977	1989	1989	1989	1989	1989	1989	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1977 - 1993	
ANNUAL TOTAL	4524.95		10940.93		11.4	
ANNUAL MEAN	12.4		30.0		35.1	
HIGHEST ANNUAL MEAN					.000	
LOWEST ANNUAL MEAN					1978	
HIGHEST DAILY MEAN	882	Feb 12	673	Jan 18	999	Feb 9 1978
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1976
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 8	.00	Oct 1	.00	Oct 1 1976
INSTANTANEOUS PEAK FLOW			947	Jan 18	4260	Mar 4 1978
INSTANTANEOUS PEAK STAGE			3.74	Jan 18	4.80	Mar 4 1978
ANNUAL RUNOFF (AC-FT)	8980		21700		8280	
10 PERCENT EXCEEDS	24		78		21	
50 PERCENT EXCEEDS	.24		3.5		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11108090 ELDERBERRY CANYON CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA

LOCATION.--Lat 34°34'20", long 118°37'28", in NW 1/4 NW 1/4 sec.31, T.6 N., R.31 W., Los Angeles County, Hydrologic Unit 18070102, on right bank 2.8 mi southeast of Castaic Powerplant, and 5.5 mi northwest of Castaic.

DRAINAGE AREA.--2.50 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1977 to September 1978, October 1988 to current year. October 1966 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor natural inflow into Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft<sup>3</sup>/s, estimated, Mar. 4, 1978, gage height, 6.00 ft, from information furnished by California Department of Water Resources; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 80 ft<sup>3</sup>/s, Jan. 18, gage height, 2.89 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	1.0	1.3	7.2	3.4	.42	.17	.00	.00	.00
2	.00	.00	.00	2.8	1.2	6.0	3.0	.40	.16	.00	.00	.00
3	.00	.00	.00	2.0	1.2	5.2	2.7	.41	.13	.00	.00	.00
4	.00	.00	.00	1.2	1.1	4.7	2.4	.41	.14	.00	.00	.00
5	.00	.00	.00	.86	1.1	4.1	2.3	.38	.51	.00	.00	.00
6	.00	.00	.00	1.4	1.0	3.7	2.1	.38	.29	.00	.00	.00
7	.00	.00	4.0	22	1.6	3.4	1.9	.36	.21	.00	.00	.00
8	.00	.00	1.0	9.6	48	3.1	1.8	.34	.17	.00	.00	.00
9	.00	.00	.25	4.4	22	2.9	1.6	.30	.14	.00	.00	.00
10	.00	.00	.09	4.2	12	2.6	1.5	.28	.12	.00	.00	.00
11	.00	.00	.09	3.3	8.3	2.4	1.4	.31	.10	.00	.00	.00
12	.00	.00	.08	5.6	5.7	2.2	1.3	.30	.08	.00	.00	.00
13	.00	.00	.08	39	4.5	2.1	1.3	.27	.08	.00	.00	.00
14	.00	.00	.08	22	4.0	2.0	1.2	.25	.07	.00	.00	.00
15	.00	.00	.07	28	3.5	1.9	1.1	.24	.06	.00	.00	.00
16	.00	.00	.06	26	3.2	1.7	1.1	.22	.05	.00	.00	.00
17	.00	.00	.06	26	2.8	1.8	1.0	.21	.04	.00	.00	.00
18	.00	.00	.04	51	16	1.7	.99	.23	.04	.00	.00	.00
19	.00	.00	.04	22	38	1.7	.87	.22	.03	.00	.00	.00
20	.00	.00	.04	12	24	1.6	.79	.25	.03	.00	.00	.00
21	.00	.00	.03	8.5	15	1.5	.72	.25	.03	.00	.00	.00
22	.00	.00	.03	6.5	12	1.4	.65	.21	.02	.00	.00	.00
23	.00	.00	.02	5.0	30	1.3	.61	.24	.02	.00	.00	.00
24	.00	.00	.02	4.0	19	1.4	.58	.24	.02	.00	.00	.00
25	.00	.00	.02	3.3	13	5.7	.55	.25	.02	.00	.00	.00
26	.00	.00	.02	2.9	13	11	.54	.23	.02	.00	.00	.00
27	.00	.00	.02	2.5	11	5.3	.49	.21	.02	.00	.00	.00
28	.00	.00	.02	2.1	9.2	10	.45	.20	.02	.00	.00	.00
29	.00	.00	2.2	1.8	---	6.0	.45	.18	.02	.00	.00	.00
30	.00	.00	1.3	1.7	---	4.3	.43	.16	.01	.00	.00	.00
31	.00	---	.75	1.5	---	3.5	---	.16	---	.00	.00	---
TOTAL	0.00	0.00	10.41	324.16	322.7	113.4	39.22	8.51	2.82	0.00	0.00	0.00
MEAN	.000	.000	.34	10.5	11.5	3.66	1.31	.27	.094	.000	.000	.000
MAX	.00	.00	4.0	51	48	11	3.4	.42	.51	.00	.00	.00
MIN	.00	.00	.00	.86	1.0	1.3	.43	.16	.01	.00	.00	.00
AC-FT	.00	.00	21	643	640	225	78	17	5.6	.00	.00	.00

11108090 ELDERBERRY CANYON CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.072	2.57	6.57	4.66	.79	.15	.024	.000	.000	.000
MAX	.000	.000	.34	10.5	17.7	19.1	2.68	.55	.094	.000	.000	.000
(WY)	1978	1978	1993	1993	1978	1978	1978	1978	1993	1978	1978	1978
MIN	.000	.000	.000	.000	.14	.000	.000	.000	.000	.000	.000	.000
(WY)	1978	1978	1978	1990	1990	1990	1989	1989	1989	1978	1978	1978

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1978 - 1993		
ANNUAL TOTAL	393.82			821.22					
ANNUAL MEAN	1.08			2.25			1.21		
HIGHEST ANNUAL MEAN							3.64		
LOWEST ANNUAL MEAN							.011		
HIGHEST DAILY MEAN	58	Feb 25		51	Jan 18		200	Mar	4 1978
LOWEST DAILY MEAN	.00	Jan 18		.00	Oct 1		.00	Oct	1 1977
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 18		.00	Oct 1		.00	Oct	1 1977
INSTANTANEOUS PEAK FLOW				80	Jan 18		1100	Mar	4 1978
INSTANTANEOUS PEAK STAGE				2.89	Jan 18		6.00	Mar	4 1978
ANNUAL RUNOFF (AC-FT)	781			1630			874		
10 PERCENT EXCEEDS	1.5			5.2			1.5		
50 PERCENT EXCEEDS	.00			.04			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 11108095 NECKTIE CANYON CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA

LOCATION.-- Lat 34°33'38", long 118°36'51", in SW 1/4 SE 1/4 sec.31, T.6 N., R.16 W., Los Angeles County, Hydrologic Unit 18070102, on right bank 4.7 mi southeast of Castaic Powerplant, and 5 mi north of Castaic.

DRAINAGE AREA.--2.12 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. February 1967 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above sea level, from topographic map.

REMARKS.--Station is used to monitor natural inflow to Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft<sup>3</sup>/s, estimated, Mar. 4, 1978, gage height, 5.10 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 117 ft<sup>3</sup>/s, Jan. 18, gage height, 2.55 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.48	1.7	8.0	3.0	.51	.12	.00	.00	.00
2	.00	.00	.00	7.0	1.6	6.7	2.6	.53	.09	.00	.00	.00
3	.00	.00	.00	2.1	1.5	5.8	2.1	.58	.08	.00	.00	.00
4	.00	.00	.00	1.1	1.4	4.8	2.0	.32	.09	.00	.00	.00
5	.00	.00	.00	.70	1.3	4.4	1.9	.30	.50	.00	.00	.00
6	.00	.00	.00	1.6	1.2	4.0	1.7	.33	.27	.00	.00	.00
7	.00	.00	12	24	3.1	3.7	1.6	.31	.20	.00	.00	.00
8	.00	.00	2.5	13	37	3.4	1.6	.31	.15	.00	.00	.00
9	.00	.00	.21	5.0	23	3.1	1.5	.27	.11	.00	.00	.00
10	.00	.00	.10	6.0	15	2.9	1.5	.25	.09	.00	.00	.00
11	.00	.00	.13	4.1	10	2.7	1.5	.31	.06	.00	.00	.00
12	.00	.00	.08	9.4	8.0	2.5	1.3	.29	.04	.00	.00	.00
13	.00	.00	.06	29	6.1	2.4	1.5	.25	.03	.00	.00	.00
14	.00	.00	.05	23	4.7	2.3	1.5	.21	.02	.00	.00	.00
15	.00	.00	.05	30	4.2	e2.2	1.4	.21	.01	.00	.00	.00
16	.00	.00	.04	30	3.7	e1.9	1.3	.20	.01	.00	.00	.00
17	.00	.00	.06	31	3.3	e1.7	1.3	.19	.00	.00	.00	.00
18	.00	.00	.07	76	15	e1.7	1.2	.22	.00	.00	.00	.00
19	.00	.00	.04	26	31	e1.7	1.0	.19	.00	.00	.00	.00
20	.00	.00	.04	16	21	e1.6	.89	.24	.00	.00	.00	.00
21	.00	.00	.04	11	15	e1.5	.82	.23	.00	.00	.00	.00
22	.00	.00	.03	7.1	12	e1.4	.76	.19	.00	.00	.00	.00
23	.00	.00	.03	4.9	23	e1.4	.77	.22	.00	.00	.00	.00
24	.00	.00	.03	3.8	17	e1.4	.77	.23	.00	.00	.00	.00
25	.00	.00	.02	3.1	13	5.5	.70	.23	.00	.00	.00	.00
26	.00	.00	.02	3.0	13	13	.68	.20	.00	.00	.00	.00
27	.00	.00	.02	2.9	11	6.1	.70	.17	.00	.00	.00	.00
28	.00	.00	.06	2.5	9.8	10	.65	.15	.00	.00	.00	.00
29	.00	.00	2.4	2.3	---	6.0	.57	.15	.00	.00	.00	.00
30	.00	.00	1.9	2.0	---	4.4	.56	.10	.00	.00	.00	.00
31	.00	---	.88	1.9	---	3.5	---	.11	---	.00	.00	---
TOTAL	0.00	0.00	20.86	379.98	307.6	121.7	39.37	8.00	1.87	0.00	0.00	0.00
MEAN	.000	.000	.67	12.3	11.0	3.93	1.31	.26	.062	.000	.000	.000
MAX	.00	.00	12	76	37	13	3.0	.58	.50	.00	.00	.00
MIN	.00	.00	.00	.48	1.2	1.4	.56	.10	.00	.00	.00	.00
AC-FT	.00	.00	41	754	610	241	78	16	3.7	.00	.00	.00

e Estimated.

11108095 NECKTIE CANYON CREEK ABOVE CASTAIC CREEK, NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.17	3.24	7.28	5.63	.95	.15	.036	.000	.000	.000
MAX	.000	.000	.67	12.3	27.0	28.8	4.33	.65	.19	.000	.000	.000
(WY)	1977	1977	1993	1993	1978	1978	1978	1978	1978	1977	1977	1977
MIN	.000	.000	.000	.000	.008	.002	.000	.000	.000	.000	.000	.000
(WY)	1977	1977	1977	1990	1977	1990	1989	1989	1989	1977	1977	1977

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1977 - 1993

ANNUAL TOTAL	491.18	879.38	
ANNUAL MEAN	1.34	2.41	1.42
HIGHEST ANNUAL MEAN			5.81
LOWEST ANNUAL MEAN			.012
HIGHEST DAILY MEAN	68 Feb 10	76 Jan 18	333 Mar 4 1978
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1976
ANNUAL SEVEN-DAY MINIMUM	.00 Jun 3	.00 Oct 1	.00 Oct 1 1976
INSTANTANEOUS PEAK FLOW		117 Jan 18	1200 Mar 4 1978
INSTANTANEOUS PEAK STAGE		2.55 Jan 18	5.10 Mar 4 1978
ANNUAL RUNOFF (AC-FT)	974	1740	1030
10 PERCENT EXCEEDS	2.1	6.1	1.5
50 PERCENT EXCEEDS	.00	.03	.00
90 PERCENT EXCEEDS	.00	.00	.00

## 11108130 ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC LAKE, NEAR CASTAIC, CA

LOCATION.--Lat 34°34'46", long 118°33'15", unsurveyed, Los Angeles County, Hydrologic Unit 18070102, on left bank 0.4 mi northeast of Elizabeth Lake Guard Station, and 7.0 mi northeast of Castaic on Lake Hughes Road.

DRAINAGE AREA.--43.7 mi<sup>2</sup>, excludes 18.1 mi<sup>2</sup> of noncontributing area in Elizabeth and Hughes Lake basins.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. January 1962 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 1,680 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor inflow into Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,800 ft<sup>3</sup>/s, Feb. 9, 1978, gage height, 5.79 ft; no flow for many days in water years 1977, and 1989-92.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 7,500 ft<sup>3</sup>/s, estimated, Jan. 25, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft<sup>3</sup>/s, Jan. 18, gage height, 4.05 ft; minimum daily, .07 ft<sup>3</sup>/s, Oct. 1-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.80	.56	9.6	39	195	78	28	14	6.7	3.5	1.6
2	.07	.55	.59	39	40	150	61	27	14	7.3	3.3	1.5
3	.07	.33	1.0	19	41	140	55	27	13	6.9	3.4	1.5
4	.07	.37	.97	13	44	122	52	27	12	6.8	3.4	1.4
5	.16	.39	.82	9.3	43	115	47	26	29	6.9	3.1	1.4
6	.36	.40	.85	12	43	102	48	26	27	7.0	2.7	1.4
7	.41	.40	63	146	59	98	48	25	19	6.7	2.7	1.3
8	.41	.42	27	90	377	95	50	25	16	5.8	2.7	1.2
9	.38	.49	9.2	38	262	89	50	24	13	5.3	2.5	1.2
10	.38	.51	4.8	32	169	78	51	23	12	5.5	2.5	1.1
11	.38	.45	4.4	26	175	68	51	22	11	5.7	2.4	1.0
12	.38	.45	3.5	30	159	68	51	22	11	5.9	2.4	1.2
13	.38	.42	3.1	340	148	68	49	22	10	5.9	2.8	1.7
14	.43	.39	2.9	243	132	68	47	22	9.6	5.9	3.3	1.7
15	.51	.40	2.8	153	93	63	44	21	8.8	5.5	3.6	1.9
16	.31	.42	2.6	218	70	63	43	21	8.6	4.6	3.5	2.2
17	.29	.45	2.8	249	60	62	43	21	8.5	4.4	3.1	2.7
18	.31	.44	3.4	810	132	66	42	20	8.6	4.4	2.7	2.6
19	.30	.44	2.8	298	502	62	40	20	8.6	4.2	2.5	2.3
20	.29	.43	2.6	165	343	60	39	20	8.8	4.4	2.4	2.2
21	.31	.46	2.5	131	256	60	37	20	9.2	4.7	2.3	2.3
22	.43	.51	2.4	113	236	57	36	20	9.5	4.9	2.2	2.4
23	.39	.55	2.4	92	500	54	37	20	9.2	4.8	2.1	2.3
24	.48	.55	2.3	77	326	55	36	19	8.9	5.5	2.0	1.9
25	.56	.53	2.3	66	270	91	36	18	8.5	5.6	1.9	1.8
26	.58	.51	2.3	61	267	197	34	17	8.8	5.5	1.8	1.6
27	.53	.51	2.4	56	237	113	33	17	8.3	5.2	1.8	1.5
28	.49	.53	4.0	50	222	141	32	17	9.0	4.8	1.8	1.4
29	.50	.53	47	46	---	119	31	17	8.9	5.0	1.8	1.4
30	4.9	.52	28	44	---	113	30	16	6.7	4.5	2.0	1.5
31	1.6	---	14	39	---	98	---	16	---	3.9	1.9	---
TOTAL	16.73	14.15	249.29	3714.9	5245	2930	1331	666	349.5	170.2	80.1	51.2
MEAN	.54	.47	8.04	120	187	94.5	44.4	21.5	11.6	5.49	2.58	1.71
MAX	4.9	.80	63	810	502	197	78	28	29	7.3	3.6	2.7
MIN	.07	.33	.56	9.3	39	54	30	16	6.7	3.9	1.8	1.0
AC-FT	33	28	494	7370	10400	5810	2640	1320	693	338	159	102

## 11108130 ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC LAKE, NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.14	.19	2.03	22.5	64.3	59.1	21.6	8.90	4.13	1.98	.83	.82
MAX	.54	.47	8.04	120	187	256	79.5	29.8	13.8	7.36	3.09	3.87
(WY)	1993	1993	1993	1993	1993	1978	1978	1978	1978	1978	1978	1978
MIN	.000	.000	.17	.31	1.31	1.37	1.00	.34	.071	.000	.000	.000
(WY)	1990	1991	1991	1991	1977	1977	1989	1990	1990	1989	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1977 - 1993			
ANNUAL TOTAL	4459.08				14818.07							
ANNUAL MEAN	12.2				40.6				15.3			
HIGHEST ANNUAL MEAN									48.8			
LOWEST ANNUAL MEAN									.66			
HIGHEST DAILY MEAN	743				810				1670			
LOWEST DAILY MEAN	.07				.07				.00			
ANNUAL SEVEN-DAY MINIMUM	.07				.17				.00			
INSTANTANEOUS PEAK FLOW					1300				3800			
INSTANTANEOUS PEAK STAGE					4.05				5.79			
ANNUAL RUNOFF (AC-FT)	8840				29390				11050			
10 PERCENT EXCEEDS	23				114				30			
50 PERCENT EXCEEDS	1.4				8.6				.56			
90 PERCENT EXCEEDS	.10				.45				.00			

## 11108133 CASTAIC LAKE NEAR CASTAIC, CA

LOCATION.--Lat 34°31'18", long 118°36'18", in SW 1/4 NW 1/4 sec.18, T.5 N., R.16 W., Los Angeles County, Hydrologic Unit 18070102, on center of upstream face of Castaic Dam and 3.0 mi north of Castaic.

DRAINAGE AREA.--137 mi<sup>2</sup>, excludes 18.1 mi<sup>2</sup> non-contributing area in Elizabeth Canyon Creek basin.

PERIOD OF RECORD.--October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Lake is formed by earthfill dam. Storage began April 1972. Dead storage below outlet tower to downstream distribution system, 1,799 acre-ft, elevation, 1,213 ft. Capacity below spillway level, 323,699 acre-ft, elevation 1,515 ft. Lake receives natural inflow from Castaic Creek and its tributaries, and water diverted from Pyramid Lake through Angeles Tunnel. Water is released downstream through Castaic Tunnel No. 1 and to Castaic Lagoon. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 321,914 acre-ft, Mar. 28, 29, 1993, elevation, 1,514.20 ft; minimum, 147,551 acre-ft, Nov. 8, 1988, elevation, 1,419.08 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 321,914 acre-ft, Mar. 28, 29, elevation, 1,514.20 ft; minimum, 217,810 acre-ft, Dec. 7, elevation, 1,462.24 ft.

Capacity table (elevation in feet, and contents, in acre-feet)  
(Based on data provided by California Department of Water Resources in 1978)

1460	213,807	1500	291,186
1470	231,964	1510	310,451
1480	250,894	1520	334,985
1490	270,629		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255517	237090	220205	238574	268902	315689	320490	299936	283663	294833	293122	277784
2	253491	236210	218187	241480	272059	316593	319934	298123	285943	294579	293143	277744
3	251261	238348	219339	240969	273413	319069	319424	296380	288610	293143	293692	278030
4	249138	239459	220874	240081	275421	319690	318759	296380	290850	291817	293713	276235
5	248849	239497	219574	239157	277846	319202	318161	296698	289886	292090	294516	274467
6	248041	238179	218385	238442	276927	318715	318427	296762	288881	294030	293291	272665
7	246010	236959	217810	238311	276581	319335	319114	297761	289928	295977	291880	271676
8	243853	235742	218799	241026	280139	320001	320290	295892	292616	297740	290703	272584
9	241916	234510	219880	240289	288213	320801	319424	294093	291501	296762	289383	273454
10	239836	234977	222269	239553	289551	320379	318449	293966	293502	295553	289991	272746
11	237597	237484	223832	240837	290892	319823	317520	294981	294896	294410	290703	270911
12	236865	237278	223105	241613	289991	319912	318228	296210	293924	293143	291754	269143
13	239082	235948	223087	244330	291501	320579	317277	296359	292996	295002	292132	269686
14	239063	234548	223051	244292	290808	321001	316306	296104	294262	297357	290703	269867
15	236959	233207	225088	248368	294114	320379	317100	294304	295489	297485	289321	269967
16	237221	231723	228807	248387	293207	321001	315953	292511	294199	296316	287942	270108
17	235238	232112	231631	248484	298059	320245	314831	290682	296847	295066	288150	268360
18	233170	233282	231464	249504	302185	319535	313864	290955	297378	293818	288547	266898
19	232892	233691	230484	254230	308839	320623	314369	289237	295977	295532	288777	265381
20	235257	231964	229506	258258	312330	320068	314457	287691	294664	297144	289446	263789
21	237766	230281	230521	257787	313886	320601	314215	286026	294918	295722	287816	263829
22	239534	228715	232502	257219	313381	320356	313074	284594	295828	297378	286275	265760
23	238010	226916	233691	256690	314391	320734	311849	283208	297102	299018	284718	266718
24	236547	225034	235201	256123	316593	320668	310233	285009	296698	297442	284718	265301
25	235070	223105	234119	257356	316836	321691	308535	286775	296847	295871	286546	264067
26	233989	225307	233059	260700	316924	321802	307623	288109	294854	297399	287004	262797
27	233989	224050	232057	262658	316284	321891	305588	289593	292932	298784	284884	261549
28	236978	222178	233152	264445	315689	321914	304509	288463	292553	297208	282877	259970
29	239855	220314	234007	268761	---	321914	302357	287233	293671	298144	280858	260621
30	239007	218367	237409	267939	---	321023	301928	286047	294030	296443	278766	262916
31	238029	---	239421	267158	---	320112	---	284864	---	295172	278438	---
MAX	255517	239497	239421	268761	316924	321914	320490	299936	297378	299018	294516	278030
MIN	232892	218367	217810	238311	268902	315689	301928	283208	283663	291817	278438	259970
a	1473.25	1462.55	1473.99	1488.27	1511.39	1513.39	1505.06	1496.97	1501.35	1501.89	1493.85	1486.14
b	-19307	-19662	+21054	+27737	+48531	+4423	-18184	-17064	+9166	+1142	-16734	-15522

CAL YR 1992 MAX 319513 MIN 217810 b -56026  
WTR YR 1993 MAX 321914 MIN 217810 b +5580

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## 11108135 CASTAIC LAGOON PARSHALL FLUME NEAR CASTAIC, CA

LOCATION.--Lat 34°29'50", long 118°36'49", in SW 1/4 SE 1/4 sec.24, T.5 N., R.17 W., Los Angeles County, Hydrologic Unit 18070102, at southeast end of lagoon under Lake Hughes Road Bridge, 0.5 mi east of Castaic on Lake Hughes Road.

DRAINAGE AREA.--138 mi<sup>2</sup>, excludes 18.1 mi<sup>2</sup> noncontributing area in Elizabeth Canyon Creek basin.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. June 1972 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 1,140 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor outflow from Castaic Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,000 ft<sup>3</sup>/s, Feb. 13, 1992; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 7,670 ft<sup>3</sup>/s, Mar. 2, 1983, gage height, 4.10 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 400 ft<sup>3</sup>/s, Mar. 26-31; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	50	30	13	10	.00	13
2	.00	.00	.00	.00	.00	.00	50	30	13	10	.00	13
3	.00	.00	.00	.00	.00	150	50	31	13	10	.00	13
4	.00	.00	.00	.00	6.6	150	50	31	13	10	.00	13
5	.00	.00	.00	.00	5.0	275	50	31	13	10	.00	13
6	.00	.00	.00	.00	5.0	300	50	31	13	10	.00	13
7	.00	.00	.00	.00	5.0	300	50	31	13	.00	.00	13
8	.00	.00	.00	.00	5.0	129	50	31	13	.00	.00	13
9	.00	.00	.00	.00	5.0	100	50	31	13	.00	.00	13
10	.00	.00	.00	.00	.00	150	50	31	13	.00	.00	13
11	.00	.00	.00	.00	.00	155	50	31	13	.00	.00	14
12	.00	.00	.00	.00	.00	200	50	31	13	.00	.00	14
13	.00	.00	.00	.00	.00	200	50	31	13	.00	.00	14
14	.00	.00	.00	.00	.00	200	50	31	13	.00	.00	14
15	.00	.00	.00	.00	.00	200	50	31	13	.00	.00	14
16	.00	.00	.00	.00	.00	200	50	31	13	.00	.00	14
17	.00	.00	.00	.00	.00	175	50	31	13	.00	2.0	14
18	.00	.00	.00	.00	5.0	150	50	31	13	.00	12	14
19	.00	.00	.00	.00	5.0	150	50	31	13	.00	12	14
20	.00	.00	.00	.00	5.0	150	50	31	13	2.0	12	14
21	.00	.00	.00	.00	5.0	175	50	31	8.0	10	12	14
22	.00	.00	.00	.00	5.0	200	50	31	8.0	10	12	14
23	.00	.00	.00	.00	5.0	200	50	31	8.0	10	12	14
24	.00	.00	.00	.00	5.0	200	50	31	8.0	10	12	14
25	.00	.00	.00	.00	5.0	200	53	31	8.0	10	12	14
26	.00	.00	.00	.00	5.0	400	55	31	8.0	10	12	14
27	.00	.00	.00	.00	5.0	400	55	31	7.0	10	12	14
28	.00	.00	.00	.00	5.0	400	55	31	5.0	10	12	14
29	.00	.00	.00	.00	---	400	55	31	.00	10	12	14
30	.00	.00	.00	.00	---	400	55	31	.00	10	12	14
31	.00	---	.00	.00	---	400	---	31	---	10	12	---
TOTAL	0.00	0.00	0.00	0.00	86.60	6709.00	1528	959	320.00	172.00	170.00	410
MEAN	.000	.000	.000	.000	3.09	216	50.9	30.9	10.7	5.55	5.48	13.7
MAX	.00	.00	.00	.00	6.6	400	55	31	13	10	12	14
MIN	.00	.00	.00	.00	.00	.00	50	30	.00	.00	.00	13
AC-FT	.00	.00	.00	.00	172	13310	3030	1900	635	341	337	813

## 11108135 CASTAIC LAGOON PARSHALL FLUME NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.076	.000	31.2	32.3	17.2	16.4	26.8	14.3	1.94	4.23
MAX	.000	.000	.54	.000	209	216	51.3	72.7	175	94.2	8.10	16.0
(WY)	1977	1977	1992	1977	1992	1993	1992	1978	1978	1978	1978	1978
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1977 - 1993			
ANNUAL TOTAL	8294.00				10354.60							
ANNUAL MEAN	22.7				28.4				11.9			
HIGHEST ANNUAL MEAN									32.1			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	3000				400				3000			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
ANNUAL RUNOFF (AC-FT)	16450				20540				8610			
10 PERCENT EXCEEDS	17				50				13			
50 PERCENT EXCEEDS	.00				5.0				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA

LOCATION.--Lat 34°23'59", long 118°42'14", in San Francisco Grant, Ventura County, Hydrologic Unit 18070102, on downstream end of old diversion weir on right bank, on private road 0.2 mi south of Highway 126, 0.8 mi west of Los Angeles-Ventura County line, and 6.4 mi west of intersection of Highway 126 and Interstate 5.  
DRAINAGE AREA.--625 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1952 to current year.

CHEMICAL DATA: Water years 1969, 1972-88.

BIOLOGICAL DATA: Water years 1979-80.

WATER TEMPERATURE: Water years 1969-78 (observed), February to September 1980.

SEDIMENT DATA: Water years 1969-88.

REVISED RECORDS.--WDR CA-78-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 794.93 ft above sea level.

REMARKS.--Records poor. Base flow affected by pumping from wells along stream for irrigation. Flow partly regulated since January 1972 by Castaic Lake (station 11108133), capacity, 324,000 acre-ft. Imported water from California Water Project stored and released at Castaic Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,800 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 19.01 ft, from rating curve extended above 9,200 ft<sup>3</sup>/s on basis of field estimate of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1130	2,020	8.61	Feb. 18	2115	*10,700	*11.02
Jan. 7	0600	3,220	9.48	Feb. 23	1315	5,570	9.22
Jan. 13	0815	6,990	9.89	Feb. 27	2015	2,760	7.62
Jan. 18	0830	8,850	10.49	Mar. 28	1045	1,270	6.68
Feb. 8	0015	9,470	10.68				

Minimum daily, 17 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	26	23	33	47	471	639	87	79	46	43	44
2	18	26	23	46	43	433	375	91	77	48	44	45
3	18	26	24	33	39	431	311	91	75	49	41	45
4	18	26	26	34	39	477	232	95	73	51	44	46
5	20	25	26	34	38	445	217	80	88	53	45	46
6	19	26	28	138	37	390	185	80	68	55	47	48
7	19	26	557	1340	530	392	164	83	74	54	48	50
8	19	27	58	334	2380	337	151	79	66	53	48	52
9	20	27	59	99	583	286	119	74	61	53	47	51
10	20	26	59	116	192	313	112	76	59	53	48	50
11	20	24	52	102	155	331	137	76	57	49	47	50
12	21	23	51	1050	136	312	137	76	58	52	47	54
13	22	26	50	3950	109	337	122	80	57	51	46	55
14	22	29	48	2080	89	332	119	75	55	50	48	51
15	22	29	43	1940	80	311	114	77	53	49	50	50
16	22	28	38	2570	81	348	115	75	52	52	49	50
17	22	28	36	2220	85	327	117	75	51	51	46	51
18	22	25	34	4260	2360	307	117	75	47	44	46	54
19	23	23	31	1790	e5000	296	119	76	46	42	48	53
20	23	22	29	340	e2500	296	119	75	46	41	45	55
21	23	23	27	263	1760	311	120	74	45	40	44	52
22	22	23	28	185	623	285	122	74	45	38	45	54
23	22	24	29	168	1890	288	122	76	44	37	49	48
24	24	23	27	134	1080	e267	112	79	40	36	42	45
25	23	24	21	100	635	e244	100	81	39	34	39	45
26	23	24	21	85	654	e292	98	80	41	35	40	48
27	23	23	22	82	841	e800	98	81	42	35	42	50
28	23	24	28	77	555	e935	93	80	45	37	40	50
29	23	24	91	70	---	e785	93	76	47	41	41	48
30	32	24	31	65	---	810	90	77	46	40	43	47
31	25	---	32	58	---	787	---	76	---	41	45	---
TOTAL	670	754	1652	23796	22561	12976	4769	2450	1676	1410	1397	1487
MEAN	21.6	25.1	53.3	768	806	419	159	79.0	55.9	45.5	45.1	49.6
MAX	32	29	557	4260	5000	935	639	95	88	55	50	55
MIN	17	22	21	33	37	244	90	74	39	34	39	44
AC-FT	1330	1500	3280	47200	44750	25740	9460	4860	3320	2800	2770	2950

e Estimated.

## 11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1971, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.06	26.9	31.1	85.0	167	50.5	47.7	15.3	7.64	4.30	2.90	2.30
MAX	29.1	267	291	1211	2351	479	419	88.2	44.6	26.4	17.8	16.8
(WY)	1970	1966	1966	1969	1969	1969	1958	1967	1969	1969	1969	1969
MIN	.000	.52	.83	.99	1.16	1.24	.88	.44	.20	.003	.000	.000
(WY)	1961	1965	1961	1965	1965	1965	1961	1961	1961	1961	1960	1960

## SUMMARY STATISTICS

## WATER YEARS 1953 - 1971

ANNUAL MEAN	36.2	
HIGHEST ANNUAL MEAN	350	1969
LOWEST ANNUAL MEAN	.77	1961
HIGHEST DAILY MEAN	28800	Feb 25 1969
LOWEST DAILY MEAN	.00	Jul 9 1959
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 9 1960
INSTANTANEOUS PEAK FLOW	68800	Jan 25 1969
INSTANTANEOUS PEAK STAGE	19.01	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	26210	
10 PERCENT EXCEEDS	31	
50 PERCENT EXCEEDS	2.0	
90 PERCENT EXCEEDS	.30	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

MEAN	24.8	35.7	56.9	109	199	185	68.2	43.1	35.2	24.2	19.8	22.2
MAX	60.5	131	169	768	806	1101	189	168	188	106	45.1	49.6
(WY)	1979	1979	1989	1993	1993	1983	1983	1983	1978	1978	1993	1993
MIN	7.28	8.61	14.6	18.3	15.5	18.2	13.4	10.7	7.84	3.63	2.44	7.59
(WY)	1974	1978	1977	1975	1977	1977	1977	1976	1976	1976	1976	1977

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1972 - 1993

ANNUAL TOTAL	34574		75598	
ANNUAL MEAN	94.5		207	
HIGHEST ANNUAL MEAN				67.9
LOWEST ANNUAL MEAN				207
HIGHEST DAILY MEAN	5080	Feb 12	5000	Feb 19
LOWEST DAILY MEAN	15	Aug 21	17	Oct 1
ANNUAL SEVEN-DAY MINIMUM	16	Aug 16	18	Oct 1
INSTANTANEOUS PEAK FLOW			10700	Feb 18
INSTANTANEOUS PEAK STAGE			11.02	Feb 18
ANNUAL RUNOFF (AC-FT)	68580		149900	
10 PERCENT EXCEEDS	91		391	
50 PERCENT EXCEEDS	27		51	
90 PERCENT EXCEEDS	19		23	
				11.78
				Mar 1 1983
				Mar 2 1983
				Aug 30 1976
				Aug 28 1976
				Mar 1 1983
				Mar 1 1983
				49210
				99
				28
				12

## 11109375 PIRU CREEK BELOW BUCK CREEK, NEAR PYRAMID LAKE, CA

LOCATION.--Lat 34°39'58", long 118°49'24", in SE 1/4 SE 1/4 sec.30, T.7 N., R.18 W., Ventura County, Hydrologic Unit 18070102, on left bank 300 ft downstream from the confluence of Piru Creek and Buck Creek and 2.3 mi southeast of U.S. Forest Service Hardluck Campground.

DRAINAGE AREA.--198 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. February 1975 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 2,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor flow into Pyramid Lake.

COOPERATION.--Records were provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft<sup>3</sup>/s, estimated, Mar. 4, 1978, gage height, 10.08 ft, maximum gage height, 12.06 ft, Feb. 12, 1992; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft<sup>3</sup>/s, Feb. 19, gage height, 10.33 ft; minimum daily, 5.3 ft<sup>3</sup>/s, Oct. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	9.8	8.1	29	115	508	407	125	63	31	18	14
2	5.4	9.2	8.6	51	108	460	372	122	62	30	18	14
3	6.0	8.8	9.4	35	102	436	349	120	60	30	17	14
4	6.1	8.6	11	25	98	407	334	118	61	30	17	13
5	5.8	8.6	11	25	92	384	322	114	83	30	17	13
6	5.7	8.4	43	52	91	374	299	109	76	29	16	14
7	5.5	8.2	105	665	198	363	282	106	66	28	16	14
8	5.4	8.5	74	463	2600	355	266	103	63	27	17	13
9	5.5	8.5	44	188	841	340	257	100	60	27	17	13
10	5.4	8.3	29	138	514	328	248	97	58	26	16	13
11	5.3	8.3	21	105	407	316	241	96	54	25	16	13
12	5.3	8.4	16	151	344	306	229	93	51	25	16	13
13	5.4	8.5	15	1070	302	299	216	90	49	25	17	13
14	5.8	8.4	13	1180	277	313	206	87	47	25	17	13
15	6.3	8.5	13	696	254	316	202	86	45	24	18	13
16	6.3	8.7	12	526	234	294	195	85	45	24	17	14
17	6.1	8.5	12	681	222	307	189	84	44	24	17	15
18	6.2	8.5	12	601	1060	319	181	80	43	24	17	15
19	6.3	8.5	11	467	4410	285	175	78	41	23	16	15
20	6.2	8.5	11	404	1050	271	168	78	41	23	16	15
21	6.6	8.4	11	393	704	268	165	77	47	23	16	15
22	7.1	8.6	11	397	609	260	164	74	42	22	16	14
23	6.9	8.4	10	332	1370	256	158	73	40	22	15	14
24	8.9	8.6	10	264	746	255	152	71	38	22	15	14
25	8.9	8.7	9.9	222	618	868	146	73	36	22	15	14
26	8.5	8.7	9.7	195	596	1320	144	73	34	22	15	14
27	8.1	8.5	9.9	179	544	615	143	70	34	22	15	14
28	8.3	8.5	15	163	502	570	138	69	34	21	14	14
29	8.4	8.1	263	148	---	526	133	67	33	20	14	14
30	11	8.0	120	135	---	474	130	64	32	20	14	14
31	11	---	48	126	---	433	---	63	---	19	14	---
TOTAL	209.1	256.2	996.6	10106	19008	12826	6611	2745	1482	765	499	415
MEAN	6.75	8.54	32.1	326	679	414	220	88.5	49.4	24.7	16.1	13.8
MAX	11	9.8	263	1180	4410	1320	407	125	83	31	18	15
MIN	5.3	8.0	8.1	25	91	255	130	63	32	19	14	13
AC-FT	415	508	1980	20050	37700	25440	13110	5440	2940	1520	990	823

## SANTA CLARA RIVER BASIN

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11109375 PIRU CREEK BELOW BUCK CREEK, NEAR PYRAMID LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.04	3.14	12.4	69.0	262	219	112	42.6	17.4	8.32	4.93	5.07
MAX	6.75	8.54	33.1	326	679	674	235	93.5	49.4	24.7	16.1	13.8
(WY)	1993	1993	1978	1993	1993	1978	1978	1978	1993	1993	1993	1993
MIN	.099	1.16	1.62	2.28	5.36	5.31	2.67	1.21	.46	.001	.000	.000
(WY)	1978	1978	1991	1991	1990	1990	1990	1990	1990	1990	1989	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1977 - 1993	
ANNUAL TOTAL	35636.1		55918.9			
ANNUAL MEAN	97.4		153		61.8	
HIGHEST ANNUAL MEAN					153	
LOWEST ANNUAL MEAN					2.45	
HIGHEST DAILY MEAN	6540	Feb 12	4410	Feb 19	7010	Feb 9 1978
LOWEST DAILY MEAN	5.3	Oct 11	5.3	Oct 11	.00	Sep 6 1977
ANNUAL SEVEN-DAY MINIMUM	5.4	Oct 7	5.4	Oct 7	.00	Sep 6 1977
INSTANTANEOUS PEAK FLOW			10600	Feb 19	19000	Mar 4 1978
INSTANTANEOUS PEAK STAGE			10.33	Feb 19	12.06	Feb 12 1992
ANNUAL RUNOFF (AC-FT)	70680		110900		44780	
10 PERCENT EXCEEDS	266		405		159	
50 PERCENT EXCEEDS	14		34		6.1	
90 PERCENT EXCEEDS	6.8		8.4		.03	

## 11109395 CANADA DE LOS ALAMOS ABOVE PYRAMID LAKE, CA

LOCATION.--Lat 34°41'31", long 118°47'25", in SW 1/4 SE 1/4 sec.16, T.7 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, on right bank 1.1 mi south of Hungry Valley Road off-ramp from Interstate Highway 5 and 0.4 mi above Pyramid Landing on Pyramid Lake.

DRAINAGE AREA.--61.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1978, October 1988 to current year. March 1965 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Station is used to monitor natural inflow to Pyramid Lake.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,990 ft<sup>3</sup>/s, Feb. 10, 1978, gage height, 5.10 ft; minimum daily, 0.30 ft<sup>3</sup>/s, May 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 138 ft<sup>3</sup>/s, Feb. 19, gage height, 3.50 ft; minimum daily, 1.3 ft<sup>3</sup>/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.6	2.5	3.8	3.2	3.0	3.5	2.5	2.4	1.6	1.8	1.9
2	2.0	2.6	2.8	5.6	3.4	3.3	3.5	2.4	2.1	1.4	1.7	1.6
3	2.2	2.6	2.8	5.2	3.8	3.6	3.4	2.4	2.0	1.7	1.8	1.4
4	2.1	2.6	3.0	4.4	4.2	3.6	3.2	2.4	1.9	2.0	1.7	1.3
5	2.0	2.7	2.9	4.0	4.8	3.8	3.2	2.6	2.5	1.8	1.7	1.5
6	2.0	2.5	3.6	4.2	5.2	3.6	3.1	2.6	2.8	1.7	1.6	1.6
7	1.9	2.5	24	16	7.0	3.9	3.0	2.6	2.7	1.6	1.6	1.5
8	2.0	2.6	4.3	27	84	4.1	3.0	2.7	2.6	1.6	1.7	1.6
9	1.8	2.7	3.1	9.8	107	4.3	3.1	2.8	2.4	1.7	1.8	1.5
10	1.9	2.6	2.8	5.8	54	4.6	3.2	2.8	2.2	1.7	1.7	1.6
11	1.9	2.6	2.9	4.6	4.9	4.9	3.2	2.6	2.1	1.6	1.7	1.6
12	2.0	2.6	2.8	4.9	4.5	5.0	3.3	2.8	1.9	1.7	1.7	1.7
13	2.0	2.5	2.6	33	4.5	5.2	3.6	2.9	2.0	1.7	1.9	2.0
14	2.1	2.5	2.5	32	4.2	5.5	3.4	3.0	1.9	1.7	2.0	2.0
15	2.2	2.5	2.6	15	3.9	5.8	3.4	3.1	1.9	1.5	2.1	2.0
16	2.2	2.5	2.6	6.3	3.4	6.1	3.2	3.2	1.9	1.6	2.0	1.9
17	2.1	2.5	2.3	12	3.3	6.1	3.2	3.2	1.9	1.5	1.8	2.2
18	2.1	2.5	2.3	68	35	6.5	3.3	3.2	1.9	1.6	1.7	2.3
19	2.0	2.6	2.7	27	100	6.9	3.1	3.0	1.8	1.7	1.7	2.2
20	2.0	2.5	2.5	9.6	8.5	7.3	3.0	2.6	2.0	1.7	1.7	2.0
21	2.2	2.4	2.5	5.9	3.3	7.9	3.0	2.6	2.1	1.9	1.8	2.3
22	2.2	2.5	2.6	4.7	3.2	8.1	3.0	2.6	2.0	1.7	1.7	2.1
23	2.1	2.5	2.5	4.2	6.9	8.1	3.0	2.7	1.9	1.9	1.6	2.0
24	3.1	2.5	2.5	4.0	4.6	8.6	2.9	2.8	1.8	2.2	1.6	2.1
25	2.4	2.5	2.5	3.5	3.3	23	2.7	2.7	1.8	2.2	1.6	1.9
26	2.2	2.4	2.5	3.4	5.7	50	2.7	2.8	1.7	2.1	1.6	1.8
27	2.2	2.5	2.3	3.3	4.2	13	2.8	2.9	1.7	2.2	1.6	1.7
28	2.2	2.5	2.8	3.0	3.3	10	2.8	2.7	1.8	2.3	1.5	1.7
29	2.2	2.5	6.9	3.1	---	6.2	2.6	2.6	1.8	2.1	1.6	1.8
30	3.2	2.5	4.9	3.2	---	4.9	2.5	2.4	1.8	1.8	1.8	1.8
31	2.8	---	3.7	3.3	---	4.2	---	2.4	---	1.7	1.8	---
TOTAL	67.3	76.1	113.3	339.8	483.3	241.1	92.9	84.6	61.3	55.2	53.6	54.6
MEAN	2.17	2.54	3.65	11.0	17.3	7.78	3.10	2.73	2.04	1.78	1.73	1.82
MAX	3.2	2.7	24	68	107	50	3.6	3.2	2.8	2.3	2.1	2.3
MIN	1.8	2.4	2.3	3.0	3.2	3.0	2.5	2.4	1.7	1.4	1.5	1.3
AC-FT	133	151	225	674	959	478	184	168	122	109	106	108

11109395 CANADA DE LOS ALAMOS ABOVE PYRAMID LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.85	2.23	2.76	4.01	16.5	10.4	2.55	2.03	1.74	1.46	1.50	1.58
MAX	2.30	2.72	3.65	11.0	64.3	40.5	3.31	2.84	2.09	1.90	1.73	1.82
(WY)	1990	1991	1993	1993	1978	1978	1992	1992	1991	1992	1993	1993
MIN	1.40	1.56	1.93	2.38	1.80	1.80	1.50	.83	1.18	.97	1.32	1.27
(WY)	1977	1978	1977	1978	1977	1977	1977	1977	1978	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1977 - 1993		
ANNUAL TOTAL	1584.5			1723.1					
ANNUAL MEAN	4.33			4.72			3.97		
HIGHEST ANNUAL MEAN							9.72		
LOWEST ANNUAL MEAN							1.54		
HIGHEST DAILY MEAN	389			107			1220		
LOWEST DAILY MEAN	1.1			1.3			.30		
ANNUAL SEVEN-DAY MINIMUM	1.3			1.5			.36		
INSTANTANEOUS PEAK FLOW				138			2990		
INSTANTANEOUS PEAK STAGE				3.50			5.10		
ANNUAL RUNOFF (AC-FT)	3140			3420			2880		
10 PERCENT EXCEEDS	3.8			5.8			3.2		
50 PERCENT EXCEEDS	2.5			2.5			2.0		
90 PERCENT EXCEEDS	1.5			1.7			1.3		

## 11109520 PYRAMID LAKE NEAR GORMAN, CA

LOCATION.--Lat 34°38'41", long 118°45'47", in NW 1/4 NW 1/4 sec.2, T.6 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, on center of upstream face of Pyramid Dam and 11.5 mi southeast of Gorman.  
DRAINAGE AREA.--295 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam. Storage began August 1974. Dead storage below outlet to Angeles Tunnel, 5,720 acre-ft, elevation 2,345 ft, included in contents. Capacity below invert of radial gate, 133,600 acre-ft, elevation 2,547.72 ft; below top of radial gate, 169,901 acre-ft, elevation, 2,578 ft; below spillway level, 171,196 acre-ft, elevation, 2,579 ft. Lake receives natural flow from Piru Creek, Canada de Los Alamos, and imported water from West Branch California Aqueduct. Water is released through the Angeles Tunnel to Castaic Powerplant and during periods of low electricity demand water from Elderberry Forebay is pumped back to Pyramid Lake. Water is also released to Piru Creek to satisfy minimum fishwater release requirements (see station 11109525). Records, including extremes, represent contents at 2400 hours.

COOPERATION.--Records provided by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 170,043 acre-ft, Nov. 5, 1989; elevation, 2,578.11 ft; minimum, 137,883 acre-ft, Nov. 26, 1991, elevation, 2,551.53 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 168,729 acre-ft, Jan. 2, elevation, 2,577.09 ft; minimum, 150,506 acre-ft, Oct. 23, elevation, 2,562.38 ft.

Capacity table (elevation in feet, and contents, in acre-feet)  
(Based on data provided by California Department of Water Resources in 1978)

2545	130,601	2565	153,364
2550	136,154	2570	159,778
2555	141,850	2575	166,057
2560	147,680	2580	172,497

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159604	167856	165080	165244	165638	161708	165523	165371	165219	161383	159283	165016
2	158899	166451	163892	168729	165270	161858	164270	165942	165549	155988	161295	162296
3	159245	164763	164624	166961	164548	162170	165650	164384	165371	158245	160436	159382
4	163892	164826	158331	163149	163564	159617	166694	162358	165473	162571	158936	158319
5	165042	163917	159431	160772	162622	159505	166031	161583	165763	164157	157224	162459
6	163791	162333	162634	157482	162785	159109	165765	160536	165561	162346	156037	166413
7	163942	162898	162596	158541	164359	161945	165803	160324	165409	160672	157900	165752
8	162246	164498	162709	157310	164220	163338	164978	161508	165016	159233	161658	163841
9	162383	165473	161258	156318	164144	164669	164005	164915	161783	157053	162546	162358
10	162433	164700	160585	159406	162396	165790	165181	166324	160498	159085	163426	157507
11	165333	163841	160648	160523	161933	166388	167421	167383	160672	161708	162960	158122
12	164725	162898	161695	162108	162459	166235	165917	165573	159964	160498	161908	160710
13	163212	160921	164068	165511	163237	165650	164194	163023	164409	161808	160386	161583
14	161845	159728	164030	165650	166133	164750	163640	160001	163161	161595	161758	161021
15	158097	161320	163879	163677	165181	164258	163791	162033	161021	160511	166515	161395
16	155415	160014	163249	162158	161945	163300	163023	165968	158837	160113	166566	161258
17	159196	159989	162910	164510	157212	164144	161271	165409	157790	161121	164890	159245
18	162596	159134	159505	165511	155427	165080	162521	165574	157753	163993	162308	160984
19	161046	158430	159283	160200	162734	166936	161558	165232	161883	162697	160063	163929
20	158998	157704	161283	159716	161720	167217	161620	164144	166553	160984	157188	164346
21	156257	155988	161970	160349	161858	167255	158800	162935	165866	159406	160735	164637
22	152520	155951	162734	161920	163463	167268	158874	162684	165080	156037	165118	164384
23	150506	156049	163879	163388	165955	167575	159295	163300	161695	155183	165714	160473
24	154309	155281	164182	165638	165422	166566	157409	162333	160101	157163	163791	157753
25	159344	154200	164839	165346	163753	168177	158640	161920	158134	160585	162058	158800
26	160760	155817	165042	165955	162383	168575	159691	161408	160299	160275	159060	160113
27	160511	157777	167396	166031	160585	166388	160449	160225	164548	160747	158529	157888
28	160710	161920	166630	164864	161633	164081	161046	160486	164826	160411	160672	156710
29	161845	166451	165714	162722	---	163451	162383	162873	164409	159927	165815	156955
30	161833	167600	164245	164245	---	164308	163929	164131	163917	159914	163929	156477
31	164321	---	161221	167089	---	164940	---	165358	---	160250	163627	---
MAX	165333	167856	167396	168729	166133	168575	167421	167383	166553	164157	166566	166413
MIN	150506	154200	158331	156318	155427	159109	157409	160001	157753	155183	156037	156477
a	2573.63	2576.21	2571.16	2575.81	2571.49	2574.12	2573.32	2574.45	2573.31	2570.38	2573.08	2567.32
b	+5533	+3279	-6379	+5868	-5456	+3307	-1011	+1429	-1441	-3667	+3377	-7150

CAL YR 1992 MAX 167856 MIN 140172 b +16940  
WTR YR 1993 MAX 168729 MIN 150506 b -2311

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## 11109525 PIRU CREEK BELOW PYRAMID LAKE, NEAR GORMAN, CA

LOCATION.--Lat 34°38'30", long 118°45'49", in SW 1/4 NW 1/4 sec.2, T.61 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, at downstream base of dam and 11.7 mi southeast of Gorman.

DRAINAGE AREA.--295 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.--Flow meters with totalizer. Elevation of gage is 2,200 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated beginning December 1971 by Pyramid Lake, capacity, 171,196 acre-ft. Station is operated to satisfy fishwater release requirements as prescribed by the Federal Energy Regulatory Commission.

COOPERATION.--Records provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,990 ft<sup>3</sup>/s, Feb. 26, 1993; minimum daily, 5.0 ft<sup>3</sup>/s, many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,990 ft<sup>3</sup>/s, Feb. 26; minimum daily, 5.0 ft<sup>3</sup>/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	50	100	50	5.0	630	500	50	41	41	25	26
2	35	50	100	50	5.0	15	450	50	41	41	25	26
3	35	50	100	50	5.0	25	400	50	41	41	25	26
4	35	60	100	50	5.0	25	400	50	41	41	25	26
5	40	65	100	50	5.0	50	390	50	41	41	25	26
6	40	70	89	50	5.0	50	300	50	41	40	26	26
7	40	75	60	50	5.0	50	108	50	41	40	26	26
8	45	80	40	550	5.0	50	100	50	41	39	26	26
9	47	85	40	550	5.0	50	100	50	41	39	26	26
10	48	90	40	300	5.0	50	100	50	41	37	26	26
11	48	90	40	150	5.0	50	100	49	41	37	26	26
12	48	92	40	150	5.0	50	100	49	41	36	26	26
13	48	92	40	250	5.0	50	50	49	41	36	26	26
14	48	92	25	1670	5.0	50	50	48	41	36	26	26
15	48	92	10	1040	5.0	50	50	48	41	35	26	26
16	48	92	10	1140	5.0	50	50	48	41	35	26	26
17	48	92	10	750	5.0	50	50	47	41	30	26	26
18	48	92	10	750	5.0	50	50	46	41	28	26	26
19	48	92	10	195	1500	150	50	46	41	28	26	25
20	48	92	10	1000	1370	200	50	46	41	28	26	25
21	48	92	10	750	500	200	50	46	41	27	26	25
22	48	92	10	400	5.0	200	50	46	41	27	26	25
23	48	92	10	200	1060	200	50	46	41	27	26	25
24	48	92	10	200	1700	200	50	46	41	27	26	25
25	49	92	10	200	500	200	50	46	41	27	26	25
26	49	92	10	200	3990	426	50	46	41	26	26	25
27	49	92	10	200	675	500	50	46	41	26	26	25
28	49	92	10	200	675	850	50	46	41	26	26	25
29	49	92	10	5.0	---	500	50	46	41	26	26	25
30	49	94	25	5.0	---	500	50	46	41	26	26	25
31	49	---	50	6.0	---	500	---	46	---	26	26	---
TOTAL	1410	2515	1139	11211.0	12065.0	6021	3948	1482	1230	1020	801	768
MEAN	45.5	83.8	36.7	362	431	194	132	47.8	41.0	32.9	25.8	25.6
MAX	49	94	100	1670	3990	850	500	50	41	41	26	26
MIN	30	50	10	5.0	5.0	15	50	46	41	26	25	25
AC-FT	2800	4990	2260	22240	23930	11940	7830	2940	2440	2020	1590	1520

## 11109525 FIRU CREEK BELOW PYRAMID LAKE, NEAR GORMAN, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	30.8	22.8	82.3	194	115	43.6	36.0	25.1	23.0	19.4	19.8
MAX	45.5	83.8	37.4	362	491	242	132	97.3	41.0	32.9	25.8	25.6
(WY)	1993	1993	1991	1993	1992	1992	1993	1991	1993	1993	1993	1993
MIN	11.5	7.40	5.27	5.00	5.00	15.0	5.57	10.6	12.5	13.6	12.9	13.0
(WY)	1990	1989	1990	1991	1991	1990	1992	1990	1990	1989	1989	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1989 - 1993			
ANNUAL TOTAL	31074.0				43610.0							
ANNUAL MEAN	84.9				119				51.7			
HIGHEST ANNUAL MEAN									119			
LOWEST ANNUAL MEAN									10.8			
HIGHEST DAILY MEAN	2920				3990				3990			
LOWEST DAILY MEAN	5.0				5.0				5.0			
ANNUAL SEVEN-DAY MINIMUM	5.0				5.0				5.0			
ANNUAL RUNOFF (AC-FT)	61640				86500				37480			
10 PERCENT EXCEEDS	250				200				82			
50 PERCENT EXCEEDS	25				46				15			
90 PERCENT EXCEEDS	10				10				5.0			

## 11109600 PIRU CREEK ABOVE LAKE PIRU, CA

LOCATION.--Lat 34°31'23", long 118°45'22", in NE 1/4 NW 1/4 sec.15, T.5 N., R.18 W., Ventura County, Hydrologic Unit 18070102, on left bank near Blue Point, 1.3 mi downstream from Agua Blanca Creek, 4.3 mi upstream from Santa Felicia Dam, 8.0 mi northeast of Piru, and 15 mi downstream from Pyramid Dam.

DRAINAGE AREA.--372 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to current year.

CHEMICAL DATA: Water years 1972-80.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,058.55 ft above sea level (levels by U.S. Forest Service). Prior to Dec. 15, 1972, at site 0.3 mi upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated beginning December 1971 by Pyramid Lake, capacity, 171,196 acre-ft. Imported water from the California Water Project stored and released at Pyramid Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 18.6 ft, site and datum then in use, from floodmarks, from rating curve extended above 4,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 12.2 ft and inflow-outflow records for Lake Piru; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 35,000 ft<sup>3</sup>/s, and is the greatest since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,940 ft<sup>3</sup>/s, Feb. 26, gage height, 7.91 ft from crest-stage gage, from rating curve extended above 1,000 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 7.80 and 11.36 ft; minimum daily, 21 ft<sup>3</sup>/s, Dec. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	61	107	64	110	e1000	543	109	e49	e52	38	28
2	36	61	107	86	103	e230	505	108	e47	e52	37	28
3	38	63	107	67	99	e200	445	108	e46	e52	37	27
4	39	63	109	60	96	e200	444	105	e46	e52	37	27
5	40	68	107	40	92	e220	415	105	e46	e51	35	26
6	47	68	119	53	88	e220	332	101	e45	e50	34	27
7	48	75	412	1120	196	e230	216	96	e45	e49	35	26
8	49	76	90	e200	1240	e220	202	94	e45	e48	34	26
9	53	84	63	e60	564	e210	195	87	e45	e47	33	26
10	53	85	57	e65	330	e220	187	57	46	e46	33	26
11	53	95	55	e60	268	e230	184	56	62	e45	32	26
12	53	90	53	e370	239	e220	174	56	73	e45	32	26
13	53	102	53	e2000	216	e220	150	e55	72	e44	31	27
14	53	105	52	e850	210	e220	146	e53	71	e44	32	27
15	53	105	31	e800	194	e210	145	e52	68	e43	33	27
16	53	105	26	e900	180	201	143	e51	66	e43	32	28
17	53	105	25	e1000	171	195	141	e50	e63	e42	31	27
18	53	103	26	e2000	844	188	140	e50	e61	e42	30	27
19	53	104	24	e1500	2190	259	135	e50	e58	e41	30	27
20	53	105	23	e1000	2910	262	132	e50	e56	e40	30	27
21	53	105	23	e700	1110	260	130	e50	e55	39	29	28
22	54	105	23	e600	799	256	129	e50	e54	41	30	28
23	56	105	22	e500	e1600	253	127	e50	e53	40	29	27
24	57	105	22	e400	e2300	254	124	e50	e52	40	28	26
25	58	105	22	e350	e1200	615	120	e50	e51	40	29	25
26	57	105	21	e300	e3200	1240	118	e50	e51	48	28	25
27	58	105	22	246	e1500	593	117	e50	e51	45	28	24
28	59	105	26	239	e1300	1040	115	e50	e51	43	28	25
29	59	105	133	142	---	803	113	e50	e51	42	28	25
30	70	105	65	123	---	573	111	e50	e51	41	29	25
31	64	---	65	114	---	555	---	e50	---	40	29	---
TOTAL	1605	2773	2090	16009	23349	11597	6178	2043	1630	1387	981	794
MEAN	51.8	92.4	67.4	516	834	374	206	65.9	54.3	44.7	31.6	26.5
MAX	70	105	412	2000	3200	1240	543	109	73	52	38	28
MIN	27	61	21	40	88	188	111	50	45	39	28	24
AC-FT	3180	5500	4150	31750	46310	23000	12250	4050	3230	2750	1950	1570

e Estimated.

## 11109600 PIRU CREEK ABOVE LAKE PIRU, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1971, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.14	54.7	52.8	106	229	100	102	33.7	12.6	4.22	2.00	1.86
MAX	11.9	503	291	992	1657	569	741	165	53.4	22.4	11.3	9.63
(WY)	1970	1966	1966	1969	1969	1969	1958	1967	1969	1969	1969	1969
MIN	.000	.34	2.91	9.24	7.50	7.26	3.96	1.34	.12	.000	.000	.000
(WY)	1956	1965	1957	1965	1965	1961	1961	1961	1961	1960	1957	1956

## SUMMARY STATISTICS

## WATER YEARS 1956 - 1971

ANNUAL MEAN	57.2	
HIGHEST ANNUAL MEAN	294	1969
LOWEST ANNUAL MEAN	5.66	1961
HIGHEST DAILY MEAN	15600	Feb 25 1969
LOWEST DAILY MEAN	.00	Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1955
INSTANTANEOUS PEAK FLOW	31200	Feb 25 1969
INSTANTANEOUS PEAK STAGE	18.6	Feb 25 1969
ANNUAL RUNOFF (AC-FT)	41470	
10 PERCENT EXCEEDS	84	
50 PERCENT EXCEEDS	8.2	
90 PERCENT EXCEEDS	.00	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

MEAN	12.3	17.5	36.8	82.6	226	207	85.1	51.1	29.3	18.7	15.0	13.3
MAX	51.8	92.4	180	516	855	1126	289	204	93.7	46.8	37.4	29.3
(WY)	1993	1993	1984	1993	1992	1983	1983	1983	1978	1979	1978	1978
MIN	2.17	4.09	4.05	5.64	13.9	11.2	6.11	5.46	3.84	6.32	.80	.16
(WY)	1973	1978	1990	1991	1987	1977	1977	1972	1976	1972	1972	1972

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1972 - 1993

ANNUAL TOTAL	55850		70436	
ANNUAL MEAN	153		193	
HIGHEST ANNUAL MEAN				65.3
LOWEST ANNUAL MEAN				193
HIGHEST DAILY MEAN	6900	Feb 12	3200	Feb 26
LOWEST DAILY MEAN	13	Feb 5	21	Dec 26
ANNUAL SEVEN-DAY MINIMUM	17	Jan 30	22	Dec 21
INSTANTANEOUS PEAK FLOW			5940	Feb 26
INSTANTANEOUS PEAK STAGE			7.91	Feb 26
ANNUAL RUNOFF (AC-FT)	110800		139700	
10 PERCENT EXCEEDS	350		444	
50 PERCENT EXCEEDS	37		58	
90 PERCENT EXCEEDS	24		27	

## 11109700 LAKE PIRU NEAR PIRU, CA

LOCATION.--Lat 34°27'41", long 118°45'02", in Temescal Grant, Ventura County, Hydrologic Unit 18070102, near center of Santa Felicia Dam on Piru Creek, 0.5 mi downstream from Santa Felicia Canyon, 4.2 mi northeast of Piru, and 20 mi downstream from Pyramid Dam.

DRAINAGE AREA.--425 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1955 to current year. Prior to October 1985, monthend elevation and contents only.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by United Water Conservation District). Prior to Jan. 27, 1956, reference point at intake tower at same datum. Jan. 27, 1956, to Dec. 1, 1980, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill dam. Storage began May 20, 1955. Capacity below spillway level at elevation 1,055.0 ft, 88,340 acre-ft. Water is released from outlet to Piru Creek for ground-water recharge, domestic use, and irrigation on the Oxnard Plain.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,400 acre-ft, Feb. 25, 1969, elevation, 1,061.45 ft; lake dry, Oct. 25 to Nov. 20, 1961.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 90,300 acre-ft, Feb. 19; maximum elevation, 1,056.54 ft, Feb. 19; minimum contents 41,200 acre-ft, Dec. 10-14; minimum elevation 1,009.10 ft, Dec. 10-13.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by United Water Conservation District in October 1985)

970	14,800	1,000	33,900	1,040	70,900
980	20,300	1,010	42,000	1,050	82,300
990	26,700	1,020	50,800	1,060	94,600
		1,030	60,500		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76700	54700	e42600	42500	88200	88800	88800	88500	87600	87100	87300	82100
2	75800	54200	e42400	42700	88200	88600	88800	e88400	87500	87100	87300	81700
3	74900	53600	e42100	42900	88200	88600	88800	e88400	87500	87100	87300	81300
4	74100	53100	e41900	43000	88100	88600	88800	e88400	87400	87200	87400	80900
5	73200	52600	e41800	43000	88100	88600	88700	e88400	87400	87200	87400	80500
6	72400	e52000	e41600	43200	88100	88600	88600	e88300	87400	87200	87400	80000
7	71500	e51600	e41500	44700	88400	88600	88500	e88300	87300	87200	87400	79600
8	70700	e51100	e41400	46300	89300	88500	88500	e88300	87300	87200	87500	79200
9	69900	e50600	e41300	47600	88800	88500	88500	e88300	87300	87300	87500	78800
10	69000	e50200	e41200	48600	88600	88500	88500	e88300	87200	87300	87600	78400
11	68200	e49800	e41200	49300	88500	88500	88500	e88200	87200	87300	87600	77900
12	67400	e49400	e41200	50000	88400	88500	88400	e88200	87200	87300	87600	77500
13	66600	e48900	e41200	53300	88400	88500	88400	e88200	87200	87300	87600	77100
14	65800	e48600	41200	58000	88400	88400	88400	e88200	87200	87300	87700	76600
15	65000	e48100	41300	62300	88400	88400	88400	e88100	87100	87300	87700	76200
16	64200	e47700	41300	65400	88300	88400	88400	e88100	87100	87300	87800	75800
17	63400	e47300	41400	68800	88300	88400	88300	88000	87100	87400	87800	75300
18	62600	e47000	41400	74000	89600	88400	88400	88000	87100	87400	87800	74900
19	61800	e46500	41500	77700	90300	88500	88300	88100	87100	87300	87700	74500
20	61000	e46100	41500	80700	89500	88500	88300	88100	87100	87400	87300	74200
21	60300	e45800	41500	83100	89200	88500	88300	88100	87000	87400	86800	74100
22	59500	e45400	41500	84500	88900	88500	88300	88000	87000	87400	86400	73900
23	58800	e45000	41500	85200	89800	88500	88300	88000	87000	87300	86000	73800
24	58100	e44700	41500	86000	89300	88500	88300	87900	87000	87400	85500	73700
25	57300	e44400	41600	86700	89100	89400	88300	87900	87000	87300	85100	73500
26	56700	e44000	41600	87300	89200	89400	88300	87900	87000	87300	84700	73200
27	56100	e43700	41700	87700	89200	88900	88300	87800	87000	87300	84300	72800
28	55500	e43400	41700	88200	89100	89200	88300	87800	87100	87300	83800	72400
29	54800	e43100	42100	88300	---	89000	88400	87800	87100	87300	83400	71900
30	55000	e42800	42200	88200	---	88900	88400	87700	87100	87400	83000	71500
31	55000	---	42400	88200	---	88900	---	87700	---	87300	82500	---
MAX	76700	54700	42600	88300	90300	89400	88800	88500	87600	87400	87800	82100
MIN	54800	42800	41200	42500	88100	88400	88300	87700	87000	87100	82500	71500
a	1024.42	1011.00	1010.43	1054.87	1055.62	1055.44	1055.07	1054.44	1053.99	1054.19	1050.21	1040.52
b	-22600	-12200	-400	+45800	+900	-200	-500	-700	-600	+200	-4800	-11000

CAL YR 1992 b +24800

WTR YR 1993 b -6100

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA

LOCATION.--Lat 34°27'37", long 118°45'04", in Temescal Grant, Ventura County, Hydrologic Unit 18070102, on right bank 750 ft downstream from Santa Felicia Dam, 1 mi upstream from Lime Canyon, 4 mi northeast of Piru, and 20 mi downstream from Pyramid Dam.

DRAINAGE AREA.--425 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1968, October 1973 to current year.

CHEMICAL DATA.--Water years 1969, 1974-80.

WATER TEMPERATURE.--Water year 1969.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 858.8 ft above sea level (levels by United Water Conservation District).

REMARKS.--No estimated daily discharges. Records good. Since May 1955, flow regulated by Lake Piru (station 11109700), and since December 1971, by Pyramid Lake (station 11109520). Imported water from the California Water Project stored by Pyramid Lake. Spill from Lake Piru bypasses gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 623 ft<sup>3</sup>/s, Aug. 2, 1982, gage height, 3.82 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 533 ft<sup>3</sup>/s, Oct. 16, gage height, 3.68 ft; no flow Aug. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	505	211	329	6.5	94	96	100	3.8	107	35	35	248
2	500	300	328	6.7	94	96	102	3.8	107	35	35	248
3	504	334	220	7.1	94	94	102	4.0	107	35	15	242
4	468	345	120	7.1	94	96	102	3.9	107	35	5.1	245
5	483	316	255	6.9	94	96	103	43	107	35	5.1	251
6	499	360	162	6.9	94	97	104	107	107	35	4.7	246
7	501	340	7.0	7.2	93	96	105	106	107	35	4.6	251
8	499	366	8.0	6.9	95	94	105	103	107	35	2.5	250
9	500	353	8.8	6.9	95	95	105	48	107	36	.00	250
10	498	336	7.8	6.9	96	95	105	59	86	35	.00	251
11	468	333	5.6	6.9	95	94	105	105	74	35	2.1	241
12	479	333	6.3	7.0	96	95	105	105	74	35	3.0	251
13	496	334	6.1	7.4	96	94	105	105	74	35	3.0	254
14	496	302	5.8	6.9	96	94	105	105	74	35	3.0	260
15	478	292	5.6	6.3	96	94	58	105	74	16	3.0	262
16	497	330	5.4	4.7	96	94	105	104	74	35	3.1	262
17	484	329	5.5	11	96	93	105	96	27	33	3.0	262
18	485	335	5.7	5.9	97	95	105	94	51	33	2.9	262
19	480	337	5.8	9.3	96	95	105	80	76	33	105	263
20	483	338	5.6	8.6	94	95	105	70	76	33	248	168
21	488	336	6.6	27	94	96	105	105	76	33	248	105
22	489	330	6.6	41	96	96	105	105	55	33	248	107
23	462	328	6.6	41	96	96	105	105	45	33	248	107
24	447	328	6.6	41	96	97	107	105	45	33	241	108
25	452	332	6.6	41	96	98	106	94	46	33	248	109
26	395	330	6.8	59	96	97	107	105	47	33	245	195
27	373	237	6.9	92	96	99	107	105	47	32	248	262
28	387	315	6.9	93	96	99	106	91	47	32	248	259
29	398	316	6.9	94	---	99	62	105	48	32	248	259
30	56	322	6.9	94	---	100	1.9	106	39	32	248	259
31	63	---	6.9	94	---	100	---	107	---	35	248	---
TOTAL	13813	9698	1577.3	860.1	2667	2975	2947.9	2583.5	2218	1035	3201.10	6737
MEAN	446	323	50.9	27.7	95.2	96.0	98.3	83.3	73.9	33.4	103	225
MAX	505	366	329	94	97	100	107	107	107	36	248	263
MIN	56	211	5.4	4.7	93	93	1.9	3.8	27	16	.00	105
AC-FT	27400	19240	3130	1710	5290	5900	5850	5120	4400	2050	6350	13360

## 11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	13.9	33.1	10.4	14.2	25.3	49.7	46.0	56.8	94.4	88.0	44.3
MAX	29.8	97.7	235	34.6	35.7	115	136	194	245	465	396	248
(WY)	1961	1967	1959	1966	1966	1963	1964	1966	1962	1958	1958	1967
MIN	.000	.86	.003	.15	.018	.006	5.59	6.76	6.76	6.82	6.93	5.94
(WY)	1956	1956	1956	1968	1957	1957	1957	1964	1964	1959	1959	1968

## SUMMARY STATISTICS

## WATER YEARS 1956 - 1968

ANNUAL MEAN	40.8	
HIGHEST ANNUAL MEAN	102	1958
LOWEST ANNUAL MEAN	10.0	1961
HIGHEST DAILY MEAN	526	Sep 26 1959
LOWEST DAILY MEAN	.00	Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1955
INSTANTANEOUS PEAK FLOW	544	Aug 18 1958
INSTANTANEOUS PEAK STAGE	3.66	Aug 18 1958
ANNUAL RUNOFF (AC-FT)	29540	
10 PERCENT EXCEEDS	101	
50 PERCENT EXCEEDS	8.6	
90 PERCENT EXCEEDS	1.4	

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	87.6	37.3	14.8	9.68	17.5	24.5	22.8	46.8	55.2	79.7	81.4	94.1
MAX	446	323	62.3	56.5	123	113	109	224	241	271	322	294
(WY)	1993	1993	1979	1984	1984	1984	1980	1988	1987	1986	1982	1979
MIN	4.17	4.68	3.91	.000	.049	.16	.088	.004	1.49	4.09	3.94	4.32
(WY)	1987	1987	1978	1978	1983	1983	1983	1983	1983	1983	1991	1991

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1972 - 1993

ANNUAL TOTAL	38264.6	50312.90	
ANNUAL MEAN	105	138	47.8
HIGHEST ANNUAL MEAN			138
LOWEST ANNUAL MEAN			7.03
HIGHEST DAILY MEAN	506	Sep 30	526
LOWEST DAILY MEAN	3.1	Jun 12	.00
ANNUAL SEVEN-DAY MINIMUM	5.1	Jun 12	.00
INSTANTANEOUS PEAK FLOW			533
INSTANTANEOUS PEAK STAGE			3.68
ANNUAL RUNOFF (AC-FT)	75900	99800	34620
10 PERCENT EXCEEDS	355	336	176
50 PERCENT EXCEEDS	24	96	6.9
90 PERCENT EXCEEDS	5.6	6.6	3.1

## 11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA

LOCATION.--Lat 34°34'40", long 119°15'25", in NW 1/4 SW 1/4 sec.30, T.6 N., R.22 W., Ventura County, Hydrologic Unit 18070102, on right bank at Sespe Gorge, 1.6 mi upstream from Tule Creek, and 5 mi northeast of Wheeler Springs.

DRAINAGE AREA.--49.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to current year. Discharge estimated for period October 1947 to July 1948.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,500.65 ft above sea level (levels by Ventura County Flood Control District).

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 15.02 ft, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0300	197	2.80	Feb. 8	unknown	unknown	unknown
Dec. 29	0400	353	3.21	Feb. 19	unknown	*5,030	*9.12
Jan. 7	0445	1,010	4.41	Mar. 25	2000	3,550	7.59
Jan. 14	unknown	3,750	7.80				

Minimum daily, .50 ft<sup>3</sup>/s, Oct. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.9	e1.8	e9.0	e50	e300	154	36	18	8.9	e5.8	2.5
2	.71	1.8	e1.9	e8.4	e45	e275	136	36	18	12	e5.7	2.4
3	.97	2.0	2.1	e6.9	44	e250	123	35	17	12	e5.5	2.3
4	1.0	2.2	2.2	e6.4	43	e225	114	35	17	12	e5.3	2.3
5	.85	2.2	2.1	41	41	e200	107	34	21	12	e5.2	2.4
6	.75	2.2	5.9	56	40	e190	100	33	20	11	e5.0	2.4
7	.59	2.2	53	533	56	e180	95	32	18	10	e4.8	2.3
8	.57	e2.2	4.8	228	2220	e170	89	31	17	9.9	e4.6	2.2
9	.56	e2.2	3.6	103	718	e150	84	31	16	9.3	e4.5	2.0
10	.54	e2.2	2.7	92	343	e140	80	30	15	8.9	e4.3	1.9
11	.50	e2.1	2.5	77	254	e130	77	29	14	8.8	e4.1	1.8
12	.50	e2.1	2.3	141	208	e120	73	29	13	8.8	e4.0	1.9
13	.55	e2.1	2.2	1200	182	e100	70	28	12	8.5	e3.7	2.0
14	.75	e2.1	2.1	e2050	163	e90	67	27	11	8.6	e3.6	2.1
15	.99	e2.1	2.0	e1380	145	e80	65	26	11	7.9	e3.4	2.2
16	1.0	e2.0	1.9	e1240	130	e80	62	25	11	7.4	e3.3	2.6
17	.83	e2.0	2.0	e1130	121	e70	60	24	10	7.3	e3.0	2.8
18	.86	e2.0	2.0	e880	1010	74	59	24	9.8	7.2	e2.9	2.7
19	.84	e2.0	1.8	e395	e2950	70	56	23	9.5	7.0	e2.7	2.5
20	.88	e2.0	1.8	e280	e2050	67	53	23	9.4	6.2	2.6	2.4
21	1.0	e2.0	1.8	e222	e1000	65	51	23	9.4	6.1	2.6	2.4
22	1.3	e1.9	1.8	e188	e500	62	49	23	8.8	5.9	2.6	2.2
23	1.1	e1.9	1.7	e152	e900	59	48	23	8.6	5.7	2.5	2.1
24	1.4	e1.9	1.8	e122	e800	58	46	23	8.5	5.8	2.4	2.0
25	1.5	e1.9	1.8	e107	e450	916	44	23	8.4	5.6	2.4	2.0
26	1.4	e1.9	1.8	e92	e420	653	42	23	8.5	5.3	2.6	1.9
27	1.4	e1.8	1.8	e80	e500	280	42	22	8.5	e6.0	2.5	1.9
28	1.6	e1.8	3.0	e72	e320	262	40	21	9.1	e6.0	2.3	1.9
29	1.6	e1.8	97	e65	---	222	39	20	9.0	e5.9	2.2	1.9
30	4.9	e1.8	19	e60	---	194	38	19	8.8	e5.9	2.3	2.0
31	2.4	---	e12	e54	---	173	---	18	---	e5.9	2.6	---
TOTAL	34.64	60.3	244.2	11070.7	15703	5905	2163	829	375.3	247.8	111.0	66.0
MEAN	1.12	2.01	7.88	357	561	190	72.1	26.7	12.5	7.99	3.58	2.20
MAX	4.9	2.2	97	2050	2950	916	154	36	21	12	5.8	2.8
MIN	.50	1.8	1.7	6.4	40	58	38	18	8.4	5.3	2.2	1.8
AC-FT	69	120	484	21960	31150	11710	4290	1640	744	492	220	131

e Estimated.

## 11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.74	5.17	7.45	26.1	65.1	50.5	23.8	7.90	2.82	1.29	.67	.84
MAX	10.3	131	85.5	357	561	553	233	59.5	18.6	8.08	5.11	10.7
(WY)	1984	1966	1966	1993	1993	1983	1958	1983	1983	1983	1983	1976
MIN	.019	.077	.063	.16	.67	.95	.68	.43	.15	.023	.000	.000
(WY)	1962	1951	1991	1991	1951	1951	1951	1961	1951	1951	1951	1951

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1948 - 1993			
ANNUAL TOTAL	15939.04				36809.94							
ANNUAL MEAN	43.5				101				15.7			
HIGHEST ANNUAL MEAN									101			
LOWEST ANNUAL MEAN									.33			
HIGHEST DAILY MEAN	2970				Feb 12				6430			
LOWEST DAILY MEAN	.50				Oct 11				.00			
ANNUAL SEVEN-DAY MINIMUM	.54				Oct 7				.00			
INSTANTANEOUS PEAK FLOW	8400				Feb 12				11600			
INSTANTANEOUS PEAK STAGE	12.29				9.12				15.02			
ANNUAL RUNOFF (AC-FT)	31620				73010				11410			
10 PERCENT EXCEEDS	72				203				18			
50 PERCENT EXCEEDS	3.3				9.0				1.4			
90 PERCENT EXCEEDS	.83				1.8				.10			

LOCATION.--Lat 34°27'03", long 118°55'30", in NE 1/4 NW 1/4 NE 1/4 sec.12, T.4 N., R.20 W., Ventura County, Hydrologic Unit 18070102, on right bank 0.1 mi downstream from Little Sespe Creek and 3.5 mi north of Fillmore.

PERIOD OF RECORD.--September 1911 to September 1913, October 1927 to September 1985, October 1990 to Jan. 15, 1993, (discontinued); combined records of creek and canal, October 1927 to September 1939 monthly only, October 1939 to September 1985, October 1990 to Jan. 13, 1993, (discontinued). Prior to 1935, published as "at Sespe."

REMARKS.--Records fair. No regulation upstream from station. Fillmore Irrigation Co. has diverted water 1 mi upstream since September 1911. For records of combined discharge of Sespe Creek and Fillmore Irrigation Company's canal, see station 11113001.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 73,000 ft<sup>3</sup>/s, Feb. 10, 1978, gage height, 22.40 ft, from rating curve extended above 17,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 22.40 ft; maximum gage height, 24.95 ft, Feb. 25, 1969, from debris wave; no flow at times in some years. Combined creek and canal: Maximum discharge 73,000 ft<sup>3</sup>/s, Feb. 10, 1978; minimum daily, 1.1 ft<sup>3</sup>/s, July 31, Aug. 2, 1951.

[illegible]

## SANTA CLARA RIVER BASIN

361

11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.44	42.4	96.0	205	459	365	166	49.2	16.6	6.44	3.35	3.35
MAX	55.4	1285	698	3378	3231	2301	1632	327	109	56.5	44.5	45.6
(WY)	1984	1966	1966	1969	1969	1978	1958	1983	1941	1983	1983	1939
MIN	.000	.000	.000	1.35	4.74	2.82	.67	.25	.000	.000	.000	.000
(WY)	1913	1930	1930	1948	1951	1961	1961	1961	1928	1928	1912	1912

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## WATER YEARS 1912 - 1993

ANNUAL TOTAL	106372.8		
ANNUAL MEAN	291		
HIGHEST ANNUAL MEAN		116	
LOWEST ANNUAL MEAN		641	1969
HIGHEST DAILY MEAN	17000	Feb 12	1.78
LOWEST DAILY MEAN	3.3	Oct 6	29100
ANNUAL SEVEN-DAY MINIMUM	3.4	Oct 2	.00
INSTANTANEOUS PEAK FLOW			.00
INSTANTANEOUS PEAK STAGE			73000
ANNUAL RUNOFF (AC-FT)	211000		24.95
10 PERCENT EXCEEDS	541		84160
50 PERCENT EXCEEDS	35		166
90 PERCENT EXCEEDS	5.8		8.6
			.10

## SANTA CLARA RIVER BASIN

11113001 SESPE CREEK NEAR FILLMORE, CA--Continued

SESPE CREEK AND FILLMORE IRRIGATION COMPANY CANAL

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	28	17	138	---	---	---	---	---	---	---	---
2	12	24	17	198	---	---	---	---	---	---	---	---
3	12	20	18	165	---	---	---	---	---	---	---	---
4	13	19	19	119	---	---	---	---	---	---	---	---
5	12	19	21	100	---	---	---	---	---	---	---	---
6	12	18	43	250	---	---	---	---	---	---	---	---
7	12	18	760	4970	---	---	---	---	---	---	---	---
8	12	19	190	2420	---	---	---	---	---	---	---	---
9	12	19	75	811	---	---	---	---	---	---	---	---
10	13	17	53	569	---	---	---	---	---	---	---	---
11	12	19	50	456	---	---	---	---	---	---	---	---
12	12	18	43	790	---	---	---	---	---	---	---	---
13	12	17	39	10100	---	---	---	---	---	---	---	---
14	13	17	35	10100	---	---	---	---	---	---	---	---
15	13	17	32	---	---	---	---	---	---	---	---	---
16	13	17	31	---	---	---	---	---	---	---	---	---
17	13	17	33	---	---	---	---	---	---	---	---	---
18	14	17	34	---	---	---	---	---	---	---	---	---
19	14	17	33	---	---	---	---	---	---	---	---	---
20	14	17	31	---	---	---	---	---	---	---	---	---
21	14	17	30	---	---	---	---	---	---	---	---	---
22	14	18	29	---	---	---	1632	327	---	---	---	---
23	14	17	29	---	---	---	---	---	---	---	---	---
24	15	18	30	---	---	---	---	---	---	---	---	---
25	15	18	30	---	---	---	---	---	---	---	---	---
26	15	19	29	---	---	---	---	---	---	---	---	---
27	15	18	30	---	---	---	---	---	---	---	---	---
28	16	18	36	---	---	---	---	---	---	---	---	---
29	16	17	1510	---	---	---	---	---	---	---	---	---
30	51	17	446	---	---	---	---	---	---	---	---	---
31	28	---	208	---	---	---	---	---	---	---	---	---
TOTAL	465	551	3981	---	---	---	---	---	---	---	---	---
MEAN	15.0	18.4	128	---	---	---	---	---	---	---	---	---
MAX	51	28	1510	---	---	---	---	---	---	---	---	---
MIN	12	17	17	---	---	---	---	---	---	---	---	---
AC-FT	922	1090	7900	---	---	---	---	---	---	---	---	---

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.23	54.4	100	220	458	361	181	59.2	25.5	13.3	8.90	7.97
MAX	84.3	1286	698	3378	3231	2301	1632	327	120	63.0	44.5	31.2
(WY)	1984	1966	1966	1969	1969	1978	1958	1983	1941	1941	1983	1941
MIN	1.41	1.11	1.24	4.11	8.07	11.6	5.70	.75	.20	.14	.059	.27
(WY)	1990	1990	1990	1991	1951	1961	1990	1990	1990	1990	1990	1990

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## WATER YEARS 1940 - 1993

ANNUAL TOTAL	107869		
ANNUAL MEAN	295	123	
HIGHEST ANNUAL MEAN		643	1969
LOWEST ANNUAL MEAN		4.85	1951
HIGHEST DAILY MEAN	17000	29100	Jan 25 1969
LOWEST DAILY MEAN	11	.01	Jun 8 1990
ANNUAL SEVEN-DAY MINIMUM	12	.03	Aug 22 1990
INSTANTANEOUS PEAK FLOW		73000	Feb 10 1978
ANNUAL RUNOFF (AC-FT)	214000	89470	
10 PERCENT EXCEEDS	541	171	
50 PERCENT EXCEEDS	39	17	
90 PERCENT EXCEEDS	13	3.6	

## 11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA

LOCATION.--Lat 34°24'48", long 119°04'53", in NW 1/4 SE 1/4 sec.21, T.4 N., R.21 W., Mission San Buenaventura Grant, Ventura County, Hydrologic Unit 18070102, on right bank 1.3 mi downstream from Sisar Creek and 4.8 mi north of Santa Paula.  
DRAINAGE AREA.--38.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1927 to current year. March 1912 to September 1913, at site 1.2 mi upstream; records not equivalent.

CHEMICAL DATA: 1969-80

WATER TEMPERATURE: 1969-71, 1974-75.

REVISED RECORDS.--WSP 1635: 1933(M), 1934, 1936(M), 1941(M). WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 785 ft above sea level, from topographic map. Prior to Oct. 22, 1980, at various sites and datums 1.3 mi downstream. See WDR CA-79-1 for history of changes prior to Oct. 22, 1980. Prior to Feb. 12, 1992, at datum 5.0 ft higher at same site.

REMARKS.--Records poor. Natural flow affected by pumping and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 15.18 ft, from floodmark, site and datum then in use, from rating curve extended above 2,300 ft<sup>3</sup>/s on basis of critical-depth measurement at gage height 12.2 ft; no flow at times in 1927, 1949, 1951-52, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 14	unknown	*7,130	*14.57	Feb. 23	unknown	unknown	unknown
Feb. 8	unknown	unknown	unknown	Feb. 27	unknown	unknown	unknown
Feb. 19	unknown	unknown	unknown	Mar. 25	unknown	unknown	unknown

Minimum daily, 2.7 ft<sup>3</sup>/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	6.9	4.1	20	e80	e400	e170	e50	e30	e20	e12	e10
2	2.8	6.4	4.1	30	e75	e370	e150	e49	e29	e20	e12	e8.5
3	3.4	6.1	4.4	23	e70	e340	e140	e48	e29	e19	e12	e8.0
4	3.5	5.9	4.5	19	e70	e300	e130	e47	e28	e19	11	7.0
5	3.3	6.0	4.5	15	e65	e280	e115	e46	e28	e19	11	8.0
6	3.1	6.1	6.3	21	e63	e260	e105	e45	e27	e19	9.7	8.2
7	2.8	6.0	47	67	e60	e240	e95	e44	e26	e18	9.1	6.2
8	2.7	5.7	19	40	e1800	e220	e90	e44	e26	e18	9.5	6.2
9	2.8	5.7	13	38	e1000	e200	e85	e43	e26	e18	7.9	5.6
10	3.0	5.5	12	36	e600	e180	e80	e43	e26	e17	8.6	5.7
11	3.1	5.0	14	49	e340	e170	e80	e42	e25	e17	8.4	6.1
12	3.1	5.0	14	66	e250	e160	e75	e42	e25	e17	7.6	6.5
13	3.1	5.0	13	128	e200	e140	e72	e41	e25	e17	8.5	6.8
14	3.3	4.8	12	e1070	e180	e130	e70	e40	e24	e16	13	7.1
15	3.4	4.9	11	e1000	e170	e120	e68	e40	e24	e16	27	7.5
16	3.5	5.0	11	e660	e160	e120	e65	e39	e24	e16	21	9.3
17	3.5	5.0	12	e430	e150	e100	e64	e39	e24	e16	9.8	10
18	3.7	5.0	11	e420	e690	e90	e63	e38	e23	e16	9.6	10
19	3.6	4.8	9.4	e400	e2500	e83	e62	e37	e23	e15	8.3	8.9
20	3.4	4.7	9.0	e390	e760	e80	e61	e37	e23	e15	8.7	8.7
21	3.5	4.8	8.3	e380	e550	e78	e60	e36	e23	e15	9.0	8.7
22	3.7	4.8	7.6	e370	e400	e75	e59	e36	e22	e15	10	8.6
23	3.4	4.6	7.0	e280	e1890	e72	e58	e35	e22	e14	9.1	8.3
24	3.7	4.7	6.7	e230	e1400	e70	e57	e35	e22	e14	6.4	8.4
25	4.1	4.5	6.4	e190	e700	e800	e56	e34	e22	e14	6.0	8.0
26	4.1	4.2	6.2	e170	e600	e460	e55	e33	e21	e14	5.6	6.6
27	4.0	4.2	6.0	e150	e700	e360	e54	e33	e21	e14	5.5	5.0
28	4.2	4.3	7.1	e130	e500	e290	e53	e32	e21	e13	5.5	5.0
29	4.2	4.2	60	e120	---	e250	e52	e32	e20	e13	6.6	5.6
30	16	4.2	37	e95	---	e200	e51	e31	e20	e13	6.5	6.2
31	8.2	---	26	e90	---	e190	---	e30	---	e13	e8.5	---
TOTAL	123.0	154.0	413.6	7127	16023	6828	2395	1221	729	500	303.4	224.7
MEAN	3.97	5.13	13.3	230	572	220	79.8	39.4	24.3	16.1	9.79	7.49
MAX	16	6.9	60	1070	2500	800	170	50	30	20	27	10
MIN	2.7	4.2	4.1	15	60	70	51	30	20	13	5.5	5.0
AC-FT	244	305	820	14140	31780	13540	4750	2420	1450	992	602	446

e Estimated.

## SANTA CLARA RIVER BASIN

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.87	8.22	15.5	40.8	87.7	68.5	35.2	14.1	8.01	4.86	3.17	3.09
MAX	18.8	183	128	718	841	454	375	78.7	46.4	26.9	16.5	24.5
(WY)	1984	1966	1967	1969	1969	1978	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.76	.97	1.69	.000	.081	.000	.000	.000	.000
(WY)	1929	1930	1930	1928	1930	1961	1928	1928	1928	1928	1928	1928

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1928 - 1993

ANNUAL TOTAL	17453.7	36041.7	
ANNUAL MEAN	47.7	98.7	24.0
HIGHEST ANNUAL MEAN			156 1969
LOWEST ANNUAL MEAN			1.37 1951
HIGHEST DAILY MEAN	2200 Feb 12	2500 Feb 19	8900 Feb 25 1969
LOWEST DAILY MEAN	2.7 Oct 8	2.7 Oct 8	.00 Oct 1 1927
ANNUAL SEVEN-DAY MINIMUM	2.9 Oct 6	2.9 Oct 6	.00 Oct 1 1927
INSTANTANEOUS PEAK FLOW		7130 Jan 14	21000 Feb 25 1969
INSTANTANEOUS PEAK STAGE		14.57 Jan 14	15.18 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	34620	71490	17370
10 PERCENT EXCEEDS	93	250	35
50 PERCENT EXCEEDS	13	20	4.6
90 PERCENT EXCEEDS	4.4	4.4	.80

## 11114000 SANTA CLARA RIVER AT MONTALVO, CA

LOCATION.--Lat 34°14'31", long 119°11'21", in San Miguel Grant, Ventura County, Hydrologic Unit 18070102, on downstream end of center pier of southbound bridge on U.S. Highway 101, 0.9 mi southeast of Montalvo, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--1,612 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to September 1932, October 1949 to September 1988, October 1989 to current year. Monthly discharge only for 1950-67, published in WDR 1968. October 1949 to September 1969, published as "at Saticoy."

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Two water-stage recorders. Datum of main gage is 46.88 ft above sea level (levels by Ventura County Flood Control District). Oct. 1, 1927, to Sept. 30, 1932, and Oct. 1, 1949, to Sept. 30, 1967, at same site at different datums. Oct. 1, 1967, to Feb. 2, 1970, at site 3.9 mi upstream at different datum. Feb. 9, 1984 to Jan. 27, 1993, supplementary gage 0.7 mi upstream at different datum. Prior to Oct. 1, 1991, at datum 5.0 ft higher.

REMARKS.--Records poor. Flow partly regulated by Lake Piru (station 11109700), capacity, 88,340 acre-ft, 33 mi upstream since May 1955; by Pyramid Lake (station 11109520), capacity, 171,196 acre-ft, 42 mi upstream since December 1971; by Castaic Lake (station 11108133), capacity 324,000 acre-ft, 43 mi upstream since January 1972. Natural flow affected by ground-water withdrawals, diversions, municipal use, and ground-water replenishment. Imported water from the California Water Project released to the basin at Castaic Dam and Pyramid Dam. Diversion to spreading grounds and for irrigation in Pleasant Valley, at site 6.0 mi upstream. Discharge represents flow to the ocean regardless of upstream development.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 165,000 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 17.41 ft, at datum 5.0 ft higher; no flow for long periods in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 120,000 ft<sup>3</sup>/s, estimated by Ventura County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,300 ft<sup>3</sup>/s, Feb. 19, gage height, 12.22 ft; no flow Dec. 21-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.06	9.6	e.04	12	e400	4450	3480	e330	e203 e122		e.30	e.16
2	e.06	15	e.04	48	e400	3380	3130	e280	e204 e121		e.25	e.20
3	e.07	3.7	e.04	19	e380	2980	3100	e270	e200 e115		e.15	e.20
4	e.27	2.8	e.04	34	e350	2590	2410	e260	e200 e115		e.12	e.15
5	e.09	2.6	e.04	10	e280	2410	2010	e250	e245 e109		e.12	e.15
6	e.08	2.4	e7.0	96	e260	2010	2130	e250	e242 e107		e.12	e.10
7	e.09	2.1	e900	7500	e900	1690	1530	e265	e243 e104		e.12	e.10
8	e.05	1.7	e230	4190	18000	1640	1260	e265	e237 e106		e.12	e.08
9	e.03	.91	e50	1610	8520	1340	779	e270	e229 e104		e.12	e.06
10	e.05	.56	e30	1550	e3670	1360	911	e270	e215 e102		e.12	e.06
11	e.08	.28	4.5	1540	e2700	1740	1100	e281	e209 e102		e.12	e.05
12	e.09	e.22	.83	1510	1680	1510	994	e332	e199 e100		e.12	e.05
13	e.10	e.18	.14	13700	1100	1590	848	e322	e195 e100		e.12	e.05
14	e.09	e.14	.06	13900	699	1230	682	e307	e186 e85		e.12	e.05
15	e.08	e.10	.03	10100	604	975	527	e305	e181 e75		e.12	e.04
16	e.11	e.10	.02	6790	627	897	662	e302	e174 e65		e.12	e.04
17	e.24	e.04	.35	7030	706	812	529	e254	e174 e50		e.12	e.04
18	e.39	e.04	5.4	16400	7400	971	495	e256	e166 e45		e.12	e.04
19	e.42	e.08	.27	7640	30200	899	448	e259	e166 e45		e.12	e.04
20	1.6	e.20	.02	6190	21000	906	360	e249	e160 e40		e.12	e.04
21	2.3	e.08	.00	e4000	13400	1070	436	e262	e159 e30		e.12	e.04
22	2.9	e.04	.00	e2000	10800	1410	379	e262	e153 e25		e.12	e.04
23	2.9	e.04	.00	e1200	16500	1140	e370	e250	e151 e16		e.12	e.04
24	2.9	e.04	.00	e850	8240	1220	e360	e246	e147 e10		e.12	e.04
25	3.2	e.04	.00	e700	6640	6150	e350	e238	e144 e9.0		e.12	e.04
26	3.1	e.04	.00	e600	6130	13200	e340	e234	e141 e7.0		e.14	e.04
27	2.9	e.04	.00	e550	5980	6920	e330	e224	e137 e4.0		e.14	e.04
28	2.8	e.04	.00	e500	5550	6180	e290	e228	e136 e1.0		e.14	e.04
29	2.5	e.04	1750	e470	---	4710	e260	e218	e131 e.50		e.14	e.04
30	355	e.04	592	e450	---	4080	e400	e210	e130 e.40		e.14	e.04
31	147	---	84	e420	---	3950	---	e211	---	e.30	e.14	---
TOTAL	531.55	43.19	3654.82	111609	173116	85410	30900	8160	5457	1915.20	4.18	2.10
MEAN	17.1	1.44	118	3600	6183	2755	1030	263	182	61.8	.13	.070
MAX	355	15	1750	16400	30200	13200	3480	332	245	122	.30	.20
MIN	.03	.04	.00	10	260	812	260	210	130	.30	.12	.04
AC-FT	1050	86	7250	221400	343400	169400	61290	16190	10820	3800	8.3	4.2

## SANTA CLARA RIVER BASIN

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.49	55.9	90.7	339	822	567	191	27.5	6.30	2.56	.23	1.17
MAX	34.7	1603	917	5477	7314	5985	2668	736	182	61.8	8.85	31.7
(WY)	1984	1966	1966	1969	1969	1983	1958	1983	1993	1993	1969	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1928	1928	1930	1951	1951	1931	1950	1932	1928	1928	1928	1928

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1928 - 1993

ANNUAL TOTAL	131202.97	420803.04	
ANNUAL MEAN	358	1153	172
HIGHEST ANNUAL MEAN			1229
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	28400	Feb 12	92300
LOWEST DAILY MEAN	.00	Dec 21	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 21	.00
INSTANTANEOUS PEAK FLOW			165000
INSTANTANEOUS PEAK STAGE			17.41
ANNUAL RUNOFF (AC-FT)	260200	834700	124400
10 PERCENT EXCEEDS	620	3110	80
50 PERCENT EXCEEDS	.22	121	.00
90 PERCENT EXCEEDS	.04	.04	.00

11114000 SANTA CLARA RIVER AT MONTALVO, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-85, 1989, October 1990 to current year.

WATER TEMPERATURE: Water years 1968, 1969, 1971-81, 1982-85.

SEDIMENT DATA: Water years 1968-85, October 1988 to September 1989, October 1990 to September 1993 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1967 to September 1969, October 1970 to September 1981, October 1982 to September 1985.

SEDIMENT DATA: October 1967 to September 1981, October 1982 to September 1985.

REMARKS.--Prior to October 1969, published as "at Saticoy" (station 11113920).

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC						
10...	1530	29	18.0	266	21	57
JAN						
08...	1010	3760	11.0	5320	54000	61
12...	1215	250	9.0	2190	1480	10
18...	1100	21200	13.5	23700	1360000	56
FEB						
10...	1620	3450	--	8720	81200	18
18...	1525	10200	13.0	23100	636000	48
24...	0945	8490	10.5	9890	227000	39
MAR						
18...	1405	1180	--	2850	9080	16
APR						
07...	1345	1370	--	1800	6660	18
MAY						
05...	1235	244	24.0	294	194	35
JUN						
10...	1130	193	25.5	307	160	60

## VENTURA RIVER BASIN

11118500 VENTURA RIVER NEAR VENTURA, CA

LOCATION.--Lat 34°21'05", long 119°18'23", in southeast corner of Santa Ana Grant, Ventura County, Hydrologic Unit 18070101, on right bank 420 ft downstream from bridge on Casitas Pass Road at Foster Memorial Park, 0.2 mi downstream from Coyote Creek, and 5 mi north of Ventura.

DRAINAGE AREA.--188 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to January 1914, October 1929 to current year; combined records of river and diversion, October 1932 to current year.

REVISED RECORDS.--WSP 1565: 1957. WSP 1928: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage on river; water-stage recorder and Parshall flume on diversion. Datum of gage is 205.23 ft, Ventura County Flood Control datum. See WSP 1315-B for history of changes prior to Nov. 2, 1949. Nov. 2, 1949, to June 12, 1969, at site 80 ft downstream at datum 9.00 ft lower. June 13, 1969, to Dec. 22, 1986, at site 370 ft upstream at datum 5.00 ft lower.

REMARKS.--Records poor. Flow partly regulated since March 1948 by Matilija Reservoir, usable capacity, 1,480 acre-ft, and since October 1959 by Casitas Reservoir, capacity, 267,000 acre-ft. Water diverted to Casitas Reservoir on Coyote Creek since January 1959. Diversion by city of Ventura for municipal supply began prior to 1911. For records of combined discharge of river and Ventura City Diversion, see following page.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 63,600 ft<sup>3</sup>/s, Feb. 10, 1978, gage height, 24.14 ft, from rating curve extended above 34,000 ft<sup>3</sup>/s; maximum gage height, 29.3 ft, Jan. 25, 1969, present datum, from floodmarks; no flow at times in many years.

Combined river and diversion: Maximum discharge, 63,600 ft<sup>3</sup>/s, Feb. 10, 1978; no flow Nov. 28, 29, 1977; Oct. 23-26, 1989; July 9-11, 1990.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 12,500 ft<sup>3</sup>/s, Jan. 18, gage height, 15.12 ft; no flow for several days.

Combined river and diversion: Maximum discharge, 12,500 ft<sup>3</sup>/s, Jan. 18; minimum daily, 2.7 ft<sup>3</sup>/s, Dec. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.4	.00	25	123	1250	645	134	e58	26	12	7.3
2	1.7	.90	.00	46	118	1150	570	124	e58	25	11	8.3
3	1.7	.71	.00	25	114	1070	509	127	e58	25	10	7.1
4	3.3	.31	.00	24	105	1000	472	128	e59	25	10	7.5
5	7.2	.45	.00	29	84	930	453	131	e73	26	9.7	9.4
6	8.9	.41	.22	89	81	876	427	131	e71	24	9.0	8.4
7	3.2	.25	97	1690	222	841	404	133	e69	25	9.8	7.5
8	2.3	.22	23	415	4740	794	382	134	e68	24	11	7.3
9	2.1	.18	14	38	1750	727	348	132	67	23	9.9	7.3
10	2.0	.15	11	26	734	670	342	130	67	22	11	7.4
11	2.1	.10	11	14	398	643	328	129	61	22	10	7.4
12	1.5	.33	9.7	72	259	619	302	130	52	22	9.3	7.2
13	1.1	.09	8.9	3800	198	600	269	129	49	22	8.9	7.1
14	.94	.08	4.0	3090	168	580	257	128	46	20	9.2	7.3
15	.88	.05	1.1	2430	134	562	241	124	45	20	9.5	6.9
16	.88	.05	.86	1200	117	539	231	123	45	20	9.3	7.1
17	.88	.00	3.5	2240	350	514	221	114	42	19	8.8	7.5
18	.78	.00	5.8	5110	1940	472	217	72	43	19	8.0	6.7
19	.89	.03	1.4	2100	4260	425	211	69	44	19	6.9	7.4
20	1.0	.10	1.3	1180	2490	391	204	70	44	19	6.7	8.2
21	1.1	.04	1.0	818	1610	356	199	70	43	18	7.4	8.6
22	1.0	.00	.95	527	1340	341	190	70	35	17	8.5	6.9
23	.67	.00	.96	348	3650	290	176	63	35	16	7.6	6.5
24	.65	.00	.94	270	2320	258	163	61	33	17	7.2	6.1
25	.64	.00	1.6	240	1740	2060	159	62	32	17	8.1	6.1
26	.72	.00	3.2	219	1990	2200	150	61	30	18	7.2	6.6
27	.91	.00	3.6	202	1540	1110	142	e60	31	16	8.0	7.7
28	.94	.00	11	187	1370	1120	112	e60	31	12	7.5	6.2
29	.65	.00	359	166	---	911	86	e59	30	12	7.4	5.6
30	11	.00	61	149	---	812	180	e59	28	12	8.2	5.2
31	4.4	---	29	134	---	723	---	e58	---	12	8.0	---
TOTAL	67.73	5.85	665.03	26903	33945	24834	8590	3075	1447	614	275.1	215.8
MEAN	2.18	.19	21.5	868	1212	801	286	99.2	48.2	19.8	8.87	7.19
MAX	11	1.4	359	5110	4740	2200	645	134	73	26	12	9.4
MIN	.64	.00	.00	14	81	258	86	58	28	12	6.7	5.2
AC-FT	134	12	1320	53360	67330	49260	17040	6100	2870	1220	546	428

e Estimated.

## 11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.29	5.15	36.5	121	192	237	78.0	26.1	12.1	6.15	3.59	2.51
MAX	21.4	38.8	174	1103	1058	1951	874	226	103	56.1	35.8	21.2
(WY)	1942	1947	1932	1952	1941	1938	1941	1941	1941	1941	1941	1941
MIN	.000	.000	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1931	1930	1951	1949	1934	1934	1931	1930	1930

## SUMMARY STATISTICS

## WATER YEARS 1930 - 1957

ANNUAL MEAN	59.7
HIGHEST ANNUAL MEAN	354
LOWEST ANNUAL MEAN	.000
HIGHEST DAILY MEAN	17900
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	39200
INSTANTANEOUS PEAK STAGE	19.20
ANNUAL RUNOFF (AC-FT)	43230
10 PERCENT EXCEEDS	71
50 PERCENT EXCEEDS	1.9
90 PERCENT EXCEEDS	.00

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.40	15.9	25.5	112	284	179	63.3	25.0	11.0	6.26	3.25	2.80
MAX	40.9	278	234	1880	1899	1797	758	238	79.6	38.5	17.4	15.2
(WY)	1984	1966	1966	1969	1969	1983	1983	1983	1978	1978	1978	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1965	1969	1976	1961	1990	1961	1961	1961	1961	1961	1961

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1960 - 1993

ANNUAL TOTAL	26876.36	100637.51	
ANNUAL MEAN	73.4	276	59.6
HIGHEST ANNUAL MEAN			345
LOWEST ANNUAL MEAN			.29
HIGHEST DAILY MEAN	8670	Feb 12	22000
LOWEST DAILY MEAN	.00	Jan 3	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 14	.00
INSTANTANEOUS PEAK FLOW			12500
INSTANTANEOUS PEAK STAGE			15.12
ANNUAL RUNOFF (AC-FT)	53310	199600	43180
10 PERCENT EXCEEDS	52	801	40
50 PERCENT EXCEEDS	3.1	26	2.6
90 PERCENT EXCEEDS	.04	.66	.00

## VENTURA RIVER BASIN

11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1907 to December 1908, water years 1967 to current year.

CHEMICAL DATA: December 1907 to December 1908, water years 1967-79.

WATER TEMPERATURE: Water years 1969, 1971-73, 1975-81, 1986.

SEDIMENT DATA: Water years 1969-73, 1975 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1968 to September 1969, October 1970 to September 1973, October 1974 to September 1981, October 1985 to September 1986.

SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1973, October 1974 to September 1981, October 1985 to September 1986.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN						
07...	1100	980	13.5	2300	6090	96
14...	1505	1620	14.5	1570	6870	81
17...	1520	2860	13.5	3130	24200	68
FEB						
10...	1135	733	14.0	491	972	64
24...	1410	2300	14.0	594	3690	58
MAR						
17...	1605	506	20.0	38	52	56
APR						
06...	1740	427	--	2	2.3	70
JUN						
09...	1205	68	21.5	15	2.8	53

## 11118501 VENTURA RIVER NEAR VENTURA, CA--Continued

VENTURA RIVER AND VENTURA CITY DIVERSION NEAR VENTURA  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	14	27	124	1250	646	135	e59	26	14	9.7
2	15	16	14	47	119	1150	571	125	e59	26	14	9.9
3	13	16	3.0	28	115	1070	510	128	e59	26	12	9.3
4	15	15	2.8	25	106	1000	473	129	e60	26	13	9.2
5	11	14	2.7	30	86	931	454	132	e74	27	12	10
6	14	14	3.4	90	83	876	428	132	e72	25	11	10
7	17	14	100	1690	224	842	405	134	e70	25	11	8.9
8	15	14	23	416	4740	794	383	135	e69	24	13	8.9
9	15	14	14	39	1750	728	349	133	68	23	12	9.0
10	14	14	11	27	735	671	343	131	68	22	13	8.5
11	14	14	11	15	399	644	329	130	62	22	13	9.3
12	15	14	9.7	73	260	620	302	131	53	22	12	9.2
13	15	14	8.9	3800	199	601	269	130	50	22	12	8.8
14	15	14	7.1	3090	169	580	258	129	47	20	12	9.6
15	15	14	5.4	2430	135	562	242	125	46	20	13	9.8
16	15	14	3.9	1200	118	539	232	124	46	20	13	9.4
17	15	14	5.4	2240	351	514	222	115	43	20	12	10
18	15	14	8.3	5110	1940	472	218	73	44	20	11	9.2
19	15	14	4.7	2100	4260	425	212	70	45	20	11	8.9
20	15	14	3.9	1180	2490	391	205	71	45	20	11	9.4
21	15	14	3.9	819	1610	357	200	71	44	19	10	10
22	15	14	3.9	528	1340	342	191	71	36	17	11	10
23	15	14	3.9	349	3650	291	177	64	36	16	11	9.9
24	15	14	3.6	271	2320	259	163	62	34	17	9.9	10
25	15	14	3.6	241	1740	2060	160	63	32	17	11	9.2
26	15	13	3.9	220	1990	2200	151	62	31	18	9.3	9.2
27	14	13	4.3	203	1540	1110	143	e61	32	16	9.6	9.9
28	15	14	12	188	1370	1120	113	e61	32	16	11	9.6
29	15	13	360	167	---	912	87	e60	31	14	9.3	9.0
30	25	13	62	150	---	813	181	e60	29	15	9.8	8.7
31	19	---	31	135	---	723	---	e59	---	14	9.8	---
TOTAL	472	423	748.3	26928	33963	24847	8617	3106	1476	635	356.7	282.5
MEAN	15.2	14.1	24.1	869	1213	802	287	100	49.2	20.5	11.5	9.42
MAX	25	16	360	5110	4740	2200	646	135	74	27	14	10
MIN	11	13	2.7	15	83	259	87	59	29	14	9.3	8.5
AC-FT	936	839	1480	53410	67370	49280	17090	6160	2930	1260	708	560

e Estimated.

## VENTURA RIVER BASIN

11118501 VENTURA RIVER NEAR VENTURA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.12	9.68	33.2	138	191	266	91.0	35.4	20.8	13.2	9.67	8.33
MAX	27.8	45.3	115	1106	1061	1953	877	232	110	65.0	43.2	28.7
(WY)	1942	1947	1937	1952	1941	1938	1941	1941	1941	1941	1941	1941
MIN	.39	.29	.14	2.16	1.72	2.71	2.54	1.34	1.64	.92	.37	.23
(WY)	1936	1937	1933	1949	1949	1951	1951	1933	1936	1936	1935	1935

## SUMMARY STATISTICS

## WATER YEARS 1933 - 1957

ANNUAL TOTAL	
ANNUAL MEAN	72.9
HIGHEST ANNUAL MEAN	359
LOWEST ANNUAL MEAN	2.31
HIGHEST DAILY MEAN	17900
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	63600
INSTANTANEOUS PEAK STAGE	29.30
ANNUAL RUNOFF (AC-FT)	52800
10 PERCENT EXCEEDS	84
50 PERCENT EXCEEDS	11
90 PERCENT EXCEEDS	2.2

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.08	22.2	31.3	118	290	187	72.4	35.0	20.9	15.8	12.0	10.5
MAX	50.3	282	240	1883	1901	1804	766	248	90.5	49.1	27.8	26.2
(WY)	1984	1966	1966	1969	1969	1983	1983	1983	1978	1983	1978	1983
MIN	.55	1.31	1.86	1.88	2.04	3.17	3.19	2.89	2.07	1.48	.91	.40
(WY)	1962	1962	1991	1991	1961	1961	1961	1961	1961	1961	1961	1961

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1960 - 1993

ANNUAL TOTAL	31807.2	101854.5	
ANNUAL MEAN	86.9	279	67.5
HIGHEST ANNUAL MEAN			352
LOWEST ANNUAL MEAN			2.22
HIGHEST DAILY MEAN	8680	Feb 12	22000
LOWEST DAILY MEAN	2.7	Dec 5	.00
ANNUAL SEVEN-DAY MINIMUM	3.8	Dec 20	.20
INSTANTANEOUS PEAK FLOW			12500
INSTANTANEOUS PEAK STAGE			15.12
ANNUAL RUNOFF (AC-FT)	63090	202000	48890
10 PERCENT EXCEEDS	62	802	49
50 PERCENT EXCEEDS	19	27	12
90 PERCENT EXCEEDS	11	9.4	3.7

## 11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA

LOCATION.--Lat 34°24'05", long 119°29'08", in El Rincon Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank 100 ft upstream from bridge on State Highway 192, 165 ft downstream from Gobernador Creek, and 1.8 mi northeast of Carpinteria.

DRAINAGE AREA.--13.1 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1941 to September 1977, October 1978 to current year.

REVISED RECORDS.--WSP 1061: 1943. WSP 1928: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 130 ft above sea level, from topographic map. Prior to July 1, 1958, at site 100 ft downstream, at datum 6.00 ft higher. July 2, 1958, to Aug. 27, 1970, at site 65 ft downstream at datum 4.00 ft higher. Aug. 28, 1970, to Sept. 30, 1977, at site 100 ft downstream at same datum.

REMARKS.--Records fair. No regulation upstream from station. Gobernador Land and Water Co. diverts from Gobernador Creek 1.8 mi upstream from station. Small lake 0.8 mi southeast of station and outside the drainage area stores storm runoff and surplus water diverted from Gobernador Creek by Gobernador Land and Water Co. At times this lake is drained by pumping water back into Gobernador Creek 1,000 ft upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,880 ft<sup>3</sup>/s, Dec. 27, 1971, gage height, 14.10 ft, from floodmark, from rating curve extended above 130 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 125 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0430	660	5.73	Feb. 20	0045	148	4.53
Jan. 14	0030	701	5.80	Feb. 23	0845	502	5.43
Jan. 17	2145	*905	*6.12	Mar. 25	1730	527	5.48
Feb. 8	1545	391	5.19				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	1.1	e12	39	25	e6.9	e3.2	1.5	.82	.41
2	.00	.00	.00	4.3	e11	35	23	e6.7	e3.1	1.6	.73	.40
3	.00	.00	.00	1.7	e10	32	20	e6.6	e3.1	1.7	.79	.43
4	.00	.00	.00	.91	e10	29	18	e6.4	e3.0	1.7	.77	.43
5	.00	.00	.00	.61	e9.5	25	17	e6.2	e2.9	1.6	.67	.43
6	.00	.00	.00	9.5	7.7	23	16	e6.1	e2.9	1.5	.52	.51
7	.00	.00	8.1	307	12	21	16	e5.9	e2.8	1.5	.63	.39
8	.00	.00	.90	88	201	20	15	e5.8	e2.7	1.5	.68	.27
9	.00	.00	.05	23	64	18	15	e5.6	e2.7	1.5	.57	.25
10	.00	.00	.00	14	37	18	13	e5.5	e2.5	1.5	.52	.23
11	.00	.00	.00	9.6	28	18	13	e5.3	e2.3	1.3	.48	.24
12	.00	.00	.00	10	23	17	12	e5.2	2.2	1.3	.47	.31
13	.00	.00	.00	265	20	16	12	e5.1	2.1	1.4	.52	.45
14	.00	.00	.00	241	17	15	11	e5.0	2.1	1.5	.77	.47
15	.00	.00	.00	187	16	14	11	e4.8	2.2	1.4	.83	.47
16	.00	.00	.00	142	15	14	11	e4.7	2.2	1.4	.84	.47
17	.00	.00	.00	167	13	13	11	e4.6	2.2	1.5	.64	.48
18	.00	.00	.04	e200	37	12	10	e4.5	2.2	1.2	.50	.38
19	.00	.00	.00	e130	68	11	10	e4.4	2.0	1.2	.46	.41
20	.00	.00	.00	e80	80	11	9.5	e4.3	2.0	1.3	.46	.36
21	.00	.00	.00	e60	46	10	9.0	e4.2	2.3	1.4	.47	.43
22	.00	.00	.00	e45	36	10	9.2	e4.1	2.3	1.4	.44	.47
23	.00	.00	.00	e35	179	9.9	8.7	e4.0	1.9	1.4	.46	.41
24	.00	.00	.00	e30	76	9.6	8.4	e3.8	1.6	1.7	.45	.31
25	.00	.00	.00	e25	52	165	8.1	e3.8	1.6	1.6	.44	.22
26	.00	.00	.00	e20	68	100	7.9	e3.7	1.6	2.0	.38	.16
27	.00	.00	.00	e18	52	46	7.6	e3.6	1.7	1.7	.37	.12
28	.00	.00	.00	e17	45	55	7.5	e3.5	1.7	1.7	.43	.11
29	.00	.00	23	e16	---	38	7.2	e3.5	1.5	1.5	.51	.12
30	3.9	.00	6.0	e14	---	32	7.1	e3.4	1.5	1.2	.54	.13
31	.03	---	2.3	e13	---	28	---	e3.3	---	.93	.49	---
TOTAL	3.93	0.00	40.39	2174.72	1245.2	904.5	369.2	150.6	68.1	45.63	17.65	10.27
MEAN	.13	.000	1.30	70.2	44.5	29.2	12.3	4.86	2.27	1.47	.57	.34
MAX	3.9	.00	23	307	201	165	25	6.9	3.2	2.0	.84	.51
MIN	.00	.00	.00	.61	7.7	9.6	7.1	3.3	1.5	.93	.37	.11
AC-FT	7.8	.00	80	4310	2470	1790	732	299	135	91	35	20

e Estimated.

## CARPINTERIA CREEK BASIN

11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.094	.86	2.53	9.51	13.8	8.18	4.06	.85	.31	.15	.083	.067
MAX	3.59	16.7	38.9	160	209	66.6	67.8	9.93	4.38	2.23	1.21	.99
(WY)	1984	1966	1967	1969	1969	1983	1958	1983	1983	1941	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1946	1944	1948	1945	1948	1947	1947	1945	1942	1942	1942	1942

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1941 - 1993

ANNUAL TOTAL	1762.00	5030.19	
ANNUAL MEAN	4.81	13.8	3.11
HIGHEST ANNUAL MEAN			33.5
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	383	Feb 12	2270
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 16	.00
INSTANTANEOUS PEAK FLOW			905
INSTANTANEOUS PEAK STAGE			6.12
ANNUAL RUNOFF (AC-FT)	3490	9980	2250
10 PERCENT EXCEEDS	7.0	31	2.5
50 PERCENT EXCEEDS	.00	1.7	.00
90 PERCENT EXCEEDS	.00	.00	.00

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA

LOCATION.--Lat 34°25'35", long 119°43'20", in Pueblo Lands of Santa Barbara, Santa Barbara County, Hydrologic Unit 18060013, on left bank 200 ft downstream from Los Olivos Street in Santa Barbara.

DRAINAGE AREA.--8.38 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and low-flow concrete control. Concrete-lined channel. Elevation of gage is 105 ft above sea level, from topographic map.

REMARKS.--Records poor. At times water is released to creek for ground-water recharge from Gibraltar Tunnel several miles upstream. Control installed Nov. 26, 1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,580 ft<sup>3</sup>/s, Jan. 18, 1973, gage height, 4.97 ft, from rating curve extended above 41 ft<sup>3</sup>/s on basis of computation of flow in concrete-lined channel; maximum gage height, 5.45 ft, Feb. 16, 1980; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0345	276	2.97	Mar. 25	1445	695	3.73
Jan. 13	0445	*838	*3.92				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	2.3	2.5	26	e17	.70	.24	.00	.00	.00
2	.00	.00	.00	4.4	2.3	24	e14	.64	.18	.00	.00	.00
3	.00	.00	.74	.34	2.2	22	e11	.65	.03	.00	.00	.00
4	.00	.00	.22	.01	2.1	19	e9.0	.61	.00	.00	.00	.00
5	.00	.00	.00	.00	1.8	18	e7.5	.57	2.1	.00	.00	.00
6	.00	.00	17	18	1.7	15	e6.4	.60	.04	.00	.00	.00
7	.00	.00	19	119	24	12	e5.5	.65	.00	.00	.00	.00
8	.00	.00	.71	33	100	11	4.6	.43	.00	.00	.00	.00
9	.00	.00	.01	8.5	46	10	5.1	.32	.00	.00	.00	.00
10	.00	.00	.00	6.5	21	8.0	3.8	.30	.00	.00	.00	.00
11	.00	.00	1.1	3.6	14	6.4	3.5	.40	.05	.00	.00	.00
12	.00	.00	.06	13	11	5.2	3.2	.41	.12	.00	.00	.00
13	.00	.00	.00	145	9.1	4.7	3.0	.29	.13	.00	.00	.00
14	.00	.00	.00	67	7.7	4.4	2.7	.27	.13	.00	.00	.00
15	.00	.00	.00	79	6.6	4.0	2.4	.20	.11	.00	.00	.00
16	.00	.00	.00	81	5.8	3.7	2.3	.15	.10	.00	.00	.00
17	.00	.00	.63	76	6.2	3.5	2.1	.24	.06	.00	.00	.00
18	.00	.00	.08	84	66	3.2	2.0	.61	.04	.00	.00	.00
19	.00	.00	.00	43	87	3.0	1.9	.54	.03	.00	.00	.00
20	.00	.00	.00	20	55	2.9	2.3	.55	.00	.00	.00	.00
21	.00	.00	.00	13	30	2.7	2.1	.51	.00	.00	.00	.00
22	.00	.00	.00	11	23	2.7	1.8	.50	.00	.00	.00	.00
23	.00	.00	.00	8.5	76	2.5	1.5	.58	.02	.00	.00	.00
24	.00	.00	.00	6.8	41	3.0	1.3	.55	.00	.00	.00	.00
25	.00	.00	.00	5.7	28	238	1.7	.35	.02	.00	.00	.00
26	.00	.00	.00	4.9	61	106	1.4	.25	.00	.00	.00	.00
27	.00	.00	.00	4.3	34	61	1.2	.51	.00	.00	.00	.00
28	.00	.00	2.4	3.8	27	59	1.2	.44	.00	.00	.00	.00
29	.00	.00	22	3.4	---	38	1.1	.32	.00	.00	.00	.00
30	8.8	.00	4.3	3.1	---	28	.75	.28	.00	.00	.00	.00
31	.03	---	.30	2.7	---	e20	---	.27	---	.00	.00	---
TOTAL	8.83	0.00	68.55	870.85	792.0	766.9	123.35	13.69	3.40	0.00	0.00	0.00
MEAN	.28	.000	2.21	28.1	28.3	24.7	4.11	.44	.11	.000	.000	.000
MAX	8.8	.00	.22	145	100	238	17	.70	2.1	.00	.00	.00
MIN	.00	.00	.00	.00	1.7	2.5	.75	.15	.00	.00	.00	.00
AC-FT	18	.00	136	1730	1570	1520	245	27	6.7	.00	.00	.00

e Estimated.

## MISSION CREEK BASIN

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.13	1.22	2.54	6.29	11.0	8.94	2.10	.84	.13	.027	.048	.18
MAX	2.01	14.0	13.9	39.6	54.8	62.3	17.2	8.88	1.25	.49	1.08	1.37
(WY)	1984	1973	1972	1978	1978	1978	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1975	1973	1976	1972	1972	1972	1972	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	993.01		2647.57			
ANNUAL MEAN	2.71		7.25		2.75	
HIGHEST ANNUAL MEAN					15.1	
LOWEST ANNUAL MEAN					.12	
HIGHEST DAILY MEAN	222	Feb 12	238	Mar 25	879	Mar 4 1978
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 20	.00	Oct 1	.00	Oct 1 1970
INSTANTANEOUS PEAK FLOW			838	Jan 13	2580	Jan 18 1973
INSTANTANEOUS PEAK STAGE			3.92	Jan 13	5.45	Feb 16 1980
ANNUAL RUNOFF (AC-FT)	1970		5250		1990	
10 PERCENT EXCEEDS	2.9		19		2.7	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11119780 ARROYO BURRO AT SANTA BARBARA, CA

LOCATION.--Lat 34°26'13", long 119°44'44", in Pueblo Lands of Santa Barbara, Santa Barbara County, Hydrologic Unit 18060013, on right bank 0.2 mi south of State Street on Hope Avenue in Santa Barbara.

DRAINAGE AREA.--6.65 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to September 1993 (discontinued).

REVISED RECORDS.--WDR CA-76-1: 1974(M), 1975(P).

GAGE.--Water-stage recorder and concrete-lined channel with a low-water control. Elevation of gage is 160 ft above sea level, from topographic map.

REMARKS.--Records fair. Small amount of inflow occurs at times from large shopping center that empties water directly into the stream. Partial regulation by Lauro Canyon Reservoir on San Roque Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft<sup>3</sup>/s, Mar. 4, 1978, Feb. 16, 1980, from rating curve extended above 50 ft<sup>3</sup>/s on basis of slope-conveyance study; maximum gage height, 5.67 ft, Mar. 4, 1978; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 7	2030	327	3.24	Mar. 25	1630	*849	*4.47

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.40	.00	e.40	.15	11	12	.64	.13	.00	.00	.00
2	.00	e.07	.00	e4.0	.20	9.3	10	.60	.07	.00	.00	.00
3	.00	e.00	e.60	e.20	.10	8.1	8.5	.57	.04	.00	.00	.00
4	.00	e.00	e.01	e.00	.39	6.8	6.8	.51	.14	.00	.00	.00
5	.00	e.00	.00	e.00	.72	5.9	5.7	.47	3.0	.01	.00	.00
6	.13	e.00	e16	e15	.70	5.2	4.8	.43	.10	.01	.00	.00
7	.00	e.00	e18	e90	47	4.6	3.8	.41	.09	.00	.00	.00
8	.00	e.00	e.40	e15	77	4.2	3.2	.38	.08	.00	.00	.00
9	.00	e.00	e.01	e3.0	27	3.8	2.8	.31	.03	.00	.00	.00
10	.00	e.00	.00	e2.0	14	3.4	2.4	.31	.00	.00	.00	.00
11	.00	e.00	.00	e1.0	10	3.0	2.2	.35	.00	.00	.00	.00
12	.00	e.00	.00	e10	8.4	2.7	2.1	.36	.00	.00	.16	.00
13	.00	e.00	.00	e100	6.6	2.4	1.9	.30	.00	.00	.00	.00
14	.00	e.00	.00	e65	5.4	2.1	2.2	.28	.01	.00	.00	.00
15	.00	e.00	.00	e45	4.6	1.9	2.0	.26	.00	.00	.00	.00
16	.00	e.00	.00	29	4.0	1.7	1.7	.23	.00	.00	.00	.00
17	.00	e.00	.00	53	3.4	1.6	1.6	.24	.00	.00	.02	.00
18	.00	.00	.00	69	62	1.6	1.4	.24	.00	.00	.05	.00
19	.00	.00	.00	18	54	1.5	1.2	.21	.00	.00	.00	.00
20	.00	.00	.00	9.9	32	1.4	1.2	.17	.00	.00	.00	.00
21	.01	.00	.00	6.2	19	1.2	1.2	.15	.00	.00	.00	.00
22	.00	.00	.00	4.1	16	.87	1.2	.16	.03	.00	.00	.00
23	.00	.00	.00	2.7	76	.79	1.2	.22	.00	.00	.00	.00
24	.00	.00	.00	1.9	26	1.3	1.1	.21	.01	.00	.00	.00
25	.00	.00	.00	1.4	19	302	.96	.40	.00	.00	.47	.00
26	.00	.00	.00	.94	29	125	.84	.23	.00	.00	.37	.00
27	.00	.00	.00	.56	15	55	.72	.18	.00	.02	.00	.00
28	.00	.00	e1.5	.40	13	53	.74	.16	.00	.00	.00	.00
29	.46	.00	e20	.27	---	24	.76	.14	.00	.00	.00	.00
30	e11	.00	e2.0	.23	---	18	.68	.13	.01	.00	.00	.00
31	e2.0	---	e.04	.19	---	15	---	.14	---	.00	.00	---
TOTAL	13.60	0.47	58.56	548.39	570.66	678.36	86.90	9.39	3.74	0.04	1.07	0.00
MEAN	.44	.016	1.89	17.7	20.4	21.9	2.90	.30	.12	.001	.035	.000
MAX	11	.40	20	100	77	302	12	.64	3.0	.02	.47	.00
MIN	.00	.00	.00	.00	.10	.79	.68	.13	.00	.00	.00	.00
AC-FT	27	.9	116	1090	1130	1350	172	19	7.4	.08	2.1	.00

e Estimated.

## 11119780 ARROYO BURRO AT SANTA BARBARA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.28	1.00	2.67	4.56	9.04	7.33	1.26	.33	.061	.034	.047	.28
MAX	4.07	9.65	16.1	25.6	38.7	44.2	10.8	3.05	.74	.26	.51	3.27
(WY)	1984	1973	1975	1978	1978	1978	1983	1983	1983	1983	1983	1983
MIN	.002	.004	.006	.023	.022	.007	.004	.002	.000	.000	.001	.000
(WY)	1991	1990	1990	1972	1977	1990	1977	1973	1973	1973	1972	1971

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1971 - 1993

ANNUAL TOTAL	804.11	1971.18	
ANNUAL MEAN	2.20	5.40	
HIGHEST ANNUAL MEAN			2.21
LOWEST ANNUAL MEAN			9.97
HIGHEST DAILY MEAN	222	Feb 12	302
LOWEST DAILY MEAN	.00	Jan 18	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 27	.00
INSTANTANEOUS PEAK FLOW			849
INSTANTANEOUS PEAK STAGE			4.47
ANNUAL RUNOFF (AC-FT)	1590		3910
10 PERCENT EXCEEDS	2.7		11
50 PERCENT EXCEEDS	.00		.01
90 PERCENT EXCEEDS	.00		.00

## 11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA

LOCATION.--Lat 34°26'42", long 119°48'10", in Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank at University Drive, 0.2 mi east of Patterson Avenue, and 1.5 mi northeast of Goleta.

DRAINAGE AREA.--6.35 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 60 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Some pumping for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft<sup>3</sup>/s, Feb. 15, 1992, gage height, 7.10 ft, from rating curve extended above 290 ft<sup>3</sup>/s on basis of critical-depth measurement of peak flow; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft<sup>3</sup>/s and maximum (\*), from rating curve extended as explained above:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0315	594	3.35	Feb. 18	1430	264	2.87
Jan. 13	0400	674	3.51	Feb. 23	0700	658	3.48
Jan. 17	1945	527	3.21	Mar. 25	2000	*1,020	*4.18
Feb. 8	0900	297	2.79	Mar. 28	0030	210	2.48

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.00	.15	.93	e7.5	e7.5	e.98	.22	.00	.00	.00
2	e.00	.00	.00	2.0	.86	e7.0	e6.9	e.96	e.22	.00	.00	.00
3	e.00	.00	.00	.00	.81	e6.0	e6.4	e.94	e.22	.03	.00	.00
4	e.00	.00	.00	.00	.78	e5.5	e5.9	e.92	e.21	.04	.00	.00
5	e.00	.00	.00	.00	.69	e5.0	e5.4	e.91	e.21	.05	.00	.00
6	e.00	.00	2.1	10	.71	e4.5	5.1	1.0	e.21	.02	.00	.00
7	e.00	.00	6.3	168	20	e4.0	4.8	.76	e.21	.02	.00	.00
8	e.00	.00	.40	18	87	e3.8	4.3	.39	e.20	.02	.00	.00
9	.00	.00	.00	3.2	12	e3.5	3.6	.35	e.20	.03	.00	.00
10	.00	.00	.00	3.1	6.0	e3.0	3.2	.33	.08	.04	.00	.00
11	.00	.00	.00	2.2	4.0	e2.8	3.0	.25	.07	.00	.00	.00
12	.00	.00	.00	3.5	3.0	2.7	2.5	.25	.08	.04	.00	.00
13	.00	.00	.00	174	2.4	2.5	2.0	.22	.09	.07	.00	.00
14	.01	.00	.00	49	1.8	2.4	1.3	.21	.09	.04	.00	.00
15	.00	.00	.00	65	1.9	2.2	e1.3	.21	.12	.04	.00	.00
16	.00	.00	.00	27	1.7	2.2	e1.3	.20	.04	.01	.00	.00
17	.00	.00	.00	95	1.6	2.1	e1.2	.23	.08	.02	.00	.00
18	.00	.00	.00	51	55	2.0	e1.2	.21	.07	.01	.00	.00
19	.00	.00	.00	9.8	6.6	1.9	e1.2	.19	.07	.02	.00	.00
20	.00	.00	.00	4.4	4.4	1.9	e1.2	.19	.07	.04	.00	.00
21	.00	.00	.00	2.9	e3.0	1.8	e1.2	.19	.10	.02	.00	.00
22	.00	.00	.00	1.9	e2.0	1.8	e1.1	.15	.08	.00	.00	.00
23	.00	.00	.00	e1.8	99	1.8	e1.1	.19	.04	.00	.00	.00
24	.00	.00	.00	e1.7	e8.0	1.7	e1.1	.15	.00	.04	.00	.00
25	.00	.00	.00	e1.6	e5.0	369	e1.1	.23	.00	.02	.00	.00
26	.00	.00	.00	e1.5	e10	139	e1.0	.20	.00	.05	.00	.00
27	.00	.00	.00	e1.4	e9.0	21	e1.0	.16	.00	.05	.00	.21
28	.00	.00	.00	e1.3	e8.0	36	e1.0	.12	.03	.04	.00	.00
29	.03	.00	1.8	e1.2	---	e11	e1.0	.12	.00	.01	.00	.00
30	1.4	.00	.01	1.1	---	e10	e1.0	.23	.00	.00	.00	.00
31	.00	---	.00	.96	---	e9.5	---	.28	---	.00	.00	---
TOTAL	1.44	0.00	10.61	702.71	356.18	675.1	79.9	11.72	3.01	0.77	0.00	0.21
MEAN	.046	.000	.34	22.7	12.7	21.8	2.66	.38	.10	.025	.000	.007
MAX	1.4	.00	6.3	174	99	369	7.5	1.0	.22	.07	.00	.21
MIN	.00	.00	.00	.00	.69	1.7	1.0	.12	.00	.00	.00	.00
AC-FT	2.9	.00	21	1390	706	1340	158	23	6.0	1.5	.00	.4

e Estimated.

11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.11	.26	1.42	4.00	7.58	7.26	.96	.24	.083	.035	.031	.045
MAX	2.05	2.35	8.18	23.1	34.6	32.9	7.64	3.42	1.15	.52	.27	.50
(WY)	1984	1983	1984	1983	1978	1978	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1975	1990	1989	1977	1972	1972	1972	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	1076.29		1841.65			
ANNUAL MEAN	2.94		5.05		1.81	
HIGHEST ANNUAL MEAN					7.77	1978
LOWEST ANNUAL MEAN					.039	1990
HIGHEST DAILY MEAN	446	Feb 12	369	Mar 25	446	Feb 12 1992
LOWEST DAILY MEAN	.00	Jan 15	.00	Oct 1	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 15	.00	Oct 1	.00	Oct 1 1970
INSTANTANEOUS PEAK FLOW			1020	Mar 25	2500	Feb 15 1992
INSTANTANEOUS PEAK STAGE			4.18	Mar 25	7.10	Feb 15 1992
ANNUAL RUNOFF (AC-FT)	2130		3650		1310	
10 PERCENT EXCEEDS	1.9		5.7		1.2	
50 PERCENT EXCEEDS	.00		.04		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11120000 ATASCADERO CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°25'29", long 119°48'39", in La Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on downstream side of center pier of county road bridge 100 ft downstream from Maria Ygnacio Creek, 1.3 mi upstream from mouth, and 1.3 mi southeast of Goleta.

DRAINAGE AREA.--18.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1947, published as "Alascadero Creek near Goleta."

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8.59 ft, Santa Barbara County benchmark. Prior to Dec. 14, 1967, at site 275 ft downstream, datum 4.00 ft higher. Dec. 14, 1967, to Sept. 30, 1976, at datum 4.00 ft higher; Oct. 1, 1976, to Sept. 30, 1978, at datum 2.00 ft higher, both at present site.

REMARKS.--Records poor. No regulation upstream from station. Small diversions for irrigation upstream from station. Some low-flow results from return irrigation wastewater.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,380 ft<sup>3</sup>/s, Jan. 18, 1973, gage height, 17.1 ft, present datum, from rating curve extended above 2,300 ft<sup>3</sup>/s; maximum gage height, 17.3 ft, from floodmark, Dec. 3, 1974, present datum; no flow some days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 225 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	1030	477	5.01	Feb. 18	1415	563	5.74
Jan. 7	0315	2,060	7.55	Feb. 23	0715	1,440	7.05
Jan. 17	2030	1,420	6.96	Mar. 25	1715	*2,990	*8.65
Feb. 7	2315	1,260	6.72	Mar. 28	0100	899	5.81

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.04	.04	8.6	3.5	23	29	1.4	.10	.01	.00	.00
2	.00	e.03	.08	33	3.2	20	e23	1.5	.06	.02	.00	.00
3	.00	e.02	.53	10	2.7	18	e19	1.9	.04	.01	.00	.00
4	.00	e.01	7.1	9.7	2.4	16	e17	1.6	.04	.01	.00	.00
5	.00	e.01	.71	9.7	2.1	14	e15	2.2	6.3	.01	.00	.00
6	.00	e.01	47	179	2.0	13	12	2.4	.46	.01	.00	.00
7	.00	e.01	122	e500	158	13	11	1.8	.22	.01	.00	.00
8	.00	e.01	11	e180	329	e11	10	1.6	.08	.01	.00	.00
9	.00	e.01	5.8	e60	96	e10	9.5	1.6	.02	.00	.00	.00
10	.00	e.01	3.1	e70	51	e9.0	8.7	1.7	.02	.00	.00	.00
11	.00	e.01	18	e40	36	e8.0	8.0	17	.02	.00	.00	.00
12	.00	e.01	6.2	e190	28	8.1	7.5	2.6	.02	.00	.00	.00
13	.00	e.01	4.4	e600	23	7.7	7.0	2.2	.01	.00	.00	.01
14	.00	e.01	4.1	e200	19	7.2	6.8	1.9	.02	.00	.00	.00
15	.00	e.01	4.0	e300	17	6.6	6.8	1.8	.02	.00	.00	.00
16	.00	e.01	3.9	101	e13	6.3	5.9	1.5	.02	.00	.00	.00
17	.00	.02	3.9	276	e10	6.1	5.4	1.4	.02	.00	.00	.00
18	.00	.05	6.4	221	204	5.8	4.9	1.3	.02	.00	.00	.00
19	.00	.04	4.2	55	122	5.5	4.3	1.0	.02	.00	.00	.00
20	.00	.03	e3.0	26	79	4.9	4.0	.82	.03	.01	.00	.00
21	.00	.02	e2.0	17	38	4.5	3.5	.70	.05	.00	.00	.00
22	.00	.04	e1.0	13	31	4.4	3.2	.53	.04	.00	.00	.00
23	.00	.04	e.50	10	271	4.2	2.9	.67	.03	.01	.00	.00
24	.00	.03	e.40	8.5	57	4.2	2.6	.76	.01	.01	.00	.00
25	.00	.03	e.30	e7.5	41	1330	2.4	1.1	.01	.00	.00	.00
26	.00	.03	e.20	e7.0	67	386	2.1	1.1	.02	.01	.00	.00
27	.00	.09	e.10	e6.5	35	170	1.8	.60	.03	.01	.00	.00
28	.00	.14	e7.0	e6.0	29	202	1.8	.39	.02	.01	.00	.00
29	.00	.10	79	e5.5	---	60	1.7	.30	.01	.00	.00	.00
30	e10	.08	26	5.0	---	45	1.4	.28	.01	.00	.00	.00
31	e.05	---	5.6	4.1	---	35	---	.14	---	.00	.00	---
TOTAL	10.05	0.96	377.56	3159.1	1769.9	2458.5	238.2	55.79	7.77	0.15	0.00	0.01
MEAN	.32	.032	12.2	102	63.2	79.3	7.94	1.80	.26	.005	.000	.000
MAX	10	.14	122	600	329	1330	29	17	6.3	.02	.00	.01
MIN	.00	.01	.04	4.1	2.0	4.2	1.4	.14	.01	.00	.00	.00
AC-FT	20	1.9	749	6270	3510	4880	472	111	15	.3	.00	.02

e Estimated.

## 11120000 ATASCADERO CREEK NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.32	3.34	5.57	15.8	19.0	13.2	3.89	.52	.13	.038	.064	.27
MAX	8.08	49.8	41.5	230	143	89.2	63.5	8.69	2.20	.28	1.41	4.68
(WY)	1984	1966	1967	1969	1962	1978	1958	1983	1983	1983	1983	1976
MIN	.000	.000	.000	.000	.000	.010	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1943	1951	1948	1990	1950	1942	1942	1942	1942	1942

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1942 - 1993

ANNUAL TOTAL	3905.45	8077.99	5.11
ANNUAL MEAN	10.7	22.1	29.0
HIGHEST ANNUAL MEAN			.018
LOWEST ANNUAL MEAN			1969
HIGHEST DAILY MEAN	1140	Feb 12	2410
LOWEST DAILY MEAN	.00	Jan 24	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 24	.00
INSTANTANEOUS PEAK FLOW			.00
INSTANTANEOUS PEAK STAGE			.00
ANNUAL RUNOFF (AC-FT)	7750	16020	3700
10 PERCENT EXCEEDS	7.7	35	2.4
50 PERCENT EXCEEDS	.03	.14	.02
90 PERCENT EXCEEDS	.00	.00	.00

## 11120500 SAN JOSE CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°27'33", long 119°48'29", in La Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank 1.1 mi downstream from unnamed tributary and 1.7 mi northeast of Goleta.

DRAINAGE AREA.--5.51 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1941 to current year.

CHEMICAL DATA: Water years 1978-91.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete low-water control. Datum of gage is 95.61 ft, Santa Barbara County Road Department datum. Prior to Dec. 24, 1955, at datum 5.50 ft higher. Dec. 24, 1955, to Jan. 10, 1960, at datum 1.5 ft higher. Prior to Oct. 1, 1971, at site 75 ft downstream.

REMARKS.--Records poor. No regulation upstream from station. Many small diversions upstream from station for irrigation. Recording rain gage and satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 10.10 ft, from rating curve extended above 400 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 9.32 ft; maximum gage height, 12.74 ft, present datum, Jan. 21, 1943; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 6	2245	207	4.73	Feb. 18	1215	199	4.69
Jan. 13	0315	220	4.79	Feb. 23	0330	207	4.73
Feb. 8	1500	205	4.72	Mar. 25	1815	*531	*5.89

Minimum daily, 0.01 ft<sup>3</sup>/s, for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.08	.02	.67	e2.2	15	11	1.5	.71	.57	.26	.15
2	.02	.08	.02	6.1	e1.9	17	8.8	1.5	.61	.57	.22	.11
3	.02	.07	.03	1.2	e1.7	14	7.3	1.3	.45	.58	.18	.12
4	.04	.03	.10	.69	1.5	e12	6.3	1.3	.45	.45	.18	.13
5	.04	.05	.10	.47	1.5	e9.0	5.8	1.3	1.2	.45	.24	.12
6	.03	.05	.61	23	1.3	e7.0	5.1	1.3	1.3	.43	.24	.12
7	.03	.05	4.5	63	10	e6.0	4.6	1.2	1.1	.38	.23	.14
8	.05	.05	.76	19	90	e5.0	4.2	1.2	.67	.45	.19	.18
9	.04	.05	.33	6.7	42	e4.5	4.0	1.2	.57	.32	.25	.14
10	.04	.05	.27	6.8	36	e3.8	3.9	1.2	.46	.32	.29	.08
11	.04	.05	.33	4.7	30	e3.2	3.6	.87	.45	.32	.27	.08
12	.04	.03	.27	15	26	e2.8	3.1	.87	.45	.32	.32	.08
13	.02	.03	.27	113	24	2.4	2.8	.87	.55	.31	.37	.08
14	.02	.03	.25	44	22	e2.3	2.8	.87	.57	.27	.42	.08
15	.01	.03	.23	66	21	e2.2	2.6	.87	.57	.27	.43	.08
16	.01	.03	.23	39	20	e2.0	2.4	.87	.47	.27	.38	.08
17	.01	.04	.23	66	19	e1.8	2.4	.87	.45	.27	.38	.10
18	.02	.03	.23	58	68	e1.8	2.4	.87	.45	.27	.33	.10
19	.02	.01	.23	29	41	e1.7	2.4	.82	.45	.40	.27	.10
20	.02	.01	.23	19	35	e1.7	2.1	.71	.45	.38	.24	.10
21	.02	.01	.23	13	22	1.7	1.8	.71	.54	.38	.30	.10
22	.07	.02	.23	12	18	1.6	1.8	.70	.57	.35	.27	.16
23	.02	.02	.29	10	99	1.6	1.8	.57	.54	.27	.23	.26
24	.02	.02	.28	7.4	35	1.7	1.8	.69	.63	.38	.17	.20
25	.02	.02	.27	6.1	24	182	1.6	.76	.54	.38	.24	.18
26	.03	.02	.27	5.5	34	67	1.6	1.1	.57	.38	.19	.21
27	.03	.02	.27	4.7	23	41	1.5	.82	.65	.58	.18	.23
28	.04	.02	.83	e4.0	18	43	1.5	.71	.61	.71	.18	.17
29	.04	.02	11	e3.5	---	23	1.5	.71	.47	.71	.18	.11
30	.56	.02	2.0	e3.0	---	18	1.5	.71	.66	.44	.23	.08
31	.11	---	.84	e2.5	---	14	---	.71	---	.30	.21	---
TOTAL	1.51	1.04	25.75	653.03	767.1	509.8	104.0	29.68	18.16	12.48	8.07	3.88
MEAN	.049	.035	.83	21.1	27.4	16.4	3.47	.96	.61	.40	.26	.13
MAX	.56	.08	11	113	99	182	11	1.5	1.3	.71	.43	.26
MIN	.01	.01	.02	.47	1.3	1.6	1.5	.57	.45	.27	.17	.08
AC-FT	3.0	2.1	51	1300	1520	1010	206	59	36	25	16	7.7

e Estimated.

## SAN JOSE CREEK BASIN

11120500 SAN JOSE CREEK NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.25	1.14	2.45	5.65	7.46	5.81	2.77	.74	.29	.16	.13	.14
MAX	6.40	21.2	23.5	35.6	53.4	37.3	29.0	4.91	1.69	.98	.89	1.40
(WY)	1984	1966	1967	1952	1962	1978	1958	1983	1983	1983	1954	1954
MIN	.000	.000	.000	.000	.021	.10	.021	.000	.000	.000	.000	.000
(WY)	1947	1948	1948	1948	1948	1990	1990	1948	1946	1946	1946	1946

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	874.31		2134.50			
ANNUAL MEAN	2.39		5.85		2.07	
HIGHEST ANNUAL MEAN					9.80	
LOWEST ANNUAL MEAN					.042	
HIGHEST DAILY MEAN	278	Feb 12	182	Mar 25	602	Jan 15 1952
LOWEST DAILY MEAN	.01	Oct 15	.01	Oct 15	.00	Jan 2 1941
ANNUAL SEVEN-DAY MINIMUM	.02	Oct 13	.02	Oct 13	.00	Aug 18 1942
INSTANTANEOUS PEAK FLOW			531	Mar 25	2000	Jan 25 1969
INSTANTANEOUS PEAK STAGE			5.89	Mar 25	12.74	Jan 21 1943
ANNUAL RUNOFF (AC-FT)	1730		4230		1500	
10 PERCENT EXCEEDS	2.5		18		2.0	
50 PERCENT EXCEEDS	.11		.54		.23	
90 PERCENT EXCEEDS	.02		.03		.00	

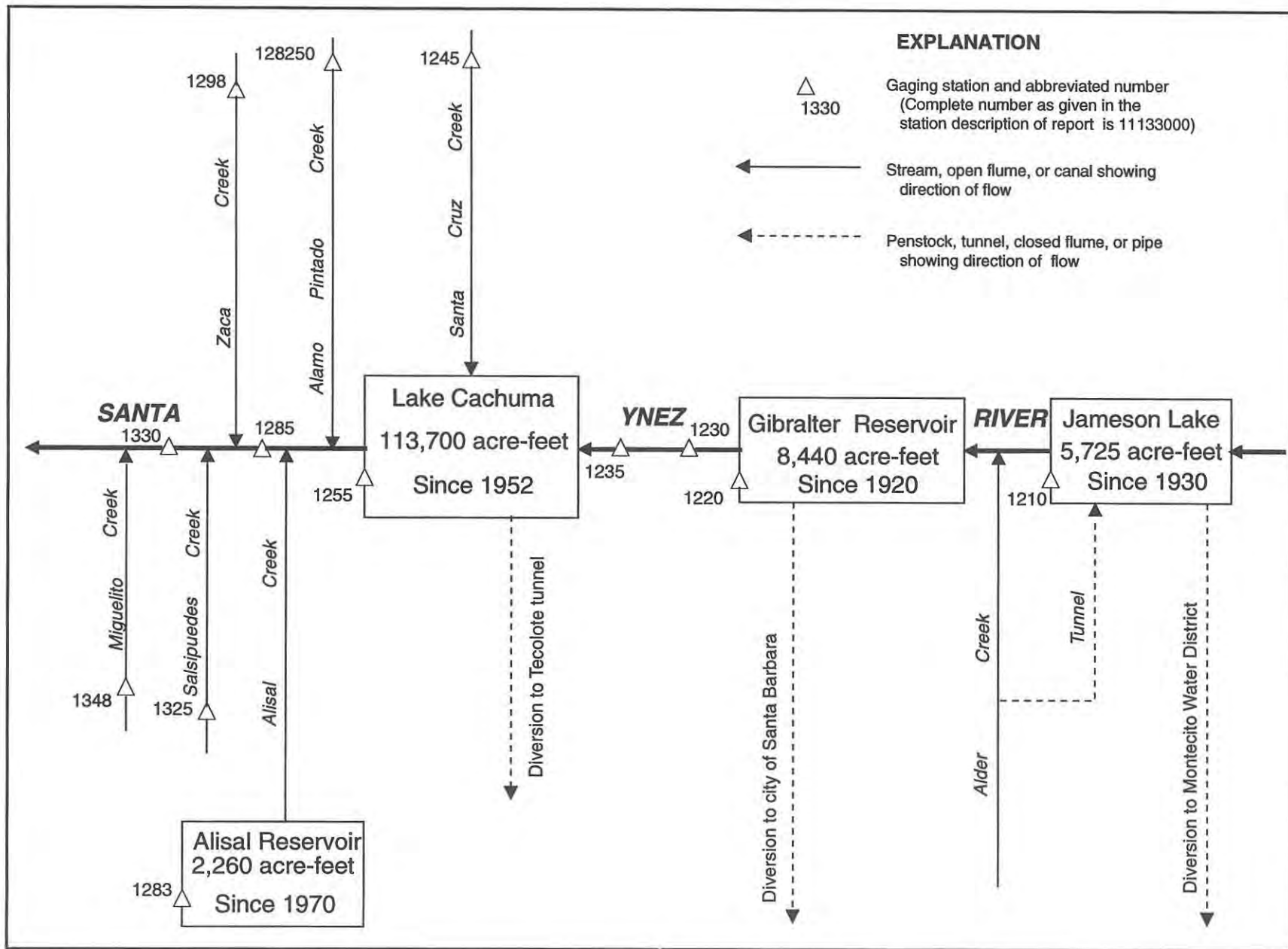


Figure 22. Diversions and storage in Santa Ynez River basin.

## 11121000 SANTA YNEZ RIVER AT JAMESON LAKE, NEAR MONTECITO, CA

LOCATION.--Lat 34°29'32", long 119°30'25", in NE 1/4 NW 1/4 sec.28, T.5 N., R.25 W., Santa Barbara County, Hydrologic Unit 18060010, on upstream face of Juncal Dam, 6.5 mi north of Carpinteria, and 8 mi northeast of Montecito.

DRAINAGE AREA.--13.9 mi<sup>2</sup>, excludes area of Alder Creek.

PERIOD OF RECORD.--December 1930 to current year. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

GAGE.--Two water-stage recorders. Datum of lake gage is 2,021.6 ft U.S. Bureau of Reclamation Datum or 2,000 ft above sea level. Supplementary gage and sharp-crested weir on outlet conduit of lake release, at different datum.

REMARKS.--Records of total inflow represent all water reaching Jameson Lake, including precipitation on the lake. Total inflow computed on basis of records of storage, diversion (draft) to city of Montecito, spill and release to river, evaporation, and seepage. Records of net inflow exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from U.S. Weather Bureau Class A land pan. Area and capacity tables are based on survey made in 1980. Lake capacity at spillway level, gage height 223.82 ft, 5,725 acre-ft. Dead storage, 32 acre-ft, below lowest outlet at gage height 139.0 ft included in these records. There is no regulation or diversion upstream from station. At times flow of Alder Creek, which enters Santa Ynez River 2 mi downstream from Juncal Dam, is diverted at elevation 2,250 ft through a tunnel to Jameson Lake and is included in these records.

COOPERATION.--Reservoir-operation records and related data provided by Montecito Water District.

AVERAGE DISCHARGE.--62 years (water years 1932-93), spill and release, 7.50 ft<sup>3</sup>/s, 5,430 acre-ft/yr.

## MONTHLY NET INFLOW, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet) <sup>a</sup>	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Spill and release (acre- feet)	Evapo- ration and seepage (acre- feet)	Total inflow (acre- feet)	Rain on reservoir (acre- feet)	Net inflow (acre- feet)
Sept. 30.....	2,220.47	5,290	--	--	--	--	--	--	--
Oct. 31.....	2,219.38	5,160	-130	135	0	35	40	21	19
Nov. 30.....	2,218.72	5,080	-80	73	0	35	28	0	28
Dec. 31.....	2,220.82	5,340	+260	65	0	16	341	113	228
CAL YR 1992.....	--	--	+380	1,080	11,060	483	13,003	528	12,475
Jan. 31.....	2,224.02	5,750	+410	61	7,380	12	7,863	251	7,612
Feb. 28.....	2,224.17	5,770	+20	56	8,250	11	8,337	214	8,123
Mar. 31.....	2,224.12	5,760	-10	61	6,050	35	6,136	105	6,031
Apr. 30.....	2,224.01	5,750	-10	60	2,510	57	2,617	0	2,617
May 31.....	2,223.99	5,750	0	61	1,660	51	1,772	5	1,767
June 30.....	2,223.97	5,740	-10	62	882	43	977	7	970
July 31.....	2,223.91	5,740	0	88	460	68	616	0	616
Aug. 31.....	2,223.39	5,670	-70	114	12	40	96	0	96
Sept. 30.....	2,222.57	5,560	-110	122	0	51	63	0	63
WTR YR 1993.....	--	--	270	958	27,204	454	28,886	716	28,170

<sup>a</sup> Elevation at 0800.

NOTE.--For months when inflow to the lake was small and other quantities were large, preliminary computations may indicate negative net inflow. This arises primarily from the difficulty of computing net inflow as the residual of several large quantities, which are not conducive to precise measurement. When this occurs, evaporation and seepage is adjusted to produce non-negative inflows.

## 11122000 SANTA YNEZ RIVER ABOVE GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'34", long 119°41'08", in NW 1/4 SW 1/4 sec.11, T.5 N., R.27 W., Santa Barbara County, Hydrologic Unit 18060010, on upstream face of Gibraltar Dam and 7 mi north of Santa Barbara.

DRAINAGE AREA.--216 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1920 to current year. November 1903 to November 1918 (fragmentary) at river station at damsite; records not equivalent because records since April 1920 are based on operation of Gibraltar Reservoir, and since December 1930, Jameson Lake. Prior to October 1945, published as "Santa Ynez River near Santa Barbara."

REVISED RECORDS.--WDR CA-86-1: 1934-43.

GAGE.--Two water-stage recorders. Datum of gage is sea level. Supplementary gage and sharp-crested weir on diversion from reservoir at different datum. See WSP 1735 for history of changes on both gages prior to Oct. 1, 1955. Spill and release measured by streamgaging station below dam (station 11123000).

REMARKS.--Records of total inflow represent all water reaching Gibraltar Reservoir, including precipitation on reservoir. Total inflow computed on basis of records of storage, diversion (draft) to city of Santa Barbara, spill and release to river, evaporation, and seepage. Records of net inflow exclude precipitation on reservoir surface. Monthly evaporation from reservoir surface computed on basis of evaporation from U.S. Weather Bureau Class A land pan. Area and capacity tables are based on survey made in February 1989. Reservoir capacity at spillway level, elevation, 1,399.82 ft, 8,440 acre-feet. Lowest outlet at elevation 1,333.86 ft. Flow regulated by Jameson Lake (station 11121000) since December 1930.

COOPERATION.--Reservoir-operation records and related data provided by city of Santa Barbara.

## MONTHLY NET INFLOW, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet) <sup>a</sup>	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Spill and release (acre-feet)	Evapo- ration and seepage (acre-feet)	Total inflow (acre-feet)	Rain on reservoir (acre-feet)	Net inflow (acre-feet)
Sept. 30.....	1,393.78	6,940	--	--	--	--	--	--	--
Oct. 31.....	1,391.22	6,350	-590	586	0	68	64	32	32
Nov. 30.....	1,389.04	5,880	-470	459	0	39	28	0	28
Dec. 31.....	1,392.37	6,620	+740	411	1.4	16	1168	141	1,027
CAL YR 1992.....	--	--	870	4,461	91,006	962	97,299	873	96,426
Jan. 31.....	1,400.08	8,600	+1,980	148	61,320	23	63,448	348	63,100
Feb. 28.....	1,400.38	8,690	+90	82	84,410	26	84,608	411	84,197
Mar. 31.....	1,400.18	8,630	-60	157	44,870	58	44,967	201	44,766
Apr. 30.....	1,400.34	8,680	+50	183	18,510	103	18,846	0	18,846
May 31.....	1,400.26	8,650	-30	253	5,180	130	5,533	8	5,525
June 30.....	1,400.12	8,610	-40	381	1,630	209	2,180	12	2,168
July 31.....	1,400.12	8,610	0	161	395	192	748	0	748
Aug. 31.....	1,398.85	8,620	+10	140	346	199	695	0	695
Sept. 30.....	1,397.36	7,860	-760	237	127	396	0	0	0
WTR YR 1993.....	--	--	920	3,198	216,789	1,459	222,285	1,153	221,132

<sup>a</sup> Elevation at 0800.

NOTE.--For months when inflow to the reservoir was small and other quantities were large, negative figures of inflow may appear. This arises primarily from the difficulty of computing inflow as the residual of several larger quantities, which are not conducive to precise measurement. When this occurs, evaporation and seepage is adjusted to produce non-negative inflows.

## SANTA YNEZ RIVER BASIN

11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'28", long 119°41'11", in SW 1/4 SW 1/4 sec.11, T.5 N., R.27 W., Santa Barbara County, Hydrologic Unit 18060010, on left bank 700 ft downstream from Gibraltar Dam and 7 mi north of Santa Barbara.

DRAINAGE AREA.--216 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1920 to current year. Monthly discharge only prior to October 1933. Daily records for water years 1934-43 in files of U.S. Geological Survey.

REVISED RECORDS.--WDR CA-86-1: 1934-43.

GAGE.--Two water-stage recorders. Datum of gage on main channel is 1,227 ft above sea level. Supplementary gage and sharp-crested weir on the release channel from Gibraltar Dam to river at different datum. See WSP 1735 for history of changes on both gages prior to May 20, 1958.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Jameson Lake (station 11121000) and Gibraltar Reservoir (station 11122000). City of Santa Barbara diverted 3,200 acre-ft during current year from Gibraltar Reservoir; Montecito Water District diverted 958 acre-ft during current year from Jameson Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,200 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 25.8 ft, from rating curve extended above 2,100 ft<sup>3</sup>/s on basis of computations of flow from gate openings and flow over dam at gage heights 17.5 and 25.8 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,770 ft<sup>3</sup>/s, Jan. 14, gage height, 15.04 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.12	235	1050	675	132	50	10	6.3	9.8
2	.00	.00	.00	.36	227	944	611	127	48	9.7	4.6	9.8
3	.00	.00	.00	.17	176	903	562	123	47	9.0	3.3	9.8
4	.00	.00	.00	.12	207	756	548	122	45	6.6	2.5	9.8
5	.00	.00	.00	.08	175	716	521	118	51	5.5	1.8	9.8
6	.00	.00	.00	.20	167	691	447	113	55	6.8	1.7	10
7	.00	.00	.00	1060	306	611	430	85	52	8.4	1.8	4.4
8	.00	.00	.00	1200	4990	610	417	90	53	8.2	1.8	.37
9	.00	.00	.00	374	2140	519	347	95	47	7.9	1.4	.21
10	.00	.00	.00	182	1160	542	348	97	30	8.0	.41	.13
11	.00	.00	.00	168	874	519	342	93	25	7.4	.37	.08
12	.00	.00	.00	160	720	432	331	94	28	7.0	.29	.04
13	.00	.00	.00	4460	612	420	312	91	28	7.5	.26	.01
14	.00	.00	.00	4340	552	424	259	88	27	7.9	.23	.00
15	.00	.00	.00	2410	518	403	264	86	26	7.1	.23	.00
16	.00	.00	.00	2040	464	355	268	82	23	6.2	5.1	.00
17	.00	.00	.00	2330	445	344	261	79	17	6.0	9.4	.00
18	.00	.00	.00	4210	1870	343	252	75	15	5.4	9.4	.00
19	.00	.00	.00	1940	6130	329	238	72	12	5.3	9.4	.00
20	.00	.00	.00	1170	3230	314	196	59	13	4.6	9.4	.00
21	.00	.00	.00	851	1930	255	199	58	14	4.1	9.4	.00
22	.00	.00	.00	676	1430	255	201	63	15	3.8	9.4	.00
23	.00	.00	.00	598	5160	260	198	63	19	3.7	9.4	.00
24	.00	.00	.00	449	2610	255	190	65	16	3.7	9.4	.00
25	.00	.00	.00	500	1760	2640	182	71	14	3.8	9.4	.00
26	.00	.00	.00	374	1820	2860	140	71	12	4.1	9.6	.00
27	.00	.00	.00	325	1440	1140	146	67	10	5.4	9.8	.00
28	.00	.00	.00	311	1210	1200	154	62	10	6.2	9.8	.00
29	.00	.00	.18	293	---	964	151	60	11	6.6	9.5	.00
30	.00	.00	.35	252	---	845	141	56	11	6.6	9.4	.00
31	.00	---	.17	240	---	724	---	53	---	6.8	9.5	---
TOTAL	0.00	0.00	0.70	30914.05	42558	22623	9331	2610	824	199.3	174.29	64.24
MEAN	.000	.000	.023	997	1520	730	311	84.2	27.5	6.43	5.62	2.14
MAX	.00	.00	.35	4460	6130	2860	675	132	55	10	9.8	10
MIN	.00	.00	.00	.08	167	255	140	53	10	3.7	.23	.00
AC-FT	.00	.00	1.4	61320	84410	44870	18510	5180	1630	395	346	127

11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.74	6.79	26.8	111	224	227	101	24.3	5.98	2.66	.94	.40
MAX	32.6	336	607	2077	2189	1712	1168	258	82.9	43.6	7.95	2.92
(WY)	1984	1966	1967	1969	1969	1983	1958	1983	1983	1983	1992	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1959	1944	1938	1949	1948	1948	1940	1960	1960	1960	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1934 - 1993	
ANNUAL TOTAL	45863.80		109298.58			
ANNUAL MEAN	125		299		60.1	
HIGHEST ANNUAL MEAN					437	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	7730		Feb 12		26600	
LOWEST DAILY MEAN	.00		Jan 1		.00	
ANNUAL SEVEN-DAY MINIMUM	.00		Jun 21		.00	
INSTANTANEOUS PEAK FLOW			8770		54200	
INSTANTANEOUS PEAK STAGE			15.04		25.80	
ANNUAL RUNOFF (AC-FT)	90970		216800		43560	
10 PERCENT EXCEEDS	234		737		71	
50 PERCENT EXCEEDS	.15		9.8		.08	
90 PERCENT EXCEEDS	.00		.00		.00	

## 11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°32'37", long 119°51'50", in San Marcos Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.3 mi downstream from Los Laureles Canyon Creek, 10 mi downstream from Gibraltar Reservoir, and 13.3 mi east of Santa Ynez.

DRAINAGE AREA.--277 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1947 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 787.8 ft above sea level.

REMARKS.--Records fair. Flow regulated by Jameson Lake and Gibraltar Reservoir (stations 11121000 and 11122000). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Low flow affected by intermittent pumping for irrigation from infiltration gallery in riverbed at station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,500 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 18.88 ft, from rating curve extended above 11,600 ft<sup>3</sup>/s on basis of peak flow for station below Gibraltar Dam plus tributary inflow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,500 ft<sup>3</sup>/s, Mar. 25, gage height, 10.62 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	3.3	153	1740	969	179	65	14	3.5	7.3
2	.00	.00	.00	12	147	1540	860	173	62	13	3.3	7.1
3	.00	.00	.00	7.4	120	1420	766	167	59	14	3.0	6.7
4	.00	.00	.00	4.1	111	1170	717	164	56	14	2.6	6.5
5	.00	.00	.00	2.0	111	998	674	160	63	13	2.3	5.9
6	.00	.00	.00	3.2	87	942	611	155	65	12	2.3	5.9
7	.00	.00	.00	799	145	676	578	141	65	11	2.2	5.5
8	.00	.00	.00	1420	6090	794	562	115	62	11	2.1	4.6
9	.00	.00	.00	419	3050	711	500	121	59	11	2.0	4.0
10	.00	.00	.00	213	1680	690	459	123	51	11	1.8	3.0
11	.00	.00	.00	150	1260	619	457	120	34	11	1.7	2.4
12	.00	.00	.00	158	1020	509	438	119	32	11	1.6	2.1
13	.00	.00	.00	4170	856	461	413	117	32	10	1.6	2.0
14	.00	.00	.00	5420	718	457	366	114	32	9.9	1.7	1.9
15	.00	.00	.00	2380	648	430	333	109	31	9.9	1.9	1.8
16	.00	.00	.00	2700	574	370	337	105	29	9.5	1.8	1.8
17	.00	.00	.00	2690	537	342	329	99	28	8.9	1.5	1.7
18	.00	.00	.00	5190	2240	340	312	96	23	8.3	1.4	1.7
19	.00	.00	.00	2340	8380	313	300	92	20	7.4	1.4	1.6
20	.00	.00	.00	1560	5090	293	268	89	20	6.3	1.7	1.6
21	.00	.00	.00	1120	3110	247	245	73	19	5.9	3.4	1.6
22	.00	.00	.00	842	2260	213	249	77	19	5.6	5.5	1.5
23	.00	.00	.00	698	7940	220	249	77	19	5.3	5.9	1.4
24	.00	.00	.00	536	4390	217	242	79	20	4.9	6.2	1.4
25	.00	.00	.00	439	2950	4010	230	83	19	4.6	7.6	1.3
26	.00	.00	.00	311	3080	6000	206	87	17	4.2	9.0	1.2
27	.00	.00	.00	262	2480	2000	182	86	16	4.3	8.4	1.1
28	.00	.00	.04	223	2110	2160	187	80	15	4.1	6.4	1.1
29	.00	.00	14	e208	---	1640	188	77	14	3.9	6.5	1.1
30	.00	.00	13	192	---	1320	185	72	14	4.0	6.9	1.0
31	.00	---	4.8	158	---	1100	---	68	---	3.8	7.2	---
TOTAL	0.00	0.00	31.84	34630.0	61337	33942	12412	3417	1060	266.8	114.4	87.8
MEAN	.000	.000	1.03	1117	2191	1095	414	110	35.3	8.61	3.69	2.93
MAX	.00	.00	14	5420	8380	6000	969	179	65	14	9.0	7.3
MIN	.00	.00	.00	2.0	87	213	182	68	14	3.8	1.4	1.0
AC-FT	.00	.00	63	68690	121700	67320	24620	6780	2100	529	227	174

e Estimated.

## 11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.47	8.72	38.7	159	313	256	119	32.7	8.29	2.26	.64	.23
MAX	18.8	315	608	2755	2682	2454	1480	320	109	30.3	7.20	4.21
(WY)	1984	1966	1967	1969	1969	1983	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
(WY)	1948	1948	1948	1948	1948	1990	1951	1951	1948	1948	1947	1947

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1947 - 1993			
ANNUAL TOTAL	61572.64				147298.84							
ANNUAL MEAN	168				404				77.0			
HIGHEST ANNUAL MEAN									554			
LOWEST ANNUAL MEAN									.013			
HIGHEST DAILY MEAN	16000				8380				33700			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					15500				67500			
INSTANTANEOUS PEAK STAGE					10.62				18.88			
ANNUAL RUNOFF (AC-FT)	122100				292200				55750			
10 PERCENT EXCEEDS	307				1050				79			
50 PERCENT EXCEEDS	2.8				12				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

WATER-QUALITY RECORDS

CHEMICAL DATA: Water years 1973-89, 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
FEB 17...	1010	545	959	18.3	11.0	--	--	--	--	--	--
MAR 11...	0830	598	1160	18.0	12.0	--	--	--	--	--	--
APR 06...	1230	582	1060	18.0	14.5	--	--	--	--	--	--
MAY 13...	0930	118	1250	8.2	16.5	740	11.0	116	580	130	63
JUN 10...	0830	53	1270	18.1	19.5	--	--	--	--	--	--
JUL 09...	0840	12	1240	17.9	21.0	--	--	--	--	--	--
AUG 19...	1345	1.4	1220	17.9	22.5	--	--	--	--	--	--
SEP 10...	0830	3.3	1220	17.7	18.0	--	--	--	--	--	--

[illegible][illegible]

## 11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°35'48", long 119°54'28", in San Marcos Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank 0.6 mi downstream from Pine Canyon and 9.9 mi east of Santa Ynez.

DRAINAGE AREA.--74.0 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 783.38 ft above sea level. See WSP 1735 for history of changes prior to Sept. 27, 1952. Sept. 27, 1952, to June 24, 1969, at datum 3.25 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft<sup>3</sup>/s, Feb. 24, 1969, gage height, 14.45 ft, from floodmark, present datum, from rating curve extended above 2,500 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 14.16 ft; no flow at times since 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*), from rating curve extended above 160 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 12.10 ft:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 29	0945	166	8.20	Feb. 8	1000	1,410	10.46
Jan. 7	0615	831	9.72	Feb. 19	0445	2,010	11.09
Jan. 14	0045	2,340	11.39	Feb. 23	0700	*3,200	*11.93
Jan. 17	2345	1,330	10.37	Mar. 25	2215	2,210	11.22

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	4.9	e70	e320	e230	59	26	10	5.3	2.3
2	.00	.00	.00	12	e65	e290	e210	57	26	10	5.1	2.2
3	.00	.00	.00	8.2	e55	e260	e190	56	25	10	4.9	2.1
4	.00	.00	.00	4.4	52	e240	e180	55	25	10	4.8	2.0
5	.00	.00	.00	3.3	49	e220	e170	53	32	11	4.7	2.0
6	.00	.00	.00	3.5	47	e200	e160	51	27	10	4.6	2.1
7	.00	.00	.96	418	59	e190	145	49	25	9.9	4.3	2.0
8	.00	.00	1.3	173	912	e180	139	48	24	9.6	4.3	1.8
9	.00	.00	.49	54	344	e170	133	46	23	9.4	4.3	1.7
10	.00	.00	.28	36	193	160	128	44	21	9.2	4.2	1.6
11	.00	.00	.35	31	e160	151	122	43	20	8.9	4.3	1.5
12	.00	.00	.42	26	e130	143	117	43	20	9.0	4.3	1.5
13	.00	.00	.33	1200	e110	137	114	42	19	8.9	4.6	1.7
14	.00	.00	.29	945	e100	132	110	40	19	9.0	5.0	1.8
15	.00	.00	.29	535	e90	125	107	39	18	8.9	5.3	1.9
16	.00	.00	.28	412	e85	119	103	37	17	8.7	5.0	2.1
17	.00	.00	.31	639	e80	116	99	36	17	8.3	4.7	2.4
18	.00	.00	.48	802	556	112	95	35	16	7.9	4.2	2.5
19	.00	.00	.55	552	1130	107	91	34	15	7.6	4.0	2.4
20	.00	.00	.48	e400	583	103	87	34	16	7.6	3.8	2.1
21	.00	.00	.46	e330	e430	100	85	34	16	7.5	3.7	2.1
22	.00	.00	.45	e260	e350	96	82	33	16	7.8	3.5	2.1
23	.00	.00	.44	e220	1510	94	80	32	14	7.3	3.3	2.2
24	.00	.00	.45	e190	769	92	76	32	13	7.3	3.1	2.0
25	.00	.00	.45	e170	e600	715	73	32	12	7.7	2.9	1.7
26	.00	.00	.45	e150	e500	731	71	31	12	7.7	2.7	1.5
27	.00	.00	.45	e130	e400	381	69	30	12	7.8	2.5	1.4
28	.00	.00	.59	e120	e350	385	67	30	11	7.6	2.3	1.3
29	.00	.00	56	e95	---	321	64	29	11	7.2	2.2	1.3
30	.00	.00	22	e85	---	e280	61	27	11	6.8	2.2	1.3
31	.00	---	8.6	e80	---	e250	---	26	---	5.9	2.2	---
TOTAL	0.00	0.00	97.15	8089.3	9779	6920	3458	1237	559	264.5	122.3	56.6
MEAN	.000	.000	3.13	261	349	223	115	39.9	18.6	8.53	3.95	1.89
MAX	.00	.00	56	1200	1510	731	230	59	32	11	5.3	2.5
MIN	.00	.00	.00	3.3	47	92	61	26	11	5.9	2.2	1.3
AC-FT	.00	.00	193	16050	19400	13730	6860	2450	1110	525	243	112

e Estimated.

## 11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	3.10	11.3	34.4	64.3	54.9	33.5	12.9	5.19	1.83	.73	.41
MAX	12.4	50.4	205	510	743	338	378	98.1	40.3	20.5	9.93	4.64
(WY)	1984	1966	1967	1969	1969	1983	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.10	.23	.11	.000	.000	.000	.000	.000
(WY)	1954	1954	1954	1963	1951	1948	1961	1961	1961	1959	1953	1953

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1942 - 1993		
ANNUAL TOTAL	10535.86			30582.85			18.3		
ANNUAL MEAN	28.8			83.8			134		
HIGHEST ANNUAL MEAN							.066		
LOWEST ANNUAL MEAN							1969		
HIGHEST DAILY MEAN	1700	Feb 12		1510	Feb 23		5000	Feb 24	1969
LOWEST DAILY MEAN	.00	Aug 23		.00	Oct 1		.00	Jul 6	1953
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 23		.00	Oct 1		.00	Jul 6	1953
INSTANTANEOUS PEAK FLOW				3200	Feb 23		7050	Feb 24	1969
INSTANTANEOUS PEAK STAGE				11.93	Feb 23		14.45	Feb 24	1969
ANNUAL RUNOFF (AC-FT)	20900			60660			13280		
10 PERCENT EXCEEDS	59			224			30		
50 PERCENT EXCEEDS	2.6			10			1.0		
90 PERCENT EXCEEDS	.00			.00			.00		

WATER-QUALITY RECORDS

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
FEB 03...	0905	55	851	18.2	9.5	--	--	--	--	--	--
MAR 09...	1300	171	853	18.1	15.0	--	--	--	--	--	--
APR 06...	0815	164	872	18.0	10.0	--	--	--	--	--	--
MAY 03...	1200	58	909	18.1	18.5	--	--	--	--	--	--
JUN 07...	1230	26	955	8.4	21.5	741	4.5	53	450	94	52
JUL 06...	1145	10	998	18.1	24.0	--	--	--	--	--	--
AUG 17...	1310	4.7	1040	18.0	26.0	--	--	--	--	--	--
SEP 07...	1310	2.2	1010	18.0	28.0	--	--	--	--	--	--

[illegible][illegible]

## SANTA YNEZ RIVER BASIN

## 11125500 LAKE CACHUMA NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°34'57", Long 119°58'47", in Lomas de la Purification Grant, Santa Barbara County, Hydrologic Unit 18060010, at Bradbury Dam on Santa Ynez River, on upstream face near left end of dam, and 6.1 mi east of Santa Ynez.

DRAINAGE AREA.--417 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1952 to current year. Prior to October 1985, only monthend elevations and contents and total diversions published. November 1952 to October 1960, published as "Cachuma Reservoir near Santa Ynez."

GAGE.--Water-stage recorder. Datum of gage is sea level (U.S. Bureau of Reclamation benchmark). Prior to Oct. 1, 1965, nonrecording gage.

REMARKS.--Reservoir is formed by earthfill dam. Storage began November 1952. Dead storage below outlet gage to river, elevation, 600 ft, 531 acre-ft, included in contents. Capacity below sill of inlet to Tecolote Tunnel, elevation, 660 ft, 26,771 acre-ft; below spillway level, elevation, 720 ft, 113,716 acre-ft; and below top of four radial gates, elevation, 750 ft, 190,409 acre-ft. Water is released from outlet to Santa Ynez River to satisfy downstream water rights. Water diverted to Tecolote Tunnel for use by city of Santa Barbara, nearby communities, Santa Ynez River Water Conservation District, and Cachuma Recreation Area.

COOPERATION.--Reservoir elevation, contents, and diversion figures provided by U.S. Bureau of Reclamation. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 221,100 acre-ft, Feb. 24, 1969, elevation, 755.11 ft; minimum since initial filling in April 1958, 27,681 acre-ft, Feb. 27, 1991, elevation 661.06 ft.

EXTREMES (AT 0800) FOR CURRENT YEAR.--Maximum contents, 193,162 acre-ft, Mar. 26, elevation, 750.90 ft; minimum, 149,843 acre-ft, Dec. 28, elevation, 735.47 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on surveys by U.S. Bureau of Reclamation)

680	47,346	710	93,627	740	161,730
690	60,576	720	113,716	750	190,409
700	75,972	730	136,306	760	222,431

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156801	152829	150380	150713	191021	191449	191113	191113	191082	189653	186128	181322
2	156536	152725	150278	150866	191021	191388	191204	191204	191051	189532	186009	181235
3	156299	152622	150227	150918	191051	191449	191266	191174	191021	189411	185829	181147
4	156116	152570	150176	150969	190960	191388	191235	191174	191021	189259	185769	181001
5	155933	152492	150150	151020	190960	191357	191204	191204	191113	189108	185530	180855
6	155697	152389	150125	151020	190898	191419	191113	191174	191143	189017	185351	180709
7	155462	152311	150432	152130	190837	191174	191204	191082	191143	188927	185142	180504
8	155304	152260	150457	155409	192581	191266	191113	191021	191174	188836	184902	180387
9	155121	152182	150432	157569	191235	191235	191113	191082	191235	188745	184753	180271
10	154964	152130	150406	158390	191082	191021	191082	191174	191296	188624	184573	180125
11	154833	152053	150406	158920	191051	191051	191113	191143	191266	188534	184424	179949
12	154676	151975	150355	159454	191174	191113	191143	191143	191204	188443	184276	179832
13	154571	151898	150304	161596	191051	190990	191143	191143	191143	188322	184099	179745
14	154388	151820	150278	178287	190990	191051	191174	191143	191082	188231	183951	179511
15	154257	151742	150253	186278	191143	191204	191143	191113	191021	188171	183803	179365
16	154126	151691	150227	181724	191235	191296	191143	191082	190960	188019	183626	179248
17	153969	151587	150176	190654	191051	191327	191296	191051	190898	187928	183508	179131
18	153812	151509	150176	192183	191296	191266	191388	190990	190837	187808	183330	179073
19	153683	151199	150150	191266	193101	191204	191327	190990	190776	187686	183212	178927
20	153631	151148	150099	191113	191908	191113	191266	190990	190715	187566	183035	178781
21	153553	151173	150073	191082	191755	191021	191235	190990	190654	187445	182887	178635
22	153476	151122	150022	191204	191510	190990	191174	191021	190593	187294	182769	178518
23	153424	151071	149997	191021	192642	191174	191235	191082	190501	187175	182621	178403
24	153346	150969	149971	190990	191816	191296	191235	191174	190440	187085	182503	178258
25	153243	150892	149946	191021	191480	191847	191266	191204	190379	186965	182385	178114
26	153165	150790	149920	191266	191510	193162	191266	191204	190288	186846	182207	177999
27	153036	150713	149869	190990	191480	191419	191204	191174	190197	186666	182060	177912
28	152958	150636	149843	191021	191541	191266	191113	191113	190107	186547	181912	177739
29	152881	150560	150278	191174	---	191266	191113	191082	189985	186457	181734	177624
30	152855	150457	150585	191143	---	191143	191051	191082	189804	186367	181587	177479
31	152881	---	150687	190990	---	191327	---	191113	---	186218	181498	---
MAX	156801	152829	150687	192183	193101	193162	191388	191204	191296	189653	186128	181322
MIN	152855	150457	149843	150713	190837	190990	191051	190990	189804	186218	181498	177479
a	736.65	735.71	735.80	750.19	750.37	750.30	750.21	750.23	749.80	748.61	747.02	745.64
b	-4185	-2424	+230	+40303	+551	-214	-276	+62	-1309	-3586	-4720	-4019
c	1,779	1,577	790	1,192	1,293	1,284	2,275	2,894	3,167	2,773	3,198	2,481

CAL YR 1992 MAX 178839 MIN 51299 b +99375

WTR YR 1993 MAX 193162 MIN 149843 b +20413

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Diversions, in acre-feet, to Tecolote Tunnel.

## 397

LOCATION.--Lat 34°35'21", long 119°59'16", in Canada de los Pinos Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank 0.7 mi downstream from Bradbury Dam, and 5.5 mi southeast of Santa Ynez.

REMARKS.--Water-quality samples collected below spillway. Discharge provided by U.S. Bureau of Reclamation.

PERIOD OF RECORD.--

CHEMICAL DATA: October 1991 to September 1993.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 15...	1150	41	814	18.1	15.0	--	--	--	--	--	--
JAN 16...	1340	620	820	18.1	11.5	--	--	--	--	--	--
FEB 02...	1545	335	710	18.4	12.0	--	--	--	--	--	--
18...	1010	625	720	18.2	7.0	--	--	--	--	--	--
MAR 11...	1400	680	751	18.2	12.0	--	--	--	--	--	--
APR 08...	1100	600	791	18.4	15.0	--	--	--	--	--	--
MAY 12...	1320	100	838	8.5	15.0	745	12.6	128	380	89	38
JUN 10...	1050	15	854	18.4	17.5	--	--	--	--	--	--
JUL 06...	1530	10	839	18.5	21.0	--	--	--	--	--	--
AUG 05...	1200	8.9	831	18.3	20.5	--	--	--	--	--	--
SEP 03...	0930	9.0	836	18.1	18.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 11128250 ALAMO PINTADO CREEK NEAR SOLVANG, CA

LOCATION.--Lat 34°37'06", long 120°07'11", in NW 1/4 NW 1/4 sec.11, T.6 N., R.31 W., Santa Barbara County, Hydrologic Unit 18060010, on right bank at downstream side of bridge on Alamo Pintado Road, 1.5 mi northeast of Solvang.

DRAINAGE AREA.--29.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to September 1985, October 1989 to Sept. 30, 1992 (discontinued). Records prior to October 1970 in files of Santa Barbara County Flood Control District.

GAGE.--Datum of gage is 540.49 ft, Santa Barbara County datum.

REMARKS.--No regulation upstream from station. Pumping from wells along stream for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 900 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 6.10 ft, from rating curve extended above 70 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 4.90 ft and 5.51 ft; maximum gage height, 6.80 ft, Feb. 9, 1978, from floodmark; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 10.32 ft, from information provided by Santa Barbara County Flood Control District.

## SANTA YNEZ RIVER BASIN

11128300 ALISAL RESERVOIR NEAR SOLVANG, CA

LOCATION.--Lat 34°32'56", long 120°07'45", in NE 1/4 NW 1/4 sec.4, T.5 N., R.31 W., Santa Barbara County, Hydrologic Unit 18060010, in cove on right bank 0.4 mi upstream from reservoir spillway and 3 mi south of Solvang.

DRAINAGE AREA.--7.83 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1971 to current year. Prior to October 1985, only monthend elevations and contents published.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Lake is formed by earthfill dam. Storage began Dec. 19, 1970. Usable capacity, 2,260 acre-ft between bottom of outlet gate at elevation 555.70 ft, and crest of spillway at elevation 599.88 ft. Dead storage, 110 acre-ft. Inflow must total 150 acre-ft during any one month between November and June in order to store flows for that water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,770 acre-ft, Mar. 4, 1978, elevation, 604.31 ft; minimum, 748 acre-ft, Nov. 8-10, 1972, elevation, 577.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,530 acre-ft, Mar. 25, elevation, 601.64 ft; minimum contents, 1,990 acre-ft, Nov. 29 to Dec. 5, elevation, 595.61 ft, Dec. 2.

Capacity table (elevation in feet, and contents, in acre-feet)  
(Based on data provided by Santa Barbara County Flood Control District in 1971)

590	1,540	600	2,380
595	1,940	605	2,840

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2090	2030	1990	2150	2380	2410	2400	2380	2380	2350	2310	e2260
2	2090	2030	1990	2160	2380	2400	2400	2380	2370	2350	2310	e2260
3	2080	2030	1990	2160	2380	2400	2400	2380	2370	2350	2310	e2260
4	2080	2030	1990	2170	2380	2400	2390	2380	2380	2340	2310	e2260
5	2080	2030	1990	2170	2380	2400	2390	2380	2370	2340	2310	e2260
6	2080	2030	2020	2200	2380	2390	2390	2380	2370	2340	2300	e2250
7	2070	2020	2040	2330	2400	2390	2390	2380	2370	2340	2300	e2250
8	2070	2020	2040	2370	2430	2390	2390	2380	2370	2340	2300	e2250
9	2070	2020	2040	2380	2410	2390	2390	2380	2370	2340	2300	e2250
10	2060	2020	2040	2390	2400	2390	2390	2380	2370	2340	2300	e2250
11	2060	2020	2040	2380	2400	2390	2390	2370	2370	2340	2300	e2250
12	2060	2020	2050	2400	2390	2390	2390	2380	2370	2330	2290	e2250
13	2060	2020	2050	2470	2390	2390	2390	2380	2370	2330	2290	e2240
14	2060	2010	2050	2430	2390	2390	2390	2380	2370	2330	2290	e2240
15	2050	2010	2050	2460	2390	2390	2390	2380	2370	2330	2290	e2240
16	2050	2010	2050	2440	2390	2390	2390	2380	2360	2330	2290	2240
17	2050	2010	2050	2490	2390	2390	2380	2380	2360	2330	2290	2240
18	2050	2010	2050	2460	2480	2390	2380	2380	2360	2330	2290	2240
19	2050	2010	2050	2420	2440	2390	2380	2380	2360	2330	2290	2240
20	2050	2000	2050	2410	2420	2380	2380	2380	2360	2330	2280	2230
21	2040	2000	2050	2400	2410	2380	2380	2370	2360	2320	2280	2230
22	2040	2000	2050	2400	2420	2380	2380	2370	2360	2320	e2280	2230
23	2040	2000	2050	2390	2450	2380	2380	2380	2360	2320	e2280	2230
24	2040	2000	2050	2390	2420	2380	2380	2370	2360	2320	e2280	2220
25	2040	2000	2050	2390	2430	2530	2380	2380	2350	2320	e2280	2220
26	2030	2000	2050	2390	2440	2430	2380	2380	2350	2320	e2280	2220
27	2030	2000	2050	2390	2420	2460	2380	2370	2350	2320	e2270	2220
28	2030	2000	2070	2390	2410	2420	2380	2370	2350	2320	e2270	2220
29	2030	1990	2120	2390	---	2410	2380	2370	2350	2320	e2270	2210
30	2040	1990	2130	2380	---	2410	2380	2380	2350	2310	e2270	2210
31	2030	---	2140	2380	---	2400	---	2380	---	2310	e2270	---
MAX	2090	2030	2140	2490	2480	2530	2400	2380	2380	2350	2310	2260
MIN	2030	1990	1990	2150	2380	2380	2380	2370	2350	2310	2270	2210
a	596.16	595.66	597.28	600.03	600.36	600.25	599.98	599.95	599.66	599.24	598.71	598.14
b	-60	-40	+150	+240	+30	-10	-20	0	-30	-40	-40	-60

CAL YR 1992 b +30

WTR YR 1993 b +120

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SANTA YNEZ RIVER BASIN

401

## 11128500 SANTA YNEZ RIVER AT SOLVANG, CA

LOCATION.--Lat 34°35'06", long 120°08'37", in San Carlos de Jonata Grant, Santa Barbara County, Hydrologic Unit 18060010, near left bank on downstream end of pier of Alisal Road Bridge, 25 ft downstream from Alisal Creek, 0.8 mi southwest of Solvang, and 10 mi downstream from Lake Cachuma.

DRAINAGE AREA.--579 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to current year.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 357.43 ft above sea level. Various datums used during period of record. July 29 to Sept. 30, 1953, auxiliary water-stage recorder 750 ft upstream at different datum. Oct. 1, 1953, to Sept. 30, 1968, water-stage recorder at datum 2.00 ft higher. Oct. 1, 1968, to Sept. 30, 1988, water-stage recorder at datum 5.00 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952, by Lake Cachuma (stations 11121000, 11122000, and 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water for irrigation pumped from wells along banks of river in valley upstream.

EXTREMES FOR PERIOD OF RECORD (water years 1928-36, 1946-93).--Maximum discharge, 82,000 ft<sup>3</sup>/s, Jan. 25, 1969, estimated on basis of discharge measurements up to 81,000 ft<sup>3</sup>/s for Santa Ynez River near Buellton, gage height, 17.1 ft, from floodmark; no flow for several months in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,300 ft<sup>3</sup>/s, Feb. 23, gage height, 9.30 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e25	e8.1	e2.8	e33	e370	e1700	1720	e170	e35	e11	e5.2	e.09
2	e22	e7.4	e3.4	e35	e340	e1600	1540	e180	e28	e12	e6.0	e1.0
3	e20	e6.7	e3.9	e33	e320	e1500	1290	e200	e22	e12	e5.7	e2.5
4	e21	e6.2	e4.6	e31	308	e1400	1260	e190	e17	e13	e5.5	e3.0
5	e22	e5.6	e5.2	e30	258	e1350	1150	e170	e14	e14	e5.2	e1.4
6	e22	e5.1	e5.1	e54	274	e1280	1050	e140	e11	e14	e5.0	e.15
7	e22	e4.7	e26	100	311	e1220	1040	e115	e15	e13	e4.8	e.07
8	e21	e4.3	e19	35	7430	e1180	994	e92	e20	e12	e4.5	e.00
9	e20	e3.8	e13	14	6130	e1120	920	e76	e13	e11	e4.3	e.00
10	e20	e3.5	e10	12	2650	e1100	e750	e66	e18	e9.0	e4.7	e.00
11	e22	e3.4	e9.0	7.9	1800	e1000	e600	e76	e30	e9.7	e5.1	e.00
12	e24	e3.2	e8.0	10	1550	e960	e550	e90	e25	e10	e5.6	e.00
13	e26	e3.1	e7.0	1180	1420	e940	e500	e78	e35	e10	e6.2	e.00
14	e29	e3.0	e6.3	255	1040	e860	e600	e70	e36	e10	e5.0	e.00
15	e38	e3.0	e5.6	58	727	e760	e550	e80	e38	e9.2	e4.5	e.00
16	e38	e3.0	e5.0	5520	870	e680	e500	e92	e23	e8.6	e3.9	e.00
17	e39	e2.9	e4.8	e8000	769	e620	e480	e110	e13	e9.2	e3.4	e.00
18	e40	e2.9	e4.8	e5000	3900	e560	e460	e80	e14	e8.6	e3.0	e.00
19	e42	e2.9	e4.5	3090	12600	e600	e450	e100	e15	e10	e2.4	e.00
20	e42	e3.0	e4.4	2170	7230	e660	e410	e92	e7.0	e11	e2.0	e.00
21	e30	e3.0	e4.4	e2000	5380	e700	e370	e70	e15	e9.5	e1.6	e.00
22	e20	e3.0	e4.3	e1400	4300	e570	e340	e47	e13	e8.6	e1.2	e.00
23	e17	e3.0	e4.3	e1000	12100	e450	e300	e60	e11	e7.9	e.90	e.00
24	e13	e3.0	e4.2	e680	6630	e350	e280	e45	e9.5	e7.2	e.60	e.00
25	e11	e3.0	e4.2	e500	3620	e550	e255	e60	e8.4	e6.6	e.30	e.00
26	e10	e3.0	e8.0	e600	3900	e4000	e240	e54	e9.0	e7.0	e.08	e.00
27	e9.2	e3.0	e15	e480	2120	e2700	e220	e45	e10	e7.6	e.04	e.00
28	e8.5	e3.0	e25	e420	e2000	e1600	e200	e56	e9.5	e6.7	e.00	e.00
29	e8.0	e2.9	e5.0	e380	---	e950	e180	e70	e9.0	e6.0	e.00	e.00
30	e8.6	e2.8	e40	e410	---	e700	e160	e60	e10	e5.6	e.00	e.00
31	e9.2	---	e31	e430	---	e1300	---	e45	---	e5.0	e.00	---
TOTAL	699.5	115.5	297.8	33967.9	90347	34960	19359	2879	533.4	296.0	96.72	8.21
MEAN	22.6	3.85	9.61	1096	3227	1128	645	92.9	17.8	9.55	3.12	.27
MAX	42	8.1	40	8000	12600	4000	1720	200	38	14	6.2	3.0
MIN	8.0	2.8	2.8	7.9	258	350	160	45	7.0	5.0	.00	.00
AC-FT	1390	229	591	67380	179200	69340	38400	5710	1060	587	192	16

e Estimated.

## SANTA YNEZ RIVER BASIN

11128500 SANTA YNEZ RIVER AT SOLVANG, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1950, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.92	7.04	32.8	62.0	176	52.4	48.1	11.7	8.56	4.00	2.41	2.51
MAX	6.69	34.9	257	211	1240	164	375	59.3	36.8	17.0	6.36	5.69
(WY)	1939	1947	1932	1935	1932	1935	1935	1935	1938	1938	1938	1938
MIN	.25	2.40	4.20	4.87	5.90	4.95	3.51	2.36	1.27	.21	.000	.000
(WY)	1950	1930	1930	1948	1948	1950	1931	1948	1948	1949	1948	1948

## SUMMARY STATISTICS

WATER YEARS 1929 - 1950

ANNUAL TOTAL	
ANNUAL MEAN	32.9
HIGHEST ANNUAL MEAN	152
LOWEST ANNUAL MEAN	3.31
HIGHEST DAILY MEAN	12300
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	18700
ANNUAL RUNOFF (AC-FT)	23800
10 PERCENT EXCEEDS	35
50 PERCENT EXCEEDS	5.3
90 PERCENT EXCEEDS	1.5

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.12	4.31	20.3	190	356	363	140	39.2	9.44	4.23	3.52	4.59
MAX	88.7	96.2	263	2893	4445	4029	1258	568	105	41.0	49.0	35.5
(WY)	1992	1966	1984	1969	1969	1983	1983	1983	1983	1969	1986	1981
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1952	1963	1976	1991	1989	1961	1961	1961	1957	1954	1954

## SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1952 - 1993

ANNUAL TOTAL	18212.69	183560.03	
ANNUAL MEAN	49.8	503	93.6
HIGHEST ANNUAL MEAN			758
LOWEST ANNUAL MEAN			.86
HIGHEST DAILY MEAN	5000	Feb 15	12600
LOWEST DAILY MEAN	.00	Feb 8	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 25	.00
INSTANTANEOUS PEAK FLOW			16300
INSTANTANEOUS PEAK STAGE			9.30
ANNUAL RUNOFF (AC-FT)	36120	364100	67790
10 PERCENT EXCEEDS	62	1280	64
50 PERCENT EXCEEDS	5.1	20	1.5
90 PERCENT EXCEEDS	.00	1.1	.00

## 11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA

LOCATION.--Lat 34°35'19", long 120°24'27", in W 1/2 sec.24, T.6 N., R.34 W., Santa Barbara County, Hydrologic Unit 18060010, on right bank at bridge on Jalama Road, 0.4 mi downstream from El Jaro Creek, and 4.4 mi southeast of Lompoc.

DRAINAGE AREA.--47.1 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1941 to current year.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE --Water-stage recorder and concrete low-water control. Elevation of gage is 220 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation upstream from station. Small diversions for irrigation upstream from station. Recording rain gage and satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s, Mar. 15, 1952, gage height, 20.8 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 13	0400	*3,970	*8.05	Feb. 23	0445	2,170	6.24
Jan. 17	1115	1,160	4.83	Feb. 26	0030	1,940	5.95
Feb. 8	0130	1,190	4.88	Mar. 27	2115	2,020	6.06
Feb. 18	2100	3,450	7.58				

Minimum daily, 0.22 ft<sup>3</sup>/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.66	.69	3.8	11	59	41	7.2	4.9	3.3	1.5	1.3
2	1.8	.41	.76	7.1	11	51	37	7.3	4.8	3.5	1.4	1.2
3	1.2	.36	.85	4.1	9.8	47	33	7.2	4.6	3.0	1.5	1.4
4	.23	.31	1.0	3.6	9.3	42	31	7.5	4.9	2.9	1.3	1.3
5	.22	.34	1.0	3.4	10	37	30	7.2	5.3	2.8	1.4	1.1
6	.23	.34	3.3	12	9.0	34	28	7.4	4.8	3.0	1.6	1.2
7	.24	.37	24	53	19	32	26	7.4	4.8	3.1	1.7	1.4
8	.25	.43	4.0	13	285	e30	25	7.3	4.8	3.3	1.7	1.5
9	.25	.53	1.9	7.3	100	e29	24	7.2	4.6	3.3	1.5	1.3
10	.31	.49	1.4	51	50	e28	23	7.1	4.7	3.2	1.5	1.4
11	.32	.45	2.8	12	31	e26	22	7.7	4.8	3.2	1.6	1.3
12	.39	.48	3.4	14	26	25	20	7.8	5.1	3.3	1.7	1.5
13	.44	.49	1.9	486	22	24	19	7.5	4.4	3.4	1.8	1.0
14	.44	.46	1.3	84	21	23	19	6.9	4.1	3.1	1.8	1.5
15	.33	.47	1.2	97	18	22	19	7.1	4.3	3.0	1.5	1.5
16	.32	.47	1.2	59	17	20	18	7.1	4.4	2.9	1.5	1.5
17	.31	.47	1.6	299	16	21	17	7.0	4.3	2.8	1.4	1.4
18	.33	.48	2.3	219	986	20	17	7.2	4.3	2.2	.97	1.3
19	.38	.45	2.0	85	294	19	8.2	7.1	4.0	2.4	1.1	1.2
20	.33	.42	1.7	49	147	19	8.0	7.2	4.3	2.4	1.1	1.3
21	.37	.37	1.8	38	74	19	7.7	7.4	4.5	2.3	1.2	1.3
22	.35	.39	1.8	31	66	18	7.7	7.5	4.4	2.2	1.3	1.4
23	.27	.47	2.0	25	688	18	7.9	7.6	4.1	2.3	1.2	1.4
24	.25	.47	2.0	21	122	18	7.6	8.1	3.5	2.6	1.2	1.2
25	.30	.45	2.2	18	130	351	7.7	8.5	3.6	2.4	1.4	1.1
26	.30	.40	2.2	16	495	126	7.4	8.6	3.4	2.1	1.2	1.1
27	.35	.40	2.5	15	110	267	7.7	8.7	3.4	1.9	1.1	1.0
28	.38	.42	2.7	14	78	149	7.3	8.5	3.8	2.0	1.0	.94
29	.36	.60	28	13	---	67	7.4	8.5	3.6	2.1	1.1	.99
30	.71	.65	6.4	12	---	53	7.5	8.7	3.3	1.9	1.3	.96
31	.94	---	4.1	12	---	46	---	6.9	---	1.7	1.4	---
TOTAL	14.20	13.50	114.00	1777.3	3855.1	1740	541.1	234.4	129.8	83.6	42.97	37.99
MEAN	.46	.45	3.68	57.3	138	56.1	18.0	7.56	4.33	2.70	1.39	1.27
MAX	1.8	.66	28	486	986	351	41	8.7	5.3	3.5	1.8	1.5
MIN	.22	.31	.69	3.4	9.0	18	7.3	6.9	3.3	1.7	.97	.94
AC-FT	28	27	226	3530	7650	3450	1070	465	257	166	85	75

e Estimated.

## SANTA YNEZ RIVER BASIN

11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	2.23	7.74	20.3	37.9	29.8	14.7	4.11	2.13	1.22	.84	.72
MAX	4.26	48.6	102	142	294	183	158	28.5	12.5	8.23	5.77	4.51
(WY)	1942	1966	1956	1983	1962	1978	1941	1983	1983	1941	1941	1941
MIN	.000	.041	.050	.081	.33	.36	.21	.000	.000	.000	.015	.010
(WY)	1962	1991	1990	1991	1991	1990	1989	1961	1961	1961	1972	1972

## SUMMARY STATISTICS

## FOR 1992 CALENDAR YEAR

## FOR 1993 WATER YEAR

## WATER YEARS 1941 - 1993

ANNUAL TOTAL	3452.37	8583.96	
ANNUAL MEAN	9.43	23.5	
HIGHEST ANNUAL MEAN			9.75
LOWEST ANNUAL MEAN			50.9
HIGHEST DAILY MEAN	1050	Feb 12	1983
LOWEST DAILY MEAN	.22	Oct 5	1990
ANNUAL SEVEN-DAY MINIMUM	.25	Oct 4	.17
INSTANTANEOUS PEAK FLOW			2600
INSTANTANEOUS PEAK STAGE			Mar 15 1952
ANNUAL RUNOFF (AC-FT)	6850	986	Feb 18
10 PERCENT EXCEEDS	10	.22	Oct 5
50 PERCENT EXCEEDS	1.1	.25	Oct 4
90 PERCENT EXCEEDS	.29	3970	Oct 4
		8.05	Jan 13
		17030	Jan 13
		7060	20.80
		11	Mar 15 1952
		3.5	
		.43	1.3
			.08

WATER-QUALITY RECORDS

WATER TEMPERATURE: Water years 1982-83.

WATER TEMPERATURE: Water years 1982-83.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA

LOCATION.--Lat 34°38'14", long 120°25'28", in Canada de Salsipuedes Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.6 mi upstream from State Highway 246, 1.9 mi east of Lompoc, 1.8 mi downstream from Salsipuedes Creek, and 32 mi downstream from Lake Cachuma.

DRAINAGE AREA.--789 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1947 to November 1951 (irrigation seasons only). May 1952 to September 1963, October 1964 to September 1979, October 1980 to current year. Records equivalent, except for low-flow periods, to those published as "near Lompoc" (station 11133500), November to December 1906, October 1907 to September 1918, May 1925 to September 1960, and October 1978 to September 1980.

REVISIONS.--WSP 1928: Drainage area.

GAGE.--Two water-stage recorders. Elevation of main gage is 85 ft (prior to Apr. 10, 1991, at datum 5 ft higher) above sea level, from topographic map. See WSP 1715 for history of changes prior to Oct. 1, 1961. Since Oct. 1, 1961, at various sites and datums within 0.1 mi of present site. Supplementary gage, used for high-water periods, at site 0.6 mi downstream at datum 79.25 ft above sea level.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952, by Lake Cachuma (stations 11121000, 11122000, and 11125500). Water diverted out of Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along banks of river for irrigation in valley upstream. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD (water years 1952-63, 1964-93).--Maximum discharge, 80,000 ft<sup>3</sup>/s, Jan. 25, 1969, gage height, 24.20 ft, from supplementary gage; no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 9, 1907, reached a stage of 22.0 ft, site and datum then in use, discharge, 120,000 ft<sup>3</sup>/s, from mean-depth study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,300 ft<sup>3</sup>/s, Mar. 26, gage height, 13.33 ft; minimum daily, .16 ft<sup>3</sup>/s, Sept. 24-26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	9.0	6.6	42	447	1790	1790	e230	79	9.9	3.1	.66
2	24	8.6	7.5	52	427	1550	1390	e240	68	9.3	3.6	.59
3	23	8.5	7.7	49	422	1550	1230	e250	40	9.4	3.3	.65
4	24	7.6	8.7	44	420	1530	1160	e260	30	9.0	3.0	.75
5	24	7.5	9.8	39	375	1420	1090	e270	27	9.6	2.7	.74
6	25	6.6	10	48	386	1430	956	e260	23	9.1	2.6	.88
7	24	6.6	65	130	381	1550	922	249	22	9.1	2.6	1.1
8	24	6.8	46	97	4020	1210	919	190	25	7.9	2.7	.67
9	23	7.1	37	69	7310	1280	866	120	28	6.7	2.4	.47
10	22	7.0	28	133	2860	1220	748	89	26	7.0	2.4	.25
11	21	6.3	26	59	2210	1100	656	92	38	7.1	2.4	.26
12	21	6.2	26	42	1880	1050	613	103	37	8.8	2.4	.19
13	24	6.4	23	1500	1830	1010	564	108	44	9.0	3.1	.24
14	26	6.6	20	1520	1630	876	621	100	44	9.0	3.4	.42
15	26	6.3	19	561	1250	797	676	101	45	8.3	2.8	.55
16	27	6.2	16	1470	1240	772	573	123	45	7.1	3.2	.69
17	29	6.2	16	4000	1240	765	474	134	26	7.1	3.3	.35
18	33	6.4	18	9430	3350	773	462	139	17	7.2	3.3	.19
19	33	6.6	16	5760	11300	767	503	100	17	8.9	2.7	.25
20	34	6.6	15	2780	7650	774	458	126	18	8.4	2.4	.30
21	35	6.6	15	1870	3310	725	435	116	20	6.8	2.5	.42
22	28	6.7	14	1300	2560	591	416	107	19	6.9	2.0	.37
23	20	7.1	14	1090	7750	474	380	67	18	6.0	1.9	.22
24	15	7.1	14	940	6680	449	345	87	15	5.4	2.0	.16
25	13	7.1	14	732	2890	2040	305	74	13	4.8	1.8	e.16
26	12	7.1	14	634	3710	10600	277	82	11	4.9	1.5	e.16
27	10	7.1	14	686	2960	3100	e260	75	10	4.9	1.4	e.17
28	10	7.1	15	514	2300	3540	e240	69	10	5.6	1.1	e.17
29	9.1	7.1	75	430	---	2260	e230	74	11	4.4	1.0	e.18
30	9.8	6.7	68	459	---	2070	e230	88	11	3.9	.91	e.18
31	10	---	52	492	---	1800	---	86	---	3.6	.76	---
TOTAL	684.9	208.8	730.3	36972	82788	50863	19789	4209	837	225.1	74.27	12.39
MEAN	22.1	6.96	23.6	1193	2957	1641	660	136	27.9	7.26	2.40	.41
MAX	35	9.0	75	9430	11300	10600	1790	270	79	9.9	3.6	1.1
MIN	9.1	6.2	6.6	39	375	449	230	67	10	3.6	.76	.16
AC-FT	1360	414	1450	73330	164200	100900	39250	8350	1660	446	147	25

e Estimated.

## SANTA YNEZ RIVER BASIN

11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.64	5.87	27.7	189	397	380	168	49.7	11.6	3.26	1.16	1.63
MAX	29.9	112	291	3303	4969	3590	1154	618	177	30.0	16.9	29.4
(WY)	1992	1966	1984	1969	1969	1983	1983	1983	1983	1983	1986	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1955	1955	1989	1961	1990	1961	1961	1961	1960	1954	1954

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR				FOR 1993 WATER YEAR				WATER YEARS 1952 - 1993			
ANNUAL TOTAL	31220.62				197393.76							
ANNUAL MEAN	85.3				541				101			
HIGHEST ANNUAL MEAN									853			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	5590				Feb 12				38000			
LOWEST DAILY MEAN	.00				Aug 8				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				Aug 10				.00			
INSTANTANEOUS PEAK FLOW					18300				80000			
INSTANTANEOUS PEAK STAGE					13.33				24.20			
ANNUAL RUNOFF (AC-FT)	61930				391500				73420			
10 PERCENT EXCEEDS	140				1520				88			
50 PERCENT EXCEEDS	16				26				1.1			
90 PERCENT EXCEEDS	.66				1.7				.00			

## 11134800 MIGUELITO CREEK AT LOMPOC, CA

LOCATION.--Lat 34°37'54", long 120°27'50", in Lompoc Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank at upstream end of debris dam and 1,900 ft south of Lompoc Union High School.

DRAINAGE AREA.--11.6 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to May 6, 1986, October 1987 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 97.94 ft Santa Barbara County Flood Control District datum. Prior to May 6, 1986, on right bank at site 350 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station; some pumping from wells along stream for irrigation. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft<sup>3</sup>/s, Mar. 18, 1991, gage height, 3.62 ft, from theoretical rating curve above 50 ft<sup>3</sup>/s; no flow for many days in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 5.83 ft, site in use prior to 1986, from floodmark, discharge, 680 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0615	679	2.27	Feb. 23	0315	253	1.53
Jan. 13	0300	329	1.69	Feb. 26	0345	228	1.47
Jan. 17	1045	132	1.22	Mar. 27	2115	188	1.37
Feb. 18	2000	*749	*2.37				

No flow Oct. 1-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.12	.33	.63	.33	3.9	e2.0	e.08	e.30	.06	e.06	.06
2	.00	.13	.33	.53	.33	3.3	e1.7	e.08	e.27	.06	e.06	.06
3	.00	.11	.34	.06	.31	2.9	e1.5	e.07	e.24	.06	e.06	.06
4	.00	.13	.36	.06	.23	2.5	e1.2	e.07	e.21	.06	e.06	.06
5	.01	.15	.42	.06	.31	2.4	e.95	e.06	e.19	.06	e.06	.06
6	.01	.13	.42	3.7	.14	2.3	e.80	.06	e.18	.06	e.06	.06
7	.02	.13	214	8.8	2.4	2.0	e.70	.07	e.16	.06	e.06	.06
8	.03	.21	1.7	1.6	21	2.0	e.60	.09	e.15	.06	e.06	.06
9	.04	.23	1.7	1.4	5.6	2.0	e.55	.09	e.14	.06	e.06	.06
10	.04	.20	1.7	9.5	1.9	2.0	e.50	.09	e.13	.06	e.06	.06
11	.03	.23	2.6	1.5	1.2	1.8	e.40	.08	e.12	e.06	e.06	.06
12	.03	.22	1.2	1.1	.79	1.7	e.40	.11	e.11	e.06	e.06	.06
13	.02	.07	.30	32	.70	1.7	e.35	.19	e.10	e.06	e.06	.06
14	.02	.06	.17	4.5	.70	1.7	e.30	.28	e.10	e.06	e.06	.06
15	.02	.06	.08	5.7	.70	1.4	e.28	.20	e.09	e.06	.06	.06
16	.02	.08	.06	2.4	.60	1.4	e.26	.19	e.09	e.06	.06	.06
17	.02	.08	.12	24	.60	1.4	e.24	.19	e.08	e.06	.06	.06
18	.02	.08	.06	22	64	1.4	e.22	.07	e.08	e.06	.06	.06
19	.02	.10	.06	4.8	11	1.4	e.19	.06	e.08	e.06	.06	.06
20	.02	.13	.06	2.1	11	1.4	e.18	.09	e.08	e.06	.06	.06
21	.02	.13	.06	1.6	3.1	1.4	e.17	.23	e.07	e.06	.06	.06
22	.02	.13	.06	1.2	6.8	1.4	e.16	.35	e.07	e.06	.06	.06
23	.02	.13	.06	.68	71	1.4	e.15	.45	e.07	e.06	.06	.06
24	.02	.13	.06	.49	11	1.4	e.14	.37	e.07	e.06	.06	.06
25	.03	.13	.06	.43	9.3	35	e.13	.43	e.07	e.06	.06	.06
26	.03	.17	.06	.36	44	15	e.12	.47	e.06	e.06	.06	.06
27	.04	.23	.06	.33	9.1	21	e.11	.86	e.06	e.06	.06	.06
28	.04	.23	.18	.33	5.6	9.9	e.10	.68	e.06	e.06	.06	.06
29	.04	.25	.87	.33	---	4.1	e.09	e.50	.06	e.06	.06	.06
30	.96	.29	.15	.33	---	3.2	e.09	e.42	.06	e.06	.06	.06
31	.12	---	.06	.33	---	e2.5	---	e.36	---	e.06	.06	---
TOTAL	1.71	4.47	269.27	132.85	283.74	136.9	14.58	7.34	3.55	1.86	1.86	1.80
MEAN	.055	.15	8.69	4.29	10.1	4.42	.49	.24	.12	.060	.060	.060
MAX	.96	.29	214	32	71	35	2.0	.86	.30	.06	.06	.06
MIN	.00	.06	.06	.06	.14	1.4	.09	.06	.06	.06	.06	.06
AC-FT	3.4	8.9	534	264	563	272	29	15	7.0	3.7	3.7	3.6

e Estimated.

## SANTA YNEZ RIVER BASIN

11134800 MIGUELITO CREEK AT LOMPOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	.45	1.63	2.43	5.06	5.55	1.89	.94	.59	.42	.33	.31
MAX	1.39	1.67	8.69	15.8	19.7	26.5	14.2	6.04	3.79	2.64	2.33	2.05
(WY)	1984	1983	1993	1983	1978	1983	1983	1983	1983	1983	1983	1983
MIN	.001	.001	.008	.019	.047	.091	.076	.053	.008	.016	.006	.000
(WY)	1973	1978	1990	1991	1972	1972	1972	1972	1992	1992	1972	1972

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	579.33		859.93			
ANNUAL MEAN	1.58		2.36		1.62	
HIGHEST ANNUAL MEAN					7.96	
LOWEST ANNUAL MEAN					.15	
HIGHEST DAILY MEAN	214	Dec 7	214	Dec 7	231	Mar 18 1991
LOWEST DAILY MEAN	.00	Jan 18	.00	Oct 1	.00	Jul 21 1971
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 14	.01	Oct 1	.00	Sep 8 1971
INSTANTANEOUS PEAK FLOW			749	Feb 18	1750	Mar 18 1991
INSTANTANEOUS PEAK STAGE			2.37	Feb 18	3.62	Mar 18 1991
ANNUAL RUNOFF (AC-FT)	1150		1710		1170	
10 PERCENT EXCEEDS	.43		2.4		2.3	
50 PERCENT EXCEEDS	.04		.11		.30	
90 PERCENT EXCEEDS	.00		.06		.02	

WATER-QUALITY RECORDS

CHEMICAL DATA: Water years 1980-86, 1988 to current year.

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)
7...	1455	0.05	1650	18.2	13.0	--	--	--	--	--	--
9...	1525	E2.4	938	18.0	13.0	--	--	--	--	--	--
9...	0805	E0.55	1330	18.3	12.0	--	--	--	--	--	--
5...	1525	E0.06	1420	8.5	18.5	759	12.0	129	630	140	68
7...	0800	E0.08	1500	18.2	14.0	--	--	--	--	--	--
7...	1545	0.06	1460	18.4	23.5	--	--	--	--	--	--
5...	1650	E0.13	1460	18.0	14.5	--	--	--	--	--	--
4...	1720	0.06	1580	18.2	17.5	--	--	--	--	--	--

[illegible][illegible]

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA

LOCATION.--Lat 34°46'56", long 120°31'47", in Jesus Maria Grant, Santa Barbara County, Hydrologic Unit 18060009, on Vandenberg Military Reservation on downstream side of San Antonio Road Bridge, 0.7 mi east of junction of San Antonio Road and Lompoc-Casmalia Road, and 3.8 mi south of Casmalia.

DRAINAGE AREA.--135 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to September 1993 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 160 ft above sea level, from topographic map. Prior to June 27, 1958, at datum 2.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation upstream from station. Flow affected by pumping from wells along stream for irrigation upstream from station. At times water is released to creek from Vandenberg Air Force Base Water-Treatment Plant.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,680 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 14.32 ft, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 12.93 ft; minimum daily, 0.10 ft<sup>3</sup>/s, June 19, 20, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 13	1700	418	4.76	Feb. 23	0915	543	5.29
Jan. 18	0930	252	3.99	Feb. 26	0800	206	3.75
Feb. 19	0245	*646	*5.69	Mar. 27	2330	504	5.13

Minimum daily, 0.42 ft<sup>3</sup>/s, Nov. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	.60	.58	.69	e1.6	33	e30	1.8	1.7	.89	.55	.58
2	e1.5	.54	.63	.98	e1.5	28	20	1.5	1.5	.88	.56	.64
3	e.90	.57	.69	.94	e1.5	24	14	1.4	1.5	.95	.61	.65
4	e.50	.50	.73	.98	e10	e20	10	1.3	1.8	1.1	.60	.98
5	e.45	.54	.75	.91	e70	e18	7.5	1.3	2.2	1.0	.60	.86
6	e.46	.53	1.0	1.3	e30	e15	5.9	1.5	1.6	.96	.57	.60
7	e.49	.57	3.9	34	e25	e13	4.7	1.5	1.5	.99	.58	.70
8	e.52	.66	1.0	10	e20	e11	4.2	2.2	1.4	.96	.59	.60
9	e.56	.65	.80	3.3	e15	e9.0	3.7	2.0	1.5	1.4	.58	.67
10	e.60	.60	.82	21	13	e6.0	2.4	1.4	1.5	1.4	.56	.67
11	e.58	.57	1.3	5.7	6.8	e4.0	2.1	1.8	1.1	.95	.58	.71
12	e.56	.61	1.0	2.1	4.1	3.1	2.1	2.0	.83	.76	.57	.88
13	e.54	.57	.84	114	2.6	2.8	2.2	1.4	.79	.80	.59	.67
14	.52	.54	.79	137	2.2	2.7	2.2	1.3	.81	.76	.72	.60
15	.44	.54	.75	21	1.9	2.5	3.0	1.4	.80	.76	.62	.64
16	.45	.57	.71	19	1.9	2.5	2.0	1.9	.90	.74	.60	.58
17	.44	.57	.70	34	1.7	2.5	1.9	1.7	.88	.76	.62	.59
18	.47	.51	.64	128	76	2.2	2.3	1.4	.86	.64	.64	.80
19	.45	.46	.56	50	329	2.2	1.8	1.6	.87	.66	.65	.82
20	.45	.42	.56	24	132	2.1	1.8	1.6	.88	.66	.65	.66
21	.48	.42	.53	8.5	58	2.1	1.8	1.6	.85	.62	.63	.61
22	.49	.46	.53	6.7	34	2.1	1.6	1.6	.85	.61	.66	.60
23	.46	.49	.53	4.8	259	2.2	1.7	2.0	.86	.67	.63	.61
24	.45	.48	.53	e4.0	102	2.3	1.6	1.8	.87	.87	.64	.67
25	.46	.51	.53	e3.0	49	140	1.7	2.1	.92	.65	.65	.60
26	.47	.51	.51	e2.2	114	181	1.5	1.9	.85	.66	.63	1.1
27	.54	.45	.51	e2.0	53	133	1.5	1.8	.87	.66	.65	.62
28	.59	.53	.54	e1.9	64	189	1.4	1.7	.86	.61	.75	.60
29	.59	.57	.88	e1.9	---	63	1.5	1.7	.88	.55	.60	.76
30	.80	.56	.75	e1.8	---	e50	1.7	1.8	.88	.54	.68	.74
31	.70	---	.64	e1.6	---	e40	---	1.8	---	.53	.59	---
TOTAL	17.91	16.10	25.23	647.30	1478.8	1008.3	139.8	51.8	33.61	24.99	19.15	20.81
MEAN	.58	.54	.81	20.9	52.8	32.5	4.66	1.67	1.12	.81	.62	.69
MAX	1.5	.66	3.9	137	329	189	30	2.2	2.2	1.4	.75	1.1
MIN	.44	.42	.51	.69	1.5	2.1	1.4	1.3	.79	.53	.55	.58
AC-FT	36	32	50	1280	2930	2000	277	103	67	50	38	41

e Estimated.

## 11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.81	1.63	2.88	9.88	24.7	18.9	7.48	1.38	.91	.67	.69	.73
MAX	2.36	6.73	10.6	99.5	163	234	149	3.85	2.07	1.59	1.84	2.23
(WY)	1964	1973	1956	1983	1962	1983	1958	1983	1983	1983	1981	1972
MIN	.19	.19	.29	.41	.54	.44	.30	.24	.17	.18	.21	.16
(WY)	1990	1990	1990	1991	1991	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1956 - 1993	
ANNUAL TOTAL	2292.05		3483.80			
ANNUAL MEAN	6.26		9.54		5.78	
HIGHEST ANNUAL MEAN					39.7	
LOWEST ANNUAL MEAN					.47	
HIGHEST DAILY MEAN	485	Feb 12	329	Feb 19	2040	Mar 2 1983
LOWEST DAILY MEAN	.27	Sep 26	.42	Nov 20	.00	May 20 1965
ANNUAL SEVEN-DAY MINIMUM	.31	Sep 22	.45	Oct 15	.13	Jul 27 1990
INSTANTANEOUS PEAK FLOW			646	Feb 19	4680	Mar 1 1983
INSTANTANEOUS PEAK STAGE			5.69	Feb 19	14.32	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	4550		6910		4190	
10 PERCENT EXCEEDS	1.7		20		4.5	
50 PERCENT EXCEEDS	.56		.89		1.1	
90 PERCENT EXCEEDS	.39		.53		.36	

## SAN ANTONIO CREEK BASIN

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

CHEMICAL DATA: Water years 1978 to current year.

pH: December 1981 to September 1983.

WATER TEMPERATURE: December 1981 to September 1983.

PERIOD OF DAILY RECORD.--

pH: December 1981 to September 1983.

WATER TEMPERATURE: December 1981 to September 1983.

INSTRUMENTATION.--Water-quality monitor from December 1981 to September 1983.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT												
14...	1245	0.50	2470	17.8	15.0	--	--	--	--	--	--	--
NOV												
19...	1140	0.47	2430	17.9	12.0	--	--	--	--	--	--	--
DEC												
17...	1320	0.65	2540	17.8	8.0	--	--	--	--	--	--	--
JAN												
20...	1005	16	1130	17.3	10.5	--	--	--	--	--	--	--
FEB												
20...	0915	156	501	17.7	6.0	--	--	--	--	--	--	--
MAR												
12...	1300	3.1	3640	17.1	14.5	--	--	--	--	--	--	--
APR												
09...	0940	4.4	3320	7.8	14.0	760	9.4	92	1200	300	110	340
MAY												
11...	1455	2.6	3010	17.5	18.5	--	--	--	--	--	--	--
JUN												
11...	1200	0.84	2950	17.7	14.0	--	--	--	--	--	--	--
JUL												
08...	0925	0.99	2800	17.8	18.0	--	--	--	--	--	--	--
AUG												
06...	0915	0.61	2650	7.9	19.5	758	4.8	53	530	140	45	400
SEP												
16...	0950	0.80	2460	17.8	16.0	--	--	--	--	--	--	--

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT												
14...	--	--	--	--	--	--	--	--	--	1420	--	--
NOV												
19...	--	--	--	--	--	--	--	--	--	1460	--	--
DEC												
17...	--	--	--	--	--	--	--	--	--	1730	--	--
JAN												
20...	--	--	--	--	--	--	--	--	--	750	--	--
FEB												
20...	--	--	--	--	--	--	--	--	--	350	--	--
MAR												
12...	--	--	--	--	--	--	--	--	--	3020	--	--
APR												
09...	38	4	3.0	344	282	930	360	0.90	52	2600	2270	3.54
MAY												
11...	--	--	--	--	--	--	--	--	--	1960	--	--
JUN												
11...	--	--	--	--	--	--	--	--	--	1850	--	--
JUL												
08...	--	--	--	--	--	--	--	--	--	1780	--	--
AUG												
06...	61	8	24	491	402	300	450	0.30	27	1700	1660	2.31
SEP												
16...	--	--	--	--	--	--	--	--	--	1560	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 417

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA

LOCATION.--Lat 35°01'19", long 120°13'39", SW 1/4 sec.14, T.11 N., R.32 W., San Luis Obispo-Santa Barbara County Line, Hydrologic Unit 18060007, on downstream side of bridge on State Highway 166, 1.5 mi downstream from Buckhorn Canyon, and 13 mi northeast of Santa Maria.

DRAINAGE AREA.--886 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1903 to December 1905 (published as Santa Maria River near Santa Maria), October 1959 to current year. Monthly discharge only for October 1903 and July 1904. Yearly estimate for water year 1941 (incomplete), published in WSP 1315-B.

REVISED RECORDS.--WDR CA-71-1: Drainage area. WDR CA-77-1: 1976.

GAGE.--Water-stage recorder. Elevation of gage is 760 ft above sea level, from topographic map. Prior to October 1959, nonrecording gage at different site and datum.

REMARKS.--Records poor. No regulation upstream from station. Pumping from wells along stream for irrigation of several thousand acres in Upper Cuyama Valley.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft<sup>3</sup>/s, Feb. 25, 1969, gage height, 13.70 ft, from rating curve extended above 4,900 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 10.85 ft; maximum gage height, 14.74 ft, Mar. 4, 1978; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 8	1145	257	7.91	Feb. 8	1615	2,190	9.56
Jan. 7	2330	1,770	8.97	Feb. 19	1300	*9,020	*11.65
Jan. 14	0045	4,030	9.88	Feb. 23	2300	5,950	10.07
Jan. 18	1330	1,260	9.19	Mar. 26	0900	7,520	10.63

Minimum daily, .09 ft<sup>3</sup>/s, several days in November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.18	.15	12	e5.1	e450	e167	e18	e8.7	e3.5	1.7	1.1
2	.20	.16	.16	34	e4.8	e380	e150	e18	e8.6	e3.4	1.6	.95
3	.20	.16	.18	11	e5.0	e310	e138	e17	e8.3	e3.3	1.6	.89
4	.21	.14	.16	13	e16	e271	e113	e17	e8.0	e3.2	1.4	.90
5	.20	.14	.16	7.1	23	e236	e90	e16	e9.0	e3.1	1.5	.93
6	.19	.12	.18	19	16	e192	e88	e16	e10	e3.0	1.5	.89
7	.18	.13	40	530	14	e156	e83	e15	e7.6	e3.4	1.5	.83
8	.18	.13	74	665	669	e118	e80	e18	e7.4	e3.5	1.5	.75
9	.19	.13	43	189	1110	e80	e73	e16	e7.2	3.6	1.4	.62
10	.18	.13	5.2	134	282	e70	e71	e15	e7.0	3.4	1.3	.56
11	.18	.13	8.4	111	e72	e64	e68	e15	e6.9	3.4	1.5	.56
12	.18	.13	4.9	91	e52	e57	e65	e17	e6.6	3.3	1.5	.62
13	.20	.10	e3.5	844	e44	e50	e61	e16	e6.3	3.3	1.5	.68
14	.20	.09	e2.2	1690	e38	e45	e67	e15	e6.0	3.1	1.6	.70
15	.21	.09	e1.5	427	e32	e40	e70	e15	e5.9	3.0	1.5	.75
16	.21	.09	.96	321	e31	e36	e68	e14	e5.8	2.9	1.5	.77
17	.20	.09	1.3	260	e30	e32	e63	e14	e5.6	2.9	1.4	.76
18	.16	.09	2.1	797	142	e30	e60	e13	e5.4	2.8	1.4	.76
19	.16	.10	1.3	e460	2970	e29	e50	e13	e5.2	2.6	1.3	.73
20	.17	.09	.86	e180	1480	e28	e40	e13	e5.0	2.5	1.3	.69
21	.18	.10	.77	77	624	e28	e36	e12	e4.9	2.5	1.2	.68
22	.16	.13	.70	29	470	e75	e32	e12	e4.8	2.5	1.1	.68
23	.15	.13	.66	14	1460	e220	e26	e11	e4.6	2.4	1.1	.64
24	.16	.12	.63	10	e1300	e600	e24	e11	e4.4	2.3	1.1	.47
25	.17	.11	.58	9.6	e600	1620	e23	e11	e4.2	2.1	1.1	.33
26	.16	.11	.60	7.6	e1100	4590	e22	e10	e4.1	2.1	.96	.28
27	.15	.11	.56	e6.3	e500	2720	e21	e10	e4.0	2.3	.95	.21
28	.16	.11	.65	e5.6	e278	e1000	e20	e9.9	e3.9	2.3	.92	.25
29	.20	.11	12	e5.7	---	e350	e19	e9.6	e3.8	2.1	.92	.25
30	.60	.11	32	e5.4	---	e279	e19	e9.3	e3.6	1.9	.99	.14
31	.19	---	24	e5.0	---	e221	---	e9.0	---	1.8	1.1	---
TOTAL	6.09	3.56	263.36	6970.3	13367.9	14377	1907	425.8	182.8	87.5	40.94	19.37
MEAN	.20	.12	8.50	225	477	464	63.6	13.7	6.09	2.82	1.32	.65
MAX	.60	.18	74	1690	2970	4590	167	18	10	3.6	1.7	1.1
MIN	.15	.09	.15	5.0	4.8	28	19	9.0	3.6	1.8	.92	.14
AC-FT	12	7.1	522	13830	26520	28520	3780	845	363	174	81	38

e Estimated.

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	2.60	13.3	32.7	95.0	85.3	22.2	6.04	2.87	1.34	.71	1.50
MAX	8.40	23.6	275	467	920	944	214	53.6	23.6	8.87	6.99	22.7
(WY)	1984	1966	1967	1969	1969	1983	1967	1983	1983	1969	1983	1990
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1960	1964	1961	1961	1961	1961	1960	1960	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993	
ANNUAL TOTAL	5932.78		37651.62			
ANNUAL MEAN	16.2		103		21.6	
HIGHEST ANNUAL MEAN					141	
LOWEST ANNUAL MEAN					.002	
HIGHEST DAILY MEAN	1520	Feb 12	4590	Mar 26	9390	Feb 25 1969
LOWEST DAILY MEAN	.09	Nov 14	.09	Nov 14	.00	Oct 1 1959
ANNUAL SEVEN-DAY MINIMUM	.09	Nov 14	.09	Nov 14	.00	Oct 1 1959
INSTANTANEOUS PEAK FLOW			9020	Feb 19	17800	Feb 25 1969
INSTANTANEOUS PEAK STAGE			11.65	Feb 19	14.74	Mar 4 1978
ANNUAL RUNOFF (AC-FT)	11770		74680		15660	
10 PERCENT EXCEEDS	11		203		14	
50 PERCENT EXCEEDS	1.2		4.6		.41	
90 PERCENT EXCEEDS	.16		.16		.00	

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water year 1978 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
OCT 13...	1125	0.19	1420	18.0	22.5	--	--	--	--	--	--
NOV 17...	1130	0.13	1470	18.0	17.0	--	--	--	--	--	--
DEC 15...	1145	1.1	2250	17.9	13.0	--	--	--	--	--	--
JAN 18...	1145	864	1470	17.5	10.5	--	--	--	--	--	--
MAR 09...	1330	74	1390	18.1	17.5	--	--	--	--	--	--
APR 05...	1620	90	1340	8.3	20.0	762	10.4	115	570	140	54
MAY 03...	1525	17	1720	17.9	25.0	--	--	--	--	--	--
JUN 07...	1530	7.3	1670	18.0	25.0	--	--	--	--	--	--
JUL 06...	1520	3.0	1250	18.0	30.0	--	--	--	--	--	--
AUG 11...	1600	1.4	1270	18.0	29.5	--	--	--	--	--	--
SEP 14...	1345	0.72	1230	18.0	26.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 11138500 SISQUOC RIVER NEAR SISQUOC, CA

LOCATION.--Lat 34°50'23", long 120°10'02", in Sisquoc Grant, Santa Barbara County, Hydrologic Unit 18060008, on left bank 2.6 mi upstream from La Brea Creek and 7 mi east of Sisquoc.

DRAINAGE AREA.--281 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to current year. October 1929 to September 1933, at site 0.2 mi downstream; low-flow records not equivalent owing to diversion immediately upstream. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 624.30 ft above sea level (levels by U.S. Army Corps of Engineers). See WSP 1735 for history of changes prior to Aug. 24, 1951.

REMARKS.--Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft<sup>3</sup>/s, Dec. 6, 1966, gage height, 15.75 ft, from rating curve extended above 1,700 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 10.08 and 15.75 ft; no flow Nov. 11-18, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 11,000 ft<sup>3</sup>/s, gage height, 8.1 ft, from high-water mark in gage well, at site in use 1929-33, from rating curve extended above 2,800 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 30	0000	330	2.92	Feb. 8	1530	1,670	5.10
Jan. 7	0915	1,180	4.50	Feb. 23	unknown	*5,100	unknown
Jan. 14	0330	3,620	6.82	Mar. 26	unknown	2,600	unknown
Jan. 18	0730	1,710	5.14				

Minimum daily, 0.77 ft<sup>3</sup>/s, Nov. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.86	1.8	98	e60	e525	e221	e113	59	e21	e9.2	3.3
2	1.3	.78	2.2	116	e60	e640	e200	e112	57	e21	e9.2	3.0
3	1.1	.79	2.3	119	115	e520	e188	e111	55	e21	e9.7	3.0
4	1.1	.94	2.3	97	109	e503	e200	e110	52	e21	e9.8	3.0
5	.98	.85	2.0	84	105	e473	e195	109	56	e22	e9.5	3.0
6	1.1	.86	2.4	78	103	e355	e196	108	56	e22	e9.0	2.6
7	.94	.87	4.4	606	103	e286	e192	106	51	e18	e8.4	2.6
8	.99	1.0	2.8	524	1030	e243	e187	106	45	e15	e8.2	2.8
9	.95	1.0	2.6	255	780	e221	e176	103	44	e14	e7.5	3.0
10	.99	.89	2.3	190	536	e216	e172	103	40	e14	e7.7	2.6
11	.92	.80	2.7	177	e410	e209	e166	103	38	e13	e7.5	2.6
12	1.1	.82	2.2	151	e330	e205	e157	105	36	e13	e6.4	2.5
13	1.0	.83	1.9	1110	e279	e199	e153	105	33	e13	5.2	2.4
14	1.1	.85	1.9	1620	e243	e196	e140	105	32	e12	5.3	2.4
15	1.1	.77	2.0	764	e230	e193	e132	107	30	e12	5.2	2.5
16	1.1	.83	2.0	715	e225	e189	e130	104	28	e12	5.0	2.5
17	.90	.87	2.1	871	e220	e183	e128	101	28	e12	4.6	2.6
18	.94	.98	2.1	1300	638	e189	e126	98	28	e12	4.3	2.8
19	.95	1.4	2.1	840	e3000	e182	e125	95	27	e11	4.3	2.8
20	.94	1.4	2.0	e480	e2290	e175	e124	93	27	e11	4.1	2.8
21	1.1	1.4	2.0	e330	e1750	e172	e123	91	30	e11	3.7	3.1
22	.92	1.8	2.1	e255	e1580	e150	e122	89	28	e11	3.2	3.1
23	.85	1.8	2.0	e186	e3200	e133	e121	85	26	e10	3.1	3.1
24	1.0	2.0	2.0	e142	e1870	e264	e120	82	23	e10	3.0	2.9
25	1.0	1.9	2.0	e119	e1290	e550	e119	80	22	e10	2.6	2.5
26	.86	1.9	2.0	e98	e900	e1300	e118	80	e21	e10	2.6	2.3
27	.84	2.0	2.0	e86	e680	e638	e117	76	e21	e10	2.6	2.5
28	1.1	1.7	2.2	e77	e550	e437	e116	73	e20	e10	2.5	2.9
29	1.0	1.9	122	e70	---	e348	e115	69	e22	e10	2.4	3.1
30	2.2	1.8	205	e66	---	e289	e114	65	e21	e10	2.5	2.6
31	1.1	---	127	e63	---	e250	---	62	---	e10	2.5	---
TOTAL	32.67	36.59	516.4	11687	22686	10433	4493	2949	1056	422	170.8	82.9
MEAN	1.05	1.22	16.7	377	810	337	150	95.1	35.2	13.6	5.51	2.76
MAX	2.2	2.0	205	1620	3200	1300	221	113	59	22	9.8	3.3
MIN	.84	.77	1.8	63	60	133	114	62	20	10	2.4	2.3
AC-FT	65	73	1020	23180	45000	20690	8910	5850	2090	837	339	164

e Estimated.

## 11138500 SISQUOC RIVER NEAR SISQUOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.55	6.96	27.6	77.2	152	136	90.0	29.7	10.7	4.29	2.31	2.40
MAX	46.0	80.5	555	1457	1731	871	975	208	80.1	33.9	17.4	17.9
(WY)	1968	1966	1967	1969	1969	1983	1958	1967	1983	1983	1983	1967
MIN	.13	.15	.20	.42	.97	1.44	.55	.34	.73	.32	.16	.20
(WY)	1990	1990	1990	1991	1949	1948	1990	1990	1990	1989	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1944 - 1993	
ANNUAL TOTAL	20084.30		54565.36			
ANNUAL MEAN	54.9		149		44.5	
HIGHEST ANNUAL MEAN					361	
LOWEST ANNUAL MEAN					1.07	
HIGHEST DAILY MEAN	2310	Feb 12	3200	Feb 23	14800	Jan 25 1969
LOWEST DAILY MEAN	.77	Nov 15	.77	Nov 15	.00	Nov 11 1967
ANNUAL SEVEN-DAY MINIMUM	.82	Nov 11	.82	Nov 11	.00	Nov 11 1967
INSTANTANEOUS PEAK FLOW			5100	Feb 23	23200	Dec 6 1966
INSTANTANEOUS PEAK STAGE					15.75	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	39840		108200		32270	
10 PERCENT EXCEEDS	141		337		73	
50 PERCENT EXCEEDS	5.4		21		2.4	
90 PERCENT EXCEEDS	1.0		1.1		.80	

11138500 SISQUOC RIVER NEAR SISQUOC, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1978 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)
OCT 14...	0955	1.2	1120	17.8	18.0	--	--	--	--	--	--
NOV 17...	1425	0.74	1150	18.4	16.0	--	--	--	--	--	--
DEC 17...	0910	1.8	1120	18.3	11.0	--	--	--	--	--	--
FEB 02...	1445	129	966	18.4	11.5	--	--	--	--	--	--
17...	1740	212	928	18.4	12.0	--	--	--	--	--	--
MAR 23...	1305	170	996	18.1	16.0	--	--	--	--	--	--
MAY 04...	1425	112	1080	8.4	18.5	742	9.7	107	510	100	62
JUN 08...	1445	47	1060	18.1	24.0	--	--	--	--	--	--
JUL 07...	1300	17	1050	18.1	24.0	--	--	--	--	--	--
AUG 12...	1130	5.7	1100	18.3	20.0	--	--	--	--	--	--
SEP 17...	1335	2.8	1100	18.1	21.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

## 11140000 SISQUOC RIVER NEAR GAREY, CA

LOCATION.--Lat 34°53'38", long 120°18'20", in SW 1/4 sec.36, T.10 N., R.33 W., Santa Barbara County, Hydrologic Unit 18060008, on downstream side of Santa Maria Mesa Road Bridge near left bank, 0.6 mi northeast of Garey, and 3.7 mi downstream from Tepusquet Creek.

DRAINAGE AREA.--471 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to current year. Records for water year 1941 incomplete; yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

REVISED RECORDS.--WSP 1011: 1941, 1943. WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of main gage is 354.8 ft, Santa Barbara County datum. See WSP 1735 for history of changes of main gage prior to Oct. 1, 1959. Oct. 1, 1959, to Dec. 30, 1965, at datum 6.00 ft higher. Since Oct. 1, 1959, supplementary gage on downstream side of bridge near right bank at same datum. Supplementary gage discontinued June 8, 1992.

REMARKS.--Records poor. No regulation upstream from station. Pumping from wells along stream for irrigation of about 7,000 acres upstream from station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,600 ft<sup>3</sup>/s, Mar. 1, 1983, gage height, 11.16 ft, from rating curve extended above 22,000 ft<sup>3</sup>/s; maximum gage height, 13.50 ft, Dec. 6, 1966; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 30	0800	395	6.01	Feb. 8	2045	1,570	6.70
Jan. 7	1215	1,720	6.82	Feb. 23	1245	*9,520	7.87
Jan. 14	0600	5,120	*7.87	Mar. 26	0330	4,340	7.68
Jan. 18	1015	2,600	6.89				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	.00	.34	12	1300	487	e108	16	.00	.00	.00
2	e.00	e.00	.00	.37	11	1700	442	e103	15	.00	.00	.00
3	e.00	e.00	.00	2.1	9.2	1330	397	e98	12	.00	.00	.00
4	e.00	e.00	.00	.34	17	1300	427	93	12	.00	.00	.00
5	e.00	e.00	.00	.01	13	1310	401	73	14	.00	.00	.00
6	e.00	e.00	.00	.00	12	1080	394	68	19	.00	.00	.00
7	e.00	e.00	.00	590	14	866	377	62	16	.00	.00	.00
8	e.00	e.00	.00	800	880	646	363	62	11	.00	.00	.00
9	e.00	e.00	.00	184	984	467	337	57	2.8	.00	.00	.00
10	e.00	e.00	.00	62	597	414	330	51	.99	.00	.00	.00
11	e.00	.00	.00	53	501	402	316	50	.31	.00	.00	.00
12	e.00	.00	.00	25	528	339	296	52	.10	.00	.00	.00
13	e.00	.00	.00	1230	595	297	283	49	.01	.00	.00	.00
14	e.00	.00	.00	3070	697	272	265	50	.00	.00	.00	.00
15	e.00	.00	.00	888	830	254	247	48	.00	.00	.00	.00
16	e.00	.00	.00	785	1080	227	231	42	.00	.00	.00	.00
17	e.00	.00	.00	609	1490	208	222	38	.00	.00	.00	.00
18	e.00	.00	.00	2050	2400	210	214	35	.00	.00	.00	.00
19	e.00	.00	.00	988	5830	190	201	33	.00	.00	.00	.00
20	e.00	.00	.00	467	e3500	167	195	28	.00	.00	.00	.00
21	e.00	.00	.00	260	e2700	154	188	29	.00	.00	.00	.00
22	e.00	.00	.00	174	e2000	106	172	31	.00	.00	.00	.00
23	e.00	.00	.00	118	e8500	77	149	31	.00	.00	.00	.00
24	e.00	.00	.00	78	4850	388	141	31	.00	.00	.00	.00
25	e.00	.00	.00	51	3570	1010	135	30	.00	.00	.00	.00
26	e.00	.00	.00	40	3080	2340	133	30	.00	.00	.00	.00
27	e.00	.00	.00	30	2430	1320	129	30	.00	.00	.00	.00
28	e.00	.00	.00	24	1340	e900	122	27	.00	.00	.00	.00
29	e.00	.00	.00	21	---	e800	e118	24	.00	.00	.00	.00
30	e.00	.00	36	17	---	e700	e113	20	.00	.00	.00	.00
31	e.00	---	5.6	14	---	e500	---	19	---	.00	.00	---
TOTAL	0.00	0.00	41.60	12631.16	48470.2	21274	7825	1502	119.21	0.00	0.00	0.00
MEAN	.000	.000	1.34	407	1731	686	261	48.5	3.97	.000	.000	.000
MAX	.00	.00	36	3070	8500	2340	487	108	19	.00	.00	.00
MIN	.00	.00	.00	.00	9.2	77	113	19	.00	.00	.00	.00
AC-FT	.00	.00	83	25050	96140	42200	15520	2980	236	.00	.00	.00

e Estimated.

## 11140000 SISQUOC RIVER NEAR GAREY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.14	2.85	18.1	77.1	177	157	78.5	14.5	1.90	.19	.051	.10
MAX	3.88	39.0	506	1531	2165	1833	1072	211	53.0	9.09	1.40	4.00
(WY)	1968	1966	1967	1969	1969	1983	1958	1983	1983	1983	1967	1967
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1944	1944	1947	1947	1947	1946	1945	1942	1942	1942

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1942 - 1993	
ANNUAL TOTAL	21191.79		91863.17			
ANNUAL MEAN	57.9		252		43.2	
HIGHEST ANNUAL MEAN					397	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	3420	Feb 12	8500	Feb 23	13200	Feb 25 1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1941
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.00	Oct 1	.00	Oct 1 1941
INSTANTANEOUS PEAK FLOW			9520	Feb 23	33600	Mar 1 1983
INSTANTANEOUS PEAK STAGE			7.87	Jan 14	13.50	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	42030		182200		31270	
10 PERCENT EXCEEDS	131		698		33	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in separate tables.

#### Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage station is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

#### Annual maximum discharge at crest-stage partial-record stations during water year 1993

Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft <sup>3</sup> /s)
Bristol Lake basin							
10253000	Gourd Creek near Ludlow, CA	Lat 34°40'35", long 116°01'20", in SW 1/4 sec.23, T.7 N., R.9 E., San Bernardino County, Hydrologic Unit 18090208, at culvert on U.S. Highway 66, 8.5 mi southeast of Ludlow.	0.34	1959-74, 1976-93	02-20-93	11.28	13.4
10261800	Beacon Creek at Helendale, CA	Lat 34°45'00", long 117°18'53", in SE 1/4 sec.29, T.8 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, at culvert on county road (formerly U.S. Highways 66 and 91), 0.6 mi northeast of Helendale.	.72	1959-60, 1961-67a, 1968-69, 1976-93	01-14-93	12.75	22.7
10262600	Boom Creek near Barstow, CA	Lat 34°54'20", long 116°56'55", NW 1/4 NE 1/4 sec.2, T.9 N., R.1 W., San Bernardino County, Hydrologic Unit 18090208, at culvert on Interstate Highway 15, 4.3 mi east of Barstow.	.24	1956-66, 1967-73a, 1976-93	02-20-93	8.68	6.3
Antelope Valley							
10263900	Buckhorn Creek near Valyermo, CA	Lat 34°20'35", long 117°55'13", in SW 1/4 sec.15, T.3 N., R.10 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on State Highway 2, Angeles National Forest, 8.1 mi southwest of Valyermo.	.48	1961-66a, 1967-69, 1971-73, 1977-93	01-07-93	4.24	88
10264503	Barrel Springs Tributary at California Aqueduct Crossing, near Palmdale, CA	Lat 34°31'56", long 118°04'32", in NW 1/4 SW 1/4 sec.7, T.5 N., R.11 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on California Aqueduct, 0.25 mi upstream of Barrel Springs, and 3.5 mi southeast of Palmdale.	.80	1989-93	01-18-93	10.31	38.4
10264504	Lake Palmdale Tributary at Highway 14, near Palmdale, CA	Lat 34°31'47", long 118°06'47", in NW 1/4 SW 1/4 sec.11, T.5 N., R.12 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on State Highway 14, 1.75 mi upstream of Lake Palmdale, and 3.25 mi south of Palmdale.	.34	1989-93	02-19-93	3.96	13.7

a Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1993--Continued

Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft <sup>3</sup> /s)
Antelope Valley--Continued							
10264520	Amargosa Creek Tributary near Leona Valley (formerly "near Palmdale"), CA	Lat 34°37'51", long 118°19'32", in SE 1/4 SE 1/4 sec.2, T.6 N., R.14 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on Elizabeth Lake Road, 2.4 mi northwest of Leona Valley, and 12.5 mi northwest of Palmdale.	0.05	1959-73, 1989-93	03-18-93	5.69	18.5
10264560	Spencer Canyon Creek near Fairmont, CA	Lat 34°46'33", long 118°34'08", in SW 1/4 SW 1/4 sec.15, T.8 N., R.16 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on State Highway 138, 8.5 mi northwest of Fairmont.	3.60	1959-64, 1965-73a, 1974, 1978-93	02-19-92	12.66	310
10264600	Oak Creek near Mojave, CA	Lat 35°03'00", long 118° 21'17" in NE 1/4 NW 1/4 sec.15, T.11 N., R.14 W., Kern County, Hydrologic Unit 18090206, at culvert on Tehachapi-Willow Springs Road, 0.1 mi west of junction with Oak Creek Road, and 10.5 mi west of Mojave.	15.9	1957-86a, 1989-93	03-20-92* 02-19-93	1.68 2.67	7.5 52
10264610	Horned Toad Hills Creek near Mojave, CA	Lat 35°05'19", long 118°11'01", in NW 1/4 SW 1/4 sec.32, T.12 N., R.12 W., Kern County, Hydrologic Unit 18090206, at culvert on Southern Pacific Railroad, 1.5 mi north of junction of State Highways 14 and 58, and 2.2 mi north of Mojave.	.10	1989-93	01-13-93	6.50	1.0
10264650	Bissell Hills Creek at Edwards Air Force Base, CA	Lat 34°53'47", long 117°56'39" in SE 1/4 SW 1/4 sec.4, T.9 N., R.10 W., Kern County, Hydrologic Unit 18090206, at culvert on Rosamond Boulevard, 1.75 mi south of Edwards Air Force Base.	.76	1989-93	02-19-93	7.72	0.6
10264680	Mescal Creek Tributary at Big Pines, CA	Lat 34°22'28", long 117°41'59", in NW 1/4 SE 1/4 sec.3, T.3 N., R.8 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on Angeles Crest Highway 0.7 mi southwest of Big Pines (Angeles National Forest).	.06	1961-73, 1989-93	02-19-93	5.24	19.6

a Operated as a continuous-record station.

\* Not previously published

## Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at miscellaneous sites during water year 1993

Stream	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
				Date	Discharge (ft <sup>3</sup> /s)
Antelope Valley					
Big Rock Creek upstream of Pallett Creek near Valyermo, CA	Lat 34°27'40", long 117°51'49" SW 1/4 sec.6, T.4 N., R.9 W., Los Angeles, County, Hydrologic Unit 18090206, 250 ft upstream from mouth of Pallett Creek, and 1.3 mi. NW of Valyermo.			01-21-93	129
Pallett Creek at at Valyermo Highway near Valyermo, CA	Lat 34°27'38", long 117°51'51", SW 1/4 sec.6, T.4 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, at Valyermo Road crossing, and 1.3 mi. NW of Valyermo.			01-21-93	14.5
Big Rock Wash at Palmdale Boulevard near Palmdale, CA	Lat 34°34'48", long 117°52'20", W 1/2 sec.30, T.6 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, at Palmdale Boulevard, 3.4 mi. SW of Lake Los Angeles.			01-21-93 03-17-93 02-24-93	0 5.60 114
Big Rock Wash at Avenue "T", near Llano, CA	Lat 34°32'33", long 117°50'52", in SW 1/4 SW 1/4 sec.5, T.5 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, at road fords on Avenue "T", 0.8 mi west of 165th Street East, and 3 mi northwest of Llano.	54.2	1990-93	01-21-93 03-17-93 02-24-93	30.9 30.7 142
Amargosa Creek at 25th Street West at Palmdale, CA	Lat 34°35'03", long 118°10'23", NE 1/4 sec.29, T.6 N., R.12 W., Los Angeles County, Hydrologic Unit 18090206, at 25th Street West crossing and 100 ft north of Elizabeth Lake, Pine Canyon Road in Palmdale.	29.6		01-14-93	607

## SANTA MARIA RIVER BASIN

345556120274001 LA BREA RECHARGE POND AT SANTA MARIA, CA

LOCATION.--Lat 34°55'56", long 120°27'40", unsurveyed, Santa Barbara County, Hydrologic Unit 18060008, at inflow structure of recharge pond, 2.1 mi southwest of Santa Maria.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1985 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
DEC 17...	1150	1520	18.0	13.0	--	--	--	--	--	--
JAN 20...	1130	276	17.5	13.0	--	--	--	--	--	--
APR 06...	0845	337	7.8	15.0	758	10.4	104	130	29	13

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC 17...	--	--	--	--	--	--	--	--	--	--
JAN 20...	--	--	--	--	--	--	--	--	--	--
APR 06...	21	26	0.8	2.1	88	72	83	16	0.10	7.0

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 17...	1190	--	--	--	--	--	--	--	--	--
JAN 20...	177	--	--	--	--	--	--	--	--	--
APR 06...	244	216	0.33	<0.010	0.250	0.040	0.110	50	95	56

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

## SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA

LOCATION.--Lat 34°57'27", long 120°37'54", Santa Barbara County, Hydrologic Unit 18060008, at culvert on West Main Street and 3.6 mi southwest of Guadalupe.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1986 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
SEP 24...	0955	6.1	2110	7.9	14.0	970	230	97	120	21	2	6.3
DATE	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	
SEP 24...	342	280	660	140	0.30	32	1600	1550	2.18	0.460	20.0	
DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL	ATRA-ZINE WATER UNFLTDR REC (UG/L)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L)
SEP 24...	1.80	0.390	260	30	50	<1	<1.0	<0.10	<0.1	<0.10	<0.1	<0.20
DATE	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L)	BROM-ACIL WATER WHLREC (UG/LI)	BUTA-CHLOR WATER WHLREC (UG/LI)	BUTYL-ATE WATER WHLREC (UG/LI)	CARBOX-IN WATER WHOLE RECOV-ERABLE (UG/LI)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-PYRIFOS TOTAL RECOVER (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYCLO-ATE WATER WHOLE RECOV-ERABLE (UG/LI)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
SEP 24...	<0.20	<0.20	<0.10	<0.10	<0.20	<1.0	<0.01	<0.20	<0.10	1.4	6.3	3.9
DATE	DEF TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DIPHEN-AMID WATER WHOLE RECOV-ERABLE (UG/L)	DI-SYSTON TOTAL (UG/L)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	FONOFOS (DY-FONATE) WATER WHOLE TOT.REC (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	
SEP 24...	<0.01	0.03	0.2	<0.10	<0.01	<0.1	<0.5	<0.01	<0.01	<0.1	<0.1	

## SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	PHORATE TOTAL (UG/L)
SEP 24...	<0.20	<0.1	0.01	<0.2	<0.01	<0.20	<0.10	<0.1	<0.01	<1.00	<0.01
DATE	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PAZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	TOTAL TRI- THION (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
SEP 24...	<0.20	0.10	<0.10	<0.10	<0.10	<0.10	<0.20	20	<0.10	<0.01	<0.10

## SAN JUAN CREEK BASIN

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°29'54", long 117°39'54", on line between secs.1 and 12, T.8 S., R.8 W., Orange County, Hydrologic Unit 18070301, on left bank 30 ft downstream from Del Obispo Street Bridge in San Juan Capistrano.

DRAINAGE AREA.--54.1 mi<sup>2</sup>.

PERIOD OF RECORD.--

SEDIMENT RECORDS: Water years 1971-78, December 1983 to September 1993 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1970 to September 1977, December 1983 to September 1984.

SUSPENDED-SEDIMENT DISCHARGE: October 1970 to September 1977, December 1983 to September 1984.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT								
06...	1135	0.37	27.0	8	0.01	--	--	--
NOV								
06...	1145	0.81	22.5	7	0.02	--	--	--
DEC								
07...	1800	E770	13.0	8820	18300	33	36	40
10...	1315	7.1	17.5	31	0.59	--	--	--
JAN								
07...	1455	716	15.0	3730	7210	22	27	32
13...	1440	164	14.0	467	207	--	--	--
17...	1530	1470	15.0	9160	36400	21	25	29
28...	1445	71	15.0	97	19	--	--	--
FEB								
08...	1715	690	15.5	5440	10100	27	30	31
18...	1845	1740	15.0	12800	60100	24	28	32
APR								
09...	1030	26	--	33	2.3	--	--	--
MAY								
20...	1555	7.6	27.0	2	0.04	--	--	--
JUL								
08...	1545	5.4	34.5	36	0.52	--	--	--
AUG								
25...	1230	2.1	30.0	27	0.15	--	--	--

## 11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC 07...	51	62	70	77	87	97	100	--
JAN 07...	39	48	56	61	69	86	97	100
13...	--	--	77	83	88	95	99	100
17...	39	52	64	74	80	91	99	100
28...	--	--	91	--	--	--	--	--
FEB 08...	41	51	60	66	75	88	99	100
18...	40	51	61	73	81	92	98	100
APR 09...	--	--	52	81	90	91	93	100
JUL 08...	--	--	100	--	--	--	--	--
AUG 25...	--	--	100	--	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM
MAY 20...	1620	1	7.6	0	1	10	24	33
20...	1625	1	7.6	0	1	2	10	25
20...	1630	1	7.6	1	2	4	7	10
20...	1635	1	7.6	4	7	12	18	26
DATE		BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 128 MM
MAY 20...		40	46	53	65	83	100	--
20...		33	39	46	59	85	100	--
20...		12	14	18	25	52	76	100
20...		33	41	53	72	100	--	--

## SAN JUAN CREEK BASIN

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SAM- PLING METHOD, CODES	SAMPLER TYPE (CODE)	BAG MESH SIZE BEDLOAD SAMPLER (MM)	TETHER LINE USED IN SAMPLING (YES=1) (CODE)	START- ING TIME (2400 HOURS)	END- ING TIME (2400 HOURS)	TIME ON BED FOR BED LOAD SAMPLE (SEC)	HORI- ZONTAL WIDTH OF VER- TICAL (FEET)
JAN									
07...	1545	1000	1100	0.250	0	1535	1550	10	3.0
07...	1615	1000	1100	0.250	0	1600	1630	10	3.0
13...	1500	1000	1150	0.250	0	1455	1505	10	2.0
13...	1515	1000	1150	0.250	0	1510	1520	10	2.0
28...	1505	1000	1150	0.250	0	1500	1510	15	2.0
28...	1520	1000	1150	0.250	0	1515	1525	15	2.0
FEB									
08...	1745	1000	1100	0.250	0	1730	1800	10	3.0
08...	1815	1000	1100	0.250	0	1800	1825	10	3.0
DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMT (NUM)	VER- TICALS IN COM- POSITE SAMPLE (NUM)	NUMBER OF SAM- PLING POINTS (COUNT)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
JAN									
07...	2	20	20	1.50	756	15.0	9.30	735	--
07...	2	20	20	1.50	838	15.0	15.2	735	--
13...	2	27	27	1.00	143	14.0	1.80	86	--
13...	2	27	27	1.00	143	14.0	1.40	86	--
28...	2	22	22	1.00	71	15.0	0.02	1.3	--
28...	2	22	22	1.00	71	15.0	0.04	1.3	--
FEB									
08...	1	22	22	1.50	756	15.5	3.60	238	1
08...	1	22	22	1.50	1220	15.5	0.77	51	1
DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
JAN									
07...	4	22	46	56	62	67	74	94	100
07...	3	14	31	41	50	63	78	92	100
13...	1	10	26	35	40	50	66	92	100
13...	2	22	52	67	72	75	80	100	--
28...	2	27	62	78	94	100	--	--	--
28...	1	21	64	83	92	100	--	--	--
FEB									
08...	4	17	38	49	58	66	81	100	--
08...	11	41	72	82	87	90	97	100	--

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## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<i>Area</i>		
acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer
<i>Volume</i>		
gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second
<i>Mass</i>		
ton (short)	$9.072 \times 10^{-1}$	megagram or metric ton

*Sea level:* In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

U.S. DEPARTMENT OF THE INTERIOR  
U.S. Geological Survey, Room W-2233  
2800 Cottage Way, Federal Building  
Sacramento, CA 95825

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