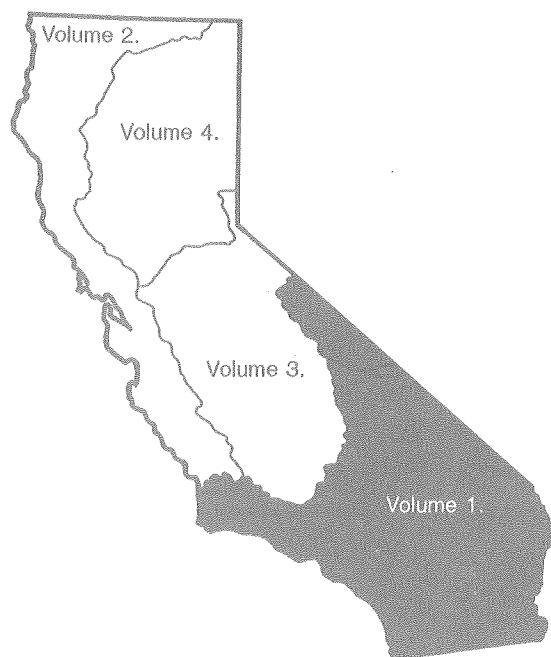


# Water Resources Data California Water Year 1994

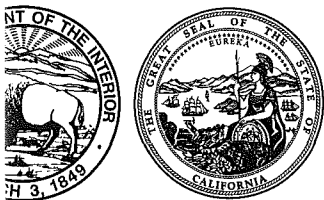
Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River



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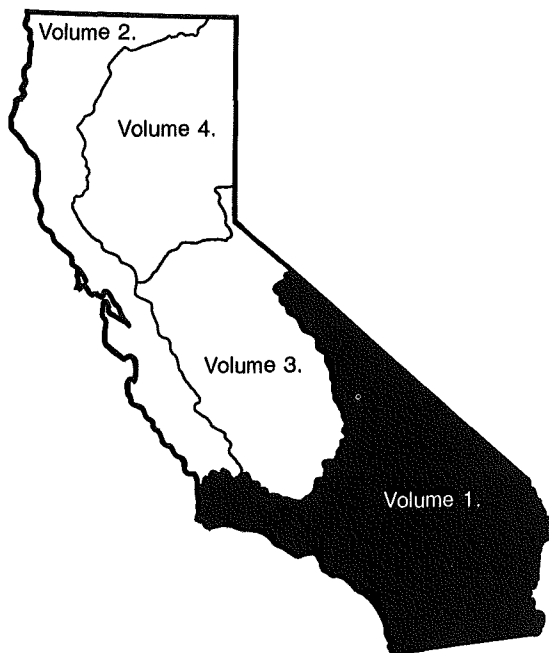
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# Water Resources Data California Water Year 1994

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

by P.D. Hayes, J.A. Agajanian, and G.L. Rockwell



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-94-1  
Prepared in cooperation with the California Department of  
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## 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 four 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

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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[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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IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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## 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	Horseshief 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
10255805	Coyote Creek below Box Canyon, near Borrego Springs	154	1984-94
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	.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
10264502	Peach Tree Creek near Littlerock	.04	1989-94
10264590	Cottonwood Creek near Rosamond	35.7	1965-72
10264605	Joshua Creek near Mojave	3.83	1989-94
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	1936-80
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

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
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
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
11042490	Wilson Creek above Vail Lake, near Radec	122	1990-94
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
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

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
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
11059100	San Bernardino Water-Quality Control Plant at San Bernardino	--	1973-82
11060500	Meeks and Daley Canal near Colton	--	1921-81
11062200	Fontana Union Water Co. Lytle Creek return flow channel near Fontana	--	1973-80
11062810	West San Bernardino County Water District Rialto Diversion near Fontana	--	1981
11063000	Cajon Creek near Keenbrook	40.6	1920-71, 1978-82
11064000	Lytle Creek (East Channel) at San Bernardino	--	1929-57
11065800	Warm Creek near Colton	198	1921-61
11065801	Warm Creek near Colton plus diversion	259	1920-61
11066050	Santa Ana River at Colton	740	1962-66
11066100	Lytle Creek West Channel at Colton	--	1929-45
11066440	Santa Ana River at Mission Boulevard, at Riverside	808	1971-82
11066478	Riverside Water-Quality Control Plant Weir No. 1	--	1973-81
11066479	Riverside Water-Quality Control Plant Weir No. 2	--	1973-81
11066480	Riverside Water-Quality Control Plant at Riverside Narrows, near Arlington	--	1966-81
11066500	Santa Ana River at Riverside Narrows, near Arlington	853	1929-73
11066550	Sheehan Diversion at Riverside Narrows, near Arlington	--	1964-65, 1967-68
11066950	Day Creek Diversion near Etiwanda	--	1966-69, 1971
11067000	Day Creek near Etiwanda	4.56	1929-72
11068000	Santa Ana River at Auburndale Bridge, near Corona	1,010	1961-68
11069300	South Fork San Jacinto River tributary near Valle Vista	2.20	1962-67
11069500	San Jacinto River near San Jacinto	141	1920-91
11070000	Bautista Creek near Hemet	39.6	1948-69
11070050	Bautista Creek at Valle Vista	48.5	1970-87
11070240	Sunnymead Channel at Alessandro Boulevard, near Sunnymead	13.3	1970-75, 1990-93
11070256	Perris Valley Storm Drain at Nandino Avenue, near March Air Force Base	50.6	1970-75, 1990-93
11070262	Perris Valley Storm Drain Lateral "B" near March Air Force Base	10.6	1970-75, 1990-93
11070263	Unnamed creek tributary to Perris Reservoir near Moreno Valley	.46	1989-91
11070375	San Jacinto River at Railroad Canyon Weir, near Elsinore	562	1952-84
11070465	Salt Creek at Murrieta Road, near Sun City	--	1984
11070475	Salt Creek at Railroad Canyon Reservoir, near Elsinore	122	1970-78
11072000	Temescal Creek near Corona	164	1929-80
11072200	Temescal Creek at Corona	249	1968-74
11073000	San Antonio Creek near Claremont	16.5	1917-72
11073200	San Antonio Creek below San Antonio Dam	26.9	1963-80
11073440	Chino Creek near Chino	107	1968-69
11073470	Cucamonga Creek near Upland	9.68	1929-75
11073500	Chino Creek near Prado	218	1929-40
11074500	Santa Ana River at county line, below Prado Dam	1,510	1919-42, 1945-60
11075620	Santa Ana River spreading diversion below Imperial Highway, near Anaheim	--	1974-86
11075730	Carbon Creek at Olinda	19.7	1931-38
11075740	Carbon Creek near Yorba Linda	20.1	1950-61
11077000	Santiago Creek near Villa Park	84.6	1921-63
11077001	Santiago Creek plus diversion near Villa Park	83.8	1921-31
11078100	Santa Ana River at Adams Avenue, near Costa Mesa	1,701	1975-77
11080000	East Fork San Gabriel River at Camp Bonita	58.2	1928-32
11080500	East Fork San Gabriel River near Camp Bonita	84.6	1933-79
11081000	Bear Creek near Camp Rincon	28.2	1930-36
11081500	North Fork San Gabriel River at Camp Rincon	18.6	1930-36
11082000	West Fork San Gabriel River at Camp Rincon	104	1928-78
11083500	San Gabriel River near Azusa	214	1894, 1896-1959, 1961-66
11084000	Rogers Creek near Azusa	6.64	1918-62
11084500	Fish Creek near Duarte	6.36	1916-79
11085019	San Gabriel River below Valley Boulevard	--	1973-74
11086000	Dalton Creek near Glendora	7.24	1913-62
11086300	San Dimas Creek below San Dimas Dam	16.3	1957-78
11086400	San Dimas Creek near San Dimas	18.3	1917-56
11086500	Little Dalton Creek near Glendora	2.72	1939-68, 1970-71
11086990	San Jose Creek near El Monte	87.8	1965-78
11087100	Rio Hondo Flood Flow Channel at Whittier Narrows Dam	--	1966-70
11087195	San Jose Creek near Whittier	88.7	1929-64
11087500	San Gabriel River at Pico	447	1929-78
11088000	San Gabriel River at Spring Street, near Los Alamitos	472	1937-51, 1953-79
11089000	Brea Creek at Fullerton	23.6	1931-69
11090000	Fullerton Creek at Fullerton	7.50	1936-64
11090200	Fullerton Creek at Richman Avenue, at Fullerton	12.1	1960-77, 1979-81
11090500	Coyote Creek near Artesia	120	1930-63
11090700	Coyote Creek at Los Alamitos	150	1964-78
11092450	Los Angeles River at Sepulveda Dam	158	1932-79
11093000	Pacoima Creek near San Fernando	28.3	1917-79
11093490	North Fork Mill Creek near Lanada	5.80	1966-73
11093500	Mill Creek near Colby Ranch	21.7	1931-34

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
11094000	Big Tujunga Creek below Mill Creek, near Colby Ranch (formerly Tujunga Creek)	64.9	1948-71
11094500	Big Tujunga Creek near Colby Ranch (formerly Tujunga Creek)	67.5	1931-50
11095000	Fox Creek near Colby Ranch	9.22	1931-37
11095500	Big Tujunga Creek near Sunland (formerly Tujunga Creek)	106	1917-77
11096000	Haines Creek near Tujunga	1.26	1917-34, 1936-61
11096500	Little Tujunga Creek near San Fernando	21.1	1929-73
11097500	Los Angeles River at Los Angeles	514	1930-79
11098500	Los Angeles River near Downey	599	1928-78
11099500	Sawpit Creek near Monrovia	5.21	1916-61
11100000	Santa Anita Creek near Sierra Madre (REVISED RECORDS IN WDR CA-92-1)	9.71	1917-70
11100500	Little Santa Anita Creek near Sierra Madre	1.84	1916-62
11101000	Eaton Creek near Pasadena	6.47	1918-66
11101380	Alhambra Wash at Klingerman Street, near Montebello	15.2	1976-79
11101500	Rio Hondo near Montebello	116	1929-78
11102000	Mission Creek near Montebello	4.16	1930-77
11102500	Rio Hondo near Downey	143	1928-79
11103500	Ballona Creek near Culver City	89.5	1928-78
11106000	Calleguas Creek at Camarillo	168	1929-31, 1955-58
11106400	Conejo Creek above Highway 101, near Camarillo	64	1973-83
11106500	Conejo Creek near Camarillo	69	1928-31
11107000	Honda Barranca near Somis	2.5	1955-63
11107500	Beardsley Wash near Somis	13	1954-58
11107745	Santa Clara River above railroad station, near Lang	157	1950-68, 1970-77
11107860	Bouquet Creek near Saugus	51.6	1971-73, 1975,
11107922	South Fork Santa Clara River at Saugus	43.4	1976-77
11108000	Santa Clara River near Saugus	411	1930-55
11108075	Castaic Creek above Fish Creek, near Castaic	37.0	1977-78, 1989-93
11108080	Fish Creek above Castaic Creek, near Castaic	27.2	1977-78, 1989-93
11108090	Elderberry Canyon Creek above Castaic Creek, near Castaic	2.50	1978, 1989-93
11108095	Necktie Canyon Creek above Castaic Creek, near Castaic	2.12	1977-78, 1989-93
11108130	Elizabeth Lake Canyon Creek above Castaic Lake, near Castaic	43.7	1977-78, 1989-93
11108135	Castaic Lagoon Parshall Flume near Castaic	138	1977-78, 1988-94
11108145	Castaic Creek near Saugus	184	1947-76
11109000	Santa Clara River near Piru	645	1928-32
11109100	Piru Creek below Thorn Meadows, near Stauffer	22.5	1972-78
11109200	Middle Fork Lockwood Creek near Stauffer	5.50	1972-78
11109250	Lockwood Creek at gorge, near Stauffer	58.7	1972-81
11110000	Piru Creek near Piru	437	1912-13, 1928-56, 1969-74
11112500	Fillmore Irrigation Company Canal near Fillmore	--	1940-51, 1972-83
11113001	Sespe Creek and Fillmore Irrigation Company Canal	--	1927-85, 1990-93
11113900	Saticoy Diversion near Saticoy	--	1969-81, 1983-87
11114000	Santa Clara River at Montalvo	1,594	1928-32, 1950-88, 1990-94
11114500	Matilija Creek above reservoir, near Matilija Hot Springs	50.7	1948-69
11115500	Matilija Creek at Matilija Hot Springs	54.6	1928-88
11116000	North Fork Matilija Creek at Matilija Hot Springs	15.6	1929-32, 1934-73, 1974-83
11116550	Ventura River near Meiners Oaks	76.4	1959-79, 1981-82, 1984-88
11117000	San Antonio Creek near Ojai	33.7	1928-32
11117600	Coyote Creek near Oak View	13.2	1959-88
11117800	Santa Ana Creek near Oak View	9.11	1959-88
11118000	Coyote Creek near Ventura	41.2	1928-32, 1934-58, 1970-82
11119660	San Ysidro Creek at Montecito	3.07	1980-83
11119700	Sycamore Creek at Santa Barbara	3.41	1971-72, 1980
11119760	Victoria Street drain at outlet, at Santa Barbara	0.625	1970-78
11119780	Arroyo Burro at Santa Barbara	6.65	1970-93
11119900	Atascadero Creek at Puente Road, near Goleta	3.86	1971-72
11120510	San Jose Creek at Goleta	9.42	1970-92
11120520	San Pedro Creek at Goleta	3.21	1971-72
11120530	Tecolotito Creek near Goleta	4.42	1970-72, 1980-82, 1987-91
11120550	Gaviota Creek near Gaviota	18.8	1967-86
11120600	Jalama Creek near Lompoc	20.5	1966-82
11120700	Canada Honda Creek near Lompoc	3.09	1959-62
11120800	Canada Honda Creek near Point Arguello	8.47	1959-62
11124000	Santa Cruz Creek above Stuke Canyon	64.9	1947-52
11125000	Cachuma Creek near Santa Ynez	23.8	1951-62
11126500	Santa Agueda Creek near Santa Ynez	55.8	1941-71, 1977-78
11127000	San Lucas Creek near Santa Ynez	3.2	1953-54
11127500	Zanja de Cota Creek near Santa Ynez	13.8	1955-61
11128000	Santa Ynez River at Grand Avenue, near Santa Ynez	513	1955-65
11128250	Alamo Pintado Creek near Solvang	29.4	1970-85, 1989-92
11128400	Alisal Creek near Solvang	12.3	1955, 1957-72
11129000	Nojoqui Creek near Buellton	15.1	1953-54

## DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Period of record
11129500	Santa Ynez River at Buellton	611	1955-59
11129800	Zaca Creek near Buellton	32.8	1963-81, 1989-92
11130000	Zaca Creek at Buellton	39.4	1941-63
11130500	Santa Ynez River near Buellton	668	1952-74
11131000	Santa Ynez River at Santa Rosa Dam site, near Buellton	700	1955-64
11131500	Santa Ynez River at Coopers East Fork, near Lompoc	708	1955-76
11132000	Santa Ynez River below Santa Rita Creek, near Lompoc	733	1955-62
11134000	Santa Ynez River at H Street, near Lompoc	815	1947-62
11134500	Santa Ynez River at 13th Street, near Lompoc	820	1955-75
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,S, WQ,C	1969-70, 1975-77, 1979-94
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
10264502	Peach Tree Creek near Littlerock	.04	P	1989-94
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

## DISCONTINUED WATER-QUALITY STATIONS--Continued

Station No.	Station name	Drainage area (mi <sup>2</sup> )	Type of record	Period of record
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	1969-83
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
11057500	San Timoteo Creek near Loma Linda	125	T,S	1979-81, 1992-94
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	1981
11070263	Unnamed creek tributary to Perris Reservoir near Moreno	.46	P	1990-91
11074000	Santa Ana River below Prado Dam	1,490	B,S	1974-84
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, T,C	1973-92
11103010	Los Angeles River at Willow Street Bridge, at Long Beach	831	C,T	1974-75, 1981
11104000	Topanga Creek at Topanga Beach	18.0	WQ,S	1982-88
11104400	Malibu Creek at Cornell	37.6	WQ,S	1983-88
11105410	Cold Creek at Piuma 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, T	1969-88
11109550	Piru Creek above Frenchmans Flat	308	C	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

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



WATER RESOURCES DATA--CALIFORNIA, WATER YEAR 1994  
VOLUME 1--SOUTHERN GREAT BASIN FROM MEXICAN BORDER TO MONO LAKE BASIN,  
AND PACIFIC SLOPE BASINS FROM TIJUANA RIVER TO SANTA MARIA RIVER

By P.D. Hayes, J. Agajanian, and G.L. Rockwell

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 143 streamflow-gaging stations, 15 crest-stage partial-record streamflow stations; (2) stage and contents records for 20 lakes and reservoirs; (3) water-quality records for 19 streamflow-gaging stations and 2 partial-record stations; and (4) precipitation records for 8 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-94-1." 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 are 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, are 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) 979-2605. A limited number of CD-ROM discs are 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 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.  
 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, Milon 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 1994 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 1994 water year in the area covered by this volume was 72 percent of the 1961-90 median (based on seven 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 59 percent of median in Arroyo Seco near Pasadena (station 11098000) to 219 percent in Sweetwater River near Descanso (station 11015000). In figure 2, monthly mean discharge in the 1994 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 1994 water year and the long-term average also is shown in figure 2. Precipitation in the area ranged from 27 to 80 percent of the long-term averages. Few streams exceeded the peak discharge bases.

Annual departure from the 1961-90 mean discharge at four selected gaging stations is shown in figure 3. A comparison of 1994 peak discharge to peaks for period of record at selected stations is given in table 1.

Table 1. Comparison of peak discharge for 1994 water year with those for period of record for selected stations

Station No.	Station name	1994 water year		Period of record	
		Date	Peak discharge (ft <sup>3</sup> /s)	Water year	Peak discharge (ft <sup>3</sup> /s)
10260500	Deep Creek near Hesperia	Feb. 7	3,860	1938	46,600
10263500	Big Rock Creek near Valyermo	Feb. 7	33	1938	8,300
11015000	Sweetwater River near Descanso	Feb. 8	75	1927	11,200
11055800	City Creek near Highland	Feb. 7	188	1969	7,000
11098000	Arroyo Seco near Pasadena	Feb. 7	129	1938	8,620
11111500	Sespe Creek near Wheeler Springs	Feb. 7	252	1983	11,600
11124500	Santa Cruz Creek near Santa Ynez	Feb. 20	313	1969	7,050



Figure 1. Runoff, in percent of median, for the 1994 water year.

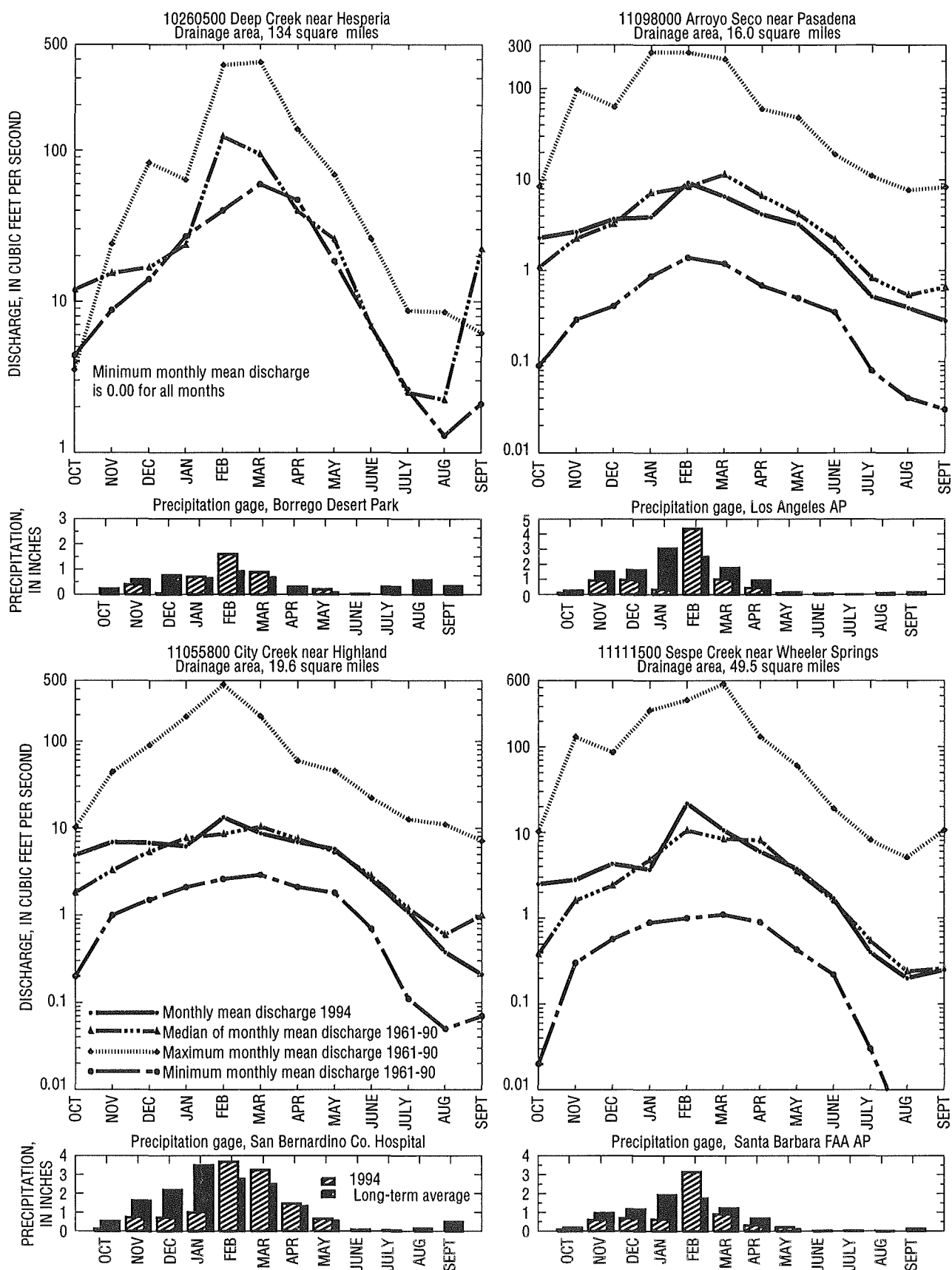


Figure 2. Discharge and precipitation during water year 1993 and long-term average at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration, 1994, Climatological Data, annual summary: v. 98.

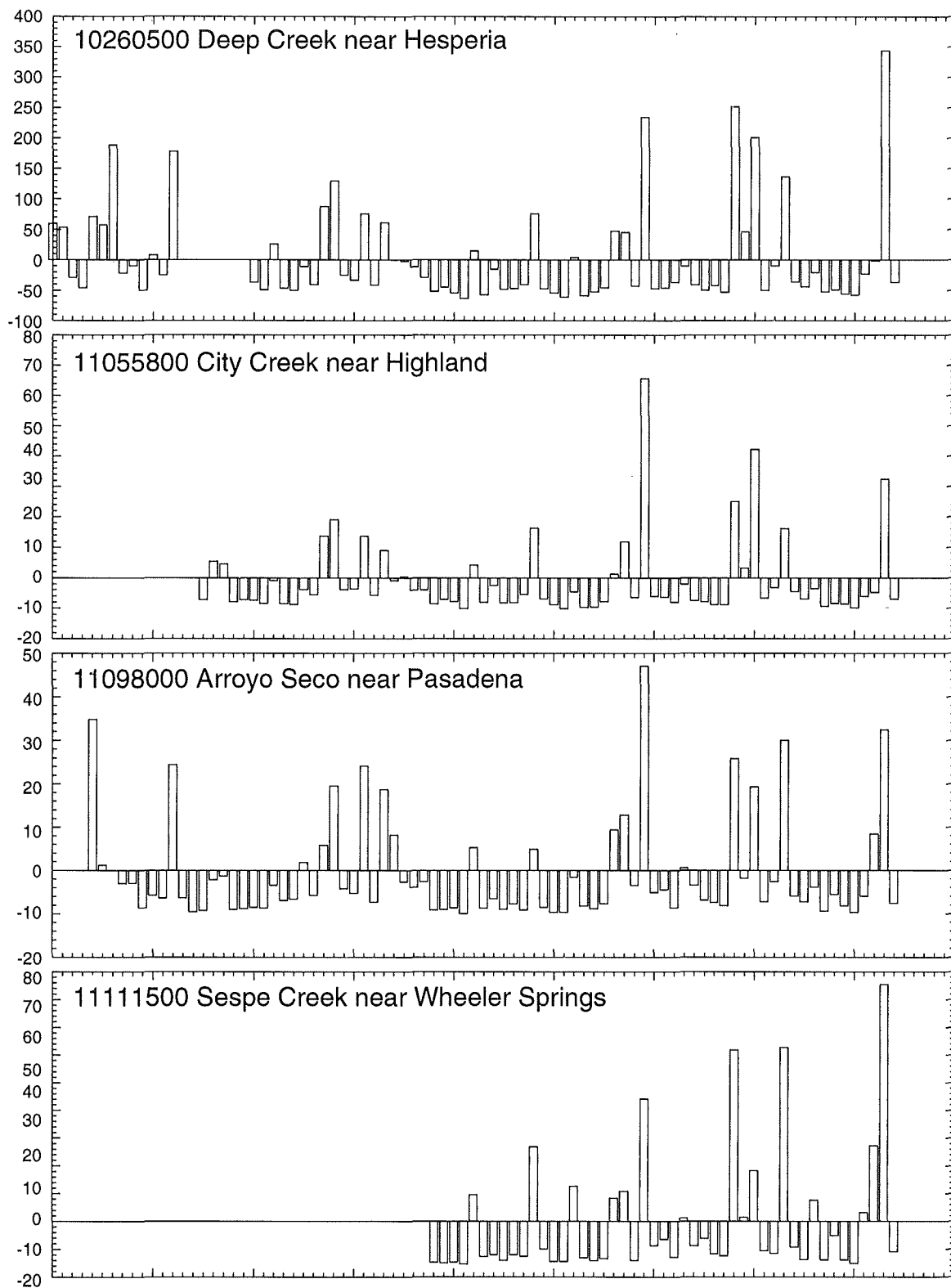


Figure 3. Annual departure from 1961-90 mean discharge for period of record at selected gaging stations.

### Water Quality

Water samples collected at two NASQAN stations reported in this volume were analyzed for water-quality constituents. Specific conductance varied from 615 microsiemens at Santa Ana River below Prado Dam (station 11074000) to 3,680 microsiemens at Alamo River at Drop No. 3, near Calipatria (station 10254670). Median dissolved-solids concentrations of the samples varied slightly from the previous year. Figure 4 shows the monthly mean dissolved-solids concentrations during water year 1994 compared with long-term mean dissolved-solids concentrations at two selected stations. The largest densities of fecal-coliform (12,600 colonies per 100 milliliters) and fecal-streptococcus bacteria (37,000 colonies per 100 milliliters) were in water samples collected from Santa Ana River below Prado Dam and Alamo River at Drop No. 3, near Calipatria, respectively.

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:

<u>Station No.</u>	<u>Station name</u>	<u>Water-quality constituent exceeding EPA water-quality criteria</u>
10254670	Alamo River at Drop No. 3, near Calipatria	Sulfate, chloride, total dissolved solids
11074000	Santa Ana River below Prado Dam	Total dissolved solids, manganese
11123500	Santa Ynez River below Los Laureles Canyon, near Santa Ynez	Sulfate, 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, manganese
11136100	San Antonio Creek near Casmalia	Sulfate, chloride, total dissolved solids, manganese
11136800	Cuyama River below Buckhorn Canyon, near Santa Maria	Sulfate, total dissolved solids
11138500	Sisquoc River near Sisquoc	Sulfate, total dissolved solids
11141050	Orcutt Creek near Orcutt	Chloride, total dissolved solids, manganese
345727120375401	Green Canyon Creek at Main Street, near Guadalupe	Sulfate, total dissolved solids, nitrite plus nitrate, manganese

### Sediment

Suspended-sediment discharge and concentrations were monitored periodically at 6 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 sediment discharge for a regulated stream was 4.6 tons per day per square mile at the Santa Ana River at Santa Ana station (11078000) on February 17, 1994. Maximum sampled sediment discharge for a non-regulated stream was 6.9 tons per day per square mile at San Timoteo Creek near Loma Linda station (11057500) on March 25, 1994.

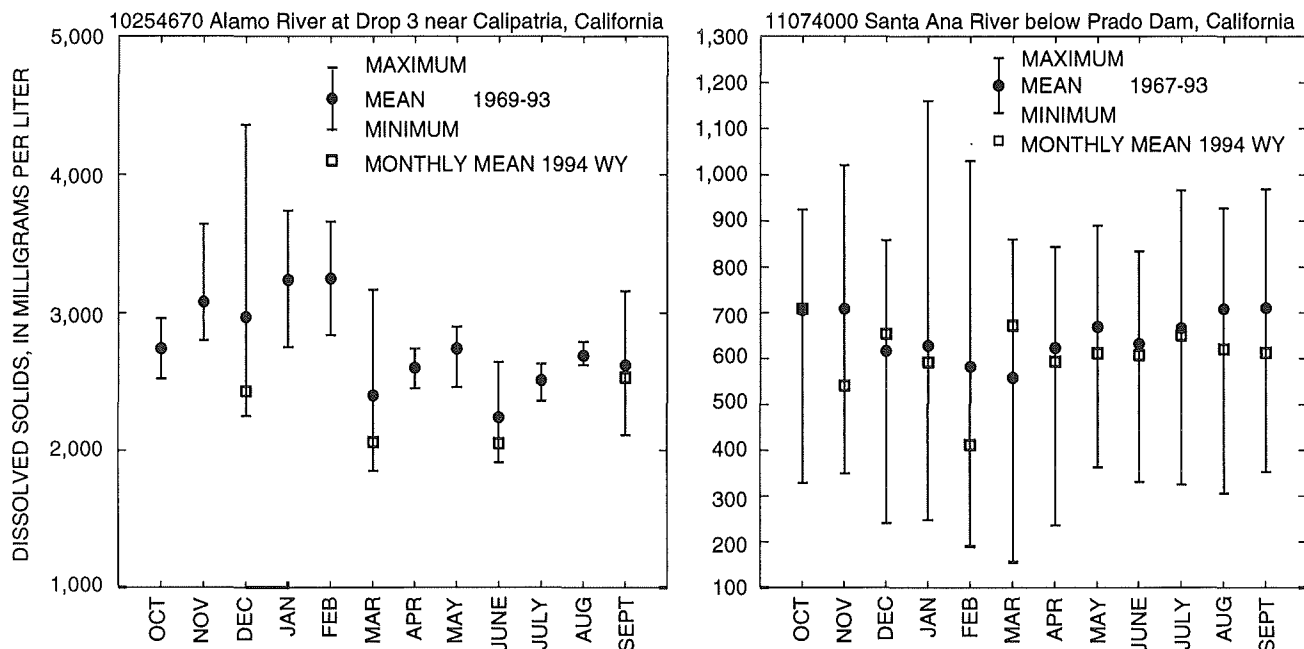


Figure 4. Comparison of monthly mean dissolved-solids concentrations during water year 1994 with long-term dissolved-solids concentrations at two selected stations.

## SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 53 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.

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 284 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 database useful for water-quality assessment and hydrologic research.

National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical Programs 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.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data also are obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

## EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1994 water year that began October 1, 1993, and ended September 30, 1994. 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.

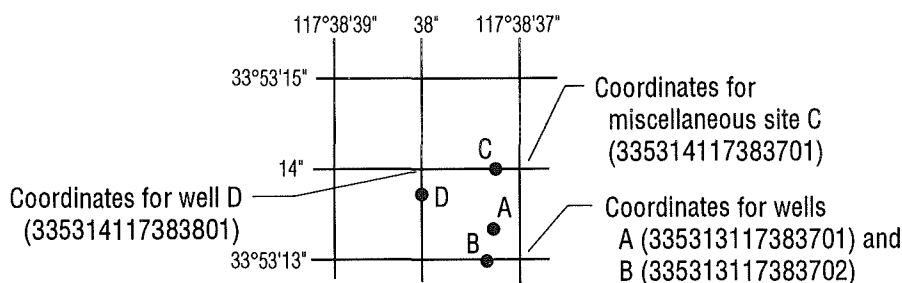


Figure 5. System for numbering miscellaneous sites (latitude and longitude).

#### 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.

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross-section area. Discharge is computed by multiplying path velocity by the appropriate stage related coefficient and area.

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 1991 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 10 percent of the time for the designated period.

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

90 PERCENT EXCEEDS.--The discharge that is exceeded 90 percent of the time 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 (1994) 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 (µg/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. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

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 to analyze sediment samples and to compute sediment records are described in the Techniques of Water-Resources Investigations, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

#### 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 are 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, are 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 are 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  $\pm$  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  $\pm$  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  $\pm$  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 ( $\pi\text{m}^3/\text{mL}$ ) 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 (ft<sup>3</sup>/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 (CaCO<sub>3</sub>).

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,  $I_0$  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, phytoplankter, or zooplankter.

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 ( $\text{m}^2$ ), 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 [mg C/(m<sup>2</sup>/time) for periphyton and macrophytes and mg C/(m<sup>3</sup>/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
<u>Genus</u> .....	<u>Hexagenia</u>
<u>Species</u> .....	<u>Hexagenia limbata</u>

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, 1994, is called the "1994 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, Branch of Information Services, Box 25286, Federal Center, Denver, CO 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to U.S. Geological Survey. 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. McCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. Borehole geophysics applied to ground-water investigations, by W.S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and W.E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 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.
- 3-A6. General procedure for gaging streams, by R.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 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.

- 3-A18. Determination of stream reaeration coefficients by use of tracers, by F.A. Kilpatrick, R.E. Rathburn, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. Levels of streamflow gaging stations, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. Simulation of soluble waste transport and buildup in surface waters using tracers, by F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 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.
- 3-B4. Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems, by R.L. Cooley: USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. The principle of superposition and its application in ground-water hydraulics, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow, by E.J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 pages.
- 3-C1. Fluvial sediment concepts, by H.P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 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.
- 4-A1. Some statistical tools in hydrology, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. Frequency curves, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. Low-flow investigations by H.C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. Storage analyses for water supply, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. Regional analyses of streamflow characteristics, by H.C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. Computation of rate and volume of stream depletion by wells, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. Methods for determination of inorganic substances in water and fluvial sediments, edited by M.J. Fishman and L.C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. Determination of minor elements in water by emission spectroscopy, by P.R. Barnett and E.C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. Methods for the determination of organic substances in water and fluvial sediments, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, by L.J. Britton and P.E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.
- 5-A5. Methods for determination of radioactive substances in water and fluvial sediments, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 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.
- 5-C1. Laboratory theory and methods for sediment analysis, by H.P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. A modular three-dimensional finite-difference ground-water flow model, by M.G. McDonald and A.W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model, by S.A. Leake and D.E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.



- 6-A3. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual, by L.J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions, by R.L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details, by L.J. Torak. USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.
- 7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L.F. Konikow and J.D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. A model for simulation of flow in singular and interconnected channels by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. Methods of measuring water levels in deep wells, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 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.

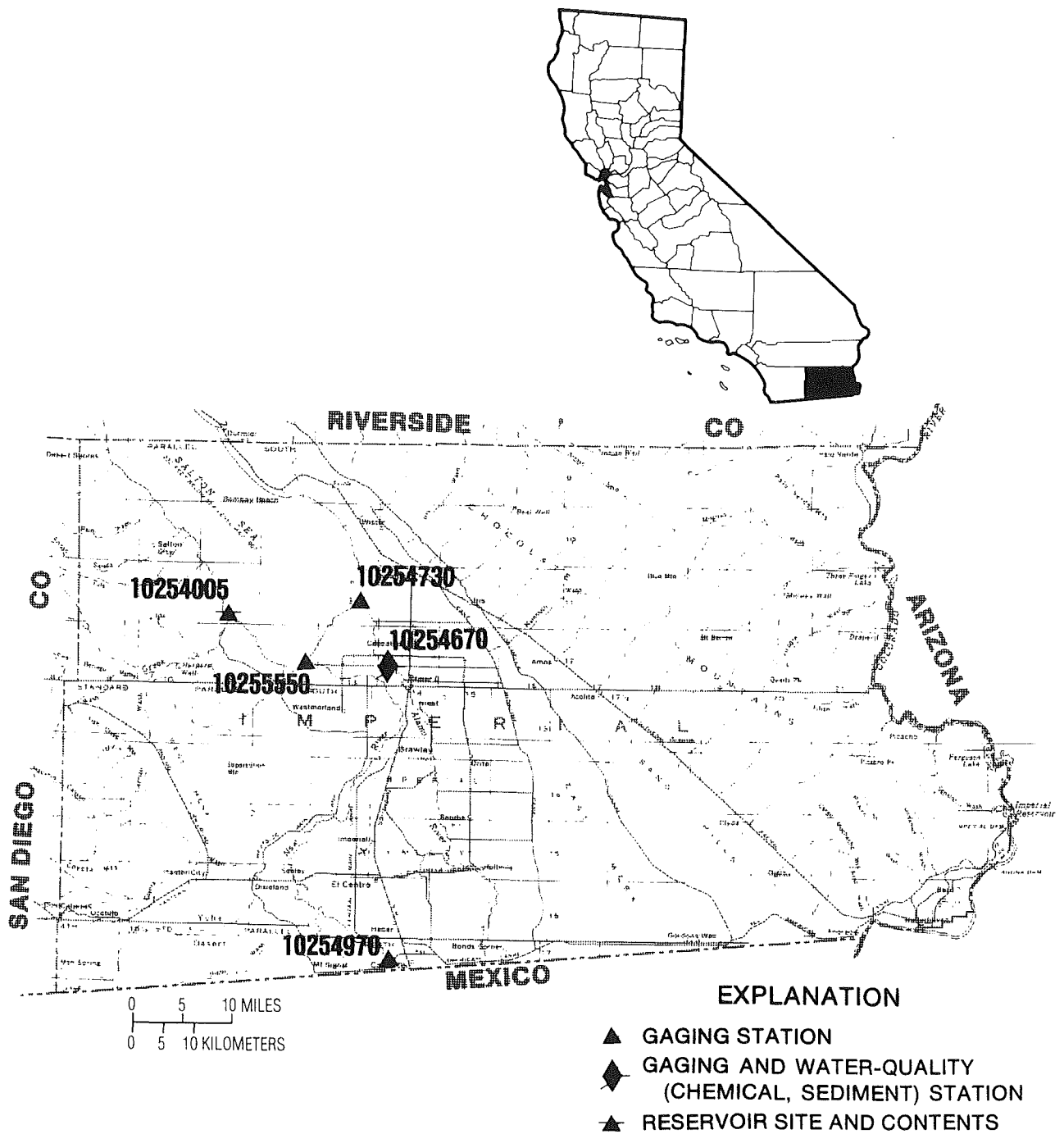


Figure 6. Location of discharge and water-quality stations in Imperial County.

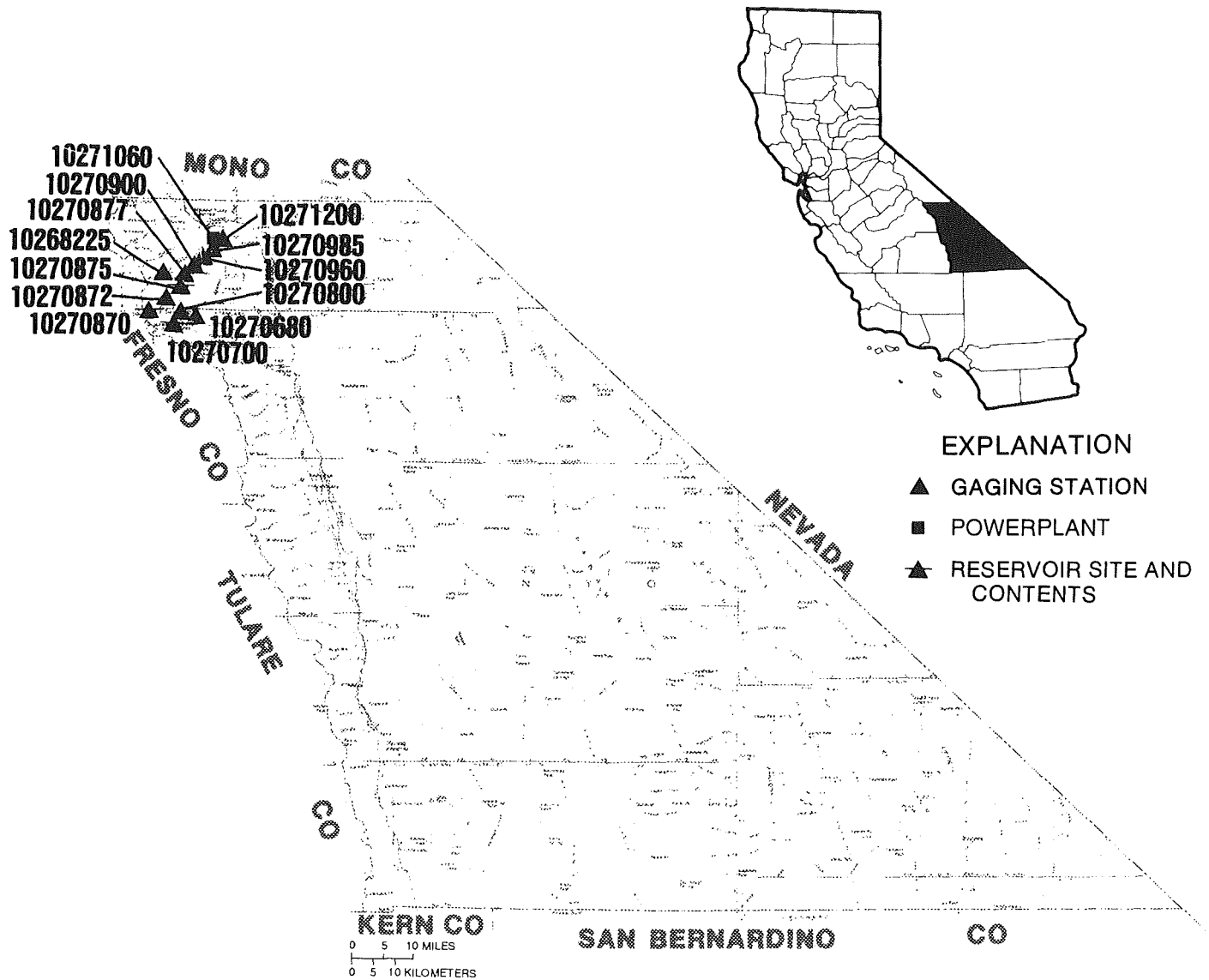


Figure 7. Location of discharge stations in Inyo County.

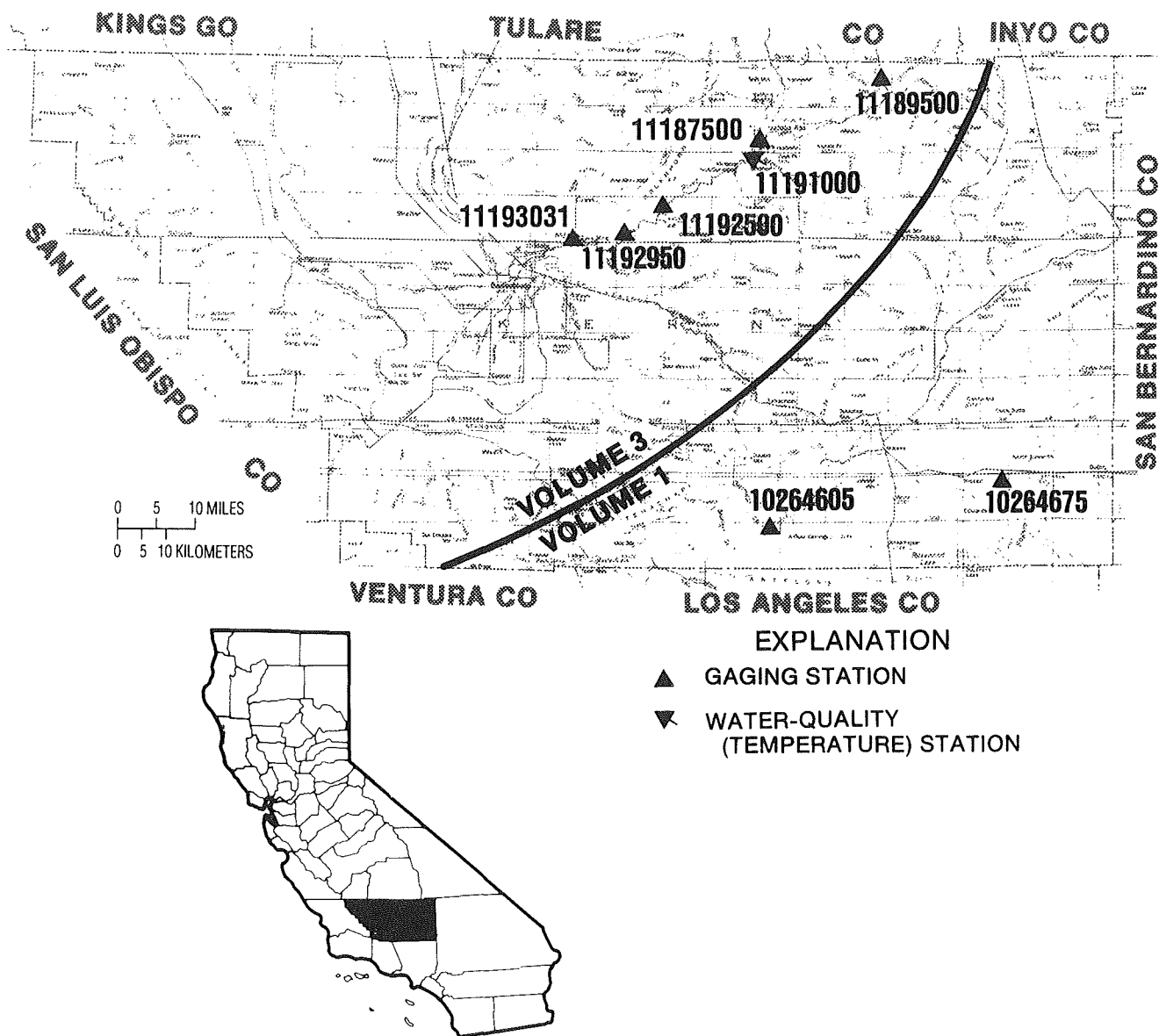


Figure 8. Location of discharge and water-quality stations in Kern County.  
 (NOTE: Records for stations 11187500 through 11193031 published in volume 3.)

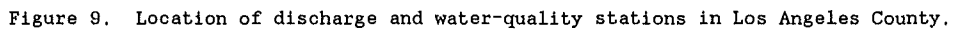


Figure 9. Location of discharge and water-quality stations in Los Angeles County.

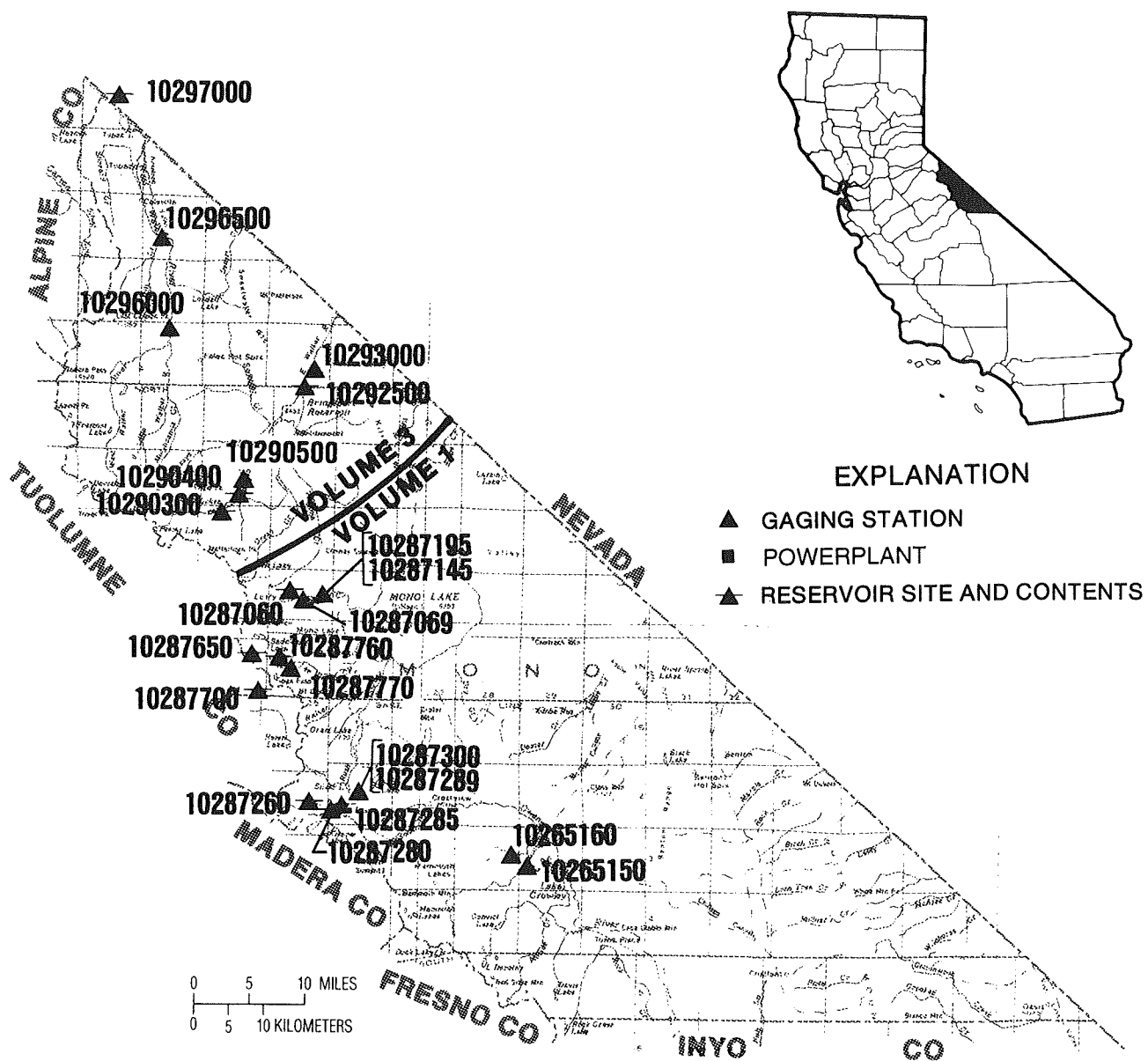


Figure 10. Location of discharge stations in Mono County.  
 (NOTE: Records for stations 10290300 through 10297000  
 published in volume 3.)



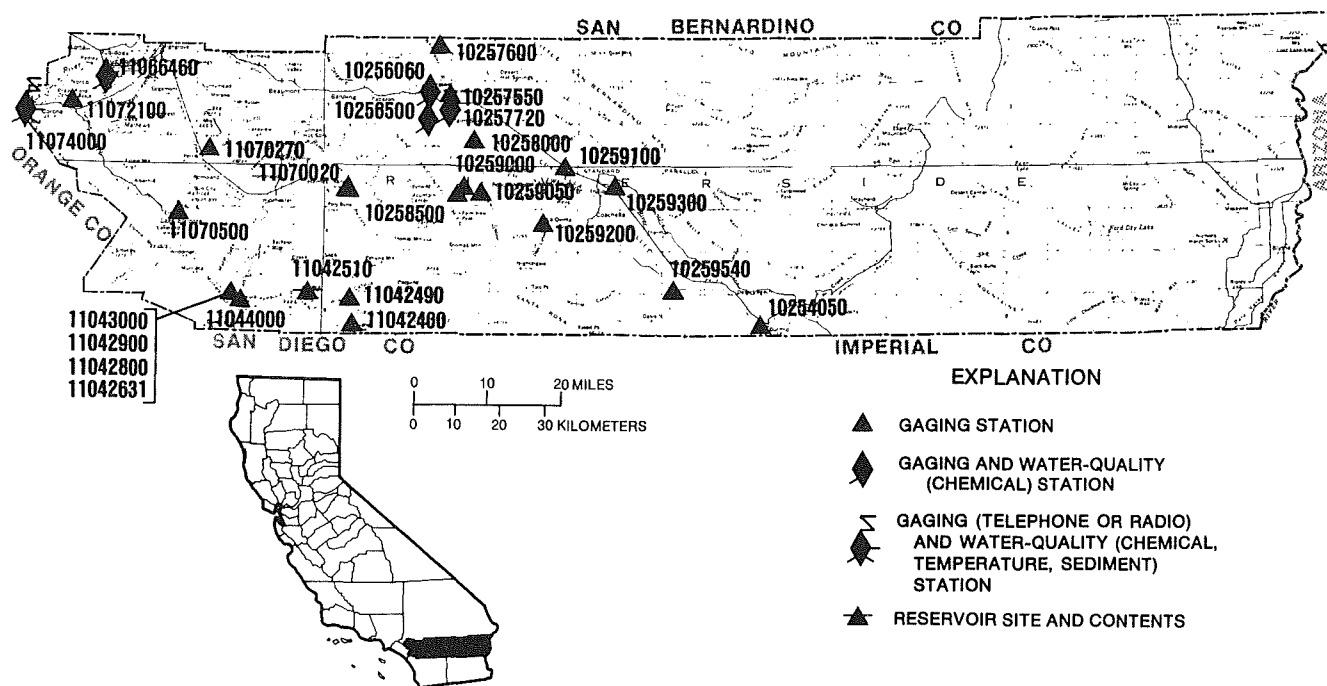


Figure 12. Location of discharge and water-quality stations in Riverside County.



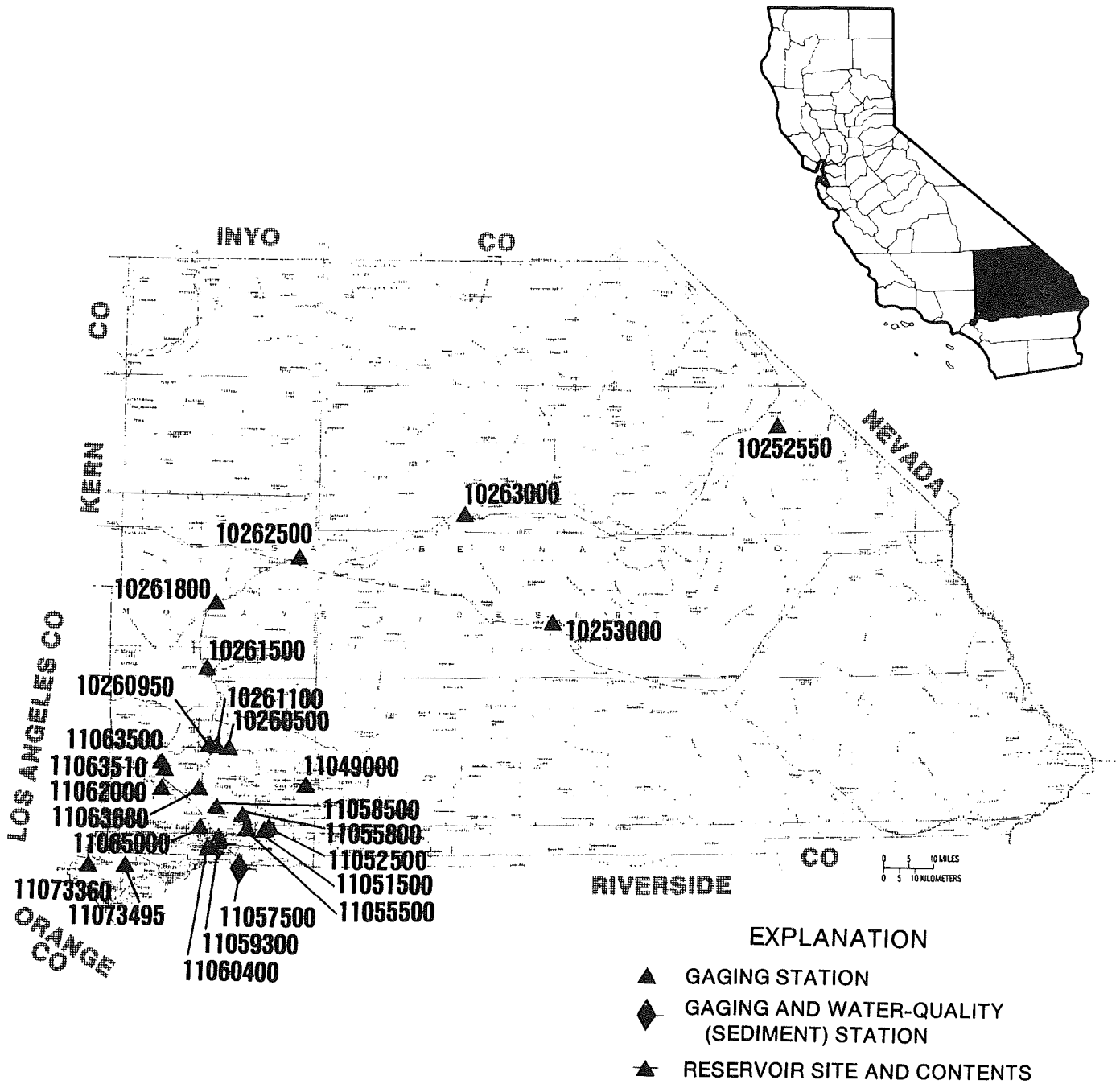
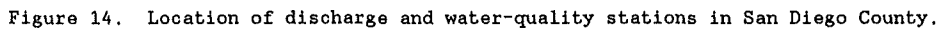


Figure 13. Location of discharge and water-quality stations in San Bernardino County.



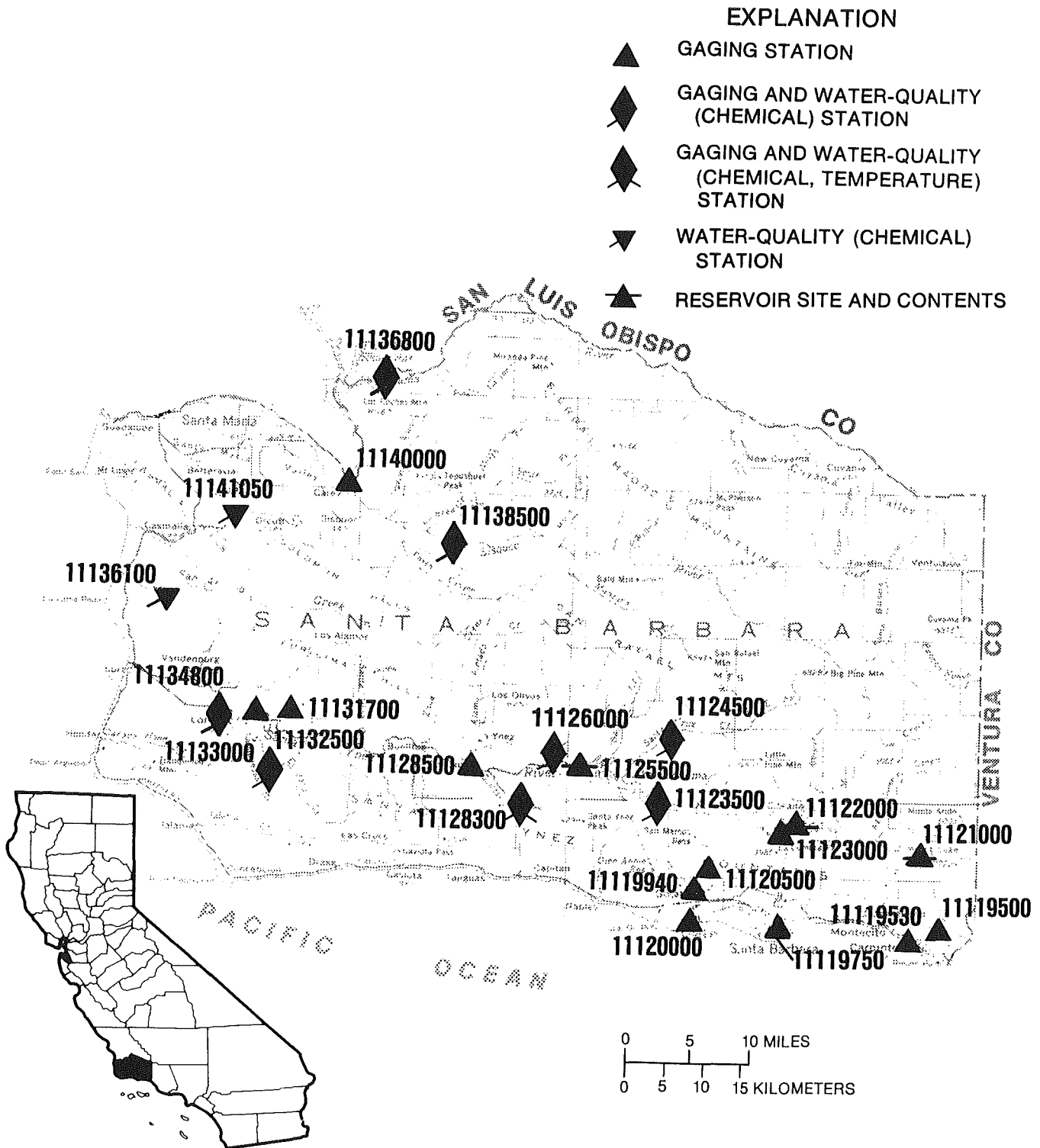


Figure 15. Location of discharge and water-quality stations in Santa Barbara County.

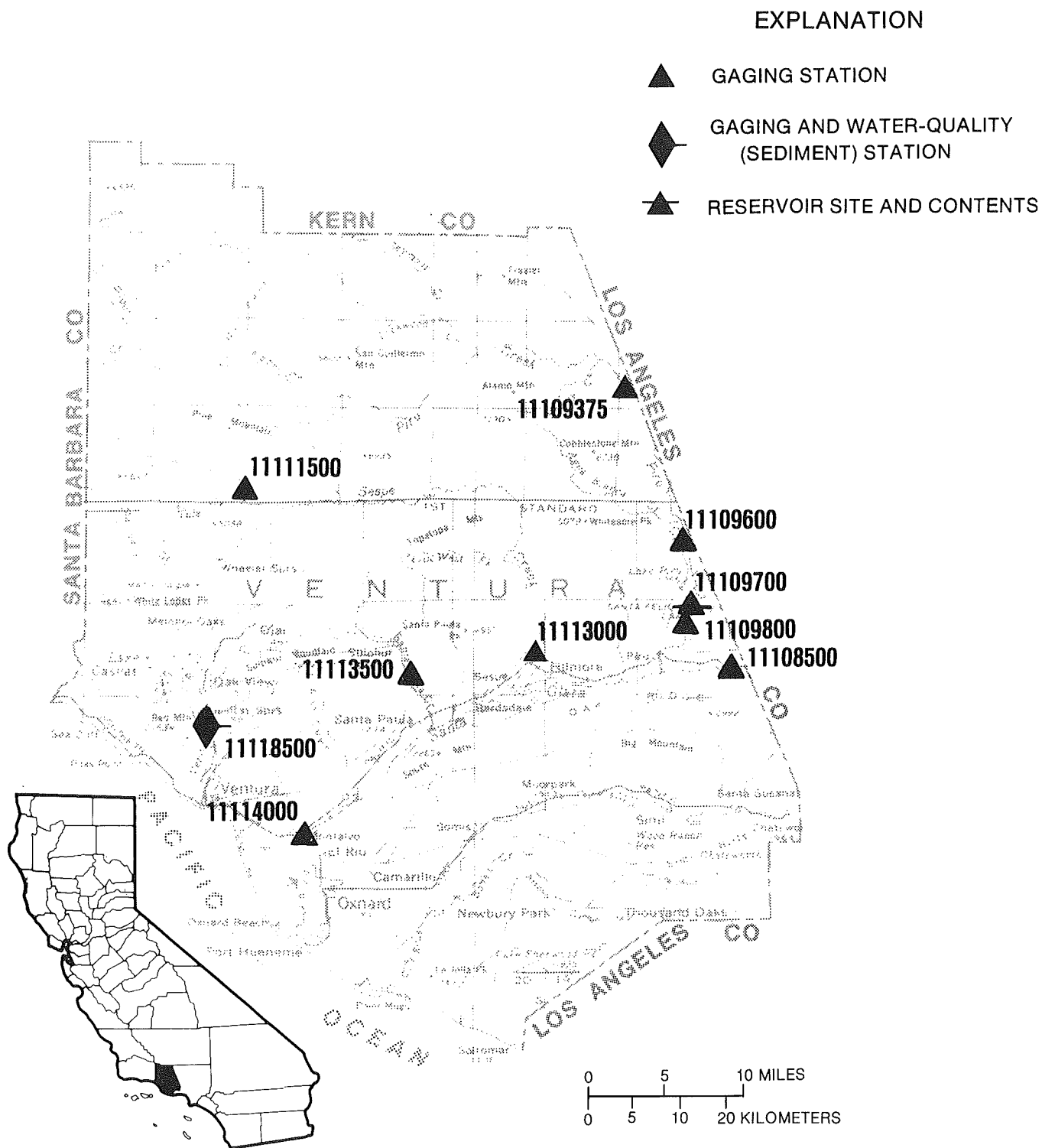


Figure 16. Location of discharge and water-quality stations in Ventura County.

## GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUTREMARK

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

## Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ( $\mu\text{g/L}$ ) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter ( $\text{ng/L}$ ). Data above the  $\mu\text{g/L}$  level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols is intended during the 1995 water year.

## Change in National Trends Network procedures

NOTE: Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).



## 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 poor. 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. 25	unknown	*1.6	*.99				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.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	.00	.00	.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	.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	.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	e.44	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	e.33	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	e.26	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	e.21	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	e.17	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	e.15	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	e1.6	.00	e.13	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	e.08	.00	e.11	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	e.10	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	e.09	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	e.08	.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	0.00	1.68	0.00	2.07	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.054	.000	.067	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	1.6	.00	.44	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	3.3	.00	4.1	.00	.00	.00	.00	.00	.00

e Estimated.

## THE GREAT BASIN

## BRISTOL LAKE BASIN--Continued

10252550 CARUTHERS CREEK NEAR IVANPAH, CA

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.096	.035	.11	.16	.20	.32	.063	.001	.002	.16	.30	.021
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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	129.85		3.75			
ANNUAL MEAN	.36		.010		.12	
HIGHEST ANNUAL MEAN					.36	
LOWEST ANNUAL MEAN					.001	
HIGHEST DAILY MEAN	20	Aug 25	1.6	Jan 25	80	Aug 12 1979
LOWEST DAILY MEAN	.00	Apr 9	.00	Oct 1	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 9	.00	Oct 1	.00	Oct 1 1963
INSTANTANEOUS PEAK FLOW			1.6	Jan 25	814	Aug 12 1979
INSTANTANEOUS PEAK STAGE			.99	Jan 25	5.75	Aug 12 1979
ANNUAL RUNOFF (AC-FT)	258		7.4		89	
10 PERCENT EXCEEDS	.59		.00		.06	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	



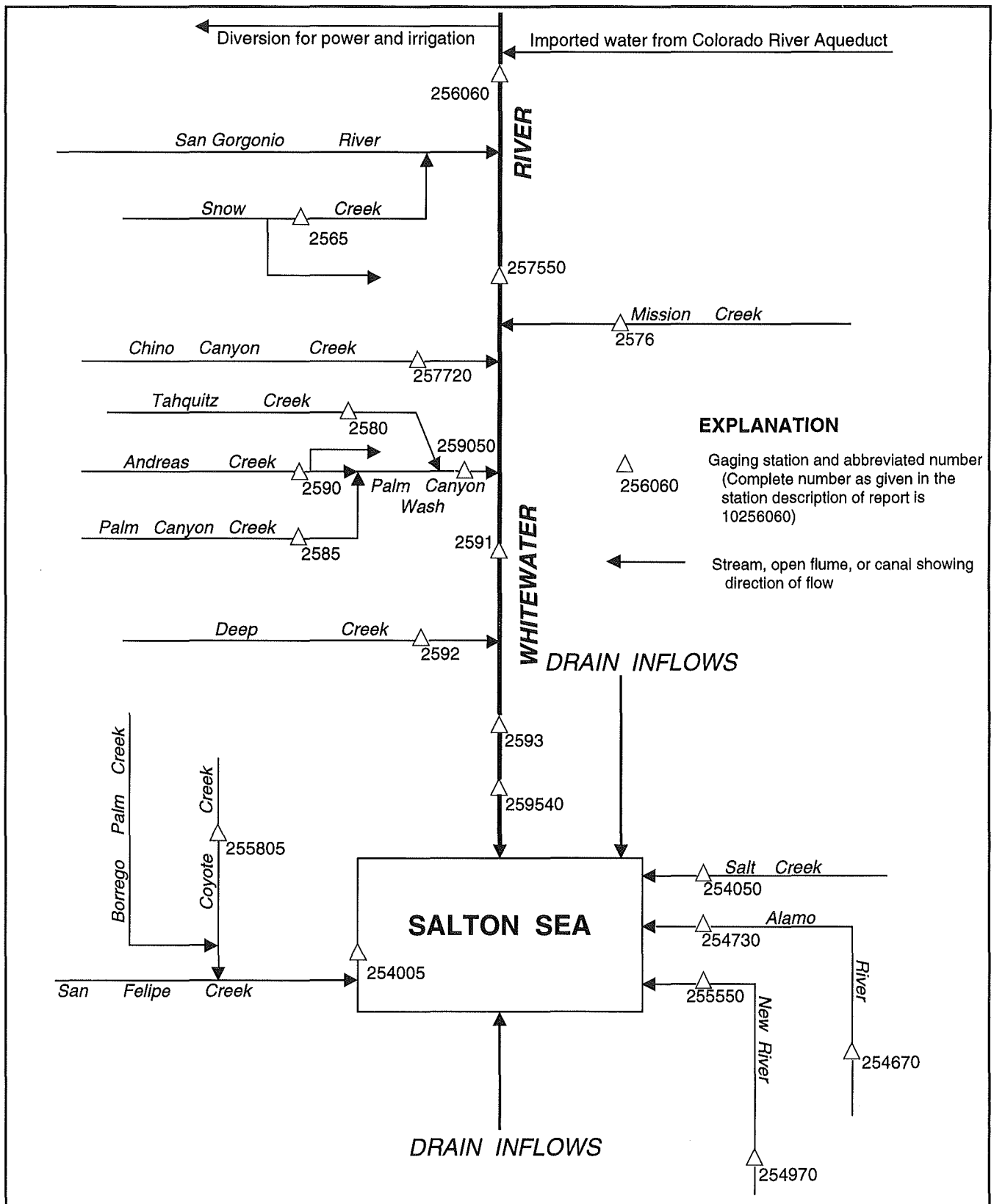


Figure 17. Diversions and storage in Salton Sea basin.

## 10254005 SALTON SEA NEAR WESTMORLAND, CA

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.

DRAINAGE AREA.--8,360 mi<sup>2</sup>, approximately.

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

REVISED RECORDS.--WDR CA-87-1: 1980-85.

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

REMARKS.--Bottom of sea is 277.7 ft below sea level. See WSP 300, 735, and 918 for condensed history of Salton Sea. See schematic diagram of Salton Sea basin.

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.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevation, 226.9 ft below sea level, June 2-10; minimum, 228.1 ft below sea level, Nov. 4-19.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-227.90	-228.00	-228.00	-227.90	-227.60	-227.50	e-227.00	-227.00	-227.00	-227.00	-227.20	-227.40
2	-227.90	-228.00	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.00	-227.20	-227.40
3	-227.90	-228.00	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.40
4	-227.90	-228.10	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.40
5	-227.90	-228.10	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.40
6	-227.90	-228.10	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.50
7	-227.90	-228.10	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.50
8	-227.90	-228.10	-228.00	-227.90	-227.60	-227.40	e-227.00	-227.00	-226.90	-227.10	-227.20	-227.50
9	-227.90	-228.10	-228.00	-227.80	-227.60	-227.30	e-227.00	-227.00	-226.90	-227.10	e-227.30	-227.50
10	-227.90	-228.10	-228.00	-227.80	-227.60	-227.30	e-227.00	-227.00	-226.90	-227.10	e-227.30	-227.50
11	-228.00	-228.10	-228.00	-227.80	-227.60	-227.30	e-227.00	-227.00	-227.00	-227.10	e-227.30	-227.50
12	-228.00	-228.10	-228.00	-227.80	-227.60	-227.30	e-227.00	-227.00	-227.00	-227.10	-227.30	-227.50
13	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	e-227.00	-227.00	-227.00	-227.10	-227.30	-227.60
14	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	e-227.00	-227.00	-227.00	-227.10	-227.30	-227.60
15	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	e-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
16	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
17	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
18	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
19	-228.00	-228.10	-228.00	-227.80	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
20	-228.00	-228.00	-228.00	-227.80	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
21	-228.00	-228.00	-228.00	-227.70	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
22	-228.00	-228.00	-228.00	-227.70	-227.60	-227.20	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
23	-228.00	-228.00	-228.00	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
24	-228.00	-228.00	-228.00	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
25	-228.00	-228.00	-228.00	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.30	-227.60
26	-228.00	-228.00	-228.00	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60
27	-228.00	-228.00	-227.90	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60
28	-228.00	-228.00	-227.90	-227.70	-227.50	-227.10	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60
29	-228.00	-228.00	-227.90	-227.70	---	-227.10	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60
30	-228.00	-228.00	-227.90	-227.70	---	-227.10	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60
31	-228.00	---	-227.90	-227.60	---	e-227.00	---	-227.00	---	-227.20	-227.40	---
MAX	-227.90	-228.00	-227.90	-227.60	-227.50	-227.00	-227.00	-227.00	-226.90	-227.00	-227.20	-227.40
MIN	-228.00	-228.10	-228.00	-227.90	-227.60	-227.50	-227.00	-227.00	-227.00	-227.20	-227.40	-227.60

CAL YR 1993 MAX -226.90 MIN -228.60

WTR YR 1994 MAX -226.90 MIN -228.10

e Estimated.

## 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	106	135	135	122	128	133	131	172	156	167	184	135
New River	12650	14540	16330	13340	14920	16720	12740	15750	11520	8530	10400	10490
CAL YR 1993:	Alamo River		1,640 acre-ft			WTR YR 1994:		1,700 acre-ft				
CAL YR 1993:	New River		190,400 acre-ft			WTR YR 1994:		157,900 acre-ft				

## SALTON SEA BASIN

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 fair. No regulation or diversion upstream from station. No discharge records computed above 20 ft<sup>3</sup>/s since October 1990. See schematic diagram of Salton Sea basin.

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); no flow Aug. 1 to Sept. 11, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	1.1	3.1	3.7	3.7	3.7	3.3	1.6	.59	.11	.00	.00
2	.70	1.2	3.0	3.7	3.7	3.6	3.1	1.4	.53	.09	.00	.00
3	.71	1.1	2.8	3.8	3.8	3.6	3.0	1.4	.49	.08	.00	.00
4	.72	1.1	2.8	3.8	4.0	3.7	2.7	1.3	.47	.07	.00	.00
5	.73	1.2	2.8	3.8	4.3	3.7	2.3	1.2	.44	.06	.00	.00
6	.72	1.3	2.9	3.9	4.1	3.7	2.0	1.2	.40	.06	.00	.00
7	.74	1.3	3.0	3.7	4.1	7.5	2.0	1.1	.38	.05	.00	.00
8	.77	1.3	3.1	3.6	4.6	11	2.1	1.1	.40	.04	.00	.00
9	.80	1.3	3.2	3.7	4.4	6.3	2.1	1.1	.40	.04	.00	.00
10	.83	1.4	3.5	3.8	4.0	5.0	2.0	1.2	.35	.03	.00	.00
11	.88	1.4	3.3	3.7	3.9	4.7	2.0	1.1	.29	.03	.00	.00
12	.90	1.5	3.4	3.7	3.8	4.4	1.9	1.0	.26	.04	.00	.01
13	.91	1.4	3.4	3.7	3.6	4.0	1.8	.99	.26	.04	.00	.02
14	.92	3.2	3.3	3.7	3.6	3.7	1.9	.92	.25	.04	.00	.03
15	.93	4.2	3.5	3.7	3.7	3.7	1.8	.86	.24	.04	.00	.03
16	.93	3.2	3.5	3.8	3.7	3.8	1.8	.79	.24	.04	.00	.03
17	.98	2.8	3.4	3.7	3.8	3.9	1.8	.78	.24	.06	.00	.03
18	1.0	2.9	3.4	3.7	4.0	3.9	1.7	.77	.24	.06	.00	.04
19	.96	2.8	3.5	3.7	4.0	12	1.6	.83	.23	.06	.00	.04
20	.96	2.7	3.5	3.7	3.8	9.6	1.4	.85	.22	.06	.00	.04
21	.93	2.7	3.5	3.7	3.8	6.0	1.3	.84	.22	.06	.00	.05
22	.97	2.8	3.5	3.7	3.9	4.6	1.3	.79	.22	.06	.00	.06
23	1.0	3.0	3.5	3.8	3.9	4.1	1.2	.77	.20	.05	.00	.06
24	1.1	2.9	3.4	3.8	3.8	3.8	1.2	.73	.19	.05	.00	.06
25	1.1	2.8	3.4	3.8	3.7	3.7	1.2	.79	.17	.04	.00	.07
26	1.0	2.7	3.6	3.8	3.7	3.9	1.3	.86	.15	.02	.00	.07
27	.98	2.7	3.7	3.8	3.8	4.0	1.6	.85	.14	.01	.00	.07
28	.94	2.9	3.7	4.2	3.8	3.7	1.8	.80	.16	.02	.00	.07
29	.94	3.0	3.8	4.0	---	3.6	1.8	.69	.15	.03	.00	.07
30	1.0	3.0	3.7	3.7	---	3.5	1.7	.64	.13	.03	.00	.08
31	1.1	---	3.7	3.7	---	3.4	---	.62	---	.02	.00	---
TOTAL	27.84	66.9	103.9	116.6	109.0	149.8	56.7	29.87	8.65	1.49	0.00	0.93
MEAN	.90	2.23	3.35	3.76	3.89	4.83	1.89	.96	.29	.048	.000	.031
MAX	1.1	4.2	3.8	4.2	4.6	12	3.3	1.6	.59	.11	.00	.08
MIN	.69	1.1	2.8	3.6	3.6	3.4	1.2	.62	.13	.01	.00	.00
AC-FT	55	133	206	231	216	297	112	59	17	3.0	.00	1.8

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	
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.--No estimated daily discharges. Records good. Flow is mainly return from irrigated areas. See schematic diagram of Salton Sea basin.

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, 1,620 ft<sup>3</sup>/s, Apr. 30, gage height, 2.99 ft; minimum daily, 385 ft<sup>3</sup>/s, Jan. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	909	595	497	536	729	1130	1170	807	908	939	754
2	1060	872	642	394	560	795	1190	1070	855	889	863	808
3	1010	850	635	385	597	867	1110	1080	854	795	809	740
4	961	887	646	513	638	852	1050	1080	910	822	804	764
5	968	933	674	624	667	941	1020	1150	935	849	812	769
6	925	870	635	650	627	1000	1080	1120	925	801	832	752
7	892	850	669	631	609	1010	1170	1140	835	854	859	704
8	905	756	676	645	604	1070	1130	1150	827	803	881	758
9	875	751	705	627	446	866	1190	1150	852	819	825	820
10	947	783	705	572	396	755	1230	1140	903	808	853	837
11	880	850	666	596	408	706	1240	1110	897	788	861	757
12	850	848	635	602	401	676	1170	1080	868	873	842	721
13	855	809	570	568	437	647	1220	1030	817	870	850	702
14	851	837	601	667	448	704	1270	1050	795	873	796	754
15	884	924	633	720	536	789	1280	1000	803	887	847	867
16	963	630	650	719	648	905	1230	933	879	871	884	899
17	976	623	720	631	700	1060	1240	872	902	951	878	948
18	923	602	738	617	811	1090	1270	891	1010	950	941	946
19	890	579	676	656	671	1240	1240	869	986	947	875	944
20	852	518	649	662	616	1310	1270	989	945	949	846	926
21	840	507	619	679	574	1010	1330	991	960	927	855	928
22	828	490	670	679	570	868	1320	958	953	869	758	992
23	834	488	690	666	604	898	1200	879	934	839	735	1010
24	823	540	627	629	643	880	1220	888	860	875	766	1010
25	736	555	519	603	691	897	1240	972	886	964	752	986
26	795	510	412	644	750	803	1200	1040	847	932	823	862
27	792	529	393	654	780	810	1200	1030	867	982	941	866
28	806	589	484	667	724	749	1230	931	873	916	917	891
29	828	591	538	592	---	798	1250	796	896	966	895	841
30	851	604	523	607	---	895	1310	726	957	963	872	860
31	871	---	553	554	---	1000	---	716	---	979	817	---
TOTAL	27501	21084	19148	18950	16692	27620	36230	31001	26638	27519	26228	25416
MEAN	887	703	618	611	596	891	1208	1000	888	888	846	847
MAX	1060	933	738	720	811	1310	1330	1170	1010	982	941	1010
MIN	736	488	393	385	396	647	1020	716	795	788	735	702
AC-FT	54550	41820	37980	37590	33110	54780	71860	61490	52840	54580	52020	50410

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	785	665	541	524	596	809	960	842	686	679	708	728
MAX	895	809	666	640	718	904	1208	1000	888	888	846	847
(WY)	1992	1991	1991	1993	1991	1992	1994	1994	1994	1994	1994	1994
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1979 - 1994			
ANNUAL TOTAL	282525				304027							
ANNUAL MEAN	774				833				710			
HIGHEST ANNUAL MEAN									833			
LOWEST ANNUAL MEAN									628			
HIGHEST DAILY MEAN	2100				Jan 17				1330			
LOWEST DAILY MEAN	289				Jan 4				385			
ANNUAL SEVEN-DAY MINIMUM	391				Jan 1				439			
INSTANTANEOUS PEAK FLOW									1620			
INSTANTANEOUS PEAK STAGE									2.99			
ANNUAL RUNOFF (AC-FT)	560400				603000				514600			
10 PERCENT EXCEEDS	1030				1110				932			
50 PERCENT EXCEEDS	780				850				696			
90 PERCENT EXCEEDS	471				590				499			

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 September 1994 (discontinued).

CHEMICAL DATA: Water years 1969-70, 1975-77, 1979 to September 1994 (discontinued).

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 September 1994 (discontinued).

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 1993 TO SEPTEMBER 1994

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, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
DEC 14...	0915	608	3680	8.1	12.5	87	765	10.1	96	K4400	4000	890
MAR 16...	1030	907	3090	8.0	19.0	180	764	8.2	89	K9000	K37000	760
JUN 16...	0830	836	3070	7.8	26.5	130	763	6.4	80	K500	K3200	790
SEP 14...	0930	753	3670	8.0	23.0	110	761	7.4	87	K2200	K3100	960
DATE	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	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DEC 14...	660	190	100	480	54	7	11	278	0	228	890	540
MAR 16...	570	160	86	390	53	6	10	233	0	191	740	460
JUN 16...	590	170	88	400	52	6	13	248	0	203	730	450
SEP 14...	760	200	110	470	51	7	12	244	0	200	900	520
DATE	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)	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, DIS- SOLVED (MG/L AS P)
DEC 14...	0.60	15	2430	2400	3.30	0.370	8.10	0.980	2.1	0.460	0.240	0.230
MAR 16...	0.50	11	2060	2010	2.80	0.740	6.40	2.10	3.3	0.860	0.640	0.660
JUN 16...	0.50	13	2050	2020	2.79	1.00	5.50	1.60	4.1	1.00	0.520	0.520
SEP 14...	0.60	14	2530	2380	3.44	0.450	6.70	1.10	2.2	0.360	0.150	0.150



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

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	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 14...	20	<100	<1	30	180	10	15	2	7	<1.0	3500	15
MAR 16...	<10	<100	<1	20	150	10	10	1	6	<1.0	2700	15
JUN 16...	20	<100	<1	30	150	20	15	2	4	<1.0	2800	16
SEP 14...	20	100	<1	<10	180	<10	12	2	6	<1.0	3300	15

## CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR											
16...*	0850	8.10	12.0	3050	7.8	19.0	764	8.0	87	536	89
16...*	0900	8.20	22.0	3050	7.8	19.0	764	8.2	89	560	85
16...*	0910	10.1	31.0	3050	7.8	19.5	764	8.2	90	606	80
16...*	0915	8.10	40.0	3080	7.8	19.5	764	8.2	90	678	73
16...*	0925	7.40	50.0	3120	7.8	19.5	764	8.2	90	590	81
SEP											
14...*	0810	7.70	13.0	3670	8.0	22.5	761	7.3	85	522	94
14...*	0815	8.00	23.0	3670	8.0	22.0	761	7.4	86	481	88
14...*	0825	9.70	32.0	3650	8.0	22.0	761	7.4	86	526	94
14...*	0830	8.00	41.0	3620	8.0	22.0	761	7.4	86	542	82
14...*	0840	7.50	50.0	3560	8.0	22.0	761	7.4	86	517	90

\* Instantaneous streamflow at the time of cross-sectional measurement: Mar. 16, 883 ft<sup>3</sup>/s,  
Sept. 14, 760 ft<sup>3</sup>/s.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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						
14...	0915	608	12.5	256	420	93
MAR						
16...	0905	888	19.0	594	1420	82
16...	1030	907	19.0	578	1420	83
JUN						
16...	0830	836	26.5	648	1460	90
SEP						
14...	0820	765	22.5	518	1070	90
14...	0930	753	23.0	503	1020	90

## SALTON SEA BASIN

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 except for estimated daily discharges, which are poor. Discharge mainly represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea basin.

COOPERATION.--Gage-height record provided by Imperial Irrigation District.

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, 1,380 ft<sup>3</sup>/s, Apr. 24; minimum daily, 430 ft<sup>3</sup>/s, Feb. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	e930	e630	569	e560	767	1150	1200	880	971	985	822
2	1100	904	e670	490	e590	831	e1220	1110	929	997	922	841
3	1040	880	e660	468	e630	914	1190	1120	980	971	897	799
4	980	921	e680	552	e690	935	1180	1120	954	954	886	790
5	971	963	e700	657	e700	986	1070	1160	946	971	863	810
6	938	904	e700	766	e670	1030	1120	1270	946	913	932	794
7	e920	880	e710	717	e650	1050	1200	1200	856	938	927	776
8	e930	766	e710	696	e660	1130	1260	1200	e860	913	930	811
9	e910	781	e730	663	e500	1070	1290	1180	e900	898	930	857
10	e980	810	e730	600	e440	997	1260	1170	e950	e890	996	871
11	929	904	e710	625	e440	1050	1270	1150	e940	907	874	829
12	864	856	e660	631	e430	1020	1200	1030	888	907	879	797
13	e870	e840	e610	593	e470	943	1250	1060	864	955	894	771
14	872	849	e640	703	e480	979	1300	1080	880	956	860	786
15	896	e950	e670	752	e560	1060	1310	1040	896	940	e890	e900
16	e980	e690	e700	766	e680	1120	1250	966	963	957	969	e930
17	1020	e650	745	683	e780	1160	1280	1040	963	1020	955	e1000
18	963	e630	803	663	933	1160	1310	977	e1050	1030	1060	970
19	921	e610	752	703	784	1250	1260	898	e1020	1060	1000	979
20	880	e550	752	724	649	1360	1240	1010	988	1070	980	969
21	872	e530	676	730	610	1110	1360	1020	997	1050	896	956
22	864	e520	745	759	e600	998	1320	988	1010	1010	1030	e1050
23	856	e510	810	738	e630	1010	1350	1010	963	940	e850	1060
24	849	e570	690	703	e670	1110	1380	1020	946	945	e890	1040
25	759	e590	593	781	e720	1100	1340	1010	938	1020	778	1010
26	818	e540	501	781	e780	1030	1320	1070	888	1020	963	923
27	825	e560	474	773	793	1000	1270	e1100	896	1060	1040	913
28	833	e620	552	759	779	973	1260	963	913	1040	977	950
29	856	e620	618	e620	---	992	1280	929	938	1000	926	917
30	872	e630	625	e640	---	1080	1340	822	980	997	914	895
31	e890	---	618	e590	---	1100	---	880	---	1010	876	---
TOTAL	28308	21958	20864	20895	17878	32315	37830	32793	28122	30310	28769	26816
MEAN	913	732	673	674	638	1042	1261	1058	937	978	928	894
MAX	1100	963	810	781	933	1360	1380	1270	1050	1070	1060	1060
MIN	759	510	474	468	430	767	1070	822	856	890	778	771
AC-FT	56150	43550	41380	41450	35460	64100	75040	65040	55780	60120	57060	53190

e Estimated.

10254730 ALAMO RIVER NEAR NILAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	951	759	638	644	762	968	1086	958	815	820	841	906
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1961 - 1994			
ANNUAL TOTAL	309072				326858							
ANNUAL MEAN	847				896				846			
HIGHEST ANNUAL MEAN									991			
LOWEST ANNUAL MEAN									680			
HIGHEST DAILY MEAN	2470				Jan 17				4500			
LOWEST DAILY MEAN	336				Jan 4				288			
ANNUAL SEVEN-DAY MINIMUM	411				Jan 1				323			
ANNUAL RUNOFF (AC-FT)	613000				474				Feb 9			
10 PERCENT EXCEEDS	1120				648300				612800			
50 PERCENT EXCEEDS	856				1160				1110			
90 PERCENT EXCEEDS	515				913				837			
					620				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.--No estimated daily discharges. Records good. Discharge represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea basin.

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, 454 ft<sup>3</sup>/s, Nov. 15, gage height, 11.46 ft; minimum daily, 129 ft<sup>3</sup>/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	208	206	251	249	239	225	258	245	149	139	162
2	206	209	210	247	242	236	220	267	247	140	141	168
3	203	214	219	245	226	243	224	289	232	139	150	167
4	214	216	221	252	214	251	216	301	229	136	148	160
5	218	215	238	257	198	253	219	302	222	139	152	161
6	207	214	244	247	198	259	220	300	217	137	163	159
7	196	217	249	234	227	262	218	280	220	140	159	159
8	192	229	262	230	236	281	215	264	221	141	163	165
9	192	242	284	228	298	311	208	259	225	144	174	168
10	187	241	312	218	328	326	211	263	242	142	171	164
11	186	230	298	209	324	325	230	278	238	148	169	161
12	203	214	281	208	338	320	234	282	220	150	165	158
13	212	213	267	208	346	324	215	269	228	153	152	155
14	220	262	275	209	363	327	208	246	234	149	156	155
15	213	281	297	212	351	322	207	235	236	141	179	163
16	212	291	285	212	336	316	206	222	201	138	188	164
17	214	318	272	212	316	303	205	211	174	140	190	165
18	211	318	265	215	271	286	208	222	159	133	184	164
19	212	296	260	214	248	276	207	254	151	134	192	165
20	214	288	254	210	247	257	207	248	142	132	189	165
21	214	293	255	206	244	260	213	240	149	131	187	208
22	213	286	245	203	252	261	213	255	158	130	190	193
23	207	267	242	202	256	257	208	254	160	136	185	200
24	205	247	250	195	244	248	208	256	154	137	182	210
25	205	243	264	191	240	242	203	253	150	134	176	211
26	207	232	288	187	241	238	203	261	146	139	170	208
27	201	217	305	188	245	240	205	255	147	138	173	211
28	196	212	319	193	246	235	202	236	150	137	158	210
29	199	209	314	201	---	243	218	229	153	130	168	202
30	204	210	289	212	---	251	249	225	157	129	170	186
31	206	---	264	227	---	238	---	229	---	137	162	---
TOTAL	6376	7332	8234	6723	7524	8430	6425	7943	5807	4303	5245	5287
MEAN	206	244	266	217	269	272	214	256	194	139	169	176
MAX	220	318	319	257	363	327	249	302	247	153	192	211
MIN	186	208	206	187	198	235	202	211	142	129	139	155
AC-FT	12650	14540	16330	13340	14920	16720	12740	15750	11520	8530	10400	10490

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	239	229	267	270	275	291	303	276	231	244	286	260
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	139	169	152
(WY)	1993	1993	1980	1980	1991	1991	1991	1990	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1980 - 1994			
ANNUAL TOTAL	95980				79629							
ANNUAL MEAN	263				218				264			
HIGHEST ANNUAL MEAN									362			
LOWEST ANNUAL MEAN									186			
HIGHEST DAILY MEAN	540				363				735			
LOWEST DAILY MEAN	186				129				124			
ANNUAL SEVEN-DAY MINIMUM	195				133				127			
INSTANTANEOUS PEAK FLOW					454				833			
INSTANTANEOUS PEAK STAGE					11.46				14.73			
ANNUAL RUNOFF (AC-FT)	190400				157900				191400			
10 PERCENT EXCEEDS	357				287				375			
50 PERCENT EXCEEDS	242				214				247			
90 PERCENT EXCEEDS	204				150				166			

## 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.--No estimated daily discharges. Records good. Discharge mainly represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea basin.

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, 933 ft<sup>3</sup>/s, Mar. 20; minimum daily, 515 ft<sup>3</sup>/s, Nov. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	649	633	548	572	546	654	866	829	627	629	610	600
2	651	616	560	558	593	678	883	818	645	628	619	597
3	657	647	584	542	605	692	849	831	671	622	622	588
4	624	644	578	568	628	679	806	840	675	600	624	597
5	610	605	589	583	628	696	797	858	697	574	657	604
6	612	615	599	600	580	734	787	867	659	587	607	579
7	621	639	597	605	553	767	812	874	661	576	625	573
8	656	636	584	620	559	826	858	865	661	586	634	556
9	642	616	610	621	535	778	853	793	669	593	658	550
10	648	634	624	606	537	751	830	803	643	581	664	557
11	617	634	633	597	588	726	813	819	678	566	671	565
12	610	603	636	601	619	737	806	817	684	601	657	532
13	635	573	606	598	610	708	815	839	634	589	664	555
14	657	604	630	607	622	713	799	839	605	591	640	534
15	672	639	619	611	671	746	803	784	631	601	645	539
16	684	648	647	614	688	772	817	763	681	603	633	565
17	666	574	671	597	725	837	824	776	676	583	619	578
18	632	577	664	617	740	837	828	704	647	601	627	599
19	650	581	659	635	717	931	834	683	640	601	637	594
20	667	576	626	659	635	933	848	729	612	634	648	634
21	656	556	653	657	582	917	839	778	590	596	642	614
22	647	557	646	647	585	890	846	720	611	599	649	622
23	642	571	683	619	590	777	841	708	619	566	621	663
24	637	569	637	565	638	784	830	746	626	579	633	683
25	610	543	575	588	682	748	820	762	617	589	640	655
26	600	519	538	563	677	732	808	765	612	592	642	630
27	601	541	570	583	701	727	791	775	597	608	655	624
28	618	529	616	585	703	716	790	781	626	633	668	615
29	608	515	626	564	---	733	785	704	604	642	613	647
30	589	529	661	526	---	748	787	664	632	655	582	642
31	592	---	614	516	---	825	---	659	---	620	580	---
TOTAL	19660	17723	19083	18424	17537	23792	24665	24193	19230	18625	19686	17891
MEAN	634	591	616	594	626	767	822	780	641	601	635	596
MAX	684	648	683	659	740	933	883	874	697	655	671	683
MIN	589	515	538	516	535	654	785	659	590	566	580	532
AC-FT	39000	35150	37850	36540	34780	47190	48920	47990	38140	36940	39050	35490

## 10255550 NEW RIVER NEAR WESTMORLAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	644	565	547	564	596	671	720	655	584	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1943 - 1994			
ANNUAL TOTAL	247612				240509							
ANNUAL MEAN	678				659				613			
HIGHEST ANNUAL MEAN									741			
LOWEST ANNUAL MEAN									484			
HIGHEST DAILY MEAN	1200				Jan 18				3000			
LOWEST DAILY MEAN	491				Feb 1				150			
ANNUAL SEVEN-DAY MINIMUM	502				Jan 28				284			
ANNUAL RUNOFF (AC-FT)	491100				532				Nov 25			
10 PERCENT EXCEEDS	895				477000				444200			
50 PERCENT EXCEEDS	816				760				603			
90 PERCENT EXCEEDS	641				634				480			
	551				570							

## 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 September 1994 (discontinued). Discharge measurements only, October 1992 to September 1994. 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. See schematic diagram of Salton Sea basin.

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 1993 TO SEPTEMBER 1994

Date	Time	Discharge (ft <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s)
Oct. 5	1126	1.81	Apr. 19	0840	2.31
Nov. 10	1017	4.16	May 12	0757	2.45
Dec. 9	0944	3.55	June 8	1007	1.68
Jan. 11	0954	3.28	July 7	0823	1.46
Feb. 2	1006	3.84	Aug. 11	0941	1.36
Mar. 4	0924	3.21	Sept. 26	0951	1.56



## 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.--None. Elevation of station 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. See schematic diagram of Salton Sea basin.

EXTREMES FOR PERIOD OF RECORD (1986-87 AND 1989-90).--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 1993 TO SEPTEMBER 1994

Date	Time	Discharge (ft <sup>3</sup> /s)
Oct. 6	1145	184
Nov. 15	1225	e114
Feb. 9	1245	211
Mar. 16	1150	184
Apr. 18	1150	25
June 9	0940	10
Jul. 21	1000	6.8
Sept. 8	0935	8.2

e Estimated.

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 1993 TO SEPTEMBER 1994

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
NOV 15...	1345	E114	775	8.4	17.5	240	61	22	66	37
APR 18...	1245	25	350	8.6	24.5	160	45	12	13	15
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)
NOV 15...	2	4.6	161	2	136	180	56	0.50	12	488
APR 18...	0.4	3.9	159	14	154	29	4.0	0.90	15	208
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)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 15...	484	0.66	<0.010	0.240	0.030	<0.010	1	20	<3	1
APR 18...	216	0.28	0.030	0.220	0.020	<0.010	<1	<10	6	1

## 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. WDR CA-93-1: 1991.

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 except for estimated daily discharges, which are poor. No regulation upstream from station. Diversion 10 ft upstream, generally taking most of the base flow. For combined record of creek and diversion, see station 10256501. 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. See schematic diagram of Salton Sea 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)
Feb. 7	1615	*303	*4.36	*303
Mar. 19	1245	212	3.97	212

Creek only: Minimum daily, 0.05 ft<sup>3</sup>/s, Aug. 23.

Combined creek and diversion: Minimum daily, 3.1 ft<sup>3</sup>/s, Aug. 21-22, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.31	1.1	.59	.78	8.1	5.8	10	4.1	e5.6	.22	.27
2	.27	.24	.92	.59	.77	7.8	6.0	9.1	1.3	e5.6	.15	.24
3	.29	.26	.84	.59	2.7	4.5	6.3	10	1.4	e5.6	.15	.29
4	.34	.28	.84	.61	11	3.0	5.9	11	.97	e5.5	.15	.38
5	.35	.29	.84	.60	8.4	3.3	4.9	12	.84	e2.7	.14	1.7
6	.38	.29	.84	.50	7.3	7.2	3.9	12	.74	.35	.14	3.3
7	.37	.33	.81	.63	78	12	3.8	11	.73	.33	.14	3.2
8	.39	.31	.77	.65	47	12	3.6	10	.67	.29	1.5	3.2
9	.31	.30	.77	.65	13	11	3.6	5.9	.61	.33	4.1	3.1
10	.33	2.8	2.9	.55	11	11	3.4	3.3	.54	.31	4.2	3.2
11	2.8	8.1	7.3	.53	e8.9	10	2.9	6.0	.54	.32	e2.5	3.2
12	5.8	7.3	9.5	.50	e7.8	9.4	2.7	12	.55	.44	e1.4	1.5
13	5.6	6.7	7.3	.47	e7.6	e8.2	2.7	8.5	.34	.47	e4.0	.32
14	5.5	6.9	7.1	.47	e7.4	5.1	2.9	5.6	.17	.49	e4.0	.26
15	5.5	6.3	7.4	.47	e7.2	3.1	3.0	5.6	.22	.49	e3.9	.17
16	5.8	6.2	6.4	.47	e5.9	3.6	3.8	4.8	.43	.46	3.9	.12
17	6.1	6.2	6.2	.41	e26	4.1	5.5	3.2	.47	.50	3.7	.13
18	2.5	6.0	6.2	.51	17	4.6	6.6	.61	.35	.59	3.8	.13
19	.09	2.6	6.3	.53	12	101	8.1	1.7	.29	.40	3.4	.14
20	.10	.65	6.1	.53	12	38	7.9	2.3	.31	1.2	3.0	.17
21	.11	1.1	5.9	.52	11	23	7.7	2.0	.46	1.2	2.9	.26
22	.15	6.8	2.7	.47	10	16	6.8	2.0	.44	1.0	.19	.29
23	.14	11	.79	.47	e8.7	13	5.2	1.9	.40	.81	.05	.26
24	.15	5.9	.77	.47	e7.8	13	10	4.0	.43	.86	.17	.27
25	.15	1.7	.77	6.0	e7.8	13	12	9.1	.59	.74	.14	.23
26	.28	1.4	2.4	2.6	e7.8	12	12	6.5	.56	.45	1.6	.23
27	.27	1.2	2.6	3.7	e7.8	12	11	2.6	.56	.47	e3.4	.21
28	.29	1.1	.71	3.0	e8.0	8.3	11	2.0	.63	.43	e3.3	.18
29	.32	.97	.71	.89	---	5.5	10	2.2	e1.7	.34	e3.3	.20
30	.32	1.1	.71	.84	---	5.5	10	3.5	e5.6	.33	e3.2	.22
31	.35	---	.62	.84	---	5.7	---	9.1	---	.30	1.5	---
TOTAL	45.67	94.63	99.11	30.65	360.65	394.0	189.0	189.51	26.94	39.00	64.24	27.37
MEAN	1.47	3.15	3.20	.99	12.9	12.7	6.30	6.11	.90	1.26	2.07	.91
MAX	6.1	11	9.5	6.0	78	101	12	12	5.6	5.6	4.2	3.3
MIN	.09	.24	.62	.41	.77	3.0	2.7	.61	.17	.29	.05	.12
AC-FT	91	188	197	61	715	781	375	376	53	77	127	54

e Estimated.

## SALTON SEA BASIN

10256500 SNOW CREEK NEAR WHITE WATER, CA

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.80	2.61	4.36	24.9	37.7	18.2	12.2	12.0	6.60	3.68	3.28	2.38
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	.99	3.38	3.79	3.22	1.94	.34	.000	.001	.17
(WY)	1990	1990	1990	1994	1991	1990	1989	1989	1989	1981	1981	1981

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1979 - 1994

ANNUAL TOTAL	9919.22	1560.77	
ANNUAL MEAN	27.2	4.28	10.7
HIGHEST ANNUAL MEAN			28.4
LOWEST ANNUAL MEAN			2.21
HIGHEST DAILY MEAN	909	101	909
LOWEST DAILY MEAN	.09	.05	.00
ANNUAL SEVEN-DAY MINIMUM	.13	.13	.00
INSTANTANEOUS PEAK FLOW		303	1910
INSTANTANEOUS PEAK STAGE		4.36	7.35
INSTANTANEOUS LOW FLOW		.05	.00
ANNUAL RUNOFF (AC-FT)	19670	3100	7780
10 PERCENT EXCEEDS	43	10	20
50 PERCENT EXCEEDS	8.7	2.0	3.6
90 PERCENT EXCEEDS	.35	.26	.42

## 10256501 SNOW CREEK NEAR WHITE WATER, CA--Continued

SNOW CREEK AND SNOW CREEK DIVERSION NEAR WHITE WATER  
 COMBINED DISCHARGE, IN CUBIC FEET PER SECOND,  
 WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.7	e6.0	e6.4	e5.9	e5.8	8.1	e11	10	e8.0	e5.6	e4.8	e3.4
2	e6.6	e5.8	e6.2	e5.8	e5.8	7.8	e11	10	e8.2	e5.6	e4.7	e3.5
3	e6.6	e6.1	e6.0	e5.8	e5.2	e7.9	e12	10	e8.6	e5.6	e4.7	e3.7
4	e6.6	e6.1	e6.0	e5.8	11	e8.6	e11	11	e8.1	e5.5	e4.7	e3.9
5	e6.6	e6.0	e6.0	e5.7	8.4	e8.8	e11	12	e7.8	e5.1	e4.7	e3.7
6	e6.8	e6.0	e6.0	e5.6	7.3	e9.3	e10	12	e7.6	e5.4	e4.7	3.3
7	e6.7	e6.0	e6.1	e5.7	78	12	e10	11	e7.7	e5.4	e4.7	3.2
8	e6.8	e6.0	e6.1	e5.7	47	12	e9.8	10	e7.8	e5.4	e4.1	3.2
9	e6.7	e6.1	e6.0	e5.7	13	11	e9.9	e9.0	e7.6	e5.4	4.1	3.1
10	e6.6	e5.4	e5.2	e5.7	11	11	e9.8	e9.7	e7.5	e5.3	4.2	3.2
11	e6.1	8.1	7.3	e5.6	e8.9	10	e9.2	e10	e7.0	e5.3	e4.1	3.2
12	5.8	7.3	9.5	e5.6	e7.8	9.4	e8.9	12	e6.9	e5.4	e4.1	e3.2
13	5.6	6.7	7.3	e5.6	e7.6	e8.2	e9.0	e12	e7.3	e5.6	e4.0	e3.5
14	5.5	6.9	7.1	e5.6	e7.4	e8.2	e9.2	e11	e6.9	e5.5	e4.0	e3.6
15	5.5	6.3	7.4	e5.7	e7.2	e8.5	e9.3	e12	e7.1	e5.5	e3.9	e3.4
16	5.8	6.2	6.4	e5.6	e7.1	e9.1	e10	e11	e6.9	e5.6	3.9	e3.3
17	6.1	6.2	6.2	e5.5	e26	e9.5	e12	e9.7	e6.7	e5.6	e3.9	e3.3
18	e6.2	6.0	6.2	e5.7	17	e10	e13	e9.6	e6.4	e5.7	3.8	e3.3
19	e6.7	e6.1	6.3	e5.7	12	e102	e14	e9.5	e6.4	e5.6	e3.6	e3.3
20	e6.5	e6.1	6.1	e5.6	12	38	e14	e9.4	e6.4	e6.8	e3.4	e3.4
21	e6.4	e6.2	5.9	e5.6	11	23	e14	e9.0	e6.4	e6.8	e3.1	e3.4
22	e6.2	6.8	e5.6	e5.7	10	16	e13	e8.9	e6.2	e6.6	e3.1	e3.4
23	e6.3	11	e6.1	e5.6	e8.7	13	e12	e8.8	e6.2	e6.4	e3.3	e3.5
24	e6.2	e8.0	e6.1	e5.6	e7.8	13	e11	e8.8	e6.2	e6.2	e3.5	e3.5
25	e6.0	e7.2	e6.1	e6.4	e7.8	13	12	9.1	e6.2	e6.0	e3.3	e3.3
26	e6.0	e6.8	e5.8	e6.3	e7.8	12	12	e9.0	e5.9	e5.7	e3.5	e3.4
27	e6.0	e6.6	e5.5	e5.6	e7.8	12	11	e8.5	e6.0	e5.8	e3.4	e3.3
28	e6.1	e6.5	e5.8	e5.6	e8.0	e12	11	e7.9	e6.0	e5.4	e3.3	e3.4
29	e6.1	e6.3	e5.9	e5.9	---	e11	10	e8.1	e4.9	e5.0	e3.3	e3.3
30	e6.0	e6.4	e5.9	e5.8	---	e11	10	e8.2	e5.6	e5.0	e3.2	e3.4
31	e6.1	---	e5.8	e5.8	---	e11	---	9.1	---	e4.9	e3.3	---
TOTAL	193.9	197.2	194.3	177.5	374.4	456.4	330.1	306.3	206.5	174.7	120.4	101.6
MEAN	6.25	6.57	6.27	5.73	13.4	14.7	11.0	9.88	6.88	5.64	3.88	3.39
MAX	6.8	11	9.5	6.4	78	102	14	12	8.6	6.8	4.8	3.9
MIN	5.5	5.4	5.2	5.5	5.2	7.8	8.9	7.9	4.9	4.9	3.1	3.1
AC-FT	385	391	385	352	743	905	655	608	410	347	239	202

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.85	7.58	11.0	15.1	16.2	13.5	12.8	12.8	9.19	6.28	5.38	5.41
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 1993 CALENDAR YEAR FOR 1994 WATER YEAR WATER YEARS 1921 - 1994

ANNUAL TOTAL	11295.8	2833.3	
ANNUAL MEAN	30.9	7.76	10.2
HIGHEST ANNUAL MEAN			33.0
LOWEST ANNUAL MEAN			2.96
HIGHEST DAILY MEAN	909	Jan 7	3490
LOWEST DAILY MEAN	5.2	Dec 10	2.1
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 11	2.1
INSTANTANEOUS PEAK FLOW			13000
INSTANTANEOUS PEAK STAGE			13.80
INSTANTANEOUS LOW FLOW			2.1
ANNUAL RUNOFF (AC-FT)	22410	5620	7350
10 PERCENT EXCEEDS	43	11	16
50 PERCENT EXCEEDS	14	6.2	5.8
90 PERCENT EXCEEDS	6.1	3.5	3.2

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 1993 TO SEPTEMBER 1994

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
NOV 15...	1730	5.8	99	7.6	11.5	32	11	1.0	8.7	36
APR 19...	1415	11	77	7.6	19.0	25	8.6	0.84	6.1	33
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)
NOV 15...	0.7	2.0	59	0	48	1.5	1.5	0.10	22	74
APR 19...	0.5	1.7	43	0	35	0.90	1.1	<0.10	18	50
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)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 15...	77	0.10	<0.010	<0.050	<0.010	<0.010	<1	<10	21	<1
APR 19...	58	0.07	<0.010	<0.050	0.020	<0.010	<1	<10	9	<1

## 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 fair through April and poor thereafter. 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. See schematic diagram of Salton Sea basin.

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, 635 ft<sup>3</sup>/s, Feb. 7, gage height, 5.48 ft, from rating curve extended above 400 ft<sup>3</sup>/s on basis of critical-depth computation; minimum daily, 0.43 ft<sup>3</sup>/s, Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	161	209	300	175	131	26	13	4.3	3.1	1.2	13
2	177	166	171	293	175	132	27	13	4.3	1.6	1.1	12
3	176	168	172	288	175	130	25	12	3.4	.98	1.6	7.6
4	156	167	171	281	191	133	26	16	2.4	2.1	1.7	7.6
5	145	169	172	278	189	139	24	15	2.6	1.6	1.0	8.5
6	152	169	171	287	179	144	19	22	4.3	2.4	.97	10
7	155	168	172	283	277	157	16	30	e3.8	2.9	1.9	12
8	156	167	172	280	268	166	13	26	e3.4	e2.7	1.8	8.5
9	157	88	179	281	177	175	18	27	2.8	e2.3	.59	8.5
10	156	28	174	206	175	157	19	21	2.3	e2.2	.43	5.4
11	154	37	177	153	270	179	22	19	1.5	e2.0	.97	6.8
12	154	89	182	155	357	181	19	24	1.1	e1.9	1.6	4.8
13	154	167	177	155	361	180	16	18	1.2	e1.8	21	4.8
14	156	170	155	155	349	180	12	16	1.4	e1.7	33	6.0
15	155	170	165	151	349	180	12	14	1.5	e1.6	31	6.0
16	156	172	185	153	348	179	9.9	14	2.4	e1.8	23	5.6
17	155	169	241	139	371	120	45	17	2.2	e2.0	14	5.7
18	154	165	282	176	344	29	58	18	2.4	e2.4	11	4.8
19	156	168	280	174	325	83	8.4	21	1.2	e2.0	15	6.0
20	158	169	284	173	337	73	6.8	22	1.6	e1.8	16	8.4
21	160	169	291	173	341	63	7.7	17	1.5	1.4	12	10
22	160	170	334	172	353	58	12	10	2.2	1.6	12	10
23	159	160	327	172	344	57	12	7.6	2.0	2.0	9.4	9.5
24	156	162	365	172	334	52	18	8.5	1.5	1.3	9.9	6.8
25	156	168	377	154	328	57	22	18	1.0	1.3	9.8	5.4
26	156	166	378	178	327	46	38	15	1.2	1.4	12	4.8
27	157	164	376	178	322	41	35	17	.95	1.4	20	3.9
28	159	162	363	177	215	37	28	5.4	1.0	1.5	15	3.6
29	160	197	361	174	---	34	20	3.4	.78	1.3	12	2.9
30	161	216	356	175	---	30	14	2.4	1.5	1.0	10	4.3
31	160	---	317	174	---	31	---	3.9	---	.98	12	---
TOTAL	4891	4661	7736	6260	7956	3354	628.8	486.2	63.73	56.06	312.96	213.2
MEAN	158	155	250	202	284	108	21.0	15.7	2.12	1.81	10.1	7.11
MAX	177	216	378	300	371	181	58	30	4.3	3.1	33	13
MIN	145	28	155	139	175	29	6.8	2.4	.78	.98	.43	2.9
AC-FT	9700	9250	15340	12420	15780	6650	1250	964	126	111	621	423
a	10180	8890	14170	13740	12830	5500	253	0	0	0	0	0
b	153	227	205	239	136	167	246	239	211	192	31	87

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	145	150	127	170	146	153	124	77.2	88.6	76.6	77.4	115
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1985 - 1994			
ANNUAL TOTAL	50578.30				36618.95							
ANNUAL MEAN	139				100				133			
HIGHEST ANNUAL MEAN									308			
LOWEST ANNUAL MEAN									11.9			
HIGHEST DAILY MEAN	2600				378				2600			
LOWEST DAILY MEAN	.00				.43				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				1.1				.00			
INSTANTANEOUS PEAK FLOW					635				1480			
INSTANTANEOUS PEAK STAGE					5.48				6.90			
ANNUAL RUNOFF (AC-FT)	100300				72630				96690			
10 PERCENT EXCEEDS	180				280				365			
50 PERCENT EXCEEDS	127				33				6.8			
90 PERCENT EXCEEDS	36				1.6				.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.--No estimated daily discharges. Records good. Slight regulation of low flow by two small dams with a combined capacity of about 3 acre-ft, 2 mi upstream from station. See schematic diagram of Salton Sea basin.

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)
Feb. 7	1645	*45	*2.38				

Minimum daily, 0.43 ft<sup>3</sup>/s, Sept. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.6	4.3	4.2	4.5	4.7	4.0	3.4	2.4	1.3	.82	.62
2	3.3	3.5	4.2	4.2	4.4	4.5	3.9	3.3	2.2	1.3	.80	.62
3	3.4	3.5	4.2	4.2	4.4	4.4	3.9	3.2	2.2	1.3	.79	.67
4	3.4	3.5	4.2	4.2	7.4	4.4	4.1	3.1	2.1	1.3	.74	.69
5	3.5	3.7	4.3	4.2	6.2	4.3	4.1	3.1	2.1	1.3	.74	.64
6	3.6	3.9	4.3	4.3	5.2	4.6	4.1	3.3	2.2	1.3	.71	.56
7	3.6	3.9	4.3	4.3	19	5.5	4.1	3.4	2.1	1.2	.69	.51
8	3.2	3.9	4.3	4.3	16	5.0	4.2	3.5	2.0	1.2	.84	.49
9	3.2	3.9	4.2	4.3	4.8	4.7	4.5	3.4	1.9	1.2	1.0	.48
10	3.2	3.9	4.2	4.3	6.0	4.5	4.4	3.3	1.9	1.2	.85	.53
11	3.2	4.5	5.1	4.4	6.8	4.5	4.3	3.1	1.8	1.2	.71	.56
12	3.4	4.5	4.7	4.4	6.2	4.3	4.0	3.0	1.7	1.1	.73	.62
13	3.4	4.2	4.5	4.3	6.3	3.7	3.9	2.9	1.9	1.1	.80	.73
14	3.4	5.0	4.9	4.3	6.1	3.7	3.9	2.8	1.9	1.1	.76	.69
15	3.4	4.2	4.8	4.2	5.5	3.6	3.6	2.8	1.9	1.1	.65	.61
16	3.6	4.2	4.8	4.3	5.5	3.7	3.6	3.0	1.9	1.1	.65	.56
17	3.8	4.3	4.6	4.3	8.2	3.7	3.6	3.2	1.9	1.1	.77	.54
18	3.7	4.4	4.5	4.3	7.0	3.7	3.3	3.3	1.8	1.2	.77	.49
19	3.6	4.3	4.6	4.3	6.0	6.1	3.2	3.3	1.7	1.2	.67	.47
20	3.5	4.3	4.5	4.3	6.7	5.0	3.2	3.1	1.7	1.1	.63	.49
21	3.5	4.3	4.4	4.3	5.9	4.6	3.2	2.9	1.7	1.1	.59	.56
22	3.5	4.2	4.4	4.3	5.4	4.5	3.4	2.8	1.6	.98	.62	.60
23	3.5	4.2	4.4	4.2	5.2	4.7	3.4	2.8	1.5	.95	.63	.52
24	3.6	4.3	4.4	4.4	5.1	4.7	3.8	2.7	1.4	.90	.56	.54
25	3.6	4.3	4.4	4.8	4.8	5.5	4.2	2.8	1.4	.88	.55	.54
26	3.6	4.3	4.5	4.5	4.7	4.8	4.6	2.8	1.4	.86	.79	.53
27	3.6	4.3	4.4	4.5	4.6	4.4	4.3	2.6	1.3	.83	.87	.48
28	3.6	4.2	4.3	4.5	4.6	4.2	4.2	2.5	1.3	.86	.70	.43
29	3.6	4.3	4.2	4.5	---	4.1	3.9	2.4	1.3	.89	.62	.43
30	3.5	4.3	4.2	4.4	---	4.0	3.6	2.5	1.3	.88	.62	.53
31	3.6	---	4.2	4.4	---	3.9	---	2.5	---	.85	.61	---
TOTAL	108.0	123.9	137.3	134.4	182.5	138.0	116.5	92.8	53.5	33.88	22.28	16.73
MEAN	3.48	4.13	4.43	4.34	6.52	4.45	3.88	2.99	1.78	1.09	.72	.56
MAX	3.8	5.0	5.1	4.8	19	6.1	4.6	3.5	2.4	1.3	1.0	.73
MIN	3.2	3.5	4.2	4.2	4.4	3.6	3.2	2.4	1.3	.83	.55	.43
AC-FT	214	246	272	267	362	274	231	184	106	67	44	33

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.90	1.15	1.21	3.84	9.71	7.34	5.88	4.86	3.16	2.11	1.66	.99
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1968 - 1994			
ANNUAL TOTAL	5779.56				1159.79							
ANNUAL MEAN	15.8				3.18				3.53			
HIGHEST ANNUAL MEAN									28.3			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	150 Jan 16				19 Feb 7				540 Feb 18 1980			
LOWEST DAILY MEAN	.00 Jan 11				.43 Sep 28				.00 Oct 1 1967			
ANNUAL SEVEN-DAY MINIMUM	3.3 Oct 8				.50 Sep 23				.00 Oct 1 1967			
INSTANTANEOUS PEAK FLOW					45 Feb 7				1750 Aug 17 1983			
INSTANTANEOUS PEAK STAGE					2.38 Feb 7				5.80 Jan 16 1993			
ANNUAL RUNOFF (AC-FT)	11460				2300				2560			
10 PERCENT EXCEEDS	34				4.7				6.8			
50 PERCENT EXCEEDS	8.0				3.6				.54			
90 PERCENT EXCEEDS	3.6				.65				.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 except for estimated daily discharges, which are poor. Two small diversions 2 mi upstream, one for city of Palm Springs and one for Palm Springs aerial tramway. See schematic diagram of Salton Sea basin.

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, 17 ft<sup>3</sup>/s, Feb. 7, gage height, 8.89 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	e1.1	1.0	.84	.48	e2.5	e3.5	e3.1	.67	.25	.00	.00
2	.97	e1.5	1.5	.92	.48	e2.5	3.8	e2.5	.73	.23	.00	.00
3	.91	e1.5	1.0	.66	.50	e2.5	3.6	2.3	.60	.22	.00	.00
4	.96	e1.5	1.9	.66	1.4	e2.5	3.5	2.0	.59	.22	.00	.00
5	.88	e1.5	e2.0	.69	1.1	2.3	3.5	2.1	.51	.21	.00	.00
6	1.0	e1.5	e2.0	1.0	.66	2.1	3.5	e2.0	.55	.21	.00	.00
7	1.0	e1.5	e1.8	1.0	3.2	2.4	3.4	2.1	.53	.17	.00	.00
8	1.0	e1.5	e2.0	1.0	3.2	1.9	3.3	2.0	.54	.15	.00	.00
9	e1.0	e1.1	e1.6	1.0	2.5	2.0	3.5	1.7	.52	.16	.00	.00
10	e1.0	e1.1	e2.0	1.0	2.9	1.8	3.3	1.3	.49	.15	.00	.00
11	e1.5	e1.5	e2.5	1.0	3.1	1.5	3.1	1.2	.42	.15	.00	.00
12	e1.5	1.5	e3.1	1.0	3.1	1.5	3.0	1.7	.42	.11	.00	.00
13	e1.1	1.5	1.5	.91	3.1	1.5	3.1	1.1	.41	.02	.00	.00
14	e2.5	1.6	2.1	.51	3.1	1.5	2.9	.80	.40	.00	.00	.00
15	e1.1	1.5	1.1	.48	2.7	1.5	2.9	.88	.39	.00	.00	.00
16	e1.1	1.5	1.1	.48	2.5	1.2	2.7	.87	.37	.00	.00	.00
17	e1.5	1.5	1.5	.63	2.8	1.0	2.5	1.0	.36	.00	.00	.00
18	e1.1	1.3	1.5	.80	2.5	1.0	2.2	1.0	.40	.00	.00	.00
19	e1.1	1.0	1.5	1.4	2.5	e5.2	2.0	1.0	.36	.00	.00	.00
20	e1.0	1.0	1.5	1.5	e3.7	e7.5	1.8	.81	.33	.00	.00	.00
21	e1.5	1.0	1.5	.93	e3.5	e4.0	2.0	.65	.33	.00	.00	.00
22	e1.5	1.0	1.5	.80	e4.0	3.5	2.6	.59	.30	.00	.00	.00
23	e1.5	1.0	1.0	.48	e3.5	4.0	2.4	.52	.28	.00	.00	.00
24	e1.0	1.0	1.2	.60	e3.5	3.8	2.9	.53	.31	.00	.00	.00
25	e1.1	1.0	1.3	.90	e3.1	3.9	2.9	.57	.23	.00	.00	.00
26	e1.5	1.0	1.0	.68	e2.5	3.9	3.2	.57	.22	.00	.00	.00
27	e1.1	1.0	1.0	1.3	e3.1	e3.5	3.3	.70	.21	.01	.00	.00
28	e1.1	1.0	1.0	1.3	e3.1	e3.5	3.2	.68	.21	.00	.00	.00
29	e1.1	1.0	1.0	.88	---	e3.5	e3.1	.76	.18	.00	.00	.00
30	e1.0	1.0	.91	.66	---	e3.5	e3.1	.58	.19	.00	.00	.00
31	e1.1	---	.66	.59	---	e3.5	---	.67	---	.00	.00	---
TOTAL	37.02	37.7	46.27	26.60	71.82	86.5	89.8	38.28	12.05	2.26	0.00	0.00
MEAN	1.19	1.26	1.49	.86	2.56	2.79	2.99	1.23	.40	.073	.000	.000
MAX	2.5	1.6	3.1	1.5	4.0	7.5	3.8	3.1	.73	.25	.00	.00
MIN	.88	1.0	.66	.48	.48	1.0	1.8	.52	.18	.00	.00	.00
AC-FT	73	75	92	53	142	172	178	76	24	4.5	.00	.00

e Estimated.

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.39	.52	.51	2.29	3.08	2.14	1.34	.64	.22	.054	.14	.21
MAX	1.19	1.32	1.49	14.0	17.8	8.82	3.85	2.09	.61	.28	.65	1.38
(WY)	1994	1987	1994	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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1987 - 1994

ANNUAL TOTAL	1587.58	448.30	
ANNUAL MEAN	4.35	1.23	.95
HIGHEST ANNUAL MEAN			4.02 1993
LOWEST ANNUAL MEAN			.19 1989
HIGHEST DAILY MEAN	49 Jan 17	7.5 Mar 20	49 Jan 17 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Jul 14	.00 Jun 15 1989
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 8	.00 Jul 14	.00 Jun 15 1989
INSTANTANEOUS PEAK FLOW		17 Feb 7	153 Jan 7 1993
INSTANTANEOUS PEAK STAGE		8.89 Feb 7	10.18 Jan 7 1993
ANNUAL RUNOFF (AC-FT)	3150	889	687
10 PERCENT EXCEEDS	12	3.1	1.5
50 PERCENT EXCEEDS	1.5	1.0	.27
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 1993 TO SEPTEMBER 1994

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
NOV 16...	1515	1.5	225	8.1	10.5	87	30	3.0	11	20
APR 18...	1630	1.5	220	8.1	19.0	87	30	2.9	10	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)
NOV 16...	0.5	5.8	129	0	106	7.0	2.5	0.10	21	134
APR 18...	0.5	5.5	132	0	108	5.8	2.6	<0.10	19	142
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)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 16...	144	0.18	<0.010	0.066	<0.010	<0.010	<1	50	6	<1
APR 18...	141	0.19	<0.010	<0.050	0.020	<0.010	<1	10	6	2

## 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.--Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of Salton Sea basin.

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)
Feb. 7	Unknown	*Unknown	*Unknown				

No flow, Aug. 1-2, 6-7, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.2	2.5	1.9	e2.0	3.8	8.3	8.6	3.9	.58	.00	e.13
2	1.0	1.2	2.3	1.9	e2.0	3.8	8.8	8.7	3.5	.55	.00	e.13
3	1.0	1.2	2.1	1.9	e1.9	4.1	9.4	8.9	3.4	.49	.01	e.15
4	1.1	1.2	2.1	1.9	e4.0	4.7	9.1	9.0	3.2	.47	.01	e.16
5	1.1	1.2	2.1	e1.9	e3.5	4.9	8.6	9.4	2.9	.46	.01	e.20
6	1.0	1.2	2.1	e1.9	e3.1	5.0	8.3	9.3	2.8	.44	.00	e.20
7	1.1	1.2	2.0	e1.9	e3.8	5.1	8.5	8.9	2.6	.44	.00	e.20
8	1.1	1.2	2.0	e1.9	e2.3	4.7	8.3	8.6	2.5	.39	.04	e.19
9	1.2	1.2	2.0	e1.9	e6.8	4.7	8.2	8.1	2.3	.35	.00	e.19
10	1.2	1.2	1.9	e1.9	e5.7	4.8	7.6	7.8	2.1	.35	.11	.18
11	1.2	1.6	1.9	e1.9	4.6	5.1	7.1	8.0	2.0	.33	.25	.17
12	1.3	1.9	3.1	e1.8	3.7	4.9	7.1	8.6	1.9	.31	.22	.16
13	1.3	1.9	2.6	e1.8	3.6	4.9	7.2	8.7	1.7	.27	.18	.16
14	1.2	2.2	2.4	e1.8	3.4	5.1	7.6	8.4	1.7	.24	.21	.17
15	1.2	2.1	2.5	e1.8	3.4	5.4	7.8	8.2	1.7	.23	.17	.18
16	1.3	2.0	2.2	e1.8	3.2	5.9	8.3	7.8	1.5	.22	.16	.12
17	1.5	1.9	2.1	e1.9	5.9	6.1	8.7	7.5	1.4	.23	.13	.22
18	1.5	1.9	2.2	e1.9	6.7	6.7	8.7	7.6	1.3	.26	e.10	.14
19	1.4	1.9	2.3	e1.9	5.1	19	9.7	7.3	1.1	.33	e.20	.14
20	1.3	1.9	2.2	e1.9	4.8	15	9.8	6.9	1.1	.32	e.16	.20
21	1.3	1.9	2.1	e1.9	4.5	11	9.8	6.4	1.1	.31	e.13	.18
22	1.3	2.1	2.1	e1.9	4.0	10	9.4	6.1	1.0	.26	e.12	.15
23	1.2	e7.0	2.0	e1.9	3.7	8.9	8.6	5.8	.88	.22	e.10	.16
24	1.2	e5.4	2.0	e1.9	3.5	8.2	8.9	5.5	.80	.19	e.10	.21
25	1.2	3.9	2.0	e2.1	3.6	8.4	8.5	5.7	.74	.16	e.10	.22
26	1.2	3.2	2.0	e2.0	3.6	7.5	8.4	5.5	.65	.13	e.10	.23
27	1.1	2.8	2.0	e2.0	3.8	7.0	7.8	5.2	.60	.09	e.23	.21
28	1.2	2.6	2.1	e1.9	3.9	6.8	7.7	4.8	.59	.07	e.18	.20
29	1.2	2.5	2.0	e1.9	---	6.6	7.3	4.5	.57	.04	e.15	.21
30	1.2	2.5	1.9	e1.9	---	7.2	8.0	4.3	.60	.02	e.13	.20
31	1.2	---	1.9	e1.9	---	7.8	---	4.4	---	.01	e.13	---
TOTAL	37.4	65.2	66.7	58.8	165.0	213.1	251.5	224.5	52.13	8.76	3.43	5.36
MEAN	1.21	2.17	2.15	1.90	5.89	6.87	8.38	7.24	1.74	.28	.11	.18
MAX	1.5	7.0	3.1	2.1	38	19	9.8	9.4	3.9	.58	.25	.23
MIN	1.0	1.2	1.9	1.8	1.9	3.8	7.1	4.3	.57	.01	.00	.12
AC-FT	74	129	132	117	327	423	499	445	103	17	6.8	11

e Estimated.

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	1.85	3.70	6.41	7.80	7.51	11.0	14.2	6.96	2.19	.94	.73
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1948 - 1994			
ANNUAL TOTAL	9654.2				1151.88							
ANNUAL MEAN	26.4				3.16				5.30			
HIGHEST ANNUAL MEAN									32.9			
LOWEST ANNUAL MEAN									.088			
HIGHEST DAILY MEAN	402				38				1080			
LOWEST DAILY MEAN	1.0				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	1.1				.00				.00			
INSTANTANEOUS PEAK FLOW									2900			
INSTANTANEOUS PEAK STAGE									15.78			
ANNUAL RUNOFF (AC-FT)	19150				2280				3840			
10 PERCENT EXCEEDS	62				8.3				11			
50 PERCENT EXCEEDS	9.8				1.9				.94			
90 PERCENT EXCEEDS	1.2				.16				.00			

## 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 except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of Salton Sea basin.

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)
Feb. 8	0915	153	2.50	Aug. 9	1615	*2,770	*5.56

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.21	.68	.46	1.9	1.2	.71	.00	.00	.00	e.22
2	.00	.00	.21	.68	.46	1.9	1.0	.54	.00	.00	.00	.16
3	.00	.00	.21	.64	.47	1.8	.91	.35	.00	.00	.00	.14
4	.00	.00	.21	.56	5.0	1.7	.79	.25	.00	.00	.00	.22
5	.00	.00	.21	.56	3.6	1.7	.66	.16	.00	.00	.00	2.2
6	.00	.00	.21	.48	1.7	1.7	.60	.04	.00	.00	.00	3.5
7	.00	.00	.21	.44	24	2.5	.59	.12	.00	.00	.00	1.0
8	.00	.00	.21	.46	56	2.2	.55	.10	.00	.00	7.7	.22
9	.00	.01	.21	.48	12	1.9	.86	.11	.00	.00	92	.04
10	.00	.02	.21	.43	6.2	1.7	.99	.02	.00	.00	e4.1	.00
11	.00	.57	.25	.44	4.4	1.6	.69	.00	.00	.00	.94	.00
12	.01	1.1	.57	.45	3.5	1.5	.41	.00	.00	.00	6.5	.03
13	.00	1.0	.68	.46	3.0	1.4	.26	.00	.00	.00	e3.3	.03
14	.00	1.4	.68	.46	2.5	1.3	.16	.00	.00	.00	e.80	.05
15	.00	1.3	.80	.45	2.2	1.3	.12	.00	.00	.00	e.40	.11
16	.00	.81	.68	.42	2.1	1.2	.07	.00	.00	.00	e.40	.09
17	.07	.62	.62	.39	5.2	1.2	.05	.00	.00	.00	e.40	.07
18	.04	.49	.56	.41	6.6	1.1	.09	.00	.00	.00	e.30	.06
19	.01	.40	.56	.43	7.0	4.0	.01	.00	.00	.00	e.30	.06
20	.00	.35	.56	.43	4.7	4.4	.00	.00	.00	.00	e.30	.04
21	.00	.32	.56	.44	4.4	2.6	.00	.00	.00	.00	e.20	.04
22	.00	.27	.56	.43	3.6	2.1	.00	.00	.00	.00	e.20	.07
23	.00	.27	.48	.43	3.2	1.9	.00	.00	.00	.00	e.20	.08
24	.00	.25	.46	.43	2.9	1.7	.41	.00	.00	.00	e.18	.06
25	.00	.21	.46	1.1	2.5	2.7	1.1	.00	.00	.00	e.13	.06
26	.00	.21	.46	1.3	2.4	2.7	1.5	.00	.00	.00	e3.8	.04
27	.00	.21	.46	1.1	2.2	2.1	1.5	.00	.00	.00	e1.7	.05
28	.00	.21	.65	1.1	2.1	1.7	1.3	.00	.00	.00	e.30	.04
29	.00	.21	.68	.76	---	1.6	1.0	.00	.00	.00	e.27	.02
30	.00	.21	.68	.52	---	1.4	.84	.00	.00	.00	e.25	.02
31	.00	---	.68	.46	---	1.3	---	.00	---	.00	e.23	---
TOTAL	0.13	10.44	14.19	17.82	174.39	59.8	17.66	2.40	0.00	0.00	124.90	8.72
MEAN	.004	.35	.46	.57	6.23	1.93	.59	.077	.000	.000	4.03	.29
MAX	.07	1.4	.80	1.3	56	4.4	1.5	.71	.00	.00	92	3.5
MIN	.00	.00	.21	.39	.46	1.1	.00	.00	.00	.00	.00	.00
AC-FT	.3	21	28	35	346	119	35	4.8	.00	.00	248	17

e Estimated.



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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.38	.89	4.10	8.54	19.9	18.6	7.40	2.17	.66	.79	1.05	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1930 - 1994			
ANNUAL TOTAL	12617.33				430.45							
ANNUAL MEAN	34.6				1.18				5.39			
HIGHEST ANNUAL MEAN									47.4			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	1660				92				2040			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					2770				7000			
INSTANTANEOUS PEAK STAGE					5.56				7.29			
ANNUAL RUNOFF (AC-FT)	25030				854				3910			
10 PERCENT EXCEEDS	68				2.2				6.3			
50 PERCENT EXCEEDS	.68				.21				.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.--No estimated daily discharges. Records fair. No regulation upstream from station. One small diversion for domestic use about 1 mi upstream from station. See schematic diagram of Salton Sea basin.

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)
Feb. 7	1730	*45	*3.06				

Minimum daily, 0.79 ft<sup>3</sup>/s, Aug. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.9	3.3	3.2	3.1	3.6	3.2	2.7	1.7	1.1	.92	.90
2	2.3	2.8	3.3	3.2	3.1	3.6	3.2	2.6	1.6	1.0	.84	.87
3	2.4	2.9	3.2	3.2	3.1	3.6	3.2	2.5	1.6	.96	.82	.92
4	2.4	2.9	3.2	3.2	5.8	3.6	3.1	2.4	1.5	.98	.82	1.0
5	2.4	2.9	3.2	3.2	3.9	3.6	3.0	2.4	1.6	.96	.85	1.0
6	2.7	2.9	3.2	3.1	3.5	3.7	3.0	2.3	1.6	.97	.88	.99
7	2.7	2.9	3.1	3.1	15	4.1	3.0	2.4	1.6	.97	.89	.86
8	2.8	2.9	3.2	3.1	15	3.6	3.1	2.4	1.6	.91	1.4	.82
9	2.8	2.9	3.2	3.1	7.0	3.6	3.2	2.4	1.5	.94	1.6	.80
10	2.8	3.0	3.1	3.1	5.8	3.6	3.0	2.3	1.5	.96	1.4	.84
11	2.9	4.2	3.4	3.1	5.2	3.5	2.9	2.2	1.4	.90	.99	.83
12	2.9	3.6	3.6	3.1	4.8	3.5	2.8	2.3	1.4	.86	1.0	.86
13	2.8	3.4	3.4	3.1	4.4	3.5	2.8	2.2	1.4	.88	1.1	.95
14	2.7	3.9	3.4	3.1	3.7	3.5	2.8	2.2	1.5	.90	1.0	.96
15	2.8	3.4	3.5	3.1	3.6	3.5	2.7	2.1	1.5	.92	.87	.92
16	3.1	3.3	3.3	3.1	3.6	3.5	2.7	2.1	1.5	.90	.91	.88
17	3.1	3.3	3.3	3.0	6.4	3.4	2.7	2.1	1.4	.98	1.1	.89
18	3.0	3.3	3.2	3.1	5.9	3.5	2.5	2.2	1.3	1.0	1.1	.90
19	2.9	3.3	3.3	3.1	5.4	8.8	2.6	2.2	1.3	1.2	.92	.86
20	2.8	3.3	3.2	3.1	5.6	6.4	2.5	2.1	1.3	1.2	.87	.87
21	2.8	3.2	3.2	3.1	5.4	5.1	2.5	2.0	1.3	1.1	.83	.95
22	2.8	3.2	3.2	3.1	5.2	4.5	2.5	2.0	1.3	1.0	.82	1.0
23	2.8	3.6	3.2	3.1	5.0	4.0	2.4	1.9	1.2	1.3	.81	.94
24	2.8	3.4	3.1	3.1	4.8	3.7	3.0	1.9	1.1	1.6	.79	.95
25	2.8	3.3	3.1	3.6	4.8	4.7	3.0	2.0	1.0	1.5	.80	.93
26	2.7	3.3	3.1	3.3	4.5	3.9	3.2	2.0	.99	1.2	1.2	.95
27	2.7	3.3	3.2	3.4	4.2	3.5	2.9	1.9	1.0	.88	1.2	.93
28	2.8	3.2	3.2	3.3	4.0	3.4	2.9	1.8	1.1	.94	.95	.89
29	2.8	3.2	3.2	3.3	---	3.3	2.7	1.7	1.1	.97	.86	.93
30	2.9	3.3	3.1	3.2	---	3.3	2.6	1.8	1.1	1.0	.86	.98
31	2.9	---	3.1	3.1	---	3.3	---	1.7	---	.97	.88	---
TOTAL	85.5	97.0	100.3	98.0	151.8	122.4	85.7	66.8	40.99	31.95	30.28	27.37
MEAN	2.76	3.23	3.24	3.16	5.42	3.95	2.86	2.15	1.37	1.03	.98	.91
MAX	3.1	4.2	3.6	3.6	15	8.8	3.2	2.7	1.7	1.6	1.6	1.0
MIN	2.3	2.8	3.1	3.0	3.1	3.3	2.4	1.7	.99	.86	.79	.80
AC-FT	170	192	199	194	301	243	170	132	81	63	60	54

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.36	2.23	3.21	4.84	5.74	5.89	4.45	3.05	1.96	1.40	1.41	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 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1949 - 1994		
ANNUAL TOTAL	3841.3			938.09					
ANNUAL MEAN	10.5			2.57			3.05		
HIGHEST ANNUAL MEAN							12.4		
LOWEST ANNUAL MEAN							.66		
HIGHEST DAILY MEAN	195			Jan 7			395		
LOWEST DAILY MEAN	2.3			Sep 27			.00		
ANNUAL SEVEN-DAY MINIMUM	2.4			Sep 26			.00		
INSTANTANEOUS PEAK FLOW				45			Feb 7		
INSTANTANEOUS PEAK STAGE				3.06			Feb 7		
ANNUAL RUNOFF (AC-FT)	7620			1860			2210		
10 PERCENT EXCEEDS	20			3.6			5.3		
50 PERCENT EXCEEDS	3.6			2.8			1.6		
90 PERCENT EXCEEDS	2.8			.91			.55		

## SALTON SEA BASIN

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. See schematic diagram of Salton Sea basin.

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, 524 ft<sup>3</sup>/s, Aug. 9, gage height 7.22 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	1.7
7	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
8	.00	.00	e.00	.00	e20	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	e.00	.00	e1.0	.00	.00	.00	.00	.00	e48	.00
10	.00	.00	e.00	.00	e.05	.00	.00	.00	.00	.00	e.65	.00
11	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.10	.00
12	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.23	.00
13	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.90	.00
14	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	e.00	e.00	.00	.00	1.4	.00	.00	.00	.00	.00	.00
20	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e5.0	.00
28	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.05	.00
29	.00	e.00	e.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	e.00	e.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	e.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	21.05	1.40	0.00	0.00	0.00	0.00	54.93	1.74
MEAN	.000	.000	.000	.000	.75	.045	.000	.000	.000	.000	1.77	.058
MAX	.00	.00	.00	.00	20	1.4	.00	.00	.00	.00	.48	1.7
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	42	2.8	.00	.00	.00	.00	109	3.5

e Estimated.

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.065	28.9	5.40	2.17	.54	.32	.000	.074	.71	.008
MAX	.000	.000	.45	202	35.2	14.9	3.81	2.26	.001	.52	1.77	.058
(WY)	1988	1988	1993	1993	1993	1991	1993	1993	1993	1991	1989	1994
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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1988 - 1994	
ANNUAL TOTAL	7434.36		79.12			
ANNUAL MEAN	20.4		.22		3.20	
HIGHEST ANNUAL MEAN					20.4	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1700	Jan 16	48	Aug 9	1700	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 24	.00	Oct 1	.00	Oct 1 1987
INSTANTANEOUS PEAK FLOW			524	Aug 9	8280	Jan 16 1993
INSTANTANEOUS PEAK STAGE			7.22	Aug 9	8.70	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	14750		157		2320	
10 PERCENT EXCEEDS	6.2		.00		.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. See schematic diagram of Salton Sea basin.

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, 202 ft<sup>3</sup>/s, Aug. 9, gage height, 2.56 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.13
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.00	.00
4	.00	.00	.00	.00	1.3	.00	.00	.00	.38	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.05	.00	.09	.00	.17
7	.00	.00	.00	.00	15	.00	.00	.00	.00	.04	.00	.00
8	.00	.00	.00	.00	5.4	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00	8.2	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.46	.00	2.3	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.05	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.07
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.43	.00
14	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.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	.63	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.02	.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	.00	.03	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.03
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.17	0.00	0.00	21.81	0.63	0.03	0.13	1.22	0.15	11.14	0.40
MEAN	.000	.006	.000	.000	.78	.020	.001	.004	.041	.005	.36	.013
MAX	.00	.17	.00	.00	15	.63	.03	.05	.46	.09	8.2	.17
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.3	.00	.00	43	1.2	.06	.3	2.4	.3	22	.8

## 10259100 WHITEWATER RIVER AT RANCHO MIRAGE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.003	.005	.054	99.6	11.1	1.87	.069	.046	.007	.005	.19	.049
MAX	.016	.021	.18	498	52.3	8.44	.21	.27	.041	.026	.78	.28
(WY)	1993	1990	1993	1993	1993	1991	1993	1993	1994	1991	1989	1991
MIN	.000	.000	.000	.000	.016	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1991	1994	1994	1990	1990	1989	1989	1989	1989	1990	1989

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1989 - 1994

ANNUAL TOTAL	16922.83	35.68	
ANNUAL MEAN	46.4	.098	9.50
HIGHEST ANNUAL MEAN			46.4 1993
LOWEST ANNUAL MEAN			.005 1990
HIGHEST DAILY MEAN	4820 Jan 16	15 Feb 7	4820 Jan 16 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Mar 30 1989
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 23	.00 Oct 1	.00 Mar 30 1989
INSTANTANEOUS PEAK FLOW		202 Aug 9	27700 Jan 7 1993
INSTANTANEOUS PEAK STAGE		2.56 Aug 9	5.93 Jan 7 1993
ANNUAL RUNOFF (AC-FT)	33570	71	6890
10 PERCENT EXCEEDS	.82	.00	.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 good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Salton Sea basin.

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)
Feb. 7	2015	*58	*2.67				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.25	.35	.79	.87	.91	1.4	1.2	.54	.29	.10	.00	.02
2	e.25	.35	.79	.85	.91	1.4	1.1	.51	.28	.09	.00	.03
3	e.25	.35	.79	.83	.92	1.3	1.1	.49	.28	.09	.00	.04
4	e.25	.36	.79	.83	2.1	1.3	1.0	.49	.27	.08	.00	.05
5	e.25	.36	.79	.83	2.5	1.3	.99	.48	.27	.07	.00	.05
6	.25	.36	.79	.82	1.6	1.3	.96	.44	.26	.08	.00	.05
7	.25	.37	.79	.83	9.7	2.5	.92	.45	.25	.06	.00	.04
8	.25	.38	.79	.83	20	2.6	.89	.47	.25	.05	.09	.04
9	.25	.39	.79	.83	5.4	2.3	.94	.48	.24	.04	.04	.03
10	.26	.39	.79	.83	3.1	2.0	.95	.47	.23	.05	.03	.03
11	.28	.45	.79	.83	2.2	1.8	.88	.46	.22	.03	.02	.03
12	.30	.49	.84	.83	1.8	1.8	.84	.44	.21	.03	.03	.03
13	.31	.49	.84	.83	1.5	1.6	.81	.43	.21	.02	.03	.03
14	.32	1.1	.85	.83	1.4	1.6	.75	.41	.20	.02	.03	.03
15	.31	1.2	.87	.83	1.3	1.5	.74	.40	.20	.00	.03	.02
16	.32	.97	.87	.83	1.3	1.4	.69	.38	.18	.01	.03	.02
17	.32	.91	.87	.83	2.1	1.4	.67	.36	.17	.02	.03	.02
18	.33	.87	.86	.83	5.4	1.4	.66	.36	.17	.00	.02	.01
19	.35	.82	.87	.83	3.9	3.0	.61	.37	.17	.00	.02	.01
20	.35	.79	.89	.83	3.1	6.3	.58	.38	.15	.00	.01	.01
21	.35	.79	.87	.83	2.5	4.2	.57	.38	.15	.00	.01	.01
22	.35	.77	.87	.83	2.2	3.2	.54	.37	.14	.00	.00	.01
23	.35	.81	.83	.83	1.9	2.5	.52	.36	.15	.00	.00	.00
24	.35	.87	.83	.85	1.8	2.1	.57	.34	.14	.00	.00	.00
25	.34	.86	.83	.98	1.6	2.4	.70	.34	.13	.00	.00	.00
26	.34	.83	.84	.99	1.5	2.1	.66	.34	.12	.00	.00	.00
27	.34	.81	.87	.98	1.5	1.8	.68	.33	.12	.00	.00	.00
28	.34	.79	.87	1.0	1.4	1.6	.63	.32	.10	.00	.00	.00
29	.34	.79	.87	1.0	---	1.5	.61	.32	.12	.00	.00	.00
30	.34	.79	.87	.95	---	1.4	.57	.32	.12	.00	.00	.00
31	.35	---	.87	.93	---	1.3	---	.31	---	.00	.00	---
TOTAL	9.49	19.86	25.87	26.82	85.54	63.3	23.33	12.54	5.79	0.84	0.42	0.61
MEAN	.31	.66	.83	.87	3.05	2.04	.78	.40	.19	.027	.014	.020
MAX	.35	1.2	.89	1.0	20	6.3	1.2	.54	.29	.10	.09	.05
MIN	.25	.35	.79	.82	.91	1.3	.52	.31	.10	.00	.00	.00
AC-FT	19	39	51	53	170	126	46	25	11	1.7	.8	1.2

e Estimated.



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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.27	1.02	2.24	4.88	8.63	6.36	2.22	.89	.37	.87	1.16	1.48
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1962 - 1994			
ANNUAL TOTAL	5546.16				274.41							
ANNUAL MEAN	15.2				.75				2.51			
HIGHEST ANNUAL MEAN									15.1			
LOWEST ANNUAL MEAN									.002			
HIGHEST DAILY MEAN	647				20				850			
LOWEST DAILY MEAN	.21				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.23				.00				.00			
INSTANTANEOUS PEAK FLOW					58				7100			
INSTANTANEOUS PEAK STAGE					2.67				10.27			
ANNUAL RUNOFF (AC-FT)	11000				544				1820			
10 PERCENT EXCEEDS	25				1.5				3.1			
50 PERCENT EXCEEDS	.87				.44				.06			
90 PERCENT EXCEEDS	.26				.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 good. 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. See schematic diagram of Salton Sea basin.

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 based on 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)
Mar. 19	0530	*10	*7.28				

No flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	e.00	.00	.00	.00	.00	.00	.00	.00
2	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
3	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
4	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
5	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
6	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
7	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
8	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
9	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
10	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
11	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
12	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
13	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
14	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
15	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
16	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
17	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
18	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
19	e.00	e.00	e.00	e.00	.00	1.5	.00	.00	.00	.00	.00	.00
20	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
21	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
22	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
23	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
24	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
25	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
26	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
27	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
28	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
29	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	.00	.00	.00
30	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	.00	.00	.00
31	e.00	---	e.00	e.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.048	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	3.0	.00	.00	.00	.00	.00	.00

e Estimated.

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.010	.096	2.80	25.3	15.6	3.85	.023	.013	.010	1.32	1.31	3.07
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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1966 - 1994
ANNUAL TOTAL	17286.64	1.50	
ANNUAL MEAN	47.4	.004	4.43
HIGHEST ANNUAL MEAN			47.4
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	5000 Jan 16	1.5 Mar 19	5000 Jan 16
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Mar 1
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 22	.00 Oct 1	.00 Mar 1
INSTANTANEOUS PEAK FLOW		10 Mar 19	11400 Jan 25
INSTANTANEOUS PEAK STAGE		7.28 Mar 19	14.41 Jan 25
ANNUAL RUNOFF (AC-FT)	34290	3.0	3210
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

## SALTON SEA BASIN

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 (since October 1992, low-flow records only).

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 since October 1992. See schematic diagram of Salton Sea basin.

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, 111 ft<sup>3</sup>/s, Mar. 20, Apr. 26, 27, 30; minimum daily, 77 ft<sup>3</sup>/s, Oct. 26, 27, Nov. 3, 8, Jan. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	82	e88	e80	e90	e90	88	109	98	94	94	90
2	93	78	e88	e79	e90	e90	89	109	100	92	93	92
3	e92	77	e86	e79	e90	e95	90	109	101	92	93	91
4	e92	78	e84	e78	e110	e95	82	109	100	91	91	90
5	e90	78	e84	e80	e93	90	87	108	99	90	91	90
6	89	79	e84	77	e90	91	88	105	97	90	94	90
7	87	79	e82	78	e95	96	87	104	98	90	95	90
8	88	77	e82	82	e110	97	86	104	96	92	96	91
9	89	78	e82	82	e93	98	90	106	99	92	95	91
10	90	78	e80	80	e90	98	89	104	98	91	94	90
11	88	e78	e82	83	e90	95	92	105	98	90	94	91
12	87	84	e84	84	e95	93	96	105	97	90	94	91
13	88	83	e84	83	e95	99	97	104	97	90	95	88
14	87	85	e81	81	e90	99	99	106	97	90	96	88
15	87	80	e81	82	e90	103	102	104	96	91	94	87
16	87	81	e82	83	e90	104	104	100	96	91	94	86
17	89	86	e82	81	e85	104	106	97	98	92	95	88
18	87	92	e82	84	e85	104	109	95	97	94	95	90
19	87	93	e84	85	e85	108	108	94	97	91	95	88
20	88	92	e84	85	e90	111	110	95	97	90	97	88
21	87	91	e82	85	e90	108	109	98	95	89	96	88
22	87	91	e82	86	e90	99	106	100	95	89	95	86
23	87	93	e80	87	e95	96	107	98	95	89	94	87
24	85	92	e80	82	e95	93	106	100	95	88	94	87
25	82	90	e84	84	e95	86	110	98	93	89	97	87
26	77	89	e84	81	e95	86	111	98	93	90	94	85
27	77	91	e82	e85	e90	87	111	98	94	92	95	85
28	78	90	e82	e85	e90	85	110	99	93	93	94	85
29	80	e88	e80	e90	---	85	110	99	93	95	93	84
30	80	e86	e80	e90	---	86	111	100	94	99	91	83
31	84	---	e82	e95	---	87	---	97	---	96	90	---
TOTAL	2682	2539	2564	2576	2586	2958	2990	3157	2896	2832	2918	2647
MEAN	86.5	84.6	82.7	83.1	92.4	95.4	99.7	102	96.5	91.4	94.1	88.2
MAX	93	93	88	95	110	111	111	109	101	99	97	92
MIN	77	77	80	77	85	85	82	94	93	88	90	83
AC-FT	5320	5040	5090	5110	5130	5870	5930	6260	5740	5620	5790	5250

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.--No estimated daily discharges. Records fair. 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)
Feb. 7	2330	*3,860	*5.56	Mar. 19	1645	1,340	3.82
Feb. 17	2015	468	3.01				

Minimum daily, .88 ft<sup>3</sup>/s, Aug. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	13	16	14	28	58	62	50	12	2.6	2.0	2.3
2	9.7	13	16	14	35	57	59	44	12	3.3	1.4	2.3
3	9.7	13	15	13	38	63	57	38	11	3.8	1.3	2.3
4	9.8	13	14	14	75	70	55	33	11	4.2	1.1	2.3
5	10	14	14	14	104	70	51	30	9.8	3.8	.97	2.3
6	10	14	14	14	86	68	47	28	9.6	3.5	.88	2.3
7	11	14	14	15	629	74	45	42	9.9	3.4	.98	2.3
8	11	14	14	14	1120	76	44	42	9.3	3.2	1.1	2.3
9	11	14	15	15	147	68	47	36	8.8	3.2	.89	2.3
10	11	15	15	15	81	66	49	31	7.5	3.0	1.3	2.2
11	11	18	18	14	62	65	42	28	6.0	2.5	1.2	2.1
12	12	26	34	15	49	61	38	26	6.4	2.5	1.1	2.1
13	13	22	23	15	40	56	36	26	7.4	2.4	2.5	2.1
14	12	18	17	16	36	56	35	23	6.9	2.3	11	2.1
15	12	16	19	16	33	59	34	22	7.7	2.1	3.9	2.1
16	13	16	17	16	32	61	33	20	8.0	2.1	2.5	2.1
17	13	15	16	22	114	61	31	21	6.2	2.0	2.5	2.1
18	14	15	15	24	176	61	29	23	5.5	2.0	2.4	2.1
19	14	15	16	23	87	476	30	25	5.0	1.9	2.4	2.1
20	14	15	16	20	69	351	29	23	4.5	1.9	2.4	2.1
21	13	15	16	20	65	160	28	22	5.0	2.1	2.4	2.3
22	13	15	17	20	55	113	27	20	5.2	2.2	2.4	2.3
23	13	15	20	20	48	87	26	19	5.0	2.2	2.3	2.4
24	13	15	19	26	44	76	25	18	4.6	2.3	2.3	2.5
25	13	15	17	64	44	90	28	18	4.5	2.0	2.3	2.7
26	13	15	17	66	48	82	38	17	4.1	1.8	2.3	2.7
27	12	15	17	51	56	75	38	16	3.4	1.8	2.3	2.9
28	12	15	16	44	59	74	35	15	2.8	1.4	2.4	2.5
29	13	15	15	37	---	70	47	14	3.1	1.4	2.3	2.6
30	13	15	14	35	---	65	53	13	3.0	1.3	2.3	2.4
31	13	---	14	32	---	62	---	13	---	1.6	2.3	---
TOTAL	371.7	463	520	738	3460	2931	1198	796	205.2	75.8	69.42	69.2
MEAN	12.0	15.4	16.8	23.8	124	94.5	39.9	25.7	6.84	2.45	2.24	2.31
MAX	14	26	34	66	1120	476	62	50	12	4.2	11	2.9
MIN	9.5	13	14	13	28	56	25	13	2.8	1.3	.88	2.1
AC-FT	737	918	1030	1460	6860	5810	2380	1580	407	150	138	137

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.28	19.9	58.1	133	206	214	146	62.9	17.3	5.63	3.22	3.62
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1905 - 1994			
ANNUAL TOTAL	148716.6				10897.32							
ANNUAL MEAN	407				29.9				72.2			
HIGHEST ANNUAL MEAN									411			
LOWEST ANNUAL MEAN									3.06			
HIGHEST DAILY MEAN	11100				1120				14700			
LOWEST DAILY MEAN	8.4				.88				.00			
ANNUAL SEVEN-DAY MINIMUM	8.4				1.0				.07			
INSTANTANEOUS PEAK FLOW					3860				46600			
INSTANTANEOUS PEAK STAGE					5.56				23.81			
ANNUAL RUNOFF (AC-FT)	295000				21610				52330			
10 PERCENT EXCEEDS	664				62				141			
50 PERCENT EXCEEDS	23				15				10			
90 PERCENT EXCEEDS	10				2.2				.96			

## MOJAVE RIVER BASIN

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 1/4 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 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 CURRENT YEAR.--Maximum discharge, 1,930 ft<sup>3</sup>/s, Mar. 2, gage height, 5.62 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	40	55	1.1	1.4	4.7	1.0	5.9	.40	.20	e1.3	.00
2	41	42	e59	.67	1.8	e198	5.9	5.5	.46	.01	e1.2	.00
3	41	33	e64	.58	2.0	e17	6.9	5.9	.34	.00	e1.2	.00
4	41	45	e63	.51	5.5	e4.7	6.8	5.8	.45	.00	e1.1	.00
5	41	48	e66	e.00	3.6	e3.9	6.9	5.4	.27	.00	e1.1	.00
6	39	50	e65	e.00	2.4	e3.4	6.9	5.4	.23	.00	e1.1	.00
7	35	54	e63	e.00	171	e3.0	6.8	5.8	.24	.00	e1.0	.00
8	37	56	e60	e.00	463	e12	6.7	6.0	.25	.00	e.70	.00
9	38	44	e63	e.00	42	e10	6.3	5.8	.22	.00	e.40	.00
10	40	20	e63	e.00	e42	e2.4	6.3	5.5	.21	.00	e.18	.00
11	46	21	e56	e.00	10	e5.0	6.1	5.3	.18	.00	.00	.00
12	45	19	e21	e.00	e25	e2.0	5.9	5.1	.17	.00	.00	.00
13	43	18	e70	e.00	e26	1.4	6.0	4.8	.17	.00	.00	.00
14	20	18	e78	e.00	e32	1.4	5.9	4.3	.16	.15	.00	.00
15	47	17	e50	e.00	e36	.78	5.8	3.8	.00	e2.1	.00	.00
16	49	27	e87	e.00	e35	.39	5.4	3.6	.00	e2.0	.00	.00
17	49	55	e94	e.00	e67	.01	5.3	4.1	.00	e2.0	.00	.00
18	48	60	e96	e.00	e125	.00	5.2	4.1	.00	e1.9	.00	.00
19	46	61	e100	e.00	e45	e50	5.2	4.0	.00	e1.9	.00	.00
20	43	63	e93	e.00	e37	e255	4.9	4.1	.00	e1.8	.00	.00
21	44	64	e97	e.00	e57	e146	3.8	3.9	.00	e1.8	.00	.00
22	44	65	e87	e.00	e100	e106	3.2	3.7	.00	e1.7	.00	.00
23	43	63	e39	e.00	e88	e81	4.0	3.9	.00	e1.7	.00	.00
24	45	63	e24	e.00	e59	e45	4.2	3.7	.00	e1.6	.00	.00
25	44	62	e10	e.00	e10	e63	4.1	3.8	.00	e1.6	.00	.00
26	41	61	4.2	e.55	5.1	e52	5.4	4.0	.00	e1.5	.00	.00
27	41	61	3.9	e.85	5.0	e52	6.4	2.8	.00	e1.5	.00	.00
28	41	62	3.5	e1.3	5.0	e44	6.4	1.5	.00	e1.4	.00	.00
29	42	63	2.4	e1.5	---	e16	6.3	1.0	.13	e1.4	.00	.00
30	41	44	1.8	e1.7	---	3.4	5.8	.45	.21	e1.3	.00	.00
31	41	---	1.5	1.7	---	1.4	---	.58	---	e1.3	.00	---
TOTAL	1297	1399	1640.3	10.46	1501.8	1184.88	165.8	129.53	4.09	28.86	9.28	0.00
MEAN	41.8	46.6	52.9	.34	53.6	38.2	5.53	4.18	.14	.93	.30	.000
MAX	49	65	100	1.7	463	255	6.9	6.0	.46	2.1	1.3	.00
MIN	20	17	1.5	.00	1.4	.00	1.0	.45	.00	.00	.00	.00
AC-FT	2570	2770	3250	21	2980	2350	329	257	8.1	57	18	.00



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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1994, BY WATER YEAR (WY)

MEAN	3.36	6.17	17.1	73.3	167	168	56.1	32.7	15.3	.99	.067	.71
MAX	41.8	50.4	68.6	810	883	948	253	296	169	9.23	1.05	8.29
(WY)	1994	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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1975 - 1994	
ANNUAL TOTAL	67390.80		7371.00			
ANNUAL MEAN	185		20.2		44.5	
HIGHEST ANNUAL MEAN					183	
LOWEST ANNUAL MEAN					.94	
HIGHEST DAILY MEAN	3920	Feb 19	463	Feb 8	4900	Feb 10 1978
LOWEST DAILY MEAN	.00	Jul 9	.00	Jan 5	.00	Oct 1 1974
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 9	.00	Jan 5	.00	Oct 1 1974
INSTANTANEOUS PEAK FLOW			1930	Mar 2	11300	Feb 10 1978
INSTANTANEOUS PEAK STAGE			5.62	Mar 2	23.20	Feb 10 1978
ANNUAL RUNOFF (AC-FT)	133700		14620		32220	
10 PERCENT EXCEEDS	547		61		66	
50 PERCENT EXCEEDS	46		3.7		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

## MOJAVE RIVER BASIN

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 fair except for estimated daily discharges, which are 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 CURRENT YEAR.--Maximum discharge, 3,010 ft<sup>3</sup>/s, Feb. 8, gage height, 2.88 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	60	71	11	31	69	64	e56	e11	e.94	e.00	.00
2	44	63	75	12	37	255	76	e49	e9.0	e.94	e.00	.00
3	41	62	79	12	38	80	81	e54	e7.0	e.94	e.00	.00
4	41	62	77	13	66	71	86	e39	e5.0	e.94	e.00	.00
5	40	80	80	13	94	67	58	e35	e3.3	e.94	e.00	.00
6	40	76	79	14	69	62	74	e33	e3.2	e.95	e.00	.00
7	41	83	77	14	409	77	67	e48	e3.2	e.96	e.00	.00
8	39	82	74	14	1680	88	58	e48	e3.1	e.97	e.00	.00
9	36	68	78	13	342	77	72	e42	e3.1	e.98	e.00	.00
10	36	21	78	12	123	66	62	e36	e3.0	e.99	e.00	.00
11	43	24	74	11	50	70	65	e33	e3.0	e.99	.00	.00
12	44	34	55	11	74	69	57	e31	e2.9	e1.0	.00	.00
13	40	22	92	12	66	57	42	e31	e2.9	e1.0	.00	.00
14	15	24	95	13	68	55	25	e27	e2.8	e1.0	.00	.00
15	41	29	69	13	69	56	40	e26	e2.8	e1.0	.00	.00
16	47	36	104	12	67	63	40	e24	e2.7	e1.0	.00	.00
17	61	74	110	e18	119	60	40	e25	e2.7	e1.0	.00	.00
18	65	77	111	e20	301	60	32	e27	e2.7	e1.0	.00	.00
19	62	76	116	e20	132	420	27	e29	e2.6	e1.0	.00	.00
20	57	78	109	e18	106	606	25	e27	e2.6	e1.0	.00	.00
21	55	82	113	e18	122	306	28	e26	e2.6	e1.0	.00	.00
22	53	82	104	e18	155	219	30	e24	e2.5	e1.0	.00	.00
23	56	83	59	e18	135	168	33	e23	e2.5	e1.0	.00	.00
24	62	75	43	e21	103	121	33	e22	e2.4	e1.0	.00	.00
25	61	74	27	e60	55	153	e32	e22	e2.0	e1.0	.00	.00
26	65	74	18	e60	55	134	e43	e21	e1.8	e1.0	.00	.00
27	59	78	15	e50	58	127	e44	e19	e1.3	e1.0	.00	.00
28	63	75	13	e40	68	118	e39	e16	e1.1	e1.0	.00	.00
29	64	75	14	e36	---	86	e53	e15	e.93	e.90	.00	.00
30	61	65	13	e33	---	71	e59	e14	e.94	e.45	.00	.00
31	64	---	12	31	---	60	---	e13	---	e.25	.00	---
TOTAL	1544	1894	2134	661	4692	3991	1485	935	96.67	29.14	0.00	0.00
MEAN	49.8	63.1	68.8	21.3	168	129	49.5	30.2	3.22	.94	.000	.000
MAX	65	83	116	60	1680	606	86	56	11	1.0	.00	.00
MIN	15	21	12	11	31	55	25	13	.93	.25	.00	.00
AC-FT	3060	3760	4230	1310	9310	7920	2950	1850	192	58	.00	.00

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

MEAN	8.31	21.5	60.2	213	320	293	143	54.0	16.4	3.26	1.99	1.60
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 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1972 - 1994		
ANNUAL TOTAL	217146.8			17461.81					
ANNUAL MEAN	595			47.8			93.5		
HIGHEST ANNUAL MEAN							592 1993		
LOWEST ANNUAL MEAN							7.34 1990		
HIGHEST DAILY MEAN	15000	Feb	19	1680	Feb	8	15000	Feb	19 1993
LOWEST DAILY MEAN	5.0	Aug	8	.00	Aug	1	.00	Jul	4 1981
ANNUAL SEVEN-DAY MINIMUM	5.0	Aug	19	.00	Aug	1	.00	Jul	4 1981
INSTANTANEOUS PEAK FLOW				3010	Feb	8	21300	Feb	8 1993
INSTANTANEOUS PEAK STAGE				2.88	Feb	8	7.61	Jan	7 1993
ANNUAL RUNOFF (AC-FT)	430700			34640			67770		
10 PERCENT EXCEEDS	1140			84			142		
50 PERCENT EXCEEDS	79			31			8.3		
90 PERCENT EXCEEDS	6.0			.00			.00		

e Estimated

## 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, and 3 mi northwest of Victorville.

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.--No estimated daily discharges. Records poor. Flow regulated by Mojave Forks Reservoir, capacity 89,700 acre-ft, since 1971, 17.8 mi upstream, Silverwood Lake, capacity 78,000 acre-ft, since 1971, and Lake Arrowhead, capacity, 48,000 acre-ft, since 1922. Some water is imported into basin. 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, 74 ft<sup>3</sup>/s, Mar. 19, gage height, 1.47 ft; minimum daily, 1.9 ft<sup>3</sup>/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	16	21	29	26	24	22	19	7.8	3.1	2.1	2.4
2	5.8	16	24	29	27	24	22	24	8.1	2.9	2.1	2.6
3	6.3	16	24	29	31	24	25	21	8.1	2.8	2.1	2.5
4	6.5	16	25	29	33	24	22	17	11	2.8	2.0	2.5
5	6.5	16	26	29	29	24	25	16	9.5	2.7	2.2	2.5
6	7.8	16	25	29	28	30	20	17	8.1	2.7	2.2	2.6
7	15	16	26	29	28	34	19	16	8.3	2.5	2.0	2.6
8	15	16	26	29	32	29	19	16	8.1	2.4	2.0	2.4
9	9.2	16	26	30	26	23	21	16	6.3	2.5	2.1	2.4
10	8.5	16	27	30	26	19	19	16	6.7	2.6	2.1	2.5
11	9.2	19	26	29	25	21	20	16	6.1	2.5	2.3	2.6
12	10	19	27	28	25	22	24	15	5.3	2.6	2.1	2.7
13	9.7	19	26	28	26	22	24	16	6.4	2.3	2.0	2.8
14	9.5	23	27	29	24	24	24	17	6.3	2.4	2.2	2.7
15	10	22	28	30	24	23	21	19	5.8	2.4	2.4	2.7
16	10	19	26	29	24	22	19	15	5.2	2.5	2.1	2.6
17	10	19	26	28	24	23	19	12	4.7	2.3	2.1	2.7
18	10	19	27	28	24	24	18	11	4.8	2.4	2.1	2.7
19	11	19	26	29	25	35	24	10	4.5	2.2	2.3	2.7
20	11	20	27	27	27	27	20	10	5.6	2.4	2.1	2.6
21	12	19	27	29	24	24	22	13	5.7	2.1	2.2	2.6
22	13	20	27	29	24	25	21	11	3.8	2.1	2.3	2.5
23	12	22	27	27	21	21	19	8.9	3.6	2.1	2.5	2.4
24	13	20	27	28	22	21	19	16	3.6	2.2	2.4	2.1
25	13	22	27	35	22	25	11	13	3.3	2.2	2.3	2.3
26	13	21	28	33	24	21	12	8.9	3.1	2.0	2.4	2.0
27	13	22	28	32	25	24	12	13	2.9	2.0	2.1	2.2
28	14	19	27	31	25	24	12	9.5	2.9	2.1	2.4	2.6
29	13	22	28	27	---	25	11	8.0	3.0	2.0	2.3	2.6
30	16	24	29	27	---	21	13	7.2	3.0	1.9	2.5	2.7
31	16	---	29	28	---	23	---	5.9	---	2.2	2.6	---
TOTAL	334.8	569	820	903	721	752	579	433.4	171.6	73.9	68.6	75.8
MEAN	10.8	19.0	26.5	29.1	25.7	24.3	19.3	14.0	5.72	2.38	2.21	2.53
MAX	16	24	29	35	33	35	25	24	11	3.1	2.6	2.8
MIN	5.8	16	21	27	21	19	11	5.9	2.9	1.9	2.0	2.0
AC-FT	664	1130	1630	1790	1430	1490	1150	860	340	147	136	150

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

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.4	37.4	54.0	101	212	223	130	47.1	22.7	15.7	15.9	17.9
MAX	58.2	222	376	1487	2334	2229	1015	261	157	32.5	29.3	41.7
(WY)	1977	1966	1967	1993	1993	1938	1958	1978	1978	1969	1969	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)	1982	1992	1991	1990	1991	1990	1990	1990	1989	1990	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1931 - 1994			
ANNUAL TOTAL	143923.0				5502.1							
ANNUAL MEAN	394				15.1				74.4			
HIGHEST ANNUAL MEAN									402			
LOWEST ANNUAL MEAN									12.3			
HIGHEST DAILY MEAN	13800				35				21000			
LOWEST DAILY MEAN	3.0				1.9				1.6			
ANNUAL SEVEN-DAY MINIMUM	3.2				2.0				1.6			
INSTANTANEOUS PEAK FLOW					74				70600			
INSTANTANEOUS PEAK STAGE					1.47				23.70			
ANNUAL RUNOFF (AC-FT)	285500				10910				53890			
10 PERCENT EXCEEDS	875				28				54			
50 PERCENT EXCEEDS	26				16				28			
90 PERCENT EXCEEDS	5.8				2.3				13			

## MOJAVE RIVER BASIN

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.

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.--Flow regulated by Mojave Forks Reservoir, capacity, 89,700 acre-ft, since 1971, 60 mi upstream, Silverwood Lake, capacity, 78,000 acre-ft, since 1971, and Lake Arrowhead, capacity, 48,000 acre-ft, since 1922. Some water is imported into basin. 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.--No flow for 1994 water year.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.001	.38	3.67	26.2	101	120	44.4	5.66	.001	.004	.023	.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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1931 - 1994

ANNUAL TOTAL	61901.00											
ANNUAL MEAN	170									24.7		
HIGHEST ANNUAL MEAN										202		1969
LOWEST ANNUAL MEAN										.000		1931
HIGHEST DAILY MEAN	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	Mar 24					.00	Oct 1		.00	Oct	1 1930
INSTANTANEOUS PEAK FLOW										64300	Mar	3 1938
INSTANTANEOUS PEAK STAGE										8.60	Mar	3 1938
ANNUAL RUNOFF (AC-FT)	122800									17900		
10 PERCENT EXCEEDS	69						.00			.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 poor. 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.--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)
Mar. 19	1530	*76	*2.38				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	.87	1.6	1.0	.99	.73	.48	.39	.23	.00	.00	.13
2	.40	.85	1.6	.98	1.1	.76	.51	.39	.17	.00	.00	.36
3	.40	.88	1.6	.99	1.0	.74	.45	.36	.12	.00	.00	.29
4	.38	.96	1.7	1.0	1.6	.74	.45	.34	.11	.00	.00	.50
5	.36	.94	1.6	1.1	1.2	.69	.49	.32	.12	.00	.00	.52
6	.42	.97	1.6	.96	1.1	.69	.52	.33	.11	.00	.00	.50
7	e.48	1.1	1.6	1.1	1.3	.74	.52	.36	.13	.00	.00	.41
8	e.50	1.1	1.5	1.2	1.2	.75	.53	.41	.18	.00	.00	.40
9	e.52	1.1	1.5	1.2	1.0	.67	.54	.46	.19	.00	.00	.16
10	e.52	1.2	1.5	1.2	.99	.59	.55	.47	.19	.00	.00	.17
11	e.54	1.2	1.6	1.1	.88	.57	.59	.40	.10	.00	.00	.26
12	e.54	1.2	1.4	1.1	.84	.49	.60	.37	.06	.00	.00	.53
13	e.55	1.3	1.4	1.1	.87	.49	.55	.32	.05	.00	.00	.92
14	.55	1.3	1.4	1.1	.83	.51	.50	.30	.03	.00	.00	1.1
15	.58	1.2	1.4	1.1	.89	.50	.50	.22	.03	.00	.00	1.3
16	.61	1.3	1.3	1.1	.86	.45	.49	.15	.03	.00	.00	1.4
17	.57	1.4	1.3	.93	1.0	.41	.50	.21	.06	.00	.00	1.5
18	.57	1.4	1.4	.89	.94	.41	.49	.25	.07	.00	.07	1.5
19	.59	1.4	1.4	.85	.92	4.4	.42	.38	.08	.00	.06	1.4
20	.61	1.4	1.2	.87	1.0	.67	.41	.43	.05	.00	.01	1.5
21	.65	1.4	1.2	.87	.98	1.1	.37	.55	.03	.00	.01	1.6
22	.65	1.5	1.2	.92	.88	1.3	.38	.41	.03	.00	.00	1.5
23	.64	1.4	1.2	.98	.89	1.4	.37	.36	.01	.00	.04	1.5
24	.64	1.4	1.2	.98	.92	1.4	.36	.65	.01	.00	.07	1.6
25	.67	1.5	1.2	1.1	.86	1.2	.40	1.2	.00	.00	.05	1.5
26	.64	1.5	1.2	1.0	.81	.95	.43	.68	.00	.00	.05	1.8
27	.65	1.5	1.2	1.1	.77	.71	.48	.46	.00	.00	.09	1.7
28	.67	1.5	1.1	1.1	.70	.60	.43	.26	.01	.00	.04	1.7
29	.74	1.5	1.0	1.0	---	.57	.42	.23	.00	.00	.03	1.7
30	.79	1.6	1.0	1.0	---	.53	.40	.24	.00	.00	.06	1.7
31	.87	---	1.0	.99	---	.48	---	.44	---	.00	.09	---
TOTAL	17.71	37.87	42.1	31.91	27.32	26.24	14.13	12.34	2.20	0.00	0.67	31.15
MEAN	.57	1.26	1.36	1.03	.98	.85	.47	.40	.073	.000	.022	1.04
MAX	.87	1.6	1.7	1.2	1.6	4.4	.60	1.2	.23	.00	.09	1.8
MIN	.36	.85	1.0	.85	.70	.41	.36	.15	.00	.00	.00	.13
AC-FT	35	75	84	63	54	52	28	24	4.4	.00	1.3	62

e Estimated.

## 10263000 MOJAVE RIVER AT AFTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.77	.98	2.98	15.1	49.0	19.8	3.13	.71	.44	.52	1.50	.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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1930 - 1994

ANNUAL TOTAL	33519.76	243.64	
ANNUAL MEAN	91.8	.67	7.74
HIGHEST ANNUAL MEAN			100
LOWEST ANNUAL MEAN			.22
HIGHEST DAILY MEAN	10000	Feb 20	4.4 Mar 19
LOWEST DAILY MEAN	.05	Aug 31	.00 Jun 25
ANNUAL SEVEN-DAY MINIMUM	.05	Aug 31	.00 Jun 29
INSTANTANEOUS PEAK FLOW			76 Mar 19
INSTANTANEOUS PEAK STAGE			2.38 Mar 19
ANNUAL RUNOFF (AC-FT)	66490	483	5610
10 PERCENT EXCEEDS	30	1.4	1.7
50 PERCENT EXCEEDS	.57	.55	.80
90 PERCENT EXCEEDS	.18	.00	.07



## 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 good. 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)
Feb. 7	2000	*33	*2.17				

Minimum daily, 2.3 ft<sup>3</sup>/s, July 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	7.7	7.1	6.8	11	14	8.8	5.7	3.5	2.6	4.6
2	11	10	7.6	6.9	6.9	11	13	8.6	5.7	3.6	2.6	3.9
3	11	10	7.6	6.8	6.9	11	13	8.4	5.5	4.7	2.8	3.9
4	11	10	7.6	6.6	7.2	11	13	8.5	5.6	3.3	2.9	3.4
5	11	10	7.4	6.5	7.3	11	12	9.0	5.9	3.3	3.0	3.5
6	11	10	7.3	6.7	7.3	13	12	9.3	5.8	3.3	3.4	3.8
7	11	9.9	7.3	6.6	14	15	12	9.4	5.8	3.2	3.6	3.8
8	11	9.7	7.3	6.6	19	16	11	9.4	5.6	3.1	3.2	3.8
9	11	9.0	7.2	6.6	12	15	11	9.2	5.4	3.0	3.9	3.7
10	10	8.3	7.2	6.8	11	14	11	8.9	5.3	3.1	4.3	3.4
11	11	8.5	8.1	6.6	10	14	11	8.6	5.2	2.9	3.5	3.4
12	11	8.0	8.2	6.6	10	13	10	8.4	5.1	2.9	3.4	3.4
13	10	8.0	7.9	6.6	9.7	13	10	8.0	5.1	2.8	3.4	3.5
14	10	8.3	8.2	6.6	9.6	12	10	7.5	5.5	2.7	3.4	3.4
15	10	8.2	8.1	6.5	9.6	12	10	7.4	5.6	2.6	3.4	3.3
16	10	8.1	8.0	6.3	9.4	12	10	7.4	5.5	2.5	3.3	3.1
17	10	7.6	8.3	6.5	11	12	10	7.5	5.3	2.6	3.4	3.1
18	13	7.1	8.2	6.6	12	12	10	7.6	5.2	2.7	3.4	3.1
19	14	7.0	8.0	6.5	11	17	10	7.6	5.1	3.0	3.4	3.0
20	13	6.9	8.2	6.4	13	24	10	7.6	4.8	3.0	3.4	3.0
21	12	7.2	7.8	6.6	12	20	9.9	7.5	4.8	2.9	3.2	2.9
22	12	7.5	7.5	6.9	12	17	9.9	7.4	5.1	2.9	3.2	2.7
23	12	7.2	7.6	6.9	11	16	9.7	7.3	5.4	2.7	3.2	2.7
24	12	7.2	7.6	6.9	11	17	9.6	7.2	5.3	2.4	3.2	2.7
25	12	7.7	7.6	7.5	10	18	9.6	7.0	5.3	2.4	3.2	2.7
26	12	8.3	7.5	7.1	11	16	9.6	6.9	5.1	2.4	3.2	2.7
27	11	8.2	7.6	7.1	11	15	9.5	6.8	4.8	2.3	3.2	2.6
28	11	7.8	7.6	6.9	11	15	9.4	6.7	4.7	2.3	3.2	2.6
29	11	7.5	7.6	6.9	---	15	9.2	6.3	4.0	2.3	4.6	2.6
30	11	7.8	7.6	6.9	---	13	9.0	6.2	3.3	2.3	8.2	2.6
31	11	---	7.5	6.9	---	14	---	5.9	---	2.6	6.9	---
TOTAL	348	251.0	238.9	209.0	292.7	445	318.4	242.3	156.5	89.3	111.6	96.9
MEAN	11.2	8.37	7.71	6.74	10.5	14.4	10.6	7.82	5.22	2.88	3.60	3.23
MAX	14	10	8.3	7.5	19	24	14	9.4	5.9	4.7	8.2	4.6
MIN	10	6.9	7.2	6.3	6.8	11	9.0	5.9	3.3	2.3	2.6	2.6
AC-FT	690	498	474	415	581	883	632	481	310	177	221	192

## 10263500 BIG ROCK CREEK NEAR VALYERMO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.22	7.63	10.7	18.8	30.9	37.8	31.3	27.8	18.9	10.9	7.90	6.35
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1923 - 1994			
ANNUAL TOTAL	27732.1				2799.6							
ANNUAL MEAN	76.0				7.67				17.8			
HIGHEST ANNUAL MEAN									90.9			
LOWEST ANNUAL MEAN									1.91			
HIGHEST DAILY MEAN	1370				24				3300			
LOWEST DAILY MEAN	6.9				2.3				.70			
ANNUAL SEVEN-DAY MINIMUM	7.2				2.3				.87			
INSTANTANEOUS PEAK FLOW					33				8300			
INSTANTANEOUS PEAK STAGE					2.17							
ANNUAL RUNOFF (AC-FT)	55010				5550				12930			
10 PERCENT EXCEEDS	146				12				36			
50 PERCENT EXCEEDS	32				7.5				7.5			
90 PERCENT EXCEEDS	8.0				3.0				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 September 1994 (discontinued).

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.--Records good. 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 (\*), 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)
Feb. 17	1015	*0.45	*0.71				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.01	.01	.02	.01	.02	.02	.04	.02
2	.00	.00	.00	.01	.01	.01	.02	.01	.02	.03	.04	.02
3	.00	.00	.00	.01	.01	.01	.02	.01	.02	.03	.04	.02
4	.00	.00	.00	.01	.01	.01	.02	.01	.02	.03	.03	.03
5	.00	.00	.00	.01	.01	.01	.02	.01	.02	.03	.03	.03
6	.00	.00	.00	.01	.02	.01	.02	.01	.02	.03	.03	.02
7	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.02
8	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.02
9	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.02
10	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.02
11	.00	.00	.00	.00	.02	.01	.02	.01	.02	.03	.03	.03
12	.00	.00	.00	.00	.02	.01	.02	.01	.02	.03	.03	.02
13	.00	.00	.00	.00	.02	.01	.03	.01	.02	.04	.03	.02
14	.00	.00	.00	.00	.02	.02	.02	.01	.02	.03	.03	.02
15	.00	.00	.00	.00	.02	.02	.02	.01	.02	.03	.03	.03
16	.00	.00	.00	.00	.02	.02	.02	.01	.02	.03	.03	.03
17	.00	.00	.00	.00	.03	.02	.02	.01	.02	.03	.03	.03
18	.00	.00	.00	.00	.02	.02	.02	.01	.02	.03	.03	.03
19	.00	.00	.00	.00	.01	.02	.02	.01	.02	.03	.03	.02
20	.00	.00	.00	.01	.03	.02	.02	.01	.02	.03	.03	.03
21	.00	.00	.00	.01	.03	.02	.02	.01	.02	.03	.03	.03
22	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.02	.02
23	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.02
24	.00	.00	.00	.01	.02	.02	.02	.01	.02	.03	.03	.03
25	.00	.00	.00	.01	.01	.02	.02	.01	.02	.03	.03	.03
26	.00	.00	.00	.01	.01	.02	.02	.01	.02	.03	.03	.02
27	.00	.00	.00	.01	.01	.02	.01	.01	.02	.03	.03	.02
28	.00	.00	.00	.01	.01	.02	.01	.01	.02	.03	.03	.02
29	.00	.00	.00	.01	---	.02	.01	.01	.03	.04	.03	.02
30	.00	.00	.00	.01	---	.02	.01	.01	.02	.04	.03	.03
31	.00	---	.00	.01	---	.02	---	.02	---	.04	.02	---
TOTAL	0.00	0.00	0.00	0.21	0.49	0.53	0.57	0.32	0.61	0.96	0.94	0.72
MEAN	.000	.000	.000	.007	.017	.017	.019	.010	.020	.031	.030	.024
MAX	.00	.00	.00	.01	.03	.02	.03	.02	.03	.04	.04	.03
MIN	.00	.00	.00	.00	.01	.01	.01	.01	.02	.02	.02	.02
AC-FT	.00	.00	.00	.4	1.0	1.1	1.1	.6	1.2	1.9	1.9	1.4

## 10264502 PEACH TREE CREEK NEAR LITTLEROCK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.007	.001	.006	.014	.022	.014	.005	.003	.005	.006	.007	.007
MAX	.027	.003	.017	.044	.066	.044	.019	.010	.020	.031	.030	.024
(WY)	1993	1993	1993	1993	1992	1991	1994	1994	1994	1994	1994	1994
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1989 - 1994

ANNUAL TOTAL	2.56	5.35	
ANNUAL MEAN	.007	.015	.008
HIGHEST ANNUAL MEAN			.015
LOWEST ANNUAL MEAN			.002
HIGHEST DAILY MEAN	.43 Feb 18	.04 Jul 13	.97 Feb 12 1992
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 21	.00 Oct 1	.00 Oct 1 1988
INSTANTANEOUS PEAK FLOW		.45 Feb 17	10 Feb 12 1992
INSTANTANEOUS PEAK STAGE		.71 Feb 17	1.00 Feb 12 1992
ANNUAL RUNOFF (AC-FT)	5.1	11	5.9
10 PERCENT EXCEEDS	.00	.03	.02
50 PERCENT EXCEEDS	.00	.02	.00
90 PERCENT EXCEEDS	.00	.00	.00

## PRECIPITATION RECORDS

PERIOD OF RECORD.--February 1989 to September 30, 1994 (discontinued).

INSTRUMENTATION.--Recording tipping-bucket raingage 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, 0.25 in, Feb. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.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	.15	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.02	.19	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.25	.06	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.02	.00	.00	.08	.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	.08	.09	.08	.00	.01	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.04	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.00	.05	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.08	.00	.02	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.01	.00	.00	.08	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.12	.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	.10	.00	.11	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.05	.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	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.08	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.08	0.21	0.24	0.10	0.64	0.44	0.05	0.08	0.00	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.--No estimated daily discharges. 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 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)
Mar. 1	0815	*8.6	*1.06	Mar. 26	1925	8.3	1.05
Mar. 19	0325	6.4	0.99				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.00
2	.01	.00	.00	.00	.00	.00	.00	.01	.00	.01	.00	.00
3	.01	.00	.00	.00	.00	.00	.00	.01	.00	.01	.01	.00
4	.01	.00	.00	.00	.02	.00	.00	.01	.01	.01	.02	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
6	.00	.01	.00	.00	.00	.02	.00	.00	.00	.01	.00	.00
7	.00	.01	.00	.00	.05	.00	.00	.00	.01	.01	.00	.00
8	.00	.00	.00	.00	.02	.00	.00	.09	.01	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
11	.10	.18	.05	.00	.00	.00	.00	.01	.01	.00	.01	.00
12	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.00
13	.05	.01	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00
14	.05	.02	.15	.00	.00	.00	.00	.00	.01	.00	.00	.00
15	.13	.00	.02	.00	.00	.00	.00	.01	.02	.00	.00	.00
16	.09	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
17	.06	.00	.01	.00	.02	.00	.01	.00	.02	.00	.00	.00
18	.07	.00	.01	.00	.00	.00	.01	.00	.02	.00	.00	.01
19	.06	.00	.06	.00	.00	.04	.00	.00	.03	.00	.00	.00
20	.02	.00	.00	.00	.03	.00	.00	.00	.02	.00	.00	.00
21	.01	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
22	.01	.00	.00	.00	.00	.00	.00	.01	.01	.00	.03	.01
23	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.01
24	.01	.00	.00	.04	.00	.06	.00	.01	.00	.00	.01	.00
25	.01	.00	.00	.01	.00	.00	.00	.01	.00	.00	.01	.00
26	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.01
27	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.00	.01
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.02
30	.00	.11	.00	.00	---	.00	.02	.00	.00	.00	.00	.01
31	.00	---	.00	.00	---	.00	---	.01	---	.00	.00	---
TOTAL	0.71	0.34	0.30	0.05	0.14	0.12	0.05	0.24	0.30	0.07	0.09	0.09
MEAN	.023	.011	.010	.002	.005	.004	.002	.008	.010	.002	.003	.003
MAX	.13	.18	.15	.04	.05	.06	.02	.09	.03	.01	.03	.02
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.4	.7	.6	.1	.3	.2	.1	.5	.6	.1	.2	.2

## ANTELOPE VALLEY

10264508 SOMERSET CREEK AT PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.008	.006	.018	.15	.18	.031	.005	.008	.011	.006	.007	.009
MAX	.023	.013	.063	.57	.53	.10	.011	.012	.027	.014	.020	.024
(WY)	1994	1991	1993	1993	1993	1991	1992	1990	1993	1989	1993	1993
MIN	.001	.000	.000	.002	.005	.002	.001	.000	.002	.000	.001	.001
(WY)	1992	1992	1991	1994	1994	1993	1989	1991	1992	1992	1991	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1989 - 1994		
ANNUAL TOTAL	36.95			2.50					
ANNUAL MEAN	.10			.007			.036		
HIGHEST ANNUAL MEAN							.10		
LOWEST ANNUAL MEAN							.007		
HIGHEST DAILY MEAN	6.2 Jan 7			.18 Nov 11			6.2 Jan 7 1993		
LOWEST DAILY MEAN	.00 Jan 3			.00 Oct 5			.00 Feb 7 1989		
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 20			.00 Oct 26			.00 Feb 13 1989		
INSTANTANEOUS PEAK FLOW				8.6 Mar 1			63 Feb 18 1993		
INSTANTANEOUS PEAK STAGE				1.06 Mar 1			1.55 Feb 18 1993		
ANNUAL RUNOFF (AC-FT)	73			5.0			26		
10 PERCENT EXCEEDS	.04			.02			.02		
50 PERCENT EXCEEDS	.01			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 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 in, Feb. 18, 1993; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 0.21 in, Feb. 4; no rainfall for many days each year.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.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	.21	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.02	.12	.00	.00	.00	.00	.01	.00
7	.00	.00	.00	.00	.19	.04	.00	.00	.00	.00	.03	.00
8	.00	.00	.00	.00	.02	.00	.00	.11	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.08	.14	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00
13	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.07	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.00	.11	.00	.00	.02	.00	.00	.00	.00
18	.00	.00	.07	.00	.01	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.01	.00	.00	.08	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.14	.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	.09	.00	.14	.00	.00	.02	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.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	.04	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.08	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.11	0.33	0.27	0.09	0.70	0.40	0.02	0.13	0.02	0.00	0.04	0.00

## 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.--Records fair, except estimated daily discharges, which are poor. 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, maximum gage height, 10.06 ft, Feb. 18, 1993; 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)
Feb. 7	1730	*4.1	*6.28				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.10	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
6	.01	.00	.00	.00	.02	e.02	.00	.00	.00	.00	.00	.00
7	.01	.00	.00	.00	.27	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.05	.00	.00	.03	.00	.00	.00	.00
9	.01	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
10	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.03	.07	.09	.01	.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	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.01
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.01	.07	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	e.04	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	e.03	.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	.05	.00	e.07	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.02	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.02	.00	.00	---	.00	.00	.00	.00	.00	.00	.01
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.07	0.11	0.17	0.10	0.55	0.13	0.00	0.03	0.00	0.00	0.01	0.02
MEAN	.002	.004	.005	.003	.020	.004	.000	.001	.000	.000	.000	.001
MAX	.03	.07	.09	.05	.27	.07	.00	.03	.00	.00	.01	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.1	.2	.3	.2	1.1	.3	.00	.06	.00	.00	.02	.04

e Estimated.

## ANTELOPE VALLEY

10264510 INN CREEK AT PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.017	.027	.025	.044	.054	.031	.002	.010	.015	.012	.015	.018
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	.004	.004	.003	.005	.000	.000	.000	.000	.000	.000	.000
(WY)	1993	1994	1991	1994	1989	1993	1989	1993	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1989 - 1994		
ANNUAL TOTAL	7.33			1.19					
ANNUAL MEAN	.020			.003			.022		
HIGHEST ANNUAL MEAN							.034		
LOWEST ANNUAL MEAN							.003		
HIGHEST DAILY MEAN	1.4 Jan 7			.27 Feb 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 22			.00 Oct 12			.00 Dec 2 1988		
INSTANTANEOUS PEAK FLOW				4.1 Feb 7			18 Feb 12 1992		
INSTANTANEOUS PEAK STAGE				6.28 Feb 7			10.06 Feb 18 1993		
ANNUAL RUNOFF (AC-FT)	15			2.4			16		
10 PERCENT EXCEEDS	.01			.00			.05		
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 raingage 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, 0.28 in., Feb. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	.00	---	---	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.12	---	---	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.07	---	---	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.28	---	---	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.05	---	---	.19	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
10	.02	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00
11	.08	.15	.11	.00	.00	---	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
14	.00	.05	.09	.00	.00	---	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.10	---	.00	.01	.00	.00	.00	.00
18	.00	.00	.09	.00	---	---	.00	.00	.00	.00	.00	.00
19	.00	.00	.02	.00	---	---	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
21	.00	.01	.00	.00	---	---	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.02	---	---	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.06	---	---	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.01	---	---	.06	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	---	---	.01	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
29	.00	.04	.00	.00	---	---	.00	.00	.00	.00	.00	.00
30	.00	.06	.00	.00	---	---	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	---	---	.00	---	.00	.00	---
TOTAL	0.10	0.31	0.31	0.09	---	---	---	0.20	0.00	0.00	0.00	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 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)
Feb. 20	0400	*.91	*10.36				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.06	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.22	.19	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.06	.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	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.00	.05	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.26	.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	.03	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.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	.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	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.06	0.04	0.65	0.19	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.002	.001	.023	.006	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.05	.03	.26	.19	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.1	.08	1.3	.4	.00	.00	.00	.00	.00	.00

## ANTELOPE VALLEY

10264530 PINE CREEK NEAR PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.004	.057	.47	.27	.12	.030	.000	.000	.000	.000
MAX	.001	.000	.016	.32	2.66	1.42	.69	.18	.000	.000	.000	.000
(WY)	1992	1990	1993	1993	1993	1993	1993	1993	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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1989 - 1994

ANNUAL TOTAL	154.77	0.94	
ANNUAL MEAN	.42	.003	.076
HIGHEST ANNUAL MEAN			.43
LOWEST ANNUAL MEAN			.001
HIGHEST DAILY MEAN	15	Feb 18	15
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	May 10	.00
INSTANTANEOUS PEAK FLOW		.91	Feb 20
INSTANTANEOUS PEAK STAGE		10.36	Feb 20
ANNUAL RUNOFF (AC-FT)	307	1.9	55
10 PERCENT EXCEEDS	1.0	.00	.00
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 raingage since Feb. 22, 1989. Supplemental weight-driven recording raingage 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 CURRENT YEAR.--Maximum daily rainfall, 0.48 in, Feb. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
2	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
3	.00	.00	---	.00	.02	---	---	---	.00	.00	---	.00
4	.00	.00	---	.00	.18	---	---	---	.00	.00	---	.00
5	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
6	---	.00	---	.00	.10	---	---	---	.00	.00	---	.00
7	---	.00	---	.00	.48	---	---	---	.00	.00	---	.00
8	---	.00	---	.00	.04	---	---	---	.00	.00	---	.00
9	---	.00	---	.00	.00	---	---	---	.00	.00	---	.00
10	---	.00	---	.00	.00	---	---	---	.00	.00	---	.00
11	---	.12	---	.00	.00	---	---	---	.00	.00	---	.00
12	---	.02	---	.00	.00	---	---	---	.00	.00	---	.00
13	---	.00	---	.00	.00	---	---	---	.00	.00	---	.00
14	---	.07	.11	.00	.00	---	---	---	.00	.00	---	.00
15	---	.00	.00	.00	.00	---	---	---	.00	.00	---	.00
16	---	.00	.00	.00	.00	---	---	---	.00	.00	---	.00
17	---	.00	.01	.00	.22	---	---	---	.00	.00	---	.00
18	---	.00	.13	.00	---	---	---	---	.00	.00	---	.00
19	---	.00	.02	.00	---	---	---	---	.00	.00	---	.00
20	---	.00	.01	.00	---	---	---	---	.00	.00	---	.00
21	---	.00	.00	.00	---	---	---	---	.00	.00	---	.00
22	---	.01	.00	.00	---	---	---	---	.00	.00	.00	.00
23	---	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
24	---	.00	.00	.14	---	---	---	.00	.00	.00	.00	.00
25	---	.00	.00	.02	---	---	---	.00	.00	.00	.00	.00
26	---	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
27	---	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
28	---	.00	.00	.00	---	---	---	.00	.00	---	.00	.00
29	.00	.06	.00	.00	---	---	---	.00	.00	---	.00	.00
30	.00	---	.00	.00	---	---	---	.00	.00	---	.00	.00
31	.00	---	.00	.00	---	---	---	.00	---	---	.00	---
TOTAL	---	---	---	0.16	---	---	---	---	0.00	---	---	0.00

## 107

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 good. 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)
Dec. 14	1550	*0.35	*3.13				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

[illegible]

## 10264550 CITY RANCH CREEK NEAR PALMDALE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.006	.015	.027	.022	.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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1989 - 1994
ANNUAL TOTAL	3.20	0.01	
ANNUAL MEAN	.009	.000	.006
HIGHEST ANNUAL MEAN			.016
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	.65 Feb 18	.01 Dec 14	1.6 Mar 26 1991
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 19	.00 Oct 1	.00 Oct 1 1988
INSTANTANEOUS PEAK FLOW		.35 Dec 14	16 Feb 12 1992
INSTANTANEOUS PEAK STAGE		3.13 Dec 14	4.37 Feb 12 1992
ANNUAL RUNOFF (AC-FT)	6.3	.02	4.1
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 raingage 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, 0.43 in., Feb. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.08	.09	.00	.02	.00	.00	.00	.00
7	.00	.00	.00	.00	.43	.06	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.12	.00	.00	.19	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.09	.14	.12	.00	.01	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.08	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.00	.14	.00	.00	.02	.00	.00	.00	.00
18	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.02	.00	.00	.15	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.19	.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	.09	.00	.13	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.02	.00	.00	.08	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.06	.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	.05	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.05	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.11	0.32	0.39	0.11	1.26	0.43	0.14	0.23	0.00	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)
Nov. 5	0620	2.1	4.37	Jan. 24	2215	9.9	4.74
Dec. 11	1515	4.0	4.49	Feb. 7	1800	*16	*4.91

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
2	.01	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
3	.00	.16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05
4	.00	.27	.00	.00	.43	.00	.00	.00	.00	.00	.00	.02
5	.00	.92	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
6	.00	.51	.00	.00	.01	.00	.00	.00	.00	.00	.00	.04
7	.00	.51	.00	.00	1.7	.00	.00	.00	.00	.00	.00	.04
8	.00	.72	.00	.00	.05	.00	.00	.00	.00	.00	.00	.04
9	.00	.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05
10	.00	.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
11	.00	.38	.26	.00	.00	.00	.00	.00	.00	.00	.00	.03
12	.00	.61	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07
13	.00	.64	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
14	.00	.27	.22	.00	.00	.00	.00	.00	.00	.00	.00	.07
15	.00	.44	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
16	.00	.11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09
18	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.07
19	.00	.00	.02	.00	.00	.06	.00	.00	.00	.00	.00	.07
20	.00	.00	.00	.00	.35	.00	.00	.00	.00	.00	.00	.09
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.08
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.05
24	.00	.00	.00	.52	.00	.08	.00	.00	.00	.00	.00	.10
25	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.11
26	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.13
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.01	.10
30	.01	.00	.00	.00	---	.00	.00	.00	.00	.00	.01	.20
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	0.08	6.70	0.52	0.55	2.54	0.14	0.00	0.00	0.00	0.00	0.05	2.30
MEAN	.003	.22	.017	.018	.091	.005	.000	.000	.000	.000	.002	.077
MAX	.06	.92	.26	.52	1.7	.08	.00	.00	.00	.00	.01	.20
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
AC-FT	.2	13	1.0	1.1	5.0	.3	.00	.00	.00	.00	.1	4.6

## 10264555 ESTATES CREEK NEAR QUARTZ HILL, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.007	.048	.022	.088	.15	.059	.001	.005	.010	.007	.010	.025
MAX	.016	.22	.080	.33	.31	.19	.005	.021	.033	.029	.020	.077
(WY)	1990	1994	1993	1993	1992	1991	1990	1989	1989	1989	1990	1994
MIN	.003	.000	.000	.018	.021	.001	.000	.000	.000	.000	.001	.003
(WY)	1994	1993	1991	1994	1990	1990	1992	1992	1994	1992	1993	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1989 - 1994			
ANNUAL TOTAL	26.96				12.88							
ANNUAL MEAN	.074				.035							
HIGHEST ANNUAL MEAN									.034			
LOWEST ANNUAL MEAN									.061			
HIGHEST DAILY MEAN	3.5 Feb 18				1.7 Feb 7				3.5 Feb 10 1992			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 3				.00 May 1 1989			
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 19				.00 Oct 3				.00 Nov 21 1989			
INSTANTANEOUS PEAK FLOW					16 Feb 7				22 Feb 18 1993			
INSTANTANEOUS PEAK STAGE					4.91 Feb 7				5.05 Feb 18 1993			
ANNUAL RUNOFF (AC-FT)	53				26				25			
10 PERCENT EXCEEDS	.09				.07				.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 raingage 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, 0.35 in., Feb. 7; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	---	---	---	.00	.00	---	.01
3	.00	.00	.00	.00	.01	---	---	---	.00	.00	---	.00
4	.00	.00	.00	.00	.31	---	---	---	.00	.00	---	.00
5	.00	.00	.00	.00	.00	---	---	---	.00	.00	---	.00
6	.00	.00	.00	.00	.03	---	---	---	.00	.00	---	.00
7	.00	.00	.00	.00	.35	---	---	---	.00	.00	---	.00
8	.00	.00	.00	.00	.02	---	---	---	.00	.00	---	.00
9	.00	.00	.00	.00	.00	---	---	---	.00	.00	---	.01
10	.04	.00	.00	.00	.00	---	---	.00	.00	.00	---	.00
11	.11	.12	.13	.00	.00	---	---	.00	.00	.00	---	.00
12	.00	.00	.00	.00	.00	---	---	.00	.00	.00	---	.00
13	.00	.00	.00	.00	.00	---	---	.00	.00	.00	---	.00
14	.00	.06	.11	.00	.00	---	---	.00	.00	.00	---	.00
15	.00	.00	.00	.00	.00	---	---	.00	.00	.00	---	.00
16	.00	.00	.00	.00	.00	---	---	.00	.00	.00	---	.00
17	.00	.00	.00	.00	---	---	---	.02	.00	.00	---	.00
18	.00	.00	.08	.00	---	---	---	.00	.00	.00	---	.00
19	.00	.00	.02	.00	---	---	---	.00	.00	.00	---	.00
20	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	---	---	---	.00	.00	.01	.00	.00
23	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
24	.00	.00	.00	.09	---	---	---	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	---	---	---	.00	.00	.00	.01	.00
26	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.01
28	.00	.00	.00	.00	---	---	---	.00	.00	---	.00	.00
29	.00	.05	.00	.00	---	---	---	.00	.00	---	.00	.00
30	.00	.04	.00	.00	---	---	---	.00	.00	---	.00	.01
31	.00	---	.00	.00	---	---	---	.00	---	---	.00	---
TOTAL	0.15	0.27	0.34	0.09	---	---	---	---	0.00	---	---	0.04

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 September 1994 (discontinued). 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.--No estimated daily discharges. 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 most of all years or all of most years

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 flow for entire water year.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.006	.004	.030	.008	.002	.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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1989 - 1994

ANNUAL TOTAL	0.81		
ANNUAL MEAN	.002		
HIGHEST ANNUAL MEAN		.004	
LOWEST ANNUAL MEAN		.019	1992
HIGHEST DAILY MEAN	.71 Jan 14	.000	1989
LOWEST DAILY MEAN	.00 Jan 1	2.1	Feb 12 1992
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00	Oct 1 1988
INSTANTANEOUS PEAK FLOW		.00	Oct 1 1988
INSTANTANEOUS PEAK STAGE		.00	Oct 1
ANNUAL RUNOFF (AC-FT)	1.6	28	Mar 20 1992
10 PERCENT EXCEEDS	.00	3.09	Mar 20 1992
50 PERCENT EXCEEDS	.00	2.9	
90 PERCENT EXCEEDS	.00	.00	

102645605 JOSHUA CREEK NEAR MOJAVE, CA--Continued

## PRECIPITATION RECORDS

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

INSTRUMENTATION.--Tipping-bucket raingage 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, 0.28 in, Feb. 8; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
2	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
3	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
4	.00	.00	---	.00	.05	---	---	---	.00	.00	---	.00
5	.00	.00	---	.00	.13	---	---	---	.00	.00	---	.00
6	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
7	.00	.00	---	.00	.04	---	---	---	.00	.00	---	.00
8	.00	.00	---	.00	.28	---	---	---	.00	.00	---	.00
9	.00	.00	---	.00	.00	---	---	---	.00	.00	---	.00
10	.07	.00	---	.00	.00	---	---	---	.00	.00	---	.00
11	.00	.07	---	.00	.00	---	---	---	.00	.00	---	.00
12	.00	.06	.06	.00	.02	---	---	---	.00	.00	---	.00
13	.00	.00	.00	.00	.00	---	---	---	.00	.00	---	.00
14	.00	.05	.03	.00	.00	---	---	---	.00	.00	---	.00
15	.00	.00	.01	.00	.00	---	---	---	.00	.00	---	.00
16	.00	.00	.00	.00	.00	---	---	---	.00	.00	---	.00
17	.00	.00	.00	.00	---	---	---	---	.00	.00	---	.00
18	.00	.00	.00	.00	---	---	---	---	.00	.00	---	.00
19	.00	.00	.00	.00	---	---	---	---	.00	.00	.00	.00
20	.00	.00	.00	.00	---	---	---	---	.00	.00	.00	.00
21	.00	.03	.00	.00	---	---	---	---	.00	.00	.00	.00
22	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00
27	.00	.00	.00	.03	---	---	---	.00	.00	---	.00	.00
28	.00	.00	.00	.04	---	---	---	.00	.00	---	.00	.00
29	.00	---	.00	.00	---	---	---	.00	.00	---	.00	.02
30	.00	---	.00	.00	---	---	---	.02	.00	---	.00	.00
31	.00	---	.00	.00	---	---	---	.00	---	---	.00	---
TOTAL	0.07	---	---	0.07	---	---	---	---	0.00	---	---	0.02



## 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>.

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.--No flow for entire water year.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.001	.000	.005	.009	.016	.008	.003	.001	.000	.000	.000	.000
MAX	.003	.000	.028	.052	.072	.029	.018	.004	.001	.000	.000	.000
(WY)	1993	1989	1993	1993	1992	1991	1989	1991	1991	1989	1989	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1989	1989	1989	1990	1990	1989	1989	1989	1989	1989

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	2.19					
ANNUAL MEAN	.006				.003	
HIGHEST ANNUAL MEAN					.009	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	.40 Jan 13				1.0 Feb 12 1992	
LOWEST DAILY MEAN	.00 Jan 1		.00 Oct 1		.00 Oct 1 1988	
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 19		.00 Oct 1		.00 Oct 1 1988	
INSTANTANEOUS PEAK FLOW					11 Apr 14 1989	
INSTANTANEOUS PEAK STAGE					4.82 Apr 14 1989	
ANNUAL RUNOFF (AC-FT)	4.3				2.5	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

## 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.--No estimated daily discharges. 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 1	1145	*82	*1.61				

Minimum daily, 31 ft<sup>3</sup>/s, Sept. 25-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	45	42	39	36	40	36	39	77	43	38	34
2	49	45	44	39	36	40	37	39	78	44	38	34
3	50	45	42	40	37	42	38	39	68	46	37	34
4	49	44	43	40	37	42	37	40	63	46	37	34
5	49	45	41	41	37	43	37	41	66	46	37	34
6	49	45	42	39	37	41	37	47	66	45	37	34
7	49	45	42	39	38	41	37	48	64	45	37	34
8	49	45	43	40	38	39	37	45	63	44	37	33
9	49	45	43	39	38	39	37	44	58	44	37	33
10	49	45	43	38	38	38	36	45	60	42	37	32
11	50	44	41	40	37	38	36	48	66	42	37	32
12	49	45	39	38	37	37	36	48	62	41	36	33
13	48	44	41	39	38	37	36	49	56	41	36	33
14	48	43	41	39	38	37	37	50	55	41	36	33
15	48	42	40	39	38	38	37	58	53	40	36	33
16	48	43	40	40	38	37	37	65	53	40	35	32
17	48	44	39	40	38	37	37	69	54	40	35	32
18	48	44	39	38	37	37	37	66	49	40	35	32
19	48	44	39	39	38	37	38	58	46	40	35	32
20	47	43	39	39	38	35	39	54	45	39	35	33
21	47	44	40	39	38	35	38	48	47	39	35	32
22	47	44	39	38	39	36	39	44	46	40	35	32
23	47	42	40	39	39	34	38	44	44	40	35	32
24	47	42	40	37	39	35	38	44	44	39	35	32
25	46	40	40	38	39	36	39	45	43	39	34	31
26	46	41	40	38	39	37	39	46	43	38	34	31
27	46	42	40	38	39	36	41	51	43	37	34	31
28	46	43	40	38	39	36	42	51	43	37	33	31
29	46	44	40	36	---	36	41	56	42	37	34	33
30	46	44	39	37	---	36	40	63	42	38	34	32
31	45	---	39	36	---	37	---	65	---	38	34	---
TOTAL	1481	1311	1260	1199	1060	1169	1134	1549	1639	1271	1105	978
MEAN	47.8	43.7	40.6	38.7	37.9	37.7	37.8	50.0	54.6	41.0	35.6	32.6
MAX	50	45	44	41	39	43	42	69	78	46	38	34
MIN	45	40	39	36	36	34	36	39	42	37	33	31
AC-FT	2940	2600	2500	2380	2100	2320	2250	3070	3250	2520	2190	1940

## 10265150 HOT CREEK AT FLUME, NEAR MAMMOTH, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.1	37.6	34.6	34.8	35.4	37.5	40.0	50.5	66.3	55.1	43.9	39.5
MAX	47.8	43.7	40.6	38.7	38.1	39.3	49.9	76.6	118	105	64.8	54.0
(WY)	1994	1994	1994	1994	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	35.6	32.6
(WY)	1991	1993	1993	1993	1993	1992	1992	1991	1992	1990	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1990 - 1994			
ANNUAL TOTAL	21484				15156							
ANNUAL MEAN	58.9				41.5				42.8			
HIGHEST ANNUAL MEAN									55.9			
LOWEST ANNUAL MEAN									37.5			
HIGHEST DAILY MEAN	166				78				166			
LOWEST DAILY MEAN	30				31				29			
ANNUAL SEVEN-DAY MINIMUM	30				31				29			
INSTANTANEOUS PEAK FLOW					82				173			
INSTANTANEOUS PEAK STAGE					1.61				2.54			
ANNUAL RUNOFF (AC-FT)	42610				30060				31000			
10 PERCENT EXCEEDS	110				49				55			
50 PERCENT EXCEEDS	48				39				38			
90 PERCENT EXCEEDS	33				34				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)
May 30	2145	*0.54	*0.52				

Minimum daily, 0.34 ft<sup>3</sup>/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	.40	.40	.38	.36	.34	.34	.36	.36	.36	.36	.37
2	.41	.40	.40	.38	.36	.34	.35	.36	.35	.36	.36	.37
3	.42	.40	.40	.38	.36	.34	.35	.36	.35	.36	.36	.37
4	.42	.41	.40	.38	.36	.34	.35	.36	.36	.36	.36	.37
5	.41	.41	.40	.38	.36	.35	.35	.36	.36	.36	.36	.37
6	.41	.41	.40	.38	.36	.36	.35	.36	.36	.36	.36	.37
7	.41	.41	.40	.38	.38	.35	.35	.36	.36	.36	.36	.37
8	.41	.40	.40	.38	.36	.35	.36	.36	.36	.36	.37	.37
9	.42	.41	.40	.39	.36	.36	.36	.36	.36	.37	.37	.37
10	.41	.42	.40	.38	.36	.35	.35	.36	.36	.36	.37	.38
11	.41	.42	.42	.38	.35	.36	.36	.36	.36	.37	.37	.38
12	.41	.42	.42	.38	.34	.35	.36	.36	.36	.37	.37	.38
13	.41	.42	.41	.38	.34	.36	.36	.36	.37	.37	.37	.38
14	.41	.42	.40	.38	.34	.36	.36	.37	.37	.37	.37	.38
15	.41	.42	.40	.38	.34	.36	.36	.37	.37	.37	.37	.38
16	.40	.42	.40	.38	.34	.36	.36	.37	.37	.37	.37	.38
17	.40	.42	.40	.38	.36	.34	.35	.38	.37	.37	.37	.38
18	.40	.42	.40	.40	.35	.34	.36	.38	.37	.37	.38	.38
19	.40	.42	.40	.39	.35	.34	.36	.38	.37	.37	.38	.38
20	.40	.42	.40	.38	.35	.34	.36	.37	.37	.37	.38	.38
21	.40	.42	.40	.38	.34	.34	.36	.37	.37	.37	.38	.38
22	.40	.41	.40	.37	.34	.35	.36	.37	.37	.37	.38	.38
23	.40	.40	.40	.38	.34	.34	.36	.37	.37	.37	.38	.38
24	.40	.40	.40	.38	.34	.34	.36	.37	.37	.37	.38	.38
25	.40	.40	.40	.38	.34	.36	.36	.37	.37	.37	.38	.38
26	.40	.40	.40	.38	.34	.34	.36	.37	.37	.37	.39	.38
27	.41	.40	.40	.38	.34	.34	.36	.37	.38	.37	.39	.38
28	.42	.41	.40	.37	.34	.34	.36	.37	.38	.37	.39	.41
29	.42	.41	.40	.37	---	.34	.36	.37	.37	.38	.39	.38
30	.41	.42	.39	.37	---	.34	.36	.38	.36	.36	.39	.36
31	.41	---	.38	.36	---	.34	---	.38	---	.35	.37	---
TOTAL	12.65	12.34	12.42	11.76	9.80	10.76	10.70	11.39	10.97	11.36	11.58	11.32
MEAN	.41	.41	.40	.38	.35	.35	.36	.37	.37	.37	.37	.38
MAX	.42	.42	.42	.40	.38	.36	.36	.38	.38	.38	.39	.41
MIN	.40	.40	.38	.36	.34	.34	.34	.36	.35	.35	.36	.36
AC-FT	25	24	25	23	19	21	21	23	22	23	23	22

## 10265160 LITTLE HOT CREEK BELOW HOT SPRINGS, NEAR MAMMOTH LAKES, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.42	.41	.41	.40	.39	.41	.42	.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	.35	.35	.36	.37	.37	.36	.35	.37
(WY)	1993	1993	1993	1994	1994	1994	1994	1991	1994	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1991 - 1994
ANNUAL TOTAL	144.76	137.05	
ANNUAL MEAN	.40	.38	.40
HIGHEST ANNUAL MEAN			.42
LOWEST ANNUAL MEAN			.38
HIGHEST DAILY MEAN	.49 Apr 9	.42 Oct 3	.54 Mar 4 1991
LOWEST DAILY MEAN	.35 Jun 10	.34 Feb 12	.33 Aug 1 1992
ANNUAL SEVEN-DAY MINIMUM	.36 Jun 6	.34 Feb 21	.34 Aug 1 1992
INSTANTANEOUS PEAK FLOW		.54 May 30	.82 Jul 30 1991
INSTANTANEOUS PEAK STAGE		.52 May 30	.61 Jul 30 1991
ANNUAL RUNOFF (AC-FT)	287	272	287
10 PERCENT EXCEEDS	.42	.41	.44
50 PERCENT EXCEEDS	.40	.37	.40
90 PERCENT EXCEEDS	.37	.35	.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, 0.05 ft<sup>3</sup>/s, Sept. 30, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	1.8	1.4	1.1	.84	.78	1.2	2.0	4.7	12	6.8	1.5
2	3.2	1.7	1.4	1.1	.84	.80	1.3	2.0	4.8	11	6.8	.83
3	3.0	1.7	1.3	.98	.84	.84	1.3	2.1	4.8	10	6.9	.64
4	2.9	1.7	1.3	.92	.84	.84	1.4	2.2	4.7	9.6	6.7	.86
5	2.8	1.7	1.3	.87	.81	.84	1.4	2.2	4.8	9.4	6.5	1.4
6	2.8	1.6	1.3	.92	.83	.84	1.4	2.2	4.7	9.1	6.3	1.4
7	2.7	1.7	1.3	.95	e.80	.84	1.4	2.3	4.7	8.9	5.8	1.4
8	2.6	1.6	1.2	.93	.95	.84	1.4	2.4	4.7	8.7	6.3	4.6
9	2.5	1.6	1.2	.84	e.86	.84	1.4	2.6	4.8	8.7	6.1	8.3
10	2.5	1.5	1.2	.84	.80	.84	1.3	2.8	4.9	8.9	5.8	8.5
11	2.6	1.5	1.1	.84	e.83	.96	1.3	3.2	5.8	8.6	5.6	8.4
12	2.5	1.4	1.3	.84	e.84	.99	1.3	3.7	10	8.4	5.9	8.3
13	2.4	1.6	1.3	.84	e.87	.99	1.3	4.1	11	8.5	5.7	8.0
14	2.4	1.4	1.2	.84	.84	1.0	1.4	4.7	13	8.5	5.7	7.7
15	2.4	1.5	1.2	.84	.77	1.1	1.5	4.7	13	8.5	5.7	7.2
16	2.4	1.5	1.2	.84	.74	1.1	1.6	4.6	12	8.2	4.9	6.8
17	2.3	1.5	1.2	.84	e.79	1.1	1.8	4.4	11	8.1	4.4	6.2
18	2.3	1.4	1.2	.84	e.85	1.1	2.1	4.2	10	7.9	4.2	5.5
19	2.2	1.4	1.2	.84	.88	1.1	2.3	4.0	10	7.6	4.2	4.9
20	2.2	1.4	1.2	.84	.93	1.1	2.7	3.8	11	7.9	4.2	4.2
21	2.2	1.4	1.2	.84	e.90	1.1	2.9	3.6	11	7.7	3.8	3.4
22	2.1	1.5	1.1	.83	e.86	1.0	3.0	3.6	11	7.4	3.5	1.5
23	2.1	1.4	1.1	.82	.84	1.2	2.9	3.6	11	7.5	3.3	.52
24	2.0	1.4	1.1	.90	.84	1.2	2.8	3.6	11	7.5	3.1	.39
25	1.9	1.4	1.1	.87	.78	1.1	2.6	3.7	11	7.5	2.9	.29
26	1.9	1.4	1.1	.88	.75	1.2	2.5	3.9	11	7.4	2.8	.19
27	1.9	1.4	1.1	e.86	.77	1.1	2.4	4.0	11	6.9	2.9	.13
28	1.9	1.3	1.1	.84	.75	1.1	2.2	4.2	12	6.8	2.9	.15
29	1.8	1.3	1.1	.84	---	1.1	2.2	4.3	12	6.8	2.8	.16
30	1.8	1.5	1.1	.84	---	1.1	2.1	4.5	12	7.0	2.7	.05
31	1.8	---	1.1	.84	---	1.2	---	4.7	---	6.8	2.6	---
TOTAL	74.2	45.2	37.2	27.21	23.24	31.24	56.4	107.9	267.4	257.8	147.8	103.41
MEAN	2.39	1.51	1.20	.88	.83	1.01	1.88	3.48	8.91	8.32	4.77	3.45
MAX	4.1	1.8	1.4	1.1	.95	1.2	3.0	4.7	13	12	6.9	8.5
MIN	1.8	1.3	1.1	.82	.74	.78	1.2	2.0	4.7	6.8	2.6	.05
AC-FT	147	90	74	54	46	62	112	214	530	511	293	205

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1991	2.71	3.94	1993	1.62	1991
1992	1.32	1.51	1994	1.04	1991
1993	1.05	1.20	1994	.76	1991
1994	.79	.88	1994	.66	1991
	.73	.83	1994	.55	1991
	.89	1.01	1994	.82	1991
	1.50	1.88	1993	.91	1991
	3.78	5.57	1993	2.60	1991
	7.91	10.2	1993	4.71	1992
	8.60	13.4	1993	5.55	1992
	5.82	8.68	1993	4.63	1992
	4.71	7.71	1993	2.71	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1991 - 1994
ANNUAL TOTAL	1670.37	1179.00	
ANNUAL MEAN	4.58	3.23	3.33
HIGHEST ANNUAL MEAN			4.67
LOWEST ANNUAL MEAN			2.58
HIGHEST DAILY MEAN	17	13	17
LOWEST DAILY MEAN	.63 Mar 3	.05 Sep 30	.05 Sep 30 1993
ANNUAL SEVEN-DAY MINIMUM	.66 Mar 2	.19 Sep 24	.19 Sep 24 1994
ANNUAL RUNOFF (AC-FT)	3310	2340	2410
10 PERCENT EXCEEDS	11	8.3	8.5
50 PERCENT EXCEEDS	1.9	1.8	1.6
90 PERCENT EXCEEDS	.78	.84	.74

## 10270680 GREEN CREEK CONDUIT OUTLET NEAR BISHOP, CA

LOCATION (REVISED).--Lat 37°10'14", long 118°33'50", 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 1993 TO SEPTEMBER 1994  
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	2.4	1.2	.32	.12
2	.00	.00	.00	.00	.00	.00	.00	.00	2.3	1.1	.31	.10
3	.00	.00	.00	.00	.00	.00	.00	.00	2.5	1.0	.30	.10
4	.00	.00	.00	.00	.00	.00	.00	e.01	2.7	.91	.29	.10
5	.00	.00	.00	.00	.00	.00	.00	e.02	2.4	.78	.25	.10
6	.00	.00	.00	.00	.00	.00	.00	e.03	2.0	.71	.23	.10
7	.00	.00	.00	.00	.00	.00	.00	e.04	1.8	.69	.23	.09
8	.00	.00	.00	.00	.00	.00	.00	e.05	1.5	.63	.23	.08
9	.00	.00	.00	.00	.00	.00	.00	e.07	1.6	.56	.25	.06
10	.00	.00	.00	.00	.00	.00	.00	.27	2.2	.53	.26	.06
11	.00	.00	.00	.00	.00	.00	.00	.48	3.1	.54	.26	.06
12	.00	.00	.00	.00	.00	.00	.00	.87	3.7	.53	.25	.07
13	.00	.00	.00	.00	.00	.00	.00	1.1	3.4	.53	.26	.09
14	.00	.00	.00	.00	.00	.00	.00	1.1	3.5	.51	.29	.10
15	.00	.00	.00	.00	.00	.00	.00	.99	3.0	.47	.30	.10
16	.00	.00	.00	.00	.00	.00	.00	1.0	1.9	.46	.30	.10
17	.00	.00	.00	.00	.00	.00	.00	.90	1.4	.45	.27	.10
18	.00	.00	.00	.00	.00	.00	.00	.67	1.2	.45	.25	.10
19	.00	.00	.00	.00	.00	.00	.00	.53	1.2	.44	.23	.13
20	.00	.00	.00	.00	.00	.00	.00	.43	1.2	.41	.23	.16
21	.00	.00	.00	.00	.00	.00	.00	.38	1.3	.41	.22	.16
22	.00	.00	.00	.00	.00	.00	.00	.46	1.4	.40	.21	.16
23	.00	.00	.00	.00	.00	.00	.00	.59	1.3	.37	.20	.14
24	.00	.00	.00	.00	.00	.00	.00	.74	1.2	.36	.18	.13
25	.00	.00	.00	.00	.00	.00	.00	1.1	1.1	.33	.17	.13
26	.00	.00	.00	.00	.00	.00	.00	1.5	1.1	.33	.16	.13
27	.00	.00	.00	.00	.00	.00	.00	1.7	.95	.31	.16	.06
28	.00	.00	.00	.00	.00	.00	.00	1.8	.93	.28	.16	.00
29	.00	.00	.00	.00	---	.00	.00	1.9	1.1	.29	.16	.00
30	.00	.00	.00	.00	---	.00	.00	2.0	1.2	.36	.14	.00
31	.00	---	.00	.00	---	.00	---	2.3	---	.33	.13	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.03	56.58	16.67	7.20	2.83
MEAN	.000	.000	.000	.000	.000	.000	.000	.74	1.89	.54	.23	.094
MAX	.00	.00	.00	.00	.00	.00	.00	2.3	3.7	1.2	.32	.16
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.93	.28	.13	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	46	112	33	14	5.6

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1991	.000	.000	1991	.000	1991
1992	.000	.000	1992	.000	1992
1993	.000	.000	1993	.000	1993
1994	.000	.000	1994	.000	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1991 - 1994
ANNUAL TOTAL	270.00	106.31	
ANNUAL MEAN	.74	.29	.36
HIGHEST ANNUAL MEAN			.74
LOWEST ANNUAL MEAN			.18
HIGHEST DAILY MEAN	6.7 Jun 26	3.7 Jun 12	6.7 Jun 26 1993
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)	536	211	261
10 PERCENT EXCEEDS	2.5	1.1	1.2
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, 12,741 acre-ft, July 25, elevation, 9,750.49 ft; minimum, 6,138 acre-ft, Apr. 15, elevation, 9,705.41 ft.

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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12065	10621	9574	7954	6864	6654	6309	6497	8895	11783	12642	11734
2	12026	10584	9528	7893	6859	6648	6313	6493	9051	11843	12634	11664
3	11977	10544	9480	7840	6848	6641	6312	6497	9216	11917	12630	11611
4	11929	10497	9421	7781	6829	6630	6315	6541	9369	11977	12627	11564
5	11878	10447	9375	7702	6822	6618	6322	6570	9508	12041	12616	11501
6	11831	10403	9315	7646	6812	6610	6317	6594	9632	12099	12592	11461
7	11796	10360	9261	7585	6821	6608	6319	6612	9741	12150	12575	11413
8	11751	10310	9206	7526	6806	6603	6307	6630	9868	12202	12558	11359
9	11701	10276	9151	7457	6805	6591	6262	6665	9997	12250	12554	11318
10	11662	10214	9108	7398	6784	6581	6230	6714	10156	12298	12532	11257
11	11602	10165	9048	7336	6755	6568	6206	6787	10336	12359	12523	11201
12	11566	10116	8991	7278	6747	6549	6180	6911	10536	12453	12515	11158
13	11509	10068	8945	7219	6744	6541	6156	7060	10723	12505	12501	11109
14	11450	10019	8883	7162	6720	6532	6144	7213	10905	12539	12487	11078
15	11405	10013	8822	7105	6714	6518	6138	7343	11038	12566	12472	11037
16	11349	10004	8781	7056	6704	6503	6139	7421	11097	12594	12460	11017
17	11303	9993	8722	7046	6704	6487	6164	7489	11130	12620	12439	10986
18	11257	9980	8668	7033	6703	6474	6204	7542	11145	12632	12409	10949
19	11217	9956	8619	7023	6704	6465	6252	7580	11174	12672	12374	10916
20	11176	9941	8567	7009	6704	6450	6313	7614	11202	12685	12339	10884
21	11135	9928	8514	6998	6701	6439	6371	7655	11235	12696	12291	10853
22	11091	9934	8463	6990	6700	6414	6435	7701	11268	12716	12252	10827
23	11042	9914	8412	6968	6701	6407	6468	7757	11301	12732	12218	10783
24	10998	9884	8366	6954	6694	6393	6490	7843	11336	12737	12162	10752
25	10958	9834	8317	6940	6689	6385	6495	7955	11369	12741	12109	10716
26	10906	9795	8258	6928	6679	6380	6499	8078	11430	12730	12053	10678
27	10866	9749	8200	6914	6676	6368	6507	8207	11475	12720	11998	10636
28	10822	9699	8148	6903	6658	6359	6499	8330	11556	12704	11950	10684
29	10763	9663	8096	6897	---	6340	6503	8470	11641	12691	11902	10744
30	10726	9618	8052	6886	---	6314	6502	8612	11712	12678	11845	10768
31	10673	---	7995	6875	---	6307	---	8750	---	12661	11791	---
MAX	12065	10621	9574	7954	6864	6654	6507	8750	11712	12741	12642	11734
MIN	10673	9618	7995	6875	6658	6307	6138	6493	8895	11783	11791	10636
a	9738.11	9731.46	9720.59	9711.91	9710.04	9706.93	9708.67	9725.78	9744.44	9750.03	9744.91	9738.70
b	-1439	-1055	-1623	-1120	-217	-351	+195	+2248	+2962	+949	-870	-1023

CAL YR 1993 MAX 13038 MIN 280 b +2737

WTR YR 1994 MAX 12741 MIN 6138 b -1344

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, 6.7 ft<sup>3</sup>/s, Apr. 4, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft<sup>3</sup>/s, Aug. 31, gage height, 0.80 ft; minimum daily, 6.7 ft<sup>3</sup>/s, Apr. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	30	29	32	12	12	8.7	17	10	24	33	36
2	30	30	31	32	12	12	8.1	19	10	24	28	36
3	30	29	33	33	12	12	7.7	19	9.2	13	26	35
4	30	29	33	35	12	12	6.7	10	8.7	13	27	35
5	29	28	33	35	12	12	7.2	11	8.7	13	27	35
6	29	28	33	36	12	12	9.0	12	8.7	13	27	30
7	29	28	33	36	12	10	11	13	8.7	13	27	28
8	29	28	33	36	12	10	17	12	8.7	13	27	28
9	29	28	33	36	12	13	26	9.4	8.7	13	27	29
10	29	28	33	36	12	14	25	9.6	8.7	13	27	29
11	33	28	33	36	18	14	25	8.8	8.7	13	27	29
12	31	28	33	36	18	14	25	8.1	8.7	13	27	29
13	33	28	33	36	13	14	25	8.1	8.7	18	27	29
14	33	28	33	36	20	14	21	8.1	14	21	27	27
15	31	17	33	33	12	13	20	7.8	21	22	27	24
16	33	15	33	30	12	14	18	7.8	35	22	27	22
17	33	12	33	12	12	14	11	8.1	41	22	28	22
18	32	12	33	11	12	14	11	8.1	42	23	32	22
19	30	16	33	11	12	14	9.5	9.0	42	15	33	22
20	30	17	33	11	12	14	8.1	9.4	42	21	33	23
21	29	14	33	11	13	14	7.8	9.9	42	21	33	27
22	29	13	33	11	13	14	7.5	13	42	21	33	24
23	29	13	33	11	13	15	7.5	12	42	25	34	24
24	29	20	33	12	13	15	11	12	39	28	37	24
25	29	29	32	12	13	15	18	9.9	34	30	37	24
26	29	29	32	12	13	15	19	9.8	30	34	37	27
27	29	29	33	12	13	14	17	9.4	29	34	37	27
28	31	29	33	12	12	14	19	9.4	26	34	37	24
29	31	29	32	12	---	18	18	9.4	24	34	37	18
30	30	29	32	12	---	20	17	9.4	24	33	37	21
31	30	---	32	12	---	14	---	10	---	33	37	---
TOTAL	938	721	1012	728	364	426	441.8	329.5	685.2	669	960	810
MEAN	30.3	24.0	32.6	23.5	13.0	13.7	14.7	10.6	22.8	21.6	31.0	27.0
MAX	33	30	33	36	20	20	26	19	42	34	37	36
MIN	29	12	29	11	12	10	6.7	7.8	8.7	13	26	18
AC-FT	1860	1430	2010	1440	722	845	876	654	1360	1330	1900	1610

10270800 SOUTH FORK BISHOP CREEK BELOW SOUTH LAKE, NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.8	17.7	20.2	20.9	20.8	12.2	11.3	18.6	15.2	18.0	31.6	29.7
MAX	41.0	24.0	32.6	35.8	54.2	19.3	14.7	26.0	22.8	21.6	49.4	36.4
(WY)	1992	1994	1994	1993	1993	1993	1994	1993	1994	1994	1993	1992
MIN	10.8	10.6	9.98	7.59	7.45	7.75	7.74	10.6	7.70	9.45	20.5	26.4
(WY)	1991	1991	1991	1991	1991	1991	1992	1994	1991	1991	1991	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1991 - 1994		
ANNUAL TOTAL	10539.2			8084.5					
ANNUAL MEAN	28.9			22.1			20.2		
HIGHEST ANNUAL MEAN							25.6		
LOWEST ANNUAL MEAN							12.4		
HIGHEST DAILY MEAN	80			42			80		
LOWEST DAILY MEAN	8.4			6.7			6.7		
ANNUAL SEVEN-DAY MINIMUM	9.2			8.0			6.9		
INSTANTANEOUS PEAK FLOW				70			80		
INSTANTANEOUS PEAK STAGE				.80			1.00		
ANNUAL RUNOFF (AC-FT)	20900			16040			14630		
10 PERCENT EXCEEDS	54			34			37		
50 PERCENT EXCEEDS	29			24			17		
90 PERCENT EXCEEDS	11			9.5			7.8		

## 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, no storage Apr. 8-14, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,206 acre-ft, Aug. 1, 2, elevation, 9,130.88; minimum, no storage Apr. 8-14.

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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6882	6153	5480	4438	2619	1129	152	320	2662	6417	7206	6290
2	6861	6127	5455	4402	2516	1088	135	333	2802	6483	7206	6238
3	6842	6099	5425	4358	2419	1041	119	354	2957	6560	7200	6193
4	6815	6072	5393	4307	2323	995	100	388	3113	6602	7194	6149
5	6790	6042	5360	4258	2225	954	74	420	3261	6642	7182	6109
6	6763	6009	5326	4207	2124	927	42	447	3386	6672	7167	6079
7	6723	5978	5299	4160	2047	887	e10	471	3499	6699	7150	6048
8	6687	5947	5261	4116	1957	847	e.00	497	3606	6714	7132	6022
9	6661	5916	5224	4067	1861	809	e.00	530	3727	6737	7119	5996
10	6636	5883	5196	4017	1772	769	e.00	572	3873	6767	7109	5967
11	6624	5854	5175	3969	1675	727	e.00	640	4046	6798	7092	5934
12	6604	5838	5149	3920	1582	692	e.00	752	4236	6827	7067	5904
13	6581	5818	5121	3870	1529	655	e.00	874	4421	6884	7036	5894
14	6558	5800	5088	3820	1510	637	e.00	1014	4612	6942	7017	5871
15	6543	5784	5058	3770	1481	629	e4.3	1136	4788	6997	6992	5853
16	6526	5760	5020	3720	1456	622	e8.1	1228	4909	7049	6963	5836
17	6511	5753	4984	3691	1449	589	e15	1295	5008	7086	6932	e5815
18	6492	5739	4951	3673	1430	555	45	1353	5098	7105	6899	e5800
19	6475	5730	4916	3661	1413	515	107	1397	5187	7101	6873	5795
20	6455	5721	4882	3646	1400	471	137	1434	5285	7092	6842	5777
21	6430	5715	4846	3631	1383	438	172	1472	5391	7090	6806	5762
22	6408	5714	4804	3591	1367	402	203	1519	5503	7090	6767	5739
23	6383	5696	4764	3522	1350	363	227	1582	5606	7090	6725	5714
24	6357	5674	4730	3432	1327	329	246	1652	5703	7094	6681	5687
25	6338	5635	4696	3330	1294	302	257	1738	5809	7103	6636	5658
26	6312	5608	4660	3226	1256	272	269	1850	5904	7119	6587	5629
27	6288	5576	4625	3128	1213	244	280	1973	6000	7132	6528	5604
28	6258	5549	4588	3023	1170	219	290	2101	6107	7144	6479	5706
29	6234	5522	4554	2922	---	199	299	2226	6230	7157	6432	5824
30	6206	5506	4516	2825	---	188	309	2371	6333	7169	6383	5878
31	6182	---	4475	2727	---	172	---	2523	---	7190	6338	---
MAX	6882	6153	5480	4438	2619	1129	309	2523	6333	7190	7206	6290
MIN	6182	5506	4475	2727	1170	172	.00	320	2662	6417	6338	5604
a	9125.49	9121.76	9115.82	9105.21	9094.77	9085.79	9087.65	9103.91	9126.30	9130.80	9126.33	9123.83
b	-714	-676	-1031	-1748	-1557	-998	+137	+2214	+3810	+857	-852	-460

CAL YR 1993 MAX 7453 MIN 275 b +1114  
WTR YR 1994 MAX 7206 MIN .00 b -1018

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, 62 ft<sup>3</sup>/s, Jan. 26, gage height, 0.81 ft; minimum daily, 6.8 ft<sup>3</sup>/s, June 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	21	22	25	59	31	28	10	10	30	27	37
2	20	21	22	25	59	31	28	10	10	29	34	36
3	20	21	23	29	57	31	28	10	8.5	18	34	35
4	21	21	23	30	56	31	28	10	7.6	32	34	33
5	22	23	23	32	57	30	28	10	7.6	32	34	33
6	23	24	23	32	58	30	27	10	7.6	32	34	25
7	27	22	23	31	56	30	27	10	7.8	35	33	26
8	27	22	25	30	53	30	17	10	8.2	39	33	22
9	23	22	26	30	56	30	12	10	8.2	33	32	20
10	21	22	24	32	56	30	11	9.6	8.2	32	32	20
11	19	22	21	31	56	29	11	9.9	8.5	34	34	23
12	18	19	22	31	56	28	11	8.2	8.8	33	38	23
13	19	18	23	32	35	27	11	8.2	8.6	20	40	18
14	19	18	23	32	17	18	10	8.2	6.8	16	35	18
15	18	16	23	32	21	14	11	8.4	7.1	18	37	17
16	18	18	26	32	20	13	13	8.8	7.2	20	40	15
17	18	13	27	21	19	23	15	8.8	7.6	26	40	19
18	18	13	26	17	19	30	15	8.8	7.6	32	41	19
19	18	13	26	13	19	30	10	8.8	8.0	42	37	18
20	19	11	26	13	19	30	11	8.8	8.2	42	37	16
21	20	9.7	27	13	19	30	10	8.9	8.8	38	40	21
22	20	10	27	27	19	29	10	9.4	8.8	37	40	21
23	20	17	27	43	19	32	10	9.4	9.3	37	39	22
24	21	17	27	52	22	32	10	9.4	9.4	34	38	22
25	21	26	26	56	26	32	9.8	8.9	9.9	33	38	22
26	21	23	26	60	28	32	10	8.8	10	28	39	22
27	21	22	26	58	30	32	10	8.8	11	29	43	22
28	21	22	26	59	31	31	10	9.0	11	31	38	20
29	21	24	26	59	---	29	10	9.4	11	31	38	20
30	21	22	27	56	---	21	10	9.4	23	30	37	16
31	21	---	27	58	---	25	---	9.8	---	27	37	---
TOTAL	636	572.7	769	1091	1042	871	451.8	287.7	274.3	950	1133	681
MEAN	20.5	19.1	24.8	35.2	37.2	28.1	15.1	9.28	9.14	30.6	36.5	22.7
MAX	27	26	27	60	59	32	28	10	23	42	43	37
MIN	18	9.7	21	13	17	13	9.8	8.2	6.8	16	27	15
AC-FT	1260	1140	1530	2160	2070	1730	896	571	544	1880	2250	1350

## 10270872 MIDDLE FORK BISHOP CREEK BELOW LAKE SABRINA, NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.7	13.3	15.2	21.3	24.1	18.0	19.2	22.7	24.3	49.6	41.4	27.0
MAX	20.5	19.1	24.8	35.2	43.7	28.1	27.3	42.5	50.1	85.1	59.3	29.8
(WY)	1994	1994	1994	1994	1993	1994	1992	1993	1993	1993	1993	1993
MIN	11.8	8.56	10.2	7.63	7.11	6.91	10.4	9.28	9.14	30.6	33.8	22.7
(WY)	1991	1993	1993	1991	1991	1991	1993	1994	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	12990.8				8759.5							
ANNUAL MEAN	35.6				24.0				24.4			
HIGHEST ANNUAL MEAN									33.2			
LOWEST ANNUAL MEAN									18.4			
HIGHEST DAILY MEAN	106				60				106			
LOWEST DAILY MEAN	8.2				6.8				6.5			
ANNUAL SEVEN-DAY MINIMUM	9.3				7.5				6.5			
INSTANTANEOUS PEAK FLOW					62				114			
INSTANTANEOUS PEAK STAGE					.81				1.21			
ANNUAL RUNOFF (AC-FT)	25770				17370				17700			
10 PERCENT EXCEEDS	77				38				45			
50 PERCENT EXCEEDS	26				22				20			
90 PERCENT EXCEEDS	10				9.4				8.2			

## 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, 77 acre-ft, Apr. 18, elevation, 8,098.83 ft; minimum, 45 acre-ft, Oct. 1, 2, elevation, 8,095.67 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	71	72	71	70	68	71	65	66	65	66	66
2	45	72	68	71	73	70	71	68	70	67	72	68
3	47	72	69	72	72	72	74	73	70	60	73	74
4	51	69	71	70	70	74	70	65	66	67	71	73
5	59	69	70	73	67	73	68	66	70	70	71	71
6	59	73	70	74	68	76	67	64	72	68	72	63
7	66	72	68	75	74	72	69	68	67	64	69	65
8	73	73	69	74	68	66	69	70	68	70	70	64
9	74	72	74	73	69	71	74	67	73	70	72	68
10	71	70	74	74	67	74	74	69	69	66	71	67
11	74	74	71	73	70	76	73	72	70	67	70	69
12	68	73	69	72	73	73	73	74	64	72	68	75
13	72	71	70	74	74	72	75	66	67	71	71	74
14	75	71	69	75	74	73	67	75	66	67	71	70
15	70	76	67	72	73	74	70	68	69	65	67	71
16	69	76	68	66	74	73	76	64	61	68	64	68
17	72	74	73	65	70	71	72	69	62	71	65	70
18	72	68	72	74	74	72	77	65	63	68	70	73
19	70	69	70	71	74	71	70	66	63	63	71	73
20	69	75	68	69	73	71	74	64	64	70	69	67
21	73	74	68	68	73	71	67	58	67	71	70	71
22	71	71	72	72	74	70	62	65	68	66	70	67
23	70	72	73	69	71	73	62	65	68	67	68	66
24	70	68	73	67	72	74	59	70	66	68	69	66
25	70	70	72	69	72	75	62	67	73	67	67	66
26	72	75	72	70	70	74	67	67	70	70	65	70
27	70	70	70	74	69	73	66	67	68	66	73	70
28	71	68	68	75	68	74	68	73	69	68	73	72
29	74	69	68	75	---	76	68	72	66	71	72	74
30	72	73	70	71	---	73	69	71	65	76	71	67
31	72	---	73	70	---	71	---	67	---	69	69	---
MAX	75	76	74	75	74	76	77	75	73	76	73	75
MIN	45	68	67	65	67	66	59	58	61	60	64	63
a	8098.37	8098.48	8098.43	8098.15	8098.04	8098.24	8098.06	8097.89	8097.76	8098.13	8098.11	8097.88
b	+30	+1	0	-3	-2	+3	-2	-2	-2	+4	0	-2

CAL YR 1993 MAX 87 MIN 42 b 0  
WTR YR 1994 MAX 77 MIN 45 b +25

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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	5.2	2.5	2.5	e2.2	3.1	2.7	2.7	2.6	2.5	2.6	6.0
2	3.2	3.7	2.6	2.5	2.2	3.1	2.7	2.7	2.6	2.5	2.6	5.9
3	3.2	2.9	2.6	2.5	2.2	3.1	2.7	2.7	2.6	2.5	2.6	5.8
4	e3.6	2.7	2.6	2.5	2.2	3.1	2.7	2.7	2.6	2.6	2.6	5.9
5	2.8	2.7	2.7	2.6	2.2	3.1	2.7	2.7	2.6	2.5	2.6	6.0
6	2.3	2.7	2.6	e2.5	2.2	3.2	2.7	2.7	2.6	2.6	2.6	6.0
7	2.2	2.7	2.6	e2.5	2.3	3.2	2.7	2.7	2.6	2.6	2.7	6.0
8	2.3	2.6	2.6	2.6	2.6	3.2	2.7	2.7	2.6	2.6	2.7	6.0
9	2.4	2.6	2.6	2.5	3.0	3.1	2.7	2.7	2.6	2.6	2.7	6.0
10	2.4	2.6	2.6	e2.5	3.0	3.1	2.7	2.7	2.6	2.6	2.7	6.0
11	2.5	2.6	2.6	2.5	e3.0	3.1	2.7	2.7	2.6	2.5	2.7	5.9
12	2.4	2.6	e2.6	2.5	e3.0	3.1	2.7	2.7	2.6	2.5	2.7	5.9
13	2.3	2.7	2.6	2.5	e3.0	3.1	2.7	2.7	2.6	2.5	2.8	6.1
14	2.3	2.6	2.6	2.5	4.4	3.1	2.7	2.7	2.6	2.5	2.8	6.1
15	2.3	2.8	e2.5	2.5	3.2	3.1	2.7	2.7	2.6	2.5	4.1	6.0
16	2.3	2.6	e2.5	2.5	3.1	3.0	2.7	2.6	2.6	2.5	6.3	6.0
17	2.3	2.6	e2.5	2.5	3.1	3.0	2.7	2.6	2.6	2.5	5.7	6.0
18	2.3	2.7	e2.5	2.5	3.2	3.0	2.7	2.6	2.6	2.5	5.7	6.0
19	2.3	2.6	e2.5	2.5	e3.1	3.0	2.7	2.6	2.6	2.5	5.7	6.0
20	2.3	2.6	e2.4	2.5	e3.1	3.0	2.7	2.6	2.6	2.5	5.7	6.0
21	2.3	2.6	e2.4	2.5	e3.1	2.8	3.0	2.6	2.6	2.4	5.7	6.0
22	2.3	2.6	2.3	2.5	e3.1	2.8	2.7	2.6	2.6	2.5	5.8	6.0
23	2.3	2.6	2.3	2.5	3.1	2.7	2.7	2.6	2.6	2.5	5.8	6.0
24	2.3	2.6	2.3	2.5	3.1	2.7	2.7	2.6	2.5	2.5	5.8	6.0
25	2.3	2.5	2.4	2.5	3.1	2.7	2.7	2.6	2.5	2.6	5.8	6.0
26	2.3	2.5	2.5	e2.5	3.1	2.7	2.7	2.6	2.5	2.6	5.8	6.0
27	2.3	2.5	2.5	e2.4	3.1	2.7	2.7	2.6	2.5	2.6	5.8	6.0
28	5.9	2.5	2.5	e2.4	3.1	2.7	2.7	2.6	2.6	2.6	5.8	8.0
29	5.8	2.5	2.5	e2.3	---	2.7	2.7	2.6	2.6	2.6	5.9	6.3
30	4.7	2.5	2.5	2.2	---	2.7	2.7	2.6	2.5	2.6	6.0	6.2
31	4.7	---	2.5	e2.2	---	2.7	---	2.6	---	2.6	6.0	---
TOTAL	88.4	82.2	78.0	76.7	81.1	91.7	81.3	82.1	77.5	78.7	134.8	182.1
MEAN	2.85	2.74	2.52	2.47	2.90	2.96	2.71	2.65	2.58	2.54	4.35	6.07
MAX	5.9	5.2	2.7	2.6	4.4	3.2	3.0	2.7	2.6	2.6	6.3	8.0
MIN	2.2	2.5	2.3	2.2	2.2	2.7	2.7	2.6	2.5	2.4	2.6	5.8
AC-FT	175	163	155	152	161	182	161	163	154	156	267	361

WTR YR 1994 TOTAL 1134.6 MEAN 3.11 MAX 8.0 MIN 2.2 AC-FT 2250

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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	e12	11	5.2	11	11	11	12	8.4	21	12	5.2
2	14	e11	9.7	7.7	10	11	11	11	8.8	20	12	4.2
3	13	e10	10	7.2	10	11	11	11	8.9	19	12	3.9
4	14	9.8	10	7.1	11	11	11	11	8.8	19	12	3.8
5	11	9.7	11	8.2	11	10	11	12	9.3	18	12	4.5
6	7.0	10	11	8.5	11	11	11	12	9.7	18	11	4.4
7	7.6	11	11	8.3	11	10	12	12	9.6	17	11	4.4
8	6.6	11	6.1	7.3	11	11	12	12	10	17	11	4.8
9	6.5	10	4.8	6.1	11	11	12	12	11	16	11	11
10	6.3	9.2	5.7	7.2	11	11	12	11	12	17	11	9.8
11	6.5	11	5.6	6.2	11	11	12	e10	14	16	11	9.0
12	6.3	12	7.6	6.6	11	11	11	e7.5	13	16	11	8.7
13	6.0	12	7.5	6.1	11	10	11	e7.5	16	16	10	9.1
14	5.9	11	7.8	5.9	11	10	11	e7.5	20	16	10	10
15	7.8	12	8.9	5.8	11	10	11	e7.6	19	16	10	9.8
16	10	12	10	6.0	11	10	11	e7.7	21	16	9.5	9.3
17	8.9	11	10	5.7	11	11	10	e7.5	19	15	8.7	8.7
18	11	11	10	8.5	11	11	10	e7.5	19	15	8.4	8.0
19	11	11	9.7	11	11	11	11	e6.5	19	14	8.4	7.5
20	11	11	9.6	11	11	11	12	e6.1	19	14	8.3	7.2
21	11	11	9.4	11	11	11	12	e6.1	20	14	7.9	6.3
22	11	11	9.3	11	11	11	12	e6.1	20	14	7.3	5.1
23	11	11	9.3	11	11	11	13	e6.1	20	14	7.0	3.4
24	11	12	9.2	11	11	11	12	6.0	20	14	6.7	3.2
25	11	12	8.5	11	11	11	12	6.1	20	14	6.4	3.1
26	11	11	7.8	11	11	11	12	6.3	20	13	6.3	2.9
27	12	12	7.6	11	11	11	12	6.5	20	13	6.4	2.9
28	11	11	8.9	11	11	11	12	6.7	21	13	6.3	3.3
29	11	10	9.0	11	---	11	12	7.1	22	13	6.2	5.9
30	11	9.8	7.2	11	---	11	12	7.3	22	13	6.1	3.6
31	12	---	6.8	11	---	11	---	7.8	---	12	5.9	---
TOTAL	308.4	328.5	270.0	266.6	306	335	345	263.5	480.5	483	282.8	183.0
MEAN	9.95	10.9	8.71	8.60	10.9	10.8	11.5	8.50	16.0	15.6	9.12	6.10
MAX	15	12	11	11	11	11	13	12	22	21	12	11
MIN	5.9	9.2	4.8	5.2	10	10	10	6.0	8.4	12	5.9	2.9
AC-FT	612	652	536	529	607	664	684	523	953	958	561	363

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.75	5.98	5.13	5.04	5.51	5.71	6.59	7.35	14.1	18.1	12.7	10.0
MAX	9.95	10.9	8.71	8.60	10.9	10.8	11.5	8.89	17.2	31.7	23.5	19.7
(WY)	1994	1994	1994	1994	1994	1994	1994	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 1993 CALENDAR YEAR					FOR 1994 WATER YEAR			WATER YEARS 1991 - 1994			
ANNUAL TOTAL	4528.9					3852.3						
ANNUAL MEAN	12.4					10.6			8.60			
HIGHEST ANNUAL MEAN									11.2			
LOWEST ANNUAL MEAN									6.13			
HIGHEST DAILY MEAN	39					22			39			
LOWEST DAILY MEAN	3.5					2.9			2.0			
ANNUAL SEVEN-DAY MINIMUM	3.6					3.4			3.1			
ANNUAL RUNOFF (AC-FT)	8980					7640			6230			
10 PERCENT EXCEEDS	25					15			16			
50 PERCENT EXCEEDS	10					11			6.3			
90 PERCENT EXCEEDS	3.9					6.1			3.8			

## 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, 11 ft<sup>3</sup>/s, Sept. 29, gage height, 0.95 ft; minimum daily, 2.0 ft<sup>3</sup>/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.7	3.8	3.7	3.8	3.8	5.7	4.2	3.1	2.2	2.1	2.3
2	3.0	3.7	3.9	3.7	3.9	3.9	5.8	4.0	3.0	2.1	2.1	2.3
3	3.0	3.8	3.8	3.8	3.9	4.0	5.5	3.9	2.9	2.2	2.1	2.3
4	3.2	3.8	3.6	3.7	3.9	4.0	4.8	3.8	2.9	2.3	2.0	2.3
5	3.5	3.8	3.6	3.7	4.0	4.0	4.5	3.7	2.8	2.4	2.0	2.3
6	3.6	3.8	3.9	3.4	3.9	4.1	4.8	3.7	2.7	2.4	2.0	2.3
7	3.6	3.8	3.8	3.6	3.8	4.0	4.8	4.1	2.7	2.4	2.0	2.3
8	3.6	3.8	3.8	3.6	3.7	4.0	4.9	4.5	2.7	2.4	2.1	2.3
9	3.6	3.8	3.8	3.6	3.8	3.9	4.6	4.7	2.7	2.4	2.2	2.3
10	3.6	3.8	3.8	3.5	3.4	3.9	4.3	4.1	2.6	2.4	2.2	2.3
11	3.8	3.8	3.9	3.6	3.8	3.9	4.4	3.8	2.6	2.4	2.2	2.4
12	3.7	3.8	3.7	3.6	3.7	3.8	5.1	3.8	2.6	2.4	2.1	2.6
13	3.7	3.8	3.8	3.6	3.7	3.8	5.7	3.7	2.5	2.3	2.1	2.9
14	3.7	3.7	3.7	3.6	3.7	4.0	5.8	3.6	2.5	2.3	2.2	2.9
15	3.7	3.4	3.7	3.6	3.7	4.2	5.7	3.4	2.4	2.3	2.3	2.7
16	3.7	3.9	3.7	3.6	3.7	4.3	5.3	3.4	2.5	2.3	2.1	2.6
17	3.7	3.8	3.7	3.6	3.9	4.4	5.5	3.6	2.5	2.3	2.1	2.6
18	3.7	3.8	3.7	3.7	3.8	4.5	5.4	4.3	2.5	2.4	2.1	2.6
19	3.7	3.7	3.7	3.7	3.7	4.5	5.2	4.8	2.4	2.4	2.2	2.7
20	3.7	3.7	3.7	3.7	3.8	4.5	5.0	4.8	2.4	2.3	2.2	2.8
21	3.7	3.8	3.7	3.6	3.7	4.5	4.6	4.8	2.3	2.3	2.1	2.7
22	3.7	3.9	3.6	3.7	3.7	4.4	4.2	4.1	2.3	2.4	2.1	2.6
23	3.7	3.6	3.6	3.7	3.7	3.9	4.1	3.8	2.3	2.2	2.2	2.6
24	3.7	3.7	3.6	3.6	3.8	4.1	3.8	3.7	2.2	2.1	2.1	2.8
25	3.7	3.5	3.7	3.6	3.9	4.1	3.9	3.5	2.2	2.1	2.1	2.7
26	3.7	3.7	3.7	3.5	3.8	4.2	3.9	3.3	2.2	2.1	2.1	2.6
27	3.7	3.8	3.7	3.8	3.8	4.2	4.1	3.2	2.3	2.0	2.2	2.6
28	3.6	3.8	3.7	3.7	3.8	4.2	4.4	3.1	2.2	2.0	2.2	4.0
29	3.7	3.8	3.7	3.7	---	4.2	4.5	3.1	2.2	2.1	2.2	5.6
30	3.7	4.0	3.7	3.8	---	4.7	4.3	3.0	2.2	2.2	2.2	3.1
31	3.7	---	3.7	3.8	---	5.2	---	3.3	---	2.1	2.2	---
TOTAL	111.5	112.8	115.5	113.1	105.8	129.2	144.6	118.8	75.4	70.2	66.1	81.1
MEAN	3.60	3.76	3.73	3.65	3.78	4.17	4.82	3.83	2.51	2.26	2.13	2.70
MAX	3.8	4.0	3.9	3.8	4.0	5.2	5.8	4.8	3.1	2.4	2.3	5.6
MIN	3.0	3.4	3.6	3.4	3.4	3.8	3.8	3.0	2.2	2.0	2.0	2.3
AC-FT	221	224	229	224	210	256	287	236	150	139	131	161

## 10270960 COYOTE CREEK NEAR BISHOP, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.01	3.31	3.24	3.30	3.49	3.73	4.80	4.78	3.07	2.32	2.26	2.47
MAX	3.60	3.76	3.73	3.65	3.78	4.17	5.08	7.30	4.09	2.67	2.85	2.78
(WY)	1994	1994	1994	1994	1994	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	1397.6				1244.1							
ANNUAL MEAN	3.83				3.41				3.31			
HIGHEST ANNUAL MEAN									3.62			
LOWEST ANNUAL MEAN									2.97			
HIGHEST DAILY MEAN	9.6 May 3				5.8 Apr 2				9.6 May 3 1993			
LOWEST DAILY MEAN	2.5 Sep 7				2.0 Jul 27				1.8 Jul 20 1992			
ANNUAL SEVEN-DAY MINIMUM	2.5 Sep 6				2.0 Aug 1				1.8 Jul 29 1992			
INSTANTANEOUS PEAK FLOW					11 Sep 29				14 May 10 1993			
INSTANTANEOUS PEAK STAGE					.95 Sep 29				1.13 May 10 1993			
ANNUAL RUNOFF (AC-FT)	2770				2470				2400			
10 PERCENT EXCEEDS	5.9				4.3				4.4			
50 PERCENT EXCEEDS	3.6				3.7				3.2			
90 PERCENT EXCEEDS	2.7				2.2				2.2			

## 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.--No estimated daily discharges. 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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	2.1	2.0	1.8	1.9	1.8	2.1	1.9	1.9	2.1	2.1
2	2.1	2.2	2.0	2.0	1.8	1.9	1.8	2.1	2.0	1.9	2.1	2.2
3	2.2	2.2	2.0	1.9	1.8	1.9	1.8	2.1	2.0	2.1	2.1	2.2
4	2.2	2.2	2.0	1.8	1.8	1.9	1.8	2.1	1.9	2.1	2.1	2.2
5	2.2	2.2	2.0	1.7	1.8	2.0	1.9	2.1	2.0	2.1	2.1	2.2
6	2.2	2.2	2.0	1.7	1.9	2.0	1.9	2.1	2.0	2.1	2.1	2.2
7	2.2	2.2	2.0	1.7	1.8	2.0	1.8	2.1	2.0	2.1	2.1	2.3
8	2.2	2.3	2.0	1.9	1.8	2.0	1.9	2.1	2.0	2.1	2.1	2.3
9	2.2	2.2	2.0	1.9	1.9	1.9	1.9	2.1	2.0	2.1	2.2	2.3
10	2.2	2.2	1.9	1.9	1.7	1.9	1.9	2.1	1.9	2.1	2.2	2.3
11	2.2	2.3	2.0	1.9	1.8	1.9	1.8	2.0	1.9	2.1	2.2	2.3
12	2.2	2.3	1.9	1.9	1.8	1.9	1.9	2.0	1.7	2.1	2.2	2.3
13	2.2	2.5	1.9	1.8	1.9	1.9	1.9	1.9	1.8	1.9	2.2	2.3
14	2.2	2.3	1.9	1.8	2.0	2.0	1.9	1.9	1.7	2.2	2.2	2.3
15	2.2	2.1	1.9	1.8	2.0	1.9	1.9	1.9	1.6	2.2	2.2	2.3
16	2.2	2.2	1.9	1.8	2.0	1.9	1.9	1.9	1.6	2.2	2.2	2.3
17	2.2	2.2	1.9	1.9	2.0	2.1	1.9	2.0	1.8	2.2	2.1	2.3
18	2.2	2.2	1.9	2.0	2.0	2.2	2.0	1.9	2.1	2.1	2.1	2.3
19	2.2	2.2	1.9	2.0	2.0	1.9	2.1	2.0	2.0	2.1	2.1	2.3
20	2.2	2.2	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.1	2.3
21	2.2	2.2	1.9	2.0	2.0	1.9	1.9	2.1	2.0	2.1	2.1	2.3
22	2.2	2.2	1.9	2.0	2.0	1.9	1.8	2.1	2.0	2.1	2.1	2.3
23	2.2	2.2	1.9	1.9	2.0	1.9	1.9	2.1	2.0	2.1	2.1	2.4
24	2.2	2.2	1.9	1.8	2.0	1.9	1.8	2.0	2.0	2.1	2.1	2.3
25	2.2	2.1	1.9	1.8	2.0	1.9	1.9	2.0	2.1	2.1	2.1	2.3
26	2.2	2.1	1.9	1.8	2.0	1.8	2.1	2.0	2.1	2.1	2.1	2.3
27	2.2	2.1	1.9	1.8	2.0	1.9	2.1	2.0	2.1	2.1	2.1	2.3
28	2.2	2.1	1.9	1.8	1.9	1.9	2.1	2.0	2.1	2.1	2.1	2.2
29	2.2	2.1	1.9	1.8	---	1.9	2.1	2.0	2.1	2.1	2.2	1.9
30	2.2	2.1	1.9	1.8	---	1.8	2.1	2.0	2.0	2.1	2.2	2.0
31	2.2	---	2.0	1.8	---	1.8	---	1.9	---	2.1	2.2	---
TOTAL	68.0	66.0	60.1	57.7	53.5	59.6	57.6	62.7	58.4	64.9	66.2	67.6
MEAN	2.19	2.20	1.94	1.86	1.91	1.92	1.92	2.02	1.95	2.09	2.14	2.25
MAX	2.2	2.5	2.1	2.0	2.0	2.2	2.1	2.1	2.1	2.2	2.2	2.4
MIN	2.1	2.1	1.9	1.7	1.7	1.8	1.8	1.9	1.6	1.9	2.1	1.9
AC-FT	135	131	119	114	106	118	114	124	116	129	131	134

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
MEAN	1.98	1.91	1.83	1.83	1.86	1.89	1.93	2.01	2.10	2.13	2.13	2.10
MAX	2.19	2.20	1.94	1.88	2.00	1.97	2.03	2.23	2.47	2.57	2.65	2.30
(WY)	1994	1994	1994	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	1.90	1.91	1.85	1.89
(WY)	1991	1993	1993	1992	1991	1991	1991	1991	1992	1992	1991	1991

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1991 - 1994

ANNUAL TOTAL	799.0	742.3	
ANNUAL MEAN	2.19	2.03	1.98
HIGHEST ANNUAL MEAN			2.12
LOWEST ANNUAL MEAN			1.85
HIGHEST DAILY MEAN	2.9	2.5	2.9
LOWEST DAILY MEAN	1.4	1.6	1.3
ANNUAL SEVEN-DAY MINIMUM	1.7	1.7	1.6
ANNUAL RUNOFF (AC-FT)	1580	1470	1430
10 PERCENT EXCEEDS	2.6	2.2	2.3
50 PERCENT EXCEEDS	2.2	2.0	1.9
90 PERCENT EXCEEDS	1.8	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.--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 (station 10271060) 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, 71 ft<sup>3</sup>/s, Sept. 29, gage height, 1.41 ft; minimum daily discharge, 1.1 ft<sup>3</sup>/s, June 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.0	1.5	2.0	1.4	1.5	2.0	1.7	2.0	1.7	1.3	2.2
2	1.7	1.9	1.5	2.0	1.6	1.5	2.0	1.7	1.7	1.7	1.2	2.3
3	1.7	1.7	1.5	2.0	1.5	1.5	2.0	1.7	1.4	1.7	1.2	2.3
4	1.7	1.7	1.5	1.7	1.5	1.5	2.0	1.7	1.6	1.6	1.4	2.3
5	1.7	1.7	1.5	1.5	1.5	1.6	2.1	1.7	1.6	e1.9	1.8	2.2
6	1.7	1.7	1.5	1.5	1.5	1.5	2.2	2.0	1.7	2.0	1.7	2.0
7	1.7	1.7	1.5	1.5	1.6	1.5	2.0	1.7	1.8	2.0	1.7	2.0
8	1.7	1.7	1.5	1.7	1.5	1.5	2.0	1.7	1.9	1.8	2.0	2.0
9	1.7	1.7	1.5	1.5	1.5	1.5	2.0	1.7	1.8	1.5	2.1	2.0
10	1.7	1.7	1.5	1.5	3.4	1.5	2.0	1.7	1.9	1.6	2.0	2.0
11	1.7	1.7	1.4	1.5	1.3	1.5	2.0	1.7	2.0	1.6	2.2	2.0
12	1.7	1.7	1.2	1.5	1.5	1.5	2.0	1.8	2.0	2.0	2.2	2.2
13	1.7	1.7	1.2	1.5	1.5	1.5	2.0	1.7	2.0	1.7	2.1	2.3
14	1.7	1.5	1.2	1.5	1.5	42	2.0	1.7	2.0	1.5	2.2	2.3
15	1.7	18	1.2	1.5	1.5	51	2.0	1.7	1.6	1.6	2.1	2.3
16	1.7	49	e1.3	1.5	1.5	52	2.0	1.7	1.5	1.4	2.0	2.2
17	1.7	51	e1.7	1.5	1.6	36	2.0	2.0	1.4	1.5	2.2	2.1
18	1.7	51	e1.7	1.5	1.5	5.3	1.8	2.3	1.4	1.5	2.2	2.0
19	1.7	50	e1.7	1.5	1.5	2.3	1.5	2.3	1.1	1.5	2.0	2.2
20	1.7	49	e1.7	1.5	1.5	2.3	1.5	2.0	1.2	2.4	2.0	2.3
21	1.7	49	e1.7	1.5	1.7	2.3	1.7	2.0	1.2	2.0	2.0	2.0
22	1.7	48	e1.7	1.5	1.5	2.0	1.7	2.0	1.2	1.6	2.0	2.5
23	1.7	38	e1.7	1.5	1.6	2.0	1.7	2.0	1.4	1.7	2.0	2.6
24	1.7	4.7	e1.7	1.5	1.5	2.0	1.7	2.0	1.3	1.5	2.0	2.4
25	2.1	3.0	1.7	1.5	1.6	2.4	1.7	1.9	2.1	1.5	2.0	2.2
26	2.0	3.0	1.7	1.5	1.5	2.3	1.7	2.2	1.3	1.5	2.0	2.0
27	2.0	3.0	1.7	1.5	1.5	2.0	1.7	2.0	1.7	1.5	2.0	2.0
28	2.0	3.0	1.7	1.5	1.5	2.0	1.7	2.0	2.2	1.5	2.0	2.8
29	2.0	2.2	1.7	1.5	---	2.0	1.7	1.7	1.9	1.5	2.0	9.3
30	2.0	1.5	2.1	1.3	---	2.3	1.7	1.7	2.0	1.4	2.1	1.6
31	2.0	---	2.3	1.2	---	2.0	---	3.9	---	1.2	2.1	---
TOTAL	55.1	447.5	49.0	47.9	44.3	233.8	56.1	59.6	49.9	51.1	59.8	72.6
MEAN	1.78	14.9	1.58	1.55	1.58	7.54	1.87	1.92	1.66	1.65	1.93	2.42
MAX	2.1	51	2.3	2.0	3.4	52	2.2	3.9	2.2	2.4	2.2	9.3
MIN	1.7	1.5	1.2	1.2	1.3	1.5	1.5	1.7	1.1	1.2	1.2	1.6
AC-FT	109	888	97	95	88	464	111	118	99	101	119	144
a	4650	3180	5010	4990	4020	3610	3770	4330	6230	6160	5920	4490

e Estimated.

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.56	3.90	.57	.58	1.11	3.37	.61	5.32	6.41	16.0	9.56	1.21
MAX	1.78	14.9	1.58	1.55	2.35	7.54	1.87	19.1	23.4	61.0	35.9	2.42
(WY)	1994	1994	1994	1994	1992	1994	1994	1993	1993	1993	1993	1994
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	4933.86				1226.7							
ANNUAL MEAN	13.5				3.36				4.13			
HIGHEST ANNUAL MEAN									12.0			
LOWEST ANNUAL MEAN									.34			
HIGHEST DAILY MEAN	119				52				119			
LOWEST DAILY MEAN	.08				1.1				.00			
ANNUAL SEVEN-DAY MINIMUM	.11				1.3				.00			
INSTANTANEOUS PEAK FLOW					71				126			
INSTANTANEOUS PEAK STAGE					1.41				1.90			
ANNUAL RUNOFF (AC-FT)	9790				2430				2990			
ANNUAL DIVERSION (AC-FT) a	72030				56360							
10 PERCENT EXCEEDS	49				2.3				2.3			
50 PERCENT EXCEEDS	1.7				1.7				.33			
90 PERCENT EXCEEDS	.15				1.5				.10			

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, 2,888 acre-ft, June 15, elevation, 7,797.99 ft; minimum, 1,195 acre-ft, Sept. 30, elevation, 7,781.84 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2871	2577	2299	2024	1724	1774	1877	1870	2046	2728	1901	1380
2	2864	2566	2293	2014	1724	1776	1885	1860	2117	2719	1879	1374
3	2853	2557	2283	2004	1723	1776	1892	1842	2195	2703	1856	1368
4	2844	2548	2275	1998	1726	1783	1895	1820	2258	2682	1834	1362
5	2836	2542	2263	1984	1727	1787	1900	1805	2320	2656	1811	1357
6	2823	2532	2253	1975	1728	1793	1903	1795	2379	2630	1786	1352
7	2814	2523	2250	1963	1735	1794	1903	1788	2409	2599	1763	1345
8	2799	2514	2236	1952	1736	1798	1898	1777	2438	2570	1741	1337
9	2788	2503	2224	1942	1738	1802	1894	1763	2478	2541	1718	1325
10	2773	2491	2213	1932	1742	1806	1889	1755	2538	2505	1694	1319
11	2768	2484	2216	1922	1741	1811	1883	1760	2616	2472	1670	1312
12	2755	2475	2208	1913	1741	1812	1876	1803	2702	2438	1646	1311
13	2747	2458	2198	1902	1741	1812	1869	1834	2778	2401	1622	1303
14	2734	2453	2194	1891	1741	1815	1863	1852	2838	2365	1598	1295
15	2724	2445	2185	1881	1742	1824	1859	1864	2888	2328	1570	1288
16	2710	2436	2176	1870	1739	1826	1857	1857	2885	2295	1539	1282
17	2700	2425	2167	1859	1755	1826	1856	1835	2865	2257	1513	1275
18	2689	2417	2158	1850	1757	1834	1856	1812	2839	2220	1487	1269
19	2680	2408	2147	1840	1763	1835	1857	1774	2817	2179	1460	1266
20	2672	2400	2139	1828	1767	1837	1873	1728	2802	2137	1434	1256
21	2665	2388	2128	1817	1768	1845	1900	1680	2793	2109	1422	1249
22	2657	2387	2118	1806	1768	1850	1931	1629	2781	2087	1419	1241
23	2651	2365	2110	1799	1768	1848	1954	1580	2765	2071	1417	1233
24	2641	2357	2101	1790	1768	1852	1980	1561	2745	2054	1413	1230
25	2633	2347	2090	1780	1771	1864	1977	1578	2736	2038	1408	1220
26	2624	2338	2082	1770	1772	1864	1964	1615	2727	2019	1406	1214
27	2616	2328	2075	1761	1771	1865	1950	1663	2719	2001	1404	1205
28	2608	2319	2066	1752	1772	1867	1930	1719	2722	1982	1400	1205
29	2599	2316	2056	1742	---	1868	1909	1775	2727	1963	1395	1203
30	2593	2310	2044	1730	---	1873	1891	1857	2728	1943	1391	1195
31	2583	---	2034	1725	---	1875	---	1967	---	1922	1386	---
MAX	2871	2577	2299	2024	1772	1875	1980	1967	2888	2728	1901	1380
MIN	2583	2310	2034	1725	1723	1774	1856	1561	2046	1922	1386	1195
a	7795.34	7792.88	7790.31	7787.32	7787.78	7788.79	7788.94	7789.67	7796.61	7789.24	7783.87	7781.84
b	-299	-273	-276	-309	+47	+103	+16	+76	+761	-806	-536	-191

CAL YR 1993 MAX 4150 MIN 440 b +1360  
WTR YR 1994 MAX 2888 MIN 1195 b -1687

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.--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, 6.3 ft<sup>3</sup>/s, May 2, gage height, 1.02 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.9	.88	.27	.00	.00	.05	.05	e.30	2.6	.74	.00
2	3.2	1.9	.88	.25	.00	.00	.05	.14	e.38	2.6	.70	.00
3	3.1	1.9	.88	.25	.00	.00	.05	.07	.36	2.6	.66	.00
4	3.0	1.9	.72	.22	.00	.00	.05	.05	.55	2.6	.61	.00
5	3.0	1.8	.70	.19	.00	.00	.07	.05	.69	2.5	.56	.00
6	3.0	1.7	.70	.19	.00	.00	.05	.04	.82	2.5	.50	.00
7	2.9	1.7	.70	.19	.00	.00	.05	.02	.95	2.4	.43	.00
8	2.9	1.7	.70	.19	.00	.00	.05	.02	1.1	2.4	.35	.00
9	2.8	1.6	.70	.19	.00	.00	.05	.02	1.2	2.3	.28	.00
10	2.8	1.6	.70	.19	.00	.00	.05	.02	1.3	2.2	.22	.00
11	2.8	1.6	.70	.18	.00	.00	.03	.02	1.5	2.1	.17	.00
12	2.8	1.5	.70	.14	.00	.00	.01	.02	1.7	2.0	.11	.00
13	2.7	1.5	.66	.14	.00	.00	.00	.01	1.8	1.9	.05	.00
14	2.6	1.4	.61	.09	.00	.00	.00	.00	2.1	1.9	.00	.00
15	2.6	1.4	.61	.09	.00	.00	.00	.00	2.3	1.8	.00	.00
16	2.5	1.4	.61	.09	.00	.00	.00	.04	2.5	1.7	.00	.00
17	2.4	1.3	.61	.09	.00	.00	.00	.09	2.6	1.7	.00	.00
18	2.4	1.3	.61	.09	.00	.00	.00	.08	2.6	1.6	.00	.00
19	2.4	1.3	.61	.05	.00	.00	.00	.08	2.8	1.5	.00	.00
20	2.3	1.2	.55	.05	.00	.00	.00	.05	2.8	1.4	.00	.00
21	2.2	1.2	.53	.05	.00	.00	.00	.05	2.8	1.3	.00	.00
22	2.2	1.1	.51	.05	.00	.00	.02	.05	2.7	1.2	.00	.00
23	2.1	.98	.45	.02	.00	.00	.08	.05	2.6	1.1	.00	.00
24	2.1	.98	.45	.02	.00	.00	.09	.05	2.6	1.1	.00	.00
25	2.1	.98	.45	.00	.00	.00	.11	.05	2.6	1.0	.00	.00
26	2.1	.98	.45	.00	.00	.00	.14	.04	2.6	.98	.00	.00
27	2.1	.98	.43	.00	.00	.00	.12	.02	2.6	.98	.00	.00
28	2.0	.91	.38	.00	.00	.00	.09	e.02	2.6	.93	.00	.00
29	2.0	.88	.38	.00	---	.00	.07	e.05	2.6	.88	.00	.00
30	2.0	.88	.38	.00	---	.02	.05	e.10	2.6	.84	.00	.00
31	2.0	---	.37	.00	---	.02	---	e.25	---	.79	.00	---
TOTAL	78.3	41.47	18.61	3.28	0.00	0.04	1.33	1.60	56.65	53.40	5.38	0.00
MEAN	2.53	1.38	.60	.11	.000	.001	.044	.052	1.89	1.72	.17	.000
MAX	3.2	1.9	.88	.27	.00	.02	.14	.25	2.8	2.6	.74	.00
MIN	2.0	.88	.37	.00	.00	.00	.00	.00	.30	.79	.00	.00
AC-FT	155	82	37	6.5	.00	.08	2.6	3.2	112	106	11	.00

e Estimated.



## 10287069 MILL CREEK FLUME BELOW LUNDY LAKE, NEAR LEE VINING, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.11	.35	.15	.026	.000	.000	.011	.015	1.45	5.58	2.93	2.04
MAX	2.53	1.38	.60	.11	.000	.001	.044	.052	1.89	15.6	7.31	4.24
(WY)	1994	1994	1994	1994	1991	1994	1994	1994	1994	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.61	1.72	.17	.000
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1993	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	995.66				260.06							
ANNUAL MEAN	2.73				.71				1.15			
HIGHEST ANNUAL MEAN									2.48			
LOWEST ANNUAL MEAN									.69			
HIGHEST DAILY MEAN	54				3.2				54			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					6.3				64			
INSTANTANEOUS PEAK STAGE					1.02				1.53			
ANNUAL RUNOFF (AC-FT)	1970				516				832			
10 PERCENT EXCEEDS	7.8				2.5				2.6			
50 PERCENT EXCEEDS	.55				.11				.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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.00	.00	.00	.00	.00	.00	.00	4.5	4.0	.00
2	e.00	.00	.00	.00	.00	.00	.00	.00	.00	4.5	4.1	.00
3	e.00	.00	.00	.00	.00	.00	.00	.00	.00	4.5	4.1	.00
4	e.00	.00	.00	.00	.00	.00	.00	.00	.00	4.6	4.1	.00
5	e.00	.00	.00	.00	.00	.00	.00	.00	.00	4.8	3.9	.00
6	e.00	.00	.00	.00	.00	.00	.00	.00	.00	6.3	3.9	.00
7	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.3	4.0	.00
8	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.3	4.1	.00
9	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.2	4.1	.00
10	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.1	4.1	.00
11	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.1	4.1	.00
12	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.1	4.1	.00
13	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.3	4.2	.00
14	e.00	.00	.00	.00	.00	.00	.00	.00	.00	7.3	4.2	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.3	e4.3	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	2.5	7.3	4.4	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	4.2	7.4	3.7	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	4.2	7.4	3.1	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	4.2	7.4	3.2	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	3.7	7.4	3.3	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	3.5	7.3	1.5	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	3.8	5.1	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	3.8	3.8	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	3.7	3.8	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	4.0	3.8	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	4.3	3.9	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	3.9	3.9	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	4.3	3.9	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	4.5	3.9	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	4.5	3.9	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	3.9	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.10	178.3	80.50	0.00
MEAN	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	1.97	5.75	2.60	.0000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	4.5	7.4	4.4	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.8	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	117	354	160	.00

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.50	6.22	8.63	7.19	1.89
MAX	.0000	.0001	.0000	.0000	.0000	.0000	.0000	1.18	9.77	11.9	12.0	4.23
(WY)	1991	1992	1991	1991	1991	1991	1991	1992	1991	1991	1991	1991
MIN	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	1.97	5.75	2.60	.0000
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1994	1994	1994	1994

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1991 - 1994

ANNUAL TOTAL	792.13	317.90	
ANNUAL MEAN	2.17	.87	2.05
HIGHEST ANNUAL MEAN			3.18
LOWEST ANNUAL MEAN			.87
HIGHEST DAILY MEAN	11 Aug 2	7.4 Jul 17	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)	1570	631	1490
10 PERCENT EXCEEDS	8.7	4.1	8.7
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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.8	9.8	10	4.7	4.7	5.0	21	29	29	17	9.7
2	12	9.8	9.8	10	4.7	4.7	5.0	21	29	29	17	9.8
3	12	9.8	9.8	10	4.7	4.7	5.0	21	29	29	17	9.8
4	12	9.8	9.8	10	4.7	4.6	5.0	23	29	29	17	9.8
5	12	9.8	9.8	10	4.7	4.6	5.0	24	29	29	17	9.8
6	12	9.8	9.8	10	4.7	4.6	5.0	24	29	28	17	9.8
7	12	9.8	9.8	10	4.7	4.6	7.5	24	29	27	17	9.8
8	11	9.8	9.8	10	4.6	4.6	9.2	23	29	27	17	9.9
9	12	9.8	9.8	10	4.6	4.6	9.1	23	29	27	17	9.9
10	11	9.8	9.8	10	4.6	4.6	9.1	23	29	27	17	9.9
11	11	9.8	9.9	10	4.6	4.6	9.2	23	29	27	17	9.8
12	12	9.8	9.9	10	4.6	4.6	9.1	23	29	27	17	9.8
13	11	9.8	9.9	10	4.6	4.6	9.2	36	29	27	17	9.8
14	12	9.8	10	10	4.6	4.6	9.1	48	29	27	17	9.9
15	12	9.8	9.9	10	4.6	4.6	9.1	48	29	27	18	9.9
16	12	9.8	9.9	10	4.7	4.6	9.1	48	36	27	18	9.9
17	12	9.8	9.8	10	4.7	4.6	9.1	48	40	27	18	9.9
18	11	9.8	9.8	9.8	4.7	4.6	9.1	48	40	27	18	9.9
19	10	9.8	9.9	9.7	4.7	4.6	9.2	48	40	28	18	9.9
20	10	9.8	9.9	9.7	4.7	4.6	9.2	48	40	27	18	9.9
21	9.8	9.8	9.9	9.7	4.7	4.9	9.2	48	40	28	13	9.8
22	9.8	9.9	10	9.7	4.7	5.1	9.2	48	40	21	9.8	9.9
23	9.8	9.9	10	9.8	4.7	5.2	9.3	48	40	17	9.8	9.8
24	9.8	9.8	10	9.7	4.7	5.2	9.3	36	40	17	9.8	9.8
25	9.8	9.8	10	9.8	4.7	5.1	15	29	34	17	9.8	9.8
26	9.8	9.8	10	9.8	4.7	5.1	21	29	31	17	9.7	9.8
27	9.8	9.8	10	9.8	4.7	5.0	21	29	30	17	9.7	9.8
28	9.8	9.9	10	9.8	4.7	5.0	21	29	30	18	9.7	9.8
29	9.8	9.8	10	9.8	---	5.0	21	29	29	17	9.8	9.9
30	9.8	9.8	10	9.8	---	5.0	21	29	29	18	9.8	9.8
31	9.8	---	10	7.0	---	5.0	---	29	---	17	9.7	---
TOTAL	338.8	294.3	306.8	303.9	130.8	147.9	313.3	1028	974	756	456.6	295.1
MEAN	10.9	9.81	9.90	9.80	4.67	4.77	10.4	33.2	32.5	24.4	14.7	9.84
MAX	12	9.9	10	10	4.7	5.2	21	48	40	29	18	9.9
MIN	9.8	9.8	9.8	7.0	4.6	4.6	5.0	21	29	17	9.7	9.7
AC-FT	672	584	609	603	259	293	621	2040	1930	1500	906	585

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	1991	1992	1993	1994
MEAN	6.85	7.18	6.98	8.10
MAX	10.9	9.81	9.90	9.87
(WY)	1994	1994	1992	1993
MIN	5.15	5.33	5.30	5.50
(WY)	1993	1991	1993	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1991 - 1994
ANNUAL TOTAL	8908.1	5345.5	
ANNUAL MEAN	24.4	14.6	15.8
HIGHEST ANNUAL MEAN			23.4
LOWEST ANNUAL MEAN			11.3
HIGHEST DAILY MEAN	64	48	64
LOWEST DAILY MEAN	5.3	4.6	4.4
ANNUAL SEVEN-DAY MINIMUM	5.4	4.6	4.5
ANNUAL RUNOFF (AC-FT)	17670	10600	11450
10 PERCENT EXCEEDS	55	29	46
50 PERCENT EXCEEDS	13	9.9	9.8
90 PERCENT EXCEEDS	8.3	4.7	5.0

## 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, 5,456 acre-ft, June 3, elevation, 9,416.57 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	.00	.00	.00	.00	.00	.00	.00	5177	5316	5297	5103
2	299	.00	.00	.00	.00	.00	.00	.00	5422	5304	5295	5085
3	143	.00	.00	.00	.00	.00	.00	21	5456	5297	5293	5074
4	8.5	.00	.00	.00	.00	.00	.00	55	5450	5291	5288	5061
5	.00	.00	.00	.00	.00	.00	.00	67	5445	5284	5282	5043
6	.00	.00	.00	.00	.00	.00	.00	.00	5422	5278	5277	5028
7	.00	.00	.00	.00	.00	.00	.00	.00	5407	5288	5267	5010
8	.00	.00	.00	.00	.00	.00	.00	.00	5398	5308	5264	4997
9	.00	.00	.00	.00	.00	.00	.00	6.5	5403	5317	5258	4970
10	.00	.00	.00	.00	.00	.00	.00	57	5415	5319	5258	4950
11	.00	.00	.00	.00	.00	.00	.00	188	5422	5325	5262	4930
12	.00	.00	.00	.00	.00	.00	.00	557	5401	5321	5262	4769
13	.00	.00	.00	.00	.00	.00	.00	956	5394	5321	5262	4520
14	.00	.00	.00	.00	.00	.00	.00	1378	5405	5321	5262	4166
15	.00	.00	.00	.00	.00	.00	5.4	1675	5355	5319	5260	3876
16	.00	.00	.00	.00	.00	.00	52	1833	5330	5321	5260	3593
17	.00	.00	.00	.00	.00	.00	130	1934	5310	5319	5260	3316
18	.00	.00	.00	.00	.00	.00	231	2013	5310	5319	5254	3046
19	.00	.00	.00	.00	.00	.00	285	2074	5316	5316	5249	2786
20	.00	.00	.00	.00	.00	.00	238	2144	5323	5312	5245	2428
21	.00	.00	.00	.00	.00	.00	225	2227	5325	5312	5234	1981
22	.00	.00	.00	.00	.00	.00	126	2341	5321	5316	5228	1563
23	.00	.00	.00	.00	.00	.00	.00	2525	5317	5314	5217	1180
24	.00	.00	.00	.00	.00	.00	.00	2769	5316	5312	5206	832
25	.00	.00	.00	.00	.00	.00	.00	3046	5316	5306	5193	511
26	.00	.00	.00	.00	.00	.00	.00	3331	5312	5304	5182	215
27	.00	.00	.00	.00	.00	.00	.00	3616	5312	5304	5168	e.00
28	.00	.00	.00	.00	.00	.00	.00	3881	5323	5303	5157	e.00
29	.00	.00	.00	.00	---	.00	.00	4183	5325	5303	5142	e.00
30	.00	.00	.00	.00	---	.00	.00	4512	5321	5303	5133	e.00
31	.00	---	.00	.00	---	.00	---	4923	---	5299	5120	---
MAX	456	.00	.00	.00	.00	.00	285	4923	5456	5325	5297	5103
MIN	.00	.00	.00	.00	.00	.00	.00	.00	5177	5278	5120	.00
a	9370.00	9370.20				9374.18	9371.96	9413.68	9415.85	9415.73	9414.76	9370.84
b	-623	0	0	0	0	0	0	+4923	+398	-22	-179	-5120

CAL YR 1993 MAX 5461 MIN .00 b 0  
WTR YR 1994 MAX 5456 MIN .00 b -623

e Estimated.

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, 15,595 acre-ft, Oct. 2-4, elevation, 9,045.78 ft; minimum, 1,531 acre-ft, Apr. 14, elevation, 8,985.56 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15579	12635	10324	8028	5670	3728	2246	2962	5178	8163	7825	6997
2	15595	12558	10251	7934	5601	3666	2220	3030	5242	8168	7801	6974
3	15595	12477	10176	7865	5514	3610	2200	3172	5481	8184	7761	6928
4	15595	12425	10116	7792	5448	3563	2158	3397	5705	8191	7754	6907
5	15513	12322	10019	7721	5364	3524	2102	3581	5934	8191	7742	6884
6	15378	12246	9946	7635	5294	3483	2062	3755	6080	8191	7717	6859
7	15219	12168	9870	7560	5250	3428	2024	3810	6158	8175	7693	6820
8	15102	12094	9795	7488	5178	3378	1968	3852	6252	8134	7672	6790
9	14967	12011	9720	7399	5097	3325	1912	3941	6429	8113	7646	6765
10	14831	11956	9646	7329	5031	3296	1854	4133	6633	8099	7611	6742
11	14722	11878	9597	7255	4966	3235	1787	4391	6852	8077	7583	6699
12	14578	11800	9523	7183	4879	3194	1741	4596	7045	8056	7560	6790
13	14437	11712	9437	7114	4813	3134	1588	4683	7243	8035	7553	7020
14	14346	11645	9375	7045	4728	3094	1531	4793	7409	8028	7511	7264
15	14246	11573	9302	6955	4648	3032	1587	4825	7546	8002	7486	e7520
16	14160	11483	9226	6884	4577	2977	1643	4832	7611	7978	7458	7707
17	14023	11411	9153	6815	4536	2934	1701	4834	7651	7955	7413	7905
18	13956	11336	9083	6726	4470	2890	1833	4834	7679	7929	7381	8115
19	13856	11241	9008	6642	4408	2838	1910	4823	7710	7905	7367	8325
20	13771	11159	8938	6567	4345	2792	2256	4817	7742	7882	7325	8622
21	13667	11079	8863	6488	4278	2751	2529	4808	7790	7879	7297	9005
22	13573	11003	8773	6408	4191	2713	2768	4800	7837	7879	7276	9346
23	13483	10926	8718	6340	4127	2659	2924	4795	7884	7879	7250	9666
24	13379	10875	8648	6273	4047	2617	2972	4813	7908	7877	7227	9956
25	13275	10774	8554	6205	3984	2598	2979	4834	7952	7877	7181	e10226
26	13185	10690	8473	6116	3920	2550	2972	4858	7969	7877	7158	e10447
27	13084	10621	8409	6049	3843	2505	2970	4899	8004	7874	7137	10566
28	12983	10533	8337	5981	3784	2452	2950	4944	8044	7856	7112	10591
29	12893	10470	8244	5896	---	2394	2930	4987	8075	7851	7080	10611
30	12790	10397	8170	5825	---	2336	2936	5051	8120	7848	7045	10614
31	12693	---	8099	5758	---	2284	---	5130	---	7848	7020	---
MAX	15595	12635	10324	8028	5670	3728	2979	5130	8120	8191	7825	10614
MIN	12693	10397	8099	5758	3784	2284	1531	2962	5178	7848	7020	6699
a	9034.94	9025.97	9016.49	9006.23	8997.03	8989.53	8992.76	9003.72	9016.79	9015.63	9012.07	9026.96
b	-2875	-2296	-2298	-2341	-1974	-1500	+652	+2194	+2990	-272	-828	+3594

CAL YR 1993 MAX 17222 MIN 895 b +711  
WTR YR 1994 MAX 15595 MIN 1531 b -4954

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, 811 acre-ft, Oct. 1-3, 11, 12, elevation, 8,495.91 ft; minimum, 29 acre-ft, for many days, elevation, 8,471.24 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811	30	29	30	30	29	29	138	492	770	782	775
2	811	30	29	30	30	29	31	143	506	771	782	775
3	811	30	29	30	30	29	33	148	523	770	781	775
4	810	29	29	30	30	29	35	157	537	771	782	775
5	808	29	29	30	30	29	37	166	549	772	782	775
6	809	29	29	30	30	29	39	174	558	773	782	775
7	810	29	29	30	30	29	39	180	607	775	781	775
8	810	29	29	30	30	29	41	186	662	776	780	773
9	810	29	29	30	30	29	43	193	672	777	780	772
10	810	29	29	30	30	29	45	202	685	777	780	772
11	811	29	30	30	30	29	46	215	696	777	780	771
12	811	29	30	30	30	29	47	235	705	778	780	771
13	808	29	30	30	30	29	50	255	715	778	780	771
14	769	29	30	30	30	29	52	276	720	779	780	772
15	696	29	30	30	30	29	56	291	726	779	780	772
16	623	29	30	30	30	29	60	301	731	779	780	773
17	550	29	30	30	29	29	65	310	737	779	780	773
18	480	29	30	30	29	29	72	318	741	781	779	773
19	410	29	30	30	29	29	81	325	745	781	779	774
20	339	29	30	30	29	29	90	331	748	782	779	775
21	272	29	30	30	29	29	97	338	751	782	778	775
22	204	29	30	30	29	29	106	344	754	783	777	776
23	163	29	30	30	29	29	112	351	757	783	777	777
24	135	29	30	30	29	29	118	361	759	783	777	777
25	128	29	30	30	29	29	121	375	761	783	776	778
26	126	29	30	30	29	29	125	389	762	783	776	779
27	96	29	30	30	29	29	127	403	765	783	776	779
28	52	29	30	30	29	29	130	421	767	783	776	784
29	30	29	30	30	---	29	133	437	768	783	776	786
30	30	29	30	30	---	29	135	455	768	783	775	787
31	30	---	30	30	---	29	---	477	---	783	776	---
MAX	811	30	30	30	30	29	135	477	768	783	782	787
MIN	30	29	29	30	29	29	29	138	492	770	775	771
a	8471.28	8471.27	8471.28	8471.28	8471.27	8471.27	8475.51	8486.86	8494.83	8495.19	8495.02	8495.30
b	-781	-1	+1	0	-1	0	+106	+342	+291	+15	-7	+11

CAL YR 1993 MAX 847 MIN 29 b +1

WTR YR 1994 MAX 811 MIN 29 b -24

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, Oct. 27, 28, 1993; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25 ft<sup>3</sup>/s, Oct. 27, gage height, 2.99 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.72	.57	.33	e.40	.32	.05	.04	.06	.05	.01	.00
2	.18	.60	.55	.31	.45	.35	.03	.03	.03	.09	.01	.00
3	.12	.55	.51	.31	.40	.38	.02	.05	.04	.05	.02	.01
4	.47	.52	.42	.33	.37	.43	.03	.03	.04	.05	.02	.01
5	1.1	.49	.42	.39	e.35	.52	.03	.01	.03	.05	.01	.00
6	.63	.49	.39	.42	.30	.87	.01	.03	.01	.05	.00	.01
7	.57	.44	.36	.44	.70	.71	.07	.06	.05	.05	.01	.00
8	.48	.39	.22	.32	.87	.60	.01	.04	.08	.03	.01	.04
9	.53	.38	.19	.32	.75	.55	.01	.06	.09	.03	.00	.09
10	.75	.30	.21	.37	.49	.49	.00	.05	.08	.03	.00	.01
11	.65	.25	.43	.33	.65	.49	.03	.03	.05	.03	.01	.00
12	.66	.38	.63	.31	e.60	.42	.01	.04	.07	.02	.01	.01
13	1.3	.50	.47	.31	e.60	.43	.03	.04	.04	.03	.00	.01
14	.91	.31	.51	.31	.55	.45	.06	.01	.04	.02	.01	.01
15	.58	.29	.85	.31	.47	.49	.07	.00	.01	.02	.01	.01
16	.50	.31	.56	.31	.36	.48	.10	.00	.03	.03	.00	.01
17	.52	.31	.55	.31	1.2	.45	.11	.03	.06	.03	.00	.01
18	.54	.31	.50	.31	2.5	.51	.11	.06	.06	.03	.00	.01
19	.45	.31	.43	.31	1.5	e.53	.09	.07	.07	.03	.00	.01
20	.45	.31	.40	.31	1.9	.55	.05	.08	.05	.02	.00	.01
21	.36	.34	.37	.31	1.6	.56	.03	.04	.06	.03	.00	.01
22	.28	.40	.32	.28	1.1	e.56	.01	.05	.05	.02	.00	.01
23	.27	.32	.27	.37	.51	.56	.00	.06	.05	.02	.00	.01
24	.19	.26	.24	.45	.37	.54	.12	.05	.05	.02	.00	.01
25	.18	.27	.21	.47	.37	1.0	.02	.04	.04	.01	.00	.01
26	.10	.26	.16	.45	.33	1.1	.02	.03	.05	.02	.00	.01
27	12	.27	.12	.54	.31	.74	.01	.02	.05	.02	.00	.01
28	25	.30	.09	.54	.31	.65	.01	.03	.04	.02	.00	.05
29	17	.38	.06	.46	---	.40	.03	.04	.05	.01	.01	.06
30	3.8	.69	.03	.45	---	.04	.04	.06	.19	.01	.01	.02
31	1.4	---	.16	.39	---	.04	---	.22	---	.04	.00	---
TOTAL	72.23	11.65	11.20	11.37	20.31	16.21	1.21	1.40	1.62	0.96	0.15	0.46
MEAN	2.33	.39	.36	.37	.73	.52	.040	.045	.054	.031	.005	.015
MAX	25	.72	.85	.54	2.5	1.1	.12	.22	.19	.09	.02	.09
MIN	.10	.25	.03	.28	.30	.04	.00	.00	.01	.01	.00	.00
AC-FT	143	23	22	23	40	32	2.4	2.8	3.2	1.9	.3	.9

e Estimated.

## 10287289 RUSH CREEK FLUME BELOW AGNEW LAKE, NEAR JUNE LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.69	.82	.48	.39	.49	.64	.54	.32	1.90	18.1	.73	.25
MAX	2.33	1.60	.72	.59	.73	.98	1.86	.96	7.37	70.2	1.93	.45
(WY)	1994	1991	1993	1992	1994	1993	1993	1993	1993	1993	1993	1993
MIN	.73	.39	.23	.27	.19	.33	.040	.045	.049	.031	.005	.015
(WY)	1991	1994	1991	1991	1991	1991	1994	1994	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	2701.71				148.77							
ANNUAL MEAN	7.40				.41				2.22			
HIGHEST ANNUAL MEAN									7.37			
LOWEST ANNUAL MEAN									.41			1993
HIGHEST DAILY MEAN	190				25				190			1994
LOWEST DAILY MEAN	.02				.00				.00			1993
ANNUAL SEVEN-DAY MINIMUM	.08				.00				.00			1990
INSTANTANEOUS PEAK FLOW					25				199			1991
INSTANTANEOUS PEAK STAGE					2.99				2.99			1993
ANNUAL RUNOFF (AC-FT)	5360				295				1610			1991
10 PERCENT EXCEEDS	5.7				.59				1.5			
50 PERCENT EXCEEDS	.52				.10				.32			
90 PERCENT EXCEEDS	.20				.01				.02			



## 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.--No estimated daily discharges. 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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	38	38	39	38	35	34	38	34	34	21	21
2	69	38	38	39	38	31	35	38	34	34	21	21
3	69	38	38	39	38	29	35	38	34	34	21	21
4	69	38	38	39	38	29	37	36	34	34	21	21
5	69	37	38	39	38	29	39	35	34	34	21	21
6	69	37	38	39	38	30	39	34	34	34	21	21
7	69	37	38	39	38	30	39	35	34	34	21	21
8	68	37	38	39	38	30	39	35	34	34	21	21
9	66	37	37	38	38	30	39	35	34	34	21	22
10	68	33	38	32	38	29	39	35	34	34	21	22
11	68	38	38	37	38	30	38	35	34	34	21	22
12	68	38	38	38	38	30	37	27	34	33	21	22
13	68	38	38	38	38	30	55	34	34	34	21	22
14	71	38	38	38	38	30	69	34	34	34	21	22
15	87	39	38	38	38	30	48	34	34	34	25	22
16	87	40	38	38	38	30	49	34	34	34	27	22
17	87	40	38	38	38	30	50	34	34	34	23	22
18	87	40	38	38	38	30	42	34	34	34	21	22
19	87	40	38	38	38	30	37	34	34	34	21	22
20	87	40	38	38	38	30	37	34	34	34	21	21
21	87	40	38	38	38	30	39	34	35	22	21	22
22	87	40	38	38	38	30	39	34	34	20	21	22
23	72	40	38	38	38	30	38	34	34	21	21	22
24	65	39	38	38	36	30	38	34	34	21	22	22
25	54	38	38	38	35	30	38	34	34	21	22	22
26	53	38	38	38	35	30	39	34	34	21	21	22
27	51	38	38	38	35	30	39	34	34	21	21	22
28	50	38	39	38	35	33	38	34	33	21	21	22
29	50	38	39	38	---	34	38	34	33	21	21	23
30	50	38	39	38	---	34	38	34	34	21	22	23
31	45	---	39	38	---	34	---	34	---	21	22	---
TOTAL	2146	1148	1181	1179	1050	947	1221	1067	1019	910	667	653
MEAN	69.2	38.3	38.1	38.0	37.5	30.5	40.7	34.4	34.0	29.4	21.5	21.8
MAX	87	40	39	39	38	35	69	38	35	34	27	23
MIN	45	33	37	32	35	29	34	27	33	20	21	21
AC-FT	4260	2280	2340	2340	2080	1880	2420	2120	2020	1800	1320	1300

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
MEAN	43.2	33.2	32.8	31.5	31.8	36.5	35.1	51.8	52.7	48.3	43.1	40.3
MAX	69.2	38.3	38.1	38.0	37.5	50.1	60.9	99.1	102	102	91.5	68.0
(WY)	1994	1994	1994	1994	1994	1993	1992	1993	1993	1993	1993	1993
MIN	33.6	23.5	23.9	18.1	16.8	19.9	6.87	34.4	34.0	26.6	21.5	21.8
(WY)	1993	1991	1991	1991	1991	1991	1991	1994	1994	1992	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1991 - 1994	
ANNUAL TOTAL	23278		13188			
ANNUAL MEAN	63.8		36.1		40.1	
HIGHEST ANNUAL MEAN					60.2	
LOWEST ANNUAL MEAN					27.4	
HIGHEST DAILY MEAN	105	May 25	87	Oct 15	105	May 25 1993
LOWEST DAILY MEAN	25	Apr 13	20	Jul 22	5.2	Apr 30 1991
ANNUAL SEVEN-DAY MINIMUM	25	Apr 13	21	Jul 22	6.4	Apr 25 1991
ANNUAL RUNOFF (AC-FT)	46170		26160		29040	
10 PERCENT EXCEEDS	102		43		73	
50 PERCENT EXCEEDS	65		35		35	
90 PERCENT EXCEEDS	34		21		21	

## 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, 7,288 acre-ft, Oct. 1, elevation, 10,081.50 ft; minimum, 834 acre-ft, Apr. 13, elevation, 10,053.30 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7288	6999	6006	5001	3619	2592	1587	1218	2691	3893	4268	4169
2	7278	6985	5972	4965	3572	2554	1515	1232	2771	3902	4275	4160
3	7267	6961	5937	4923	3529	2518	1457	1248	2844	3918	4282	4151
4	7262	6940	5901	4906	3486	2475	1392	1283	2901	3934	4284	4141
5	7254	6916	5863	4880	3443	2456	1319	1317	2957	3951	4291	4132
6	7248	6890	5833	4851	3399	2426	1267	1356	3023	3964	4296	4123
7	7232	6859	5785	4805	3376	2388	1206	1392	3049	3978	4291	4116
8	7222	6830	5765	4750	3337	2353	1151	1404	3084	3990	4291	4106
9	7216	6796	5728	4700	3285	2315	1097	1430	3137	4004	4291	4097
10	7198	6770	5688	4647	3272	2283	1039	1465	3199	4020	4289	4088
11	7203	6715	5693	4597	3234	2243	969	1523	3268	4037	4284	4074
12	7190	6702	5658	4544	3188	2216	904	1601	3332	4053	4282	4074
13	7176	6644	5620	4497	3144	2178	834	1688	3376	4064	4279	4071
14	7174	6610	5615	4447	3095	2145	900	1779	3448	4078	4279	4055
15	7171	6582	5585	4392	3053	2110	904	1857	3475	4090	4275	4039
16	7166	6538	5553	4345	3014	2081	907	1895	3499	4104	4272	4037
17	7158	6501	5516	4289	3029	2031	919	1938	3517	4120	4272	4023
18	7147	6467	5481	4242	3003	2004	940	1971	3536	4134	4265	4013
19	7134	6423	5441	4197	2968	1990	969	1988	3556	4144	4258	4009
20	7126	6385	5409	4141	2944	1953	1012	2000	3588	4151	4256	3997
21	7113	6336	5369	4095	2905	1918	1050	2019	3619	4172	4254	3983
22	7099	6364	5334	4046	2864	1906	1079	2043	3658	4186	4247	3971
23	7091	6269	5302	4016	2821	1871	1122	2070	3679	4195	4235	3969
24	7078	6241	5263	3985	2779	1842	1144	2110	3701	4204	4230	3964
25	7067	6205	5234	3934	2747	1832	1171	2166	3729	4211	4221	3953
26	7057	6164	5199	3893	2693	1808	1190	2233	3745	4214	4214	3941
27	7046	6128	5170	3852	2669	1769	1204	2302	3781	4226	4207	3939
28	7028	6118	5146	3806	2637	1741	1208	2371	3806	4235	4197	3941
29	7030	6087	5106	3756	---	1708	1210	2445	3834	4242	4193	3948
30	7020	6049	5067	3708	---	1676	1214	2547	3863	4251	4183	3941
31	7012	---	5038	3663	---	1646	---	2628	---	4263	4174	---
MAX	7288	6999	6006	5001	3619	2592	1587	2628	3863	4263	4296	4169
MIN	7012	6049	5038	3663	2637	1646	834	1218	2691	3893	4174	3939
a	10080.46	10076.75	10072.69	10066.85	10062.20	10057.43	10055.26	10062.16	10067.73	10069.45	10069.07	10068.07
b	-287	-963	-1011	-1375	-1026	-991	-432	+1414	+1235	+400	-89	-233

CAL YR 1993 MAX 7425 MIN 768 b +2109

WTR YR 1994 MAX 7288 MIN 834 b -3358

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## 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, 1,265 acre-ft, June 11, elevation, 9,650.42 ft; minimum, 88 acre-ft, Feb. 10, 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	906	363	109	101	103	105	104	250	1138	1208	1255	1246
2	890	329	108	101	102	104	105	258	1186	1208	1255	1246
3	875	295	108	101	101	104	107	273	1213	1210	1255	1245
4	861	264	108	103	100	103	106	296	1223	1211	1254	1245
5	847	235	108	104	100	105	107	317	1241	1213	1254	1243
6	833	208	108	103	100	107	108	336	1248	1215	1253	1243
7	818	184	107	103	106	106	108	346	1244	1217	1251	1243
8	802	161	108	e103	106	105	110	355	1241	1220	1251	1241
9	789	142	108	103	106	104	110	371	1249	1221	1252	1240
10	773	125	107	103	88	105	108	400	1259	1223	1252	1238
11	761	117	110	103	108	105	108	447	1265	1226	1253	1238
12	746	116	111	102	108	104	107	508	1262	1228	1253	1239
13	732	112	110	102	107	103	107	561	1259	1230	1253	1239
14	717	113	111	101	105	103	108	617	1257	1233	1253	1230
15	706	111	111	100	105	103	111	656	1248	1235	1253	1215
16	694	111	110	100	97	103	113	677	1235	1238	1252	1200
17	681	110	110	100	111	102	116	695	1220	1243	1251	1183
18	667	109	109	99	112	101	119	709	1207	1248	1251	1170
19	653	109	108	99	112	103	134	717	1194	1251	1251	1157
20	639	109	108	99	112	103	158	726	1184	1254	1251	1140
21	618	109	107	98	111	103	182	738	1182	1256	1250	1125
22	594	111	106	98	109	105	201	751	1179	1257	1251	1110
23	570	110	105	102	108	104	214	769	1181	1257	1250	1095
24	547	109	105	105	107	105	222	797	1185	1257	1250	1083
25	523	108	104	106	106	109	230	829	1187	1257	1249	1066
26	500	108	104	105	106	107	234	868	1188	1257	1248	1052
27	477	107	104	106	107	106	237	906	1193	1257	1247	1038
28	453	108	104	106	106	106	240	944	1196	1256	1248	1028
29	432	111	103	105	---	105	243	986	1200	1255	1248	1016
30	411	110	103	103	---	105	247	1040	1204	1256	1246	1002
31	392	---	102	103	---	105	---	1097	---	1255	1245	---
MAX	906	363	111	106	112	109	247	1097	1265	1257	1255	1246
MIN	392	107	102	98	88	101	104	250	1138	1208	1245	1002
a	9635.75	9629.48	9629.29	9629.30	9629.37	9629.35	9632.64	9648.05	9649.58	9650.29	9650.15	9646.61
b	-530	-282	-8	+1	+3	-1	+142	+850	+107	+51	-10	-243

CAL YR 1993 MAX 1274 MIN 102 b -9  
WTR YR 1994 MAX 1265 MIN 88 b +80

e Estimated.

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 (station 10287762) 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, 256 acre-ft, Oct. 11, 1993, elevation, 9,488.35 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 504 acre-ft, July 10, elevation, 9,492.70 ft; minimum, 256 acre-ft, Oct. 11, elevation, 9,488.35 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	437	433	457	448	431	452	449	440	383	437	458	430
2	437	441	451	450	430	445	460	451	389	424	451	431
3	437	441	444	451	430	438	459	443	397	425	446	431
4	437	444	435	451	428	437	452	453	369	434	444	433
5	435	451	430	451	426	439	444	465	362	439	441	435
6	429	454	428	450	424	440	435	446	347	445	435	436
7	396	453	426	454	427	438	429	411	327	460	429	438
8	312	449	424	454	429	437	424	388	351	475	427	438
9	272	441	428	453	436	437	417	390	407	491	435	437
10	263	440	431	453	443	437	427	423	399	504	437	435
11	256	445	438	453	445	435	445	431	382	485	437	435
12	260	445	444	453	449	433	455	467	359	467	437	435
13	277	442	447	453	455	431	458	455	366	459	437	437
14	291	438	447	452	459	432	459	442	382	455	436	445
15	308	438	444	452	461	436	470	397	363	449	435	458
16	325	446	440	449	454	436	473	342	348	446	433	467
17	338	454	435	448	444	434	480	326	361	441	429	473
18	350	456	432	444	433	433	480	333	381	437	429	470
19	362	454	431	442	445	431	460	337	407	434	434	463
20	375	446	428	440	453	434	454	343	442	435	440	456
21	390	439	430	437	462	438	470	349	470	449	443	448
22	415	431	431	442	474	441	455	350	473	463	446	440
23	438	428	433	444	481	445	422	364	451	464	445	431
24	460	428	437	444	477	448	389	383	444	458	439	422
25	463	427	440	441	473	454	382	387	441	455	432	417
26	456	426	444	438	470	458	396	383	438	458	428	418
27	448	425	445	437	465	453	406	391	449	461	428	424
28	439	430	446	432	459	448	412	381	470	464	427	434
29	434	447	444	428	---	443	419	379	469	469	424	444
30	432	458	446	428	---	440	428	393	456	471	425	449
31	430	---	448	429	---	438	---	430	---	465	428	---
MAX	463	458	457	454	481	458	480	467	473	504	458	473
MIN	256	425	424	428	424	431	382	326	327	424	424	417
a	9491.47	9491.94	9491.78	9491.45	9491.96	9491.60	9491.44	9491.47	9491.92	9492.06	9491.44	9491.80
b	-8	+28	-10	-19	+30	-21	-10	+2	+26	+9	-37	+21

CAL YR 1993 MAX 605 MIN 256 b 0

WTR YR 1994 MAX 504 MIN 256 b +11

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 (station 10287762). 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, 10 ft<sup>3</sup>/s, Oct. 11, gage height, unknown; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.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	.50	.00	.00
11	e2.6	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00
12	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
13	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
14	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
15	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
16	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
17	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
18	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
19	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
20	e10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
21	e6.0	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	e.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	e.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	e.00	.00	---
TOTAL	98.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00
MEAN	3.18	.000	.000	.000	.000	.000	.000	.000	.000	.052	.000	.000
MAX	10	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	196	.00	.00	.00	.00	.00	.00	.00	.00	3.2	.00	.00
a	1010	1520	1410	1750	1470	1620	2230	3230	3420	1170	772	789

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.03	.000	.000	.000	.098	.86	.17	1.78	7.65	3.46	.098	.23
MAX	3.18	.000	.000	.000	.40	2.62	.67	6.75	25.4	13.8	.39	.94
(WY)	1994	1991	1991	1991	1991	1992	1993	1993	1993	1993	1992	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1992	1991	1991	1991	1992	1991	1991	1994	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1991 - 1994			
ANNUAL TOTAL	1542.18				100.20							
ANNUAL MEAN	4.23				.27				1.37			
HIGHEST ANNUAL MEAN									4.14			
LOWEST ANNUAL MEAN									.27			
HIGHEST DAILY MEAN	85 Jun 20				10 Oct 12				85 Jun 20 1993			
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			
INSTANTANEOUS PEAK FLOW					10 Oct 11				118 Jun 20 1993			
INSTANTANEOUS PEAK STAGE									5.52 Mar 22 1993			
ANNUAL RUNOFF (AC-FT)	3060				199				991			
ANNUAL DIVERSION (AC-FT) a	27490				20380							
10 PERCENT EXCEEDS	13				.00				.00			
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.

## TIJUANA RIVER BASIN

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.--Water-stage recorder. Datum of gage is 569.40 ft above sea level (levels by International Boundary and Water Commission).

REMARKS.--No estimated daily discharges. Records good. 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, 199 ft<sup>3</sup>/s, Feb. 9, gage height, 4.61 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	59	1.3	1.2	13	20	23	22	5.0	.00	.00	.00
2	67	11	1.2	1.2	11	17	20	18	4.8	.00	.00	.00
3	66	4.3	1.1	1.2	9.6	15	18	16	4.4	.00	.00	.00
4	68	3.9	.96	1.2	15	14	16	14	3.8	.00	.00	.00
5	69	3.6	1.0	1.3	26	14	15	12	3.3	.00	.00	.00
6	68	2.8	1.1	1.3	24	14	14	11	2.8	.00	.00	.00
7	68	2.3	1.1	1.1	28	36	13	10	2.1	.00	.00	.00
8	69	2.0	1.1	1.1	109	78	12	9.3	1.6	.00	.00	.00
9	68	1.9	1.1	1.2	174	59	12	8.7	1.4	.00	.00	.00
10	67	1.8	1.1	1.2	103	45	14	8.5	1.1	.00	.00	.00
11	68	2.2	1.3	1.3	64	37	15	8.6	1.1	.00	.00	.00
12	67	2.3	1.6	1.2	49	31	14	8.3	1.1	.00	.00	.00
13	67	2.4	1.5	1.2	39	34	12	7.9	.83	.00	.00	.00
14	67	2.2	1.5	1.2	33	24	11	7.6	.72	.00	.00	.00
15	67	1.9	2.7	1.2	30	16	10	7.1	.62	.00	.00	.00
16	67	1.7	1.9	1.2	27	15	9.3	6.9	.51	.00	.00	.00
17	67	1.6	1.6	1.2	36	15	9.1	6.4	.44	.00	.00	.00
18	66	1.5	1.5	1.2	71	14	9.0	6.1	.35	.00	.00	.00
19	66	1.4	1.5	1.2	97	21	8.9	5.9	.30	.00	.00	.00
20	65	1.3	1.4	1.2	83	47	8.3	5.9	.24	.00	.00	.00
21	65	1.2	1.3	1.2	62	45	7.6	5.6	.19	.00	.00	.00
22	65	1.2	1.2	1.2	49	36	7.1	5.6	.14	.00	.00	.00
23	65	1.5	1.2	1.2	42	28	6.6	5.4	.06	.00	.00	.00
24	65	1.4	1.0	1.2	36	24	6.6	5.5	.01	.00	.00	.00
25	65	1.3	.98	2.9	31	36	9.1	5.7	.00	.00	.00	.00
26	64	1.0	1.1	4.4	27	56	13	6.1	.00	.00	.00	.00
27	63	1.0	1.1	15	24	50	22	6.3	.00	.00	.00	.00
28	62	1.0	1.1	21	22	42	34	6.3	.00	.00	.00	.00
29	63	1.0	1.1	21	---	35	35	6.2	.00	.00	.00	.00
30	63	1.3	1.2	19	---	30	27	5.9	.00	.00	.00	.00
31	63	---	1.2	16	---	26	---	5.7	---	.00	.00	---
TOTAL	2047	123.0	40.04	128.2	1334.6	974	431.6	264.5	36.91	0.00	0.00	0.00
MEAN	66.0	4.10	1.29	4.14	47.7	31.4	14.4	8.53	1.23	.000	.000	.000
MAX	69	59	2.7	21	174	78	35	22	5.0	.00	.00	.00
MIN	62	1.0	.96	1.1	9.6	14	6.6	5.4	.00	.00	.00	.00
AC-FT	4060	244	79	254	2650	1930	856	525	73	.00	.00	.00

## PACIFIC SLOPE BASINS IN CALIFORNIA

## TIJUANA RIVER BASIN

11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.24	.73	2.56	17.8	50.8	62.4	36.4	12.4	4.36	1.43	1.18	1.21
MAX	66.0	18.8	40.5	605	1200	1443	676	296	99.5	47.5	24.4	57.4
(WY)	1994	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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1937 - 1994	
ANNUAL TOTAL	54968.14		5379.85			
ANNUAL MEAN	151		14.7		15.8	
HIGHEST ANNUAL MEAN					243	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	2740		174		8430	
LOWEST DAILY MEAN	.00		.00		.00	
ANNUAL SEVEN-DAY MINIMUM	1.1		.00		.00	
INSTANTANEOUS PEAK FLOW			199		11700	
INSTANTANEOUS PEAK STAGE			4.61		11.15	
ANNUAL RUNOFF (AC-FT)	109000		10670		11470	
10 PERCENT EXCEEDS	373		63		9.5	
50 PERCENT EXCEEDS	21		1.7		.00	
90 PERCENT EXCEEDS	1.4		.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, 96 ft<sup>3</sup>/s, Jan. 25, gage height, 5.75 ft, maximum gage height, 5.92 ft, Feb. 8; minimum daily, 0.13 ft<sup>3</sup>/s, Sept. 21-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	7.4	17	e12	10	10	2.1	6.1	2.3	.44	.19	.18
2	2.3	7.1	10	e12	11	6.9	2.1	5.1	2.0	.41	.17	.17
3	3.0	4.7	14	e11	10	5.6	2.1	4.3	1.9	.38	.16	.17
4	2.9	6.1	15	e10	17	4.6	2.2	3.7	1.8	.37	.16	.16
5	3.4	7.0	19	e9.8	21	4.0	2.1	3.6	1.7	.35	.15	.15
6	3.6	7.4	17	e9.3	13	4.5	1.8	3.6	1.6	.33	.15	.15
7	3.9	5.1	14	8.3	41	47	1.8	3.6	1.6	.34	.15	.15
8	4.0	4.9	16	10	73	25	2.0	3.7	1.5	.34	.16	e.15
9	4.8	3.9	15	16	43	8.8	2.4	4.2	1.4	.33	.21	e.15
10	5.5	5.0	8.4	12	21	5.5	3.7	4.0	1.3	.32	.19	e.14
11	7.0	10	12	11	17	4.8	2.8	3.6	1.3	.28	.16	e.14
12	8.2	25	35	12	14	4.5	2.3	3.4	1.3	.28	.16	e.14
13	6.7	22	18	10	7.2	3.6	2.4	3.1	1.2	.28	.24	e.14
14	5.9	17	16	9.8	6.9	2.9	2.5	3.2	1.1	.28	.23	e.14
15	5.2	18	72	11	7.3	3.0	2.7	3.2	1.1	.28	.21	e.14
16	8.3	6.7	38	8.5	8.1	2.9	2.5	3.1	1.0	.27	.19	e.14
17	10	6.6	20	6.2	14	3.0	2.2	2.9	.95	.28	.19	e.14
18	9.1	7.2	17	8.7	29	2.6	2.7	3.0	.88	.29	.19	e.14
19	7.6	8.1	19	7.1	34	18	2.5	3.1	.84	.28	.19	e.14
20	6.5	6.5	21	8.2	16	15	2.5	3.0	.78	.26	.19	e.14
21	6.0	8.6	22	8.4	17	3.9	2.4	3.1	.75	.26	.17	e.13
22	6.4	12	23	8.5	16	2.6	2.4	3.1	.71	.24	.17	e.13
23	6.6	23	21	9.0	17	2.5	2.2	3.1	.64	.24	.17	e.13
24	6.0	23	21	22	17	2.2	3.1	3.0	.62	.22	.17	e.13
25	5.7	18	21	88	17	22	4.3	3.1	.57	.21	.16	e.13
26	5.3	14	24	51	15	12	13	3.3	.54	.20	.23	e.13
27	5.8	13	23	47	16	3.4	23	3.0	.53	.20	.21	e.13
28	5.0	15	e18	45	13	2.3	14	2.6	.49	.20	.18	e.13
29	4.8	13	e16	22	---	2.1	11	2.2	.48	.22	.17	e.13
30	4.9	17	e15	16	---	2.2	7.2	2.2	.45	.22	.18	e.13
31	5.0	---	e13	13	---	2.3	---	2.4	---	.21	.18	---
TOTAL	171.8	342.3	630.4	532.8	541.5	239.7	130.0	104.6	33.33	8.81	5.63	4.27
MEAN	5.54	11.4	20.3	17.2	19.3	7.73	4.33	3.37	1.11	.28	.18	.14
MAX	10	25	72	88	73	47	23	6.1	2.3	.44	.24	.18
MIN	2.3	3.9	8.4	6.2	6.9	2.1	1.8	2.2	.45	.20	.15	.13
AC-FT	341	679	1250	1060	1070	475	258	207	66	17	11	8.5

e Estimated.

## TIJUANA RIVER BASIN

11012500 CAMPO CREEK NEAR CAMPO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.83	1.49	2.59	5.47	7.58	11.1	7.20	3.37	1.75	.95	.92	.70
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1937 - 1994			
ANNUAL TOTAL	12167.04				2745.14							
ANNUAL MEAN	33.3				7.52				3.64			
HIGHEST ANNUAL MEAN									39.6			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	745				88				745			
LOWEST DAILY MEAN	.41				.13				.00			
ANNUAL SEVEN-DAY MINIMUM	2.3				.13				.00			
INSTANTANEOUS PEAK FLOW					96				1580			
INSTANTANEOUS PEAK STAGE					5.92				6.86			
ANNUAL RUNOFF (AC-FT)	24130				5440				2640			
10 PERCENT EXCEEDS	71				18				8.8			
50 PERCENT EXCEEDS	14				3.4				.10			
90 PERCENT EXCEEDS	3.4				.17				.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-93-1: Drainage area. WDR CA-94-1: Datum of gage.

GAGE.--Water-stage recorder and broad-crested weir control with low-water venturi-type flume. Datum of gage is 511.89 ft above sea level, revised. Prior to Oct. 1, 1951, at datum 1.00 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are 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)
Feb. 17	1745	*51	*2.49				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.26	.35	.58	1.2	1.2	.81	e.04	.00	.00	.00
2	.00	.00	.23	.55	.50	1.1	1.1	.70	.03	.00	.00	.00
3	.00	.00	.22	.58	.41	1.1	1.1	.64	.02	.00	.00	.00
4	.00	.00	.25	.64	1.1	1.0	1.1	.51	.00	.00	.00	.00
5	.00	.00	.32	.58	.96	.84	1.1	.36	.00	.00	.00	.00
6	.00	.00	.58	.58	.83	.93	.94	.35	.00	.00	.00	.00
7	.00	.00	.58	.49	1.2	6.0	.65	.23	.00	.00	.00	.00
8	.00	.00	.54	.57	7.5	2.4	.81	.22	.00	.00	.00	.00
9	.00	.00	.54	.58	3.2	2.0	1.1	.21	.00	.00	.00	.00
10	.00	.00	.58	.58	1.8	1.8	1.2	.20	.00	.00	.00	.00
11	.00	.00	.75	.47	1.5	1.7	.86	.19	.00	.00	.00	.00
12	.00	e.15	1.2	.38	1.3	1.6	.65	.15	.00	.00	.00	.00
13	.00	e.12	.90	.54	1.2	1.4	.63	.17	.00	.00	.00	.00
14	.00	e.40	.92	.58	1.1	1.2	.58	.20	.00	.00	.00	.00
15	.00	e.30	1.2	.58	1.0	1.2	.53	.21	.00	.00	.00	.00
16	.00	e.22	.91	.58	1.0	1.2	.31	.16	.00	.00	.00	.00
17	.00	e.19	.77	.58	9.1	1.3	.49	.10	.00	.00	.00	.00
18	.00	e.20	.66	.58	5.9	1.2	.57	.08	.00	.00	.00	.00
19	.00	e.17	.77	.58	5.5	2.1	.28	e.08	.00	.00	.00	.00
20	.00	e.16	.84	.64	2.9	1.6	.29	e.08	.00	.00	.00	.00
21	.00	e.15	.82	.83	2.4	1.3	.43	e.07	.00	.00	.00	.00
22	.00	e.15	.58	.84	1.9	1.3	.40	e.07	.00	.00	.00	.00
23	.00	e.60	.58	.84	1.8	1.3	.27	e.08	.00	.00	.00	.00
24	.00	.29	.58	.84	1.7	1.3	.47	e.07	.00	.00	.00	.00
25	.00	.24	.58	1.7	1.6	3.2	.86	e.07	.00	.00	.00	.00
26	.00	.16	.58	1.5	1.4	3.0	1.5	e.06	.00	.00	.00	.00
27	.00	.17	.58	1.4	1.3	1.8	1.2	e.06	.00	.00	.00	.00
28	.00	.17	.48	1.2	1.3	1.6	1.8	e.05	.00	.00	.00	.00
29	.00	.22	.30	1.0	---	1.5	1.2	e.06	.00	.00	.00	.00
30	.00	.28	.25	.84	---	1.4	.96	e.04	.00	.00	.00	.00
31	.00	---	.27	.72	---	1.3	---	e.05	---	.00	.00	---
TOTAL	0.00	4.34	18.62	22.72	61.98	51.87	24.58	6.33	0.09	0.00	0.00	0.00
MEAN	.000	.14	.60	.73	2.21	1.67	.82	.20	.003	.000	.000	.000
MAX	.00	.60	1.2	1.7	9.1	6.0	1.8	.81	.04	.00	.00	.00
MIN	.00	.00	.22	.35	.41	.84	.27	.04	.00	.00	.00	.00
AC-FT	.00	8.6	37	45	123	103	49	13	.2	.00	.00	.00

e Estimated.

## OTAY RIVER BASIN

11014000 JAMUL CREEK NEAR JAMUL, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.02	7.66	9.09	16.9	14.8	24.5	15.8	13.1	13.6	11.0	9.35	7.86
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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1940 - 1994

ANNUAL TOTAL	18514.98	190.53	
ANNUAL MEAN	50.7	.52	12.2
HIGHEST ANNUAL MEAN			50.7
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	2320	Jan 16	2320
LOWEST DAILY MEAN	.00	Jul 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 1	.00
INSTANTANEOUS PEAK FLOW			51
INSTANTANEOUS PEAK STAGE			2.49
ANNUAL RUNOFF (AC-FT)	36720	378	8860
10 PERCENT EXCEEDS	96	1.3	36
50 PERCENT EXCEEDS	.47	.15	.20
90 PERCENT EXCEEDS	.00	.00	.00

## 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.--No estimated daily discharges. Records fair. 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)
Feb. 8	1015	*75	*5.91				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.36	1.6	2.3	3.8	5.0	6.9	8.4	2.4	.28	.01	.00
2	.36	.36	1.9	2.1	3.8	4.8	6.3	7.3	2.2	.22	.00	.00
3	.34	.39	1.5	2.1	3.9	4.7	5.9	6.4	2.1	.21	.00	.00
4	.32	.43	1.4	1.9	6.2	4.6	5.8	5.8	2.0	.18	.00	.00
5	.35	.47	1.5	1.9	6.5	4.6	5.3	5.3	1.8	.16	.00	.00
6	.38	.46	1.5	1.9	5.3	4.8	4.8	4.9	1.8	.16	.00	.00
7	.43	.50	1.5	1.8	12	12	4.6	5.5	1.7	.16	.00	.00
8	.46	.56	1.6	1.8	44	13	4.6	5.5	1.7	.14	.00	.00
9	.43	.53	1.6	1.8	19	9.4	5.9	5.3	1.6	.13	.08	.00
10	.39	.57	1.7	1.8	9.8	8.0	6.8	4.6	1.5	.10	.09	.00
11	.44	1.0	3.5	1.8	7.2	7.2	5.3	4.1	1.4	.09	.04	.00
12	.47	1.3	4.5	1.8	6.0	6.5	4.4	4.1	1.4	.08	.01	.00
13	.40	1.3	2.6	1.7	5.2	5.9	4.2	3.9	1.3	.08	.05	.00
14	.38	4.2	2.7	1.7	4.9	5.3	4.1	3.8	1.2	.08	.06	.00
15	.36	2.8	5.5	1.7	4.6	5.0	4.0	3.7	1.2	.07	.03	.00
16	.46	1.8	4.0	1.7	4.5	4.9	3.9	3.7	1.1	.06	.01	.00
17	.53	1.5	3.4	1.7	9.0	4.7	3.9	3.6	1.1	.07	.05	.00
18	.51	1.5	3.2	1.7	10	4.5	3.8	3.7	.98	.11	.06	.00
19	.48	1.4	5.6	1.7	10	14	3.8	3.7	.90	.09	.04	.00
20	.41	1.3	4.2	1.7	7.7	17	3.7	3.5	.83	.07	.02	.00
21	.36	1.3	3.4	1.7	8.0	13	3.6	3.4	.72	.06	.00	.00
22	.37	1.4	3.1	1.7	7.5	9.7	3.6	3.2	.68	.05	.00	.00
23	.39	1.9	2.9	1.7	6.7	8.5	3.5	3.1	.57	.05	.00	.00
24	.42	1.9	2.9	1.7	6.2	7.8	5.2	3.1	.51	.04	.00	.00
25	.43	1.7	2.7	5.4	5.8	18	6.3	3.1	.44	.02	.00	.00
26	.35	1.5	2.7	5.1	5.5	17	14	3.0	.39	.01	.00	.00
27	.42	1.4	2.8	6.0	5.3	14	18	2.9	.35	.00	.08	.00
28	.38	1.4	2.7	5.8	5.2	11	17	2.7	.32	.00	.04	.00
29	.37	1.4	2.6	4.8	---	9.2	13	2.6	.31	.00	.00	.00
30	.36	1.5	2.5	4.3	---	8.4	10	2.6	.27	.05	.00	.00
31	.49	---	2.4	4.0	---	7.7	---	2.5	---	.02	.00	---
TOTAL	12.59	38.13	85.7	78.8	233.6	270.2	192.2	129.0	34.77	2.84	0.67	0.00
MEAN	.41	1.27	2.76	2.54	8.34	8.72	6.41	4.16	1.16	.092	.022	.000
MAX	.53	4.2	5.6	6.0	44	18	18	8.4	2.4	.28	.09	.00
MIN	.32	.36	1.4	1.7	3.8	4.5	3.5	2.5	.27	.00	.00	.00
AC-FT	25	76	170	156	463	536	381	256	69	5.6	1.3	.00

## SWEETWATER RIVER BASIN

11015000 SWEETWATER RIVER NEAR DESCANSO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.21	1.63	5.22	13.6	27.9	34.8	18.1	6.94	2.43	.70	.45	.33
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	1983	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1957 - 1994			
ANNUAL TOTAL	19842.96				1078.50							
ANNUAL MEAN	54.4				2.95				9.25			
HIGHEST ANNUAL MEAN									71.2			
LOWEST ANNUAL MEAN									.004			
HIGHEST DAILY MEAN	1850				44				2500			
LOWEST DAILY MEAN	.20				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.25				.00				.00			
INSTANTANEOUS PEAK FLOW					75				6750			
INSTANTANEOUS PEAK STAGE					5.91				12.31			
INSTANTANEOUS LOW FLOW					.00							
ANNUAL RUNOFF (AC-FT)	39360				2140				6700			
10 PERCENT EXCEEDS	97				7.0				11			
50 PERCENT EXCEEDS	3.4				1.7				.29			
90 PERCENT EXCEEDS	.38				.00				.00			

## 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, 84,470 acre-ft, July 7, elevation, 644.55 ft; minimum, 76,300 acre-ft, Sept. 29, elevation, 636.54 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83790	80970	76740	76560	76480	e77350	78040	78150	79450	83920	81510	e77300
2	83720	80800	76720	76560	76470	e77380	78040	78170	79620	84040	81370	e77290
3	83670	80660	76720	76550	76490	e77410	78030	78170	79800	84170	81200	e77250
4	83590	80500	76720	76560	76540	e77440	78030	78180	79990	84280	81020	77220
5	83500	80370	76720	76550	76550	e77470	78030	78190	80160	84360	80860	77090
6	83420	80270	76730	76530	76540	e77500	78020	78200	80340	84440	80740	76970
7	83350	80180	76700	76530	76610	e77520	78020	78220	80490	84450	80640	76890
8	83260	80090	76690	76520	76710	e77540	78010	78230	80660	84440	80530	76840
9	83180	79980	76670	76510	76730	e77560	78020	78230	80790	84430	80410	76770
10	83120	79880	76630	76500	76730	e77580	78030	78240	80940	84430	80270	76710
11	83050	79790	76660	76500	76740	e77590	78020	78250	81080	84420	80160	76710
12	83000	79660	76670	76470	76730	77590	78010	78260	81270	84300	80000	76660
13	82910	79480	76660	76470	76720	77630	78000	78290	81430	84100	79870	76630
14	82840	79330	76670	76460	76720	77680	77990	78300	81560	83920	79720	76610
15	82750	79140	76700	76460	76720	77760	77990	78310	81720	83730	79550	76580
16	82680	78980	76690	76450	76710	77770	77980	78310	81890	83540	79380	76540
17	82620	78800	76680	76450	76860	77760	77980	78320	82030	83410	79210	76530
18	82500	78630	76680	76450	76910	77760	77970	78320	82160	83320	79050	76530
19	82410	78450	76680	76440	76970	77840	77960	78320	82310	83240	78890	76500
20	82340	78270	76660	76440	76980	77900	77950	78320	82450	83160	78720	76460
21	82240	78080	76670	76430	e77110	77900	77950	78320	82590	83070	78580	76420
22	82160	77930	76650	76430	e77140	77890	77940	78320	82730	82940	78430	76420
23	82010	77800	76630	76420	e77170	77890	77930	78330	82890	82770	78250	76390
24	81850	77640	76600	76440	e77200	77930	77940	78330	83010	82620	78090	76410
25	81670	77460	76600	76450	e77230	78020	77950	78390	83140	82440	77940	76400
26	81560	77380	76600	76470	e77260	78040	78030	78500	83270	82280	77820	76380
27	81470	77200	76600	76510	e77290	78040	78060	78660	83400	82120	77720	76380
28	81400	77020	76590	76510	e77320	78050	78100	78810	83510	81980	77600	76350
29	81330	76850	76560	76510	---	78040	78120	78970	83640	81850	77470	76320
30	81230	76750	76570	76500	---	78040	78140	79120	83780	81740	e77410	76320
31	81150	---	76560	76490	---	78040	---	79270	---	81640	e77360	---
MAX	83790	80970	76740	76560	77320	78050	78140	79270	83780	84450	81510	77300
MIN	81150	76750	76560	76420	76470	77350	77930	78150	79450	81640	77360	76320
a	641.34	637.00	636.81	636.74	e637.57	638.28	638.38	639.49	643.89	641.82	e637.61	636.56
b	-2730	-4400	-190	-70	+830	+720	+100	+1130	+4510	-2140	-4280	-1040

CAL YR 1993 MAX 91510 MIN 70260 b +6400  
WTR YR 1994 MAX 84450 MIN 76320 b -7560

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)
Nov. 14	1015	75	4.09	Feb. 19	2230	78	4.15
Dec. 11	1915	46	3.60	Mar. 19	1145	57	3.79
Jan. 27	1430	72	4.03	Mar. 25	0130	*103	*4.54
Feb. 8	unknown	unknown	unknown	Apr. 26	1830	87	4.30

Minimum daily, 0.08 ft<sup>3</sup>/s, Sept. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.30	.39	.49	.80	1.4	1.5	2.5	2.2	.67	.54	.25	.16
2	e.29	.30	.48	.75	1.5	1.7	2.5	2.1	.63	.35	.24	.14
3	e.29	.30	.44	.75	2.1	1.5	2.5	2.0	.60	.33	.21	.15
4	e.29	.34	.42	.80	e15	1.5	2.1	1.9	.57	.33	.18	.14
5	e.28	.42	.43	.80	e3.0	1.5	1.9	1.9	.57	.28	.17	.15
6	e.28	.40	.47	.80	e1.9	3.9	1.8	1.9	.57	.26	.17	.18
7	e.29	.40	.46	.71	e5.0	9.8	1.9	1.8	.57	.25	.15	.14
8	.29	.40	.44	.71	e25	2.2	1.9	1.6	.57	.25	.17	.14
9	.26	.44	.45	.75	e7.0	2.2	4.3	1.5	.52	.25	.18	.15
10	.29	.54	.49	.80	e3.5	2.3	2.3	1.4	.51	.28	.12	.16
11	.37	3.5	7.9	.80	1.5	2.2	1.8	1.3	.50	.28	.13	.12
12	.30	1.2	2.4	.80	1.4	2.2	1.7	1.4	.50	.28	.14	.12
13	.29	.52	1.1	.75	1.3	1.9	1.9	1.5	.49	.30	.12	.12
14	.30	14	5.2	.75	1.3	1.8	1.9	1.5	.50	.30	.12	.11
15	.34	.76	5.8	.71	1.2	1.6	1.9	1.5	.48	.28	.13	.11
16	.44	.55	1.7	.68	1.1	1.8	1.7	1.5	.43	.28	.12	.11
17	.37	.52	1.4	.65	1.1	1.8	1.7	1.3	.44	.29	.16	.12
18	.42	.49	1.4	.65	1.1	1.6	1.6	1.7	.43	.28	.15	.12
19	.41	.47	1.3	.65	31	15	1.7	1.4	.40	.27	.14	.11
20	.41	.45	1.0	.62	14	15	1.7	1.3	.38	.25	.13	.08
21	.37	.45	1.0	.62	3.2	3.1	1.6	1.2	.38	.25	.14	.08
22	.40	.56	.98	.59	2.5	2.9	1.6	1.1	.40	.24	.16	.09
23	.38	2.3	.98	.58	1.7	2.9	1.5	1.0	.44	.24	.14	.09
24	.38	.62	.92	.59	1.6	6.3	7.0	1.1	.44	.25	.12	.10
25	.38	.54	.92	8.3	1.6	31	6.8	1.2	.40	.25	.12	.09
26	.39	.47	1.1	3.2	1.6	5.8	16	1.2	.38	.24	.14	.15
27	.37	.46	.98	13	1.7	3.6	4.9	1.1	.33	.23	.12	.15
28	.36	.47	.92	2.0	1.7	3.0	12	.90	.26	.22	.11	.11
29	.35	.47	.92	1.4	---	3.1	2.7	.82	.33	.25	.12	.13
30	.32	.63	.86	1.6	---	3.0	2.3	.82	.32	.27	.14	.12
31	.35	---	.80	1.5	---	3.0	---	.76	---	.26	.15	---
TOTAL	10.56	33.36	44.15	48.11	136.0	140.7	97.7	43.90	14.01	8.63	4.64	3.74
MEAN	.34	1.11	1.42	1.55	4.86	4.54	3.26	1.42	.47	.28	.15	.12
MAX	.44	.14	.79	.13	.31	.31	.16	2.2	.67	.54	.25	.18
MIN	.26	.30	.42	.58	1.1	1.5	1.5	.76	.26	.22	.11	.08
AC-FT	21	66	88	95	270	279	194	87	28	17	9.2	7.4

e Estimated.



## 11022200 LOS COCHES CREEK NEAR LAKESIDE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	1.38	2.13	5.27	4.69	4.34	1.79	.90	.51	.31	.24	.26
MAX	1.37	4.58	6.09	40.2	25.7	19.1	3.26	1.98	1.00	.61	.40	.49
(WY)	1988	1984	1985	1993	1993	1991	1994	1993	1993	1991	1993	1986
MIN	.19	.16	.32	.66	1.09	.78	.45	.25	.17	.12	.15	.12
(WY)	1991	1993	1990	1989	1989	1989	1989	1984	1984	1984	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1984 - 1994			
ANNUAL TOTAL	2471.16				585.50							
ANNUAL MEAN	6.77				1.60				1.85			
HIGHEST ANNUAL MEAN									6.77			
LOWEST ANNUAL MEAN									.50			
HIGHEST DAILY MEAN	160				31				160			
LOWEST DAILY MEAN	.26				.08				.07			
ANNUAL SEVEN-DAY MINIMUM	.28				.09				.08			
INSTANTANEOUS PEAK FLOW					103				474			
INSTANTANEOUS PEAK STAGE					4.54				7.47			
ANNUAL RUNOFF (AC-FT)	4900				1160				1340			
10 PERCENT EXCEEDS	15				2.9				2.5			
50 PERCENT EXCEEDS	.76				.57				.51			
90 PERCENT EXCEEDS	.34				.14				.19			

## 11022480 SAN DIEGO RIVER AT MAST ROAD, NEAR SANTEE, CA

LOCATION.--Lat 32°50'25", long 117°01'30" (REVISED), in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, near right 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" (station 11022500).

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.--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, 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, 1,000 ft<sup>3</sup>/s, Feb. 17, gage height, 8.46 ft, from rating curve extended above 2,030 ft<sup>3</sup>/s; minimum daily, 1.2 ft<sup>3</sup>/s, Sept. 4-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.7	5.6	5.9	8.6	8.9	18	18	6.5	12	1.8	1.3
2	2.7	3.5	5.0	5.8	7.4	7.9	19	16	6.3	3.9	1.8	1.3
3	2.7	6.3	4.7	7.5	24	7.4	18	13	6.1	3.2	1.7	1.3
4	2.8	e5.0	4.8	8.0	106	7.0	16	12	5.9	2.9	1.7	1.2
5	2.9	e4.7	4.7	6.0	22	6.8	14	12	5.8	2.8	1.7	1.2
6	3.0	e4.3	4.8	5.8	16	45	13	12	5.6	3.3	1.8	1.2
7	2.8	4.1	4.8	5.6	64	282	12	12	5.5	3.4	1.7	1.2
8	2.9	4.3	4.7	5.4	171	50	13	11	5.3	3.3	1.7	1.2
9	2.9	4.2	4.7	5.5	40	42	39	10	4.1	3.2	1.8	1.2
10	2.9	4.3	6.5	5.4	33	36	17	9.9	2.8	2.9	1.6	1.2
11	6.5	38	50	5.2	22	29	14	10	4.7	2.7	1.4	1.2
12	5.0	34	20	5.1	16	24	12	9.8	4.8	2.6	1.4	1.2
13	3.9	12	9.0	5.1	14	20	13	9.6	5.0	2.4	1.4	1.4
14	3.6	100	29	5.2	14	18	14	9.7	5.7	2.4	1.3	1.3
15	3.2	16	28	5.0	9.9	16	14	9.9	4.4	2.3	1.4	1.4
16	7.0	10	13	5.0	9.5	14	13	9.2	3.9	2.3	1.4	1.5
17	4.5	8.3	12	5.1	191	14	13	9.3	3.8	2.2	1.5	1.4
18	3.8	6.9	12	5.0	87	13	13	9.9	3.4	2.1	1.5	1.4
19	3.4	6.0	11	4.9	63	125	11	8.9	3.0	2.1	1.4	1.4
20	3.1	5.5	7.8	4.8	40	106	11	8.1	3.1	2.0	1.4	1.4
21	2.8	5.0	6.6	4.7	29	32	11	8.1	3.4	2.0	1.4	1.4
22	2.8	12	5.9	4.8	20	27	10	8.3	3.2	1.9	1.4	1.4
23	3.0	29	5.6	4.8	17	25	11	7.4	2.3	1.9	1.4	1.4
24	3.2	6.7	5.7	6.3	14	33	41	8.0	2.1	1.9	1.4	1.4
25	3.2	5.8	5.8	90	12	234	48	8.4	2.4	1.9	1.3	1.4
26	2.9	5.5	5.8	39	10	49	63	7.4	2.4	1.9	4.3	1.5
27	3.3	5.4	5.7	55	10	41	34	6.5	2.1	1.8	2.2	1.5
28	3.0	5.3	5.4	19	9.7	37	58	6.3	2.0	1.8	1.4	1.4
29	3.7	5.1	5.5	14	---	30	25	6.8	3.1	2.1	1.3	1.5
30	3.3	13	5.7	12	---	26	22	6.5	3.0	2.2	1.3	1.6
31	3.1	---	5.9	10	---	22	---	6.4	---	1.9	1.3	---
TOTAL	106.5	373.9	305.7	370.9	1080.1	1428.0	630	300.4	121.7	85.3	50.1	40.4
MEAN	3.44	12.5	9.86	12.0	38.6	46.1	21.0	9.69	4.06	2.75	1.62	1.35
MAX	7.0	100	50	90	191	282	63	18	6.5	12	4.3	1.6
MIN	2.6	3.5	4.7	4.7	7.4	6.8	10	6.3	2.0	1.8	1.3	1.2
AC-FT	211	742	606	736	2140	2830	1250	596	241	169	99	80

e Estimated.

## 11022480 SAN DIEGO RIVER AT MAST ROAD, NEAR SANTEE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.05	5.54	21.5	31.3	93.5	81.6	49.5	18.3	4.73	3.02	2.77	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1912 - 1994			
ANNUAL TOTAL	28079.8				4893.0							
ANNUAL MEAN	76.9				13.4				25.9			
HIGHEST ANNUAL MEAN									219			
LOWEST ANNUAL MEAN									.002			
HIGHEST DAILY MEAN	1950				282				27300			
LOWEST DAILY MEAN	2.3				1.2				.00			
ANNUAL SEVEN-DAY MINIMUM	2.5				1.2				.00			
INSTANTANEOUS PEAK FLOW					1000				45400			
INSTANTANEOUS PEAK STAGE					8.46				18.10			
ANNUAL RUNOFF (AC-FT)	55700				9710				18730			
10 PERCENT EXCEEDS	181				29				27			
50 PERCENT EXCEEDS	8.0				5.5				1.2			
90 PERCENT EXCEEDS	2.9				1.4				.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. Records for October 1, 1981 to January 17, 1982, published in WDR CA-82-1, are in error and should not be used.

REVISED RECORDS.--See PERIOD OF RECORD.

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 some 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, 727 ft<sup>3</sup>/s, Mar. 7, gage height, 7.17 ft; minimum daily, 0.62 ft<sup>3</sup>/s, Sept. 1, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.7	14	7.9	16	16	32	30	6.3	6.9	1.2	.62
2	2.0	2.8	12	7.9	13	15	28	24	5.5	9.9	1.1	.63
3	2.0	3.1	9.2	7.9	19	13	26	20	5.3	6.0	1.1	.81
4	1.9	2.9	7.6	7.6	199	13	26	17	5.3	4.9	1.0	.82
5	1.8	2.7	6.9	7.6	128	14	23	16	5.4	3.7	.97	.86
6	1.5	2.5	6.8	8.3	43	25	21	14	5.4	2.9	.99	.84
7	1.4	2.5	6.8	7.9	81	532	19	14	5.1	2.5	1.1	.76
8	1.5	2.7	6.4	7.6	298	152	18	15	4.9	2.3	1.0	.82
9	1.6	2.7	5.9	7.6	167	63	26	13	4.9	2.3	.90	.75
10	1.7	2.8	5.5	7.7	56	52	54	12	4.7	2.3	.86	.76
11	2.4	9.0	17	7.3	46	47	36	12	3.9	2.1	.82	.80
12	3.2	29	103	7.1	36	40	23	12	4.4	1.9	.83	.79
13	3.4	47	44	6.9	28	34	18	12	4.5	1.7	.74	.68
14	3.3	69	30	7.3	23	28	16	12	4.4	1.7	.73	.62
15	3.3	104	68	7.3	21	23	15	11	4.5	1.6	.75	.67
16	4.2	38	44	7.2	17	20	15	11	4.8	1.6	.75	.68
17	5.2	20	25	7.1	208	23	15	10	5.0	1.6	.73	.70
18	4.4	13	18	7.2	254	17	14	10	4.9	1.5	.76	.74
19	3.9	11	22	7.3	161	292	13	10	4.6	1.5	.79	.76
20	3.8	8.9	18	6.9	74	233	13	10	4.2	1.5	.81	.75
21	3.5	8.0	14	6.9	60	109	12	9.6	3.6	1.4	.81	.72
22	3.3	8.1	11	7.2	44	51	11	9.0	3.5	1.3	.87	.77
23	3.2	26	10	7.2	34	42	12	8.7	3.3	1.2	.86	.80
24	3.1	35	9.1	7.1	28	42	39	8.6	3.2	1.2	.82	.82
25	3.0	20	9.0	118	23	458	48	7.2	3.2	1.2	.77	.89
26	2.8	13	8.9	107	20	168	108	7.4	3.2	1.1	.68	.95
27	2.7	9.5	8.6	55	19	66	142	8.1	3.0	1.1	.64	.81
28	2.5	7.8	7.2	53	17	52	97	8.1	2.7	.99	.70	.79
29	2.4	7.1	7.0	39	---	47	62	7.6	2.4	.96	.75	.78
30	2.5	12	7.1	25	---	41	37	7.5	2.2	1.1	.71	.81
31	2.7	---	7.8	19	---	36	---	7.3	---	1.2	.66	---
TOTAL	86.2	522.8	569.8	594.0	2133	2764	1019	374.1	128.3	73.15	26.20	23.00
MEAN	2.78	17.4	18.4	19.2	76.2	89.2	34.0	12.1	4.28	2.36	.85	.77
MAX	5.2	104	103	118	298	532	142	30	6.3	9.9	1.2	.95
MIN	1.4	2.5	5.5	6.9	13	13	11	7.2	2.2	.96	.64	.62
AC-FT	171	1040	1130	1180	4230	5480	2020	742	254	145	52	46

## 11023000 SAN DIEGO RIVER AT FASHION VALLEY, AT SAN DIEGO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1994, BY WATER YEAR (WY)

MEAN	7.31	32.6	52.7	103	98.3	162	48.8	18.4	6.82	2.88	2.63	3.52
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	.62	.87	5.09	14.5	20.5	8.38	7.69	3.55	1.30	.25	.54	.033
(WY)	1990	1990	1990	1989	1989	1984	1989	1984	1985	1985	1985	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1982 - 1994	
ANNUAL TOTAL	43022.2		8313.55			
ANNUAL MEAN	118		22.8		44.5	
HIGHEST ANNUAL MEAN					125	
LOWEST ANNUAL MEAN					11.5	
HIGHEST DAILY MEAN	3690	Jan 16	532	Mar 7	4760	Mar 3 1983
LOWEST DAILY MEAN	1.2	Sep 3	.62	Sep 1	.00	Sep 7 1984
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 3	.67	Aug 27	.00	Sep 13 1984
INSTANTANEOUS PEAK FLOW			727	Mar 7	8280	Mar 2 1983
INSTANTANEOUS PEAK STAGE			7.17	Mar 7	13.11	Mar 2 1983
ANNUAL RUNOFF (AC-FT)	85330		16490		32270	
10 PERCENT EXCEEDS	246		49		89	
50 PERCENT EXCEEDS	10		7.2		7.3	
90 PERCENT EXCEEDS	1.8		.81		.69	

## LOS PENASQUITOS CREEK BASIN

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.--No estimated daily discharges. Records fair. 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)
Jan. 25	0415	403	4.36	Mar. 19	0700	534	4.78
Feb. 8	1015	645	5.09	Mar. 25	0445	438	4.48
Feb. 17	1415	*1,090	*6.10	Apr. 26	1900	829	5.55
Mar. 7	0200	637	5.07				

Minimum daily, 0.71 ft<sup>3</sup>/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.5	2.9	1.5	2.3	3.8	4.0	3.5	2.0	14	1.2	1.4
2	1.9	2.6	2.2	1.5	2.1	3.2	4.1	3.0	1.9	2.1	1.1	1.3
3	1.8	2.5	2.1	1.6	24	3.5	3.7	2.8	1.9	1.5	1.0	1.2
4	1.8	2.4	2.1	1.6	262	3.8	3.6	2.6	1.8	1.3	1.1	1.1
5	1.9	2.5	2.0	1.6	27	3.3	3.6	2.6	1.8	1.2	1.1	.95
6	1.9	2.8	2.1	1.6	6.8	45	3.6	4.0	1.7	1.2	.85	1.2
7	1.9	2.7	2.3	1.6	124	287	3.5	6.9	1.7	1.3	.98	1.0
8	2.0	2.8	2.2	1.5	303	18	3.7	3.2	1.8	1.4	.95	1.1
9	2.0	2.8	2.3	1.5	23	7.9	35	2.8	1.8	1.3	1.0	1.2
10	1.8	3.1	2.2	1.6	9.4	6.0	14	3.0	1.8	1.3	1.0	.95
11	2.8	25	28	1.6	6.3	5.0	4.2	2.9	1.8	1.3	.92	1.2
12	2.6	20	28	1.7	5.0	4.6	3.4	3.1	2.0	1.3	.91	1.3
13	2.2	6.7	3.5	1.6	4.4	4.3	3.2	3.0	1.9	1.2	1.1	1.1
14	2.2	82	16	1.7	4.1	3.8	3.0	2.8	1.9	1.2	.91	1.1
15	2.3	9.5	51	1.7	3.9	3.8	2.9	2.7	1.8	1.3	.86	1.4
16	2.9	3.2	5.5	1.7	3.4	3.7	2.9	3.2	1.6	1.4	.71	1.1
17	3.3	2.5	2.3	1.7	247	3.7	3.1	5.9	1.6	1.4	.76	1.1
18	2.6	2.3	1.9	1.8	60	3.7	3.2	2.9	1.6	1.5	.90	1.1
19	2.4	2.3	5.0	1.8	85	275	3.3	2.6	1.5	1.5	1.0	.99
20	2.2	2.2	2.7	1.9	11	46	2.9	2.3	1.6	1.3	1.1	1.1
21	2.1	2.1	1.8	1.8	9.9	13	3.1	2.2	1.6	1.3	.98	1.3
22	2.2	2.6	1.6	1.8	5.8	7.7	3.1	2.4	1.5	1.4	.98	1.1
23	2.2	28	2.1	1.8	5.0	6.1	3.1	2.4	1.5	1.4	1.0	1.2
24	2.3	3.9	1.6	4.3	4.7	11	76	2.4	1.4	1.3	1.1	1.2
25	2.5	2.8	1.5	145	4.3	254	19	2.6	1.3	1.2	1.2	1.2
26	2.5	2.4	1.5	36	4.2	45	230	2.9	1.3	1.1	1.3	1.3
27	2.3	2.1	1.5	43	4.1	11	121	2.6	1.3	1.0	1.4	1.3
28	2.1	2.0	1.6	13	3.9	6.5	42	2.3	1.3	1.1	1.4	.98
29	2.2	2.0	1.6	4.3	---	5.2	6.2	2.2	1.5	1.3	1.3	1.1
30	2.4	5.2	1.6	2.9	---	4.2	4.0	2.1	1.6	1.4	1.4	1.2
31	2.4	---	1.6	2.5	---	4.2	---	2.2	---	1.4	1.4	---
TOTAL	69.5	235.5	184.3	289.2	1255.6	1103.0	618.4	92.1	49.8	53.9	32.91	34.77
MEAN	2.24	7.85	5.95	9.33	44.8	35.6	20.6	2.97	1.66	1.74	1.06	1.16
MAX	3.3	82	51	145	303	287	230	6.9	2.0	14	1.4	1.4
MIN	1.8	2.0	1.5	1.5	2.1	3.2	2.9	2.1	1.3	1.0	.71	.95
AC-FT	138	467	366	574	2490	2190	1230	183	99	107	65	69

## 11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.30	5.13	9.16	21.6	28.1	31.9	7.54	2.33	1.17	.84	.77	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1965 - 1994			
ANNUAL TOTAL	12964.9				4018.98							
ANNUAL MEAN	35.5				11.0				9.16			
HIGHEST ANNUAL MEAN									35.9			
LOWEST ANNUAL MEAN									.80			
HIGHEST DAILY MEAN	1140				303				1400			
LOWEST DAILY MEAN	1.5				.71				.00			
ANNUAL SEVEN-DAY MINIMUM	1.6				.88				.00			
INSTANTANEOUS PEAK FLOW					1090				4750			
INSTANTANEOUS PEAK STAGE					6.10				10.26			
ANNUAL RUNOFF (AC-FT)	25720				7970				6630			
10 PERCENT EXCEEDS	48				13				9.2			
50 PERCENT EXCEEDS	2.5				2.2				1.2			
90 PERCENT EXCEEDS	1.7				1.1				.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 good 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, 131 ft<sup>3</sup>/s, Feb. 8, gage height, 3.20 ft; minimum daily, 0.02 ft<sup>3</sup>/s, several days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.7	3.0	3.2	3.8	8.8	8.8	6.8	3.3	e.61	e.14	.03
2	1.3	1.4	2.9	3.2	3.7	7.3	8.1	6.3	3.0	e.59	e.13	.03
3	1.3	1.3	2.6	3.1	4.0	6.4	7.6	6.0	2.8	e.56	e.12	.03
4	1.5	1.4	2.7	3.2	12	6.2	7.4	5.8	2.6	e.53	e.10	.03
5	1.6	1.4	2.8	3.3	15	6.2	7.2	5.7	2.5	e.51	e.09	.03
6	1.7	1.6	2.7	3.2	9.0	8.5	6.9	5.9	2.5	e.49	e.08	.03
7	1.7	1.6	2.8	3.0	13	19	6.8	5.9	2.5	e.47	e.08	.02
8	1.8	1.7	2.8	3.1	75	15	7.0	5.8	2.2	e.45	e.07	.02
9	1.8	1.8	2.8	3.3	32	10	7.9	5.6	2.1	e.42	e.06	.02
10	1.8	2.0	2.8	3.2	19	8.7	8.8	5.4	2.0	e.41	e.05	.02
11	2.1	3.2	3.4	3.1	14	8.0	7.8	5.1	2.1	e.40	e.05	.02
12	2.3	4.4	5.3	2.9	11	7.5	6.5	4.9	2.2	e.38	e.04	.02
13	2.0	3.6	4.1	2.9	9.5	6.9	6.2	4.9	2.0	e.37	e.03	.03
14	1.8	5.5	4.3	3.1	8.5	6.5	6.5	5.0	1.9	e.35	e.03	e.03
15	1.8	4.1	7.5	3.0	8.0	6.2	5.9	5.0	1.9	e.34	e.03	e.02
16	2.3	3.4	7.8	3.1	7.5	6.1	5.5	5.1	1.8	e.33	e.03	e.02
17	2.5	3.2	5.6	2.9	17	6.1	5.4	4.6	1.7	e.1.2	e.03	e.02
18	2.3	3.1	4.7	2.9	24	5.8	5.1	4.8	1.5	2.2	.03	e.02
19	2.1	2.8	4.6	2.9	24	16	4.8	4.6	1.4	e.1.7	.03	e.02
20	1.9	2.7	4.0	2.9	21	18	4.7	4.5	1.3	e.36	.03	e.02
21	1.8	2.8	3.9	2.9	27	14	4.6	4.2	1.3	e.31	.03	e.02
22	1.8	3.0	3.7	2.9	18	10	4.5	4.0	1.2	e.27	.03	e.02
23	1.7	4.4	3.5	2.9	15	9.1	4.3	3.7	1.1	e.25	.02	e.02
24	1.6	3.9	3.4	3.0	13	8.6	6.0	4.0	1.1	e.23	.02	e.02
25	1.7	3.3	3.4	7.0	11	20	7.7	4.7	e.1.0	e.22	.02	e.02
26	1.7	3.0	3.5	8.5	10	23	12	5.4	e.90	e.21	.03	e.02
27	1.2	2.8	3.6	11	9.6	16	14	4.8	e.85	e.20	.04	e.02
28	1.3	2.7	3.4	8.1	9.2	12	13	4.1	e.75	e.18	.03	e.02
29	1.6	2.7	3.1	6.0	---	11	9.1	3.6	e.68	e.17	.03	e.02
30	1.6	3.1	3.2	5.0	---	9.7	7.6	3.6	e.64	e.16	.03	e.02
31	1.6	---	3.2	4.3	---	9.2	---	3.7	---	e.15	.04	---
TOTAL	54.5	83.6	117.1	123.1	443.8	325.8	217.7	153.5	52.82	15.02	1.57	0.68
MEAN	1.76	2.79	3.78	3.97	15.8	10.5	7.26	4.95	1.76	.48	.051	.023
MAX	2.5	5.5	7.8	11	75	23	14	6.8	3.3	2.2	.14	.03
MIN	1.2	1.3	2.6	2.9	3.7	5.8	4.3	3.6	.64	.15	.02	.02
AC-FT	108	166	232	244	880	646	432	304	105	30	3.1	1.3

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 1955 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.49	2.22	5.75	15.4	42.9	40.8	18.8	7.37	3.06	.96	.71	.42
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)	1955	1955	1955	1959	1961	1961	1961	1959	1956	1955	1955	1955

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1955 - 1994

ANNUAL TOTAL	22340.29	1589.19	
ANNUAL MEAN	61.2	4.35	11.4
HIGHEST ANNUAL MEAN			131
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	900	Jan 16	75
LOWEST DAILY MEAN	.99	Sep 10	.02
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 7	.02
INSTANTANEOUS PEAK FLOW			131
INSTANTANEOUS PEAK STAGE			3.20
ANNUAL RUNOFF (AC-FT)	44310	3150	8260
10 PERCENT EXCEEDS	163	9.5	11
50 PERCENT EXCEEDS	5.0	2.9	.09
90 PERCENT EXCEEDS	1.6	.03	.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, 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 fair except for discharges below 1 ft<sup>3</sup>/s and estimated daily discharges, which are 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)
Feb. 17	1700	*292	*2.79				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.04	.34	.68	.11	2.5	3.9	4.2	.24	.03	.00	.00
2	.02	.03	.70	.89	.15	2.3	3.9	3.8	.58	.01	.01	.02
3	.02	.02	.23	.86	.70	2.3	4.0	2.5	.50	.01	.05	.03
4	.03	.03	e.15	.68	6.0	1.7	3.3	2.6	.63	.01	.01	.00
5	.02	.03	e.13	.07	1.3	2.0	2.7	3.3	.65	.01	.00	.00
6	.01	.04	e.11	.06	.33	4.9	2.3	3.8	.16	.03	.00	.00
7	.03	.05	e.10	.05	6.0	39	2.5	3.5	.36	.06	.00	.00
8	.04	.05	e.10	.05	80	13	2.9	2.8	.67	.14	.00	.00
9	.07	.05	e.18	.24	13	7.1	5.0	2.7	.28	.05	.00	.00
10	.20	.05	e.35	.40	5.1	4.8	4.5	2.6	.32	.34	.00	.04
11	.26	.14	e.28	.13	3.3	3.8	3.1	2.2	.16	.24	.00	.17
12	.44	.11	e.23	.09	1.4	3.1	1.6	1.6	.38	.02	.00	.13
13	.51	.04	e.19	.08	1.3	2.3	1.4	1.9	.41	.02	.00	.02
14	.57	.08	e.18	.05	1.5	2.1	1.1	1.5	.23	.01	.02	.01
15	.62	.03	e.17	.05	1.4	1.7	1.4	1.8	.29	.01	.00	.00
16	.79	.03	e.15	.05	1.7	1.5	1.5	2.0	.55	.00	.00	.00
17	.97	.76	.13	.06	63	1.3	1.5	.91	.12	.00	.00	.00
18	1.0	.87	.10	.04	35	1.5	1.5	.98	.11	.00	.00	.00
19	.93	.36	.13	.06	25	39	.41	.82	.11	.00	.00	.00
20	.14	.58	.09	.08	11	16	.27	.30	.08	.06	.00	.00
21	.12	.80	.07	.08	8.5	8.4	.24	.15	.11	.12	.00	.00
22	.15	.95	.40	.25	7.0	6.3	.21	.12	.15	.03	.00	.00
23	.16	1.2	.18	.51	6.3	5.9	.19	.16	.12	.12	.00	.00
24	.16	1.0	.19	.62	6.1	5.6	2.1	.18	.04	.33	.00	.24
25	.15	.92	.38	1.6	5.3	47	4.1	.34	.06	.11	.00	.50
26	.06	.81	.64	1.0	4.8	16	18	.27	.02	.08	.00	.47
27	.05	.69	.71	2.8	3.8	9.2	21	.20	.01	.04	.00	.11
28	.16	.24	.79	.88	3.2	7.4	11	.10	.01	.03	.00	.13
29	.08	.15	.78	.54	---	5.7	6.6	.09	.01	.02	.00	.21
30	.06	.62	.86	.80	---	4.4	4.4	.09	.07	.02	.00	.21
31	.04	---	.69	.49	---	4.3	---	.08	---	.01	.00	---
TOTAL	7.88	10.77	9.73	14.24	302.29	272.1	116.62	47.59	7.43	1.96	0.09	2.29
MEAN	.25	.36	.31	.46	10.8	8.78	3.89	1.54	.25	.063	.003	.076
MAX	1.0	1.2	.86	2.8	80	47	21	4.2	.67	.34	.05	.50
MIN	.01	.02	.07	.04	.11	1.3	.19	.08	.01	.00	.00	.00
AC-FT	16	21	19	28	600	540	231	94	15	3.9	.2	4.5

e Estimated.

## 11028500 SANTA MARIA CREEK NEAR RAMONA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.052	.46	1.45	24.7	25.2	23.6	5.39	1.87	.42	.064	.10	.035
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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1913 - 1994	
ANNUAL TOTAL	28536.11		792.99			
ANNUAL MEAN	78.2		2.17		6.99	
HIGHEST ANNUAL MEAN					78.2	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1900	Jan 18	80	Feb 8	4960	Jan 27 1916
LOWEST DAILY MEAN	.00	Sep 6	.00	Jul 16	.00	Dec 17 1912
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 3	.00	Aug 5	.00	Dec 17 1912
INSTANTANEOUS PEAK FLOW			292	Feb 17	15200	Feb 21 1980
INSTANTANEOUS PEAK STAGE			2.79	Feb 17	14.39	Feb 21 1980
ANNUAL RUNOFF (AC-FT)	56600		1570		5060	
10 PERCENT EXCEEDS	162		4.6		2.5	
50 PERCENT EXCEEDS	.70		.20		.00	
90 PERCENT EXCEEDS	.03		.00		.00	

## SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA

LOCATION.--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>.

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.--Records fair except for estimated daily discharges, which are poor. 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, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 304 ft<sup>3</sup>/s, Feb. 8, gage height, 8.58 ft; minimum daily, 0.14 ft<sup>3</sup>/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.0	16	28	22	34	36	47	63	23	10	e4.0	1.1
2	5.9	15	20	23	34	35	45	57	22	8.2	e3.6	.82
3	6.2	13	21	24	34	33	43	52	21	9.3	3.4	1.1
4	6.5	12	23	24	129	30	42	51	21	9.2	3.4	1.2
5	7.5	12	24	25	127	25	41	47	20	8.4	3.3	1.2
6	7.7	13	23	24	78	32	40	45	18	7.9	5.9	1.1
7	7.7	16	23	25	90	105	40	44	17	e7.6	3.4	.84
8	8.7	16	23	27	244	126	39	44	17	e8.0	3.1	1.0
9	9.3	16	24	27	199	78	40	41	16	e7.8	2.9	.99
10	9.2	16	24	26	107	60	44	40	17	e7.8	2.8	.95
11	9.3	19	27	25	81	51	42	38	14	7.6	2.7	1.0
12	12	25	40	25	65	47	40	39	16	e7.6	2.6	.85
13	11	24	36	24	56	45	37	39	20	e7.8	2.5	.50
14	12	22	32	24	52	45	38	43	19	e7.6	2.5	.42
15	12	20	39	24	47	43	e37	45	14	e7.4	2.3	.50
16	13	17	33	23	46	38	e37	41	17	e7.6	2.0	.59
17	14	18	30	22	88	35	37	38	13	e7.2	1.9	.64
18	14	19	27	23	166	28	44	36	11	e7.0	1.8	.71
19	14	20	27	22	136	84	45	34	13	e6.9	1.8	.63
20	13	20	28	22	110	179	46	33	13	e6.5	1.9	.44
21	12	19	27	21	106	147	48	31	12	e6.2	1.9	.37
22	12	21	25	20	85	87	53	30	12	e5.7	1.6	.28
23	12	29	24	21	66	64	55	29	11	e5.3	1.5	.14
24	13	27	23	23	59	59	53	28	10	e5.3	1.1	.33
25	13	25	23	64	53	156	54	29	11	e4.9	1.2	.44
26	14	24	24	78	47	141	63	29	10	e4.5	1.3	.38
27	15	22	25	53	44	92	94	29	9.4	e4.4	1.5	.24
28	14	23	22	55	40	70	88	28	9.0	e4.4	1.5	.15
29	14	23	23	49	---	59	86	26	8.8	e4.2	1.4	.24
30	14	33	23	39	---	54	70	25	8.7	e4.2	1.2	.38
31	15	---	23	36	---	49	---	25	---	e4.0	1.0	---
TOTAL	347.0	595	814	940	2423	2133	1488	1179	443.9	210.5	73.0	19.53
MEAN	11.2	19.8	26.3	30.3	86.5	68.8	49.6	38.0	14.8	6.79	2.35	.65
MAX	15	33	40	78	244	179	94	63	23	10	5.9	1.2
MIN	5.9	12	20	20	34	25	37	25	8.7	4.0	1.0	.14
AC-FT	688	1180	1610	1860	4810	4230	2950	2340	880	418	145	39

e Estimated.

## 11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.82	8.88	20.6	39.9	102	124	53.1	26.6	13.8	7.32	5.74	3.43
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

## FOR 1994 WATER YEAR

## WATER YEARS 1930 - 1994

ANNUAL TOTAL	10665.93		
ANNUAL MEAN	29.2	33.6	
HIGHEST ANNUAL MEAN		415	1980
LOWEST ANNUAL MEAN		.000	1931
HIGHEST DAILY MEAN	244	Feb 8	11300
LOWEST DAILY MEAN	.14	Sep 23	.00
ANNUAL SEVEN-DAY MINIMUM	.27	Sep 23	.00
INSTANTANEOUS PEAK FLOW	304	Feb 8	25700
INSTANTANEOUS PEAK STAGE	8.58	Feb 8	21.70
ANNUAL RUNOFF (AC-FT)	21160		24360
10 PERCENT EXCEEDS	61		54
50 PERCENT EXCEEDS	22		.80
90 PERCENT EXCEEDS	1.5		.00

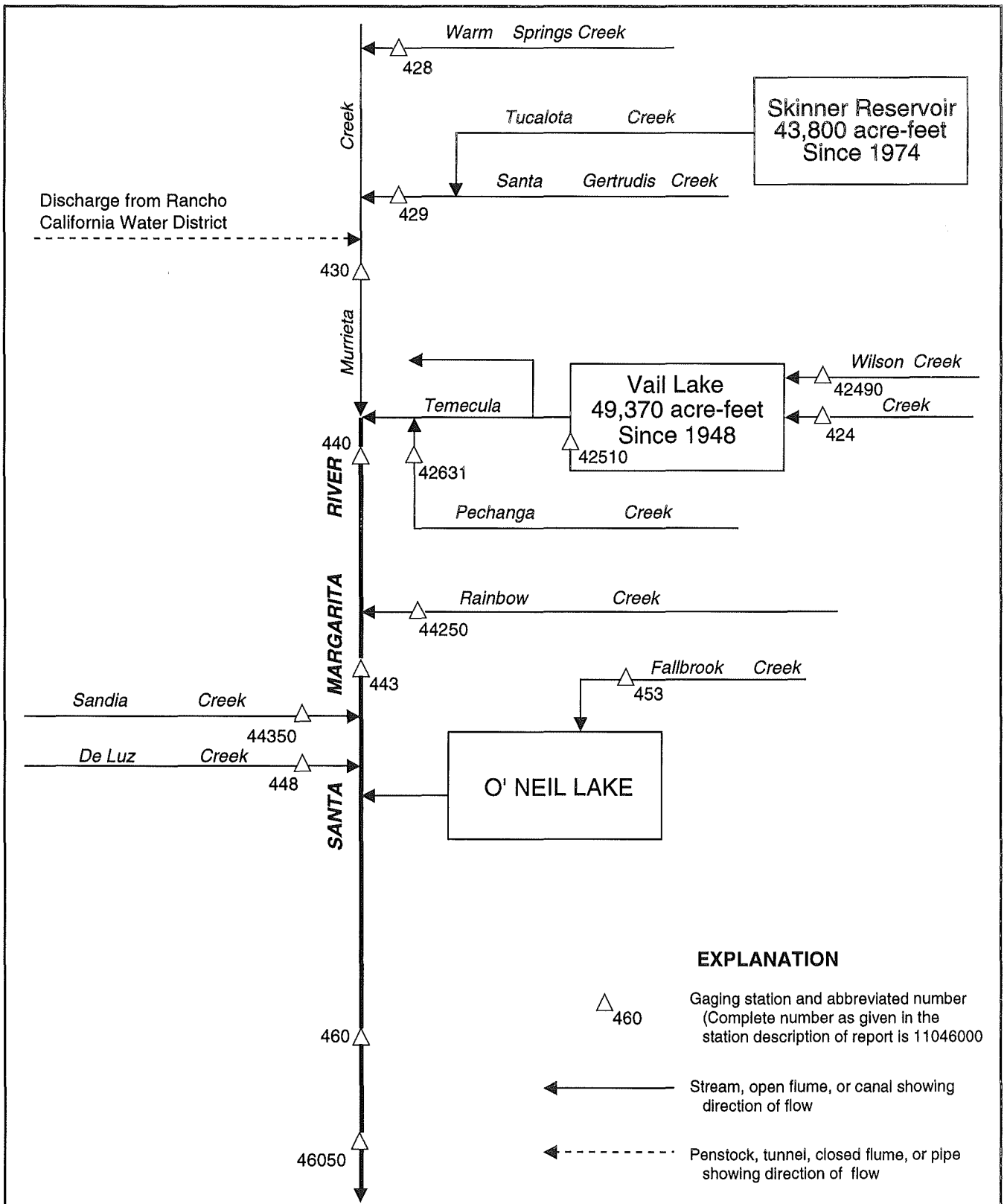


Figure 18. Diversions and storage in Santa Margarita River basin.

## 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. See schematic diagram of Santa Margarita River basin.

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)
Feb. 7	1845	*331	*3.19				

Minimum daily, 2.6 ft<sup>3</sup>/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	5.5	7.5	6.6	7.2	12	13	7.8	6.1	3.5	3.2	2.8
2	5.9	5.3	7.4	6.7	7.6	11	12	7.8	5.4	3.7	3.0	2.8
3	5.6	5.2	6.7	7.1	8.2	11	12	7.8	5.0	3.7	2.8	2.7
4	5.7	5.2	6.9	7.5	33	11	12	7.6	5.0	3.8	3.0	2.8
5	6.0	4.9	7.0	7.8	24	11	11	7.9	5.1	3.8	3.0	3.0
6	6.3	5.1	6.9	7.2	14	11	9.7	8.3	5.5	3.9	2.8	2.8
7	6.3	5.1	7.0	7.0	78	15	9.4	8.3	5.5	3.8	2.9	2.8
8	6.7	5.2	7.0	7.4	122	12	9.6	8.4	5.3	3.7	3.0	3.1
9	6.9	5.1	7.0	7.9	45	11	9.7	8.6	5.1	3.7	3.2	3.5
10	6.9	5.3	6.9	7.7	28	11	9.5	8.4	4.9	3.5	3.2	3.4
11	7.9	7.3	8.3	7.6	21	10	9.0	8.9	4.8	3.2	3.2	3.5
12	8.0	10	11	7.5	18	10	8.6	8.9	4.8	3.2	4.3	3.5
13	6.6	9.0	7.0	7.2	16	10	8.3	8.8	4.8	3.5	4.9	3.6
14	6.0	13	6.6	7.5	15	10	8.2	8.3	4.8	3.6	5.7	3.6
15	5.5	11	8.9	7.4	15	9.9	8.3	8.2	5.0	3.4	3.9	3.5
16	7.2	9.0	7.2	7.4	14	9.8	7.7	8.1	5.2	3.2	4.0	3.4
17	7.4	8.4	6.6	7.5	25	9.6	7.7	7.5	4.9	3.3	3.9	3.4
18	6.6	7.9	6.5	7.8	28	9.5	7.5	7.7	4.8	3.4	3.8	3.4
19	6.4	7.1	6.7	7.8	28	20	7.4	7.6	4.7	3.3	3.7	3.4
20	6.5	6.8	6.5	7.6	28	18	7.0	7.1	4.7	3.5	3.5	3.3
21	6.2	6.6	6.3	8.0	37	15	7.1	7.6	4.6	3.6	3.1	3.2
22	6.3	6.8	6.2	8.1	26	14	6.8	7.2	4.4	3.5	3.1	3.2
23	6.0	9.2	6.1	7.8	20	12	6.9	7.2	4.4	3.7	3.1	3.3
24	5.7	8.5	6.1	8.5	18	12	8.2	7.3	4.2	3.5	3.0	3.3
25	5.7	7.7	6.4	17	e17	30	8.0	7.1	4.0	3.1	2.9	3.0
26	5.7	6.5	6.9	12	e16	24	14	7.6	3.8	3.0	2.8	3.0
27	5.7	6.0	7.3	10	e15	18	14	6.8	3.6	3.1	3.0	2.9
28	5.7	6.0	7.1	9.9	e13	16	9.7	6.3	3.5	3.1	2.7	2.9
29	5.7	5.8	7.2	8.4	---	14	8.6	6.1	3.5	3.3	2.6	3.1
30	5.6	6.7	6.9	7.9	---	13	7.9	6.1	3.6	3.5	2.7	3.5
31	5.5	---	6.3	7.1	---	13	---	6.4	---	3.2	2.7	---
TOTAL	194.0	211.2	218.4	252.9	737.0	413.8	278.8	237.7	141.0	107.3	102.7	95.7
MEAN	6.26	7.04	7.05	8.16	26.3	13.3	9.29	7.67	4.70	3.46	3.31	3.19
MAX	8.0	13	11	17	122	30	14	8.9	6.1	3.9	5.7	3.6
MIN	5.5	4.9	6.1	6.6	7.2	9.5	6.8	6.1	3.5	3.0	2.6	2.7
AC-FT	385	419	433	502	1460	821	553	471	280	213	204	190

e Estimated.

## SANTA MARGARITA RIVER BASIN

11042400 TEMECULA CREEK NEAR AGUANGA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.32	3.35	5.83	17.7	27.8	20.8	11.2	4.55	2.29	1.39	1.25	1.19
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1957 - 1994			
ANNUAL TOTAL	20895.5				2990.5							
ANNUAL MEAN	57.2				8.19				8.11			
HIGHEST ANNUAL MEAN									56.1			
LOWEST ANNUAL MEAN									.28			
HIGHEST DAILY MEAN	3600				122				3600			
LOWEST DAILY MEAN	3.8				2.6				.00			
ANNUAL SEVEN-DAY MINIMUM	5.1				2.7				.00			
INSTANTANEOUS PEAK FLOW					331				8100			
INSTANTANEOUS PEAK STAGE					3.19				14.60			
ANNUAL RUNOFF (AC-FT)	41450				5930				5880			
10 PERCENT EXCEEDS	52				14				11			
50 PERCENT EXCEEDS	8.5				6.8				1.4			
90 PERCENT EXCEEDS	5.7				3.2				.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 September 1994 (discontinued).

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. See schematic diagram of Santa Margarita River basin.

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 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)
Feb. 8	unknown	*unknown	*unknown				
Minimum daily, 0.54 ft <sup>3</sup> /s, Oct. 1-3.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.54	e.62	e.84	e.78	e.90	e1.0	e1.4	e.92	e.90	e.88	e.68	e.62
2	e.54	e.62	e.85	e.80	e.90	e1.0	e1.4	e.94	e.90	e.88	e.68	e.64
3	e.54	e.60	e.82	e.86	e.90	e1.1	e1.3	e.95	e.88	e.88	e.68	e.64
4	e.55	e.58	e.82	e.88	e3.5	e1.2	e1.2	e.95	e.88	e.88	e.68	e.64
5	e.55	e.58	e.82	e.88	e1.7	e1.7	e1.1	e.96	e.90	e.88	e.68	e.64
6	e.55	e.58	e.82	e.90	e1.5	e1.5	e1.0	e.98	e.90	e.88	e.68	e.64
7	e.56	e.60	e.82	e.90	e6.0	e1.3	e1.0	e.98	e.90	e.88	e.68	e.64
8	e.56	e.60	e.82	e.92	e14	e1.3	e.98	e.98	e.90	e.86	e.70	e.64
9	e.58	e.62	e.84	e.94	e4.5	e1.2	e.98	e.96	e.90	e.84	e.80	e.64
10	e.58	e.70	e.90	e.96	e2.5	e1.1	e.98	e.96	e.90	e.82	e.90	e.65
11	e.60	e.88	e1.2	e.98	e2.0	e1.1	e.98	e.94	e.90	e.80	e1.2	e.65
12	e.70	e1.1	e.90	e.98	e1.9	e1.1	e.96	e.94	e.90	e.78	e1.0	e.66
13	e.80	e1.1	e.80	e1.0	e1.8	e1.1	e.96	e.92	e.90	e.76	e.80	e.66
14	e.70	e1.5	e.98	e1.0	e1.7	e1.1	e.94	e.90	e.88	e.76	e.70	e.67
15	e.66	e1.2	e.82	e1.0	e1.6	e1.1	e.92	e.90	e.88	e.74	e.64	e.67
16	e.82	e1.0	e.80	e1.0	e2.5	e1.1	e.90	e.88	e.86	e.74	e.64	e.68
17	e.80	e.90	e.78	e1.0	e3.2	e2.2	e.88	e.86	e.86	e.74	e.62	e.68
18	e.74	e.90	e.78	e1.1	e3.4	e2.0	e.86	e.86	e.86	e.72	e.62	e.69
19	e.72	e.84	e.76	e1.1	e3.6	e2.5	e.82	e.84	e.86	e.72	e.60	e.69
20	e.72	e.80	e.74	e1.1	e4.2	e2.0	e.80	e.84	e.86	e.70	e.60	e.70
21	e.72	e.78	e.72	e1.1	e2.5	e1.4	e.80	e.86	e.86	e.70	e.60	e.70
22	e.70	e.78	e.70	e1.1	e2.2	e1.4	e.84	e.86	e.86	e.70	e.60	e.71
23	e.68	e1.0	e.70	e1.3	e2.0	e1.5	e.90	e.86	e.86	e.70	e.60	e.71
24	e.66	e.90	e.72	e1.5	e1.8	e2.0	e1.5	e.88	e.86	e.68	e.60	e.72
25	e.66	e.80	e.74	e2.0	e1.5	e3.2	e1.3	e.88	e.86	e.68	e.60	e.72
26	e.66	e.74	e.80	e1.5	e1.3	e2.0	e2.0	e.88	e.86	e.68	e.60	e.73
27	e.66	e.72	e.82	e1.0	e1.1	e1.6	e1.9	e.88	e.86	e.68	e.60	e.73
28	e.66	e.70	e.84	e.96	e1.0	e1.5	e.96	e.88	e.88	e.68	e.60	e.74
29	e.64	e.70	e.80	e.86	---	e1.4	e.94	e.88	e.88	e.68	e.62	e.74
30	e.63	e.80	e.78	e.84	---	e1.4	e.92	e.88	e.88	e.68	e.62	e.75
31	e.62	---	e.76	e.82	---	e1.4	---	e.90	---	e.68	e.62	---
TOTAL	20.10	24.24	25.29	32.06	75.70	46.5	32.42	28.10	26.38	23.68	21.24	20.39
MEAN	.65	.81	.82	1.03	2.70	1.50	1.08	.91	.88	.76	.69	.68
MAX	.82	1.5	1.2	2.0	14	3.2	2.0	.98	.90	.88	1.2	.75
MIN	.54	.58	.70	.78	.90	1.0	.80	.84	.86	.68	.60	.62
AC-FT	40	48	50	64	150	92	64	56	52	47	42	40

e Estimated.

11042490 WILSON CREEK ABOVE VAIL LAKE, NEAR RADEC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.13	.16	.16	5.38	2.10	.52	.22	.18	.18	.15	.16	.23
MAX	.65	.81	.82	25.8	7.67	1.50	1.08	.91	.88	.76	.69	.68
(WY)	1994	1994	1994	1993	1993	1994	1994	1994	1994	1994	1994	1994
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1990 - 1994			
ANNUAL TOTAL	1102.62				376.10							
ANNUAL MEAN	3.02				1.03							
HIGHEST ANNUAL MEAN									.79			
LOWEST ANNUAL MEAN									2.83			
HIGHEST DAILY MEAN	450				14				450			
LOWEST DAILY MEAN	.00				.54				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.55				.00			
INSTANTANEOUS PEAK FLOW									1150			
ANNUAL RUNOFF (AC-FT)	2190				746				575			
10 PERCENT EXCEEDS	.84				1.5				.88			
50 PERCENT EXCEEDS	.00				.86				.00			
90 PERCENT EXCEEDS	.00				.62				.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. See schematic diagram of Santa Margarita River basin.

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, 26,270 acre-ft, Oct. 1, elevation, 1,444.77 ft; minimum, 21,850 acre-ft, Jan. 31, Feb. 2, Sept. 28-30, elevation, 1,438.67 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26140	22650	22140	21980	21880	23170	23530	23540	e23250	22720	22280	22040
2	26010	22650	22140	21990	21870	23180	23540	23540	23250	22700	22270	22030
3	25880	22650	22150	21990	21910	23180	23530	23540	23240	22690	22260	22020
4	25750	22650	22150	21990	22000	23190	23530	23520	23240	22670	22250	22020
5	25620	22660	22080	21990	22020	23180	23520	23490	23240	22650	22230	21990
6	25490	22670	22080	22000	e22080	23190	23520	23450	23220	22630	22220	21980
7	25370	22670	22090	22000	e22200	23230	23520	23420	23220	22620	22210	21980
8	25240	22690	22020	22000	22450	23240	23510	23400	23220	22600	22210	21950
9	25130	22670	22020	22000	22530	23240	23510	23370	23190	22580	22180	21940
10	25010	22630	22020	22000	22580	23260	23490	23330	23170	22570	22180	21920
11	24910	22600	22020	22000	22600	23260	23490	23320	23150	22550	22160	21920
12	24790	22570	22020	e22000	22600	23260	23480	e23320	23140	22530	22180	21910
13	24670	22540	22020	e21990	22620	23240	23460	e23320	23120	22510	22160	21910
14	24550	22530	22020	e21980	22640	23240	23460	e23310	23080	22490	22160	21910
15	24440	22490	22020	e21960	22650	23240	23440	e23310	23070	22480	22160	21900
16	24330	22460	22030	e21940	22670	23240	23410	e23310	23040	22460	22160	21900
17	24210	22440	22030	e21920	22740	23220	23410	e23300	23010	22440	22140	21890
18	24100	22460	22030	21910	22870	23210	23400	e23300	22980	22410	22140	21890
19	23970	22480	22030	21890	22910	23290	23400	e23290	22950	22410	22140	21880
20	23870	22480	22040	21890	22950	23320	23400	e23290	22930	22390	22140	21870
21	23750	22490	22040	21890	23020	23340	23400	e23290	22910	22380	22110	21870
22	23630	22470	22040	21880	23060	23350	23410	e23280	22880	22370	22100	21870
23	23510	22440	22040	21880	23080	23350	23400	e23280	22860	22370	22090	21870
24	23400	22400	21980	21910	23120	23370	23410	e23280	22830	22350	22090	21870
25	23270	22370	22050	21910	23130	23440	23430	e23270	22810	22340	22080	21870
26	23160	22310	22050	21910	23150	23470	23510	e23270	22790	22320	22090	21870
27	23030	22250	22050	21910	23160	23490	23520	e23270	22770	22320	22080	21870
28	22910	22210	22050	21910	23170	23510	23540	e23260	22760	22310	22070	21860
29	22810	22200	22050	21900	---	23520	23540	e23260	22740	22310	22070	21870
30	22700	22210	22050	21900	---	23520	23540	e23260	22740	22300	22070	21870
31	22640	---	21980	21890	---	23530	---	e23250	---	22300	22050	---
MAX	26140	22690	22150	22000	23170	23530	23540	23540	23250	22720	22280	22040
MIN	22640	22200	21980	21880	21870	23170	23400	23250	22740	22300	22050	21860
a	1439.80	1439.19	1438.86	1438.72	1440.56	1441.06	1441.08	e1440.67	1439.94	1439.31	1438.96	1438.69
b	-3700	-430	-230	-90	+1280	+360	+10	-290	-510	-440	-250	-180

CAL YR 1993 MAX 50270 MIN 20960 b +1000  
WTR YR 1994 MAX 26140 MIN 21860 b -4470

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SANTA MARGARITA RIVER BASIN

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. See schematic diagram of Santa Margarita River basin.

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)
Feb. 7	1545	*Unknown	*4.06				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	e1.2	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	e.16	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	e13	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	e2.0	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	e.60	.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	.00	.00	.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	.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	.00	e2.0	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	e.50	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	e.30	e3.0	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	e2.5	e.50	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	e1.2	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	e.35	.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	e2.0	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	e.30	e.80	.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	.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	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	23.65	5.96	0.80	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.84	.19	.027	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	13	3.0	.80	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	47	12	1.6	.00	.00	.00	.00	.00

e Estimated.

## 11042631 PECHANGA CREEK NEAR TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.005	.045	9.09	3.62	1.82	.098	.14	.073	.033	.026	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1988 - 1994			
ANNUAL TOTAL	3015.40				30.41				1.24			
ANNUAL MEAN	8.26				.083				8.27			
HIGHEST ANNUAL MEAN									.000			
LOWEST ANNUAL MEAN												
HIGHEST DAILY MEAN	900 Jan 16				13 Feb 7				900 Jan 16 1993			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 1				.00 Oct 1 1987			
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 10				.00 Oct 1				.00 Oct 1 1987			
INSTANTANEOUS PEAK FLOW									3120 Jan 16 1993			
INSTANTANEOUS PEAK STAGE					4.06 Feb 7				8.12 Jan 16 1993			
ANNUAL RUNOFF (AC-FT)	5980				60				899			
10 PERCENT EXCEEDS	11				.00				.20			
50 PERCENT EXCEEDS	.30				.00				.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.--No estimated daily discharges. Records fair. 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. See schematic diagram for Santa Margarita River basin.

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)
Feb. 7	1600	*210	*4.69	Mar. 25	0100	53	4.38
Feb. 17	1315	68	4.43				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.12	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	4.8	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00
7	.00	.00	.01	.00	51	.71	.00	.45	.00	.00	.00	.00
8	.00	.00	.63	.00	24	.00	.00	.37	.00	.00	.00	.00
9	.00	.00	.00	.00	5.0	.09	.00	.09	.00	.00	.00	.00
10	.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00	.00	.00
11	.00	1.4	.33	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.77	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	1.1	.42	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.21	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.01	.00	9.4	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	6.9	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.09	.00	5.5	12	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	10	4.2	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	5.2	.06	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	1.8	.00	.00	.00	.00	.00	.00	.00
23	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.32	.00	1.4	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.79	.00	8.1	.84	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	1.4	3.1	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.12	.83	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.20	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.22	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	3.37	1.70	1.11	126.02	28.57	6.19	0.91	0.00	0.00	0.00	0.00
MEAN	.000	.11	.055	.036	4.50	.92	.21	.029	.000	.000	.000	.000
MAX	.00	1.4	.63	.79	51	12	3.1	.45	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	6.7	3.4	2.2	250	57	12	1.8	.00	.00	.00	.00

## 11042800 WARM SPRINGS CREEK NEAR MURRIETA, CA --Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.12	.10	.61	37.9	17.3	14.0	.20	.33	.000	.009	.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	.036	.004	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1994	1989	1988	1989	1989	1988	1989	1988	1988

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1988 - 1994
ANNUAL TOTAL	10006.01	167.87	
ANNUAL MEAN	27.4	.46	5.86
HIGHEST ANNUAL MEAN			27.6
LOWEST ANNUAL MEAN			.063
HIGHEST DAILY MEAN	2070	51	2070
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		210	5570
INSTANTANEOUS PEAK STAGE		4.69	8.59
ANNUAL RUNOFF (AC-FT)	19850	333	4240
10 PERCENT EXCEEDS	16	.15	.22
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

## SANTA MARGARITA RIVER BASIN

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.--90.1 mi<sup>2</sup> (revised).

PERIOD OF RECORD.--October 1987 to current year. Discharge measurements only, October 1991 to September 1992.

REVISED RECORDS.--WDR CA-94-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,045 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records 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. See schematic diagram of Santa Margarita River basin.

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, 107 ft<sup>3</sup>/s, Feb. 7, gage height, 6.10 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.86	5.7	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.63	.03	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.62	.00	.00	.00	6.4	.00	.00	.00	.00	.00	.00	.00
5	1.3	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00
6	1.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	30	.56	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	18	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	2.1	2.0	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	8.0	.15	.00	.00	.00	.00	.00	.00
11	.51	1.4	.00	.00	9.5	.00	.00	.00	.00	.00	.00	.00
12	.00	.55	.00	.00	14	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	18	.00	.00	.00	.00	.00	.00	.00
14	.00	1.5	.00	.00	16	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	5.1	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00
17	.06	.00	.00	.00	9.3	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	17	10	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	18	.90	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	4.0	.25	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	4.9	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	6.0	7.9	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	3.9	15	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.07	.01	23	.06	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	10	11	.00	.00	.00	.00	.00
27	.00	.00	.00	.49	.00	19	16	.00	.00	.00	.00	.00
28	.00	.00	.00	.03	.00	15	30	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	5.3	39	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	28	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.12	---	.00	---	.00	.00	---
TOTAL	3.69	3.45	0.00	0.59	204.38	109.18	125.55	5.73	0.00	0.00	0.00	0.00
MEAN	.12	.11	.000	.019	7.30	3.52	4.18	.18	.000	.000	.000	.000
MAX	1.3	1.5	.00	.49	30	23	39	5.7	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	7.3	6.8	.00	1.2	405	217	249	11	.00	.00	.00	.00



## 11042900 SANTA GERTRUDIS CREEK NEAR TEMECULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.022	.019	.17	18.2	10.6	11.6	8.71	4.75	.007	.004	.000	.003
MAX	.12	.11	.85	108	54.6	41.8	46.7	28.3	.044	.022	.000	.017
(WY)	1994	1994	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 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1988 - 1994			
ANNUAL TOTAL	8466.21				452.57							
ANNUAL MEAN	23.2				1.24				4.48			
HIGHEST ANNUAL MEAN									23.2			
LOWEST ANNUAL MEAN									.006			
HIGHEST DAILY MEAN	1340				39				1340			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					107				11500			
INSTANTANEOUS PEAK STAGE					6.10				8.47			
ANNUAL RUNOFF (AC-FT)	16790				898				3240			
10 PERCENT EXCEEDS	49				1.2				3.6			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.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. WDR CA-93-1: 1991 (P), 1992 (M).

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. See schematic diagram of Santa Margarita River basin.

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)
Feb. 4	1000	228	2.90	Mar. 19	0845	261	3.04
Feb. 7	1545	*1,790	*6.33	Mar. 25	0245	376	3.47
Feb. 17	1215	548	3.99				

Minimum daily, 0.06 ft<sup>3</sup>/s, Oct. 18-23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	.19	.33	.31	1.5	.43	1.4	7.2	.33	.12	e.14	e3.1
2	.55	.20	.43	.25	1.3	e.85	1.7	1.4	.33	.12	e.20	e3.2
3	.55	.17	.33	.32	1.7	e1.6	1.1	1.5	.25	.12	e.20	e3.2
4	.45	.42	.34	.32	106	e2.3	1.3	1.1	.21	.12	e.20	e3.2
5	.41	.27	.36	.27	20	e3.0	1.6	.74	.17	.12	e.20	e3.2
6	.34	.17	.37	.53	4.5	e6.0	1.4	7.1	.14	.12	e.20	e3.2
7	.25	.21	.36	.42	387	e12	1.3	9.1	.14	.14	e.20	e3.2
8	.21	.69	.37	.43	189	1.6	.55	.74	.12	.17	e.20	e3.2
9	.11	.17	.42	.36	34	.96	.78	.56	.12	.14	e.14	e3.2
10	.12	.14	.42	.33	25	.96	.28	.43	.10	.14	e.14	e3.2
11	.13	8.4	8.3	.33	21	.96	.41	.33	.10	.14	e.15	e2.5
12	.09	2.9	4.3	.33	28	.96	1.3	.33	.08	.14	e.15	e1.2
13	.09	.25	.50	.25	31	1.1	2.3	.33	.08	.14	e.15	e1.2
14	.09	18	8.7	.25	26	.96	2.3	.33	.08	.12	e.15	e1.2
15	.09	.56	5.0	.33	11	.96	2.6	.33	.10	.12	e.15	e1.2
16	.22	.21	2.9	.33	4.5	.74	1.5	.33	.10	.12	e2.0	e1.2
17	.07	.21	1.4	.43	117	1.4	1.8	.33	.10	.12	e2.0	e1.2
18	.06	.74	.63	.40	131	1.6	1.7	.33	.10	.12	e1.0	e1.2
19	.06	.96	6.1	.43	58	113	1.5	.33	.10	.12	e.15	e1.2
20	.06	1.1	.99	e.36	94	10	1.4	.33	.10	.12	e.15	e1.2
21	.06	.25	.86	e.30	8.2	2.4	1.2	.33	.10	.12	e.15	e1.2
22	.06	.33	.55	e.27	3.3	1.6	.79	.33	.10	.12	e1.0	e1.2
23	.06	6.5	.33	e.25	2.9	11	.42	.33	.10	.12	e3.0	e1.2
24	.07	4.0	.33	.75	2.1	29	4.1	.33	.10	.12	e3.0	e1.2
25	.08	2.4	.32	43	1.7	129	17	.33	.10	e.10	e3.0	e1.2
26	.09	1.2	.33	15	1.3	25	51	.33	.10	e.10	e3.0	e.60
27	.09	.74	.28	12	1.0	26	11	.33	.12	e.10	e3.1	e.30
28	.11	.33	.25	4.9	.69	21	13	.33	.12	e.10	e3.1	e.30
29	.13	.56	.25	2.2	---	5.0	27	.33	.12	e.14	e3.1	e.30
30	.14	.74	.28	1.8	---	1.5	18	.33	.12	e.20	e3.1	e.30
31	.15	---	.31	1.6	---	.96	---	.33	---	e.17	e3.1	---
TOTAL	5.60	53.01	46.64	89.05	1312.69	413.84	171.73	36.80	3.93	3.96	36.52	53.00
MEAN	.18	1.77	1.50	2.87	46.9	13.3	5.72	1.19	.13	.13	1.18	1.77
MAX	.61	18	8.7	43	387	129	51	9.1	.33	.20	3.1	3.2
MIN	.06	.14	.25	.25	.69	.43	.28	.33	.08	.10	.14	.30
AC-FT	11	105	93	177	2600	821	341	73	7.8	7.9	72	105

e Estimated.

## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.31	1.35	3.08	69.8	89.4	70.6	10.3	5.07	1.40	1.07	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	.18	.000	.000	.39	.55	.093	.073	.19	.13	.13	.15	.17
(WY)	1994	1990	1990	1975	1977	1990	1989	1988	1994	1994	1993	1977

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1974 - 1994

ANNUAL TOTAL	43820.82	2226.77	
ANNUAL MEAN	120	6.10	21.0
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			1.02
HIGHEST DAILY MEAN	7790	Jan 16	7790
LOWEST DAILY MEAN	.02	Jun 30	.00
ANNUAL SEVEN-DAY MINIMUM	.05	Aug 29	.00
INSTANTANEOUS PEAK FLOW			1790
INSTANTANEOUS PEAK STAGE			6.33
ANNUAL RUNOFF (AC-FT)	86920	4420	15240
10 PERCENT EXCEEDS	96	8.5	7.8
50 PERCENT EXCEEDS	.96	.42	.81
90 PERCENT EXCEEDS	.08	.11	.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 good below 10 ft<sup>3</sup>/s and fair above, 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. See schematic diagram of Santa Margarita River basin.

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, 2,870 ft<sup>3</sup>/s, Feb. 7, gage height, 6.09 ft; minimum daily, 1.6 ft<sup>3</sup>/s, Dec. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.2	2.3	2.1	e3.0	4.2	4.7	11	4.3	7.4	2.3	3.0
2	3.3	2.4	2.3	2.1	e3.1	3.7	e4.4	3.7	e6.4	6.8	2.2	4.3
3	5.1	2.1	2.3	2.2	e4.0	4.8	e4.2	4.6	e6.9	6.3	2.2	4.4
4	7.5	2.2	2.3	2.3	e130	5.9	e3.6	6.0	e6.8	5.4	2.2	3.8
5	9.3	2.4	1.9	2.5	24	6.2	e3.3	4.9	e6.8	5.2	2.2	4.2
6	9.9	2.0	2.1	2.6	5.3	7.0	e3.0	5.1	e6.5	4.5	2.0	4.0
7	10	1.9	2.1	2.5	632	19	e3.0	9.5	e6.2	3.8	1.9	3.9
8	11	2.0	2.1	2.4	306	3.0	e2.9	3.5	e6.5	4.0	2.0	4.2
9	11	1.9	2.2	2.5	23	5.7	3.9	4.1	e6.0	3.7	1.9	5.7
10	10	1.9	2.3	2.4	29	5.4	3.4	3.9	e6.0	3.6	2.0	4.9
11	10	9.5	8.7	e2.4	29	5.3	3.1	3.7	e6.0	3.6	2.1	4.0
12	10	6.2	7.2	e2.6	34	5.6	2.9	3.4	e6.2	3.0	2.1	2.4
13	10	2.7	3.2	e2.5	34	5.0	3.1	4.0	e6.6	2.6	2.0	3.6
14	10	21	8.9	e2.4	33	6.0	3.8	3.8	6.9	3.9	2.0	3.9
15	10	3.3	7.2	e2.4	16	6.7	5.0	3.1	7.0	3.3	2.1	4.4
16	12	2.7	4.5	e2.5	7.3	3.5	5.0	3.7	7.3	3.2	3.2	4.1
17	14	2.2	3.4	e2.6	170	4.8	5.1	6.1	7.2	2.9	4.7	4.6
18	12	2.1	3.2	e2.6	225	6.5	5.7	6.7	6.7	3.0	4.7	3.9
19	12	2.2	7.3	e2.6	58	123	3.4	5.4	5.1	2.8	4.0	4.2
20	11	3.1	2.7	e2.6	94	14	3.6	6.1	5.4	2.6	4.3	5.5
21	13	2.6	2.4	2.4	29	4.7	4.3	6.3	6.5	2.8	4.2	5.7
22	13	2.5	2.6	2.6	11	4.2	5.6	5.8	5.8	2.4	2.7	5.2
23	14	5.3	2.4	2.5	12	13	5.1	4.9	5.0	2.2	3.9	4.2
24	14	3.0	2.2	3.1	11	43	10	6.0	4.6	2.2	6.7	3.0
25	14	3.9	1.6	41	6.1	194	12	6.2	4.3	2.4	6.7	5.2
26	14	2.2	2.0	16	6.5	24	78	6.6	4.6	2.2	6.8	5.9
27	13	1.7	2.1	18	6.5	31	21	5.9	6.2	2.2	6.7	3.8
28	13	1.7	2.0	8.4	6.6	33	16	5.2	6.5	2.3	6.2	2.4
29	13	1.7	2.0	3.9	---	14	30	4.6	7.6	2.3	5.0	3.1
30	12	2.6	2.1	3.1	---	5.7	24	3.4	7.2	2.4	4.5	2.4
31	11	---	2.1	e3.0	---	4.4	---	3.7	---	2.3	4.5	---
TOTAL	334.0	104.2	101.7	152.8	1948.4	616.3	283.1	160.9	185.1	107.3	110.0	123.9
MEAN	10.8	3.47	3.28	4.93	69.6	19.9	9.44	5.19	6.17	3.46	3.55	4.13
MAX	14	21	8.9	41	632	194	78	11	7.6	7.4	6.8	5.9
MIN	1.9	1.7	1.6	2.1	3.0	3.0	2.9	3.1	4.3	2.2	1.9	2.4
AC-FT	662	207	202	303	3860	1220	562	319	367	213	218	246

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.00	4.15	5.81	96.6	122	90.8	13.7	7.66	3.00	2.25	2.53	3.22
MAX	10.8	32.8	21.9	1255	1105	438	85.6	46.6	6.87	4.55	9.99	13.9
(WY)	1994	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	.81	1.33
(WY)	1982	1989	1990	1976	1989	1988	1989	1988	1984	1984	1984	1987

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1974 - 1994

ANNUAL TOTAL	66658.3	4227.7	
ANNUAL MEAN	183	11.6	29.2
HIGHEST ANNUAL MEAN			183
LOWEST ANNUAL MEAN			2.17
HIGHEST DAILY MEAN	13000	Jan 16	13000
LOWEST DAILY MEAN	1.6	Jul 26	.16
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 25	.18
INSTANTANEOUS PEAK FLOW			2870
INSTANTANEOUS PEAK STAGE			6.09
ANNUAL RUNOFF (AC-FT)	132200	8390	21120
10 PERCENT EXCEEDS	140	14	12
50 PERCENT EXCEEDS	11	4.3	2.4
90 PERCENT EXCEEDS	2.1	2.2	1.0

## SANTA MARGARITA RIVER BASIN

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 good except for estimated daily discharges, which are fair. 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. See schematic diagram of Santa Margarita River basin.

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)
Feb. 7	1600	*695	*5.96	Mar. 25	0100	100	4.26
Feb. 17	1330	306	5.10				

Minimum daily, 0.13 ft<sup>3</sup>/s, July 26, 27, Sept. 6, 12, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.39	1.0	.34	.39	1.4	2.2	1.8	.36	.31	.49	.55
2	.32	1.0	.50	.32	1.0	1.4	2.0	1.4	.33	.22	.23	.33
3	.34	.41	.42	.30	1.3	1.3	2.1	1.3	.40	.22	.17	.20
4	.38	.37	.41	.28	22	1.3	2.1	1.5	.41	.17	.15	.17
5	.39	.37	.41	.31	3.9	1.3	2.2	1.4	.59	.17	.74	.18
6	.38	.36	.94	.28	1.9	3.0	2.2	1.3	.43	.19	.27	.13
7	.39	.40	.50	e.42	70	14	2.0	1.4	.34	.19	.26	.15
8	.40	.40	.54	e.44	28	2.8	2.0	1.3	.42	.18	.43	.17
9	.41	.39	.41	e.47	5.2	2.0	4.6	1.2	.34	.17	.21	.15
10	.40	.41	.40	e.50	3.4	2.0	2.6	1.1	.33	.16	.15	.14
11	.41	1.4	3.5	e.52	2.8	1.7	1.5	1.0	.39	.15	.14	.14
12	.40	1.8	1.9	.42	2.0	1.2	1.9	1.0	.75	.15	.21	.13
13	.41	.71	.76	.29	2.5	1.3	2.0	1.4	.45	.15	.34	.14
14	.40	.58	.62	.29	2.3	1.5	1.8	1.3	1.1	.14	.48	.18
15	.39	.50	.96	.30	2.0	1.7	1.3	1.1	.66	.15	.35	.20
16	.46	.43	.57	.30	.80	1.8	1.7	1.4	.30	.15	.33	.26
17	.46	.41	.51	.32	34	1.9	1.6	.78	.23	.20	.47	.35
18	.43	.41	.86	.31	8.0	1.5	1.5	1.0	.23	.32	.31	.19
19	.39	.65	.86	.36	6.9	15	1.2	.97	.21	.21	.23	.17
20	.36	.42	.88	.32	8.6	2.6	1.4	.85	.21	.19	.30	.15
21	.35	.40	.92	.33	4.1	1.5	.98	.78	.20	e.17	.43	.14
22	.34	.41	.45	.31	2.5	1.1	1.2	.81	.18	e.17	.28	.13
23	.35	1.5	.45	.37	2.4	1.2	.78	.85	.17	.16	.20	.28
24	.37	1.0	.94	.42	2.0	4.6	7.7	.79	.21	.15	.18	.27
25	.38	1.1	.62	7.3	1.9	20	6.1	1.1	.20	.14	.19	.15
26	.37	.81	.51	2.2	1.7	3.5	13	1.2	.49	.13	.22	.17
27	.35	.46	.54	8.5	2.0	3.1	4.9	.64	.28	.13	.37	.22
28	.35	.48	.43	1.5	1.7	2.3	5.5	.52	.45	.15	.37	.22
29	.36	.45	.38	.74	---	2.6	2.0	.50	.33	.16	.24	.34
30	.37	2.0	.36	.67	---	2.3	1.6	.86	.46	.23	.23	.87
31	.36	---	.37	.48	---	2.5	---	.47	---	.35	.60	---
TOTAL	11.79	20.42	22.92	29.91	225.29	105.4	83.66	33.02	11.45	5.73	9.57	6.87
MEAN	.38	.68	.74	.96	8.05	3.40	2.79	1.07	.38	.18	.31	.23
MAX	.46	2.0	3.5	8.5	70	20	13	1.8	1.1	.35	.74	.87
MIN	.32	.36	.36	.28	.39	1.1	.78	.47	.17	.13	.14	.13
AC-FT	23	41	45	59	447	209	166	65	23	11	19	14

e Estimated.

## 11044250 RAINBOW CREEK NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.43	.49	.98	20.7	14.7	8.36	2.72	1.16	.79	.50	.44	.40
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	.38	.18	.31	.23
(WY)	1992	1993	1991	1991	1990	1990	1990	1991	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1990 - 1994
ANNUAL TOTAL	5236.93	566.03	
ANNUAL MEAN	14.3	1.55	5.03
HIGHEST ANNUAL MEAN			14.4
LOWEST ANNUAL MEAN			1.55
HIGHEST DAILY MEAN	800 Jan 16	70 Feb 7	800 Jan 16 1993
LOWEST DAILY MEAN	.30 Aug 6	.13 Jul 26	.11 Oct 13 1991
ANNUAL SEVEN-DAY MINIMUM	.31 Aug 6	.14 Sep 6	.14 Oct 11 1991
INSTANTANEOUS PEAK FLOW		695 Feb 7	8000 Jan 16 1993
INSTANTANEOUS PEAK STAGE		5.96 Feb 7	
ANNUAL RUNOFF (AC-FT)	10390	1120	3640
10 PERCENT EXCEEDS	25	2.3	4.5
50 PERCENT EXCEEDS	.70	.45	.62
90 PERCENT EXCEEDS	.34	.17	.27

## 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.--No estimated daily discharges. Records fair. Flow partly regulated since November 1948 by Vail Lake (station 11042510) and since 1974 by Skinner Reservoir. See schematic diagram of Santa Margarita River basin.

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, 4,770 ft<sup>3</sup>/s, Feb. 7, gage height, 7.15 ft, from rating curve extended above 700 ft<sup>3</sup>/s based on regression equation as explained above; minimum daily, 1.6 ft<sup>3</sup>/s, Aug. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	13	7.3	6.3	5.8	13	11	16	9.0	7.9	2.9	6.2
2	5.4	5.3	6.7	6.3	5.9	13	10	10	9.5	8.6	2.7	5.4
3	6.6	4.4	6.3	6.7	6.6	12	10	9.2	9.5	7.2	2.5	6.7
4	8.7	4.2	6.3	6.3	173	12	11	9.2	9.2	6.4	2.5	6.7
5	12	4.7	6.3	6.3	64	12	11	9.2	9.2	5.9	2.5	5.9
6	15	5.4	6.4	6.3	16	13	11	9.2	9.1	5.4	3.0	5.8
7	16	5.8	5.8	6.3	728	40	11	13	8.8	5.6	3.0	5.5
8	18	6.5	5.8	6.5	511	17	11	10	9.3	5.2	2.6	5.0
9	19	6.6	5.8	6.3	67	14	12	9.6	8.6	5.1	2.1	5.3
10	15	6.3	5.8	6.3	43	14	13	8.6	8.7	5.0	1.8	5.9
11	15	15	7.2	6.3	40	13	10	8.6	8.2	4.4	1.7	5.4
12	16	22	24	7.1	39	13	9.9	8.6	8.6	3.7	1.6	5.2
13	16	15	7.0	6.3	43	13	9.9	8.8	8.5	3.6	2.0	4.0
14	16	26	6.4	6.3	34	12	9.9	9.2	8.7	2.9	2.1	4.7
15	16	14	18	6.3	25	13	9.9	9.2	8.6	3.8	2.0	5.0
16	16	6.1	7.5	6.6	14	13	10	9.2	8.6	3.9	1.9	5.5
17	18	5.3	6.8	6.8	144	13	11	9.2	8.7	4.9	3.1	5.5
18	18	5.3	6.8	6.8	145	13	12	9.2	8.4	4.6	7.4	5.6
19	17	5.3	8.0	6.8	127	107	12	9.2	8.5	3.9	8.2	5.0
20	15	5.3	9.5	6.8	82	36	13	9.2	7.4	3.5	7.4	5.0
21	16	5.3	6.4	6.8	66	17	14	9.2	7.6	3.2	7.6	5.8
22	19	5.3	5.9	6.8	22	14	14	9.2	7.8	3.6	7.9	6.2
23	17	8.2	5.8	7.4	20	15	14	9.2	7.5	3.5	5.9	5.6
24	18	9.4	5.8	7.4	18	24	19	9.0	7.1	3.1	6.0	4.8
25	21	7.9	6.0	57	16	178	16	10	7.1	2.7	7.3	4.3
26	20	6.5	5.8	40	14	33	72	11	7.2	2.5	6.8	4.4
27	20	6.2	5.8	25	14	26	48	10	7.2	2.0	7.9	4.8
28	18	5.8	6.2	27	13	25	19	9.0	6.7	2.1	7.9	3.9
29	17	5.8	6.3	9.6	---	18	22	9.2	7.0	2.4	7.2	3.2
30	19	7.7	6.3	7.3	---	13	21	9.2	8.0	2.8	6.2	4.1
31	18	---	6.3	6.6	---	11	---	9.0	---	2.9	5.9	---
TOTAL	486.8	249.6	230.3	330.6	2496.3	780	477.6	298.4	248.3	132.3	139.6	156.4
MEAN	15.7	8.32	7.43	10.7	89.2	25.2	15.9	9.63	8.28	4.27	4.50	5.21
MAX	21	26	24	57	728	178	72	16	9.5	8.6	8.2	6.7
MIN	5.1	4.2	5.8	6.3	5.8	11	9.9	8.6	6.7	2.0	1.6	3.2
AC-FT	966	495	457	656	4950	1550	947	592	493	262	277	310



11044300 SANTA MARGARITA RIVER AT FALLBROOK PUBLIC UTILITY DISTRICT SUMP, NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.53	3.71	12.0	305	236	145	24.4	18.2	10.2	5.23	5.25	5.45
MAX	15.7	8.32	31.1	1462	860	490	70.4	54.5	25.1	11.4	10.1	9.03
(WY)	1994	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1990 - 1994			
ANNUAL TOTAL	79896.2				6026.2							
ANNUAL MEAN	219				16.5				64.1			
HIGHEST ANNUAL MEAN									220			
LOWEST ANNUAL MEAN									5.99			
HIGHEST DAILY MEAN	14300				728				14300			
LOWEST DAILY MEAN	4.2				1.6				.00			
ANNUAL SEVEN-DAY MINIMUM	5.1				1.9				.05			
INSTANTANEOUS PEAK FLOW					4770				34000			
INSTANTANEOUS PEAK STAGE					7.15				15.89			
INSTANTANEOUS LOW FLOW					1.6							
ANNUAL RUNOFF (AC-FT)	158500				11950				46450			
10 PERCENT EXCEEDS	200				21				60			
50 PERCENT EXCEEDS	16				8.0				5.9			
90 PERCENT EXCEEDS	6.1				3.9				1.8			

## SANTA MARGARITA RIVER BASIN

11044350 SANDIA CREEK NEAR FALLBROOK, CA

LOCATION.--Lat 33°25'28", long 117°14'54", in SW 1/4 NE 1/4 sec.1, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank 1.05 mi north of intersection of Sandia and Rock Mountain Roads, 0.8 mi upstream from mouth, and 3.8 mi north of Fallbrook.

DRAINAGE AREA.--21.1 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 380 ft above sea level, from topographic map. Prior to Sept. 30, 1993, at site 0.65 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records poor. No regulation or diversion upstream from station. See schematic diagram of Santa Margarita River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft<sup>3</sup>/s, Jan. 16, 1993, gage height, 17.60 ft, site and datum then in use, 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, Aug. 16, 1994.

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)
Feb. 7	1545	*238	*3.32	Mar. 25	0545	94	2.80

Minimum daily, 0.15 ft<sup>3</sup>/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.7	2.9	3.0	3.2	7.2	6.8	6.5	3.2	1.6	.88	.46
2	1.1	2.6	2.6	3.1	3.2	7.0	6.4	6.2	3.0	1.2	.58	.42
3	1.2	2.4	2.4	3.1	3.1	6.6	6.5	5.9	2.9	1.3	.76	.21
4	1.5	2.5	2.2	3.2	8.6	6.6	6.2	5.7	2.5	1.1	.71	.26
5	1.8	2.6	2.4	3.1	7.4	6.9	5.6	5.4	2.6	1.1	.50	.33
6	2.1	2.5	2.7	2.8	5.4	7.7	5.7	5.2	2.9	.96	.43	.33
7	2.0	2.4	3.0	2.7	7.0	11	5.6	7.5	2.7	.94	.52	.34
8	2.4	2.5	2.6	3.2	5.6	6.6	5.4	5.6	2.8	.92	.46	.28
9	1.9	3.0	2.6	3.1	12	5.6	6.1	5.1	2.5	.91	.43	.39
10	1.9	2.7	2.5	3.4	7.7	5.7	5.9	4.8	2.2	1.1	.46	.42
11	2.3	4.1	2.9	3.3	6.6	5.7	5.4	4.7	2.5	.94	.43	.34
12	2.8	3.3	3.3	3.2	5.9	5.2	4.9	5.1	2.9	.78	.34	.69
13	2.8	2.9	2.9	3.1	5.8	5.3	4.9	5.6	2.9	.77	.31	.74
14	2.8	3.3	3.2	3.4	5.3	5.1	4.9	5.3	2.6	.78	.21	.67
15	2.5	3.3	3.8	3.1	5.2	5.2	5.2	5.3	2.7	.75	.21	.66
16	3.2	3.2	3.2	3.5	5.4	5.0	5.0	5.4	2.5	.74	.15	.52
17	3.4	3.1	3.2	3.5	15	4.7	5.3	5.0	2.3	.89	.16	.57
18	3.2	2.9	3.1	3.5	15	4.9	5.3	5.1	2.4	1.2	.21	.69
19	2.6	2.9	3.5	3.4	17	6.4	5.0	4.7	2.1	1.0	.26	.68
20	2.4	2.5	3.4	3.3	16	6.3	5.1	4.5	2.2	.89	.25	.62
21	2.4	2.2	3.1	3.0	13	6.4	5.3	4.1	1.8	.71	.28	.46
22	2.3	2.1	3.1	3.0	12	6.5	5.0	3.9	1.6	.77	.32	.51
23	2.2	3.8	2.8	2.9	11	5.6	4.6	4.3	1.9	.89	.49	.45
24	2.2	3.6	2.5	3.1	10	5.3	5.9	4.5	1.8	.57	.52	.38
25	2.4	3.3	3.0	5.1	9.5	16	7.4	4.9	1.3	.97	.47	.44
26	2.5	2.8	3.0	4.2	9.3	11	11	4.4	1.2	.80	.37	.60
27	2.3	2.3	3.1	3.8	8.4	8.9	9.7	4.1	1.5	.62	.31	.57
28	2.2	2.1	3.1	3.6	7.8	8.0	7.7	3.7	1.8	.55	.32	.37
29	2.2	2.4	3.0	3.5	---	7.3	6.7	3.3	1.2	.63	.33	.49
30	2.4	3.2	2.9	3.3	---	7.2	6.6	3.6	1.3	.87	.33	.42
31	2.3	---	2.8	3.4	---	7.0	---	3.6	---	.77	.42	---
TOTAL	70.5	85.2	90.8	102.9	354.8	213.9	181.1	153.0	67.8	28.02	12.42	14.31
MEAN	2.27	2.84	2.93	3.32	12.7	6.90	6.04	4.94	2.26	.90	.40	.48
MAX	3.4	4.1	3.8	5.1	7.0	16	11	7.5	3.2	1.6	.88	.74
MIN	1.1	2.1	2.2	2.7	3.1	4.7	4.6	3.3	1.2	.55	.15	.21
AC-FT	140	169	180	204	704	424	359	303	134	56	25	28

## 11044350 SANDIA CREEK NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.56	1.88	2.64	50.5	34.4	26.6	10.2	6.44	4.30	1.93	1.27	.94
MAX	2.27	2.84	3.31	237	128	64.8	14.6	9.44	8.04	3.63	2.41	1.30
(WY)	1994	1994	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	.40	.44
(WY)	1990	1992	1990	1991	1991	1990	1990	1990	1990	1990	1994	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1990 - 1994
ANNUAL TOTAL	13466.9	1374.75	
ANNUAL MEAN	36.9	3.77	11.8
HIGHEST ANNUAL MEAN			36.8
LOWEST ANNUAL MEAN			2.65
HIGHEST DAILY MEAN	2000 Jan 16	70 Feb 7	2000 Jan 16 1993
LOWEST DAILY MEAN	1.1 Sep 30	.15 Aug 16	.15 Sep 13 1990
ANNUAL SEVEN-DAY MINIMUM	1.2 Sep 26	.21 Aug 14	.21 Aug 14 1994
INSTANTANEOUS PEAK FLOW		238 Feb 7	5100 Jan 16 1993
INSTANTANEOUS PEAK STAGE		3.32 Feb 7	17.60 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	26710	2730	8550
10 PERCENT EXCEEDS	62	6.7	14
50 PERCENT EXCEEDS	5.1	2.9	2.6
90 PERCENT EXCEEDS	1.3	.46	.82

## SANTA MARGARITA RIVER BASIN

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 current year.

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. See schematic diagram of Santa Margarita River basin.

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; no flow at times in some 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 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)
Feb. 7	1615	*240	*5.66	Feb. 17	1530	174	5.38

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.36	.45	1.9	1.2	e1.2	e4.1	6.2	4.5	1.8	.22	.00	.00
2	e.36	.54	1.8	1.2	e1.2	e3.4	5.3	4.1	1.7	.19	.00	.00
3	e.35	.63	1.3	1.2	e1.8	e3.0	5.2	3.8	1.6	.16	.00	.00
4	e.36	.72	1.4	1.2	e10	e2.9	5.2	3.8	1.4	e.18	.00	.00
5	e.35	.75	1.4	1.1	3.8	e3.0	5.0	3.5	1.2	e.18	.00	.00
6	e.34	.85	1.6	1.1	2.7	e3.5	4.8	3.4	1.2	e.19	.00	.00
7	e.34	.55	1.8	1.1	63	e15	4.2	4.0	1.3	e.20	.00	.00
8	e.35	.49	1.8	1.3	77	e6.0	4.1	3.4	1.1	e.20	.00	.00
9	e.36	.42	1.8	1.2	13	5.6	4.5	3.1	1.1	.20	.00	.00
10	e.36	.50	1.8	1.2	8.6	5.7	4.5	3.0	1.1	.18	.00	.00
11	e.50	.68	2.1	e1.2	5.1	5.7	4.4	3.0	.99	.18	.00	.00
12	e.46	.93	2.8	e1.2	3.0	6.1	3.9	3.0	1.1	.18	.00	.00
13	e.40	1.4	2.5	e1.3	2.1	4.2	3.6	3.2	.98	.15	.00	.00
14	e.38	1.4	3.2	e1.3	2.1	4.4	3.6	2.9	.92	.14	.00	.00
15	e.35	1.1	3.7	e1.3	2.0	4.3	3.5	2.6	.92	.13	.00	.00
16	e.41	1.0	2.9	e1.2	1.9	4.2	3.2	2.8	.87	.12	.00	.00
17	e.39	.68	2.9	e1.2	41	4.0	3.1	2.9	.80	.14	.00	.00
18	e.35	.78	2.4	e1.1	37	3.6	2.7	2.9	.72	.12	.00	.00
19	e.32	.77	2.2	e1.2	47	23	2.7	2.9	.63	.10	.00	.00
20	e.32	.67	1.8	e1.1	52	17	2.6	2.6	.61	.11	.00	.00
21	e.31	.73	1.7	e1.0	34	9.0	2.8	2.4	.57	.10	.00	.00
22	e.32	.71	1.7	e1.0	17	7.7	3.1	2.1	.52	.09	.00	.00
23	e.31	1.2	1.8	e1.0	12	7.9	3.2	2.0	.45	.07	.00	.00
24	.31	1.2	1.8	e1.8	8.4	8.8	3.7	1.9	.42	.07	.00	.00
25	.34	1.0	1.5	e8.0	6.3	30	4.1	2.2	.37	.06	.00	.00
26	.39	.79	1.7	e4.2	5.9	14	7.0	2.4	.30	.05	.00	.00
27	.41	.77	1.6	e2.5	e5.0	9.6	7.7	2.0	.29	.04	.00	.00
28	.41	.82	1.5	e1.4	e4.5	8.0	4.8	1.9	.27	.03	.00	.00
29	.48	.97	1.5	e1.2	---	6.7	4.7	1.7	.23	.02	.00	.00
30	.42	1.6	1.6	e1.2	---	6.7	4.5	1.7	.22	.02	.00	.00
31	.48	---	1.4	e1.1	---	5.8	---	1.7	---	.01	.00	---
TOTAL	11.59	25.10	60.9	48.3	468.6	242.9	127.9	87.4	25.68	3.83	0.00	0.00
MEAN	.37	.84	1.96	1.56	16.7	7.84	4.26	2.82	.86	.12	.000	.000
MAX	.50	1.6	3.7	8.0	77	30	7.7	4.5	1.8	.22	.00	.00
MIN	.31	.42	1.3	1.0	1.2	2.9	2.6	1.7	.22	.01	.00	.00
AC-FT	23	50	121	96	929	482	254	173	51	7.6	.00	.00

e Estimated.

## 11044800 DE LUZ CREEK NEAR DE LUZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	1.07	2.31	183	108	27.4	11.1	6.13	4.09	1.21	.33	.20
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	.37	.84	1.96	1.56	16.7	7.84	4.26	2.82	.86	.12	.000	.000
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1993 - 1994			
ANNUAL TOTAL	19622.32				1102.20							
ANNUAL MEAN	53.8				3.02				28.5			
HIGHEST ANNUAL MEAN									53.9			
LOWEST ANNUAL MEAN									3.02			
HIGHEST DAILY MEAN	3220				77				3220			
LOWEST DAILY MEAN	.31				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.32				.00				.00			
INSTANTANEOUS PEAK FLOW					240				9700			
INSTANTANEOUS PEAK STAGE					5.66				15.13			
ANNUAL RUNOFF (AC-FT)	38920				2190				20620			
10 PERCENT EXCEEDS	101				5.7				33			
50 PERCENT EXCEEDS	3.6				1.2				1.8			
90 PERCENT EXCEEDS	.40				.00				.10			

## SANTA MARGARITA RIVER BASIN

11045300 FALLBROOK CREEK NEAR FALLBROOK, CA

LOCATION.--Lat 33°20'49", long 117°19'01", in SE 1/4 SE 1/4 sec.32, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank at culvert on DeLuz Road, 0.75 mi upstream from O'Neill Lake, and 4.5 mi southwest of Fallbrook.

DRAINAGE AREA.--6.97 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1993 to September 1994. Discharge records for October 1964 to September 1977 and October 1989 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

GAGE.--Water-stage recorder and concrete control with low water Parshall flume. Elevation of gage is 190 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Slight regulation by two small storage reservoirs upstream from station. See schematic diagram of Santa Margarita River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 262 ft<sup>3</sup>/s, Feb. 7, 1994, gage height, 4.40 ft; no flow for 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)
Feb. 7	1800	*262	*4.40				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.22	.45	.56	.69	1.0	1.1	.95	.56	.09	.07	.01
2	.12	.20	.45	.59	.69	.97	1.1	.86	.64	.08	.07	.01
3	.12	.18	.45	.59	.74	.96	1.1	.88	.58	.07	.07	.01
4	.14	.15	.45	.59	18	.96	1.1	.96	.56	.07	.06	.01
5	.14	.15	.45	.59	4.8	.96	1.0	.93	.57	.08	.06	.00
6	.14	.16	.45	.59	1.9	2.0	1.1	.96	.53	.09	.06	.00
7	.15	.18	.47	.59	33	19	1.1	.89	.49	.09	.06	.00
8	.15	.21	.47	.59	28	2.8	1.1	.95	.47	.09	.06	.00
9	.16	.24	.49	.60	3.5	1.7	1.1	.90	.42	.10	.05	.00
10	.17	.26	.45	.61	2.0	1.5	1.6	.70	.42	.10	.05	.00
11	.18	.37	.58	.62	1.6	1.3	1.2	.84	.42	.09	.04	.00
12	.18	.60	1.2	.60	1.2	1.2	1.1	.82	.44	.10	.04	.00
13	.22	.82	.95	.61	1.1	1.2	1.1	.78	.45	.09	.04	.00
14	.24	.81	.79	.65	.97	1.2	1.1	.82	.45	.09	.03	.00
15	.26	.77	1.7	.69	.96	1.1	1.1	.82	.45	.09	.03	.00
16	.31	.78	.93	.69	.96	.84	1.1	.68	.47	.08	.02	.00
17	.42	.77	.69	.66	20	.91	1.1	.71	.43	.08	.02	.00
18	.42	.82	.58	.54	4.8	.98	1.1	.74	.37	.09	.03	.00
19	.42	.77	.68	.53	5.5	17	.96	.70	.28	.09	.03	.00
20	.38	.66	.89	.57	7.1	4.7	.96	.81	.20	.09	.02	.00
21	.33	.69	.63	.63	4.2	1.7	.96	.83	.16	.09	.02	.00
22	.28	.70	.56	.66	1.8	1.4	.85	.82	.13	.08	.02	.00
23	.24	.79	.51	.69	1.5	1.2	.82	.72	.11	.08	.02	.00
24	.21	.92	.50	.75	1.3	1.3	.91	.70	.10	.09	.02	.00
25	.20	.88	.45	5.2	1.2	19	1.6	.77	.08	.09	.02	.00
26	.23	.82	.45	2.4	1.2	2.6	11	.63	.07	.10	.02	.00
27	.31	.82	.45	1.1	1.2	1.5	12	.59	.08	.09	.02	.00
28	.26	.69	.45	1.2	1.1	1.3	4.5	.59	.09	.07	.02	.00
29	.23	.56	.45	.93	---	1.2	1.5	.62	.10	.08	.01	.00
30	.24	.58	.50	.77	---	1.1	1.1	.59	.10	.09	.01	.00
31	.22	---	.55	.69	---	1.1	---	.59	---	.08	.02	---
TOTAL	7.19	16.57	19.07	27.08	151.01	95.68	57.46	24.15	10.22	2.69	1.11	0.04
MEAN	.23	.55	.62	.87	5.39	3.09	1.92	.78	.34	.087	.036	.001
MAX	.42	.92	1.7	5.2	33	19	12	.96	.64	.10	.07	.01
MIN	.12	.15	.45	.53	.69	.84	.82	.59	.07	.07	.01	.00
AC-FT	14	33	38	54	300	190	114	48	20	5.3	2.2	.08

## 11045300 FALLBROOK CREEK NEAR FALLBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	.55	.62	.87	5.39	3.09	1.92	.78	.34	.087	.036	.001
MAX	.23	.55	.62	.87	5.39	3.09	1.92	.78	.34	.087	.036	.001
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994
MIN	.23	.55	.62	.87	5.39	3.09	1.92	.78	.34	.087	.036	.001
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

## SUMMARY STATISTICS

## FOR 1994 WATER YEAR

ANNUAL TOTAL	412.27
ANNUAL MEAN	1.13
HIGHEST DAILY MEAN	33 Feb 7
LOWEST DAILY MEAN	.00 Sep 5
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 5
INSTANTANEOUS PEAK FLOW	262 Feb 7
INSTANTANEOUS PEAK STAGE	4.40 Feb 7
ANNUAL RUNOFF (AC-FT)	818
10 PERCENT EXCEEDS	1.3
50 PERCENT EXCEEDS	.56
90 PERCENT EXCEEDS	.02

## SANTA MARGARITA RIVER BASIN

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 Joseph H. Pendleton Naval Reservation, 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 poor. Flow partly regulated by Vail Lake (station 11042510) since November 1948 and by Skinner Reservoir since 1974. See schematic diagram of Santa Margarita River basin.

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, unknown, Feb. 7, gage height, 10.31 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.0	e15	10	21	e14	29	18	35	11	4.5	.00	.00
2	e8.0	e10	8.5	17	e11	25	19	30	11	4.5	.00	.00
3	e10	e7.0	4.0	15	e12	25	19	25	9.0	4.6	.00	.00
4	e12	e5.0	2.9	13	e200	25	16	24	9.3	5.2	.00	.00
5	e14	e4.0	3.2	13	e85	25	17	21	11	5.2	.00	.00
6	e15	4.0	6.3	12	e35	27	17	27	10	4.6	.00	.00
7	e17	4.3	8.0	10	e500	61	18	27	9.3	4.5	.00	.00
8	e18	4.8	8.0	11	e730	45	25	28	9.4	4.5	.00	.00
9	e20	5.7	8.4	11	e100	36	29	27	9.3	4.5	.00	.00
10	e18	6.5	8.7	10	e75	36	32	26	9.3	4.0	.00	.00
11	e19	7.9	9.6	10	e40	33	29	22	9.3	3.9	.00	.00
12	e20	12	12	10	e40	35	32	19	9.3	3.9	.00	.00
13	e18	11	9.5	10	e50	38	33	20	9.3	3.7	.00	.00
14	e19	9.7	6.7	9.8	e42	40	31	19	9.3	2.6	.00	.00
15	e19	14	14	9.8	e35	39	31	17	9.4	1.9	.00	.00
16	e19	11	20	9.8	e20	33	29	18	10	2.7	.00	.00
17	e21	10	13	10	e150	30	31	20	10	2.9	.00	.00
18	e19	9.4	12	10	211	28	31	20	8.2	2.9	.00	.00
19	e20	8.2	12	9.7	611	285	26	20	5.9	2.6	.00	.00
20	e19	7.2	14	9.4	106	166	30	19	5.9	1.7	.00	.00
21	e19	8.2	12	9.9	303	51	35	19	5.4	1.3	.00	.00
22	e21	6.2	10	9.2	48	38	34	18	5.6	1.2	.00	.00
23	e22	10	11	9.5	38	41	28	22	7.5	1.1	.00	.00
24	e22	11	9.8	9.7	33	47	29	22	7.5	1.0	.00	.00
25	e23	11	11	e30	31	588	38	23	7.7	e.75	.00	.00
26	e22	11	11	e75	29	95	54	23	8.5	e.50	.00	.00
27	e20	11	19	e40	29	74	234	17	7.8	e.10	.00	.00
28	e20	10	18	e25	21	72	47	15	6.7	.00	.00	.00
29	e19	9.7	20	e21	---	64	34	15	5.4	.00	.00	.00
30	e20	10	24	e18	---	45	37	15	4.5	.00	.00	.00
31	e20	---	26	e16	---	18	---	12	---	.00	.00	---
TOTAL	558.0	264.8	362.6	494.8	3599	2194	1083	665	251.8	80.85	0.00	0.00
MEAN	18.0	8.83	11.7	16.0	129	70.8	36.1	21.5	8.39	2.61	.000	.000
MAX	23	15	26	75	730	588	234	35	11	5.2	.00	.00
MIN	5.0	4.0	2.9	9.2	11	18	16	12	4.5	.00	.00	.00
AC-FT	1110	525	719	981	7140	4350	2150	1320	499	160	.00	.00

e Estimated.



## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.47	17.0	32.1	192	154	165	45.4	20.6	8.91	2.79	3.22	1.34
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1981 - 1994

ANNUAL TOTAL	122523.70	9553.85	
ANNUAL MEAN	336	26.2	53.7
HIGHEST ANNUAL MEAN			337
LOWEST ANNUAL MEAN			4.59
HIGHEST DAILY MEAN	22000	Jan 16	730
LOWEST DAILY MEAN	.00	Sep 30	.00
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 24	.00
INSTANTANEOUS PEAK FLOW			44000
INSTANTANEOUS PEAK STAGE			20.47
ANNUAL RUNOFF (AC-FT)	243000	18950	38890
10 PERCENT EXCEEDS	366	38	59
50 PERCENT EXCEEDS	20	11	7.0
90 PERCENT EXCEEDS	6.9	.00	.00

## 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.5 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>.

## GAGE-HEIGHT RECORDS

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. See schematic diagram of Santa Margarita River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.10 ft, from floodmarks and hydrographers' notes, Jan. 16, 1993; minimum recorded gage height, 2.64 ft, but known to have been lower than elevation of sensor at times on several days during Spring of 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.96 ft, Nov. 14; minimum gage height, 3.20 ft, Feb. 16.

## GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5.90	3.63	6.61	3.84	6.64	3.73	6.09	3.74	5.44	3.51	6.03	3.33
2	6.01	3.64	6.37	3.77	6.27	3.67	5.32	3.68	5.74	3.50	6.03	3.27
3	6.07	3.60	6.11	3.71	5.82	3.66	4.98	3.67	5.90	3.58	5.92	3.27
4	5.88	3.57	5.78	3.70	5.34	3.63	5.48	3.68	6.07	3.77	5.54	3.27
5	5.76	3.52	5.41	3.69	4.99	3.67	5.93	3.72	6.32	3.83	5.49	3.25
6	5.42	3.44	4.99	3.68	5.05	3.68	6.25	3.66	6.44	3.72	5.70	3.30
7	5.20	3.38	4.91	3.67	5.42	3.70	6.21	3.64	6.93	3.67	5.93	3.40
8	5.12	3.37	5.07	3.72	5.99	3.66	6.62	3.60	7.61	4.43	5.92	3.37
9	5.22	3.41	5.56	3.74	6.34	3.66	7.13	3.66	6.83	3.67	5.92	3.35
10	5.60	3.45	6.21	3.81	7.02	3.68	7.26	3.70	6.43	3.40	5.81	3.33
11	6.03	3.57	7.12	3.93	7.46	3.84	7.16	3.65	6.39	3.38	5.84	3.33
12	6.27	3.77	7.86	4.00	7.91	3.98	6.92	3.63	5.43	3.26	5.41	3.35
13	6.71	3.95	7.75	3.94	7.69	3.95	6.67	3.59	4.99	3.29	5.48	3.35
14	7.14	3.97	7.96	3.93	7.40	3.86	6.27	3.55	4.97	3.27	5.60	3.35
15	7.51	3.96	7.42	3.85	7.50	3.87	5.57	3.52	4.96	3.31	5.38	3.37
16	7.79	3.98	6.81	3.77	6.66	3.82	5.10	3.51	4.91	3.20	5.32	3.36
17	7.58	3.98	6.17	3.63	5.69	3.70	4.87	3.45	5.20	3.27	5.27	3.37
18	7.14	3.88	5.29	3.61	4.85	3.68	4.91	3.51	5.48	3.78	5.17	3.38
19	6.46	3.80	4.50	3.52	4.71	3.79	5.50	3.53	5.73	3.89	5.01	3.66
20	5.64	3.73	4.10	3.49	4.90	4.03	5.24	3.44	5.22	3.51	5.09	3.89
21	5.14	3.69	4.56	3.48	5.12	3.96	5.21	3.51	5.54	3.59	4.81	3.50
22	4.82	3.66	4.95	3.50	5.10	3.84	5.83	3.51	5.78	3.31	5.30	3.45
23	4.59	3.61	5.31	3.48	5.41	3.77	6.30	3.63	5.97	3.25	5.73	3.49
24	4.93	3.60	5.64	3.51	5.40	3.73	6.58	3.65	6.40	3.29	5.88	3.55
25	5.52	3.66	5.97	3.54	6.08	3.69	6.92	3.71	6.56	3.27	6.37	3.93
26	5.85	3.73	6.03	3.57	6.71	3.81	6.91	3.73	6.29	3.30	6.48	3.68
27	6.16	3.79	6.33	3.63	6.73	3.84	7.27	3.75	6.07	3.33	6.58	3.57
28	6.51	3.86	6.70	3.76	6.81	3.83	6.81	3.71	6.08	3.33	6.61	3.55
29	6.65	3.89	6.77	3.81	6.94	3.83	6.23	3.64	---	---	6.53	3.50
30	6.54	3.86	6.82	3.83	6.87	3.79	5.65	3.61	---	---	6.41	3.44
31	6.57	3.83	---	---	6.73	3.77	5.34	3.53	---	---	6.15	3.36
MONTH	7.79	3.37	7.96	3.48	7.91	3.63	7.27	3.44	7.61	3.20	6.61	3.25

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GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

11046050 SANTA MARGARITA RIVER AT MOUTH NEAR OCEANSIDE, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1993 to September 1994.

pH: October 1993 to September 1994.

WATER TEMPERATURE: October 1993 to September 1994.

DISSOLVED OXYGEN: October 1993 to September 1994.

INSTRUMENTATION.--Water-quality monitor since October 1993.

REMARKS.--Interruptions in record at times due to malfunction of recording equipment.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 50,500 microsiemens, June 12, 13; minimum recorded, 540 microsiemens, Feb. 8.

pH: Maximum recorded, 8.9 standard units, May 16, 28, 31, June 1; minimum recorded, 6.2 standard units, Nov. 26.

WATER TEMPERATURE: Maximum recorded, 29.5°C, Aug. 17, 18; minimum recorded, 6.5°C, Feb. 14, 15.

DISSOLVED OXYGEN: Maximum recorded, 19.0 mg/l, Jan. 18; minimum recorded, 0.0 mg/l, May 19, Aug. 29.

## SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	48200	34600	46600	39300	45300	9220	46700	5010	---	---
2	---	---	47100	36600	46900	38400	45700	3680	---	---	---	---
3	---	---	49300	36900	47000	39400	36400	4820	---	---	---	---
4	---	---	49300	43100	46000	41200	44700	2020	48600	1650	---	---
5	---	---	46300	43000	44600	38700	47900	2020	45500	786	---	---
6	---	---	46200	41400	47100	38700	48200	3260	42700	786	---	---
7	---	---	46800	40600	47100	40100	46100	5730	48900	650	---	---
8	---	---	47000	40800	47200	38300	44600	4550	690	540	---	---
9	---	---	47900	40800	47000	38300	46500	4550	44500	620	---	---
10	---	---	48200	40800	48100	40300	48600	8700	47600	1330	---	---
11	---	---	49500	41400	48900	40300	48100	26400	---	---	---	---
12	---	---	49400	37300	48800	37700	47400	26800	---	---	---	---
13	---	---	49200	38200	48700	21700	45000	16400	---	---	---	---
14	---	---	49200	39900	48100	32700	45100	5410	---	---	---	---
15	---	---	49000	39900	47700	32400	45600	8410	---	---	---	---
16	---	---	49000	42500	46200	31100	44200	27000	---	---	---	---
17	---	---	47900	40100	46600	37700	---	---	---	---	---	---
18	---	---	43900	39400	46300	39800	40000	11400	---	---	---	---
19	---	---	44500	39400	47500	41600	---	---	---	---	---	---
20	---	---	43900	39500	46900	36000	---	---	---	---	---	---
21	---	---	42800	38800	42100	24600	---	---	---	---	---	---
22	---	---	46500	37200	41700	24600	46700	18700	---	---	---	---
23	---	---	47200	36400	44200	37400	46400	11800	---	---	---	---
24	---	---	47700	36400	44300	36600	49100	11800	---	---	---	---
25	---	---	---	---	47600	30200	48600	7220	---	---	---	---
26	---	---	---	---	47600	32400	48300	5490	---	---	---	---
27	---	---	47800	41000	48900	24700	48700	3540	---	---	---	---
28	---	---	48000	40400	49000	16600	48500	2930	---	---	---	---
29	49700	43900	48100	41700	48600	21900	43100	7290	---	---	---	---
30	49200	43300	46800	40200	46800	5490	47700	4850	---	---	---	---
31	48200	42500	---	---	45800	11800	47700	10400	---	---	---	---
MONTH	---	---	49500	34600	49000	5490	---	---	---	---	---	---

## 11046050 SANTA MARGARITA RIVER AT MOUTH NEAR OCEANSIDE, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	23200	2200	30900	1150	45100	36600	47400	39300	49000	46400
2	---	---	19500	2090	38200	1600	48200	38400	48800	40600	49000	44600
3	---	---	8110	4310	47000	18200	48900	38500	49000	42800	48700	44300
4	---	---	41800	3520	48600	8940	49100	37700	49000	45300	48100	44800
5	---	---	---	---	49600	12700	48300	38100	48900	44800	48200	44200
6	---	---	45100	1040	49300	6890	48600	42200	47900	44600	49000	43900
7	---	---	43500	1260	48900	8670	48800	43600	48500	44000	49300	43900
8	---	---	44100	1890	47100	13800	48400	41400	49000	43600	49400	42100
9	---	---	38900	12400	46100	13200	48900	43200	49000	42700	49400	43200
10	---	---	40200	3900	49800	40800	49100	42100	48700	40900	48100	44400
11	---	---	43300	2090	50200	39800	49100	43800	47500	44400	48900	42700
12	---	---	45700	2080	50500	32100	48900	43600	48800	43800	48300	41300
13	---	---	47300	5760	50500	32400	48000	43100	49300	28500	46200	41300
14	---	---	47300	1860	48100	31500	48100	42100	49200	28500	48900	44500
15	---	---	46400	2420	47200	28800	48700	39700	48900	38900	49200	40400
16	---	---	38500	1810	42500	35000	48200	41400	49400	40300	49100	43000
17	---	---	31300	1680	44000	35700	48300	40900	49700	39700	48000	43100
18	---	---	17700	1680	49200	41000	49300	39700	49600	41200	47800	41700
19	---	---	30500	4800	50300	42800	48800	39600	49200	42200	47800	41900
20	25800	4130	42800	3550	50300	41100	48900	42900	48500	43200	48400	41700
21	42200	4130	46700	6160	50300	44400	49200	44800	48900	41100	49000	42600
22	46100	9240	47600	6110	49500	44100	48500	43500	48900	40800	49100	40400
23	47300	5260	46300	11700	49100	43900	48900	42300	48900	39900	48700	40000
24	47200	7860	46400	5380	49100	42500	49100	43100	48600	39700	---	---
25	43400	2640	41300	7180	49600	40400	49100	42300	46900	40200	44600	37600
26	45400	2050	46000	6160	49600	42600	48700	42500	46000	35400	---	---
27	46400	1390	47000	9390	49600	41700	46700	42200	45100	35400	---	---
28	47100	1510	47000	12000	47800	40300	46400	40300	47300	37000	---	---
29	47100	2330	44700	13600	47600	40200	47000	40300	45900	39500	---	---
30	42700	1410	36900	14500	45600	37800	47200	36300	44900	34700	---	---
31	---	---	31300	7710	---	---	45800	39400	47200	41500	---	---
MONTH	---	---	---	---	50500	1150	49300	36300	49700	28500	---	---

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	8.2	7.9	8.1	7.8	8.5	8.1	8.5	8.1	---	---
2	---	---	8.2	8.0	8.1	7.9	8.4	8.1	8.3	7.5	---	---
3	---	---	8.2	8.0	8.1	7.9	8.3	8.0	8.5	8.1	---	---
4	---	---	8.2	8.0	8.0	7.9	8.5	8.0	8.5	8.0	---	---
5	---	---	8.3	8.0	8.0	7.8	8.5	7.9	8.5	8.0	---	---
6	---	---	8.3	8.0	8.0	7.8	8.5	7.8	8.6	8.1	---	---
7	---	---	8.2	7.9	8.1	7.7	8.6	7.8	8.3	8.0	---	---
8	---	---	8.1	7.9	8.0	7.7	8.4	8.1	8.2	8.1	---	---
9	---	---	8.1	7.9	7.9	7.7	8.4	8.1	8.6	8.1	---	---
10	---	---	8.2	7.9	8.0	7.7	8.5	8.1	8.5	8.2	---	---
11	---	---	8.1	7.8	8.0	7.8	8.3	7.9	8.7	8.1	---	---
12	---	---	8.1	7.9	8.0	7.7	8.4	8.0	8.6	8.1	---	---
13	---	---	8.1	7.9	8.0	7.7	8.5	8.0	8.6	7.4	---	---
14	---	---	8.1	7.8	8.0	7.8	8.4	8.1	8.5	7.9	---	---
15	---	---	8.1	7.9	8.1	7.8	8.5	8.1	8.6	7.6	---	---
16	---	---	8.1	7.9	8.0	7.8	8.6	8.1	8.6	8.1	---	---
17	---	---	8.1	7.8	8.0	7.7	8.4	8.1	8.7	8.1	---	---
18	---	---	7.9	7.8	7.9	7.7	8.5	8.0	---	---	---	---
19	---	---	7.9	7.8	7.9	7.7	8.3	6.9	---	---	---	---
20	---	---	7.9	7.8	8.1	7.7	8.3	7.5	---	---	---	---
21	---	---	7.9	7.7	8.1	8.0	8.4	7.8	---	---	---	---
22	---	---	7.9	7.7	8.1	8.0	8.5	8.1	---	---	---	---
23	---	---	8.0	7.7	8.2	8.0	8.7	8.2	---	---	---	---
24	---	---	8.1	7.0	8.2	7.9	8.6	8.1	---	---	---	---
25	---	---	8.1	7.0	8.3	7.9	8.4	8.2	---	---	---	---
26	---	---	8.1	6.2	8.2	8.0	8.7	8.1	---	---	---	---
27	---	---	8.1	7.2	8.2	8.0	8.5	8.1	---	---	---	---
28	---	---	8.1	7.9	8.3	8.0	8.6	8.1	---	---	---	---
29	8.2	8.0	8.1	7.9	8.4	8.0	8.6	8.0	---	---	---	---
30	8.1	8.0	8.1	7.8	8.5	8.2	8.7	8.1	---	---	---	---
31	8.2	7.9	---	---	8.5	8.1	8.5	8.1	---	---	---	---
MONTH	---	---	8.3	6.2	8.5	7.7	8.7	6.9	---	---	---	---

## SANTA MARGARITA RIVER BASIN

11046050 SANTA MARGARITA RIVER AT MOUTH NEAR OCEANSIDE, CA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.7	8.0	8.9	8.2	8.3	7.9	8.0	7.7	8.2	7.9
2	---	---	8.8	8.0	8.5	8.0	8.1	7.9	8.1	7.7	8.3	7.8
3	---	---	8.8	8.3	8.8	8.0	8.2	7.9	8.1	7.7	8.4	7.9
4	---	---	8.5	8.1	8.8	8.0	8.2	7.9	8.1	7.7	8.4	7.9
5	---	---	8.6	8.1	8.4	8.0	8.2	7.9	8.1	7.7	8.5	7.8
6	---	---	8.7	8.1	8.4	8.1	8.2	7.9	8.1	7.7	8.5	7.9
7	---	---	8.5	8.1	8.3	8.1	8.2	7.9	8.0	7.7	8.4	7.8
8	---	---	8.5	8.1	8.4	8.1	8.0	7.8	8.1	7.6	8.3	7.9
9	---	---	8.6	8.1	8.4	8.1	8.1	7.8	8.2	7.6	8.3	7.8
10	---	---	8.5	8.1	8.4	7.8	8.1	7.7	8.1	7.7	8.4	7.7
11	---	---	8.6	8.1	8.3	7.8	8.1	7.7	8.2	7.6	8.2	7.8
12	---	---	8.7	8.0	8.3	7.8	8.1	7.7	8.3	7.7	8.1	7.9
13	---	---	8.7	8.0	8.4	7.8	8.1	7.7	8.3	7.8	8.0	7.8
14	---	---	8.8	8.0	8.3	7.8	8.2	7.9	8.2	7.7	8.1	7.8
15	8.4	8.1	8.7	8.0	8.3	7.8	8.2	7.9	8.2	7.7	8.2	7.8
16	8.5	8.0	8.9	8.0	8.4	7.9	8.2	7.9	8.1	7.7	8.2	7.8
17	8.6	8.1	8.7	8.0	8.4	8.0	8.1	7.8	8.0	7.8	8.2	7.9
18	8.6	8.2	8.6	8.2	8.3	8.0	8.1	7.8	8.1	7.8	8.4	7.8
19	8.6	8.2	8.6	8.0	8.3	7.9	8.2	7.8	8.2	7.8	8.3	7.8
20	8.7	8.2	8.6	7.9	8.4	7.9	8.2	7.8	8.4	7.8	8.4	7.9
21	8.7	8.1	8.7	7.9	8.3	7.9	8.2	7.7	8.4	7.8	8.4	7.8
22	8.8	8.1	8.7	8.0	8.3	8.0	8.1	7.8	8.4	7.8	8.4	7.8
23	8.5	8.1	8.6	7.8	8.3	8.0	8.2	7.7	8.5	8.0	8.4	7.8
24	8.7	8.2	8.6	8.0	8.4	7.9	8.2	7.8	8.5	8.0	8.3	7.9
25	8.6	8.2	8.5	7.9	8.4	8.2	8.2	7.8	8.4	7.9	8.3	7.9
26	8.7	8.1	8.7	7.9	8.6	7.9	8.3	7.8	8.3	7.9	8.3	7.8
27	8.2	8.2	8.7	7.9	8.4	7.9	8.1	7.8	8.2	7.7	---	---
28	8.4	8.1	8.9	7.8	8.3	8.0	8.1	7.8	8.3	7.9	---	---
29	8.8	8.1	8.8	7.7	8.2	8.0	8.0	7.8	8.1	7.8	---	---
30	8.6	8.1	8.6	7.8	8.3	8.0	8.0	7.8	8.0	7.8	---	---
31	---	---	8.9	8.1	---	---	8.0	7.7	8.1	7.8	---	---
MONTH	---	---	8.9	7.7	8.9	7.8	8.3	7.7	8.5	7.6	---	---

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	19.5	16.5	17.0	14.0	14.5	8.5	13.5	8.0	---	---
2	---	---	19.0	16.0	16.0	11.5	16.0	8.5	15.5	8.5	---	---
3	---	---	18.0	12.5	16.5	13.5	17.0	9.5	14.5	11.5	---	---
4	---	---	17.5	13.0	16.0	12.0	16.5	12.5	17.5	12.5	---	---
5	---	---	17.0	13.5	16.0	12.5	17.5	13.0	18.5	13.5	---	---
6	---	---	18.0	14.0	17.0	14.5	16.5	10.0	17.5	15.0	---	---
7	---	---	19.5	16.0	16.0	14.0	15.0	7.5	15.5	14.0	---	---
8	---	---	19.5	17.0	15.0	13.5	14.5	7.5	15.0	12.5	---	---
9	---	---	19.0	15.5	16.0	14.0	15.0	10.0	16.0	11.0	---	---
10	---	---	18.5	17.0	16.0	14.0	15.5	9.0	15.5	10.5	---	---
11	---	---	18.0	17.0	16.5	15.0	15.0	9.0	15.5	11.5	---	---
12	---	---	17.0	16.0	15.5	14.0	15.0	7.0	15.0	8.5	---	---
13	---	---	17.0	14.0	15.0	13.5	15.5	8.5	15.0	7.5	---	---
14	---	---	16.5	15.5	15.0	12.5	16.0	12.0	15.5	6.5	---	---
15	---	---	16.0	13.0	15.5	13.0	16.5	10.0	16.5	6.5	---	---
16	---	---	16.0	13.0	15.0	12.5	17.0	10.0	15.5	9.0	---	---
17	---	---	16.0	12.5	14.5	12.5	16.5	8.0	15.0	13.0	---	---
18	---	---	16.5	13.5	14.5	11.5	17.5	9.5	---	---	---	---
19	---	---	17.0	13.0	15.0	13.0	17.0	11.0	---	---	---	---
20	---	---	16.0	13.5	15.5	13.5	16.5	11.0	---	---	---	---
21	---	---	15.0	12.5	14.0	12.0	16.0	11.0	---	---	---	---
22	---	---	16.5	15.0	14.5	12.0	17.5	12.0	---	---	---	---
23	---	---	18.0	16.0	14.5	10.5	18.0	12.5	---	---	---	---
24	---	---	17.5	12.0	14.0	9.0	17.0	15.0	---	---	---	---
25	---	---	16.5	12.0	15.0	9.0	16.5	14.5	---	---	---	---
26	---	---	15.5	12.0	14.0	12.0	16.5	12.0	---	---	---	---
27	---	---	14.5	11.0	15.5	12.0	15.0	11.0	---	---	---	---
28	---	---	16.0	11.5	15.5	12.5	14.5	8.5	---	---	---	---
29	18.5	16.0	16.0	13.5	15.5	12.0	14.5	11.0	---	---	---	---
30	19.5	16.5	17.5	15.5	15.0	10.0	15.0	7.0	---	---	---	---
31	19.0	17.0	---	---	14.5	11.0	15.5	9.0	---	---	---	---
MONTH	---	---	19.5	11.0	17.0	9.0	18.0	7.0	---	---	---	---

## 11046050 SANTA MARGARITA RIVER AT MOUTH NEAR OCEANSIDE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	24.0	16.5	27.0	17.0	27.0	23.5	27.0	23.5	27.0	24.0
2	---	---	23.0	16.0	26.0	19.5	26.0	24.0	27.5	23.0	27.0	23.0
3	---	---	23.0	17.0	25.5	20.5	27.5	23.5	27.5	22.5	27.5	23.0
4	---	---	21.0	14.5	25.0	20.0	27.0	23.0	27.5	22.0	27.5	23.0
5	---	---	21.0	16.5	25.0	20.0	27.5	23.0	27.5	22.5	27.5	22.5
6	---	---	21.5	16.0	23.5	18.0	27.5	22.0	27.5	22.5	27.5	22.5
7	---	---	21.5	15.0	23.0	18.5	27.5	22.5	26.0	22.0	27.0	22.0
8	---	---	22.0	15.0	24.5	20.0	25.0	21.0	26.0	22.0	26.0	21.5
9	---	---	23.5	15.5	25.0	20.5	24.5	20.5	28.5	22.0	26.0	21.0
10	---	---	22.0	16.5	22.5	20.0	26.0	20.5	29.0	23.5	25.5	21.5
11	---	---	20.5	17.0	21.0	19.0	26.5	20.5	29.0	24.5	25.5	23.0
12	---	---	21.0	17.5	24.0	19.0	26.5	21.0	27.5	24.5	25.0	22.0
13	---	---	22.0	17.5	24.5	19.5	26.5	21.0	29.0	22.0	24.5	21.5
14	---	---	22.5	18.0	23.0	20.5	26.5	22.5	29.0	26.0	24.0	20.5
15	20.0	15.5	21.5	18.0	24.0	20.5	26.5	23.5	28.0	23.5	25.5	20.0
16	20.0	16.5	24.0	17.5	26.5	22.0	26.0	22.0	29.0	24.5	25.0	20.5
17	20.0	16.5	22.5	16.5	26.5	21.0	25.5	23.5	29.5	25.0	25.0	21.5
18	21.0	16.0	23.0	16.5	26.5	21.0	24.5	19.5	29.5	24.5	25.0	21.0
19	23.5	17.5	23.5	16.5	26.5	20.5	25.0	19.0	29.0	24.0	25.0	21.0
20	22.0	18.0	25.0	16.0	26.5	20.5	24.5	19.0	29.0	24.0	24.0	20.0
21	20.5	16.5	25.0	17.0	26.0	20.5	25.0	20.0	28.0	23.5	23.5	19.5
22	21.5	16.5	23.5	18.0	26.5	20.0	24.5	20.5	27.0	22.5	23.5	19.0
23	23.5	18.0	24.0	17.0	26.0	20.0	24.5	19.5	26.5	20.5	24.0	19.0
24	21.0	17.0	20.5	18.0	26.5	20.5	26.0	19.0	28.0	23.0	23.5	18.0
25	18.5	13.5	20.0	17.0	27.0	20.0	26.0	19.0	28.0	23.5	24.0	16.0
26	19.5	13.0	22.5	18.0	27.0	20.0	26.5	21.0	25.5	23.5	21.0	17.5
27	19.5	14.0	23.0	18.0	27.5	21.0	25.5	22.0	27.5	23.0	---	---
28	23.0	13.5	25.0	17.0	28.0	23.0	26.0	22.5	28.5	23.0	---	---
29	24.5	14.0	25.0	20.0	27.0	24.5	25.0	22.5	27.5	24.5	---	---
30	21.5	16.5	24.0	20.5	26.5	24.5	23.5	21.0	27.5	23.5	---	---
31	---	---	25.0	18.5	---	---	26.5	22.5	26.5	24.5	---	---
MONTH	---	---	25.0	14.5	28.0	17.0	27.5	19.0	29.5	20.5	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	10.2	6.7	10.8	6.8	12.4	8.7	12.6	8.2	---	---
2	---	---	10.3	7.2	10.1	8.5	11.6	6.8	---	---	---	---
3	---	---	10.3	8.4	10.1	8.3	10.3	5.7	---	---	---	---
4	---	---	9.9	8.2	10.0	8.2	11.0	6.3	11.8	6.8	---	---
5	---	---	9.8	8.5	9.2	7.6	11.7	5.3	9.0	5.6	---	---
6	---	---	9.6	7.5	9.3	7.8	11.5	6.3	9.6	5.6	---	---
7	---	---	9.8	7.5	9.9	7.8	12.2	7.6	9.3	5.6	---	---
8	---	---	10.3	6.6	10.4	8.1	11.5	8.1	10.1	9.2	---	---
9	---	---	10.2	7.1	10.5	8.1	11.0	7.9	10.5	7.6	---	---
10	---	---	9.4	7.1	10.0	7.6	12.2	7.7	13.0	7.9	---	---
11	---	---	10.5	8.1	9.8	7.6	13.7	8.1	---	---	---	---
12	---	---	10.1	8.0	10.1	7.7	12.2	7.8	---	---	---	---
13	---	---	9.7	7.5	10.5	7.7	11.1	6.7	---	---	---	---
14	---	---	9.5	7.7	10.9	8.7	12.3	7.1	---	---	---	---
15	---	---	10.1	7.6	10.7	9.0	13.6	7.6	---	---	---	---
16	---	---	9.9	7.4	10.7	8.1	16.3	7.1	---	---	---	---
17	---	---	9.9	7.6	10.4	7.7	---	---	---	---	---	---
18	---	---	9.4	7.1	8.2	6.3	19.0	6.7	---	---	---	---
19	---	---	9.0	7.1	8.8	7.4	---	---	---	---	---	---
20	---	---	9.7	7.8	9.8	7.4	---	---	---	---	---	---
21	---	---	9.2	6.9	9.2	7.8	---	---	---	---	---	---
22	---	---	8.3	6.9	8.9	7.1	16.3	7.7	---	---	---	---
23	---	---	8.8	6.0	9.0	8.0	15.2	8.2	---	---	---	---
24	---	---	10.6	6.1	9.1	7.7	17.3	7.8	---	---	---	---
25	---	---	---	---	8.7	7.7	13.4	8.7	---	---	---	---
26	---	---	---	---	8.8	7.3	14.9	6.7	---	---	---	---
27	---	---	10.7	9.7	9.9	6.2	11.7	6.7	---	---	---	---
28	10.2	8.6	10.7	9.7	11.2	8.4	14.6	8.1	---	---	---	---
29	10.2	8.0	10.6	9.2	11.5	8.4	13.7	7.9	---	---	---	---
30	10.6	7.9	10.7	6.4	12.5	7.4	12.4	7.8	---	---	---	---
31	10.1	7.2	---	---	12.2	8.1	12.6	7.8	---	---	---	---
MONTH	---	---	---	---	12.5	6.2	---	---	---	---	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]



WATER-QUALITY RECORDS

DISSOLVED OXYGEN: Maximum recorded, 17.7 mg/l, Aug. 3; minimum recorded, 0.0 mg/l, Aug. 2, 3, 16, 19.

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	39900	2370	39200	2120	---	---	52100	49400	50800	49200
2	---	---	30400	2180	41400	1640	---	---	52100	50400	51000	48800
3	---	---	26400	1650	44100	1800	---	---	52900	50200	50700	48800
4	---	---	32800	1980	48300	18200	---	---	52300	50100	51000	48800
5	---	---	35100	1640	49500	38100	---	---	52100	50200	51000	49600
6	---	---	35100	1740	---	---	---	---	52300	50300	51300	49600
7	---	---	42200	2070	---	---	---	---	---	---	51200	49500
8	---	---	45400	2950	---	---	---	---	51900	48300	51000	49400
9	---	---	46200	1970	51100	50700	---	---	51600	49000	51000	49000
10	---	---	46200	2420	51600	50800	---	---	51500	49500	51200	49200
11	---	---	45700	2050	51600	50700	---	---	51300	49400	51100	48200
12	---	---	46100	2620	51500	50500	---	---	51600	49300	51000	47900
13	42400	1790	46100	2030	---	---	---	---	51700	49500	51000	48000
14	43800	1510	46900	1720	---	---	---	---	---	---	50900	48700
15	45700	1640	44700	1840	---	---	---	---	51100	48500	50700	48700
16	41600	1710	38400	1650	---	---	---	---	51100	49000	50800	48200
17	35800	1460	38700	1760	---	---	---	---	50800	48900	50600	49400
18	28000	1320	31400	1760	---	---	---	---	51300	49100	50800	49200
19	20700	1430	35300	1840	51500	50900	52100	50800	51500	49200	50500	49000
20	24200	1390	44300	1910	52100	50700	52400	50400	51500	49500	50300	49000
21	41700	1510	47500	3220	52100	50900	---	---	51700	50000	50300	48400
22	45600	2740	48100	3650	52300	49000	---	---	51500	49700	50300	48600
23	48300	3430	48100	5020	---	---	---	---	50900	48800	50300	48200
24	48400	2670	47100	16500	---	---	---	---	50500	48100	50300	47900
25	47100	4160	45800	19700	---	---	52700	50900	50700	43500	50100	47500
26	45900	13100	47400	22900	---	---	52600	50900	51100	43500	49900	48100
27	48200	10700	47400	14400	---	---	51900	50500	---	---	49500	46900
28	46400	2770	48100	4780	---	---	52100	49900	---	---	---	---
29	47900	1760	46500	9000	---	---	51800	49200	50100	47200	---	---
30	45700	1980	42100	2370	---	---	50800	50000	49900	48100	---	---
31	---	---	39600	1980	---	---	51100	48800	50500	48300	---	---
MONTH	---	---	48100	1640	---	---	---	---	---	---	---	---

## SANTA MARGARITA RIVER BASIN

331346117243401 SANTA MARGARITA RIVER ESTUARY NEAR OCEANSIDE, CA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.3	7.5	8.4	7.6	8.2	8.0	8.2	7.7	8.1	7.7
2	---	---	8.2	7.5	8.3	7.4	8.1	7.7	8.4	7.7	8.4	7.8
3	---	---	8.3	7.5	8.1	7.3	8.1	7.7	8.7	7.7	8.4	7.8
4	---	---	8.3	7.5	8.1	7.3	8.0	7.7	8.5	7.6	8.4	7.8
5	---	---	8.2	7.5	7.9	7.4	8.0	7.6	8.6	7.6	8.3	7.7
6	---	---	8.3	7.6	7.8	6.6	8.0	7.7	8.5	7.5	8.2	7.7
7	---	---	8.3	7.5	7.9	7.5	8.1	7.6	8.0	7.6	8.2	7.8
8	---	---	8.3	7.4	7.8	7.4	8.1	7.7	8.5	7.5	8.1	7.8
9	---	---	8.2	7.5	7.7	7.3	8.1	7.8	8.4	7.6	8.1	7.8
10	---	---	8.1	7.5	7.6	7.3	8.0	7.8	8.3	7.8	8.1	7.7
11	---	---	7.9	7.5	7.6	7.3	8.1	7.8	8.1	7.7	8.0	7.7
12	---	---	8.0	7.6	7.9	7.3	8.1	7.8	8.0	7.6	8.0	7.7
13	8.2	7.6	8.2	7.5	7.8	7.3	8.1	7.7	8.0	7.6	7.9	7.7
14	8.2	7.3	8.1	7.4	8.0	7.5	8.1	7.6	7.9	6.6	8.0	7.7
15	8.2	7.3	8.1	7.5	8.0	7.5	8.1	7.8	7.8	7.4	8.2	7.7
16	8.2	7.4	8.3	7.6	8.0	7.2	8.0	7.4	8.0	7.5	8.2	7.7
17	8.2	7.3	8.3	7.6	7.9	7.4	8.0	7.7	8.2	7.5	8.2	7.7
18	8.1	7.4	8.3	7.6	7.9	7.5	8.0	7.7	8.4	7.5	8.2	7.7
19	8.1	7.4	8.3	7.6	7.9	7.6	8.4	7.8	8.3	7.5	8.2	7.7
20	8.1	7.3	8.4	7.7	7.9	7.5	9.0	7.5	8.2	7.4	8.2	7.7
21	8.0	7.4	8.4	7.6	7.9	7.5	8.0	7.9	8.1	7.5	8.1	7.7
22	8.2	7.4	8.2	7.6	8.5	7.5	8.0	7.7	8.1	7.5	8.1	7.8
23	8.2	7.4	8.3	7.6	8.1	8.0	8.0	7.9	8.1	7.6	8.1	7.7
24	8.4	7.5	7.9	7.4	8.1	7.8	8.0	7.8	8.1	7.6	8.1	7.8
25	8.1	7.5	8.1	7.6	8.1	7.8	8.7	7.6	8.0	7.6	8.1	7.8
26	7.9	7.3	7.9	7.5	8.2	7.6	8.6	7.8	7.9	7.7	7.9	7.7
27	8.1	7.7	7.9	7.5	8.0	7.6	8.3	7.8	7.9	7.6	8.1	7.7
28	8.1	7.5	8.0	7.7	8.1	7.8	8.5	8.0	7.9	7.7	---	---
29	8.2	7.5	8.0	7.5	8.1	7.7	8.3	7.9	7.8	7.6	---	---
30	8.0	7.4	8.1	7.5	8.1	7.1	8.3	7.8	8.0	7.5	---	---
31	---	---	8.5	7.5	---	---	8.2	7.7	8.0	7.8	---	---
MONTH	---	---	8.5	7.4	8.5	6.6	9.0	7.4	8.7	6.6	---	---

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	25.0	19.5	30.0	18.0	27.5	21.0	29.5	22.5	29.5	24.0
2	---	---	24.5	19.0	28.0	20.5	27.0	21.5	29.5	23.5	30.5	22.5
3	---	---	25.5	18.5	27.5	22.0	28.0	21.0	31.5	23.5	31.5	23.0
4	---	---	24.5	18.5	31.5	23.5	27.5	20.0	31.0	23.0	31.0	23.0
5	---	---	24.0	18.5	29.0	22.0	28.0	19.5	31.0	23.0	30.0	22.5
6	---	---	25.5	17.0	24.5	18.5	26.0	18.0	33.0	23.0	29.5	23.0
7	---	---	25.5	17.5	25.5	17.5	26.0	19.5	26.0	21.0	29.0	22.0
8	---	---	26.0	18.0	26.0	19.0	25.0	20.0	30.0	22.0	28.5	21.5
9	---	---	26.5	19.0	28.0	22.0	24.0	19.5	32.0	22.5	28.0	21.5
10	---	---	23.0	20.0	24.5	22.0	24.0	20.0	32.0	23.5	27.5	21.0
11	---	---	21.5	19.0	23.0	21.0	24.5	19.5	31.5	24.0	28.0	22.5
12	---	---	22.0	19.0	27.0	20.0	25.5	19.0	30.0	25.5	27.0	22.5
13	26.0	21.5	24.5	18.5	28.0	20.5	27.0	19.0	31.5	24.5	27.0	21.5
14	25.0	19.0	23.5	20.0	24.0	20.0	29.5	19.0	31.5	25.5	26.0	21.0
15	25.0	18.5	22.5	20.0	26.5	20.0	29.0	18.5	31.0	25.5	29.5	21.0
16	22.5	19.5	26.0	19.0	29.5	20.5	29.5	16.5	30.0	25.5	29.5	21.0
17	23.0	19.0	24.0	19.0	29.5	17.5	27.5	19.5	32.5	25.5	30.0	23.0
18	26.5	19.0	26.0	19.0	29.5	17.0	23.5	19.5	33.5	26.0	28.5	22.5
19	25.0	19.5	25.5	20.0	28.5	21.5	28.0	19.0	32.5	24.5	28.5	22.5
20	24.5	19.0	26.0	20.0	26.5	23.0	30.0	21.0	32.5	22.5	27.5	21.0
21	22.5	18.5	26.0	18.5	26.5	22.5	25.0	18.5	30.5	22.0	27.5	20.5
22	25.5	18.5	25.0	19.0	31.5	21.0	23.5	19.0	29.5	19.5	27.0	20.5
23	25.0	18.5	26.0	19.5	27.0	18.5	23.5	18.5	29.0	19.0	27.0	20.5
24	22.5	16.0	22.0	18.5	25.5	19.5	26.0	17.5	30.5	21.5	26.5	21.5
25	18.5	15.0	22.5	18.5	25.0	18.0	30.0	21.0	30.0	21.5	27.5	21.0
26	22.0	14.5	22.0	19.0	27.0	20.0	30.5	22.5	26.5	21.5	24.5	21.0
27	22.5	15.5	25.0	19.0	27.5	21.5	28.0	23.0	30.0	21.5	26.5	20.5
28	24.5	17.0	26.5	18.5	31.0	21.0	29.0	23.5	31.5	21.5	---	---
29	25.0	17.0	27.0	22.0	30.5	21.5	25.5	22.5	30.5	20.0	---	---
30	23.5	19.5	23.0	20.0	26.5	21.0	25.0	20.0	29.0	22.0	---	---
31	---	---	26.5	20.0	---	---	29.0	21.0	28.0	24.5	---	---
MONTH	---	---	27.0	17.0	31.5	17.0	30.5	16.5	33.5	19.0	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	14.1	4.3	13.6	2.3	---	---	6.5	.1	9.5	.6
2	---	---	14.2	3.9	12.2	1.2	---	---	9.3	.0	12.1	.6
3	---	---	13.6	3.9	12.4	2.2	---	---	17.7	.0	12.8	.5
4	---	---	12.4	3.3	9.0	1.7	---	---	14.7	.1	13.0	.5
5	---	---	11.5	4.0	8.1	2.1	---	---	15.1	.1	9.4	.7
6	---	---	13.2	4.9	---	---	---	---	13.3	.1	8.8	.5
7	---	---	12.9	4.2	---	---	---	---	---	---	8.6	.4
8	---	---	11.5	4.2	---	---	---	---	14.5	.3	8.2	1.2
9	---	---	12.1	3.7	8.1	.4	---	---	12.1	1.2	7.9	.9
10	---	---	11.3	2.8	6.2	.5	---	---	11.5	2.4	8.2	.7
11	---	---	11.1	3.3	5.6	1.1	---	---	10.7	1.3	7.3	.9
12	---	---	11.6	3.2	7.8	1.2	---	---	8.6	.7	6.4	.9
13	15.5	7.1	13.0	2.9	---	---	---	---	7.0	1.0	6.1	1.2
14	15.3	4.6	13.2	3.5	---	---	---	---	---	---	7.1	.8
15	14.5	5.4	11.9	3.7	---	---	---	---	6.3	.1	11.2	.7
16	13.7	5.6	12.8	3.3	---	---	---	---	9.2	.0	11.0	.9
17	13.3	5.7	13.3	3.8	---	---	---	---	12.6	.1	10.6	.7
18	13.5	5.9	13.4	3.8	---	---	---	---	13.7	.1	9.4	.4
19	12.7	6.4	13.3	3.5	7.8	2.0	12.3	4.4	12.7	.0	10.0	.6
20	13.8	6.0	13.3	2.2	6.9	1.5	16.3	.3	12.6	.1	9.8	1.1
21	13.1	4.3	13.4	2.3	7.0	1.7	---	---	12.7	.9	9.9	1.3
22	14.1	4.1	12.3	2.6	10.7	1.1	---	---	12.8	.7	9.7	1.2
23	14.0	3.4	12.5	2.9	---	---	---	---	11.6	2.2	9.5	.9
24	12.4	3.3	6.4	1.8	---	---	---	---	11.1	2.2	9.1	1.1
25	11.7	3.5	8.6	2.9	---	---	15.3	.2	10.4	2.9	8.1	.8
26	10.2	3.8	9.6	3.8	---	---	14.1	1.9	6.4	2.3	5.4	1.4
27	10.7	4.7	8.9	3.6	---	---	10.2	1.7	---	---	7.4	1.3
28	12.9	4.9	11.1	4.1	---	---	12.6	.7	---	---	---	---
29	13.7	4.6	8.3	2.5	---	---	9.0	.2	8.1	3.1	---	---
30	12.7	3.4	10.6	3.0	---	---	10.0	2.5	6.2	.7	---	---
31	---	---	12.9	2.2	---	---	7.2	.2	5.6	.7	---	---
MONTH	---	---	14.2	1.8	---	---	---	---	---	---	---	---

## 111046100 LAS FLORES CREEK NEAR OCEANSIDE, CA

LOCATION.--Lat 33°17'32", long 117°27'21", NW 1/4 SE 1/4 sec.24, T.10 S., R.6 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on upstream side and at center of the Southern Pacific Railroad bridge, 0.5 mi upstream from mouth, and 8.5 mi northwest of Oceanside.

DRAINAGE AREA.--26.6 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1951 to September 1967, October 1969 to September 1979, and October 1993 to September 1994.

REVISED RECORDS.--WDR CA-72-1: 1971(M).

GAGE.--Water-stage recorder and multiple concrete culvert control. Elevation of gage is 35 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation upstream from station. Some pumping upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft<sup>3</sup>/s, Mar. 4, 1978, gage height, 13.67 ft, estimated, from floodmarks, based on culvert computation of peak flow; no flow for several days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a stage of 7.25 ft, from floodmarks, discharge, 4,200 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft<sup>3</sup>/s, Feb. 17, gage height, 0.63 ft; no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	.04	.04	.09	.19	.09	.01	.01	.02	.01	.01
2	.01	.02	.04	.04	.11	.19	.09	.02	.01	.02	.01	.01
3	.01	.02	.03	.05	.09	.19	.09	.02	.01	.02	.01	.01
4	.01	.02	.02	.04	.14	.19	.08	.02	.01	.02	.01	.01
5	.01	.02	.03	.04	.19	.16	.08	.02	.01	.01	.01	.01
6	.02	.02	.03	.05	1.2	.21	.07	.02	.01	.01	.01	.01
7	.02	.02	.02	.05	1.2	3.3	.07	.02	.01	.01	.01	.01
8	.02	.02	.02	.05	1.2	.84	.06	.02	.00	.01	.01	.01
9	.02	.02	.02	.06	1.1	.64	.06	.01	.01	.01	.01	.01
10	.02	.02	.02	.05	.94	.43	.05	.01	.01	.01	.01	.01
11	.02	.02	.05	.05	.94	.24	.04	.01	.01	.01	.01	.01
12	.02	.03	.06	.04	.74	.19	.04	.01	.01	.01	.01	.01
13	.02	.03	.04	.05	.74	.16	.03	.01	.01	.01	.01	.01
14	.02	.04	.05	.06	.84	.14	.02	.02	.01	.01	.01	.00
15	.02	.04	.10	.07	.74	.14	.02	.02	.01	.01	.01	.00
16	.02	.03	.08	.07	.74	.14	.02	.02	.01	.01	.01	.00
17	.02	.03	.06	.08	2.3	.14	.04	.02	.01	.01	.01	.00
18	.02	.03	.06	.21	.94	.14	.03	.01	.01	.01	.01	.00
19	.02	.03	.07	.12	.84	1.1	.03	.01	.01	.01	.01	.00
20	.02	.03	.06	.04	2.3	.94	.03	.01	.01	.01	.01	.00
21	.02	.03	.04	.05	.74	.34	.03	.01	.01	.01	.01	.00
22	.02	.03	.03	.08	.64	.24	.03	.01	.01	.01	.01	.00
23	.02	.06	.04	.08	.64	.19	.02	.01	.01	.01	.01	.00
24	.02	.04	.05	.09	.38	.30	.02	.01	.01	.01	.01	.00
25	.02	.03	.06	.08	.24	.83	.02	.01	.01	.01	.01	.01
26	.02	.03	.06	.04	.21	.34	.03	.01	.01	.01	.01	.01
27	.01	.02	.05	.05	.21	.19	.03	.01	.02	.01	.01	.01
28	.01	.02	.04	.05	.21	.14	.02	.01	.02	.01	.01	.01
29	.01	.02	.04	.07	---	.12	.02	.01	.02	.01	.01	.01
30	.01	.06	.04	.06	---	.10	.01	.01	.02	.01	.01	.01
31	.01	---	.04	.06	---	.09	---	.01	---	.01	.01	---
TOTAL	0.52	0.85	1.39	1.97	20.65	12.55	1.27	0.42	0.33	0.35	0.31	0.19
MEAN	.017	.028	.045	.064	.74	.40	.042	.014	.011	.011	.010	.006
MAX	.02	.06	.10	.21	2.3	3.3	.09	.02	.02	.02	.01	.01
MIN	.01	.02	.02	.04	.09	.09	.01	.01	.00	.01	.01	.00
AC-FT	1.0	1.7	2.8	3.9	41	25	2.5	.8	.7	.7	.6	.4

## 11046100 LAS FLORES CREEK NEAR OCEANSIDE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.004	.23	.82	2.78	2.45	6.69	1.58	.050	.006	.015	.016	.034
MAX	.036	4.81	12.9	29.4	36.3	143	29.3	.92	.058	.35	.36	.64
(WY)	1970	1966	1967	1978	1978	1978	1958	1978	1979	1979	1979	1979
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1954	1954	1963	1961	1955	1953	1953	1952	1952	1952	1952

## SUMMARY STATISTICS

## FOR 1994 WATER YEAR

## WATER YEARS 1952 - 1994

ANNUAL TOTAL	40.80		
ANNUAL MEAN	.11	1.22	
HIGHEST ANNUAL MEAN		17.9	1978
LOWEST ANNUAL MEAN		.006	1961
HIGHEST DAILY MEAN	3.3	Mar 7	927
LOWEST DAILY MEAN	.00	Jun 8	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 14	.00
INSTANTANEOUS PEAK FLOW	14	Feb 17	7300
INSTANTANEOUS PEAK STAGE	.63	Feb 17	13.67
ANNUAL RUNOFF (AC-FT)	81		885
10 PERCENT EXCEEDS	.21		.10
50 PERCENT EXCEEDS	.02		.00
90 PERCENT EXCEEDS	.01		.00

## 11046300 SAN MATEO CREEK NEAR SAN CLEMENTE, CA

LOCATION.--Lat 33°28'15", long 117°28'20", in SE 1/4 NE 1/4 sec.23, T.8 S., R.6 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on left bank 0.4 mi downstream from mouth of Devil Canyon and 8.6 miles northeast of San Clemente.

DRAINAGE AREA.--80.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1952 to September 1967, October 1993 to September 1994. Discharge records for October 1967 to September 1977 and October 1989 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 405 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft<sup>3</sup>/s, Dec. 6, 1966, gage height, 10.45 ft, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 10.14 ft; no flow for several days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge 9,240 ft<sup>3</sup>/s, gage height 11.12 ft, Jan. 25, 1969.

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)
Feb. 8	0245	*353	*4.83	Feb. 20	2345	156	4.15

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.57	1.3	2.2	2.5	7.1	7.5	4.1	1.6	.00	.00	.00
2	.29	.61	1.4	2.2	2.5	6.6	6.9	3.9	1.5	.00	.00	.00
3	.29	.58	1.4	2.1	2.5	6.5	6.2	3.6	1.4	.00	.00	.00
4	.31	.56	1.3	2.1	5.5	6.1	5.8	3.4	1.3	.00	.00	.00
5	.37	.56	1.3	2.1	6.8	5.9	5.5	3.2	1.2	.00	.00	.00
6	.40	.60	1.5	2.1	5.8	6.5	5.0	3.2	1.2	.00	.00	.00
7	.40	.67	1.6	2.1	37	8.1	4.9	3.1	1.1	.00	.00	.00
8	.47	.71	1.8	2.1	229	8.5	4.8	3.0	1.0	.00	.00	.00
9	.53	.72	1.8	2.1	45	7.7	5.5	3.0	.95	.00	.00	.00
10	.53	.76	1.8	2.1	18	6.8	6.3	3.0	.92	.00	.00	.00
11	.60	1.1	2.7	2.1	11	6.5	4.9	3.0	.92	.00	.00	.00
12	.64	1.9	5.6	2.1	8.3	5.9	4.2	3.0	.93	.00	.00	.00
13	.64	1.5	3.2	2.0	7.0	5.4	3.8	3.0	.91	.00	.00	.00
14	.62	1.3	3.0	2.0	6.3	4.9	3.6	3.0	.88	.00	.00	.00
15	.60	1.1	3.7	2.0	5.8	4.7	3.6	3.0	.90	.00	.00	.00
16	.64	1.1	3.2	2.0	5.3	4.6	3.4	3.0	.91	.00	.00	.00
17	.72	1.0	2.7	2.0	20	4.3	3.2	3.0	.86	.00	.00	.00
18	.72	1.1	2.5	2.0	50	4.2	3.2	3.5	.80	.00	.00	.00
19	.70	1.1	2.8	2.0	76	13	2.9	3.4	.73	.00	.00	.00
20	.68	1.1	2.8	2.0	70	22	2.8	3.1	.68	.00	.00	.00
21	.57	1.1	2.6	2.0	81	11	2.8	2.8	.63	.00	.00	.00
22	.53	1.1	2.5	2.0	31	8.8	2.8	2.6	.59	.00	.00	.00
23	.50	1.4	2.3	2.0	20	7.7	2.7	2.5	.52	.00	.00	.00
24	.50	1.6	2.3	2.0	15	8.2	3.7	2.5	.42	.00	.00	.00
25	.50	1.4	2.1	6.0	12	83	4.1	2.6	.31	.00	.00	.00
26	.50	1.3	2.2	5.3	9.8	36	9.5	2.8	.22	.00	.00	.00
27	.47	1.2	2.3	3.9	9.2	20	10	2.8	.14	.00	.00	.00
28	.45	1.3	2.4	3.3	8.0	14	6.5	2.5	.06	.00	.00	.00
29	.47	1.2	2.3	2.9	---	10	5.1	2.1	.00	.00	.00	.00
30	.52	1.3	2.3	2.8	---	9.2	4.5	1.9	.00	.00	.00	.00
31	.53	---	2.2	2.6	---	8.3	---	1.8	---	.00	.00	---
TOTAL	15.98	31.54	72.9	76.2	800.3	361.5	145.7	91.4	23.58	0.00	0.00	0.00
MEAN	.52	1.05	2.35	2.46	28.6	11.7	4.86	2.95	.79	.000	.000	.000
MAX	.72	1.9	5.6	6.0	229	83	10	4.1	1.6	.00	.00	.00
MIN	.29	.56	1.3	2.0	2.5	4.2	2.7	1.8	.00	.00	.00	.00
AC-FT	32	63	145	151	1590	717	289	181	47	.00	.00	.00

## 11046300 SAN MATEO CREEK NEAR SAN CLEMENTE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.032	4.50	13.8	11.8	14.2	15.1	22.4	3.16	.83	.15	.001	.000
MAX	.52	69.4	164	40.7	55.2	128	270	18.5	5.57	1.53	.019	.000
(WY)	1994	1966	1967	1954	1958	1958	1958	1958	1967	1967	1958	1953
MIN	.000	.000	.000	.000	.089	.035	.007	.000	.000	.000	.000	.000
(WY)	1953	1954	1954	1963	1961	1961	1961	1961	1960	1953	1953	1953

## SUMMARY STATISTICS

## FOR 1994 WATER YEAR

## WATER YEARS 1953 - 1994

ANNUAL TOTAL	1619.10		
ANNUAL MEAN	4.44	7.11	
HIGHEST ANNUAL MEAN		39.7	1958
LOWEST ANNUAL MEAN		.019	1961
HIGHEST DAILY MEAN	229	Feb 8	2570
LOWEST DAILY MEAN	.00	Jun 29	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 29	.00
INSTANTANEOUS PEAK FLOW	353	Feb 8	7300
INSTANTANEOUS PEAK STAGE	4.83	Feb 8	10.45
ANNUAL RUNOFF (AC-FT)	3210		5150
10 PERCENT EXCEEDS	7.6		9.6
50 PERCENT EXCEEDS	1.4		.00
90 PERCENT EXCEEDS	.00		.00

11046360 CHRISTIANITOS CREEK ABOVE SAN MATEO CREEK NEAR SAN CLEMENTE, CA

LOCATION.--Lat 33°25'35", long 117°34'10", in SW 1/4 SW 1/4 sec.36, T.8 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on each of two major channels of Christianitos Creek, at San Mateo Creek Road crossing, 0.5 mi upstream from confluence with San Mateo Creek, and 2.3 mi east of San Clemente.

DRAINAGE AREA.--31.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1993 to September 1994.

GAGE.--Two water-stage recorders (one on each of two channels) and culvert controls. Elevation of gage is 90 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49 ft<sup>3</sup>/s, Mar. 24, 1994; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 16, 1952, reached a discharge of 1,800 ft<sup>3</sup>/s, gage height of 8.86 ft, datum then in use, at site 1.8 mi upstream (station 11046350), on basis of slope-area measurement.

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

Date	Time	Combined Discharge (north and south channels) (ft <sup>3</sup> /s)
Mar. 24	2315	*49

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00
2	e.00	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00
3	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	e.00	e.00	e.00	.00	1.8	.28	.00	.00	.00	.00	.00	.00
8	e.00	e.00	e.00	.00	.37	.00	.00	.00	.00	.00	.00	.00
9	e.00	e.00	e.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
10	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	e.00	e.00	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.00
18	e.00	e.00	.00	.00	.97	.00	.00	.00	.00	.00	.00	.00
19	e.00	e.00	.00	.00	.26	.79	.00	.00	.00	.00	.00	.00
20	e.00	e.00	.00	.00	5.4	.67	.00	.00	.00	.00	.00	.00
21	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
22	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
23	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
24	e.00	e.00	.00	.00	e.00	4.6	.00	.00	.00	.00	.00	.00
25	e.00	e.00	.00	.00	e.00	6.2	.00	.00	.00	.00	.00	.00
26	e.00	e.00	.00	.00	e.00	.01	.00	.00	.00	.00	.00	.00
27	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
28	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
29	e.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	e.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	e.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	11.71	12.55	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.42	.40	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	5.4	6.2	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	23	25	.00	.00	.00	.00	.00	.00

e Estimated.



11046360 CHRISTIANITOS CREEK ABOVE SAN MATEO CREEK NEAR SAN CLEMENTE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.000	.000	.42	.40	.000	.000	.000	.000	.000	.000
MAX	.000	.000	.000	.000	.42	.40	.000	.000	.000	.000	.000	.000
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994
MIN	.000	.000	.000	.000	.42	.40	.000	.000	.000	.000	.000	.000
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

## SUMMARY STATISTICS

## FOR 1994 WATER YEAR

ANNUAL TOTAL	24.26
ANNUAL MEAN	.066
HIGHEST DAILY MEAN	6.2 Mar 25
LOWEST DAILY MEAN	.00 Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1
INSTANTANEOUS PEAK FLOW	49 Mar 24
ANNUAL RUNOFF (AC-FT)	48
10 PERCENT EXCEEDS	.00
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

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>.

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 poor. 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)
Feb. 8	Unknown	576	15.90	Mar. 25	0315	*638	*15.01
Feb. 17	Unknown	Unknown	Unknown				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.5	5.5	4.6	e7.1	e10	e9.5	9.5	2.5	.00	.00	.00
2	2.3	2.7	4.4	4.9	e5.6	e9.5	9.6	8.6	2.3	.00	.00	.00
3	2.4	2.7	4.1	5.1	e6.7	e9.2	7.8	7.7	2.2	.00	.00	.00
4	2.7	2.3	4.0	5.6	e16	e8.4	6.3	7.3	2.5	.00	.00	.00
5	2.7	2.2	4.6	5.6	e14	e8.2	6.2	7.0	2.5	.00	.00	.00
6	2.6	2.2	5.6	5.2	e9.0	e8.0	5.7	6.9	2.7	.00	.00	.00
7	2.7	2.2	5.6	4.7	e7.9	e35	5.8	8.4	2.6	.00	.00	.00
8	2.4	2.1	4.6	4.3	e180	e23	6.3	9.0	2.2	.00	.00	.00
9	2.4	2.4	4.2	4.2	e70	e15	6.9	8.4	2.1	.00	.00	.00
10	2.4	2.9	3.9	3.8	e40	e13	7.9	7.8	2.0	.00	.00	.00
11	2.8	20	8.6	4.2	e35	e11	7.8	7.4	1.8	.00	.00	.00
12	2.7	22	21	4.9	e30	e10	7.3	6.9	1.7	.00	.00	.00
13	2.7	14	16	4.6	e35	e10	6.8	6.7	1.7	.00	.00	.00
14	2.7	11	15	4.7	e20	e8.5	6.7	6.7	1.5	.00	.00	.00
15	2.7	11	17	5.0	e16	e8.0	6.7	6.3	1.5	.00	.00	.00
16	3.1	10	14	3.9	e13	e7.5	6.7	6.3	1.2	.00	.00	.00
17	2.7	8.9	12	3.5	e12	e7.0	6.4	6.2	.76	.00	.00	.00
18	2.5	8.0	11	3.9	e100	e7.0	5.7	6.3	.48	.00	.00	.00
19	2.2	7.1	12	4.2	e90	e80	4.5	6.1	.52	.00	.00	.00
20	2.6	5.8	11	4.0	e80	e50	4.0	5.9	.47	.00	.00	.00
21	2.4	5.3	9.2	4.2	e40	e25	4.2	5.9	.44	.00	.00	.00
22	2.4	5.1	8.8	4.5	e30	e15	4.1	5.2	.53	.00	.00	.00
23	2.4	5.6	8.0	4.5	e20	e7.0	3.8	5.2	.98	.00	.00	.00
24	2.3	5.3	6.9	4.7	e18	e35	5.6	4.4	1.2	.00	.00	.00
25	2.1	4.9	6.3	12	e16	e160	7.2	4.0	1.1	.00	.00	.00
26	2.1	4.3	6.6	13	e14	e100	14	3.8	.64	.00	.00	.00
27	1.8	3.4	6.5	14	e13	e50	24	3.8	.07	.00	.00	.00
28	1.6	3.6	6.3	13	e12	e35	19	3.7	.00	.00	.00	.00
29	1.6	3.6	5.9	e11	---	e20	13	3.2	.00	.00	.00	.00
30	2.0	5.5	5.8	e9.4	---	e15	11	2.8	.00	.00	.00	.00
31	2.3	---	5.4	e7.9	---	e12	---	2.4	---	.00	.00	---
TOTAL	74.5	188.6	259.8	189.1	950.3	812.3	240.5	189.8	40.19	0.00	0.00	0.00
MEAN	2.40	6.29	8.38	6.10	33.9	26.2	8.02	6.12	1.34	.000	.000	.000
MAX	3.1	22	21	14	180	160	24	9.5	2.7	.00	.00	.00
MIN	1.6	2.1	3.9	3.5	5.6	7.0	3.8	2.4	.00	.00	.00	.00
AC-FT	148	374	515	375	1880	1610	477	376	80	.00	.00	.00

e Estimated.

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.31	1.33	3.68	68.7	70.0	35.8	9.78	3.75	1.40	.42	.24	.22
MAX	2.40	6.29	9.29	590	502	109	46.6	21.3	8.58	3.08	2.16	1.98
(WY)	1994	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1986 - 1994			
ANNUAL TOTAL	38775.0				2945.09							
ANNUAL MEAN	106				8.07				16.0			
HIGHEST ANNUAL MEAN									106			
LOWEST ANNUAL MEAN									.61			
HIGHEST DAILY MEAN	3860				180				3860			
LOWEST DAILY MEAN	1.1				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	1.2				.00				.00			
INSTANTANEOUS PEAK FLOW					638				8320			
INSTANTANEOUS PEAK STAGE					15.01				18.64			
ANNUAL RUNOFF (AC-FT)	76910				5840				11620			
10 PERCENT EXCEEDS	209				15				11			
50 PERCENT EXCEEDS	7.9				4.1				.41			
90 PERCENT EXCEEDS	2.2				.00				.00			

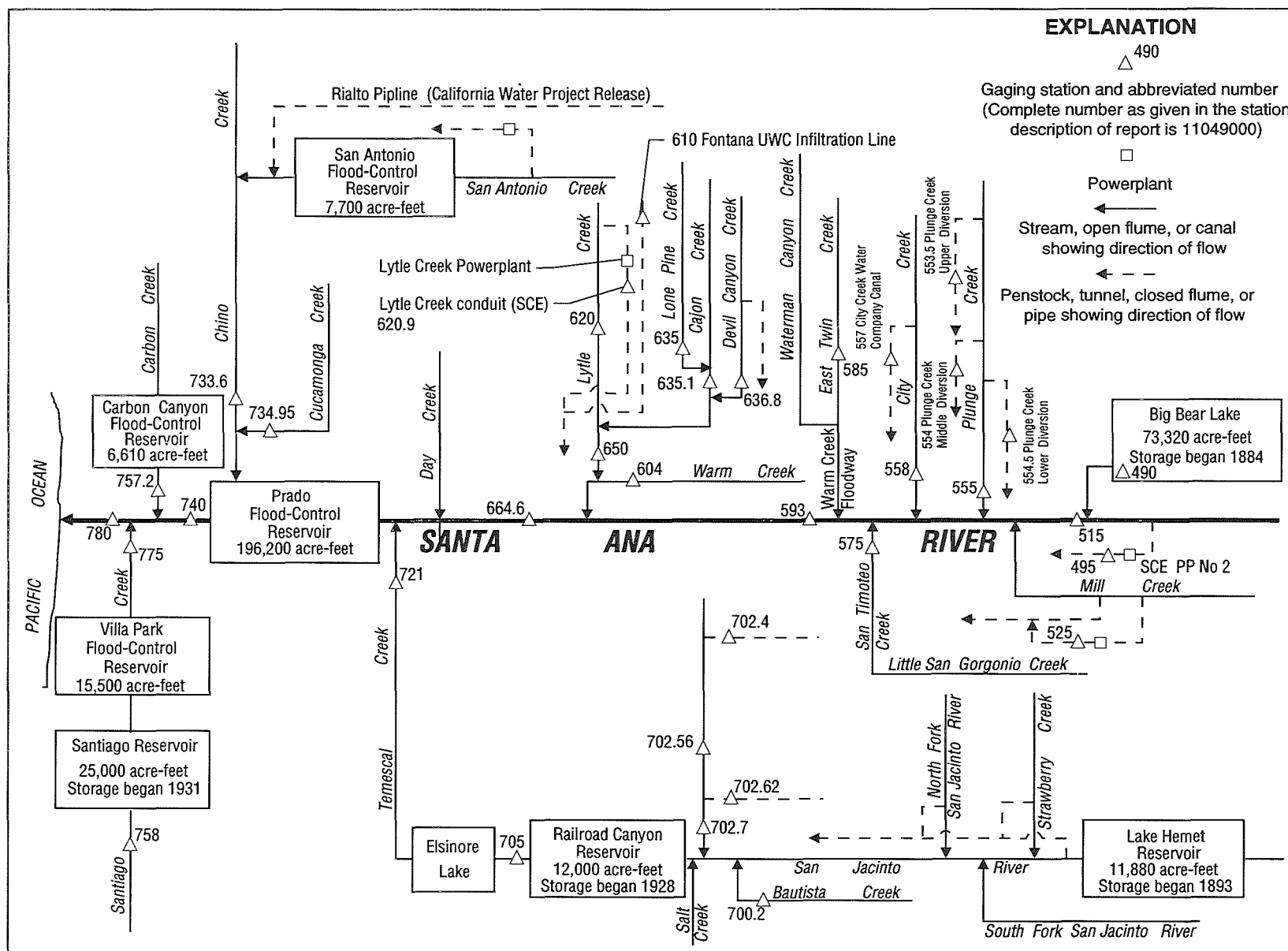


Figure 19. Diversions and storage in Santa Ana River basin.

## 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. During the year, 1,440 acre-ft was released for irrigation. Between November 1993 and March 1994, 838 acre-ft was pumped from the lake for snowmaking. 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, 72,360 acre-ft, May 9, 12; minimum contents observed, 64,840 acre-ft, Sept. 26.

## MONTHEND CONTENTS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

Date	Contents (acre-feet)	Changes in Contents (acre-feet)
Sept. 30.....	68,270	--
Oct. 31.....	67,270	-1,000
Nov. 30.....	66,830	-440
Dec. 31.....	66,400	-430
CAL YR 1993.....	--	a --
Jan. 31.....	66,120	-280
Feb. 28.....	68,850	+2,730
Mar. 31.....	71,330	+2,480
Apr. 30.....	72,210	+880
May 31.....	71,920	-290
June 30.....	70,450	-1,470
July 31.....	68,850	-1,600
Aug. 31.....	66,980	-1,870
Sept. 30.....	64,840	-2,140
WTR YR 1994.....	--	-3,430

a Lake frozen at beginning of 1993.

## SANTA ANA RIVER BASIN

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 except for estimated daily discharges, which are poor. 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 (station 11049500), which diverts upstream from station, see (station 11051501. 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.

COOPERATION.--Records for Southern California Edison Co.'s Canal near Mentone (station 11049500) were provided 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.--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, 439 ft<sup>3</sup>/s, Feb. 8, gage height, 7.83 ft; minimum daily, 0.13 ft<sup>3</sup>/s, Sept. 5.

Combined river and canal: Maximum discharge, 440 ft<sup>3</sup>/s, Feb. 8; minimum daily, 11.0 ft<sup>3</sup>/s, Aug. 29, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e11	e8.0	6.7	7.4	6.4	9.3	9.6	8.3	5.0	1.4	.33	.42
2	e10	e8.0	6.1	7.4	6.2	8.8	9.4	8.2	4.7	1.4	.33	.23
3	e9.0	7.4	12	7.2	6.0	9.0	9.0	8.5	4.7	1.5	.29	.23
4	e9.0	7.4	9.3	6.9	13	9.0	9.0	8.3	4.8	1.7	.28	.17
5	e10	7.4	7.6	6.6	12	8.7	9.0	8.0	4.8	1.9	.31	.13
6	e9.7	7.4	6.7	6.4	11	9.4	9.0	9.2	4.8	2.0	.33	.14
7	e9.2	7.4	6.4	6.6	88	10	9.0	11	4.8	2.0	.33	1.5
8	8.4	7.4	6.4	6.9	279	9.9	9.0	10	4.7	1.7	.30	4.8
9	7.9	7.1	6.4	6.9	78	9.2	9.8	8.2	4.3	1.3	.25	.76
10	8.0	6.9	6.4	6.9	20	8.9	9.8	7.3	4.4	.95	.33	.49
11	7.8	10	8.3	6.9	18	9.0	9.3	6.9	4.4	.82	.29	.43
12	7.4	10	13	6.9	36	8.7	9.0	6.9	4.4	.71	.23	.38
13	7.1	9.4	8.6	6.9	13	8.4	8.8	6.9	4.4	.74	.23	.36
14	7.8	9.5	9.4	6.9	11	8.5	8.5	6.6	4.4	.72	.23	.33
15	8.3	13	10	6.9	9.8	8.5	8.1	6.0	4.8	.68	.23	.33
16	8.6	9.5	9.1	6.9	9.5	8.5	6.9	5.7	4.7	.73	.23	.37
17	9.0	8.6	8.5	6.9	30	8.5	6.9	5.3	4.4	.66	.28	e.36
18	8.7	8.0	8.5	6.9	40	7.9	6.8	8.0	4.4	.62	.28	e.34
19	8.3	7.8	8.5	6.9	15	126	6.4	7.0	4.4	.52	.28	e.32
20	8.2	7.4	8.3	6.9	24	106	6.4	6.3	4.4	.52	.18	e.30
21	8.3	7.4	8.0	6.9	26	53	6.4	5.8	3.8	.53	.16	e.30
22	8.2	7.4	7.9	6.9	17	24	6.4	5.6	2.8	.66	.16	e.28
23	7.9	7.1	7.4	6.9	15	17	6.8	5.5	2.0	.59	.16	e.26
24	7.9	6.9	7.4	6.9	13	14	7.7	5.2	2.0	.51	.16	e.26
25	e7.8	6.9	8.6	11	12	49	8.0	5.2	1.7	.52	.16	e.25
26	e8.0	6.9	9.4	9.9	11	46	11	5.2	1.5	.59	.16	e.25
27	e10	6.8	8.2	8.9	11	39	9.2	5.2	1.4	.98	.16	e.24
28	e7.7	6.4	7.9	8.5	9.6	31	9.0	5.1	1.4	.75	.16	e.24
29	e7.6	6.4	7.4	8.3	---	13	9.4	5.3	1.3	.28	.35	e.24
30	e7.0	7.3	7.4	7.4	---	10	8.8	5.6	1.3	.32	4.6	e.24
31	e14	---	7.4	7.4	---	9.9	---	5.5	---	.33	.60	---
TOTAL	267.8	237.1	253.2	227.2	840.5	698.1	252.4	211.8	110.9	28.63	12.37	14.95
MEAN	8.64	7.90	8.17	7.33	30.0	22.5	8.41	6.83	3.70	.92	.40	.50
MAX	14	13	13	11	279	126	11	11	5.0	2.0	4.6	4.8
MIN	7.0	6.4	6.1	6.4	6.0	7.9	6.4	5.1	1.3	.28	.16	.13
AC-FT	531	470	502	451	1670	1380	501	420	220	57	25	30

e Estimated.

## 11051500 SANTA ANA RIVER NEAR MENTONE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.81	8.38	25.8	40.4	80.2	91.6	64.0	44.9	21.1	11.1	6.22	6.27
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1915 - 1994			
ANNUAL TOTAL	64615.1				3154.95				32.2			
ANNUAL MEAN	177				8.64				283			
HIGHEST ANNUAL MEAN									.012			
LOWEST ANNUAL MEAN									15500			
HIGHEST DAILY MEAN	2820				279				Mar 2			
LOWEST DAILY MEAN	6.1				.13				Sep 5			
ANNUAL SEVEN-DAY MINIMUM	6.7				.16				Aug 21			
INSTANTANEOUS PEAK FLOW					439				Feb 8			
INSTANTANEOUS PEAK STAGE					7.83				Feb 8			
ANNUAL RUNOFF (AC-FT)	128200				6260				23360			
10 PERCENT EXCEEDS	452				11				72			
50 PERCENT EXCEEDS	76				6.9				1.7			
90 PERCENT EXCEEDS	7.7				.30				.00			

## SANTA ANA RIVER BASIN

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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e68	e56	55	49	54	67	73	66	49	27	39	25
2	e67	e56	54	49	54	67	71	65	48	27	38	25
3	e66	56	45	49	54	67	71	63	47	27	33	24
4	e64	56	56	49	82	68	70	62	47	27	29	24
5	e60	56	56	49	70	68	69	62	46	28	27	24
6	e60	55	55	48	62	68	68	65	47	27	26	25
7	e59	55	54	48	129	71	69	67	46	27	27	11
8	60	54	53	48	280	70	69	64	45	29	28	20
9	61	54	53	48	122	66	73	63	43	27	33	24
10	70	55	52	48	99	65	70	59	41	27	31	23
11	62	70	58	48	74	63	65	58	40	28	29	23
12	60	65	70	48	70	60	63	60	40	28	30	24
13	59	60	56	48	70	58	63	59	40	27	35	24
14	58	60	57	48	65	58	62	57	40	28	33	29
15	59	55	59	53	63	58	62	56	42	25	31	32
16	62	59	55	55	61	58	62	57	41	28	29	37
17	62	59	53	56	85	58	63	58	39	29	30	e37
18	62	57	52	57	97	59	62	63	38	30	30	e37
19	59	57	54	57	83	182	62	60	37	31	29	e37
20	58	55	53	57	95	160	61	57	36	31	28	e38
21	57	55	53	58	94	114	61	55	40	31	28	e38
22	57	57	52	57	82	106	61	53	39	30	28	e36
23	56	58	51	58	77	105	60	52	36	29	27	e35
24	56	56	48	58	73	102	67	51	35	28	26	e33
25	e55	56	49	65	72	140	68	52	34	28	26	e32
26	e54	56	51	61	70	131	82	51	32	28	26	e31
27	e52	55	54	58	71	126	72	50	29	27	28	e31
28	e55	53	52	55	70	121	71	49	29	27	26	e31
29	e56	54	50	55	---	89	72	49	28	36	11	e31
30	e57	57	50	53	---	76	68	51	27	39	21	e32
31	e55	---	50	54	---	74	---	51	---	39	27	---
TOTAL	1846	1707	1660	1644	2378	2675	2010	1785	1181	900	889	873
MEAN	59.5	56.9	53.5	53.0	84.9	86.3	67.0	57.6	39.4	29.0	28.7	29.1
MAX	70	70	70	65	280	182	82	67	49	39	39	38
MIN	52	53	45	48	54	58	60	49	27	25	11	11
AC-FT	3660	3390	3290	3260	4720	5310	3990	3540	2340	1790	1760	1730

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.4	45.6	59.1	90.9	122	132	117	98.9	73.7	63.0	57.3	54.9
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1912 - 1994

ANNUAL TOTAL	85739	19548	
ANNUAL MEAN	235	53.6	
HIGHEST ANNUAL MEAN			80.1
LOWEST ANNUAL MEAN			366
HIGHEST DAILY MEAN	2820	Jan 16	18.6
LOWEST DAILY MEAN	45	Dec 3	16000
ANNUAL SEVEN-DAY MINIMUM	51	Dec 24	5.3
INSTANTANEOUS PEAK FLOW			8.1
ANNUAL RUNOFF (AC-FT)	170100	440	52300
10 PERCENT EXCEEDS	476	38770	58040
50 PERCENT EXCEEDS	165	71	134
90 PERCENT EXCEEDS	55	55	49
		27	24



## 11052500 MILL CREEK POWER CANALS NOS. 2 AND 3 NEAR YUCAIPA, CA

LOCATION.--Lat 34°05'18", long 117°02'19", in NW 1/4 NE 1/4 sec.13, T.1 S., R.2 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 600 ft downstream from bridge on Mill Creek Road and 3.9 mi north of Yucaipa.

PERIOD OF RECORD.--October 1973 to September 1986, October 1993 to September 1994. Records for January 1919 to September 1973 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 2,930 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Mill Creek Power Canals Nos. 2 and 3 divert from points 3 mi and 6 mi upstream from station, respectively. Canal No. 2, damaged during earthquake in 1992, was not used during the 1994 Water Year. Due to construction at confluence area of canals 2 and 3 (AVM in process of being installed), auxiliary gage was used for Canal No. 3, near intake. See schematic diagram of Santa Ana River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 32 ft<sup>3</sup>/s, May 15, 1983; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	19	18	16	15	18	23	23	23	17	13	13
2	24	18	18	16	15	19	24	23	23	17	13	13
3	25	19	18	16	15	20	24	24	23	17	13	13
4	25	13	18	16	18	20	24	25	22	16	14	13
5	25	19	18	16	16	21	24	25	22	16	13	13
6	18	19	18	16	16	21	24	25	22	16	13	13
7	22	19	18	16	12	20	25	25	22	16	13	13
8	22	19	18	16	1.4	19	25	24	22	16	13	13
9	21	19	18	16	.13	20	24	24	21	16	13	13
10	21	19	17	16	8.9	20	22	24	21	15	13	13
11	21	20	18	16	15	21	22	25	21	15	13	13
12	22	20	19	16	15	20	22	25	21	15	14	13
13	21	19	18	16	15	20	22	25	21	15	18	13
14	21	19	18	16	15	21	23	25	21	15	16	13
15	21	18	18	16	15	21	23	25	20	15	8.9	13
16	22	19	18	15	15	21	24	25	20	15	5.4	13
17	22	19	18	15	8.9	22	25	25	20	15	9.9	12
18	21	19	17	15	9.8	22	25	25	20	15	10	12
19	21	19	17	15	17	6.6	23	25	20	15	9.5	12
20	21	19	17	15	16	7.8	18	24	19	15	7.2	12
21	21	19	17	15	16	11	19	24	19	14	8.7	12
22	21	20	17	15	16	17	18	24	19	14	11	12
23	20	20	16	15	16	23	19	24	19	14	13	12
24	20	19	16	15	17	23	20	24	18	14	14	12
25	20	19	17	16	17	24	20	24	18	5.2	14	12
26	20	19	17	16	17	24	19	24	18	5.9	14	12
27	19	18	17	16	18	23	19	24	17	13	14	12
28	20	18	17	16	18	23	18	24	17	14	13	12
29	20	18	17	16	---	23	20	24	17	14	13	12
30	20	18	16	16	---	24	22	23	17	14	13	12
31	20	---	16	16	---	24	---	23	---	13	13	---
TOTAL	661	562	540	487	394.13	619.4	660	753	603	447.1	383.6	376
MEAN	21.3	18.7	17.4	15.7	14.1	20.0	22.0	24.3	20.1	14.4	12.4	12.5
MAX	25	20	19	16	18	24	25	25	23	17	18	13
MIN	18	13	16	15	.13	6.6	18	23	17	5.2	5.4	12
AC-FT	1310	1110	1070	966	782	1230	1310	1490	1200	887	761	746

## 11052500 MILL CREEK POWER CANALS NOS. 2 AND 3 NEAR YUCAIPA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.8	17.0	16.5	16.9	17.2	19.8	21.9	22.9	21.7	19.0	18.0	17.8
MAX	26.8	23.5	23.9	26.6	27.8	30.1	29.9	28.9	28.7	29.2	30.2	27.9
(WY)	1981	1979	1979	1979	1979	1979	1980	1980	1979	1980	1980	1978
MIN	9.77	8.43	9.86	13.3	12.4	13.7	15.6	15.9	12.4	11.5	9.10	10.4
(WY)	1988	1989	1989	1976	1976	1976	1977	1989	1989	1989	1989	1988

## SUMMARY STATISTICS

## FOR 1994 WATER YEAR

## WATER YEARS 1974 - 1994

ANNUAL TOTAL	6486.23		
ANNUAL MEAN	17.8	18.9	
HIGHEST ANNUAL MEAN		26.2	1979
LOWEST ANNUAL MEAN		12.6	1989
HIGHEST DAILY MEAN	25	Oct 3	
LOWEST DAILY MEAN	.13	Feb 9	
ANNUAL SEVEN-DAY MINIMUM	8.5	Aug 15	
ANNUAL RUNOFF (AC-FT)	12870		13670
10 PERCENT EXCEEDS	24		28
50 PERCENT EXCEEDS	18		18
90 PERCENT EXCEEDS	13		12

## 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 (station 11055450), 1.0 (station 11055400), and 2.5 mi (station 11055350) upstream from streamflow 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 Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Combined creek and diversions Discharge (ft <sup>3</sup> /s)
Feb. 7	2300	*213	*4.31	*214

Creek only: No flow for several days.

Combined creek and diversions: Minimum daily, 0.73 ft<sup>3</sup>/s, July 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.26	1.4	1.7	2.8	7.6	6.9	5.3	1.4	.00	.00	.00
2	.05	.17	2.3	2.3	2.8	7.5	6.6	4.5	1.3	.00	.00	.00
3	.06	.04	1.8	1.5	2.9	7.4	6.3	2.7	1.5	.00	.00	.00
4	.09	.04	1.5	1.1	7.0	7.2	6.1	2.1	1.8	.00	.00	.00
5	.12	.04	2.0	1.2	5.8	7.2	5.8	2.1	1.1	.00	.00	.00
6	.24	.04	2.1	1.2	4.4	7.6	5.5	2.6	1.2	.00	.00	.00
7	.30	.04	2.1	1.1	32	7.9	5.7	6.9	.86	.00	.00	.00
8	.37	.07	2.2	1.8	61	7.3	5.8	5.7	.51	.00	.00	.00
9	.41	.08	2.1	2.3	18	6.9	7.0	4.3	.40	.00	.00	.00
10	.33	.09	2.1	1.5	11	6.5	6.5	3.2	.21	.00	.00	.00
11	.40	2.1	2.8	1.1	9.1	6.4	5.0	3.9	.20	.00	.00	.00
12	.40	1.5	4.1	.92	8.0	6.0	3.9	3.6	.22	.00	.00	.00
13	.37	.53	2.9	1.0	7.5	5.8	2.9	3.1	.22	.00	.00	.00
14	.39	.62	2.3	1.1	7.1	5.7	2.6	2.8	.20	.00	.00	.00
15	.42	.36	2.9	1.8	6.6	5.6	2.6	2.7	.25	.00	.00	.00
16	.56	.31	2.6	2.1	6.2	5.3	2.4	2.6	.27	.00	.00	.00
17	.86	.36	4.2	1.5	12	5.2	2.3	2.5	.19	.00	.00	.00
18	.57	.46	4.0	1.1	10	5.2	2.2	3.2	.14	.00	.00	.00
19	.40	.48	4.3	1.0	8.9	20	2.1	2.6	.10	.00	.00	.00
20	.33	.31	4.2	1.7	17	16	2.1	2.3	.04	.00	.00	.00
21	.22	.32	4.0	2.1	17	10	2.2	2.1	.00	.00	.00	.00
22	.11	.33	4.0	2.1	12	8.3	2.1	2.0	.00	.00	.00	.00
23	.09	.41	3.8	2.1	11	7.8	2.0	1.9	.00	.00	.00	.00
24	.09	.50	3.8	1.4	9.6	7.8	2.4	1.8	.00	.00	.00	.00
25	.09	.46	3.9	4.2	9.0	13	2.9	2.1	.00	.00	.00	.00
26	.06	.44	3.9	3.5	8.5	11	6.7	2.2	.00	.00	.00	.00
27	.12	.46	2.7	3.3	8.4	10	4.2	2.0	.00	.00	.00	.00
28	.19	.46	1.1	3.1	8.0	9.0	4.4	1.7	.00	.00	.00	.00
29	.34	.50	1.1	2.9	---	8.0	6.1	1.5	.00	.00	.00	.00
30	.11	1.2	1.1	2.8	---	7.6	5.5	1.5	.00	.00	.00	.00
31	.20	---	1.1	2.8	---	7.2	---	1.6	---	.00	.00	---
TOTAL	8.37	12.98	84.4	59.32	323.6	254.0	128.8	89.1	12.11	0.00	0.00	0.00
MEAN	.27	.43	2.72	1.91	11.6	8.19	4.29	2.87	.40	.000	.000	.000
MAX	.86	2.1	4.3	4.2	61	20	7.0	6.9	1.8	.00	.00	.00
MIN	.05	.04	1.1	.92	2.8	5.2	2.0	1.5	.00	.00	.00	.00
AC-FT	17	26	167	118	642	504	255	177	24	.00	.00	.00

## 11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.25	1.93	6.70	11.9	21.6	22.2	12.7	3.64	.87	.24	.14	.33
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1919 - 1994			
ANNUAL TOTAL	11852.17				972.68							
ANNUAL MEAN	32.5				2.66				6.84			
HIGHEST ANNUAL MEAN									42.5			
LOWEST ANNUAL MEAN									.050			
HIGHEST DAILY MEAN	727				61				1840			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.03				.00				.00			
INSTANTANEOUS PEAK FLOW					213				5340			
INSTANTANEOUS PEAK STAGE					4.31							
ANNUAL RUNOFF (AC-FT)	23510				1930				4950			
10 PERCENT EXCEEDS	90				7.3				13			
50 PERCENT EXCEEDS	3.9				1.1				.10			
90 PERCENT EXCEEDS	.11				.00				.00			

## 11055501 PLUNGE CREEK NEAR EAST HIGHLANDS, CA--Continued

PLUNGE CREEK AND DIVERSIONS NEAR EAST HIGHLAND, CA,  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.9	2.1	2.9	3.9	5.1	7.6	6.9	7.0	3.4	1.3	.99	.94
2	e1.8	2.0	3.3	4.5	5.1	7.5	6.6	6.5	3.2	1.3	.97	.93
3	e1.9	1.9	3.4	3.7	5.2	7.4	6.3	5.1	2.9	1.2	.96	.92
4	e2.0	1.9	3.5	3.3	9.6	7.2	6.1	4.5	3.6	1.3	.96	.92
5	e2.0	1.9	4.0	3.4	8.3	7.2	5.8	4.5	2.9	1.2	.93	.90
6	e2.2	1.9	4.1	3.4	6.8	7.6	5.5	5.1	3.1	1.3	.92	.90
7	e2.3	2.0	4.1	3.3	34	7.9	5.7	9.8	2.9	1.2	.99	.88
8	e2.4	2.0	4.3	4.1	61	7.3	5.8	8.5	2.5	1.2	.98	.87
9	2.4	2.0	4.4	4.6	18	6.9	7.0	7.0	2.2	1.1	1.0	.86
10	2.3	2.0	4.5	3.6	11	6.5	6.5	5.8	1.8	1.0	.99	.85
11	2.4	4.5	5.2	3.4	9.1	6.4	5.5	6.4	1.8	1.0	.94	.87
12	2.4	3.9	6.7	3.1	8.0	6.0	5.7	6.1	2.0	1.0	.94	.96
13	2.1	2.8	5.3	3.0	7.5	5.8	5.2	5.6	1.9	1.0	.94	1.0
14	2.1	2.9	4.7	3.1	7.1	5.7	4.8	5.2	1.9	1.0	.93	.93
15	2.2	2.7	5.4	3.9	6.6	5.6	4.7	5.1	2.1	1.0	.92	.84
16	2.6	2.6	4.5	4.1	6.2	5.3	4.4	5.0	2.0	1.0	.92	.82
17	3.1	2.7	5.6	3.5	12	5.2	4.3	5.0	1.8	1.0	.97	.84
18	2.6	2.7	5.4	3.1	10	5.2	4.2	5.9	1.6	.75	.98	.81
19	2.3	2.7	5.7	3.0	8.9	20	4.0	5.2	1.5	.99	.96	.82
20	2.1	2.4	5.6	3.7	17	16	4.0	4.8	1.6	1.1	.95	.82
21	2.1	2.4	5.4	4.1	17	10	4.1	4.4	1.6	1.1	.95	.81
22	2.0	2.4	5.4	4.0	12	8.3	4.0	4.2	1.5	1.1	.94	.82
23	1.9	2.5	5.3	4.0	11	7.8	3.8	4.1	1.4	1.0	.93	.85
24	1.9	2.6	5.4	3.4	9.6	7.8	4.3	4.0	1.3	.97	.91	.89
25	1.9	2.6	5.5	7.0	9.0	13	5.2	4.4	1.3	.93	.90	.84
26	1.8	2.5	5.4	6.5	8.5	11	9.5	4.6	1.3	.89	.97	.85
27	1.8	2.6	4.7	6.1	8.4	10	6.9	4.3	1.2	.73	.95	.84
28	2.0	2.6	3.4	5.8	8.0	9.0	6.7	3.8	1.2	.97	.93	.83
29	2.3	2.6	3.4	5.5	---	8.0	7.9	3.5	1.1	.99	.92	.88
30	2.0	3.3	3.3	5.1	---	7.6	7.2	3.5	1.1	1.0	.92	.89
31	2.1	---	3.3	5.1	---	7.2	---	3.7	---	1.0	.94	---
TOTAL	66.9	75.7	143.1	128.3	340.0	254.0	168.6	162.6	59.7	32.62	29.40	26.18
MEAN	2.16	2.52	4.62	4.14	12.1	8.19	5.62	5.25	1.99	1.05	.95	.87
MAX	3.1	4.5	6.7	7.0	61	20	9.5	9.8	3.6	1.3	1.0	1.0
MIN	1.8	1.9	2.9	3.0	5.1	5.2	3.8	3.5	1.1	.73	.90	.81
AC-FT	133	150	284	254	674	504	334	323	118	65	58	52

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.40	3.54	7.98	16.6	23.3	23.8	14.0	6.83	3.41	1.78	1.30	1.47
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1951 - 1994			
ANNUAL TOTAL	12333.0				1487.10							
ANNUAL MEAN	33.8				4.07				8.74			
HIGHEST ANNUAL MEAN									44.4			
LOWEST ANNUAL MEAN									1.00			
HIGHEST DAILY MEAN	729				61				1840			
LOWEST DAILY MEAN	1.8				.73				.00			
ANNUAL SEVEN-DAY MINIMUM	1.9				.82				.00			
INSTANTANEOUS PEAK FLOW					214				4770			
ANNUAL RUNOFF (AC-FT)	24460				2950				6330			
10 PERCENT EXCEEDS	90				7.7				15			
50 PERCENT EXCEEDS	5.6				3.1				2.3			
90 PERCENT EXCEEDS	2.0				.93				.60			

## SANTA ANA RIVER BASIN

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.

WDR CA-93-1: Peak base discharge.

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 (station 11055700) 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. Diversion canal damaged by storms of January 1993, with no flow in canal since January 14, 1993. 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 and maximum (\*):

Date	Time	Creek only Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Combined creek and canal Discharge (ft <sup>3</sup> /s)
Feb. 7	2215	*188	*4.96	*188

Creek only: Minimum daily, 0.16 ft<sup>3</sup>/s, Sept. 11, 12,

Combined creek and canal: Minimum daily, 0.16 ft<sup>3</sup>/s, Sept. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	6.9	7.0	6.1	e6.0	7.9	8.2	6.8	3.8	1.3	.52	.31
2	3.1	6.2	6.7	6.0	6.0	7.5	7.9	6.5	3.4	1.5	.48	.30
3	3.1	5.6	6.4	6.0	6.0	7.2	7.8	6.2	3.3	1.5	.47	.27
4	3.3	5.2	6.1	6.0	12	7.0	7.7	5.9	3.2	1.5	.45	.27
5	3.8	5.3	6.1	6.1	10	6.8	7.0	5.8	3.2	1.6	.42	.24
6	4.2	5.4	6.1	6.0	8.4	7.5	6.7	7.2	3.4	1.6	.37	.22
7	4.5	5.3	6.2	6.0	39	7.9	6.8	9.4	3.4	1.6	.35	.21
8	4.8	5.4	6.2	6.0	e60	7.4	7.1	7.5	3.2	1.4	.33	.19
9	4.9	5.6	6.2	6.0	e20	7.0	9.4	7.0	2.9	1.4	.31	.18
10	4.3	5.7	6.2	6.0	e15	6.6	8.2	6.5	2.6	1.3	.29	.17
11	4.7	12	7.6	5.8	e12	6.6	7.0	6.0	2.6	1.3	.30	.16
12	5.1	9.9	9.1	5.8	9.1	6.3	6.5	6.0	2.8	1.2	.29	.16
13	4.7	8.4	7.3	5.7	8.2	5.9	6.2	5.9	2.8	1.1	.30	.20
14	4.6	7.8	8.0	5.7	7.7	5.8	6.2	5.5	2.8	1.1	.34	.22
15	4.9	7.3	9.2	5.7	7.3	5.6	6.0	5.4	3.1	1.1	.42	.25
16	5.8	7.2	7.7	5.8	6.9	5.5	5.7	5.4	3.3	1.1	.47	.22
17	6.6	7.1	7.4	5.7	12	5.4	5.6	5.8	2.8	1.0	.47	.21
18	5.9	6.9	7.1	5.7	11	5.3	5.4	7.5	2.6	.96	.45	.19
19	5.3	6.8	7.1	5.7	11	17	5.2	6.1	2.4	.93	.46	.20
20	4.9	6.7	7.0	5.7	19	15	5.1	5.7	2.3	.91	.44	.21
21	4.7	6.7	6.9	5.7	17	10	5.1	5.2	2.1	.93	.42	.20
22	4.6	6.7	6.7	5.7	13	8.9	5.2	4.8	2.0	.91	.42	.19
23	4.6	7.0	6.4	5.5	11	8.2	5.2	4.6	1.9	.88	.39	.19
24	4.6	7.1	6.2	5.8	10	8.1	6.1	4.5	1.8	.84	.38	.20
25	4.5	6.9	6.2	11	9.4	19	6.8	5.0	1.7	.80	.36	.21
26	4.2	6.8	6.2	8.2	9.1	14	10	5.3	1.6	.76	.33	.22
27	5.1	6.8	6.4	7.4	8.9	12	8.7	4.8	1.5	.71	.34	.22
28	6.4	6.7	6.5	7.0	8.4	11	9.1	4.3	1.4	.66	.32	.20
29	6.8	6.8	6.2	6.7	---	9.8	8.1	3.9	1.4	.62	.31	.21
30	7.0	7.5	6.2	6.4	---	9.2	7.2	3.9	1.3	.59	.31	.20
31	7.0	---	6.2	6.2	---	8.6	---	4.3	---	.56	.30	---
TOTAL	151.2	205.7	210.8	193.1	373.4	270.0	207.2	178.7	76.6	33.66	11.81	6.42
MEAN	4.88	6.86	6.80	6.23	13.3	8.71	6.91	5.76	2.55	1.09	.38	.21
MAX	7.0	12	9.2	11	60	19	10	9.4	3.8	1.6	.52	.31
MIN	3.1	5.2	6.1	5.5	6.0	5.3	5.1	3.9	1.3	.56	.29	.16
AC-FT	300	408	418	383	741	536	411	354	152	67	23	13

e Estimated.

## 11055800 CITY CREEK NEAR HIGHLAND, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.03	3.39	8.80	16.0	30.7	28.7	17.9	7.05	2.55	.93	.53	.58
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1920 - 1994			
ANNUAL TOTAL	16355.0				1918.59							
ANNUAL MEAN	44.8				5.26				9.73			
HIGHEST ANNUAL MEAN									75.3			
LOWEST ANNUAL MEAN									.46			
HIGHEST DAILY MEAN	783				60				3360			
LOWEST DAILY MEAN	2.9				.16				.00			
ANNUAL SEVEN-DAY MINIMUM	3.2				.18				.00			
INSTANTANEOUS PEAK FLOW					188				7000			
INSTANTANEOUS PEAK STAGE					4.96				9.39			
ANNUAL RUNOFF (AC-FT)	32440				3810				7050			
10 PERCENT EXCEEDS	107				9.0				19			
50 PERCENT EXCEEDS	11				5.7				1.1			
90 PERCENT EXCEEDS	4.3				.31				.00			

## SANTA ANA RIVER BASIN

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 1993 TO SEPTEMBER 1994

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	6.9	7.0	6.1	e6.0	7.9	8.2	6.8	3.8	1.3	.52	.31
2	3.1	6.2	6.7	6.0	6.0	7.5	7.9	6.5	3.4	1.5	.48	.30
3	3.1	5.6	6.4	6.0	6.0	7.2	7.8	6.2	3.3	1.5	.47	.27
4	3.3	5.2	6.1	6.0	12	7.0	7.7	5.9	3.2	1.5	.45	.27
5	3.8	5.3	6.1	6.1	10	6.8	7.0	5.8	3.2	1.6	.42	.24
6	4.2	5.4	6.1	6.0	8.4	7.5	6.7	7.2	3.4	1.6	.37	.22
7	4.5	5.3	6.2	6.0	39	7.9	6.8	9.4	3.4	1.6	.35	.21
8	4.8	5.4	6.2	6.0	e60	7.4	7.1	7.5	3.2	1.4	.33	.19
9	4.9	5.6	6.2	6.0	e20	7.0	9.4	7.0	2.9	1.4	.31	.18
10	4.3	5.7	6.2	6.0	e15	6.6	8.2	6.5	2.6	1.3	.29	.17
11	4.7	12	7.6	5.8	e12	6.6	7.0	6.0	2.6	1.3	.30	.16
12	5.1	9.9	9.1	5.8	9.1	6.3	6.5	6.0	2.8	1.2	.29	.16
13	4.7	8.4	7.3	5.7	8.2	5.9	6.2	5.9	2.8	1.1	.30	.20
14	4.6	7.8	8.0	5.7	7.7	5.8	6.2	5.5	2.8	1.1	.34	.22
15	4.9	7.3	9.2	5.7	7.3	5.6	6.0	5.4	3.1	1.1	.42	.25
16	5.8	7.2	7.7	5.8	6.9	5.5	5.7	5.4	3.3	1.1	.47	.22
17	6.6	7.1	7.4	5.7	12	5.4	5.6	5.8	2.8	1.0	.47	.21
18	5.9	6.9	7.1	5.7	11	5.3	5.4	7.5	2.6	.96	.45	.19
19	5.3	6.8	7.1	5.7	11	17	5.2	6.1	2.4	.93	.46	.20
20	4.9	6.7	7.0	5.7	19	15	5.1	5.7	2.3	.91	.44	.21
21	4.7	6.7	6.9	5.7	17	10	5.1	5.2	2.1	.93	.42	.20
22	4.6	6.7	6.7	5.7	13	8.9	5.2	4.8	2.0	.91	.42	.19
23	4.6	7.0	6.4	5.5	11	8.2	5.2	4.6	1.9	.88	.39	.19
24	4.6	7.1	6.2	5.8	10	8.1	6.1	4.5	1.8	.84	.38	.20
25	4.5	6.9	6.2	11	9.4	19	6.8	5.0	1.7	.80	.36	.21
26	4.2	6.8	6.2	8.2	9.1	14	10	5.3	1.6	.76	.33	.22
27	5.1	6.8	6.4	7.4	8.9	12	8.7	4.8	1.5	.71	.34	.22
28	6.4	6.7	6.5	7.0	8.4	11	9.1	4.3	1.4	.66	.32	.20
29	6.8	6.8	6.2	6.7	---	9.8	8.1	3.9	1.4	.62	.31	.21
30	7.0	7.5	6.2	6.4	---	9.2	7.2	3.9	1.3	.59	.31	.20
31	7.0	---	6.2	6.2	---	8.6	---	4.3	---	.56	.30	---
TOTAL	151.2	205.7	210.8	193.1	373.4	270.0	207.2	178.7	76.6	33.66	11.81	6.42
MEAN	4.88	6.86	6.80	6.23	13.3	8.71	6.91	5.76	2.55	1.09	.38	.21
MAX	7.0	12	9.2	11	60	19	10	9.4	3.8	1.6	.52	.31
MIN	3.1	5.2	6.1	5.5	6.0	5.3	5.1	3.9	1.3	.56	.29	.16
AC-FT	300	408	418	383	741	536	411	354	152	67	23	13

e Estimated.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.19	4.75	9.27	16.9	31.9	30.0	19.6	9.76	5.25	2.54	1.61	1.57
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1924 - 1994

ANNUAL TOTAL	16369.0	1918.59	
ANNUAL MEAN	44.8	5.26	
HIGHEST ANNUAL MEAN			11.2
LOWEST ANNUAL MEAN			77.8
HIGHEST DAILY MEAN	783	Jan 17	60
LOWEST DAILY MEAN	2.9	Sep 11	.16
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 27	.18
INSTANTANEOUS PEAK FLOW			.18
ANNUAL RUNOFF (AC-FT)	32470	3810	7000
10 PERCENT EXCEEDS	107	9.0	19
50 PERCENT EXCEEDS	11	5.7	3.7
90 PERCENT EXCEEDS	4.3	.31	.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>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1954 to September 1965, February 1968 to September 1975, April 1979 to current year.  
SEDIMENT DATA: Water year 1980.

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.--No estimated daily discharges. 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)
Nov. 14	0500	174	3.43	Mar. 7	1545	171	3.47
Feb. 7	2015	*345	*3.91	Mar. 19	1645	200	3.56

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.43	2.2	.03	1.5	.00	.00	1.0	1.3	.00	.87	.08
2	.00	.26	1.2	.17	1.2	.81	.00	.76	.94	.00	.60	.10
3	.00	.10	.26	.00	2.2	.00	.00	1.2	.64	.00	.49	.10
4	.00	.05	.00	.23	37	.00	.00	.64	.31	.00	.34	.09
5	.00	.08	.00	.18	6.6	.00	.00	.74	.16	.00	.28	.09
6	.00	.09	.00	.00	1.8	1.3	.00	2.6	.22	.00	.03	.16
7	.66	.15	.00	.00	55	10	.00	1.2	.36	.00	.00	.00
8	.80	.19	.00	.13	54	.19	.00	1.5	.02	.00	.00	.00
9	.17	.06	.01	.32	2.7	.07	1.1	.46	.11	.00	.00	.00
10	.02	.03	.00	.07	.94	.07	.00	.41	.06	.00	.00	.00
11	.24	3.8	2.8	.46	.00	.07	.00	.00	.01	.19	.00	.00
12	.00	.11	.54	.32	.00	.07	.02	.00	.00	.05	.00	.00
13	.00	.06	.00	.61	.00	.01	.18	.12	.00	.00	.00	.00
14	.00	7.2	6.9	.44	.00	.00	.00	.18	.00	.00	.40	.00
15	.00	.15	.30	1.2	.00	.00	.00	.00	.00	.00	.00	.00
16	.01	.00	.00	1.2	.00	.00	.03	.04	.00	.00	.00	.00
17	.00	.00	.00	.82	11	.00	.00	.50	.00	.00	.00	.00
18	.00	.23	.00	1.3	4.0	.15	.02	.05	.00	.00	.00	.00
19	.00	.40	3.9	1.1	5.0	47	.00	.06	.00	.00	.00	.00
20	.00	.61	.00	.34	11	4.3	.00	.30	.00	.00	.00	.01
21	.02	.78	.00	.02	2.3	.00	.00	.02	.00	.00	.00	.14
22	.19	1.4	.00	.15	.00	.78	.00	.35	.00	.00	.00	.16
23	.29	1.9	.00	.03	.00	.90	.00	.32	.00	.00	.09	.18
24	.12	1.8	.00	.12	.00	6.6	.32	1.9	.00	.00	.06	.00
25	.07	1.6	.00	19	.00	26	3.7	.00	.00	.00	.02	.00
26	.16	1.6	.00	2.3	.00	1.8	3.6	1.1	.00	.00	.34	.02
27	.22	1.3	.00	5.6	.00	1.4	3.2	1.9	.00	.00	.44	.22
28	.20	.98	.00	1.8	.00	1.0	2.2	1.0	.00	.15	.06	.10
29	.20	1.3	.00	1.6	---	.83	1.9	.95	.00	.00	.07	.07
30	.40	6.4	.71	1.5	---	.00	1.4	1.6	.00	.58	.02	.01
31	.44	---	.14	1.5	---	.00	---	1.6	---	.61	.00	---
TOTAL	4.21	33.06	18.96	42.54	196.24	103.35	17.67	22.50	4.13	1.58	4.11	1.53
MEAN	.14	1.10	.61	1.37	7.01	3.33	.59	.73	.14	.051	.13	.051
MAX	.80	7.2	6.9	19	55	47	3.7	2.6	1.3	.61	.87	.22
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	8.4	66	38	84	389	205	35	45	8.2	3.1	8.2	3.0

## 11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.92	1.56	2.22	8.86	12.5	6.09	1.53	.92	.82	.68	.69	.83
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	.051	.047	.009
(WY)	1989	1992	1986	1972	1968	1987	1979	1980	1980	1994	1990	1993

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1955 - 1994			
ANNUAL TOTAL	5503.65				449.88							
ANNUAL MEAN	15.1				1.23				3.11			
HIGHEST ANNUAL MEAN									21.7			
LOWEST ANNUAL MEAN									.74			
HIGHEST DAILY MEAN	1180				55				3500			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					345				15000			
INSTANTANEOUS PEAK STAGE					3.91				8.20			
ANNUAL RUNOFF (AC-FT)	10920				892				2260			
10 PERCENT EXCEEDS	2.4				1.8				1.9			
50 PERCENT EXCEEDS	.05				.04				.61			
90 PERCENT EXCEEDS	.00				.00				.00			

11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1979 to December 1981, December 1991 to March 1994 (discontinued).

WATER TEMPERATURE: April 1979 to December 1981.

SEDIMENT DATA: April 1979 to December 1981, December 1991 to March 1994 (discontinued).

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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
FEB								
04...	1100	47	13.0	2620	332	22	31	42
07...	1050	29	12.5	1710	134	14	18	26
MAR								
25...	0915	32	14.0	10000	864	33	46	58

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
FEB							
04...	54	63	69	78	90	98	100
07...	34	47	64	82	95	100	--
MAR							
25...	74	86	91	95	98	100	--

## 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.--No estimated daily discharges. Records fair. 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)
Feb. 8	0745	*68	*2.83

Minimum daily, 0.53 ft<sup>3</sup>/s, Aug. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.6	3.3	2.6	2.9	3.7	4.9	3.5	2.7	1.3	.96	.78
2	2.5	2.4	3.0	2.6	2.8	3.5	4.6	3.5	2.4	1.4	.91	.83
3	2.4	2.4	2.9	2.5	2.9	3.5	4.8	3.5	2.5	1.4	.84	.79
4	2.8	2.4	2.9	2.5	6.3	3.3	4.4	3.2	2.5	1.5	.83	.79
5	2.9	2.5	3.0	2.4	3.8	3.6	3.7	3.3	2.7	1.4	.79	.75
6	3.1	2.5	3.0	2.6	3.3	4.2	3.7	4.3	2.5	1.4	.77	.58
7	3.3	2.8	3.0	2.8	20	4.3	3.9	4.0	2.6	1.4	.80	.61
8	3.5	2.7	2.8	3.0	35	4.0	4.4	3.7	2.4	1.2	.80	.86
9	3.6	2.7	2.9	3.2	10	3.7	6.8	3.6	2.2	1.3	.77	.78
10	3.3	3.0	2.7	3.0	6.4	3.6	4.0	3.5	2.1	1.4	.74	.71
11	3.6	7.3	4.1	3.1	5.3	3.8	3.3	3.3	2.2	1.2	.82	.87
12	3.6	5.0	4.0	3.0	4.7	3.7	3.2	3.7	2.4	1.2	.72	1.1
13	3.3	4.4	3.6	2.9	4.4	3.7	3.1	3.9	2.3	1.2	.70	1.2
14	3.3	4.2	4.9	2.9	4.0	3.3	3.1	3.5	2.3	1.2	.87	1.0
15	3.7	3.9	4.4	3.1	3.7	3.2	3.1	3.7	2.4	1.2	.74	.80
16	4.4	3.6	4.0	3.3	3.6	3.1	3.0	3.6	2.2	1.1	.83	.88
17	4.0	3.4	3.9	3.1	7.6	3.2	3.1	4.4	2.0	1.2	.72	.85
18	3.7	3.5	3.8	3.1	5.6	3.2	3.1	4.3	2.0	1.0	.60	.94
19	3.1	3.3	3.7	3.1	5.2	14	3.1	3.7	2.1	1.1	.69	.92
20	3.0	3.3	3.4	3.3	11	7.5	3.1	3.5	1.8	1.2	.67	.85
21	2.7	3.5	3.2	3.2	8.6	5.1	3.3	3.0	1.7	1.2	.80	.79
22	2.7	3.4	3.1	3.3	6.0	4.8	3.2	3.3	1.7	1.2	.70	.87
23	2.6	3.6	3.0	3.4	5.2	4.5	3.4	2.9	1.7	1.1	.63	1.0
24	2.8	3.5	3.0	3.5	4.7	5.9	3.7	3.1	1.6	1.0	.53	1.3
25	2.6	3.5	3.0	5.2	4.4	17	5.7	3.7	1.5	.96	.60	1.1
26	2.3	3.3	3.0	3.5	4.3	12	6.3	3.8	1.5	.89	.61	.88
27	2.2	3.5	2.8	3.3	4.5	9.3	5.8	3.3	1.4	.85	.61	.84
28	2.5	3.3	2.8	3.2	4.0	7.9	5.0	2.8	1.4	.83	.71	.75
29	2.5	3.0	2.7	3.1	---	6.7	3.9	2.8	1.3	.92	.58	.80
30	2.6	3.6	2.5	3.1	---	5.9	3.5	3.0	1.3	.92	.66	.90
31	2.9	---	2.6	3.0	---	5.5	---	2.7	---	.97	.64	---
TOTAL	93.9	102.1	101.0	95.9	190.2	170.7	120.2	108.1	61.4	36.14	22.64	26.12
MEAN	3.03	3.40	3.26	3.09	6.79	5.51	4.01	3.49	2.05	1.17	.73	.87
MAX	4.4	7.3	4.9	5.2	35	17	6.8	4.4	2.7	1.5	.96	1.3
MIN	2.2	2.4	2.5	2.4	2.8	3.1	3.0	2.7	1.3	.83	.53	.58
AC-FT	186	203	200	190	377	339	238	214	122	72	45	52

## 11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.48	2.51	4.93	7.46	12.1	13.2	8.04	4.69	2.77	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1921 - 1994			
ANNUAL TOTAL	8443.6				1128.40							
ANNUAL MEAN	23.1				3.09				5.06			
HIGHEST ANNUAL MEAN									23.1			
LOWEST ANNUAL MEAN									.85			
HIGHEST DAILY MEAN	400				35				795			
LOWEST DAILY MEAN	1.7				.53				.10			
ANNUAL SEVEN-DAY MINIMUM	2.0				.61				.11			
INSTANTANEOUS PEAK FLOW					68				3710			
INSTANTANEOUS PEAK STAGE					2.83				8.35			
ANNUAL RUNOFF (AC-FT)	16750				2240				3670			
10 PERCENT EXCEEDS	55				4.7				9.0			
50 PERCENT EXCEEDS	5.6				3.0				1.9			
90 PERCENT EXCEEDS	2.4				.81				.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)
Nov. 30	0530	1,330	4.75	Mar. 19	1715	1,760	4.94
Feb. 7	2215	*3,350	*5.41	Mar. 25	0215	1,890	4.99

Minimum daily, 29 ft<sup>3</sup>/s, May 25, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	e36	45	31	34	48	36	41	32	31	31	32
2	38	e36	44	35	37	49	36	39	33	31	31	32
3	e37	e35	42	37	37	51	35	34	33	31	32	32
4	e36	e36	42	35	268	49	36	39	31	31	31	32
5	e36	e35	43	36	46	49	40	36	31	31	32	33
6	e36	e37	45	37	34	85	38	43	30	32	31	33
7	e37	e38	41	38	758	164	39	47	33	32	31	32
8	e36	e39	41	38	1060	46	36	44	34	32	31	33
9	e37	e38	40	38	121	37	46	38	32	31	30	34
10	e42	e38	40	37	84	39	41	31	33	31	30	34
11	e38	e46	76	39	56	42	42	31	32	31	31	34
12	e39	e44	61	38	48	41	41	31	32	32	31	34
13	e39	e37	48	38	46	40	43	33	34	32	30	33
14	e38	e40	e75	37	45	40	42	31	33	31	37	33
15	e37	e38	e57	37	46	40	41	31	32	31	38	33
16	e36	e37	47	40	44	40	39	37	33	31	38	34
17	e37	e38	45	42	172	39	37	38	33	31	38	33
18	e36	e38	37	39	107	39	42	41	33	32	35	33
19	e35	e39	73	38	57	707	41	41	34	32	34	33
20	e34	e40	40	39	176	315	38	36	37	31	34	32
21	e35	e40	39	42	120	79	36	32	35	30	35	32
22	e36	e44	38	39	68	52	39	30	34	31	32	32
23	e36	e44	37	45	58	50	40	30	32	30	32	33
24	e37	44	36	45	54	102	54	31	32	30	32	32
25	e36	44	31	e157	49	354	79	29	32	31	32	32
26	e37	43	30	e54	48	56	71	30	32	31	32	32
27	e36	43	31	e72	47	41	62	32	32	31	32	32
28	e35	43	31	44	48	39	64	30	31	31	32	32
29	e33	44	31	40	---	37	45	29	31	31	32	31
30	e35	130	32	37	---	34	40	34	32	30	32	31
31	e36	---	34	36	---	35	---	34	---	30	32	---
TOTAL	1134	1284	1352	1360	3768	2839	1319	1083	978	963	1011	978
MEAN	36.6	42.8	43.6	43.9	135	91.6	44.0	34.9	32.6	31.1	32.6	32.6
MAX	42	130	76	157	1060	707	79	47	37	32	38	34
MIN	33	35	30	31	34	34	35	29	30	30	30	31
AC-FT	2250	2550	2680	2700	7470	5630	2620	2150	1940	1910	2010	1940

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.8	43.5	78.5	150	230	222	129	99.3	61.8	40.7	36.8	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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1967 - 1994

ANNUAL TOTAL	104315	18069	
ANNUAL MEAN	286	49.5	96.0
HIGHEST ANNUAL MEAN			441
LOWEST ANNUAL MEAN			17.2
HIGHEST DAILY MEAN	7650	Jan 7	1060
LOWEST DAILY MEAN	30	Jan 4	29
ANNUAL SEVEN-DAY MINIMUM	31	Dec 25	30
INSTANTANEOUS PEAK FLOW			3350
INSTANTANEOUS PEAK STAGE			5.41
ANNUAL RUNOFF (AC-FT)	206900	35840	69570
10 PERCENT EXCEEDS	505	53	150
50 PERCENT EXCEEDS	56	37	35
90 PERCENT EXCEEDS	36	31	14

## SANTA ANA RIVER BASIN

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 1993 TO SEPTEMBER 1994

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
OCT								
06...	1300	45	28.5	21	2.6	--	--	--
NOV								
03...	0750	23	19.5	10	0.62	--	--	--
DEC								
22...	1240	45	22.0	1020	124	--	--	--
JAN								
05...	1430	49	22.5	39	5.2	--	--	--
FEB								
01...	1345	43	20.5	40	4.6	--	--	--
07...	1310	416	14.0	1250	1400	--	--	--
MAR								
01...	1405	57	24.0	84	13	--	--	--
07...	1415	64	23.0	389	67	--	--	--
25...	1105	185	18.0	1680	839	24	33	45
APR								
06...	1415	47	27.0	118	15	--	--	--
JUL								
06...	1335	41	30.0	6	0.66	--	--	--
AUG								
08...	1325	44	30.0	6	0.71	--	--	--
SEP								
08...	1340	45	29.5	6	0.73	--	--	--

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
OCT							
06...	--	--	31	--	--	--	--
NOV							
03...	--	--	75	--	--	--	--
DEC							
22...	--	--	2	--	--	--	--
JAN							
05...	--	--	56	--	--	--	--
FEB							
01...	--	--	20	--	--	--	--
07...	--	--	25	45	86	99	100
MAR							
01...	--	--	28	--	--	--	--
07...	--	--	83	85	95	99	100
25...	55	63	67	75	90	99	100
APR							
06...	--	--	6	--	--	--	--
JUL							
06...	--	--	71	--	--	--	--
AUG							
08...	--	--	60	--	--	--	--
SEP							
08...	--	--	83	--	--	--	--



## 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.--No estimated daily discharges. Records fair except for discharges below 10 ft<sup>3</sup>/s, 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, 1,180 ft<sup>3</sup>/s, Mar. 7, gage height, 2.52 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 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.00	1.0	2.0	1.8	2.3	2.6	5.2	3.2	.89	.49	.53
2	.97	.03	.31	2.0	1.8	2.3	2.5	6.1	3.1	.49	.63	.46
3	.93	.07	1.2	2.1	3.3	2.4	2.5	6.4	2.6	.61	.62	.29
4	.47	.12	.90	1.6	48	2.7	2.3	6.9	1.9	.70	.61	.29
5	.22	.09	.57	1.6	3.2	3.0	2.2	10	1.7	.84	.59	.37
6	.10	.17	.94	1.5	1.7	13	2.3	13	1.8	.57	.53	.41
7	.07	.02	.81	1.4	92	51	2.3	9.9	2.5	.63	.43	.99
8	.10	.36	.88	1.4	22	2.9	2.3	13	1.8	.59	.51	.80
9	.07	.48	.92	1.0	2.1	2.7	5.6	8.2	2.0	.42	.68	.29
10	.00	.18	.95	1.1	1.8	3.0	1.9	3.8	2.1	.41	.61	.27
11	.49	21	14	2.1	1.6	3.1	1.9	3.7	1.9	.55	.64	.28
12	.11	1.9	2.4	1.6	1.7	3.1	2.0	3.4	1.8	.69	.66	.28
13	.03	.95	3.2	1.8	1.7	3.2	2.3	3.2	1.8	.72	.49	.30
14	.08	4.9	30	2.3	1.8	3.0	2.3	2.9	1.7	1.0	.60	.34
15	.00	.23	1.7	2.4	1.8	3.0	2.6	2.7	1.4	.44	.62	.28
16	1.8	1.0	.93	2.0	1.9	3.0	3.4	2.7	.77	.35	.68	.29
17	.04	1.2	.85	1.7	35	3.2	4.2	14	.71	.25	.71	.29
18	.00	.96	.90	1.9	3.5	3.5	4.8	6.4	.63	1.2	1.1	.31
19	.00	1.2	3.6	1.8	2.2	106	3.4	4.8	.54	.76	.55	.34
20	.00	1.2	1.1	1.8	35	8.4	4.9	4.6	.56	.54	.30	.20
21	.14	.74	1.5	1.6	2.3	3.1	3.6	4.2	.58	.43	.33	.26
22	.00	.73	1.0	1.8	2.0	3.3	3.2	4.2	.61	.59	.49	.27
23	.00	1.3	1.2	1.3	2.0	3.3	3.6	4.5	.57	.51	.36	.29
24	.00	.95	1.8	2.4	2.1	22	19	4.8	.79	.39	.49	.22
25	.00	.87	1.7	36	2.0	22	41	5.0	.63	.60	.42	.10
26	.09	.75	.99	2.1	2.6	2.9	11	4.9	.72	.74	.47	.33
27	.00	1.4	1.1	23	2.3	2.7	25	4.9	1.3	.87	.45	.30
28	.02	1.4	1.7	1.3	2.2	2.7	7.6	4.2	.77	.81	.39	.30
29	.16	1.1	1.5	1.7	---	2.7	5.1	3.8	.82	1.5	.34	.38
30	.06	8.7	1.5	1.6	---	2.7	4.9	3.6	.74	.50	.49	.28
31	.05	---	2.0	1.5	---	2.6	---	3.4	---	.42	.46	---
TOTAL	6.34	54.00	83.15	109.4	281.4	294.8	182.3	178.4	42.04	20.01	16.74	10.34
MEAN	.20	1.80	2.68	3.53	10.0	9.51	6.08	5.75	1.40	.65	.54	.34
MAX	1.8	21	30	36	92	106	41	14	3.2	1.5	1.1	.99
MIN	.00	.00	.31	1.0	1.6	2.3	1.9	2.7	.54	.25	.30	.10
AC-FT	13	107	165	217	558	585	362	354	83	40	33	21

## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.33	11.3	13.7	18.9	42.9	39.5	15.1	13.9	10.7	10.0	9.86	9.12
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1975 - 1994

ANNUAL TOTAL	2866.62	1278.92	
ANNUAL MEAN	7.85	3.50	16.9
HIGHEST ANNUAL MEAN			70.5
LOWEST ANNUAL MEAN			1.91
HIGHEST DAILY MEAN	335	Jan 7	3400
LOWEST DAILY MEAN	.00	Jul 15	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 21	.00
INSTANTANEOUS PEAK FLOW			1180
INSTANTANEOUS PEAK STAGE			2.52
ANNUAL RUNOFF (AC-FT)	5690	2540	12230
10 PERCENT EXCEEDS	8.0	4.9	28
50 PERCENT EXCEEDS	1.0	1.4	7.8
90 PERCENT EXCEEDS	.00	.23	.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 recorder and sharp-crested weir on conduit since June 3, 1949. Water-stage recorder and sharp-crested weir on infiltration line from Oct. 1, 1971 to September 30, 1992; non-recording flow meter on diversion pipe since October 1, 1992.

REMARKS.--No estimated daily discharges. Records poor. No regulation upstream from station. Southern California Edison Co.'s Lytle Creek conduit (station 11060900) diverts 2.3 mi upstream for power development and Fontana 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 station 11062001.

COOPERATION.--Records for Lytle Creek conduit were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Records for Fontana Water Company's infiltration line were provided by Fontana Water Company.

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	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Combined creek and diversions Discharge (ft <sup>3</sup> /s)
Feb. 7	2015	*449	*3.82	*452

Creek only: Minimum daily, 0.01 ft<sup>3</sup>/s, Aug. 12, 13.

Combined creek and diversions: Minimum daily, 13 ft<sup>3</sup>/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	21	16	13	9.7	12	10	5.6	1.1	.68	.25	.23
2	31	21	15	12	9.4	12	9.5	5.2	.96	.45	.24	.28
3	29	21	16	12	9.2	11	8.8	5.0	1.0	.24	.24	.27
4	31	22	16	12	13	11	8.3	5.5	1.4	.15	.26	.18
5	31	21	16	12	8.6	11	8.3	4.4	1.6	.09	.30	.10
6	31	21	16	12	8.3	12	7.9	3.8	1.1	.08	.29	.03
7	31	20	15	12	151	12	7.8	3.7	1.0	.15	.62	.04
8	31	20	14	11	120	12	7.8	4.0	.94	.03	.30	.03
9	30	19	14	11	72	12	8.0	3.6	.95	.05	.10	.03
10	28	19	14	19	52	12	8.0	3.2	.91	.14	.02	.03
11	29	20	20	24	33	12	8.0	3.1	.84	.20	.02	.08
12	29	20	15	24	29	12	7.6	3.0	.83	.18	.01	.27
13	29	20	14	24	26	11	7.6	2.9	.79	.15	.01	.18
14	28	19	15	24	22	10	7.6	2.9	.96	.18	.03	.15
15	28	20	13	23	20	10	7.8	2.7	.96	.12	.03	.10
16	28	19	13	23	18	9.4	8.3	2.6	.90	.16	.04	.24
17	28	20	13	24	46	9.4	8.0	2.8	.79	.34	.04	.40
18	27	20	13	24	37	9.4	15	2.9	.64	.86	.06	.40
19	26	20	13	24	21	13	22	2.7	.62	.19	.05	.37
20	25	20	13	24	30	11	21	2.6	.71	.18	.07	.38
21	25	20	13	19	23	10	23	2.5	.67	.13	.08	.44
22	25	20	13	9.7	19	10	23	2.3	.78	.11	.06	.24
23	24	20	12	9.6	18	10	23	2.2	.73	.15	.06	.17
24	23	20	12	9.9	16	18	24	2.3	.65	.07	.05	.25
25	23	20	12	13	15	49	26	2.3	.76	.14	.04	.22
26	22	19	12	10	14	28	28	2.3	.73	.11	.03	.21
27	22	17	12	9.8	14	13	26	2.3	.67	.14	.05	.18
28	22	16	12	9.7	13	12	25	2.2	.67	.18	.06	.17
29	21	15	12	9.7	---	11	18	2.1	.66	.18	.07	.12
30	20	17	12	9.5	---	11	5.9	1.6	.69	.17	.13	.16
31	21	---	12	9.3	---	10	---	1.3	---	.29	.24	---
TOTAL	831	587	428	483.2	867.2	406.2	419.2	95.6	26.01	6.29	3.85	5.95
MEAN	26.8	19.6	13.8	15.6	31.0	13.1	14.0	3.08	.87	.20	.12	.20
MAX	33	22	20	24	151	49	28	5.6	1.6	.86	.62	.44
MIN	20	15	12	9.3	8.3	9.4	5.9	1.3	.62	.03	.01	.03
AC-FT	1650	1160	849	958	1720	806	831	190	52	12	7.6	12

## 11062000 LYTLE CREEK NEAR FONTANA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.83	7.55	9.91	25.5	41.2	52.3	29.2	19.5	13.8	9.88	6.74	5.44
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1919 - 1994			
ANNUAL TOTAL	56887				4159.50							
ANNUAL MEAN	156				11.4				18.9			
HIGHEST ANNUAL MEAN									177			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	1230				151				8950			
LOWEST DAILY MEAN	12				.01				.00			
ANNUAL SEVEN-DAY MINIMUM	12				.02				.00			
INSTANTANEOUS PEAK FLOW					449				35900			
INSTANTANEOUS PEAK STAGE					3.82				15.00			
ANNUAL RUNOFF (AC-FT)	112900				8250				13660			
10 PERCENT EXCEEDS	303				25				39			
50 PERCENT EXCEEDS	102				9.7				.00			
90 PERCENT EXCEEDS	19				.12				.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 DIVERSION  
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	40	35	30	29	34	31	27	20	16	15	16
2	50	40	34	30	27	34	30	26	20	18	15	16
3	48	40	35	30	28	33	30	27	20	18	15	15
4	50	41	35	30	32	33	29	26	20	18	15	14
5	50	40	35	30	29	33	29	26	20	18	15	15
6	50	40	35	30	28	34	30	26	20	18	15	15
7	50	39	34	30	165	34	30	26	19	15	16	15
8	50	39	33	29	122	34	30	26	19	17	15	15
9	49	38	33	29	74	34	30	26	19	17	15	15
10	47	38	33	28	54	34	30	25	19	16	14	15
11	48	39	39	26	46	34	30	25	19	16	15	15
12	48	39	34	26	49	34	30	25	18	16	15	15
13	48	39	33	26	46	33	30	25	18	16	14	15
14	47	38	34	26	42	32	30	25	18	16	14	15
15	47	39	32	25	40	32	29	25	18	16	14	15
16	47	38	32	25	39	30	25	25	18	16	13	15
17	47	39	32	26	60	30	23	25	18	15	14	15
18	46	39	32	26	41	30	24	25	18	15	14	14
19	45	39	32	26	36	34	24	24	18	15	14	15
20	44	39	32	26	52	32	23	23	18	15	15	15
21	44	39	32	23	45	31	25	22	18	15	15	15
22	44	39	32	28	41	31	25	23	17	15	15	15
23	43	39	31	28	40	31	25	23	17	15	14	15
24	42	39	30	28	38	39	26	23	17	15	15	15
25	42	39	30	32	37	52	28	23	17	15	15	15
26	41	38	30	29	36	36	30	23	17	15	15	15
27	41	36	30	29	36	34	28	23	16	15	16	15
28	41	35	30	29	35	33	27	22	16	14	15	15
29	40	34	30	29	---	32	24	22	16	16	16	15
30	39	36	30	28	---	32	27	22	15	14	16	15
31	40	---	30	28	---	31	---	21	---	15	16	---
TOTAL	1420	1157	1009	865	1347	1040	832	755	543	491	460	450
MEAN	45.8	38.6	32.5	27.9	48.1	33.5	27.7	24.4	18.1	15.8	14.8	15.0
MAX	52	41	39	32	165	52	31	27	20	18	16	16
MIN	39	34	30	23	27	30	23	21	15	14	13	14
AC-FT	2820	2290	2000	1720	2670	2060	1650	1500	1080	974	912	893

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	26.6	28.7	31.1	56.4	68.1	78.9	56.7	46.9	38.9	32.7	29.8	27.6
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1899 - 1994

ANNUAL TOTAL	62002	10369	
ANNUAL MEAN	170	28.4	43.7
HIGHEST ANNUAL MEAN			194
LOWEST ANNUAL MEAN			10.7
HIGHEST DAILY MEAN	1230	Jan 18	8960
LOWEST DAILY MEAN	30	Dec 24	2.6
ANNUAL SEVEN-DAY MINIMUM	30	Dec 24	4.0
INSTANTANEOUS PEAK FLOW			35900
ANNUAL RUNOFF (AC-FT)	123000	20570	31660
10 PERCENT EXCEEDS	317	42	75
50 PERCENT EXCEEDS	121	28	26
90 PERCENT EXCEEDS	38	15	12

## SANTA ANA RIVER BASIN

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 good except for estimated daily discharges, which are fair. 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)
Feb. 7	2015	*110	*2.85				

Minimum daily, 1.9 ft<sup>3</sup>/s, Sept. 10, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	4.6	5.0	4.5	4.3	4.0	4.5	4.2	3.3	2.6	e2.4	2.3
2	5.9	4.5	5.0	4.4	4.3	4.0	4.3	4.0	3.1	e2.6	e2.4	2.3
3	5.9	4.5	4.9	4.4	4.3	4.0	4.3	4.0	3.1	e2.6	2.3	2.2
4	5.9	4.5	5.0	4.5	5.3	4.1	4.3	4.0	3.0	e2.6	2.5	2.0
5	5.9	4.4	4.9	4.5	4.6	4.2	4.3	3.8	3.1	e2.6	2.5	2.2
6	5.5	4.4	5.2	4.5	4.7	4.5	4.4	3.8	3.4	e2.5	2.4	2.2
7	5.4	4.4	5.1	4.5	24	4.7	4.3	3.9	3.3	e2.4	2.4	2.2
8	5.4	4.6	5.1	4.5	6.9	4.7	4.5	3.9	3.3	e2.4	2.3	2.2
9	5.4	4.5	5.1	4.5	5.3	4.6	4.5	3.8	3.2	e2.4	2.3	2.1
10	5.4	4.5	5.0	4.5	4.7	4.5	4.4	3.8	3.2	e2.4	2.2	1.9
11	5.5	4.7	5.6	4.4	4.5	4.5	4.3	3.7	3.2	e2.3	2.1	2.1
12	5.4	4.6	5.1	4.3	4.5	4.2	4.4	3.7	3.1	e2.4	2.0	2.4
13	5.4	4.5	5.0	4.4	4.5	4.0	4.0	3.7	3.0	e2.4	2.1	2.3
14	5.4	4.5	5.4	4.3	4.5	4.1	4.1	3.6	3.0	e2.3	2.6	2.4
15	5.4	4.5	5.1	4.3	4.5	4.2	4.1	3.7	3.0	e2.3	3.0	2.3
16	5.4	4.6	4.8	4.3	4.5	4.7	4.2	3.6	3.0	e2.3	2.9	2.3
17	5.3	4.5	4.7	4.2	8.3	5.1	4.0	3.7	3.0	e2.3	3.0	2.0
18	5.1	4.5	4.7	4.3	4.7	5.1	3.9	3.5	3.0	e2.3	2.9	2.2
19	4.9	4.5	4.6	4.3	4.5	5.2	4.0	3.4	2.8	e2.4	2.7	2.3
20	4.9	4.6	4.6	4.3	7.4	4.8	4.0	3.4	2.8	e2.3	2.5	2.4
21	4.7	4.7	4.5	4.3	4.5	4.7	4.0	3.3	2.6	e2.3	2.3	2.2
22	4.8	4.8	4.5	4.3	4.7	4.8	4.0	3.2	2.6	e2.2	2.4	2.1
23	4.8	4.9	4.5	4.3	4.6	4.8	4.1	3.3	2.6	e2.2	2.3	2.2
24	4.7	4.9	4.5	4.4	4.3	5.6	4.3	3.3	2.6	e2.2	2.5	2.4
25	4.3	4.9	4.5	4.4	3.8	6.1	4.4	3.3	2.5	e2.2	2.3	2.2
26	4.5	4.8	4.5	4.3	3.9	5.1	4.4	3.5	2.5	e2.2	2.2	2.0
27	4.6	4.8	4.5	4.3	3.9	4.8	4.3	3.7	2.6	e2.2	2.3	2.0
28	4.5	4.8	4.5	4.3	3.9	4.7	4.3	3.7	2.6	e2.2	2.4	1.9
29	4.6	4.9	4.6	4.3	---	4.6	4.2	3.6	2.6	e2.2	2.4	2.2
30	4.6	5.3	4.6	4.3	---	4.6	4.1	3.5	2.5	e2.3	2.3	2.2
31	4.5	---	4.5	4.3	---	4.5	---	3.4	---	e2.3	2.2	---
TOTAL	159.9	139.2	149.6	135.4	153.9	143.5	126.9	113.0	87.6	72.9	75.1	65.7
MEAN	5.16	4.64	4.83	4.37	5.50	4.63	4.23	3.65	2.92	2.35	2.42	2.19
MAX	5.9	5.3	5.6	4.5	24	6.1	4.5	4.2	3.4	2.6	3.0	2.4
MIN	4.3	4.4	4.5	4.2	3.8	4.0	3.9	3.2	2.5	2.2	2.0	1.9
AC-FT	317	276	297	269	305	285	252	224	174	145	149	130

e Estimated.

## 11063500 LONE PINE CREEK NEAR KEENBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.95	1.17	1.90	2.29	4.10	4.65	2.03	1.60	1.31	1.09	1.07	1.03
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1920 - 1994			
ANNUAL TOTAL	3620.3				1422.7							
ANNUAL MEAN	9.92				3.90				1.94			
HIGHEST ANNUAL MEAN									11.4			
LOWEST ANNUAL MEAN									.11			
HIGHEST DAILY MEAN	139				24				1480			
LOWEST DAILY MEAN	1.1				1.9				.00			
ANNUAL SEVEN-DAY MINIMUM	1.4				2.1				.06			
INSTANTANEOUS PEAK FLOW					110				6180			
INSTANTANEOUS PEAK STAGE					2.85							
ANNUAL RUNOFF (AC-FT)	7180				2820				1410			
10 PERCENT EXCEEDS	15				5.1				4.1			
50 PERCENT EXCEEDS	6.3				4.3				.50			
90 PERCENT EXCEEDS	4.5				2.3				.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)
Feb. 7	2030	*491	*5.36				

Minimum daily, 6.3 ft<sup>3</sup>/s, Aug. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	12	12	13	11	10	e12	e11	12	8.0	7.2	7.5
2	e15	12	12	13	11	11	e12	e11	12	7.9	6.9	7.5
3	e15	12	12	13	11	11	e11	e10	11	8.1	6.9	7.3
4	e14	12	12	14	25	11	e11	e10	11	8.1	6.9	7.1
5	e15	12	12	13	16	12	e11	e11	11	8.0	6.9	7.1
6	e15	12	12	12	14	13	e11	e11	11	8.1	6.7	6.9
7	16	12	12	12	129	11	11	e11	11	8.0	6.9	6.9
8	15	12	12	12	41	11	12	e11	9.9	7.8	6.8	6.9
9	13	12	12	12	e19	11	11	10	8.7	7.7	6.8	6.9
10	12	13	12	12	e14	12	10	11	9.3	7.7	6.7	6.5
11	12	13	17	12	e13	12	10	12	9.0	7.6	6.7	6.8
12	12	13	14	12	e12	11	10	12	8.9	7.4	6.6	7.2
13	12	13	13	12	e11	11	10	11	9.0	7.4	6.6	7.4
14	12	13	16	12	e11	11	11	11	9.2	7.5	6.7	7.4
15	13	12	15	12	e11	11	11	12	9.3	7.3	6.5	7.1
16	13	12	14	12	e11	9.8	11	12	9.1	7.0	6.6	6.9
17	13	12	14	12	42	10	11	10	8.8	7.1	6.7	6.9
18	13	12	14	12	20	10	11	10	8.8	7.0	6.7	7.2
19	12	12	14	12	15	16	12	9.5	8.6	7.0	6.5	7.1
20	12	12	13	11	56	11	11	9.5	8.5	7.5	6.3	6.7
21	12	12	13	e11	20	11	10	8.8	8.4	7.1	6.4	6.6
22	12	12	13	e11	15	11	e11	8.8	8.3	7.3	7.1	6.5
23	12	12	13	e11	16	11	e11	12	8.0	7.0	7.1	6.7
24	12	12	13	e11	13	19	e11	15	8.0	6.8	7.3	7.0
25	12	12	14	14	11	30	e11	15	7.8	6.8	7.2	6.8
26	12	12	14	12	11	12	e14	15	7.6	6.7	7.3	6.8
27	12	12	14	12	11	e12	e12	14	7.7	6.8	7.1	6.8
28	12	12	14	12	10	e12	e11	13	7.9	7.0	7.0	6.5
29	12	12	14	11	---	e12	e11	12	7.7	7.0	7.2	6.8
30	12	14	14	11	---	e11	e11	12	7.8	6.7	7.2	6.9
31	12	---	13	11	---	e11	---	12	---	7.2	7.3	---
TOTAL	401	367	413	372	600	377.8	333	353.6	275.3	228.6	212.8	208.7
MEAN	12.9	12.2	13.3	12.0	21.4	12.2	11.1	11.4	9.18	7.37	6.86	6.96
MAX	16	14	17	14	129	30	14	15	12	8.1	7.3	7.5
MIN	12	12	12	11	10	9.8	10	8.8	7.6	6.7	6.3	6.5
AC-FT	795	728	819	738	1190	749	661	701	546	453	422	414

e Estimated.



11063510 CAJON CREEK BELOW LONE PINE CREEK, NEAR KEENBROOK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.43	5.84	9.67	18.0	21.5	15.6	9.62	7.66	5.78	4.99	4.70	5.93
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1972 - 1994			
ANNUAL TOTAL	13241.2				4142.8							
ANNUAL MEAN	36.3				11.4				9.50			
HIGHEST ANNUAL MEAN									35.5			
LOWEST ANNUAL MEAN									3.80			
HIGHEST DAILY MEAN	850				129				850			
LOWEST DAILY MEAN	6.7				6.3				1.7			
ANNUAL SEVEN-DAY MINIMUM	12				6.5				1.8			
INSTANTANEOUS PEAK FLOW					491				6700			
INSTANTANEOUS PEAK STAGE					5.36				8.48			
INSTANTANEOUS LOW FLOW					3.9				1.7			
ANNUAL RUNOFF (AC-FT)	26260				8220				6880			
10 PERCENT EXCEEDS	49				14				15			
50 PERCENT EXCEEDS	16				11				5.4			
90 PERCENT EXCEEDS	12				6.9				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 good except for estimated daily discharges, which are fair. 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)
Feb. 7	2030	*78	*5.76				

Minimum daily, 0.19 ft<sup>3</sup>/s, Aug. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.7	e2.8	2.8	3.1	7.0	3.9	3.9	2.5	e1.3	1.0	.72
2	2.8	2.8	e2.8	2.8	3.1	6.7	3.9	3.7	2.5	e1.3	.92	.70
3	2.7	2.7	e2.8	2.8	3.1	5.6	3.9	3.5	2.4	e1.3	.79	.67
4	2.5	2.8	e2.8	2.8	5.3	4.3	3.9	3.5	2.4	e1.3	.77	.65
5	2.5	2.8	e2.8	2.8	4.5	4.3	3.9	3.5	2.4	e1.3	.70	.59
6	2.8	2.9	e2.8	2.8	4.3	5.0	3.9	3.5	2.5	e1.3	.66	.53
7	2.8	2.8	e2.8	2.8	21	4.7	3.9	4.2	2.4	1.3	.71	.52
8	2.8	2.5	e2.8	2.8	26	4.5	3.9	3.7	2.3	1.2	.69	.49
9	2.8	2.6	2.8	2.8	7.7	4.3	4.2	3.5	2.1	1.1	.63	.47
10	2.8	2.8	2.7	2.8	6.0	4.3	4.2	3.4	2.1	1.1	.56	.48
11	2.8	2.9	2.9	2.8	5.4	4.3	4.7	3.3	2.1	1.1	.24	.52
12	2.8	e2.8	3.1	2.8	5.0	4.0	4.7	3.4	2.2	1.1	.19	.65
13	2.6	e2.8	2.8	2.8	4.7	3.9	4.6	3.5	2.1	1.2	.25	.66
14	2.5	e2.8	3.2	2.8	4.5	3.9	4.3	3.5	1.9	1.2	.29	.56
15	2.5	e2.8	3.2	2.8	4.3	3.9	4.3	3.6	1.8	1.2	.29	.46
16	2.7	e2.8	3.0	2.8	4.3	3.7	4.3	3.9	1.6	1.1	.30	.35
17	3.1	e2.8	2.8	2.6	5.8	3.5	4.3	3.9	1.5	1.1	.31	.24
18	3.0	e2.8	2.8	2.5	5.4	3.5	4.1	3.8	1.4	1.0	.36	.25
19	2.7	e2.8	2.8	2.5	5.1	8.6	3.9	3.5	1.4	1.2	.39	.27
20	2.4	e2.8	2.8	2.5	8.7	6.0	3.9	3.3	1.5	1.5	.39	.28
21	2.4	e2.8	2.8	2.5	6.8	5.0	3.9	3.0	1.5	1.4	.40	.28
22	2.3	e2.8	2.8	2.5	5.9	4.7	3.9	3.0	1.5	1.4	.42	.36
23	2.3	e2.8	3.1	2.5	5.5	4.7	3.9	2.9	e1.5	1.3	.46	.54
24	2.3	e2.8	3.0	2.5	7.2	5.3	4.1	2.8	e1.5	1.2	.53	.66
25	2.3	e2.8	2.8	3.6	8.3	6.5	7.2	3.0	e1.5	1.1	.42	.25
26	2.5	e2.8	2.8	3.4	7.8	5.4	5.2	3.1	e1.4	1.1	.41	.24
27	3.0	e2.8	2.8	3.1	7.3	5.0	5.1	3.0	e1.4	1.0	.43	.42
28	2.9	e2.8	2.8	3.1	7.2	4.6	5.0	2.8	e1.4	.98	.42	.47
29	2.7	e2.8	2.8	3.1	---	4.3	4.2	2.7	e1.4	.99	.45	.49
30	2.7	e2.8	2.8	3.1	---	4.3	3.9	2.5	e1.4	1.0	.55	.30
31	2.8	---	2.8	3.1	---	4.2	---	2.6	---	1.1	.66	---
TOTAL	82.6	83.5	88.6	87.4	193.3	150.0	129.1	103.5	55.6	36.77	15.59	14.07
MEAN	2.66	2.78	2.86	2.82	6.90	4.84	4.30	3.34	1.85	1.19	.50	.47
MAX	3.1	2.9	3.2	3.6	26	8.6	7.2	4.2	2.5	1.5	1.0	.72
MIN	2.3	2.5	2.7	2.5	3.1	3.5	3.9	2.5	1.4	.98	.19	.24
AC-FT	164	166	176	173	383	298	256	205	110	73	31	28
a	164	166	176	173	383	298	256	205	110	73	31	28

e Estimated.

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.32	.94	1.72	3.28	6.52	7.22	4.24	2.03	.84	.46	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1920 - 1994			
ANNUAL TOTAL	4934.2				1040.03							
ANNUAL MEAN	13.5				2.85				2.30			
HIGHEST ANNUAL MEAN									16.1			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	134				26				556			
LOWEST DAILY MEAN	2.3				.19				.00			
ANNUAL SEVEN-DAY MINIMUM	2.4				.27				.00			
INSTANTANEOUS PEAK FLOW					78				3720			
INSTANTANEOUS PEAK STAGE					5.76				5.40			
ANNUAL RUNOFF (AC-FT)	9790				2060				1670			
10 PERCENT EXCEEDS	30				4.7				4.8			
50 PERCENT EXCEEDS	4.5				2.8				.10			
90 PERCENT EXCEEDS	2.8				.52				.00			

## SANTA ANA RIVER BASIN

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.--No estimated daily discharges. 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, 480 ft<sup>3</sup>/s, Feb. 7, gage height, 2.36 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.06	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	4.0	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00
7	.00	.00	.00	.00	110	18	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	105	.00	.00	.47	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.32	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	9.1	2.8	.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	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	10	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.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	.00	10	.00	.00	.10	.00	.00	.00	.00
18	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	39	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	12	.14	.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	6.8	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	5.1	.00	4.3	9.8	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.27	.00	.00	.00	.00	.00
27	.00	.00	.00	8.4	.00	.00	2.3	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	4.0	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	4.8	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	13.10	12.80	18.30	241.07	68.24	12.74	0.64	0.00	0.00	0.00	0.00
MEAN	.000	.44	.41	.59	8.61	2.20	.42	.021	.000	.000	.000	.000
MAX	.00	9.1	10	8.4	110	39	9.8	.47	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	26	25	36	478	135	25	1.3	.00	.00	.00	.00

## 11065000 LYTLE CREEK AT COLTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.81	5.09	8.58	20.6	30.7	21.4	4.90	4.73	2.64	1.29	.84	.87
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1958 - 1994			
ANNUAL TOTAL	9395.37				366.89							
ANNUAL MEAN	25.7				1.01							
HIGHEST ANNUAL MEAN									8.44			
LOWEST ANNUAL MEAN									65.4			
HIGHEST DAILY MEAN	1130				110				5040			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					480				17500			
INSTANTANEOUS PEAK STAGE					2.36				14.80			
ANNUAL RUNOFF (AC-FT)	18640				728				6110			
10 PERCENT EXCEEDS	15				.00				4.2			
50 PERCENT EXCEEDS	.00				.00				.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.

SPECIFIC CONDUCTANCE: Water years: 1969-1977.

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 fair except for estimated daily discharges, which are 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. See schematic diagram of Santa Ana River basin.

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)
Feb. 8	0045	*2,900	*9.75	Mar. 19	0900	2,010	9.10
Mar. 7	1930	1,890	9.08				

Minimum daily, 23 ft<sup>3</sup>/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	32	91	e40	69	e47	54	63	45	34	27	48
2	32	33	76	e44	69	e49	60	59	39	33	27	35
3	40	33	67	e48	69	e50	60	57	40	36	32	35
4	37	31	61	e45	445	52	45	52	37	34	25	34
5	42	30	52	e46	142	49	50	51	42	37	27	33
6	37	32	48	e47	73	81	52	61	39	34	24	34
7	37	33	50	47	550	340	46	82	39	39	26	30
8	44	35	46	50	1590	135	44	111	37	39	32	29
9	41	34	47	54	e135	67	80	65	36	36	29	27
10	37	35	50	52	e90	59	58	56	34	39	30	27
11	47	64	64	55	e61	57	47	54	33	38	29	29
12	36	38	70	55	e52	51	44	47	35	36	28	25
13	48	33	54	52	e50	48	43	42	38	39	26	25
14	45	41	75	53	e48	47	46	44	35	42	30	23
15	48	35	84	53	e49	44	64	45	35	38	35	25
16	45	30	52	54	e48	42	59	44	35	40	39	29
17	44	29	44	45	e215	39	70	51	36	36	41	29
18	46	28	44	48	e125	38	66	77	38	32	40	32
19	44	27	74	47	e65	1120	61	57	38	37	46	32
20	44	27	54	48	e200	826	44	53	36	40	38	33
21	41	28	47	53	e117	182	43	42	36	40	36	35
22	40	31	47	54	e62	75	46	45	34	42	46	45
23	36	32	47	55	e54	55	45	44	38	35	43	46
24	34	32	45	55	e49	79	58	44	e38	33	44	41
25	35	32	49	207	e46	552	131	47	e38	35	42	37
26	33	32	e43	72	e45	112	136	52	e38	32	41	39
27	32	34	e41	153	e45	60	104	49	e36	32	40	43
28	33	33	e42	78	e46	52	118	45	e36	32	39	35
29	33	31	e42	63	---	42	62	41	e38	32	38	42
30	31	110	e43	67	---	41	64	40	e38	30	40	46
31	32	---	e42	72	---	44	---	46	---	31	35	---
TOTAL	1212	1075	1691	1912	4609	4535	1900	1666	1117	1113	1075	1023
MEAN	39.1	35.8	54.5	61.7	165	146	63.3	53.7	37.2	35.9	34.7	34.1
MAX	48	110	91	207	1590	1120	136	111	45	42	46	48
MIN	31	27	41	40	45	38	43	40	33	30	24	23
AC-FT	2400	2130	3350	3790	9140	9000	3770	3300	2220	2210	2130	2030

e Estimated.

## 11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.9	69.9	96.9	206	250	287	143	104	69.4	47.1	46.6	47.7
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1970 - 1994			
ANNUAL TOTAL	128326				22928							
ANNUAL MEAN	352				62.8				120			
HIGHEST ANNUAL MEAN									416			
LOWEST ANNUAL MEAN									29.0			
HIGHEST DAILY MEAN	10600				1590				11500			
LOWEST DAILY MEAN	27				23				15			
ANNUAL SEVEN-DAY MINIMUM	29				26				16			
INSTANTANEOUS PEAK FLOW					2900				26200			
INSTANTANEOUS PEAK STAGE					9.75				20.23			
ANNUAL RUNOFF (AC-FT)	254500				45480				87090			
10 PERCENT EXCEEDS	592				74				170			
50 PERCENT EXCEEDS	59				44				51			
90 PERCENT EXCEEDS	32				32				22			

## SANTA ANA RIVER BASIN

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 1993 TO SEPTEMBER 1994

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					
13...	1100	43	1080	21.0	652
28...	1830	32	945	--	644
NOV					
03...	1115	32	1010	21.5	638
30...	1130	211	600	15.0	368
DEC					
06...	1515	47	1040	17.5	660
22...	1240	44	1080	17.0	658
JAN					
06...	1605	43	1070	14.0	656
26...	0935	66	845	13.5	522
FEB					
04...	1230	666	290	12.0	182
18...	1130	132	690	13.0	416
MAR					
03...	0910	49	1070	16.5	656
17...	1000	41	985	20.0	624
APR					
08...	1145	45	1110	19.5	692
28...	1300	77	880	23.5	564
MAY					
12...	0940	45	1070	19.0	640
26...	1015	54	980	19.5	612
JUN					
07...	1545	37	1120	29.5	686
20...	1630	32	1150	28.5	682
JUL					
14...	1400	48	1040	29.5	714
29...	1000	32	1130	24.5	722
AUG					
09...	1100	31	1050	29.0	652
25...	0845	49	1020	19.5	638
SEP					
06...	1310	31	1110	29.0	702
15...	1145	25	1140	24.5	690



## 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.--No estimated daily discharges. Records good. 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. See schematic diagram of Santa Ana River basin.

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)
Aug. 9	1615	*188	*1.72				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	17	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.09	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.08	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.08	.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	.44	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.02	.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	.03	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.11	.00	.01	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.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	.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	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.21	0.04	0.19	0.10	0.48	0.01	0.00	0.00	0.00	17.00	0.00
MEAN	.000	.007	.001	.006	.004	.015	.000	.000	.000	.000	.55	.000
MAX	.00	.09	.03	.11	.07	.44	.01	.00	.00	.00	.17	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.4	.08	.4	.2	1.0	.02	.00	.00	.00	.34	.00

## 11070020 BAUTISTA CREEK AT HEAD OF FLOOD CONTROL CHANNEL, NEAR HEMET, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.001	.017	4.48	3.31	1.74	.047	.000	.000	.000	.10	.000
MAX	.000	.007	.12	31.1	22.3	12.1	.33	.000	.002	.000	.55	.000
(WY)	1988	1994	1988	1993	1993	1991	1988	1992	1993	1988	1994	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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1988 - 1994
ANNUAL TOTAL	1588.83	18.03	
ANNUAL MEAN	4.35	.049	.80
HIGHEST ANNUAL MEAN			4.35 1993
LOWEST ANNUAL MEAN			.000 1989
HIGHEST DAILY MEAN	298 Jan 16	17 Aug 9	298 Jan 16 1993
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 21	.00 Oct 1	.00 Oct 1 1987
INSTANTANEOUS PEAK FLOW		188 Aug 9	1310 Jan 16 1993
INSTANTANEOUS PEAK STAGE		1.72 Aug 9	3.53 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	3150	36	579
10 PERCENT EXCEEDS	.03	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.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. See schematic diagram of Santa Ana River basin.

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)
Feb. 17	1430	*853	*4.07				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.35	.00	.00	.00	.50	.00	.00	.00	.20	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.21	.00	.00
3	.00	.00	.00	.00	.03	.00	.00	.00	.00	.23	.00	.00
4	.00	.00	.00	.00	166	.00	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	.00	29	.00	.00	.28	.00	.00	.00	.00
6	.00	.00	.00	.00	.32	.69	.00	.28	.00	.00	.00	.00
7	.00	.00	.00	.00	104	38	.00	1.1	.00	.00	.00	.00
8	.00	.00	.00	.00	53	9.1	.00	8.3	.00	.00	.00	.00
9	.00	.00	.00	.00	.37	.22	6.2	.48	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.08	1.3	.00	.54	.00	.00	.00
11	.00	35	3.6	.00	.00	.00	.05	.98	.28	.00	.00	.00
12	.00	2.2	9.2	.00	.00	.00	.00	.55	.00	.00	.00	.00
13	.00	.39	.11	.00	.65	.00	.00	1.7	.00	.00	.00	.00
14	.00	3.1	3.4	.00	.19	.17	.00	.27	.00	.00	.00	.00
15	.00	.06	14	.00	.00	.53	.00	.00	.00	.00	.00	.00
16	.40	.00	.20	.00	.00	.20	.00	.42	.00	.00	.00	.00
17	.07	.00	.00	.00	144	.01	.00	1.5	.00	.00	.00	.00
18	.00	.00	.00	.00	35	.00	.00	.26	.00	.00	.00	.00
19	.00	.00	.41	.00	20	227	.00	.03	.00	.00	.00	.01
20	.00	.00	.08	.00	38	24	.00	.00	.00	.13	.00	.00
21	.00	.00	.00	.00	5.9	2.1	.00	.00	.00	.25	.00	.00
22	.00	.00	.00	.00	.00	.23	.00	.00	.00	.02	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	4.2	.30	.00	.00	.00	.00	.00
25	.00	.00	.00	36	.00	151	.55	.00	.00	.00	.00	.00
26	.00	.00	.00	.37	.00	24	94	.00	.00	.00	.00	.00
27	.00	.00	.00	e100	.00	.78	30	.13	.00	.00	.00	.00
28	.00	.00	.00	e20	.00	2.1	12	.10	.00	.00	.00	.00
29	.00	.00	.00	e1.0	---	2.6	1.1	.00	.00	.10	.00	.00
30	.00	5.6	.00	.00	---	3.3	.03	.00	.00	.26	.00	.00
31	.00	---	.00	.00	---	6.4	---	.00	---	.06	.00	---
TOTAL	0.47	46.35	31.35	157.37	596.46	496.71	146.03	16.38	0.82	1.27	0.20	0.01
MEAN	.015	1.54	1.01	5.08	21.3	16.0	4.87	.53	.027	.041	.006	.000
MAX	.40	35	14	100	166	227	94	8.3	.54	.26	.20	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.9	92	62	312	1180	985	290	32	1.6	2.5	.4	.02

e Estimated.

## SANTA ANA RIVER BASIN

11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.13	.72	4.68	20.5	21.0	11.9	.62	.15	.046	.012	.001	.000
MAX	.99	3.78	35.1	167	87.5	70.7	4.87	1.06	.38	.089	.006	.000
(WY)	1993	1973	1993	1993	1993	1991	1994	1990	1993	1992	1994	1994
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1970 - 1994			
ANNUAL TOTAL	7853.53				1493.42							
ANNUAL MEAN	21.5				4.09				4.91			
HIGHEST ANNUAL MEAN									24.4			
LOWEST ANNUAL MEAN									.30			
HIGHEST DAILY MEAN	1270 Jan 16				227 Mar 19				1270 Jan 16			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 1				.00 Oct 1			
ANNUAL SEVEN-DAY MINIMUM	.00 Mar 1				.00 Oct 1				.00 Oct 1			
INSTANTANEOUS PEAK FLOW					853 Feb 17				4400 Feb 12			
INSTANTANEOUS PEAK STAGE					4.07 Feb 17				7.81 Feb 12			
ANNUAL RUNOFF (AC-FT)	15580				2960				3560			
10 PERCENT EXCEEDS	5.9				2.1				.08			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 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, 1.01 in, Feb. 8; no rainfall for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY SUM 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	.05	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	e.74	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	e.42	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.07	.00	.01	.00	.00	.00	.00
7	.00	.00	.00	.00	.20	e.11	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	e1.01	e.27	.00	.01	.00	.00	.00	.00
9	.00	.00	.00	.00	e.04	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	e.00	.00	e.10	.00	.00	.00	.00	.00
11	e.05	e.32	.10	.00	e.00	.00	.00	.00	.00	.00	.00	.00
12	.00	e.12	e.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.04	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	e.22	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.24	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	e.00	.00	e.61	e.00	.00	.00	.00	.00	.00	.00
19	.00	.00	e.16	.00	e.26	e1.00	.00	.00	.00	.00	.00	.00
20	.00	.00	e.00	.00	e.12	e.29	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	e.29	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	e.00	.00	.12	e.16	.00	.00	.00	.00	.00
25	.00	.00	.00	e.42	.00	e.63	.05	.00	.00	.00	.00	.00
26	.00	.00	.00	e.02	.00	e.16	.19	.00	.00	.00	.00	.00
27	.00	.00	e.02	e.60	.00	.00	e.29	.00	.00	.00	.00	.00
28	.00	.00	.00	e.22	.00	.00	e.02	.00	.00	.00	.00	.00
29	.00	.00	.00	e.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	e.15	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.14	0.63	0.67	1.26	3.99	2.65	0.81	0.02	0.00	0.00	0.00	0.00

WTR YR 1994 TOTAL 10.17

e Estimated

## 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.--No estimated daily discharges. Records 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. made no diversions during the current year from Railroad Canyon Reservoir for irrigation. See schematic diagram of Santa Ana River basin.

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, 299 ft<sup>3</sup>/s, Mar. 25, gage height, 5.23 ft; no flow for several days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.9	2.2	2.5	2.7	2.0	4.4	3.8	.88	.39	.12	.04
2	1.2	1.8	2.1	2.9	2.5	1.8	3.7	2.9	.79	.27	.14	.01
3	1.2	1.7	2.2	3.0	2.4	1.7	3.5	2.4	.83	.22	.08	.00
4	1.3	1.6	2.2	2.8	4.2	1.8	3.2	2.1	.77	.26	.07	.00
5	1.4	1.6	2.2	2.7	3.3	1.8	2.9	1.9	.73	.33	.03	.00
6	1.6	1.7	2.2	2.5	2.6	1.9	2.7	1.8	.84	.37	.03	.00
7	1.8	1.8	2.2	2.6	6.4	2.0	2.6	1.5	.91	.42	.08	.00
8	1.8	2.1	2.1	2.6	9.4	2.0	2.6	1.6	.89	.38	.07	.00
9	2.2	2.1	2.0	2.5	3.5	1.8	2.4	1.5	.74	.29	.03	.00
10	1.9	2.0	1.9	2.5	2.7	1.8	2.2	1.3	.73	.23	.07	.00
11	1.7	2.2	2.1	2.5	2.4	1.8	2.3	.91	.68	.20	.18	.00
12	2.0	2.2	2.3	2.5	2.2	1.7	2.2	.84	.73	.22	.21	.00
13	1.8	2.2	2.3	2.5	2.2	1.7	2.0	.98	.74	.27	.02	.03
14	1.9	2.3	2.4	2.5	2.1	1.7	1.9	.80	.74	.30	.00	.05
15	1.8	2.3	2.6	2.5	2.1	1.8	1.8	.84	.93	.39	.04	.03
16	2.0	2.3	2.5	2.5	2.0	1.7	1.7	.86	.87	.20	.05	.01
17	2.1	2.2	2.5	2.6	5.6	1.7	1.6	.90	.77	.17	.40	.04
18	2.0	2.1	2.5	2.6	3.2	1.7	1.6	.95	.69	.19	.76	.28
19	1.9	2.0	2.6	2.6	2.7	4.5	1.6	.92	.58	.25	.32	.09
20	2.3	2.0	2.5	2.6	4.4	171	1.5	.89	.54	.50	.21	.08
21	2.5	2.1	2.5	2.6	3.1	67	1.4	.83	.53	.52	.24	.06
22	2.5	2.2	2.5	2.6	2.3	17	1.3	.88	.43	.53	.14	.11
23	2.0	2.3	2.5	2.7	2.2	7.2	1.3	.89	.31	.50	.07	.10
24	1.7	2.2	2.5	2.8	2.1	4.6	1.5	.94	.27	.47	.04	.17
25	1.7	2.1	2.5	3.0	1.8	115	1.6	1.1	.18	.44	.07	.21
26	1.6	2.1	2.7	3.0	1.8	207	1.9	1.1	.12	.42	.21	.30
27	1.5	2.2	2.7	3.2	1.9	58	8.8	1.0	.08	.20	.06	.23
28	1.7	2.2	2.6	3.1	1.9	18	15	.89	.29	.20	.16	.20
29	1.9	2.2	2.5	3.0	---	9.2	8.3	.89	.49	.19	.02	.26
30	1.7	2.4	2.6	2.8	---	6.7	5.4	.90	.52	.22	.00	.29
31	1.8	---	2.6	2.8	---	5.2	---	.96	---	.13	.00	---
TOTAL	55.7	62.1	73.8	83.6	85.7	722.8	94.9	40.07	18.60	9.67	3.92	2.59
MEAN	1.80	2.07	2.38	2.70	3.06	23.3	3.16	1.29	.62	.31	.13	.086
MAX	2.5	2.4	2.7	3.2	9.4	207	15	3.8	.93	.53	.76	.30
MIN	1.2	1.6	1.9	2.5	1.8	1.7	1.3	.80	.08	.13	.00	.00
AC-FT	110	123	146	166	170	1430	188	79	37	19	7.8	5.1

## 11070500 SAN JACINTO RIVER NEAR ELSINORE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.60	.77	5.30	35.1	90.9	73.3	24.1	5.56	.74	.62	.41	.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	1919	1918	1918	1917

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1916 - 1994			
ANNUAL TOTAL	53922.84				1253.45							
ANNUAL MEAN	148				3.43				17.4			
HIGHEST ANNUAL MEAN									232			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	4490				207				14000			
LOWEST DAILY MEAN	.55				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.73				.00				.00			
INSTANTANEOUS PEAK FLOW					299				16000			
INSTANTANEOUS PEAK STAGE					5.23				11.80			
ANNUAL RUNOFF (AC-FT)	107000				2490				12580			
10 PERCENT EXCEEDS	288				3.0				3.7			
50 PERCENT EXCEEDS	2.5				1.8				.03			
90 PERCENT EXCEEDS	1.1				.08				.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.--No estimated daily discharges. Records fair. 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, 1,380 ft<sup>3</sup>/s, Mar. 19, gage height, 5.05 ft; minimum daily, 2.1 ft<sup>3</sup>/s, July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	11	9.1	22	4.6	30	23	18	14	5.5	4.0	9.7
2	7.7	11	9.4	20	5.7	27	24	14	14	3.0	3.7	11
3	8.7	15	9.1	21	19	29	20	13	14	3.8	4.5	12
4	8.0	20	10	20	53	39	19	12	15	2.9	3.6	12
5	8.9	25	10	19	5.6	42	18	10	17	3.4	4.4	12
6	8.5	23	9.2	16	4.5	97	18	10	19	3.7	4.9	12
7	10	28	12	13	262	112	20	9.5	20	4.1	3.8	12
8	9.4	30	13	15	166	45	22	23	22	3.3	4.2	15
9	10	37	13	15	65	40	26	8.2	23	3.4	4.0	15
10	12	48	11	15	39	35	21	9.3	22	4.2	4.0	15
11	16	106	37	14	31	34	19	13	19	3.2	4.0	15
12	9.1	27	16	13	26	32	20	13	19	2.1	4.2	14
13	9.8	19	14	11	22	26	21	16	17	2.8	4.2	14
14	9.9	39	43	9.7	20	25	22	12	14	3.1	4.3	15
15	9.0	17	15	13	20	26	24	13	12	2.9	3.8	16
16	15	15	15	12	20	25	24	7.2	12	3.1	3.8	16
17	8.9	14	15	8.9	192	23	28	16	11	3.5	3.0	15
18	6.4	15	15	9.4	83	22	33	10	10	2.6	3.6	16
19	7.5	16	49	10	41	281	33	8.9	11	3.1	6.4	17
20	8.3	19	14	9.3	149	60	35	8.6	11	4.5	12	15
21	9.6	18	15	10	58	36	33	9.6	10	4.0	12	16
22	9.5	17	17	9.5	44	33	33	10	9.9	3.4	13	16
23	8.2	16	16	8.1	36	22	34	11	9.6	3.9	12	19
24	8.2	16	16	7.1	33	105	38	12	9.6	4.3	11	18
25	10	14	18	42	32	79	36	15	9.4	3.6	11	18
26	11	13	20	6.9	29	25	95	18	8.8	3.5	11	18
27	9.9	13	19	11	32	18	33	18	8.6	4.1	12	19
28	9.3	15	19	6.7	36	16	26	17	8.2	4.8	12	18
29	9.9	13	19	5.9	---	16	24	15	8.5	3.6	11	16
30	10	59	19	5.1	---	15	22	14	8.6	3.3	11	15
31	11	---	21	4.1	---	19	---	14	---	3.7	10	---
TOTAL	296.9	729	537.8	402.7	1528.4	1434	844	398.3	407.2	110.4	216.4	451.7
MEAN	9.58	24.3	17.3	13.0	54.6	46.3	28.1	12.8	13.6	3.56	6.98	15.1
MAX	16	106	49	42	262	281	95	23	23	5.5	13	19
MIN	6.4	11	9.1	4.1	4.5	15	18	7.2	8.2	2.1	3.0	9.7
AC-FT	589	1450	1070	799	3030	2840	1670	790	808	219	429	896

## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.3	16.1	18.8	48.9	124	63.3	20.4	14.8	12.1	13.3	13.9	13.1
MAX	16.0	24.3	26.4	148	351	123	46.5	29.1	14.0	24.9	20.1	15.1
(WY)	1993	1994	1993	1993	1993	1993	1993	1993	1991	1993	1993	1994
MIN	9.58	6.97	15.5	13.0	37.4	29.3	2.89	3.24	7.33	3.56	6.98	10.5
(WY)	1994	1992	1991	1994	1992	1992	1991	1992	1992	1994	1994	1993

## SUMMARY STATISTICS

## FOR 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1991 - 1994

ANNUAL TOTAL	24193.90	7356.8	
ANNUAL MEAN	66.3	20.2	30.5
HIGHEST ANNUAL MEAN			67.1
LOWEST ANNUAL MEAN			14.2
HIGHEST DAILY MEAN	1660	Feb 19	1660
LOWEST DAILY MEAN	.50	Jan 5	.34
ANNUAL SEVEN-DAY MINIMUM	4.0	Jun 8	.89
INSTANTANEOUS PEAK FLOW			1380
INSTANTANEOUS PEAK STAGE			5.05
ANNUAL RUNOFF (AC-FT)	47990	14590	22060
10 PERCENT EXCEEDS	143	35	41
50 PERCENT EXCEEDS	22	14	13
90 PERCENT EXCEEDS	7.9	4.1	2.8



## 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 4,240 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, 1,700 ft<sup>3</sup>/s, Mar. 19, gage height, 6.11 ft; minimum daily, 0.46 ft<sup>3</sup>/s, July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.6	1.1	1.0	.92	.88	.88	.79	.79	1.1	1.1	1.0
2	.80	1.2	.91	1.0	1.0	.99	.88	.79	.79	.96	.96	1.0
3	.76	1.2	.79	2.0	2.7	1.0	.88	.79	.79	.90	.93	.59
4	.84	1.1	.79	1.6	120	1.0	1.0	.79	.79	1.1	1.1	.71
5	.79	1.2	.79	1.1	1.4	.88	1.1	.79	.79	.87	.84	.83
6	.82	.68	.94	1.0	1.2	20	1.0	7.0	1.1	.79	.81	1.4
7	.82	.70	.96	.88	230	16	.88	1.1	.84	.79	.81	1.1
8	.77	1.1	.97	.99	77	1.1	.87	1.7	.79	.47	.94	.97
9	.75	.78	.89	1.1	1.6	.88	3.4	.95	.76	.46	.96	1.0
10	.78	.89	1.0	.88	1.1	.99	.85	1.0	1.0	.67	.90	.97
11	1.0	17	41	.77	1.2	.96	.83	.92	.86	.73	1.2	1.0
12	.92	.98	1.6	.69	1.1	.79	.85	.99	.77	.81	1.1	1.2
13	.97	.71	1.0	.65	.99	.79	.98	.88	.95	.82	.89	.96
14	.82	.68	106	.63	.88	.85	.79	.88	.89	.60	.89	.89
15	.76	.63	1.7	.63	.88	.89	.84	.88	.85	.69	1.0	1.0
16	1.5	.66	1.1	.57	.92	.85	1.2	1.0	.86	.64	.88	.92
17	.93	.62	.86	.61	69	.98	.88	3.0	.82	.68	.53	1.1
18	.79	.66	.95	.61	1.4	.93	.88	1.3	.90	.88	.54	1.0
19	.88	.76	19	.63	1.6	189	.88	.88	1.2	1.0	.65	1.1
20	1.2	.53	1.0	.63	96	2.4	.97	.85	.84	.94	.63	.98
21	1.1	.62	1.1	.57	1.4	1.3	.85	.79	.86	.85	.66	.85
22	.99	.70	1.0	.56	1.0	1.1	.83	.79	.90	.89	.87	.79
23	.70	.70	.86	.50	.99	.91	.72	.83	.80	.99	.80	1.1
24	.73	.70	.79	11	.88	165	1.2	.82	.77	.81	1.4	1.9
25	.98	.70	.84	20	.88	7.0	48	.83	.60	.75	1.0	1.2
26	1.3	.70	.88	1.2	.88	1.2	104	.87	.49	.78	1.2	1.2
27	1.5	.70	.96	4.9	.88	1.0	4.6	.83	.60	.80	1.1	1.1
28	2.0	.70	1.1	1.0	.88	.88	1.9	.85	.98	.96	1.0	1.0
29	1.5	.70	1.1	.93	---	.88	.88	.85	1.1	1.2	1.1	1.3
30	.82	59	.97	.97	---	.84	.79	.79	.97	.95	1.0	1.1
31	.94	---	1.0	1.0	---	.88	---	.79	---	1.1	1.0	---
TOTAL	30.26	98.90	193.95	60.60	618.68	423.15	184.61	36.32	25.45	25.98	28.79	31.26
MEAN	.98	3.30	6.26	1.95	22.1	13.6	6.15	1.17	.85	.84	.93	1.04
MAX	2.0	.59	106	20	230	189	104	7.0	1.2	1.2	1.4	1.9
MIN	.70	.53	.79	.50	.88	.79	.72	.79	.49	.46	.53	.59
AC-FT	60	196	385	120	1230	839	366	72	50	52	57	62

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.9	16.2	29.9	34.1	36.9	31.7	7.72	7.09	16.1	17.1	12.5	9.91
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1970 - 1994			
ANNUAL TOTAL	8466.57				1757.95							
ANNUAL MEAN	23.2				4.82				19.4			
HIGHEST ANNUAL MEAN									92.4			
LOWEST ANNUAL MEAN									3.24			
HIGHEST DAILY MEAN	1380				230				2060			
LOWEST DAILY MEAN	.53				.46				.00			
ANNUAL SEVEN-DAY MINIMUM	.64				.59				.02			
INSTANTANEOUS PEAK FLOW					1700				12700			
INSTANTANEOUS PEAK STAGE					6.11				10.32			
ANNUAL RUNOFF (AC-FT)	16790				3490				14030			
10 PERCENT EXCEEDS	21				1.6				67			
50 PERCENT EXCEEDS	.94				.90				.96			
90 PERCENT EXCEEDS	.69				.70				.29			

## 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 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, 2,560 ft<sup>3</sup>/s, Apr. 26, gage height, 3.48 ft, minimum daily, 18 ft<sup>3</sup>/s, Mar. 18, Apr. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	e36	40	e36	e34	e29	27	e22	e28	34	34	e31
2	38	e36	e34	e36	e32	28	29	e20	e30	32	33	e34
3	38	e35	e35	e35	42	31	34	e20	e29	30	31	e31
4	40	e35	36	e35	241	32	22	e19	e29	32	35	e31
5	33	e36	37	e36	33	33	27	e19	e29	31	31	e28
6	30	e36	e37	e36	32	71	23	e25	e28	e34	29	e31
7	32	e38	e36	e35	294	74	25	29	e27	e34	25	e33
8	35	e37	e36	e39	170	63	e25	40	e29	e33	31	e28
9	37	e38	36	e38	44	49	e28	30	e30	34	24	28
10	59	e38	34	35	30	45	30	e27	32	34	e30	28
11	61	89	78	33	32	39	30	e24	35	34	e30	e31
12	67	48	77	e36	e31	e36	24	e26	29	37	e29	e33
13	37	33	55	e35	30	e34	26	e25	27	32	e31	29
14	47	49	170	e35	34	e33	26	e25	27	e34	e31	27
15	46	44	67	e36	30	31	27	e25	32	32	e32	31
16	82	38	56	e36	32	30	25	24	28	30	e31	e30
17	48	39	52	e37	123	27	25	36	28	e33	e32	e31
18	43	41	52	e35	46	18	22	28	37	e34	e31	e33
19	33	37	70	e33	40	222	18	e25	35	e32	e32	e35
20	29	38	51	e32	141	37	22	e24	32	e33	e31	e33
21	32	62	e40	e31	45	33	26	e24	31	e34	e31	e31
22	33	37	e39	e32	41	35	27	e23	29	e33	e36	e31
23	38	34	e35	e34	39	36	30	e23	23	e33	e34	e31
24	e39	31	e40	58	40	221	33	e22	25	e31	e36	e33
25	e38	35	e36	161	33	52	157	e22	24	e31	e36	e33
26	e36	36	e36	73	29	26	227	e27	21	32	e34	e33
27	e35	39	32	52	29	32	112	e26	24	31	e36	e31
28	e36	38	40	e40	e30	33	e42	e27	28	29	e34	e30
29	e35	39	40	37	---	32	e29	e26	31	32	e34	27
30	e35	138	36	41	---	33	e23	e29	34	30	e28	28
31	e39	---	39	e34	---	e32	---	e28	---	32	e34	---
TOTAL	1269	1310	1502	1302	1777	1527	1221	790	871	1007	986	924
MEAN	40.9	43.7	48.5	42.0	63.5	49.3	40.7	25.5	29.0	32.5	31.8	30.8
MAX	82	138	170	161	294	222	227	40	37	37	36	35
MIN	29	31	32	31	29	18	18	19	21	29	24	27
AC-FT	2520	2600	2980	2580	3520	3030	2420	1570	1730	2000	1960	1830

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 1969
LOWEST ANNUAL MEAN	.16 1976
HIGHEST DAILY MEAN	2600 Jan 25 1969
LOWEST DAILY MEAN	.00 Feb 1 1968
ANNUAL SEVEN-DAY MINIMUM	.00 Feb 1 1968
INSTANTANEOUS PEAK FLOW	9100 Jan 25 1969
INSTANTANEOUS PEAK STAGE	7.08 Jan 25 1969
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 TOTAL	
ANNUAL MEAN	17.5
HIGHEST ANNUAL MEAN	53.4 1983
LOWEST ANNUAL MEAN	1.51 1981
HIGHEST DAILY MEAN	2530 Mar 1 1983
LOWEST DAILY MEAN	.00 Feb 6 1979
ANNUAL SEVEN-DAY MINIMUM	.00 Feb 6 1979
INSTANTANEOUS PEAK FLOW	16100 Feb 27 1983
INSTANTANEOUS PEAK STAGE	7.85 Feb 27 1983
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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.3	33.5	41.9	71.1	76.3	55.1	30.7	27.0	29.4	28.0	28.8	35.9
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1986 - 1994

ANNUAL TOTAL	25383	14486	
ANNUAL MEAN	69.5	39.7	40.9
HIGHEST ANNUAL MEAN			71.4 1993
LOWEST ANNUAL MEAN			26.6 1987
HIGHEST DAILY MEAN	2130	Jan 7	2130 Jan 7 1993
LOWEST DAILY MEAN	17	Aug 11	2.5 Jun 6 1987
ANNUAL SEVEN-DAY MINIMUM	23	May 4	12 Aug 25 1988
INSTANTANEOUS PEAK FLOW			2560 Apr 26 10400 Jan 7 1993
INSTANTANEOUS PEAK STAGE			3.48 Apr 26 5.40 Jan 7 1993
ANNUAL RUNOFF (AC-FT)	50350	28730	29630
10 PERCENT EXCEEDS	73	49	52
50 PERCENT EXCEEDS	35	33	28
90 PERCENT EXCEEDS	25	25	18

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.--No estimated daily discharge. Records good. 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, 1,610 ft<sup>3</sup>/s, Feb. 8, gage height, 5.09 ft; minimum daily, 96 ft<sup>3</sup>/s, Apr. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	201	247	181	255	267	593	183	143	226	123	122
2	125	202	255	182	254	280	566	183	187	269	122	125
3	125	194	258	199	211	217	533	185	193	265	125	123
4	125	188	253	206	226	180	292	194	191	260	131	123
5	124	187	218	210	433	180	182	182	190	256	123	122
6	131	171	212	202	467	183	181	165	147	296	122	128
7	141	164	198	196	321	200	186	165	144	312	118	123
8	144	181	196	197	898	222	188	164	186	311	118	121
9	144	177	190	199	1120	224	190	166	184	306	114	127
10	143	173	190	208	666	339	196	168	183	293	113	108
11	144	220	216	210	558	391	197	168	181	289	110	108
12	144	245	407	205	543	383	194	169	180	263	113	123
13	152	241	304	206	529	372	193	168	179	160	113	119
14	157	233	243	199	581	256	194	167	179	139	110	122
15	157	272	333	206	621	194	197	167	179	136	111	124
16	156	252	432	210	554	195	199	166	177	133	109	128
17	158	184	416	212	419	198	199	175	177	133	107	124
18	158	172	213	213	615	200	198	176	176	130	105	128
19	160	181	237	204	607	213	199	178	176	129	109	134
20	164	159	402	202	603	235	197	179	175	128	113	134
21	164	160	254	199	610	513	198	183	175	127	114	131
22	164	167	214	201	603	669	139	186	175	125	123	140
23	164	169	209	198	590	654	96	186	158	126	121	139
24	166	177	195	213	496	397	99	185	130	126	115	147
25	166	177	200	267	448	297	102	184	136	128	114	142
26	189	178	183	261	435	490	106	179	135	133	111	144
27	201	178	190	283	417	551	109	178	136	129	115	140
28	199	179	182	287	323	548	159	175	136	129	113	134
29	198	168	157	284	---	613	185	173	137	130	117	136
30	196	219	162	277	---	632	185	170	137	128	121	144
31	193	---	171	266	---	616	---	166	---	126	123	---
TOTAL	4877	5769	7537	6783	14403	10909	6452	5433	4982	5841	3596	3863
MEAN	157	192	243	219	514	352	215	175	166	188	116	129
MAX	201	272	432	287	1120	669	593	194	193	312	131	147
MIN	124	159	157	181	211	180	96	164	130	125	105	108
AC-FT	9670	11440	14950	13450	28570	21640	12800	10780	9880	11590	7130	7660

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	94.9	122	189	284	350	359	228	150	125	99.6	83.1	77.4
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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1941 - 1994
ANNUAL TOTAL	281126.8	80445	
ANNUAL MEAN	770	220	179
HIGHEST ANNUAL MEAN			789
LOWEST ANNUAL MEAN			36.4
HIGHEST DAILY MEAN	6210	Jan 20	1120
LOWEST DAILY MEAN	5.8	Sep 21	96
ANNUAL SEVEN-DAY MINIMUM	75	Sep 20	109
INSTANTANEOUS PEAK FLOW			1610
INSTANTANEOUS PEAK STAGE			5.09
ANNUAL RUNOFF (AC-FT)	557600	159600	129900
10 PERCENT EXCEEDS	1580	411	302
50 PERCENT EXCEEDS	259	182	103
90 PERCENT EXCEEDS	126	122	36

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## 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 September 1994 (discontinued).

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, 1,330 microsiemens, Nov. 16; minimum recorded, 275 microsiemens, Feb. 6.

WATER TEMPERATURE: Maximum recorded, 27.5°C, Aug. 12-14; minimum recorded, 9.5°C, Dec. 24.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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 (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)
OCT												
13...	1500	157	1150	--	21.0	--	--	--	--	--	--	--
28...	1230	200	1130	--	17.0	--	--	--	--	--	--	--
NOV												
03...	1440	192	1100	7.8	16.5	5.0	752	8.7	91	K300	2000	320
30...	1430	229	670	--	14.5	--	--	--	--	--	--	--
DEC												
06...	1650	229	1060	--	16.0	--	--	--	--	--	--	--
21...	1500	226	1080	--	13.0	--	--	--	--	--	--	--
JAN												
06...	0900	205	1080	--	12.0	--	--	--	--	--	--	--
26...	1300	277	855	8.0	12.5	10	748	10.1	97	12000	15000	240
FEB												
04...	1445	248	615	--	12.0	--	--	--	--	--	--	--
18...	1700	619	775	--	12.0	--	--	--	--	--	--	--
MAR												
03...	1415	180	1100	--	16.0	--	--	--	--	--	--	--
17...	1500	200	1110	8.1	17.0	7.0	744	9.3	99	K280	K150	320
APR												
08...	1345	190	1090	--	18.0	--	--	--	--	--	--	--
29...	0945	185	885	--	16.0	--	--	--	--	--	--	--
MAY												
19...	1145	180	1020	--	19.0	--	--	--	--	--	--	--
26...	1420	180	1000	8.0	19.5	1.7	749	8.6	96	K20	K23	280
JUN												
07...	1205	187	1040	--	22.0	--	--	--	--	--	--	--
20...	1230	172	995	--	22.5	--	--	--	--	--	--	--
JUL												
14...	1305	138	1090	8.0	24.5	150	746	6.9	85	780	260	300
29...	1300	129	1040	--	25.5	--	--	--	--	--	--	--
AUG												
09...	1410	112	1010	--	27.0	--	--	--	--	--	--	--
25...	1100	118	1030	--	22.5	--	--	--	--	--	--	--
SEP												
06...	1445	125	1010	--	26.0	--	--	--	--	--	--	--
15...	1215	122	1020	8.1	21.5	30	748	8.4	97	540	3200	290

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	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 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	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 03...	92	89	23	100	40	2	11	275	0	225	130	120
JAN 26...	56	69	17	73	38	2	9.5	227	0	186	97	82
MAR 17...	91	91	23	96	38	2	11	282	0	231	130	120
MAY 26...	54	79	20	90	40	2	9.9	276	0	226	110	110
JUL 14...	63	85	22	100	41	3	9.8	292	0	240	120	120
SEP 15...	94	81	21	99	42	3	10	238	0	195	130	110
DATE	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)	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, DIS- SOLVED (MG/L AS P)
OCT 13...	--	--	718	--	--	--	--	--	--	--	--	--
28...	--	--	700	--	--	--	--	--	--	--	--	--
NOV 03...	0.50	20	674	668	0.92	0.090	7.80	0.150	1.0	1.50	1.30	1.30
30...	--	--	408	--	--	--	--	--	--	--	--	--
DEC 06...	--	--	646	--	--	--	--	--	--	--	--	--
21...	--	--	662	--	--	--	--	--	--	--	--	--
JAN 06...	--	--	662	--	--	--	--	--	--	--	--	--
26...	0.50	18	524	511	0.71	0.120	6.90	0.220	1.6	1.20	0.910	0.940
FEB 04...	--	--	364	--	--	--	--	--	--	--	--	--
18...	--	--	460	--	--	--	--	--	--	--	--	--
MAR 03...	--	--	670	--	--	--	--	--	--	--	--	--
17...	0.50	20	676	662	0.92	0.220	6.00	0.310	1.3	1.20	1.20	1.20
APR 08...	--	--	648	--	--	--	--	--	--	--	--	--
29...	--	--	540	--	--	--	--	--	--	--	--	--
MAY 19...	--	--	608	--	--	--	--	--	--	--	--	--
26...	0.50	17	624	597	0.85	0.210	4.50	0.310	1.3	1.30	1.30	1.20
JUN 07...	--	--	616	--	--	--	--	--	--	--	--	--
20...	--	--	600	--	--	--	--	--	--	--	--	--
JUL 14...	0.50	26	676	656	0.92	0.130	5.90	0.360	2.1	1.50	0.790	0.760
29...	--	--	626	--	--	--	--	--	--	--	--	--
AUG 09...	--	--	620	--	--	--	--	--	--	--	--	--
25...	--	--	622	--	--	--	--	--	--	--	--	--
SEP 06...	--	--	582	--	--	--	--	--	--	--	--	--
15...	0.50	23	644	626	0.88	0.070	6.80	0.060	1.2	1.50	1.20	1.20



## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	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 03...	<10	41	<3	20	8	360	20	3	<1	<1.0	570	7
MAR 17...	<10	51	<3	7	8	86	<10	2	<1	<1.0	580	7
MAY 26...	<10	43	<3	22	8	150	20	2	<1	<1.0	510	9
SEP 15...	10	42	<3	9	6	62	<10	3	<1	<1.0	510	7

## CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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 (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (MG/L)	SEDIMENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY											
26...*	1710	1.51	6.00	1010	8.0	20.0	748	8.3	93	--	--
26...*	1715	1.78	10.0	1010	7.9	20.0	748	8.3	93	4	--
26...*	1725	1.92	17.0	1020	7.9	20.0	748	8.2	92	4	--
26...*	1730	1.92	25.0	1020	7.9	19.5	748	8.5	95	4	--
26...*	1740	1.95	31.0	1020	7.9	19.5	748	8.6	96	6	86
SEP											
15...*	1120	1.28	6.00	1020	8.0	20.5	748	8.5	97	142	64
15...*	1125	1.35	10.5	1020	8.0	20.5	748	8.4	95	651	15
15...*	1135	1.44	18.5	1020	8.0	20.5	748	8.4	95	348	28
15...*	1140	1.39	23.5	1010	8.0	21.0	748	8.4	96	215	46
15...*	1145	1.49	30.5	1010	8.0	21.0	748	8.4	96	99	87

Instantaneous discharge at the time of cross-sectional measurements: May 26, 177 ft<sup>3</sup>/s; Sept. 15, 122 ft<sup>3</sup>/s.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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
NOV						
03...	1440	192	16.5	106	55	41
JAN						
26...	1300	277	12.5	80	60	60
MAR						
17...	1500	200	17.0	20	11	98
MAY						
26...	1420	180	19.5	6	2.9	86
26...	1720	177	20.0	4	1.9	96
JUL						
14...	1305	138	24.5	608	227	98
SEP						
15...	1130	122	20.5	291	96	48
15...	1215	122	21.5	214	70	52

## SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1130	1070	1130	1030	800	664	1270	1210	1000	965	1080	1040
2	1130	1080	1110	1040	924	800	1290	1250	1000	955	1110	1060
3	1130	1080	1130	1080	948	905	1280	1050	965	855	1140	1100
4	1110	1090	1130	1060	978	922	1070	1040	910	585	1140	1060
5	1130	1090	1150	1100	1030	969	1070	1040	635	295	1100	1040
6	1120	1100	1170	1120	1120	1030	1120	1070	565	275	---	---
7	1110	1090	1190	1130	1140	1050	1180	1100	935	435	---	---
8	1100	1090	1210	1150	1060	966	1240	1180	915	555	---	---
9	1120	1100	1180	1140	1030	985	1230	1190	765	555	---	---
10	1130	1110	1160	1120	1060	1020	1260	1140	745	665	---	---
11	1150	1120	1160	920	1090	688	1170	1030	745	685	---	---
12	1140	1120	1180	1050	688	529	1150	1040	805	745	---	---
13	1150	1110	1170	1120	770	639	1100	1060	785	745	---	---
14	1160	1100	1180	1050	823	612	1140	1060	775	705	---	---
15	1210	1160	1240	1120	624	593	1160	1130	755	705	---	---
16	1260	1190	1330	1180	764	623	1170	1130	855	745	---	---
17	1280	1220	1320	1230	935	764	1160	1130	1030	825	---	---
18	1220	1100	1240	1180	1000	935	1140	1100	825	693	---	---
19	1150	1090	1190	1150	1010	867	1110	1080	735	680	---	---
20	1160	1090	1250	1150	1030	867	1090	1070	717	612	---	---
21	1120	1070	1210	1120	1130	1030	1080	1050	612	561	---	---
22	1110	1070	1240	1110	1110	1070	1060	1050	682	594	---	---
23	1130	1050	1210	1180	1090	1060	1060	1040	724	632	---	---
24	1110	1040	1260	1200	1110	1070	1060	1020	795	639	---	---
25	1110	1020	1270	1140	1100	1080	1020	845	855	730	---	---
26	1060	1010	1210	1130	1140	1080	905	835	916	813	---	---
27	1060	990	1170	1090	1140	1100	935	785	976	914	---	---
28	1150	1050	1120	980	1130	1100	845	735	1050	976	---	---
29	1150	1100	1020	950	1200	1110	905	845	---	---	---	---
30	1120	1060	970	710	1220	1190	965	885	---	---	---	---
31	1120	1030	---	---	1240	1210	995	945	---	---	---	---
MONTH	1280	990	1330	710	1240	529	1290	735	1050	275	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	920	870	1130	975	1230	1110	1020	940	980	957
2	---	---	980	890	1080	1050	1210	1110	1030	980	1010	980
3	---	---	1030	920	1090	1040	1200	1070	1060	1010	1010	980
4	---	---	1030	950	1120	1060	1140	1040	1070	934	1010	990
5	---	---	1000	970	1150	1090	1120	998	936	881	1020	990
6	---	---	1060	970	1160	1050	1100	1000	932	882	---	---
7	---	---	1120	1010	---	---	1070	984	975	918	---	---
8	---	---	1080	1010	1170	1040	1070	985	1000	954	---	---
9	1120	1050	1070	1020	1130	1020	1090	998	1050	985	---	---
10	1090	1030	1050	1010	1080	1040	1110	1060	1030	991	---	---
11	1080	1010	1050	1010	1090	1020	1140	1080	1120	1020	---	---
12	1060	1010	1040	1000	1140	1020	1110	1070	1120	998	---	---
13	1050	993	1080	1020	1150	1040	1110	1060	1060	985	---	---
14	1040	998	1100	1050	1130	1040	1070	1040	1060	991	---	---
15	1020	984	1080	1040	1110	1040	1180	1020	1050	986	---	---
16	1030	986	1080	1010	1140	1060	1080	1030	1040	988	1070	888
17	1020	990	1110	1030	1160	1040	1050	1000	1050	953	934	877
18	1010	965	1110	1080	1180	1040	1060	1000	1010	951	964	912
19	1010	968	1100	1070	1140	1040	1060	1040	1010	952	1020	958
20	1010	971	1100	1060	1120	1000	1090	1040	1070	997	1000	960
21	1010	985	1120	1070	1120	994	1090	1060	1080	1030	970	950
22	1040	985	1080	1020	1150	1020	1090	1010	1070	1020	960	940
23	1080	1020	1050	986	1180	1040	1020	985	1060	1030	950	930
24	1120	1060	1030	986	1140	1040	997	953	1090	1030	940	920
25	1120	1070	1050	998	1190	1070	1000	953	1030	971	940	900
26	1110	980	1110	1050	1200	1080	1020	961	994	913	952	910
27	991	874	1130	1060	1160	1090	1040	989	913	836	985	937
28	936	860	1140	1070	1170	1080	1090	1020	940	836	986	928
29	970	896	1130	1080	1200	1090	1250	985	959	866	950	914
30	927	870	1120	1060	1210	1100	1000	900	932	890	942	870
31	---	---	1090	1040	---	---	977	904	964	920	---	---
MONTH	---	---	1140	870	---	---	1250	900	1120	836	---	---

## 11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	21.5	19.0	17.5	15.0	14.0	15.0	11.0	12.0	10.5	17.0	14.5
2	22.5	22.0	19.0	17.5	15.0	13.5	15.5	11.5	14.0	10.5	18.0	15.0
3	22.5	22.0	18.0	16.5	14.5	13.5	16.5	12.0	14.0	11.5	18.0	15.5
4	22.5	22.0	18.0	16.0	15.0	13.5	15.5	12.0	13.5	12.0	17.5	16.0
5	22.5	21.5	18.0	15.5	15.5	13.0	16.5	13.0	13.0	12.5	17.5	16.0
6	22.0	21.0	18.5	15.5	16.0	13.5	14.5	12.0	13.0	12.5	16.5	15.5
7	21.0	20.5	18.5	16.0	15.5	12.5	14.0	10.5	14.0	12.5	16.5	15.0
8	21.0	20.5	18.5	16.5	15.5	12.5	14.0	10.0	13.5	12.5	16.0	14.0
9	20.5	20.5	19.0	15.5	15.5	13.0	14.0	10.0	13.5	12.5	15.5	14.5
10	20.5	20.5	19.0	16.5	15.5	12.0	14.5	10.5	13.0	12.5	16.0	15.0
11	21.0	20.5	18.0	16.5	15.0	13.0	14.5	10.0	14.0	13.0	16.5	15.5
12	21.5	21.0	17.0	16.0	14.0	11.5	15.0	11.0	13.5	12.5	17.0	16.5
13	21.5	21.0	16.5	14.5	15.0	11.0	16.0	11.0	13.0	12.0	17.5	16.5
14	21.5	21.0	16.0	14.0	14.0	11.0	16.0	13.0	13.0	12.0	17.0	16.0
15	21.0	20.5	15.0	12.5	12.0	10.5	16.5	12.5	13.0	12.5	17.0	16.5
16	21.0	20.0	16.5	13.5	11.5	10.5	16.0	11.5	13.0	12.5	17.5	17.0
17	20.0	19.0	17.5	14.0	13.5	10.5	17.0	11.0	13.5	13.0	17.5	17.0
18	19.5	18.5	17.0	13.5	13.5	10.0	17.5	11.5	13.5	12.5	18.0	17.5
19	19.0	18.5	17.5	13.5	13.5	12.5	16.5	11.5	13.0	12.5	18.0	16.0
20	19.0	18.0	17.0	14.0	13.0	11.5	16.5	11.5	13.0	13.0	17.0	15.5
21	18.5	18.0	16.5	13.0	14.0	10.5	16.5	11.5	13.0	12.5	17.0	16.0
22	19.0	18.5	17.0	15.5	14.0	10.0	17.0	13.0	13.0	12.5	17.0	16.5
23	19.0	18.5	18.0	16.0	13.0	10.5	17.0	13.0	13.5	12.5	17.5	16.5
24	19.0	18.5	17.5	15.0	14.0	9.5	17.0	14.0	13.5	13.0	17.0	15.5
25	18.5	18.0	15.5	13.5	15.0	11.0	15.5	12.5	14.5	13.5	16.0	13.0
26	19.0	18.5	15.0	12.0	14.0	12.0	14.0	12.5	15.5	14.5	14.5	13.5
27	18.5	17.5	15.0	12.0	16.0	13.0	14.0	13.0	15.5	15.5	15.0	14.5
28	18.0	16.5	15.5	13.0	15.5	11.5	13.5	11.5	16.5	14.5	15.5	14.5
29	17.5	15.5	15.5	12.0	15.5	13.0	13.0	12.0	---	---	15.5	15.0
30	17.5	16.5	15.5	14.0	15.0	11.5	13.0	11.5	---	---	16.0	15.5
31	18.0	17.0	---	---	15.0	11.5	13.0	11.5	---	---	17.0	16.0
MONTH	22.5	15.5	19.0	12.0	16.0	9.5	17.5	10.0	16.5	10.5	18.0	13.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.0	17.0	16.0	15.0	---	---	24.0	23.0	25.0	21.0	---	---
2	18.5	18.0	16.5	15.5	21.0	19.5	24.5	23.5	25.0	20.5	---	---
3	18.5	18.0	17.0	15.5	21.0	20.0	24.5	23.5	25.5	21.0	---	---
4	19.0	17.5	17.5	16.5	21.5	20.0	24.0	23.5	25.5	20.5	---	---
5	19.5	17.5	18.0	17.0	21.5	20.0	24.0	23.0	25.5	21.5	---	---
6	19.5	17.5	18.5	17.0	21.5	19.5	24.0	23.0	26.0	22.0	---	---
7	19.5	18.0	19.0	17.5	---	---	23.5	23.0	25.5	22.0	---	---
8	19.5	17.5	19.0	17.5	22.0	21.0	23.5	23.0	25.5	21.5	---	---
9	18.5	17.0	19.5	18.0	22.5	21.0	23.5	23.5	26.5	22.5	---	---
10	18.5	16.0	19.5	18.0	22.5	21.5	24.0	23.5	26.5	23.0	---	---
11	18.5	16.5	19.5	18.0	22.5	21.5	25.0	23.5	27.0	22.5	---	---
12	19.5	18.0	19.0	18.5	22.5	21.5	25.0	23.0	27.5	23.5	---	---
13	20.5	18.5	19.5	18.5	22.5	21.0	25.5	21.5	27.5	23.5	---	---
14	20.0	18.0	20.0	18.5	22.5	21.5	26.0	21.5	27.5	24.0	---	---
15	19.5	18.0	19.5	19.0	22.0	21.0	26.5	22.0	27.0	23.0	---	---
16	20.0	18.5	20.0	18.5	22.5	21.0	26.5	21.0	26.5	22.5	21.5	19.0
17	20.5	19.0	19.5	18.5	22.0	21.0	25.0	22.0	27.0	23.0	21.5	19.5
18	21.5	19.5	19.0	17.5	22.0	21.0	25.5	21.5	27.0	23.5	21.0	19.5
19	21.5	20.0	19.0	17.5	22.0	21.0	25.0	21.0	26.5	23.0	21.0	18.5
20	21.5	20.0	19.0	17.5	22.5	21.0	23.5	20.5	26.0	22.5	20.5	18.0
21	21.5	19.5	19.5	18.0	22.5	21.0	25.5	20.5	---	---	20.5	18.0
22	20.0	18.5	19.5	18.5	22.5	21.5	25.5	21.0	---	---	20.5	18.0
23	19.5	18.5	20.0	18.5	23.0	21.5	25.0	20.5	---	---	20.5	18.0
24	18.5	17.5	20.0	19.0	23.0	21.5	25.5	20.0	---	---	20.0	18.5
25	18.0	16.5	19.5	19.5	23.5	21.5	25.0	20.0	---	---	21.0	17.5
26	16.5	14.5	20.0	19.5	23.5	22.0	25.0	20.5	---	---	20.5	18.5
27	15.0	14.0	20.0	19.0	24.0	22.0	25.5	21.0	---	---	22.0	19.0
28	15.5	14.0	20.5	19.0	24.0	22.5	25.0	21.0	---	---	21.5	19.5
29	16.0	14.5	20.5	19.5	24.0	23.0	25.0	20.5	---	---	22.0	20.0
30	16.0	14.5	20.5	19.5	24.5	23.0	25.0	21.0	---	---	21.0	18.5
31	---	---	20.5	19.5	---	---	25.0	21.5	---	---	---	---
MONTH	21.5	14.0	20.5	15.0	---	---	26.5	20.0	---	---	---	---

## 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, 13 ft<sup>3</sup>/s, Feb. 8, gage height, 2.44 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	e.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00
5	e.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.01	.00	.00	e.00	.00	.00	.00	.00
7	.00	.00	.00	.00	2.1	.00	.00	e.00	.00	.00	.00	.00
8	.00	.00	.00	.00	5.0	.00	.00	e.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.05	.00	.00	e.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
11	.00	.19	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
12	.00	.05	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
13	.00	.04	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
14	.00	.04	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
15	.00	.03	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
16	.01	.02	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
17	.01	.00	.00	.00	1.5	.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	.19	.00	.00	.00	.00	.00	.00
20	.02	.00	.00	.00	4.9	.23	.00	.00	.00	.00	.00	.00
21	.03	.00	.00	.00	1.1	.00	.00	.00	.00	.00	.00	.00
22	.02	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
23	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.01	.00	.44	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.04	.00	2.9	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.66	.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	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.04	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.10	0.41	0.00	0.05	14.80	3.76	0.66	0.00	0.00	0.00	0.00	0.00
MEAN	.003	.014	.000	.002	.53	.12	.022	.000	.000	.000	.000	.000
MAX	.03	.19	.00	.04	5.0	2.9	.66	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.2	.8	.00	.1	29	7.5	1.3	.00	.00	.00	.00	.00

e Estimated.

## 11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.038	.18	.49	2.28	4.78	4.41	.51	.17	.060	.044	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1962 - 1994			
ANNUAL TOTAL	1626.79				19.78							
ANNUAL MEAN	4.46				.054				1.06			
HIGHEST ANNUAL MEAN									7.27			
LOWEST ANNUAL MEAN									.004			
HIGHEST DAILY MEAN	220				5.0				322			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					13				796			
INSTANTANEOUS PEAK STAGE					2.44				5.11			
ANNUAL RUNOFF (AC-FT)	3230				39				771			
10 PERCENT EXCEEDS	4.5				.00				.23			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## 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)
Feb. 20	1745	*36	*5.47				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	2.8	e.00	.38	1.7	5.3	1.3	.03	e.00	.00	.00
2	.00	.00	1.3	e.00	.53	1.5	4.6	1.2	.01	e.00	.00	.00
3	.00	.00	.00	e.00	.86	1.3	3.8	.89	.01	e.00	.00	.00
4	.00	.00	.00	e.00	1.7	1.2	3.3	.79	.01	e.00	.00	.00
5	.00	.00	.00	e.00	2.8	1.1	2.1	.73	.01	e.00	.00	.00
6	.00	.00	.00	e.00	3.1	1.3	1.6	1.0	.00	e.00	.00	.00
7	.00	.00	e.15	e.00	6.8	2.1	1.6	1.5	.00	.00	.00	.00
8	.00	.00	e.46	e.00	16	2.4	1.4	1.0	.01	.00	.00	.00
9	.00	.00	e.44	e.00	6.6	1.8	1.5	.83	.00	.00	.00	.00
10	.00	.00	e.11	e.00	3.9	1.6	1.6	.73	.00	.00	.00	.00
11	.00	e.72	1.7	e.00	2.6	1.4	1.3	.66	.00	.00	.00	.00
12	.00	e1.8	.99	e.00	1.9	1.3	.99	.62	.00	.00	.00	.00
13	.00	e.50	.75	.00	1.5	1.0	.81	.64	.00	.00	.00	.00
14	.00	e2.4	.76	.00	1.2	.93	.64	.63	.01	.00	.00	.00
15	.00	e1.3	.89	.00	.96	.80	.60	.61	.00	.00	.00	.00
16	.00	e.32	.73	.00	.83	.69	.40	.64	.03	.00	.00	.00
17	.00	e.01	.47	.00	6.0	.54	.26	.99	.00	.00	.00	.00
18	.00	e.00	.27	.00	7.6	.45	.12	1.4	.00	.00	.00	.00
19	.00	e.00	.25	.00	5.8	6.3	.03	1.6	e.00	.00	.00	.00
20	.00	e.00	.05	.00	17	4.6	.15	1.5	e.00	.00	.00	.00
21	.00	e.00	.23	.00	20	4.0	.62	1.0	e.00	.00	.00	.00
22	.00	e.00	.04	.00	11	3.9	.70	.83	e.00	.00	.00	.00
23	.00	e.00	e.02	.00	7.2	3.9	.64	.69	e.00	.00	.00	.00
24	.00	e.00	e.00	.01	5.3	6.6	.89	.64	e.00	.00	.00	.00
25	.00	e.70	e.00	.50	3.9	13	2.1	.89	e.00	.00	.00	.00
26	.00	e.36	e.00	.45	3.1	12	3.5	1.2	e.00	.00	.00	.00
27	.00	e.11	e.00	.46	2.5	13	3.0	1.1	e.00	.00	.00	.00
28	.00	.00	e.00	.65	2.1	11	2.7	.68	e.00	.00	.00	.00
29	.00	.00	e.00	.52	---	9.3	2.0	.52	e.00	.00	.00	.00
30	.00	2.2	e.00	.53	---	7.7	1.4	.25	e.00	.00	.00	.00
31	.00	---	e.00	.45	---	6.2	---	.07	---	.00	.00	---
TOTAL	0.00	10.42	12.41	3.57	143.16	124.61	49.65	27.13	0.12	0.00	0.00	0.00
MEAN	.000	.35	.40	.12	5.11	4.02	1.65	.88	.004	.000	.000	.000
MAX	.00	2.4	2.8	.65	20	13	5.3	1.6	.03	.00	.00	.00
MIN	.00	.00	.00	.00	.38	.45	.03	.07	.00	.00	.00	.00
AC-FT	.00	21	25	7.1	284	247	98	54	.2	.00	.00	.00

e Estimated.

## 11075800 SANTIAGO CREEK AT MODJESKA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.22	2.03	6.05	16.9	32.1	21.8	6.35	3.28	1.43	.41	.16	.083
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1962 - 1994			
ANNUAL TOTAL	10544.88				371.07							
ANNUAL MEAN	28.9				1.02				7.44			
HIGHEST ANNUAL MEAN									47.2			
LOWEST ANNUAL MEAN									.21			
HIGHEST DAILY MEAN	1050				20				3590			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					36				6520			
INSTANTANEOUS PEAK STAGE					5.47				6.18			
ANNUAL RUNOFF (AC-FT)	20920				736				5390			
10 PERCENT EXCEEDS	53				2.7				9.8			
50 PERCENT EXCEEDS	.99				.00				.31			
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 50 ft upstream from Bristol Street Bridge at Santa Ana and 1,625 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; from Sept. 9, 1969, to July 21, 1976, at site 50 ft downstream at different datum; from July 22, 1976 to Sept. 30, 1993, at site 77 upstream at datum 5.25 ft lower.

REMARKS.--Records fair. 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, 363 ft<sup>3</sup>/s, Feb. 7, gage height, 9.05 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
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	3.5	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	23	.18	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	3.1	.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	1.7	.93	.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	.00	.00	.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	.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	.00	16	.00	.00	.00	.00	.00	.00	.00
18	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	e.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00	.00
20	.00	e.00	.00	.00	9.0	.00	.00	.00	.00	.00	.00	.00
21	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	e.00	.00	.02	.00	8.6	.00	.00	.00	.00	.00	.00
25	.00	e.00	.00	.38	.00	.12	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.05	.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	.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	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	1.70	0.93	0.40	54.60	11.10	0.05	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.057	.030	.013	1.95	.36	.002	.000	.000	.000	.000	.000
MAX	.00	1.7	.93	.38	23	8.6	.05	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	3.4	1.8	.8	108	22	.1	.00	.00	.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	1941
LOWEST ANNUAL MEAN	.067	1961
HIGHEST DAILY MEAN	2320	Mar 3 1938
LOWEST DAILY MEAN	.00	Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1930
INSTANTANEOUS PEAK FLOW	4400	Mar 2 1938
INSTANTANEOUS PEAK STAGE	9.85	Jan 16 1952
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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.21	1.91	2.05	12.7	39.4	20.2	.61	.056	.012	.020	.062	.11
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1964 - 1994

ANNUAL TOTAL	19643.12	68.78	
ANNUAL MEAN	53.8	.19	
HIGHEST ANNUAL MEAN			6.26
LOWEST ANNUAL MEAN			71.7
HIGHEST DAILY MEAN	2060	Feb 20	.18
LOWEST DAILY MEAN	.00	Jan 1	4270
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 16	.00
INSTANTANEOUS PEAK FLOW			.00
INSTANTANEOUS PEAK STAGE			363
ANNUAL RUNOFF (AC-FT)	38960		9.05
10 PERCENT EXCEEDS	74		136
50 PERCENT EXCEEDS	.00		.00
90 PERCENT EXCEEDS	.00		.00

## 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 fair above 100 ft<sup>3</sup>/s and poor below. 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. Gage out of operation from Apr. 5, 1994, through Sept. 30, 1994, due to channel work (lining). 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, 3,690 ft<sup>3</sup>/s, Feb. 17, gage height, 4.86 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.12	e.05	.89	.05	.06	.25	.09	e.16	e.00	e.00	e.00	e.00
2	e.10	e.06	.24	.05	.03	.22	.03	e.15	e.00	e.00	e.00	e.00
3	e.10	e.05	.19	.06	.03	.26	.04	e.14	e.00	e.00	e.00	e.00
4	e.10	e.04	.06	.06	69	.31	.07	e.14	e.00	e.00	e.00	e.00
5	e.10	e.05	.04	.05	12	.23	e.04	e.14	e.00	e.00	e.00	e.00
6	e.09	e.04	.04	.04	.64	31	e.02	e1.5	e.00	e.00	e.00	e.00
7	e.09	e.03	.02	.02	634	13	e.01	e.90	e.00	e.00	e.00	e.00
8	e.08	e.03	.02	.01	33	1.1	e.01	e.75	e.00	e.00	e.00	e.00
9	e.09	e.03	.02	.00	187	.21	e.70	e.70	e.00	e.00	e.00	e.00
10	e.12	e.10	.02	.01	13	.09	e.10	e.60	e.00	e.00	e.00	e.00
11	e.25	e7.0	.08	.01	1.4	.06	e.02	e.50	e.00	e.00	e.00	e.00
12	e.18	e1.0	5.0	.01	.74	.04	e.01	e.25	e.00	e.00	e.00	e.00
13	e.17	e.40	.20	.01	.42	.05	e.01	e.12	e.00	e.00	e.00	e.00
14	e.16	e.18	1.1	.01	.30	.05	e.00	e.05	e.00	e.00	e.00	e.00
15	e.15	e.10	6.9	.01	.24	.03	e.00	e.03	e.00	e.00	e.00	e.00
16	e.55	e.05	.39	.01	.31	.02	e.00	e.02	e.00	e.00	e.00	e.00
17	e.40	e.03	.20	.00	379	.03	e.00	e.01	e.00	e.00	e.00	e.00
18	e.18	e.02	.14	.00	2.6	.03	e.00	e.01	e.00	e.00	e.00	e.00
19	e.15	.02	8.0	.00	6.0	61	e.00	e.00	e.00	e.00	e.00	e.00
20	e.13	.02	.39	.01	169	4.8	e.00	e.00	e.00	e.00	e.00	e.00
21	e.12	.02	.20	.00	9.3	.43	e.00	e.00	e.00	e.00	e.00	e.00
22	e.12	.03	.11	.01	2.8	.27	e.00	e.00	e.00	e.00	e.00	e.00
23	e.11	.03	.10	.01	.37	.17	e.00	e.00	e.00	e.00	e.00	e.00
24	e.10	.02	.08	.28	.34	2.6	e.80	e.00	e.00	e.00	e.00	e.00
25	e.10	.02	.10	10	.34	103	e1.0	e.00	e.00	e.00	e.00	e.00
26	e.09	.02	.11	.50	.32	29	e2.5	e.00	e.00	e.00	e.00	e.00
27	e.09	.02	.10	7.4	.32	1.6	e.50	e.00	e.00	e.00	e.00	e.00
28	e.08	.02	.14	.34	.27	.71	e.30	e.00	e.00	e.00	e.00	e.00
29	e.07	.02	.12	.14	---	.31	e.20	e.00	e.00	e.00	e.00	e.00
30	e.06	54	.07	.10	---	.17	e.18	e.00	e.00	e.00	e.00	e.00
31	e.05	---	.07	.06	---	.11	---	e.00	---	e.00	e.00	---
TOTAL	4.30	63.50	25.14	19.26	1522.83	251.15	6.63	6.17	0.00	0.00	0.00	0.00
MEAN	.14	2.12	.81	.62	54.4	8.10	.22	.20	.000	.000	.000	.000
MAX	.55	54	8.0	10	634	103	2.5	1.5	.00	.00	.00	.00
MIN	.05	.02	.02	.00	.03	.02	.00	.00	.00	.00	.00	.00
AC-FT	8.5	126	50	38	3020	498	13	12	.00	.00	.00	.00

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.63	12.1	36.9	140	237	233	61.2	17.3	8.50	.45	2.11	1.52
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1940 - 1994

ANNUAL TOTAL	220227.89	1898.98	
ANNUAL MEAN	603	5.20	62.0
HIGHEST ANNUAL MEAN			612
LOWEST ANNUAL MEAN			.0006
HIGHEST DAILY MEAN	7960	Feb 20	11400
LOWEST DAILY MEAN	.00	Jun 29	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 29	.00
INSTANTANEOUS PEAK FLOW			3690
INSTANTANEOUS PEAK STAGE			4.86
ANNUAL RUNOFF (AC-FT)	436800	3770	44890
10 PERCENT EXCEEDS	1890	.84	9.5
50 PERCENT EXCEEDS	.20	.02	.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 1993 TO SEPTEMBER 1994

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	
FEB									
17...	1650	698	13.0	3770	7100	43	43	57	
17...	1710	548	13.0	5290	7830	18	23	32	
MAR									
07...	1115	1.1	19.0	12	0.04	--	--	--	
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
FEB									
17...	72	86	92	94	95	98	100	--	
17...	41	50	53	55	56	76	98	100	
MAR									
07...	--	--	96	--	--	--	--	--	

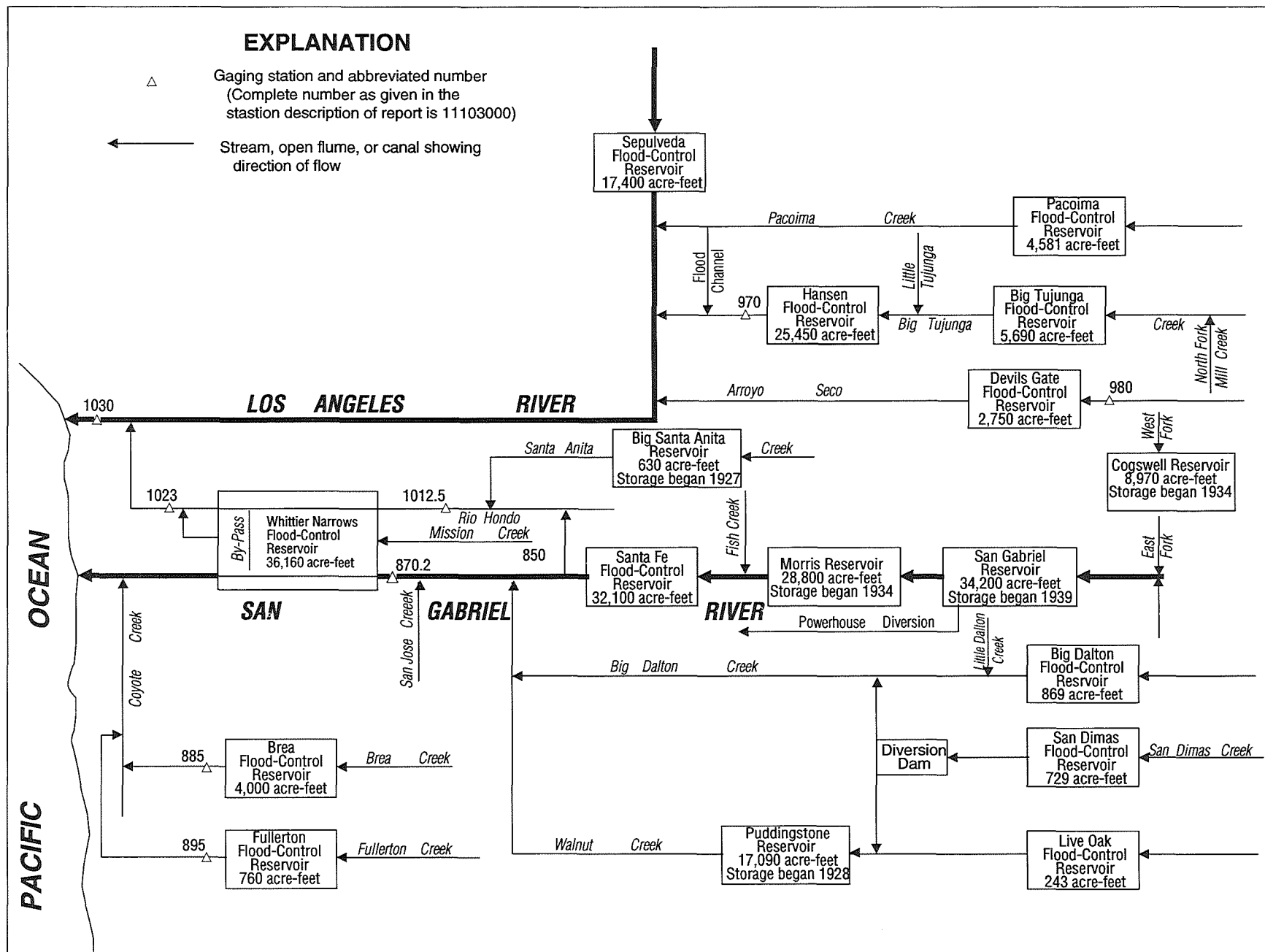


Figure 20. Diversions and storage in San Gabriel and Los Angeles River basins.

## 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 except for estimated daily discharges, which are poor. 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; 1,510 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, 87 ft<sup>3</sup>/s, Dec. 16, gage height, 10.95 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.00	.00	.01	.00	4.0	1.8	.01	.00	.00
2	.00	.00	.00	e.00	.00	.01	.00	4.0	1.8	.01	.00	.00
3	.00	.00	.00	e.00	.00	.00	.00	4.0	1.7	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	4.0	.29	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	4.4	.05	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	5.4	.03	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	5.0	.03	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	4.5	.02	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	4.3	.02	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	4.0	.02	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	4.0	.02	.00	.00	.00
12	.00	.00	3.3	.00	.00	.00	.00	4.0	.01	.00	.00	.00
13	.00	.00	6.9	.00	.00	.00	.00	4.0	.01	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	4.0	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.03	4.0	.00	.00	.00	.00
16	.00	.00	12	.00	.00	.00	.04	4.0	.00	.00	.00	.00
17	.00	.00	87	.00	2.7	.00	.04	4.0	.00	.00	.00	.00
18	.00	.00	80	.00	24	.00	.06	4.0	.00	.00	.00	.00
19	.00	.00	58	.00	15	.00	.08	4.0	.00	.00	.00	.00
20	.00	.00	.73	.00	.50	.01	.89	4.0	.00	.00	.00	.00
21	.00	.00	e.00	.00	.04	.01	3.4	4.0	.00	.00	.00	.00
22	.00	.00	e.00	.00	.03	.00	7.0	4.0	.00	.00	.00	.00
23	.00	.00	e.00	.00	.02	.00	7.7	4.3	.00	.00	.00	.00
24	.00	.00	e.00	.00	.02	.00	3.7	4.5	.01	.00	.00	.00
25	.00	.00	e.00	.00	.01	.13	2.6	4.5	.02	.00	.00	.00
26	.00	.00	e.00	.00	.01	.02	2.6	4.5	.02	.00	.00	.00
27	.00	.00	e.00	.00	.01	.01	2.6	4.4	.02	.00	.00	.00
28	.00	.00	e.00	.00	.01	.00	3.5	2.4	.02	.00	.00	.00
29	.00	.00	e.00	.00	---	.00	4.0	1.8	.02	.00	.00	.00
30	.00	.00	e.00	.00	---	.00	4.0	1.8	.02	.00	.00	.00
31	.00	---	e.00	.00	---	.00	---	1.8	---	.00	.00	---
TOTAL	0.00	0.00	247.93	0.00	42.35	0.20	42.24	121.6	5.93	0.02	0.00	0.00
MEAN	.000	.000	8.00	.000	1.51	.006	1.41	3.92	.20	.001	.000	.000
MAX	.00	.00	87	.00	24	.13	7.7	5.4	1.8	.01	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	1.8	.00	.00	.00	.00
AC-FT	.00	.00	492	.00	84	.4	84	241	12	.04	.00	.00

e, Estimated.

## 11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.78	18.9	32.4	142	241	200	64.8	53.6	25.5	6.22	5.82	10.8
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 1993 CALENDAR YEAR			FOR 1994 WATER YEAR			WATER YEARS 1943 - 1994		
ANNUAL TOTAL	152039.63			460.27					
ANNUAL MEAN	417			1.26			66.1		
HIGHEST ANNUAL MEAN							540		
LOWEST ANNUAL MEAN							.000		
HIGHEST DAILY MEAN	9860			87			26000		
LOWEST DAILY MEAN	.00			.00			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			.00			.00		
INSTANTANEOUS PEAK FLOW				87			30900		
INSTANTANEOUS PEAK STAGE				10.95			22.20		
ANNUAL RUNOFF (AC-FT)	301600			913			47860		
10 PERCENT EXCEEDS	709			4.0			69		
50 PERCENT EXCEEDS	11			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

## 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.--Records good except for discharges below 200 ft<sup>3</sup>/s, which are fair, and estimated daily discharges, which are poor. 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 1,510 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, 14,100 ft<sup>3</sup>/s, Mar. 24, gage height, 7.62 ft; minimum daily, 7.7 ft<sup>3</sup>/s, Sept. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	97	98	49	37	44	48	39	156	52	26	27
2	79	96	99	49	e45	47	39	40	154	20	28	23
3	57	88	96	52	e50	46	49	70	135	20	23	21
4	79	78	89	48	853	43	47	165	138	24	24	25
5	78	97	88	44	49	41	48	168	134	23	24	29
6	82	96	80	36	39	167	45	200	133	21	24	28
7	79	98	84	35	1580	53	39	166	143	22	22	23
8	80	99	93	44	404	45	25	227	142	23	27	22
9	84	106	97	45	51	45	68	169	141	20	26	23
10	87	80	97	37	52	44	29	165	139	18	25	22
11	103	302	479	66	47	43	44	161	148	18	33	25
12	77	105	66	92	47	43	39	167	142	21	27	25
13	83	97	53	90	47	46	38	166	151	24	25	16
14	84	95	1020	87	50	49	38	166	148	23	27	11
15	85	90	93	92	46	44	36	168	153	32	31	12
16	96	85	68	94	45	45	34	172	153	25	25	14
17	56	95	99	104	907	34	37	167	161	20	23	12
18	83	83	104	107	49	34	42	166	162	25	22	12
19	69	96	260	88	61	1470	41	170	157	24	20	10
20	82	101	82	71	1360	80	39	174	163	27	21	7.7
21	85	101	56	43	50	53	38	185	166	28	23	9.2
22	88	96	58	40	46	48	39	188	163	24	23	12
23	94	98	54	31	47	48	37	179	152	23	22	13
24	89	101	57	69	47	1750	38	180	162	24	23	17
25	86	101	55	287	45	336	347	168	143	25	22	14
26	96	93	56	44	42	54	668	141	144	24	27	13
27	97	89	51	75	42	50	75	38	142	29	25	11
28	95	94	53	48	44	52	105	157	146	24	19	9.7
29	102	98	53	42	---	62	41	163	140	24	28	7.9
30	100	709	52	38	---	51	36	153	138	25	26	10
31	93	---	48	39	---	45	---	149	---	27	25	---
TOTAL	2630	3665	3838	2086	6182	5012	2249	4787	4449	759	766	504.5
MEAN	84.8	122	124	67.3	221	162	75.0	154	148	24.5	24.7	16.8
MAX	103	709	1020	287	1580	1750	668	227	166	52	33	29
MIN	56	78	48	31	37	34	25	38	133	18	19	7.7
AC-FT	5220	7270	7610	4140	12260	9940	4460	9500	8820	1510	1520	1000

e Estimated.



## 11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	88.3	152	160	379	592	391	115	92.0	64.2	55.8	55.1	76.4
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1956 - 1994			
ANNUAL TOTAL	285832.9				36927.5							
ANNUAL MEAN	783				101				183			
HIGHEST ANNUAL MEAN									810			
LOWEST ANNUAL MEAN									24.4			
HIGHEST DAILY MEAN	16300				1750				24800			
LOWEST DAILY MEAN	4.7				7.7				.00			
ANNUAL SEVEN-DAY MINIMUM	6.0				11				.00			
INSTANTANEOUS PEAK FLOW					14100				46600			
INSTANTANEOUS PEAK STAGE					7.62				10.90			
ANNUAL RUNOFF (AC-FT)	566900				73250				132500			
10 PERCENT EXCEEDS	1650				166				210			
50 PERCENT EXCEEDS	80				52				65			
90 PERCENT EXCEEDS	39				22				.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, 615 ft<sup>3</sup>/s, Mar. 24, gage height, 3.65 ft; minimum daily, 0.50 ft<sup>3</sup>/s, Nov. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.6	3.8	1.5	1.3	2.4	2.5	4.7	1.1	2.7	1.5	1.2
2	1.9	1.3	2.1	1.5	1.6	2.3	3.0	2.3	1.3	2.2	1.3	1.5
3	3.9	1.4	1.7	1.5	2.0	3.6	2.2	2.9	1.4	1.2	1.1	2.0
4	4.7	1.8	1.3	1.6	67	2.6	1.9	2.6	1.4	.95	.96	1.9
5	2.4	1.9	1.4	1.5	7.2	2.3	6.8	3.5	1.4	.98	1.2	1.6
6	2.1	1.3	1.3	1.5	2.9	11	10	13	1.8	1.6	1.1	1.6
7	2.1	1.4	1.7	1.3	118	2.9	10	6.3	1.1	1.1	.97	2.0
8	2.1	1.6	1.7	1.2	53	3.1	12	12	1.3	1.6	.93	1.5
9	1.9	1.8	1.8	1.3	6.2	3.0	22	4.6	1.4	.92	.56	1.3
10	2.2	1.7	1.5	1.2	3.0	2.2	10	4.0	1.3	1.2	1.4	1.1
11	2.6	26	26	1.2	3.2	2.0	9.8	3.6	1.2	1.2	1.4	1.2
12	2.0	2.3	6.1	1.6	3.0	1.5	13	3.0	1.1	1.1	1.2	1.5
13	1.6	1.5	3.3	1.4	3.0	2.0	9.7	3.1	1.2	.94	1.2	1.9
14	2.5	1.4	36	1.4	2.7	1.6	7.7	3.7	1.1	.99	1.0	1.9
15	1.7	1.3	13	1.8	3.0	1.2	6.2	3.1	1.3	.89	1.2	1.9
16	1.7	1.5	5.3	1.5	2.9	1.1	5.5	3.9	1.4	.97	1.1	2.0
17	2.5	1.4	2.1	1.7	71	1.1	6.3	2.9	1.6	.91	1.3	1.9
18	1.8	3.2	2.0	1.4	11	.90	6.3	3.2	2.1	1.0	1.3	2.4
19	2.0	6.2	20	1.4	6.5	73	5.7	2.2	1.7	.86	1.2	2.5
20	1.9	5.8	3.1	2.0	103	24	6.9	1.8	1.5	.77	1.1	2.3
21	2.0	6.0	2.7	1.6	12	3.2	5.8	1.4	2.0	1.4	1.1	2.4
22	1.7	2.5	2.1	1.8	6.0	1.4	6.2	1.5	2.8	.81	1.2	2.5
23	1.6	.84	2.0	1.4	3.9	.98	5.1	1.2	2.7	.98	1.2	2.9
24	1.4	.71	1.8	2.3	3.3	76	4.8	1.3	2.2	.96	1.6	3.6
25	1.4	.72	2.0	17	3.1	40	27	1.5	1.6	.80	1.6	2.9
26	1.5	.72	1.9	2.8	3.1	9.6	25	1.5	2.5	.74	1.4	3.0
27	1.4	.59	2.1	3.6	2.3	5.3	11	1.5	2.0	.91	1.4	2.7
28	1.4	.52	2.2	2.2	3.1	2.8	10	1.6	1.3	.96	1.3	2.5
29	1.6	.50	1.9	1.9	---	4.2	6.0	1.1	1.6	1.3	1.2	3.2
30	1.5	53	1.6	1.7	---	2.2	5.0	1.1	1.5	1.1	1.5	2.8
31	1.5	---	1.7	1.2	---	2.9	---	1.0	---	1.6	1.4	---
TOTAL	62.5	132.50	157.2	67.0	508.3	292.38	263.4	101.1	47.9	35.64	37.92	63.7
MEAN	2.02	4.42	5.07	2.16	18.2	9.43	8.78	3.26	1.60	1.15	1.22	2.12
MAX	4.7	53	36	17	118	76	27	13	2.8	2.7	1.6	3.6
MIN	1.4	.50	1.3	1.2	1.3	.90	1.9	1.0	1.1	.74	.56	1.1
AC-FT	124	263	312	133	1010	580	522	201	95	71	75	126

## 11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.99	2.99	4.15	8.48	12.8	8.83	2.88	.77	.50	.42	.56	.77
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1942 - 1994			
ANNUAL TOTAL	6136.20				1769.54							
ANNUAL MEAN	16.8				4.85				3.63			
HIGHEST ANNUAL MEAN									20.9			
LOWEST ANNUAL MEAN									.001			
HIGHEST DAILY MEAN	582 Jan 7				118 Feb 7				1700 Feb 18 1980			
LOWEST DAILY MEAN	.40 Jan 4				.50 Nov 29				.00 Mar 24 1942			
ANNUAL SEVEN-DAY MINIMUM	.66 Nov 23				.66 Nov 23				.00 Apr 29 1942			
INSTANTANEOUS PEAK FLOW					615 Mar 24				a Feb 18 1980			
INSTANTANEOUS PEAK STAGE					3.65 Mar 24				a Feb 18 1980			
ANNUAL RUNOFF (AC-FT)	12170				3510				2630			
10 PERCENT EXCEEDS	20				7.0				2.8			
50 PERCENT EXCEEDS	2.1				1.8				.20			
90 PERCENT EXCEEDS	1.1				1.1				.00			

a Instantaneous peak discharge and stage for period of record are unknown, but probably occurred on February 18, 1980.

## 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.--Records fair except for estimated daily discharges, which are poor. 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, 312 ft<sup>3</sup>/s, Mar. 24, gage height, 7.70 ft; minimum daily, 0.12 ft<sup>3</sup>/s, Nov. 19, Dec. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.37	.52	.50	.28	.30	.35	e.28	.30	.26	.32	.38
2	.39	.27	.40	.44	.28	.29	.32	e.30	.32	.26	.34	.36
3	.38	.26	.33	.45	.30	.34	.32	e.28	.32	.26	.34	.35
4	.48	.20	.30	.56	27	.32	.34	e.36	.31	.26	.34	.35
5	.53	.19	.26	.55	.64	.30	e.36	e.30	.29	.27	.37	.36
6	.37	.27	.12	.58	.44	3.7	e.36	e1.2	.29	.29	.36	.38
7	.39	.27	.28	.57	48	.47	e.36	e.51	.27	.30	.37	.34
8	.40	.33	.25	.64	15	.35	e.36	e.36	.27	.31	.38	.36
9	.39	.42	.14	.70	.87	.33	e.36	e.30	.27	.34	.40	.37
10	.40	.18	.26	.53	.59	.30	e.43	e.30	.27	.35	.49	.34
11	.77	20	12	.47	.41	.32	e.36	e.36	.28	.34	.37	.32
12	.43	.79	1.4	.38	.25	.30	e.36	.47	.26	.33	.42	.32
13	.39	.96	.36	.25	.29	.28	e.36	.39	.39	.33	.40	.34
14	.38	1.1	13	.29	.29	.31	e.36	.35	.30	.39	.43	.32
15	.31	.77	2.3	.34	.34	.34	e.36	.39	.32	.37	.44	.38
16	.26	1.4	.65	.36	.31	.35	e.36	.35	.30	.36	.42	.38
17	.28	1.1	.43	.71	34	.32	e.36	.33	.30	.36	.38	.43
18	.44	.44	.36	.36	.89	.36	e.43	.41	.28	.37	.41	.37
19	.34	.12	8.6	.27	1.2	31	e.36	.30	.25	.35	.38	.39
20	.34	.17	.40	.21	42	.71	e.36	.29	.25	.37	.35	.44
21	.33	.24	.36	.13	.70	.41	e.36	.29	.25	.41	.34	.37
22	.31	.36	.35	.21	.35	.38	e.36	.29	.25	.42	.32	.35
23	.34	.61	.31	.27	.32	.36	e.36	.29	.25	.36	e.34	.36
24	.31	.43	.25	1.2	.30	41	e.43	.29	.25	.34	e.36	.36
25	.21	.35	.29	7.0	.30	14	e8.8	.30	.25	.32	e.36	.32
26	.28	.30	.38	.44	.30	.53	e9.6	.31	.25	.34	.37	.34
27	.26	.28	.51	.72	.31	.41	e1.1	.31	.26	.37	.37	.34
28	.28	.29	.39	.37	.30	.36	e.70	.30	.27	.38	.36	.32
29	.30	.39	.35	.42	---	.36	e.36	.29	.28	.42	e.36	.33
30	.34	21	.41	.36	---	.36	e.30	.32	.27	.36	e.36	.32
31	.35	---	.47	.30	---	.36	---	.32	---	.37	.34	---
TOTAL	11.32	53.86	46.43	20.58	176.26	99.52	29.60	11.14	8.42	10.56	11.59	10.69
MEAN	.37	1.80	1.50	.66	6.29	3.21	.99	.36	.28	.34	.37	.36
MAX	.77	.21	.13	7.0	.48	.41	9.6	1.2	.39	.42	.49	.44
MIN	.21	.12	.12	.13	.25	.28	.30	.28	.25	.26	.32	.32
AC-FT	22	107	92	41	350	197	59	22	17	21	23	21

e Estimated.

## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	1.10	1.85	3.67	4.50	3.10	.90	.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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1955 - 1994

ANNUAL TOTAL	1645.98	489.97	
ANNUAL MEAN	4.51	1.34	1.43
HIGHEST ANNUAL MEAN			5.16 1993
LOWEST ANNUAL MEAN			.028 1964
HIGHEST DAILY MEAN	187 Jan 7	48 Feb 7	221 Mar 1 1983
LOWEST DAILY MEAN	.12 Nov 19	.12 Nov 19	.00 Oct 1 1954
ANNUAL SEVEN-DAY MINIMUM	.23 Dec 4	.23 Dec 4	.00 Oct 1 1954
INSTANTANEOUS PEAK FLOW		312 Mar 24	392 Mar 1 1983
INSTANTANEOUS PEAK STAGE		7.70 Mar 24	8.25 Mar 1 1983
ANNUAL RUNOFF (AC-FT)	3260	972	1040
10 PERCENT EXCEEDS	1.3	.70	.96
50 PERCENT EXCEEDS	.43	.36	.20
90 PERCENT EXCEEDS	.30	.27	.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 fair except for discharges below 100 ft<sup>3</sup>/s, which are 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, 721 ft<sup>3</sup>/s, Nov. 11, gage height, 2.07 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	13	.00	44	54	.00	.00	4.6	29	.50	8.2	29
2	.00	21	26	44	59	.00	.00	4.2	29	.50	12	27
3	.00	21	41	43	64	.00	.00	3.4	26	.50	13	20
4	.00	21	40	42	45	.00	.00	3.4	24	.50	19	16
5	.00	21	38	42	6.1	.00	.00	3.4	24	.50	19	16
6	.00	21	38	41	6.1	.00	.00	3.4	24	.50	16	13
7	.00	21	39	43	6.9	.00	.00	3.4	25	.31	9.9	23
8	.00	22	41	42	40	.00	.00	2.9	26	.00	9.7	27
9	.00	25	41	41	89	.00	1.1	.50	26	.00	9.7	29
10	.00	17	41	27	94	35	.00	.50	26	.00	10	27
11	.02	15	26	4.6	77	54	22	.50	26	.00	14	23
12	.00	.00	4.6	3.2	70	54	28	.50	26	.00	16	21
13	.00	.00	4.1	2.1	64	54	26	.37	26	.00	16	28
14	.00	.00	4.4	.50	63	42	26	.00	26	.00	16	18
15	.00	.00	4.2	.50	65	38	26	.00	26	.00	16	8.0
16	.00	.00	3.4	.50	65	46	66	.00	13	.00	16	8.0
17	.00	.00	1.9	1.4	48	47	85	.00	4.6	.00	16	8.0
18	.00	.00	.50	3.5	33	47	69	.00	4.6	.94	19	8.0
19	.00	.00	.50	2.1	4.6	64	61	.00	4.2	3.9	22	8.0
20	.00	.00	.50	.50	26	66	26	.00	3.4	4.6	24	8.0
21	.00	.00	.27	.50	3.9	54	6.1	.00	3.4	4.6	21	8.0
22	.00	.00	.00	1.3	1.7	54	5.2	.00	3.4	4.4	19	8.6
23	.00	.00	.00	3.4	.00	26	4.6	.00	3.4	4.2	19	9.7
24	.00	.00	.00	3.8	.00	9.3	4.6	.00	3.4	3.4	19	9.7
25	2.4	.00	.00	6.1	.00	8.6	4.6	.00	3.4	4.2	22	9.7
26	.00	.00	.00	5.5	.00	6.9	4.6	17	2.5	5.2	26	9.7
27	.00	.00	29	4.6	.00	6.1	4.6	29	.50	6.6	25	9.7
28	.00	.00	47	4.6	.00	5.5	4.6	29	.50	4.9	21	9.7
29	.00	.03	46	4.4	---	4.6	4.6	29	.50	5.6	19	9.7
30	.00	.12	43	4.6	---	4.6	4.6	29	.50	4.4	21	9.7
31	.00	---	44	39	---	4.9	---	29	---	5.7	27	---
TOTAL	2.42	218.15	604.37	505.70	985.30	731.50	484.20	193.07	440.30	65.95	540.5	459.2
MEAN	.078	7.27	19.5	16.3	35.2	23.6	16.1	6.23	14.7	2.13	17.4	15.3
MAX	2.4	25	47	44	94	66	85	29	29	6.6	27	29
MIN	.00	.00	.00	.50	.00	.00	.00	.00	.50	.00	8.2	8.0
AC-FT	4.8	433	1200	1000	1950	1450	960	383	873	131	1070	911
a	214	685	1500	1300	2650	2110	1200	588	1020	317	1240	1070

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.40	8.05	3.78	39.4	94.5	79.6	26.8	15.7	5.50	1.56	1.36	3.16
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1948 - 1994			
ANNUAL TOTAL	81412.10				5230.66							
ANNUAL MEAN	223				14.3				23.1			
HIGHEST ANNUAL MEAN									224			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	3760				94				11400			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					721				15200			
INSTANTANEOUS PEAK STAGE					2.07				7.64			
ANNUAL RUNOFF (AC-FT)	161500				10380				16730			
10 PERCENT EXCEEDS	726				42				12			
50 PERCENT EXCEEDS	33				4.6				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## LOS ANGELES RIVER BASIN

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)
Feb. 7	2200	*129	*2.69				

Minimum daily, .21 ft<sup>3</sup>/s, Sept. 26-28

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	4.1	3.2	4.6	5.6	5.6	3.4	2.1	.64	e.41	.38
2	2.1	2.0	3.2	3.2	4.5	5.4	5.4	3.4	1.9	.63	e.42	.39
3	1.8	2.0	2.9	3.2	4.5	5.4	5.3	3.2	1.8	e.63	e.43	.35
4	2.1	2.0	2.8	3.2	7.0	5.2	5.2	3.1	1.7	e.63	e.44	.34
5	2.3	2.1	2.8	3.2	5.9	5.3	4.9	3.0	1.7	e.62	e.45	.30
6	2.5	2.1	2.8	3.2	5.2	8.3	4.7	3.6	1.8	e.62	e.46	.28
7	2.6	2.1	2.9	3.2	19	9.0	4.9	3.7	1.8	e.61	e.47	.28
8	2.7	2.2	2.9	3.2	55	6.5	5.0	3.2	1.7	e.61	.49	.26
9	2.5	2.3	2.9	3.2	12	5.9	5.1	3.1	1.6	e.60	.44	.26
10	2.4	2.4	2.9	3.1	8.0	5.6	4.8	3.1	1.5	e.60	.40	.26
11	3.0	4.5	5.7	3.0	6.5	5.4	4.2	3.1	1.6	.60	.38	.32
12	3.1	4.0	6.8	3.0	6.0	5.0	3.9	3.2	1.6	.48	e.38	.35
13	3.0	3.3	4.7	2.9	5.8	4.8	3.7	3.3	1.6	.50	e.38	.40
14	2.7	2.8	5.6	2.9	5.6	4.8	3.7	3.1	1.8	.52	e.38	.32
15	2.7	2.4	6.8	2.9	5.4	4.7	3.7	3.1	2.2	.51	e.39	.22
16	2.7	2.5	5.0	2.9	5.2	4.6	3.5	3.4	2.0	.46	e.39	.24
17	2.7	2.6	4.3	3.2	7.3	4.5	3.3	4.8	1.9	.46	e.39	.25
18	2.7	2.7	3.9	3.8	7.3	4.5	3.2	6.2	1.7	.44	e.39	.25
19	2.3	2.7	3.9	4.1	6.9	6.4	3.1	4.3	1.5	.48	e.40	.27
20	2.0	2.6	3.8	4.3	20	7.6	3.0	3.6	1.4	.62	e.40	.27
21	2.0	2.6	3.5	4.3	12	6.1	3.1	e3.5	1.3	.60	e.40	.25
22	2.1	2.6	3.4	4.3	8.7	5.8	3.2	e3.4	1.2	.65	e.41	.24
23	2.0	2.7	3.3	4.4	7.6	5.7	3.3	e3.2	1.0	.59	.41	.24
24	1.9	2.8	3.2	4.9	6.9	9.3	3.3	e3.1	.89	.45	.36	.27
25	1.6	2.8	3.2	7.5	6.5	19	4.0	e3.0	.83	.39	.29	.23
26	1.8	2.6	3.2	6.2	6.2	10	6.0	2.8	.94	.37	.31	.21
27	1.6	2.6	3.2	5.6	6.0	8.5	5.0	2.6	.60	.37	.30	.21
28	1.7	2.6	3.2	5.2	5.8	7.1	4.7	2.3	.63	.37	.29	.21
29	1.8	2.6	3.2	5.0	---	6.4	3.9	2.0	.61	e.38	.28	.23
30	2.0	6.0	3.1	4.8	---	6.0	3.5	1.9	.71	e.39	.31	.26
31	2.1	---	3.2	4.8	---	5.7	---	2.0	---	e.40	.36	---
TOTAL	70.6	81.4	116.4	121.9	261.4	204.1	126.2	100.7	43.61	16.22	12.01	8.34
MEAN	2.28	2.71	3.75	3.93	9.34	6.58	4.21	3.25	1.45	.52	.39	.28
MAX	3.1	6.0	6.8	7.5	55	19	6.0	6.2	2.2	.65	.49	.40
MIN	1.6	2.0	2.8	2.9	4.5	4.5	3.0	1.9	.60	.37	.28	.21
AC-FT	140	161	231	242	518	405	250	200	87	32	24	17

e Estimated.



## 11098000 ARROYO SECO NEAR PASADENA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.17	3.99	9.03	18.3	32.8	28.1	14.1	6.54	3.33	1.64	.99	1.03
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1911 - 1994			
ANNUAL TOTAL	15414.5				1162.88							
ANNUAL MEAN	42.2				3.19				9.98			
HIGHEST ANNUAL MEAN									57.8			
LOWEST ANNUAL MEAN									.75			
HIGHEST DAILY MEAN	879				55				3690			
LOWEST DAILY MEAN	1.6				.21				.00			
ANNUAL SEVEN-DAY MINIMUM	1.8				.23				.00			
INSTANTANEOUS PEAK FLOW					129				8620			
INSTANTANEOUS PEAK STAGE					2.69				9.42			
ANNUAL RUNOFF (AC-FT)	30570				2310				7230			
10 PERCENT EXCEEDS	92				6.0				16			
50 PERCENT EXCEEDS	6.8				2.8				1.8			
90 PERCENT EXCEEDS	2.3				.37				.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.--No estimated daily discharges. 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 1,510 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, 6,200 ft<sup>3</sup>/s, Mar. 24, gage height, 4.40 ft; minimum daily, 0.06 ft<sup>3</sup>/s, Apr. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	4.6	21	.80	1.2	2.0	11	2.7	.80	1.0	.71	.76
2	.95	3.6	35	1.5	1.3	1.4	8.3	2.9	1.2	.66	.76	.94
3	.84	3.4	29	.71	1.6	1.6	7.4	2.8	1.0	.95	.63	.57
4	1.0	3.7	28	.94	483	2.6	7.6	3.0	.83	.67	.53	.72
5	1.1	3.2	25	.78	9.3	1.0	6.3	6.2	.86	.65	.73	.67
6	.89	3.1	24	.93	7.5	25	5.4	22	1.8	.66	.77	.87
7	1.0	2.6	22	1.8	511	11	4.3	12	1.6	.60	.58	1.1
8	1.2	3.8	18	.86	161	7.5	1.7	11	2.2	.97	.68	.55
9	1.0	3.7	20	.70	26	6.0	4.9	6.3	1.6	.56	.54	.63
10	1.0	4.7	16	.78	20	3.5	2.1	6.2	1.8	.58	.60	.57
11	10	148	360	.85	14	2.9	.76	4.8	.64	.53	.60	.51
12	1.2	1.7	4.6	.82	8.6	1.8	.55	1.5	.56	.60	.62	.70
13	1.1	.87	12	2.0	6.3	1.6	.53	1.3	1.0	.76	.59	.65
14	2.0	.70	364	1.7	4.8	1.4	.34	1.1	.70	.92	1.1	.64
15	1.6	1.1	57	1.9	7.8	2.3	.23	2.0	2.4	.66	.56	.67
16	2.4	1.9	34	1.4	7.1	1.6	.18	2.0	1.1	.56	.60	.84
17	2.0	1.5	.96	1.4	478	3.4	.14	15	1.2	.48	.77	.88
18	2.0	1.3	.55	1.9	21	3.3	.09	3.9	.82	.49	.87	.93
19	1.2	.75	18	2.3	16	720	.06	.93	.53	.54	.64	1.1
20	1.9	.81	10	.84	759	12	.39	.83	1.0	.56	.69	.85
21	1.5	.82	29	.94	27	7.8	3.3	.77	.61	.55	.52	.77
22	1.4	1.2	24	.88	19	18	5.2	.88	.88	.46	.57	.82
23	.97	1.2	19	.70	1.7	2.8	5.3	.76	.82	.44	.63	.90
24	.82	6.5	17	243	1.7	582	4.9	1.1	1.4	.35	.67	.90
25	1.1	23	13	88	1.3	25	114	8.0	.71	.57	.53	.80
26	1.8	36	10	2.5	1.2	2.2	126	1.5	.54	.64	.77	.90
27	3.2	47	7.2	3.6	1.3	1.1	93	.89	1.6	.62	.72	.95
28	4.0	53	4.2	1.0	2.3	1.0	103	.89	1.4	.55	.52	1.0
29	3.8	55	2.5	1.2	---	1.1	3.9	.80	.92	.59	.49	1.2
30	2.8	322	1.5	1.3	---	1.1	2.8	1.4	1.5	1.6	1.0	.87
31	2.6	---	1.2	1.5	---	7.2	---	.97	---	.57	.78	---
TOTAL	59.37	740.75	1227.71	369.53	2600.0	1461.2	523.67	126.42	34.02	20.34	20.77	24.26
MEAN	1.92	24.7	39.6	11.9	92.9	47.1	17.5	4.08	1.13	.66	.67	.81
MAX	10	322	364	243	759	720	126	22	2.4	1.6	1.1	1.2
MIN	.82	.70	.55	.70	1.2	1.0	.06	.76	.53	.35	.49	.51
AC-FT	118	1470	2440	733	5160	2900	1040	251	67	40	41	48

## 11101250 RIO HONDO ABOVE WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.1	40.4	44.2	86.0	143	95.4	41.0	23.0	20.9	14.1	9.85	9.85
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1956 - 1994			
ANNUAL TOTAL	60877.48				7208.04							
ANNUAL MEAN	167				19.7				45.3			
HIGHEST ANNUAL MEAN									187			
LOWEST ANNUAL MEAN									6.01			
HIGHEST DAILY MEAN	3560				759				7700			
LOWEST DAILY MEAN	.50				.06				.00			
ANNUAL SEVEN-DAY MINIMUM	.73				.20				.00			
INSTANTANEOUS PEAK FLOW					6200				18200			
INSTANTANEOUS PEAK STAGE					4.40				7.35			
ANNUAL RUNOFF (AC-FT)	120800				14300				32780			
10 PERCENT EXCEEDS	306				22				88			
50 PERCENT EXCEEDS	41				1.3				1.9			
90 PERCENT EXCEEDS	1.0				.57				.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.--Records fair except for discharges below 100 ft<sup>3</sup>/s and estimated daily discharges, 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, 6,310 ft<sup>3</sup>/s, Mar. 24, gage height, 5.16 ft; minimum daily, 7.1 ft<sup>3</sup>/s, Mar. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	305	54	428	94	19	44	38	188	169	126	58
2	233	296	79	431	101	19	33	38	203	123	123	50
3	197	282	96	451	90	16	26	73	209	125	113	34
4	236	251	136	454	961	14	25	220	195	140	e110	41
5	237	296	142	430	59	22	27	229	211	146	e95	51
6	143	284	107	435	56	97	28	273	232	139	e85	59
7	163	287	79	450	1280	42	31	244	246	150	e78	53
8	147	305	82	461	738	20	32	255	263	130	e70	54
9	149	319	84	481	78	9.6	43	193	272	129	e64	50
10	160	257	123	453	61	7.1	38	198	275	110	51	58
11	212	252	519	470	57	26	25	230	286	111	63	42
12	177	59	106	565	54	45	12	272	295	124	57	35
13	191	56	107	581	48	44	10	390	304	136	53	42
14	231	52	733	578	25	48	10	448	321	129	64	36
15	239	138	402	597	10	55	34	497	322	148	66	35
16	196	197	179	601	34	60	35	545	295	150	59	46
17	84	210	156	595	1020	62	35	643	301	160	49	39
18	169	200	166	443	99	66	35	371	316	165	44	41
19	147	222	242	380	69	1460	35	352	331	167	35	41
20	178	232	182	376	1410	409	36	377	375	161	28	35
21	216	239	229	336	285	60	38	406	393	163	34	32
22	212	189	246	355	56	66	38	430	398	123	42	33
23	223	100	271	324	28	52	40	297	379	134	45	35
24	241	182	297	475	25	548	43	326	368	146	50	36
25	255	303	317	474	22	1510	306	319	351	149	46	35
26	278	296	344	67	22	94	469	271	307	138	45	36
27	277	317	365	141	23	53	103	165	286	159	50	28
28	271	347	386	134	20	45	166	252	277	147	39	31
29	301	341	409	130	---	38	41	221	279	143	45	45
30	302	563	402	103	---	39	39	220	244	143	47	69
31	297	---	411	99	---	44	---	177	---	143	52	---
TOTAL	6582	7377	7451	12298	6825	5089.7	1877	8970	8722	4400	1928	1280
MEAN	212	246	240	397	244	164	62.6	289	291	142	62.2	42.7
MAX	302	563	733	601	1410	1510	469	643	398	169	126	69
MIN	84	52	54	67	10	7.1	10	38	188	110	28	28
AC-FT	13060	14630	14780	24390	13540	10100	3720	17790	17300	8730	3820	2540

e Estimated.

## 11102300 RIO HONDO BELOW WHITTIER NARROWS DAM, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	109	141	161	341	539	353	119	114	98.5	75.0	58.9	77.3
MAX	302	362	522	2378	3459	2265	371	289	355	205	244	413
(WY)	1984	1992	1992	1993	1969	1983	1983	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1967 - 1994			
ANNUAL TOTAL	225269				72799.7							
ANNUAL MEAN	617				199				180			
HIGHEST ANNUAL MEAN									638			
LOWEST ANNUAL MEAN									40.9			
HIGHEST DAILY MEAN	11900				1510				21200			
LOWEST DAILY MEAN	40				7.1				.00			
ANNUAL SEVEN-DAY MINIMUM	96				19				.00			
INSTANTANEOUS PEAK FLOW					6310				38800			
INSTANTANEOUS PEAK STAGE					5.16				13.82			
ANNUAL RUNOFF (AC-FT)	446800				144400				130600			
10 PERCENT EXCEEDS	540				429				257			
50 PERCENT EXCEEDS	231				146				83			
90 PERCENT EXCEEDS	98				34				3.4			

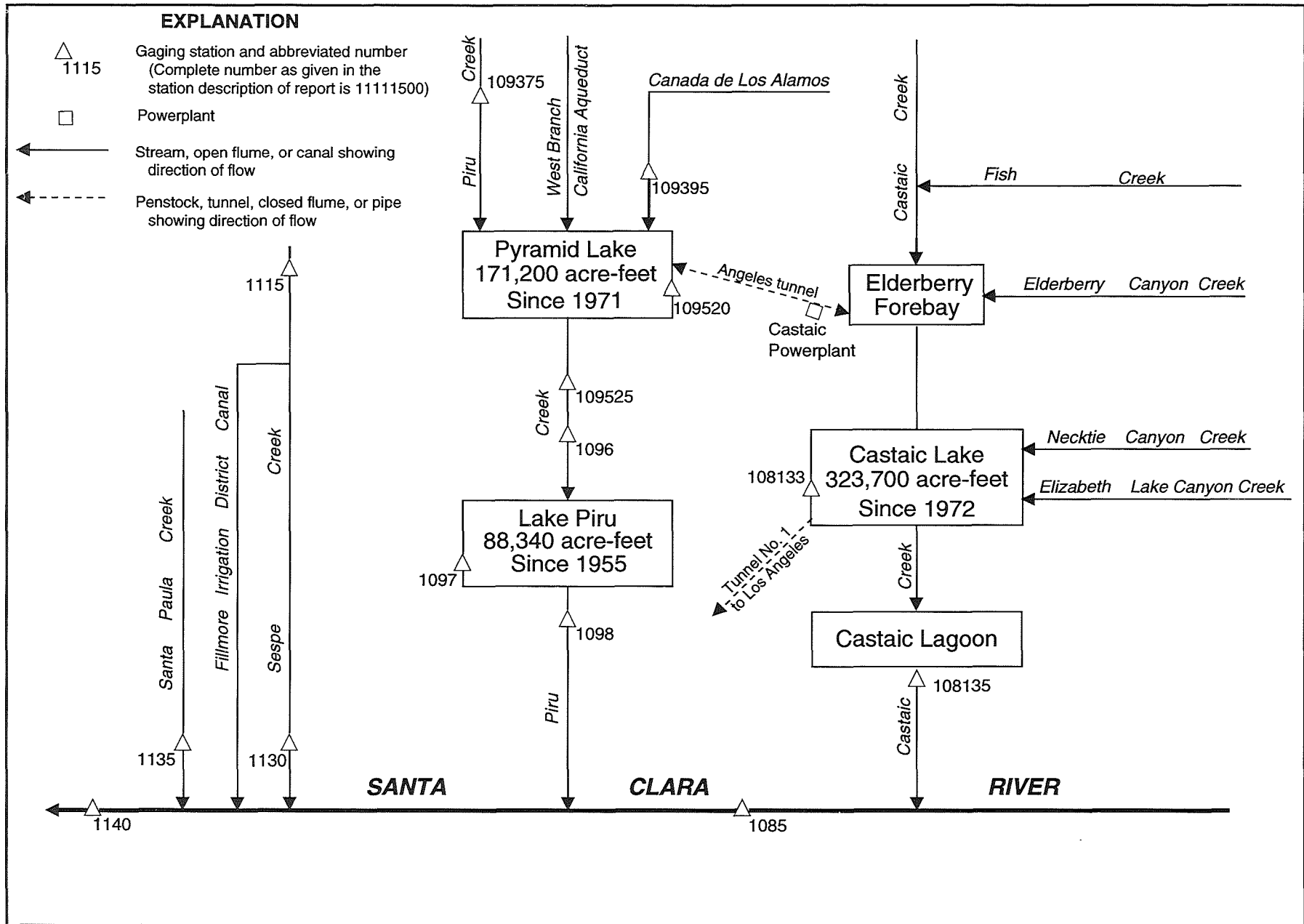


Figure 21. Diversions and storage in Santa Clara River basin.

## 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. See schematic diagram of Santa Clara River basin.

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, 298,720 acre-ft, May 18, elevation, 1,503.56 ft; minimum, 198,151 acre-ft, Dec. 13, elevation, 1,451.02 ft.

Capacity table (elevation in feet, and contents, in acre-feet)  
(Based on data provided by California Department of Water Resources in 1978)

1450	196,414	1490	270,629
1460	213,807	1500	291,186
1470	231,964	1510	310,451
1480	250,894	1520	334,985

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	261589	244844	204386	224833	243625	278295	293818	276377	285009	258023	266499	265142
2	260187	243264	203414	224032	243036	279893	292785	277396	282815	255947	265261	265401
3	258828	241651	202411	225307	245857	278357	291733	278336	280735	253977	266618	267518
4	260463	239911	201238	229562	252287	276723	290619	276825	278520	252074	270430	266179
5	261628	238123	200000	233431	251977	275157	289467	279380	276397	253161	271434	264783
6	260167	236378	198691	236903	251590	273778	290326	280242	274284	254795	270289	263352
7	258710	234715	200086	237371	254776	274824	290850	279155	272181	258082	269223	261945
8	257336	233059	201169	236397	261767	275990	292722	278173	269907	263312	268099	262817
9	256103	231334	202688	235294	263352	277050	291081	281743	267438	261886	266838	261411
10	254893	229709	201307	236622	262797	278111	289321	284677	265142	260443	267659	259990
11	253802	228237	200172	240327	267378	278950	287504	288213	262836	259359	269263	258573
12	255771	226733	199160	241670	266878	277111	285424	291501	260680	259675	269947	257219
13	254717	225234	198151	245551	266419	275299	285527	290368	258533	261708	268460	255908
14	256886	223741	199315	247657	268942	273575	288714	293321	259202	263233	266978	254678
15	255634	222251	203172	246029	271233	275197	287942	288359	258691	262737	265441	253452
16	254639	220765	206022	244463	270830	276886	285818	292195	258553	264167	263968	252249
17	253647	219213	205098	244234	274568	278930	283725	296847	258592	262658	265401	250894
18	252675	217648	204177	243815	274325	280304	284553	298720	256279	261174	264167	249619
19	254289	216000	203224	243815	274102	279996	286795	297761	253938	261253	266259	248387
20	253103	214626	204942	243416	274122	279996	287504	296783	251842	263213	265042	247235
21	254386	213309	209789	242333	276357	282114	286171	295532	252326	265341	263948	246143
22	252908	212156	213007	240856	277682	287733	284263	294241	254523	268079	262836	245131
23	253219	210910	216322	239497	279237	287670	281784	292743	255966	267518	263392	244082
24	251822	209596	215839	239252	278254	290347	279278	293143	258651	266159	264366	243074
25	252617	208225	214875	238311	277233	292848	280180	294643	256260	264963	264943	242049
26	253277	206737	213913	240044	276133	292869	280242	294178	253802	266079	268621	240988
27	254445	205255	213167	244425	274974	292869	278377	293080	251242	268079	270730	239968
28	252404	203640	215947	245742	275624	292469	279565	291564	251861	269223	269605	238856
29	250468	204334	220133	245169	---	292364	279770	289991	253763	269223	268521	237822
30	248772	203241	224050	244692	---	293924	277927	288359	254893	269967	267418	236622
31	247178	---	225746	244120	---	294981	---	286775	---	267659	266339	---
MAX	261628	244844	225746	274657	279237	294981	293818	298720	285009	269967	271434	267518
MIN	247178	203241	198151	224032	243036	273575	277927	276377	251242	252074	262836	236622
a	1478.07	1453.98	1466.62	1476.47	1492.47	1501.80	1493.60	1497.89	1482.06	1488.52	1487.86	1472.50
b	-15738	-43937	+22505	+18374	+31504	+19357	-17054	+8848	-31882	+12766	-1320	-29717

CAL YR 1993 MAX 321914 MIN 198151 b -13675  
WTR YR 1994 MAX 298720 MIN 198151 b -26294

a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.

## SANTA CLARA RIVER BASIN

## 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 September 1994 (discontinued). 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. See schematic diagram of Santa Clara River basin.

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, 75 ft<sup>3</sup>/s, Apr. 15-23; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.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	1.5	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	30	1.5	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	30	1.5	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	40	1.5	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	40	1.5	.00	.00	.00	.00
8	.00	.00	.00	5.0	.00	.00	55	1.5	.00	.00	.00	.00
9	.00	.00	.00	10	.00	.00	55	1.5	.00	.00	.00	.00
10	.00	.00	.00	10	.00	.00	65	1.5	.00	.00	.00	.00
11	.00	.00	.00	10	.00	.00	65	1.5	.00	.00	.00	.00
12	.00	.00	.00	10	.00	.00	65	1.5	.00	.00	.00	.00
13	.00	.00	.00	10	.00	.00	65	1.5	.00	.00	.00	.00
14	.00	.00	2.0	10	.00	.00	67	1.5	.00	.00	.00	.00
15	.00	.00	10	10	.00	.00	75	1.5	.00	.00	.00	.00
16	.00	.00	10	10	.00	.00	75	1.5	.00	.00	.00	.00
17	.00	.00	10	10	.00	.00	75	1.5	.00	.00	.00	.00
18	.00	.00	10	10	.00	.00	75	1.5	.00	.00	.00	.00
19	.00	.00	10	1.0	.00	.00	75	1.5	.00	.00	.00	.00
20	.00	.00	10	.00	.00	.00	75	1.5	.00	.00	.00	.00
21	.00	.00	10	.00	.00	.00	75	1.5	.00	.00	.00	.00
22	.00	.00	10	.00	.00	.00	75	1.5	.00	.00	.00	.00
23	.00	.00	10	.00	.00	.00	75	1.5	.00	.00	.00	.00
24	.00	.00	10	.00	.00	.00	70	1.5	.00	.00	.00	.00
25	.00	.00	10	.00	.00	.00	30	1.5	.00	.00	.00	.00
26	.00	.00	10	.00	.00	.00	30	1.5	.00	.00	.00	.00
27	.00	.00	10	.00	.00	.00	30	1.5	.00	.00	.00	.00
28	.00	.00	10	.00	.00	.00	30	1.5	.00	.00	.00	.00
29	.00	.00	10	.00	---	.00	30	1.6	.00	.00	.00	.00
30	.00	.00	10	.00	---	.00	30	1.6	.00	.00	.00	.00
31	.00	---	10	.00	---	.00	---	1.6	---	.00	.00	---
TOTAL	0.00	0.00	172.00	106.00	0.00	0.00	1502.00	46.8	0.00	0.00	0.00	0.00
MEAN	.000	.000	5.55	3.42	.000	.000	50.1	1.51	.000	.000	.000	.000
MAX	.00	.00	10	10	.00	.00	75	1.6	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00
AC-FT	.00	.00	341	210	.00	.00	2980	93	.00	.00	.00	.00



11108135 CASTAIC LAGOON PARSHALL FLUME NEAR CASTAIC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.76	.43	27.3	28.2	21.3	14.5	23.5	12.5	1.70	3.70
MAX	.000	.000	5.55	3.42	209	216	51.3	72.7	175	94.2	8.10	16.0
(WY)	1977	1977	1994	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1977 - 1994			
ANNUAL TOTAL	10526.60				1826.80							
ANNUAL MEAN	28.8				5.00				11.0			
HIGHEST ANNUAL MEAN									32.1			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	400				75				3000			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
ANNUAL RUNOFF (AC-FT)	20880				3620				7990			
10 PERCENT EXCEEDS	50				10				13			
50 PERCENT EXCEEDS	10				.00				.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, 323,700 acre-ft. Imported water from California Water Project stored and released at Castaic Dam. See schematic diagram of Santa Clara River basin.

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. 11	1930	*597	*5.55				

Minimum daily, 17 ft<sup>3</sup>/s, Sept. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	43	45	48	65	48	48	69	43	41	24	18
2	44	41	43	46	66	47	48	71	43	38	24	19
3	44	41	46	48	68	49	45	72	41	34	24	20
4	46	35	47	48	70	49	44	71	39	31	23	20
5	48	38	47	47	73	50	45	69	39	26	25	21
6	48	43	50	47	73	52	42	66	39	26	24	21
7	47	44	52	44	73	55	42	71	42	26	23	20
8	48	44	50	45	73	57	44	76	43	26	22	19
9	45	41	48	46	73	60	47	77	44	25	23	20
10	46	45	49	45	71	59	51	74	43	25	25	18
11	71	52	108	45	69	59	48	74	40	26	26	17
12	60	46	54	43	68	61	66	74	39	26	26	17
13	61	47	44	44	66	61	66	70	39	24	26	18
14	60	46	95	44	65	59	55	63	39	25	26	21
15	56	42	57	50	63	57	54	62	39	25	24	22
16	56	46	54	56	61	57	59	59	38	26	23	23
17	57	44	55	e58	60	56	87	52	33	26	22	23
18	57	42	57	e58	57	58	85	51	29	25	22	23
19	50	41	59	60	57	58	63	51	28	24	21	24
20	45	37	54	58	55	61	67	49	29	25	22	23
21	46	37	50	59	55	62	70	49	28	26	20	20
22	44	e44	52	59	53	63	75	46	30	25	20	19
23	43	e54	51	60	52	65	72	45	33	25	21	19
24	46	52	51	60	52	66	71	40	33	26	22	18
25	47	52	43	61	50	66	64	38	34	26	22	19
26	45	50	43	62	49	64	63	37	37	26	22	19
27	40	49	47	60	48	59	61	38	37	26	22	20
28	36	51	45	62	48	55	64	41	36	25	22	21
29	45	55	47	63	---	52	67	42	36	25	21	21
30	43	52	46	64	---	52	68	38	36	24	20	18
31	45	---	48	64	---	48	---	39	---	23	19	---
TOTAL	1515	1354	1637	1654	1733	1765	1781	1774	1109	827	706	601
MEAN	48.9	45.1	52.8	53.4	61.9	56.9	59.4	57.2	37.0	26.7	22.8	20.0
MAX	71	55	108	64	73	66	87	77	44	41	26	24
MIN	36	35	43	43	48	47	42	37	28	23	19	17
AC-FT	3010	2690	3250	3280	3440	3500	3530	3520	2200	1640	1400	1190

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
LOWEST ANNUAL MEAN	.77
HIGHEST DAILY MEAN	28800
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	68800
INSTANTANEOUS PEAK STAGE	19.01
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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.8	36.1	56.7	107	193	179	67.9	43.7	35.3	24.3	19.9	22.1
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1972 - 1994

ANNUAL TOTAL	77028	16456	
ANNUAL MEAN	211	45.1	66.9
HIGHEST ANNUAL MEAN			207
LOWEST ANNUAL MEAN			14.4
HIGHEST DAILY MEAN	5000	Feb 19	108
LOWEST DAILY MEAN	33	Jan 1	17
ANNUAL SEVEN-DAY MINIMUM	36	Jul 22	18
INSTANTANEOUS PEAK FLOW			597
INSTANTANEOUS PEAK STAGE			5.55
ANNUAL RUNOFF (AC-FT)	152800	32640	11.78
10 PERCENT EXCEEDS	381	66	96
50 PERCENT EXCEEDS	53	46	29
90 PERCENT EXCEEDS	41	22	12

## SANTA CLARA RIVER BASIN

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. See schematic diagram of Santa Clara River basin.

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, 378 ft<sup>3</sup>/s, Feb. 8, gage height, 4.06 ft; minimum daily, 3.4 ft<sup>3</sup>/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	25	19	20	53	43	21	13	5.0	4.0	4.0
2	14	15	22	19	21	49	39	21	12	5.1	3.8	4.1
3	14	15	20	19	21	48	36	20	12	5.3	3.8	4.1
4	14	15	20	19	44	51	34	19	11	5.3	3.8	4.1
5	14	15	20	19	28	52	32	19	11	5.6	3.7	4.0
6	15	15	20	19	29	61	31	19	11	5.6	3.6	4.0
7	15	15	19	18	212	65	31	22	11	5.4	3.6	4.0
8	14	15	19	18	253	54	31	29	11	5.0	3.8	3.8
9	14	15	19	18	95	48	31	25	11	4.7	4.1	3.8
10	14	15	19	19	62	43	30	20	10	4.6	4.2	3.9
11	16	18	42	18	47	41	28	19	10	4.7	4.6	4.1
12	16	18	31	18	38	38	27	18	9.8	4.6	4.3	4.3
13	15	17	25	18	34	35	26	17	9.3	4.5	3.9	4.9
14	15	18	25	18	31	33	26	16	8.6	4.3	3.8	5.0
15	16	18	25	18	29	32	25	16	8.5	4.4	3.6	4.8
16	16	17	22	17	27	31	24	16	8.8	4.3	3.4	4.4
17	16	17	22	17	131	31	24	17	8.7	4.1	3.5	4.3
18	16	18	21	18	103	30	23	19	8.5	4.3	3.7	4.3
19	16	17	22	18	60	34	23	19	8.2	4.6	3.9	4.4
20	15	17	21	18	190	40	22	17	7.9	4.6	3.9	4.2
21	15	17	20	18	105	37	21	16	7.6	4.5	3.8	4.2
22	15	19	19	18	72	33	21	16	7.3	4.5	3.8	4.3
23	15	19	19	20	63	31	21	15	7.0	4.3	4.0	4.8
24	15	18	19	27	59	97	23	14	6.7	4.2	3.9	5.8
25	15	18	19	27	60	116	23	14	6.5	4.1	3.9	5.7
26	15	18	19	25	60	65	24	14	6.3	4.0	3.7	5.2
27	14	18	20	24	61	69	25	14	6.0	4.0	3.7	5.0
28	14	18	19	22	59	63	25	14	5.8	3.8	3.8	4.9
29	15	18	19	22	---	56	25	13	5.5	3.8	3.8	5.0
30	15	25	19	21	---	51	23	13	5.1	4.0	3.8	5.4
31	15	---	19	21	---	47	---	13	---	4.0	3.8	---
TOTAL	462	513	670	610	2014	1534	817	545	265.1	141.2	119.0	134.8
MEAN	14.9	17.1	21.6	19.7	71.9	49.5	27.2	17.6	8.84	4.55	3.84	4.49
MAX	16	25	42	27	253	116	43	29	13	5.6	4.6	5.8
MIN	14	15	19	17	20	30	21	13	5.1	3.8	3.4	3.8
AC-FT	916	1020	1330	1210	3990	3040	1620	1080	526	280	236	267

## 11109375 PIRU CREEK BELOW BUCK CREEK, NEAR PYRAMID LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.65	4.88	13.6	62.8	238	197	101	39.4	16.3	7.85	4.80	5.00
MAX	14.9	17.1	33.1	326	679	674	235	93.5	49.4	24.7	16.1	13.8
(WY)	1994	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1977 - 1994			
ANNUAL TOTAL	56102				7825.1							
ANNUAL MEAN	154				21.4				56.8			
HIGHEST ANNUAL MEAN									153			
LOWEST ANNUAL MEAN									2.45			
HIGHEST DAILY MEAN	4410				Feb 19				7010			
LOWEST DAILY MEAN	13				Sep 4				.00			
ANNUAL SEVEN-DAY MINIMUM	13				Sep 8				.00			
INSTANTANEOUS PEAK FLOW					378				19000			
INSTANTANEOUS PEAK STAGE					4.06				12.06			
ANNUAL RUNOFF (AC-FT)	111300				15520				41130			
10 PERCENT EXCEEDS	405				43				134			
50 PERCENT EXCEEDS	30				17				7.2			
90 PERCENT EXCEEDS	14				4.0				.19			

## 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. See schematic diagram of Santa Clara River basin.

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, 158 ft<sup>3</sup>/s, Feb. 7, gage height, 3.56 ft; minimum daily, .98 ft<sup>3</sup>/s, Jun. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	2.9	3.0	2.9	3.5	2.6	2.5	1.5	1.3	1.7	1.7
2	2.4	2.2	2.8	3.0	2.8	3.3	2.6	1.9	1.0	1.3	1.6	1.7
3	2.2	2.2	2.9	3.0	2.9	3.3	2.9	1.5	.98	1.3	1.5	1.6
4	2.4	2.5	3.0	3.0	5.9	3.3	2.7	1.5	1.1	1.5	1.6	1.5
5	2.7	2.4	3.0	3.0	5.6	3.1	2.1	1.7	1.3	1.6	1.6	1.4
6	2.6	2.4	3.0	2.8	4.2	4.5	2.2	1.9	1.6	1.8	1.6	1.5
7	2.5	2.5	3.0	2.8	38	5.1	2.3	2.1	1.5	1.5	1.7	1.5
8	2.4	2.7	3.2	2.8	42	4.3	2.4	2.8	1.4	2.0	1.7	1.5
9	2.4	2.6	3.2	2.8	3.9	4.0	2.6	1.9	1.4	1.9	1.6	1.5
10	2.5	2.7	4.6	2.8	3.2	3.8	2.7	1.7	1.6	2.0	1.7	1.5
11	3.2	3.3	3.9	2.8	4.8	3.4	2.6	1.7	1.5	2.0	1.6	1.7
12	2.6	2.9	3.2	2.6	4.1	3.1	2.6	1.7	1.4	2.2	1.5	1.9
13	2.5	3.1	3.8	2.6	4.0	2.9	2.7	1.9	1.3	2.2	1.4	1.8
14	2.3	3.9	5.5	2.6	3.9	2.8	2.8	2.0	1.6	2.4	1.4	1.7
15	2.5	3.1	4.7	2.6	3.7	2.7	2.5	2.1	2.0	2.4	1.3	1.5
16	2.6	3.0	3.6	2.6	3.6	2.5	2.4	2.1	1.8	2.5	1.3	1.5
17	2.4	3.0	3.4	2.6	28	2.4	2.4	1.9	1.7	2.3	1.4	1.5
18	2.3	3.0	3.4	2.8	4.8	2.6	2.5	2.2	1.7	2.5	1.6	1.6
19	2.2	3.0	3.2	2.6	3.9	2.9	2.5	2.2	1.6	2.3	1.7	1.6
20	2.1	2.8	3.2	2.6	44	3.3	2.4	1.9	1.5	2.5	1.7	1.4
21	2.2	2.9	3.2	2.5	7.4	2.7	2.2	1.8	1.4	2.6	1.7	1.4
22	2.1	3.1	3.4	2.5	4.6	2.5	2.3	1.7	1.4	2.5	1.8	1.5
23	2.1	3.0	3.4	2.5	4.3	2.3	2.4	1.7	1.5	2.1	1.7	1.9
24	2.2	3.0	3.2	2.5	3.5	5.8	2.6	1.7	1.4	2.3	1.7	1.9
25	2.1	2.9	3.2	3.1	3.9	9.0	2.8	1.9	1.5	2.1	1.5	1.8
26	2.2	2.8	3.2	3.0	3.9	3.2	2.8	2.2	1.5	2.0	1.5	1.7
27	2.0	2.8	3.2	2.8	3.9	2.2	2.8	2.3	1.5	1.8	1.6	1.7
28	2.1	2.9	3.2	2.7	3.5	2.2	2.7	2.1	1.5	1.8	1.5	1.8
29	2.3	3.0	3.2	2.5	---	2.3	2.4	2.1	1.4	1.7	1.5	2.0
30	2.3	3.9	2.9	2.7	---	2.3	2.5	2.3	1.4	1.8	1.6	1.9
31	2.4	---	2.9	2.8	---	2.4	---	2.4	---	1.8	1.6	---
TOTAL	72.9	85.8	104.5	85.0	251.2	103.7	76.0	61.4	43.98	62.0	48.9	49.2
MEAN	2.35	2.86	3.37	2.74	8.97	3.35	2.53	1.98	1.47	2.00	1.58	1.64
MAX	3.2	3.9	5.5	3.1	44	9.0	2.9	2.8	2.0	2.6	1.8	2.0
MIN	2.0	2.2	2.8	2.5	2.8	2.2	2.1	1.5	.98	1.3	1.3	1.4
AC-FT	145	170	207	169	498	206	151	122	87	123	97	98

11109395 CANADA DE LOS ALAMOS ABOVE PYRAMID LAKE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.92	2.31	2.84	3.85	15.5	9.53	2.55	2.02	1.71	1.53	1.51	1.58
MAX	2.35	2.86	3.65	11.0	64.3	40.5	3.31	2.84	2.09	2.00	1.73	1.82
(WY)	1994	1994	1993	1993	1978	1978	1992	1992	1991	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1977 - 1994			
ANNUAL TOTAL	1729.6				1044.58							
ANNUAL MEAN	4.74				2.86				3.83			
HIGHEST ANNUAL MEAN									9.72			
LOWEST ANNUAL MEAN									1.54			
HIGHEST DAILY MEAN	107				44				1220			
LOWEST DAILY MEAN	1.3				.98				.30			
ANNUAL SEVEN-DAY MINIMUM	1.5				1.3				.36			
INSTANTANEOUS PEAK FLOW					158				2990			
INSTANTANEOUS PEAK STAGE					3.56				5.10			
ANNUAL RUNOFF (AC-FT)	3430				2070				2780			
10 PERCENT EXCEEDS	5.7				3.6				3.3			
50 PERCENT EXCEEDS	2.7				2.4				2.0			
90 PERCENT EXCEEDS	1.7				1.5				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. See schematic diagram of Santa Clara River basin.

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, 169,372 acre-ft, May 22, elevation, 2,577.59 ft; minimum, 150,041 acre-ft, May 13, elevation, 2,561.99 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154891	160324	161470	160411	165460	162158	161770	161745	165993	159468	159258	163753
2	156550	158726	162471	161345	165726	161583	163451	162183	164030	162672	159803	163854
3	161470	158184	161808	160710	165409	160585	165676	161046	163023	167115	159865	164434
4	161783	156624	162697	160884	162534	159072	166070	159221	164068	168446	159877	167051
5	160138	157163	162948	160685	163111	161570	164864	158344	165523	166082	158553	166324
6	159741	156661	163338	159741	164346	164030	164498	157937	165118	163652	160014	162133
7	159518	156771	163413	158652	165561	163149	164498	159010	163690	162045	162170	160200
8	159543	158147	163036	159679	163149	163564	164270	161221	162070	159468	162847	159753
9	161858	158196	163438	162392	161958	163325	163652	159456	159394	161933	161845	158776
10	163526	158159	162233	162058	161533	161470	163753	156355	158245	164005	160536	160511
11	163287	158368	163111	159840	161895	159431	162358	155890	160548	164295	157286	164346
12	161034	157962	163803	160026	165168	160138	159666	151056	163337	164030	153558	163892
13	158405	158048	163816	161196	167831	162308	159295	150041	163350	164333	156281	164106
14	158184	159109	162910	161046	168665	161320	159245	153075	163262	163350	160299	162571
15	157519	158541	161783	161508	166719	159320	159295	157200	163551	162083	162246	161545
16	156110	157089	161171	163023	164877	158936	158356	157458	163690	164346	162910	161870
17	158850	156783	160362	162873	163551	158516	157679	158578	160511	164940	162622	162571
18	159344	157065	159952	160324	161433	156673	157553	158529	162045	165714	161420	163942
19	159914	156820	161059	159531	160822	157200	158825	158492	165016	167882	162183	163829
20	160473	157347	161171	158110	161733	158702	158393	158751	164700	167179	164662	163136
21	160735	158763	160809	158566	163287	157987	157556	163249	163451	165004	167536	163451
22	159938	158553	158726	159865	163187	157482	158344	169372	162609	165435	168395	162120
23	161558	158405	156000	161645	163237	157704	159790	168010	162459	163627	168485	161258
24	163841	156196	156697	162885	164005	158467	160847	166821	162120	166006	166362	160672
25	163640	155903	157827	162672	162672	159085	161083	166630	164144	161895	164624	163551
26	162321	157175	161408	161783	162697	160648	160150	167409	167230	159122	163224	163551
27	163539	158874	163879	160909	163023	164093	159307	164826	164586	157790	165358	159357
28	164649	160859	163011	160063	162822	164611	158843	165422	163993	155354	168973	160573
29	165587	161395	162045	162296	---	164637	158418	165118	163690	155354	167600	159691
30	164068	160872	160573	166235	---	165777	159604	166528	159989	155890	165676	160026
31	163375	---	160299	165194	---	164839	---	166451	---	157630	164056	---
MAX	165587	161395	163879	166235	168665	165777	166070	169372	167230	168446	168973	167051
MIN	154891	155903	156000	158110	160822	156673	157553	150041	158245	155354	153558	158776
a	2572.88	2570.89	2570.42	2574.32	2572.44	2574.78	2569.88	2575.31	2570.17	2568.26	2573.42	2570.20
b	+6898	-2503	-573	+4895	-2372	+2017	-5235	+6847	-6462	-2359	+6426	-4030

CAL YR 1993 MAX 168729 MIN 154891 b -922

WTR YR 1994 MAX 169372 MIN 150041 b +3549

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. See schematic diagram of Santa Clara River basin.

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 most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 150 ft<sup>3</sup>/s, Feb. 8, Mar. 26-31; minimum daily, 10 ft<sup>3</sup>/s, Sept. 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	25	25	25	25	145	48	17	20	20	20
2	25	25	25	25	25	25	145	48	17	20	20	20
3	25	25	25	25	25	45	145	44	17	20	20	20
4	25	25	25	25	25	50	145	44	17	20	20	20
5	25	25	25	25	25	50	75	44	17	20	20	20
6	25	25	25	25	25	50	75	44	17	20	20	20
7	25	25	25	25	25	50	75	44	17	20	20	20
8	25	25	25	26	150	50	75	43	18	20	20	20
9	25	25	25	26	125	50	75	39	18	20	20	20
10	26	25	25	26	75	50	75	39	18	20	20	20
11	26	25	25	26	75	50	70	37	18	20	20	20
12	26	25	25	26	50	50	70	34	18	20	20	20
13	26	25	25	26	50	50	70	34	18	20	20	20
14	26	25	25	26	50	50	70	33	18	20	20	19
15	26	26	25	26	50	45	70	29	18	20	20	16
16	26	26	25	26	30	30	70	29	18	20	20	15
17	26	26	25	26	75	30	70	27	18	20	20	15
18	26	26	26	26	100	40	65	23	18	20	20	15
19	26	26	26	26	50	50	65	23	18	20	20	15
20	26	26	26	26	50	50	65	23	18	20	20	15
21	26	26	26	26	50	50	65	23	18	20	20	15
22	26	26	26	26	50	50	60	23	18	20	20	15
23	26	26	26	26	102	50	60	20	18	20	20	15
24	26	26	26	26	50	50	60	20	19	19	19	15
25	26	26	26	26	50	135	55	20	19	19	19	15
26	26	26	26	26	50	150	55	19	19	19	19	15
27	26	26	26	26	50	150	55	19	19	19	19	14
28	26	26	26	26	50	150	55	19	19	19	19	10
29	26	26	26	26	---	150	50	19	20	19	19	10
30	26	26	26	26	---	150	50	19	20	19	19	10
31	26	---	26	26	---	150	---	19	---	19	19	---
TOTAL	797	766	789	799	1557	2125	2280	949	542	612	612	504
MEAN	25.7	25.5	25.5	25.8	55.6	68.5	76.0	30.6	18.1	19.7	19.7	16.8
MAX	26	26	26	26	150	150	145	48	20	20	20	20
MIN	25	25	25	25	25	25	50	19	17	19	19	10
AC-FT	1580	1520	1560	1580	3090	4210	4520	1880	1080	1210	1210	1000

## SANTA CLARA RIVER BASIN

11109525 PIRU CREEK BELOW PYRAMID LAKE, NEAR GORMAN, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.8	29.9	23.2	72.9	171	107	49.0	35.1	23.9	22.4	19.5	19.3
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1989 - 1994			
ANNUAL TOTAL	40898.0				12332							
ANNUAL MEAN	112				33.8				48.7			
HIGHEST ANNUAL MEAN									119			
LOWEST ANNUAL MEAN									10.8			
HIGHEST DAILY MEAN	3990				Feb 26				3990			
LOWEST DAILY MEAN	5.0				Jan 29				5.0			
ANNUAL SEVEN-DAY MINIMUM	5.0				Feb 1				5.0			
ANNUAL RUNOFF (AC-FT)	81120				24460				35310			
10 PERCENT EXCEEDS	200				60				70			
50 PERCENT EXCEEDS	26				25				20			
90 PERCENT EXCEEDS	25				18				5.1			

## 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 (station 11109520). Imported water from the California Water Project stored and released at Pyramid Dam. See schematic diagram of Santa Clara River basin.

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, 570 ft<sup>3</sup>/s, Feb. 7, gage height, 3.98 ft; minimum daily, 11 ft<sup>3</sup>/s, Sept. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	27	37	30	44	74	150	62	24	15	17	17
2	26	26	36	30	43	72	148	61	23	15	17	18
3	26	27	36	30	43	70	146	60	22	16	17	17
4	26	27	36	30	55	70	140	57	20	17	17	17
5	28	28	36	30	46	69	82	58	19	17	17	18
6	29	28	36	29	45	71	80	57	19	17	17	18
7	30	28	35	30	231	72	80	56	18	17	17	17
8	31	28	35	30	177	73	80	57	18	17	17	18
9	31	28	35	30	185	67	80	53	17	16	17	18
10	31	29	35	30	151	67	80	49	16	16	17	18
11	33	32	52	30	109	67	79	48	16	16	16	19
12	32	31	43	30	87	66	80	48	17	17	17	19
13	31	30	37	30	81	66	80	48	18	18	16	17
14	31	31	37	30	82	65	80	43	18	18	16	15
15	31	30	38	30	78	52	81	43	23	18	16	14
16	32	30	36	31	80	51	80	43	20	17	16	14
17	32	31	35	34	e80	58	80	40	19	17	17	14
18	31	31	35	38	e80	58	79	42	18	18	17	14
19	30	32	35	40	e79	66	76	41	18	18	17	15
20	29	32	33	40	e79	68	76	38	17	18	17	15
21	29	32	33	40	e79	67	75	32	17	18	18	15
22	29	34	32	41	e77	66	73	29	16	19	18	15
23	29	34	32	42	e77	66	72	29	17	18	18	16
24	29	34	32	43	e76	92	73	28	17	18	17	17
25	28	34	32	49	e76	127	74	28	16	18	17	16
26	27	34	31	43	e76	155	70	29	16	18	17	15
27	26	34	31	44	e76	153	71	29	16	17	16	13
28	28	34	31	44	e74	152	69	27	16	17	17	11
29	28	35	31	44	---	153	66	26	15	17	16	14
30	28	48	30	44	---	153	62	26	15	17	16	18
31	27	---	30	44	---	152	---	26	---	17	17	---
TOTAL	903	939	1083	1110	2466	2658	2562	1313	541	532	522	482
MEAN	29.1	31.3	34.9	35.8	88.1	85.7	85.4	42.4	18.0	17.2	16.8	16.1
MAX	33	48	52	49	231	155	150	62	24	19	18	19
MIN	25	26	30	29	43	51	62	26	15	15	16	11
AC-FT	1790	1860	2150	2200	4890	5270	5080	2600	1070	1060	1040	956

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.1	18.1	36.7	80.6	220	201	85.1	50.7	28.8	18.7	15.1	13.4
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1972 - 1994

ANNUAL TOTAL	66893	15111	
ANNUAL MEAN	183	41.4	64.3
HIGHEST ANNUAL MEAN			193
LOWEST ANNUAL MEAN			9.52
HIGHEST DAILY MEAN	3200	Feb 26	231 Feb 7
LOWEST DAILY MEAN	24	Sep 27	11 Sep 28
ANNUAL SEVEN-DAY MINIMUM	25	Sep 25	14 Sep 14
INSTANTANEOUS PEAK FLOW			570 Feb 7
INSTANTANEOUS PEAK STAGE			3.98 Feb 7
ANNUAL RUNOFF (AC-FT)	132700	29970	46570
10 PERCENT EXCEEDS	444	79	115
50 PERCENT EXCEEDS	47	31	16
90 PERCENT EXCEEDS	28	16	5.7

## 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. See schematic diagram of Santa Clara River basin.

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, 71,100 acre-ft, Oct. 1; maximum elevation, 1,040.15 ft, Oct. 1; minimum contents 46,400 acre-ft, Jan. 16-18; minimum elevation 1,015.08 ft, Jan. 17.

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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71100	56900	e50800	49900	47500	53800	59100	63700	65500	65100	65200	61300
2	70700	56300	e50800	49800	47600	53900	59400	63800	65600	65100	64900	61400
3	70200	55900	e50800	49600	47700	54100	59700	63900	65600	65100	64600	61400
4	69800	55400	e50700	49400	47800	54200	60100	64000	65600	65100	64200	61400
5	69300	55000	e50700	49200	47900	54300	60300	64100	65600	65100	63900	61400
6	68800	54600	e50700	49000	48000	54500	60500	64100	65600	65100	63500	61200
7	68300	54300	e50600	48700	48700	54600	60600	64200	65700	65100	63300	60600
8	67800	53900	e50600	48500	49100	54700	60700	64400	65700	65100	63200	60100
9	67300	53500	e50600	48200	49400	54900	60900	64400	65700	65200	63000	59600
10	66800	53200	e50500	48000	49700	55000	61000	64500	65700	65200	62800	59100
11	66600	53100	e50500	47700	49900	55100	61200	64600	65700	65200	62600	58600
12	66200	52800	e50500	47400	50100	55200	61400	64600	65700	65200	62400	58200
13	65700	52400	e50500	47200	50200	55300	61500	64700	65600	65200	62200	57800
14	65200	51900	e50400	46900	50300	55500	61600	64800	65500	65200	62100	57400
15	64800	51600	e50400	46700	50500	55500	61700	64800	65400	65200	61900	57100
16	64300	51500	e50400	46400	50600	55600	61900	64900	65300	65200	61700	56600
17	63800	51400	e50400	e46400	51000	55700	62000	64900	65400	65200	61600	56200
18	63400	51300	e50400	e46400	51200	55800	62200	65000	65400	65200	61400	55700
19	62900	51300	e50400	e46500	51400	56000	62300	65100	65400	65200	61300	55200
20	62500	51300	e50400	e46600	52100	56100	62400	65100	65400	65300	61300	54800
21	62000	51200	e50400	46700	52400	56200	62600	65200	65300	65300	61300	54300
22	61600	e51200	50400	46700	52600	56300	62700	65200	65200	65300	61300	53900
23	61100	e51200	50400	46800	52800	56400	62800	65200	65100	65300	61300	53600
24	60600	e51100	50400	46900	53100	56600	62900	65300	65000	65300	61300	53200
25	60200	e51100	50400	47000	53200	56900	63000	65300	65100	65300	61300	52900
26	59700	e51000	50500	47100	53400	57200	63100	65300	65100	65300	61300	52500
27	59200	e51000	50500	47200	53500	57600	63200	65400	65100	65300	61300	52200
28	58800	e51000	50600	47200	53700	57900	63400	65400	65100	65300	61300	51800
29	58300	e50900	50600	47300	---	58200	63500	65500	65100	65300	61300	51400
30	57800	e50900	50400	47400	---	58500	63600	65500	65100	65300	61300	51100
31	57300	---	50200	47500	---	58800	---	65500	---	65300	61300	---
MAX	71100	56900	50800	49900	53700	58800	63600	65500	65700	65300	65200	61400
MIN	57300	50900	50200	46400	47500	53800	59100	63700	65000	65100	61300	51100
a	1026.83	1020.04	1019.28	1016.31	1023.02	1028.33	1033.06	1034.91	1034.53	1034.75	1030.85	1020.27
b	-14200	-6400	-700	-2700	+6200	+5100	+4800	+1900	-400	+200	-4000	-10200

CAL YR 1993 b +7800

WTR YR 1994 b -20400

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SANTA CLARA RIVER BASIN

## 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. See schematic diagram of Santa Clara River basin.

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, 389 ft<sup>3</sup>/s, Sept. 18, gage height, 3.42 ft; minimum daily, 2.3 ft<sup>3</sup>/s, Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	274	29	172	8.4	9.5	3.5	5.3	5.2	3.6	71	3.0
2	256	275	29	121	8.3	9.5	3.3	5.2	5.2	3.5	145	2.9
3	254	274	29	128	8.1	9.5	3.3	5.3	5.2	3.5	186	2.4
4	247	274	29	131	8.3	9.2	3.3	5.4	5.2	3.5	206	2.4
5	273	253	29	127	8.4	9.1	3.3	5.3	5.2	3.5	193	2.3
6	289	191	29	143	8.4	9.1	3.4	5.2	4.8	3.5	175	129
7	287	203	29	168	8.4	8.8	3.7	5.2	4.8	3.5	100	290
8	288	238	29	168	8.2	8.8	4.6	5.2	4.8	3.5	99	284
9	286	238	29	168	8.1	8.8	5.2	5.2	4.8	3.5	100	274
10	289	198	29	168	9.0	9.1	5.2	5.2	4.8	3.6	99	260
11	157	82	17	168	11	9.2	5.2	5.2	4.8	3.7	104	250
12	252	207	23	168	11	9.1	5.2	5.2	4.8	3.7	96	228
13	252	234	32	168	11	9.2	5.1	5.2	54	3.7	90	213
14	287	234	19	168	11	9.1	5.0	5.3	75	3.7	90	213
15	283	197	25	168	11	9.1	5.0	5.2	68	3.7	90	213
16	260	85	30	168	11	8.8	5.0	5.4	29	3.7	93	217
17	268	87	27	75	11	8.8	5.0	5.3	4.8	3.7	113	220
18	268	87	14	5.0	11	8.8	5.0	5.2	4.8	3.7	117	273
19	267	87	17	5.0	11	9.0	5.1	5.2	4.8	3.7	38	267
20	267	87	28	4.9	11	9.1	5.0	5.2	4.9	3.7	4.0	241
21	267	87	28	7.0	11	9.1	5.1	5.2	57	3.5	3.9	241
22	267	87	27	11	10	9.1	5.4	5.2	113	2.6	3.9	241
23	267	87	26	11	9.8	9.1	5.2	5.2	54	5.2	3.9	208
24	267	96	26	8.5	11	9.1	5.2	5.4	20	5.2	3.9	197
25	267	105	26	6.3	13	8.8	5.3	5.5	4.3	5.6	3.9	197
26	267	105	26	9.8	11	8.8	5.3	5.5	4.3	6.3	3.9	194
27	263	105	24	6.1	9.6	8.8	5.4	5.5	4.3	5.9	3.9	194
28	263	103	21	8.8	9.5	8.8	5.4	5.4	4.3	5.7	4.0	194
29	270	72	22	8.8	---	9.0	5.3	5.2	2.8	5.7	4.1	204
30	278	29	99	8.5	---	9.1	5.4	5.2	3.7	5.7	4.1	202
31	275	---	174	8.4	---	6.3	---	5.2	---	5.7	4.1	---
TOTAL	8237	4681	1021	2686.1	278.5	277.6	142.4	163.4	572.6	129.3	2252.6	5657.0
MEAN	266	156	32.9	86.6	9.95	8.95	4.75	5.27	19.1	4.17	72.7	189
MAX	289	275	174	172	13	9.5	5.4	5.5	113	6.3	206	290
MIN	157	29	14	4.9	8.1	6.3	3.3	5.2	2.8	2.6	3.9	2.3
AC-FT	16340	9280	2030	5330	552	551	282	324	1140	256	4470	11220

## 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	48.0	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
LOWEST ANNUAL MEAN	10.0
HIGHEST DAILY MEAN	526
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	544
INSTANTANEOUS PEAK STAGE	3.66
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 1974 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	96.1	43.0	15.6	13.3	17.1	23.8	21.9	44.8	53.5	76.1	81.0	98.6
MAX	446	323	62.3	86.6	123	113	109	224	241	271	322	294
(WY)	1993	1993	1979	1994	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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1974 - 1994

ANNUAL TOTAL	39163.60	26098.5	
ANNUAL MEAN	107	71.5	48.9
HIGHEST ANNUAL MEAN			138
LOWEST ANNUAL MEAN			7.03
HIGHEST DAILY MEAN	289	Oct 6	526
LOWEST DAILY MEAN	.00	Aug 9	.00
ANNUAL SEVEN-DAY MINIMUM	1.9	Aug 8	.00
INSTANTANEOUS PEAK FLOW			623
INSTANTANEOUS PEAK STAGE			3.82
ANNUAL RUNOFF (AC-FT)	77680	51770	35440
10 PERCENT EXCEEDS	259	255	191
50 PERCENT EXCEEDS	96	9.5	6.9
90 PERCENT EXCEEDS	7.3	3.8	3.3

## SANTA CLARA RIVER BASIN

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. No regulation or diversion upstream from station. See schematic diagram of Santa Clara River basin.

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)
Feb. 7	1615	*252	*2.94	Feb. 17	1415	164	2.62

Minimum daily, .11 ft<sup>3</sup>/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.9	2.8	3.5	3.9	3.6	14	9.0	4.5	2.4	.56	.35	.19
2	1.6	2.8	3.3	3.6	3.6	13	8.5	4.1	2.3	.52	.34	.20
3	1.7	2.8	3.3	3.6	4.1	13	7.9	3.7	2.2	.55	.31	.20
4	1.9	2.8	3.2	3.6	6.9	12	7.6	3.7	2.1	.66	.32	.19
5	2.4	2.8	3.3	3.4	6.0	12	7.4	3.7	2.3	.63	.29	.19
6	2.6	2.9	3.3	3.5	5.4	13	7.1	4.3	2.4	.62	.24	.19
7	2.5	3.0	3.3	3.6	119	13	7.0	5.3	2.4	.58	.27	.18
8	2.3	3.0	3.3	3.6	59	11	6.9	6.6	2.3	.53	.32	.16
9	2.3	3.0	3.3	3.6	18	11	6.8	5.2	2.1	.51	.29	.14
10	2.4	3.1	3.3	3.5	12	10	6.5	4.3	2.0	.42	.33	.14
11	2.6	2.9	8.7	3.5	9.9	10	6.4	3.6	1.9	.41	.26	.16
12	2.7	1.8	5.5	3.3	8.4	9.7	6.1	3.4	1.7	.38	.21	.20
13	2.7	1.8	4.9	3.3	7.6	9.0	5.9	3.2	1.6	.35	.20	.22
14	2.6	2.1	4.9	3.0	7.1	8.9	5.8	3.0	1.6	.33	.20	.20
15	2.6	2.9	4.9	3.0	6.7	8.5	5.5	3.1	1.9	.33	.17	.21
16	2.7	3.0	4.8	2.9	6.3	8.3	5.3	3.4	2.1	.30	.17	.23
17	2.8	3.0	4.8	3.2	67	8.2	5.2	4.4	1.9	.31	.17	.25
18	2.8	3.0	4.8	3.5	30	8.0	4.9	5.0	1.7	.32	.16	.30
19	2.8	2.9	4.9	3.6	19	9.6	4.7	5.1	1.7	.31	.16	.32
20	2.7	3.0	4.8	3.7	30	8.9	4.6	4.3	1.6	.30	.15	.34
21	2.7	3.1	4.8	3.8	34	8.1	4.3	3.8	1.5	.29	.14	.37
22	2.6	3.2	4.8	3.6	30	7.8	4.3	3.6	1.4	.28	.13	.43
23	2.6	2.6	4.7	4.7	26	7.8	4.6	3.4	1.2	.28	.12	.64
24	2.6	2.3	4.1	4.9	22	10	5.1	3.1	1.2	.33	.12	.38
25	2.5	2.5	4.1	5.5	20	14	5.6	2.8	1.1	.32	.11	.29
26	2.5	2.6	4.1	4.9	18	15	5.5	3.1	.97	.30	.12	.24
27	2.5	2.6	4.1	4.8	17	14	5.6	3.0	.92	.28	.13	.23
28	2.6	2.4	4.1	4.4	16	12	6.1	2.7	.81	.28	.13	.22
29	2.6	3.0	4.1	4.0	---	11	5.3	2.4	.68	.28	.13	.23
30	2.7	5.1	4.1	3.7	---	9.9	4.8	2.5	.67	.32	.14	.22
31	2.7	---	4.1	3.6	---	9.5	---	2.5	---	.35	.16	---
TOTAL	77.2	84.8	133.2	116.8	612.6	330.2	180.3	116.8	50.65	12.23	6.34	7.46
MEAN	2.49	2.83	4.30	3.77	21.9	10.7	6.01	3.77	1.69	.39	.20	.25
MAX	2.8	5.1	8.7	5.5	119	15	9.0	6.6	2.4	.66	.35	.64
MIN	1.6	1.8	3.2	2.9	3.6	7.8	4.3	2.4	.67	.28	.11	.14
AC-FT	153	168	264	232	1220	655	358	232	100	24	13	15

e Estimated.



11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.78	5.12	7.39	25.6	64.2	49.6	23.4	7.81	2.79	1.27	.66	.83
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1948 - 1994			
ANNUAL TOTAL	36766.0				1728.58							
ANNUAL MEAN	101				4.74				15.5			
HIGHEST ANNUAL MEAN									101			
LOWEST ANNUAL MEAN									.33			
HIGHEST DAILY MEAN	2950				Feb 19				6430			
LOWEST DAILY MEAN	1.6				Oct 2				.00			
ANNUAL SEVEN-DAY MINIMUM	1.8				Sep 27				.00			
INSTANTANEOUS PEAK FLOW					252				Feb 7			
INSTANTANEOUS PEAK STAGE					2.94				Feb 7			
ANNUAL RUNOFF (AC-FT)	72930				3430				11240			
10 PERCENT EXCEEDS	203				9.6				17			
50 PERCENT EXCEEDS	8.8				3.0				1.5			
90 PERCENT EXCEEDS	2.4				.22				.10			

## 11113000 SESPE CREEK NEAR FILLMORE, CA

LOCATION.--Lat 34°26'32", long 118°55'35", in SE 1/4 NW 1/4 SE 1/4 sec.12, T.4 N., R.20 W., Ventura County, Hydrologic Unit 18070102, on right bank 0.6 mi downstream from Little Sespe Creek and 2.9 mi north of Fillmore.

DRAINAGE AREA.--251 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1911 to September 1913, October 1927 to September 1985, October 1990 to January 1993, Oct. 1, 1993, to Sept. 30, 1994; combined records of creek and canal, October 1927 to September 1939 monthly only, October 1939 to September 1985, October 1990 to January 1993. Prior to 1935, published as "at Sespe."

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 580 ft above sea level, from topographic map. See WSP 1315-B for history of changes prior to Jan. 17, 1946. Oct. 1, 1990, to Jan. 15, 1993, at site .5 mi upstream at same elevation. Gage on diversion canal discontinued Jan. 15, 1993.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Fillmore Irrigation Co. has diverted water 1 mi upstream since September 1911. See schematic diagram of Santa Clara River basin.

EXTREMES FOR PERIOD OF RECORD.--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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 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	1915	*2,590	*10.08	Feb. 20	0615	1,590	9.39

Minimum daily, 1.9 ft<sup>3</sup>/s, Aug. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e14	e18	34	28	42	112	83	42	16	4.4	2.5	2.1
2	e13	e16	32	28	39	108	79	38	15	4.4	2.4	2.2
3	e13	e14	28	26	40	105	75	36	15	4.5	2.4	2.2
4	e14	e14	25	19	63	102	73	33	15	4.5	2.3	2.2
5	e15	e13	26	18	66	99	70	31	16	4.7	2.2	2.2
6	e16	e16	25	17	60	107	67	29	15	4.0	2.2	2.1
7	e15	e19	26	16	810	108	66	30	15	3.7	2.4	2.2
8	e15	e19	28	16	737	98	65	30	15	3.6	2.4	2.2
9	e17	e20	26	16	161	94	64	32	15	3.4	2.3	2.2
10	e18	e23	26	16	136	91	62	33	14	3.5	2.3	2.3
11	e20	e30	49	16	110	87	60	31	14	3.8	2.3	2.3
12	e19	e23	55	16	93	83	57	29	13	3.1	2.2	2.3
13	e20	26	54	16	79	80	56	28	13	3.2	2.0	2.3
14	e20	29	51	16	27	76	52	27	13	3.0	1.9	2.2
15	e21	28	49	16	24	74	48	24	13	3.0	1.9	2.2
16	e23	28	46	16	22	73	43	23	12	3.0	2.0	2.2
17	e22	28	42	18	338	71	42	23	12	3.0	2.0	2.4
18	e21	28	41	22	234	69	40	23	12	2.9	2.1	2.4
19	e20	28	41	24	152	87	38	24	12	2.8	2.2	2.4
20	e19	27	38	28	693	82	37	26	12	2.9	2.1	2.4
21	e18	25	38	31	382	81	37	24	9.6	3.1	2.1	2.4
22	e17	24	36	31	137	73	36	24	6.1	3.3	2.2	2.7
23	e16	26	35	32	178	69	36	22	6.1	4.0	2.1	2.5
24	e15	28	34	40	166	158	38	21	7.3	2.8	2.1	2.5
25	e16	31	33	59	151	208	40	19	7.9	3.6	2.0	2.4
26	e16	34	31	49	141	129	44	18	7.7	3.4	2.0	2.4
27	e16	35	32	45	132	108	45	18	6.0	2.6	2.0	2.5
28	e18	35	31	44	122	100	42	18	5.3	2.9	2.0	2.6
29	e18	34	28	42	---	95	44	17	5.0	2.9	2.0	2.4
30	e19	34	26	41	---	88	44	16	4.6	2.6	2.0	2.6
31	e19	---	28	44	---	84	---	16	---	2.8	2.1	---
TOTAL	543	753	1094	846	5335	2999	1583	805	342.6	105.4	66.7	70.0
MEAN	17.5	25.1	35.3	27.3	191	96.7	52.8	26.0	11.4	3.40	2.15	2.33
MAX	23	35	55	59	810	208	83	42	16	4.7	2.5	2.7
MIN	13	13	25	16	22	69	36	16	4.6	2.6	1.9	2.1
AC-FT	1080	1490	2170	1680	10580	5950	3140	1600	680	209	132	139

e Estimated.

## 11113000 SESPE CREEK NEAR FILLMORE, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.64	42.1	95.0	202	455	361	164	48.8	16.5	6.39	3.33	3.42
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 1994 WATER YEAR

## WATER YEARS 1911 - 1994

ANNUAL TOTAL	14542.7		
ANNUAL MEAN	39.8	115	
HIGHEST ANNUAL MEAN		641	1969
LOWEST ANNUAL MEAN		1.78	1951
HIGHEST DAILY MEAN	810	Feb 7	
LOWEST DAILY MEAN	1.9	Aug 14	29100
ANNUAL SEVEN-DAY MINIMUM	2.0	Aug 12	.00
INSTANTANEOUS PEAK FLOW	2590	Feb 7	.00
INSTANTANEOUS PEAK STAGE	10.08	Feb 7	73000
ANNUAL RUNOFF (AC-FT)	28850		24.95
10 PERCENT EXCEEDS	87		83290
50 PERCENT EXCEEDS	22		163
90 PERCENT EXCEEDS	2.3		9.0
			.10

## SANTA CLARA RIVER BASIN

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.--No estimated daily discharge. Records good. Natural flow affected by pumping and return flow from irrigated areas. See schematic diagram of Santa Clara River basin.

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)
Feb. 7	1900	523	7.08	Feb. 20	0415	*698	*7.53
Feb. 17	1445	200	6.15	Mar. 24	2045	252	6.30

Minimum daily, 1.3 ft<sup>3</sup>/s, Aug. 24, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	7.4	6.7	6.9	11	21	15	9.3	6.5	4.0	3.4	2.7
2	5.2	7.2	6.2	7.1	11	20	15	9.2	6.0	4.0	3.4	2.6
3	5.6	7.2	5.8	7.1	13	16	15	9.2	5.8	4.4	3.3	2.9
4	6.5	7.2	5.5	6.9	21	16	15	9.2	5.8	4.9	3.0	3.2
5	7.8	6.5	5.3	6.6	15	18	14	9.8	6.1	4.8	2.8	3.1
6	8.3	6.6	5.3	6.4	14	21	13	11	6.9	4.6	2.8	3.2
7	8.6	7.2	5.6	6.0	166	24	13	11	6.6	4.4	3.1	3.2
8	8.7	7.7	5.4	6.1	173	25	13	12	6.3	4.5	3.1	3.2
9	9.1	7.4	5.2	5.5	34	21	13	12	6.4	4.5	2.6	3.1
10	9.8	7.7	5.4	5.6	18	17	14	11	6.6	4.7	2.4	3.0
11	11	10	45	5.1	14	16	12	12	6.9	4.8	2.2	2.7
12	9.6	8.3	14	5.1	12	15	12	12	7.4	4.5	2.0	2.7
13	12	8.3	10	4.7	11	13	12	8.3	8.2	3.8	1.9	2.7
14	12	8.2	12	4.5	10	13	12	8.1	8.5	4.1	2.0	2.7
15	11	7.9	10	4.3	9.8	13	13	7.9	9.1	4.2	1.9	2.5
16	13	7.4	9.2	4.1	9.2	12	13	9.2	9.6	4.4	1.8	2.5
17	13	7.9	8.7	5.7	105	12	12	9.4	8.9	4.5	1.6	2.3
18	11	7.4	8.7	7.0	44	11	11	10	8.0	4.0	1.5	2.4
19	11	6.7	9.4	7.5	29	20	11	11	7.6	3.8	1.5	2.6
20	11	6.3	8.1	7.6	320	12	11	9.9	7.3	4.0	1.5	2.5
21	8.7	6.0	7.8	8.3	97	10	10	9.1	6.9	4.0	1.4	2.2
22	6.1	5.8	8.2	8.3	49	9.3	9.3	8.8	6.4	4.0	1.5	2.2
23	5.5	5.5	8.3	9.3	35	9.4	9.2	9.2	5.5	4.1	1.4	2.3
24	5.0	5.2	7.8	12	29	67	9.5	8.8	5.3	3.7	1.3	2.6
25	5.6	4.8	7.2	15	26	40	9.0	9.4	5.0	3.6	1.3	2.5
26	5.1	4.4	7.1	11	26	23	10	11	4.9	3.6	1.4	2.5
27	5.2	4.7	7.1	11	24	20	11	11	4.2	3.4	1.5	2.5
28	6.2	4.6	7.1	11	22	19	10	7.7	3.9	3.4	1.6	2.2
29	5.8	6.6	7.1	11	---	17	9.8	7.1	3.9	3.6	2.0	2.4
30	6.4	14	6.9	10	---	16	9.9	6.8	3.9	3.3	2.3	2.5
31	6.8	---	6.6	11	---	15	---	6.8	---	3.4	2.6	---
TOTAL	256.5	212.1	272.7	237.7	1348.0	581.7	356.7	297.2	194.4	127.0	66.1	79.7
MEAN	8.27	7.07	8.80	7.67	48.1	18.8	11.9	9.59	6.48	4.10	2.13	2.66
MAX	13	14	45	15	320	67	15	12	9.6	4.9	3.4	3.2
MIN	5.0	4.4	5.2	4.1	9.2	9.3	9.0	6.8	3.9	3.3	1.3	2.2
AC-FT	509	421	541	471	2670	1150	708	589	386	252	131	158

## 11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.95	8.20	15.4	40.3	87.1	67.7	34.8	14.0	7.98	4.85	3.15	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1928 - 1994			
ANNUAL TOTAL	36092.4				4029.8							
ANNUAL MEAN	98.9				11.0							
HIGHEST ANNUAL MEAN									23.8			
LOWEST ANNUAL MEAN									156			
HIGHEST DAILY MEAN	2500				320				1.37			
LOWEST DAILY MEAN	4.4				1.3				8900			
ANNUAL SEVEN-DAY MINIMUM	5.0				1.4				.00			
INSTANTANEOUS PEAK FLOW					698				.00			
INSTANTANEOUS PEAK STAGE					7.53				21000			
ANNUAL RUNOFF (AC-FT)	71590				7990				15.18			
10 PERCENT EXCEEDS	250				16				35			
50 PERCENT EXCEEDS	20				7.3				4.7			
90 PERCENT EXCEEDS	6.2				2.6				.80			

11114000 SANTA CLARA RIVER AT MONTALVO, CA

LOCATION.--Lat 34°14'32", long 119°11'20", 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.--1,594 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1927 to September 1932, October 1949 to September 1988, October 1989 to September 1993. Discharge measurements only October 1993 to September 30, 1994 (discontinued). Monthly discharge only for 1950-67, published in WDR 1968. October 1949 to September 1969, published as "at Saticoy" (station 11113920).

CHEMICAL DATA.--Water years 1968-85, 1989, 1991-93.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Water-stage recorder. 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.--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. See schematic diagram of Santa Clara River basin.

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.

## DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

Date	Time	Discharge (ft <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s)
Oct. 7	0820	.04	Apr. 11	1500	.36
Oct. 26	0830	.16	Apr. 14	1415	.14
Dec. 1	1615	.18	Apr. 2	1030	.62
Dec. 28	1430	.04	June 4	1145	.26
Feb. 2	1230	.05	July 5	1515	.06
Mar. 2	1115	153	Aug. 2	1415	.06
Mar. 25	1145	645	Aug. 31	1730	.09
Apr. 1	1330	110	Sept. 24	1100	.08

## 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 Lake Casitas, capacity, 267,000 acre-ft. Water diverted to Lake Casitas 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 (station 11118400), see station 11118501.

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; many days, 1994.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 1,820 ft<sup>3</sup>/s, Feb. 20, gage height, 8.70 ft; no flow for many days.

Combined river and diversion: Maximum discharge, 1,820 ft<sup>3</sup>/s, Feb. 20; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	1.1	2.0	3.5	5.6	14	7.9	5.4	4.6	.15	.80	.05
2	6.5	.04	3.1	3.7	5.7	13	7.8	5.4	4.5	.09	.86	.04
3	7.6	1.4	2.9	6.4	5.5	12	10	5.3	4.0	.15	1.1	.03
4	6.7	2.2	e2.2	5.2	10	10	10	5.1	3.5	2.6	1.2	.01
5	5.1	2.2	e2.2	4.6	5.9	9.9	7.3	4.7	5.9	2.2	1.4	.01
6	3.6	2.1	e2.2	3.8	5.4	16	6.3	6.2	6.0	1.0	1.7	.01
7	3.9	2.6	e2.2	3.5	129	13	6.2	5.7	6.0	.95	2.0	.00
8	3.9	3.4	e1.9	3.1	178	10	6.2	6.9	5.7	1.1	1.6	.00
9	3.9	2.9	e1.7	4.1	55	9.9	5.8	5.8	5.9	1.1	.69	.00
10	3.4	2.2	e1.4	3.6	40	9.2	6.3	4.7	5.9	1.5	.44	.00
11	3.3	4.3	9.5	3.8	21	9.2	6.3	5.1	4.6	2.9	.31	.00
12	3.8	2.9	9.0	3.6	16	9.4	10	5.2	2.9	2.4	.44	.00
13	15	3.0	3.3	4.5	13	9.1	10	5.0	2.6	1.4	.31	.00
14	14	5.0	4.2	6.2	12	8.9	7.1	5.1	2.6	.66	.38	.00
15	8.2	4.5	6.6	4.6	9.8	8.4	6.9	5.3	2.6	.38	.14	.00
16	7.6	2.7	39	3.6	8.8	6.9	6.6	4.9	2.5	.60	.07	.00
17	7.5	1.5	12	9.0	123	5.0	6.0	8.7	2.4	2.1	.04	.00
18	8.5	.53	8.4	5.6	35	5.0	5.7	11	2.6	3.7	.03	.00
19	7.9	.13	7.3	4.3	26	7.0	5.6	5.8	3.4	1.7	.02	.00
20	4.0	.04	4.6	4.6	568	8.2	5.1	3.9	3.5	1.6	.02	.00
21	3.4	.01	4.2	4.6	e113	7.6	4.5	3.3	3.3	1.1	.02	.00
22	4.2	.01	3.5	4.0	e66	6.8	4.4	3.6	3.0	1.2	.01	.00
23	5.2	.01	3.5	4.0	e43	7.4	4.4	2.9	3.5	.85	.00	.00
24	2.9	.00	3.5	4.6	35	49	4.7	2.6	2.9	1.1	.00	.00
25	2.2	.11	4.0	13	27	49	5.7	2.1	3.4	1.2	.00	.00
26	.95	.06	4.0	7.5	23	26	5.2	2.0	3.0	.75	.00	.00
27	1.0	.00	3.7	6.2	18	21	4.5	2.0	1.9	.41	.00	.00
28	.99	.00	3.5	5.5	16	14	4.2	2.5	.78	.56	.01	.00
29	5.3	.56	3.5	5.6	---	8.5	4.5	3.3	.17	.48	.04	.00
30	2.1	8.5	3.5	5.9	---	8.3	5.2	3.8	.16	.45	.07	.00
31	1.2	---	3.5	5.5	---	8.4	---	3.9	---	.45	.07	---
TOTAL	159.44	54.00	166.1	157.7	1613.7	400.1	190.4	147.2	103.81	36.83	13.77	0.15
MEAN	5.14	1.80	5.36	5.09	57.6	12.9	6.35	4.75	3.46	1.19	.44	.005
MAX	15	8.5	39	13	568	49	10	11	6.0	3.7	2.0	.05
MIN	.95	.00	1.4	3.1	5.4	5.0	4.2	2.0	.16	.09	.00	.00
AC-FT	316	107	329	313	3200	794	378	292	206	73	27	.3

e Estimated.

## VENTURA RIVER BASIN

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
	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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.47	15.5	25.0	109	277	175	61.7	24.4	10.8	6.11	3.17	2.72
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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	100278.44	3043.20	
ANNUAL MEAN	275	8.34	58.1
HIGHEST ANNUAL MEAN			345
LOWEST ANNUAL MEAN			.29
HIGHEST DAILY MEAN	5110	Jan 18	22000
LOWEST DAILY MEAN	.00	Nov 24	.00
ANNUAL SEVEN-DAY MINIMUM	.03	Nov 22	.00
INSTANTANEOUS PEAK FLOW			1820
INSTANTANEOUS PEAK STAGE			8.70
ANNUAL RUNOFF (AC-FT)	198900	6040	42120
10 PERCENT EXCEEDS	801	10	39
50 PERCENT EXCEEDS	25	3.7	2.7
90 PERCENT EXCEEDS	2.8	.01	.00



## 11118501 VENTURA RIVER NEAR VENTURA, CA--Continued

VENTURA RIVER AND VENTURA CITY DIVERSION NEAR VENTURA  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	3.7	4.0	7.3	8.2	16	11	7.8	5.7	1.2	1.3	.05
2	9.1	2.7	4.8	7.4	8.3	15	9.8	7.8	5.6	1.1	1.3	.04
3	10	4.1	5.1	8.6	8.2	14	11	7.6	5.5	1.2	1.6	.03
4	10	4.9	5.3	8.9	13	12	11	7.4	5.0	3.2	1.6	.01
5	8.4	4.9	5.1	8.1	8.6	12	10	7.0	7.3	2.9	1.7	.01
6	7.1	4.8	5.0	7.2	8.1	17	9.1	8.7	7.5	2.2	2.0	.01
7	7.2	5.3	4.9	7.1	130	14	9.0	7.7	7.1	2.2	2.3	.00
8	7.1	6.0	4.7	6.4	179	12	9.0	8.5	6.9	2.3	1.9	.00
9	7.2	5.7	4.4	7.2	56	12	8.3	8.3	7.0	2.3	1.0	.00
10	6.8	5.0	4.1	6.9	41	11	8.3	7.1	6.8	2.6	.72	.00
11	7.1	7.8	11	7.1	21	11	9.1	7.5	5.7	3.7	.55	.00
12	6.0	5.3	11	6.8	16	11	11	7.6	4.2	3.3	.66	.00
13	15	4.6	6.0	7.0	13	11	12	7.4	3.9	2.5	.50	.00
14	15	6.2	6.9	8.5	12	11	10	7.1	3.9	1.7	.55	.00
15	10	6.2	9.6	7.9	11	10	9.6	7.4	3.8	1.4	.32	.00
16	9.1	5.3	40	6.7	9.8	9.5	9.2	6.8	3.7	1.5	.24	.00
17	8.7	4.8	14	10	123	8.8	8.5	8.7	3.5	2.7	.20	.00
18	9.6	3.4	10	9.2	35	8.7	8.2	12	3.6	4.2	.16	.00
19	10	3.1	9.4	7.6	26	10	8.0	8.2	4.5	2.5	.15	.00
20	7.6	3.0	8.3	7.4	569	9.9	7.5	6.3	4.6	2.4	.13	.00
21	6.6	2.9	7.8	7.9	114	10	7.1	5.0	4.3	1.9	.12	.00
22	6.2	2.9	7.0	7.2	66	9.6	6.8	5.9	3.9	2.0	.10	.00
23	7.4	2.7	7.1	7.2	43	10	7.0	5.8	4.4	1.6	.07	.00
24	5.8	2.9	7.1	8.0	35	51	7.2	5.2	3.9	1.7	.04	.00
25	5.0	2.5	7.6	15	28	49	8.5	5.0	4.5	1.7	.03	.00
26	3.7	2.9	7.8	9.8	24	26	8.1	4.8	4.1	1.3	.01	.00
27	3.7	2.9	7.5	9.2	19	21	7.8	4.6	3.0	.97	.00	.00
28	3.6	2.8	7.4	8.8	18	16	7.4	4.7	1.9	1.1	.01	.00
29	7.0	3.5	7.5	8.3	---	12	7.2	5.6	1.3	1.0	.04	.00
30	5.1	11	7.5	8.6	---	11	7.6	5.6	1.2	.97	.07	.00
31	3.8	---	7.4	8.2	---	11	---	5.4	---	.98	.07	---
TOTAL	237.5	133.8	255.3	251.5	1643.2	462.5	264.3	214.5	138.3	62.32	19.44	0.15
MEAN	7.66	4.46	8.24	8.11	58.7	14.9	8.81	6.92	4.61	2.01	.63	.005
MAX	15	11	40	15	569	51	12	12	7.5	4.2	2.3	.05
MIN	3.6	2.5	4.0	6.4	8.1	8.7	6.8	4.6	1.2	.97	.00	.00
AC-FT	471	265	506	499	3260	917	524	425	274	124	39	.3

## 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
SEP	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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.04	21.6	30.6	115	284	182	70.6	34.2	20.5	15.4	11.7	10.2
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	.63	.005
(WY)	1962	1962	1991	1991	1961	1961	1961	1961	1961	1961	1994	1994

## SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	100837.8	3682.81	
ANNUAL MEAN	276	10.1	65.8
HIGHEST ANNUAL MEAN			352
LOWEST ANNUAL MEAN			2.22
HIGHEST DAILY MEAN	5110	Jan 18	22000
LOWEST DAILY MEAN	2.5	Nov 25	.00
ANNUAL SEVEN-DAY MINIMUM	2.8	Nov 22	.00
INSTANTANEOUS PEAK FLOW			1820
INSTANTANEOUS PEAK STAGE			8.70
ANNUAL RUNOFF (AC-FT)	200000	7300	47700
10 PERCENT EXCEEDS	802	12	47
50 PERCENT EXCEEDS	26	6.8	12
90 PERCENT EXCEEDS	5.2	.06	3.6

## 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 SURFACE BED MATERIAL, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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
DEC								
02...	1130	1	4.0	1	2	6	10	12
02...	1140	1	4.0	--	--	1	3	4
02...	1150	1	4.0	--	--	--	2	3
02...	1200	1	4.0	--	--	--	2	5
02...	1210	1	4.0	--	--	--	--	--
02...	1220	1	3.5	--	--	2	3	4
02...	1230	1	3.5	--	1	4	6	8
02...	1240	1	3.5	--	--	1	2	2
02...	1250	1	3.5	--	-- 1	2	5	7
02...	1300	1	3.5	--	-- 1	4	10	15
02...	1305	1	3.5	2	7	28	45	52
02...	1310	1	3.5	--	--	1	1	2
02...	1315	1	3.5	24	60	90	97	99

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
DEC							
02...	13	15	17	21	38	52	100
02...	5	7	9	13	28	68	100
02...	5	7	12	18	29	43	100
02...	8	12	17	25	39	60	100
02...	--	--	--	1	13	27	100
02...	4	5	5	6	11	39	100
02...	9	11	14	21	59	100	--
02...	3	3	5	9	21	65	100
02...	9	12	15	25	50	90	100
02...	18	22	29	48	79	100	--
02...	55	58	61	70	87	100	--
02...	2	3	4	7	12	28	100
02...	99	100	--	--	--	--	--

## CARPINTERIA CREEK BASIN

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 poor. 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)
Feb. 20	unknown	*654	*5.72

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.10	.29	.22	.41	e.72	.27	.00	.00	.00	.00	.00
2	.07	.10	.22	.22	.41	e.65	.28	.00	.00	.00	.00	.00
3	.08	.05	.18	.22	.46	e.60	.28	.00	.00	e.00	.00	.00
4	.13	.05	.16	.22	2.2	e.55	.28	.00	.00	e.00	.00	.00
5	.22	.09	.19	.22	1.5	e.51	.20	.00	.00	e.00	.00	.00
6	.23	.09	.21	.22	1.3	e.48	.17	.00	.00	e.00	.00	.00
7	.21	.09	.21	.31	e18	e.46	.17	.01	.00	e.00	.00	.00
8	.24	.10	.21	.36	e6.0	e.44	.18	.02	.00	e.00	.00	.00
9	.29	.10	.20	e.40	e2.0	e.42	.28	.00	.00	e.00	.00	.00
10	.32	.11	.20	e.40	e1.0	e.40	.18	.00	.00	e.00	.00	.00
11	.32	.71	3.1	e.34	e.50	e.38	.12	.00	.00	e.00	.00	.00
12	.29	.22	4.6	e.27	e.40	e.37	.09	.00	.00	.00	.00	.00
13	.25	.17	.49	e.23	e.35	e.36	.04	.01	.00	.00	.00	.00
14	.27	.17	.47	e.19	e.32	e.35	.05	.01	.00	.00	.00	.00
15	.28	.17	.47	e.17	e.31	e.34	.10	.00	.00	.00	.00	.00
16	.26	.17	.40	e.16	e.31	e.33	.09	.01	.00	.00	.00	.00
17	.26	.19	.36	e.20	e16	e.32	.08	.03	.00	.00	.00	.00
18	.23	.17	.36	e.30	e4.0	e.32	.01	.04	.00	.00	.00	.00
19	.18	.17	.32	e.24	e5.0	e4.0	.00	.04	.00	.00	.00	.00
20	.13	.14	.32	e.20	e60	.71	.01	.00	.00	.00	.00	.00
21	.12	.12	.35	e.18	e8.0	.40	.01	.00	.00	.00	.00	.00
22	.14	.12	.31	e.17	e3.5	.34	.00	.00	.00	.00	.00	.00
23	.11	.13	.26	e.45	e2.2	.28	.00	.00	.00	.00	.00	.00
24	.11	.16	.28	e1.5	e1.7	4.7	.02	.00	.00	.00	.00	.00
25	.12	.17	.25	e1.0	e1.3	7.4	.00	.00	.00	.00	.00	.00
26	.10	.15	.26	e.76	e1.1	.99	.00	.01	.00	.00	.00	.00
27	.05	.12	.24	e.62	e.94	.53	.00	.00	.00	.00	.00	.00
28	.03	.11	.23	e.52	e.80	.47	.00	.00	.00	.00	.00	.00
29	.07	.18	.22	e.45	---	.37	.06	.00	.00	.00	.00	.00
30	.09	1.5	.22	e.38	---	.36	.00	.00	.00	.00	.00	.00
31	.05	---	.22	e.34	---	.32	---	.00	---	.00	.00	---
TOTAL	5.34	5.92	15.80	11.46	140.01	28.87	2.97	0.18	0.00	0.00	0.00	0.00
MEAN	.17	.20	.51	.37	5.00	.93	.099	.006	.000	.000	.000	.000
MAX	.32	1.5	4.6	1.5	60	7.4	.28	.04	.00	.00	.00	.00
MIN	.03	.05	.16	.16	.31	.28	.00	.00	.00	.00	.00	.00
AC-FT	11	12	31	23	278	57	5.9	.4	.00	.00	.00	.00

e Estimated.

## 11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.096	.85	2.49	9.34	13.7	8.04	3.98	.84	.31	.14	.062	.066
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1941 - 1994			
ANNUAL TOTAL	5012.93				210.55							
ANNUAL MEAN	13.7				.58				3.06			
HIGHEST ANNUAL MEAN									33.5			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	307				60				2270			
LOWEST DAILY MEAN	.03				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.07				.00				.00			
INSTANTANEOUS PEAK FLOW					654				8880			
INSTANTANEOUS PEAK STAGE					5.72				14.10			
ANNUAL RUNOFF (AC-FT)	9940				418				2220			
10 PERCENT EXCEEDS	31				.54				2.5			
50 PERCENT EXCEEDS	1.6				.09				.00			
90 PERCENT EXCEEDS	.15				.00				.00			

## MISSION CREEK BASIN

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)
Feb. 20	0315	*207	*2.77

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e1.3	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	e1.0	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	e.94	e.00	1.8	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	e.70	e.00	2.4	.00	.00	.15	.00	.00	.00	.00
5	.00	.00	e.47	e.00	.29	.10	.00	.02	.00	.00	.00	.00
6	.00	.00	e.24	e.00	1.4	.85	.00	.05	.00	.00	.00	.00
7	.00	.00	e.09	e.00	35	.41	.00	.02	.00	.00	.00	.00
8	.00	.00	e.00	e.00	9.4	.19	.00	.00	.00	.00	.00	.00
9	.00	.00	e.00	e.00	1.1	.02	.37	.00	.00	.00	.00	.00
10	.00	.00	e.00	e.00	.26	.00	.00	.00	.00	.00	.00	.00
11	.00	1.6	13	e.00	.02	.00	.00	.28	.00	.00	.00	.00
12	.00	.01	1.5	e.00	.00	.00	.00	.04	.00	.00	.00	.00
13	.00	.00	.14	e.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	2.5	e.00	.27	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.45	e.00	.44	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.14	e.00	.40	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.07	e.00	25	.00	.00	.14	.00	.00	.00	.00
18	.00	.00	e.00	e.00	2.5	.00	.00	.07	.00	.00	.00	.00
19	.00	.00	e.00	.31	6.2	2.0	.00	.06	.00	.00	.00	.00
20	.00	.00	e.00	.25	55	.48	.00	.00	.00	.00	.00	.00
21	.00	.00	.11	.03	6.9	.14	.00	.00	.00	.00	.00	.00
22	.00	.00	.47	.03	2.9	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.22	1.5	1.6	.00	.00	.21	.00	.00	.00	.00
24	.00	.00	.08	11	.96	7.4	.00	.11	.00	.00	.00	.00
25	.00	.00	e.00	1.5	.52	1.2	.48	.00	.00	.00	.00	.00
26	.00	.00	e.00	.30	.23	.15	.29	.00	.00	.00	.00	.00
27	.00	.00	e.00	.09	.05	.00	.07	.00	.00	.00	.00	.00
28	.00	.00	.03	e.00	.00	.00	.04	.00	.00	.00	.00	.00
29	.00	7.1	e.02	e.02	---	.00	.00	.00	.00	.00	.00	.00
30	.00	1.5	e.01	e.01	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	e.00	e.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	10.21	23.48	15.04	154.64	12.94	1.25	1.15	0.00	0.00	0.00	0.00
MEAN	.000	.34	.76	.49	5.52	.42	.042	.037	.000	.000	.000	.000
MAX	.00	7.1	13	11	55	7.4	.48	.28	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	20	47	30	307	26	2.5	2.3	.00	.00	.00	.00

e Estimated.

## 11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.12	1.18	2.47	6.05	10.8	8.59	2.02	.81	.13	.026	.046	.17
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1971 - 1994			
ANNUAL TOTAL	2603.88				218.71							
ANNUAL MEAN	7.13				.60				2.66			
HIGHEST ANNUAL MEAN									15.1			
LOWEST ANNUAL MEAN									.12			
HIGHEST DAILY MEAN	238				55				879			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					207				2580			
INSTANTANEOUS PEAK STAGE					2.77				5.45			
ANNUAL RUNOFF (AC-FT)	5160				434				1920			
10 PERCENT EXCEEDS	18				.46				2.5			
50 PERCENT EXCEEDS	.03				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			

## ATASCADERO CREEK BASIN

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 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)
Feb. 20	Unknown	*312	*2.73

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	e.10	.10	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	e.09	.11	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.69	e.08	.08	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	1.1	e.07	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.21	e.09	.04	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.44	e.12	.06	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	2.2	e.08	.08	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	e1.8	e.06	.10	.01	.00	.00	.00	.00
9	.00	.00	.00	.00	e.50	e.05	.12	.00	.00	.00	.00	.00
10	.00	.02	.00	.00	e.65	e.05	.01	.00	.00	.00	.00	.00
11	.00	.15	1.1	.00	e.18	e.05	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	e.04	e.05	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	e.02	e.02	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	e.03	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	e.03	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	e.02	.00	.03	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	e1.5	.00	.02	.01	.00	.00	.00	.00
18	.00	.00	.00	.00	e4.5	.00	.00	.01	.00	.00	.00	.00
19	.00	.00	.00	.00	e6.5	.17	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	e80	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	e10	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	e4.0	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.15	e1.7	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.48	e.95	3.7	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.16	e.50	1.2	.06	.00	.00	.00	.00	.00
26	.00	.00	.00	.16	e.30	.40	.02	.00	.00	.00	.00	.00
27	.00	.00	.00	.06	e.18	.26	.01	.00	.00	.00	.00	.00
28	.00	.00	.00	.01	e.11	.22	.03	.00	.00	.00	.00	.00
29	.00	.26	.00	.00	---	.19	.00	.00	.00	.00	.00	.00
30	.00	.04	.00	.00	---	.13	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.12	---	.00	---	.00	.00	---
TOTAL	0.00	0.47	1.10	1.02	118.15	7.30	0.87	0.03	0.00	0.00	0.00	0.00
MEAN	.000	.016	.035	.033	4.22	.24	.029	.001	.000	.000	.000	.000
MAX	.00	.26	1.1	.48	80	3.7	.12	.01	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.9	2.2	2.0	234	14	1.7	.06	.00	.00	.00	.00

e Estimated.



11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	.25	1.36	3.83	7.44	6.97	.92	.23	.079	.033	.030	.044
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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1971 - 1994
ANNUAL TOTAL	1831.17	128.94	
ANNUAL MEAN	5.02	.35	1.75
HIGHEST ANNUAL MEAN			7.77
LOWEST ANNUAL MEAN			.039
HIGHEST DAILY MEAN	369	80	446
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		312	2500
INSTANTANEOUS PEAK STAGE		2.73	7.10
ANNUAL RUNOFF (AC-FT)	3630	256	1270
10 PERCENT EXCEEDS	5.4	.12	1.1
50 PERCENT EXCEEDS	.04	.00	.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 "Atascadero Creek near Goleta."

Sediment concentration: 1982 water year.

Suspended sediment discharge: 1982 water year.

Temperature: 1982 water year.

REVISED RECORDS.--WSP 1635: 1943-45(M), 1947(M). 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 many 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. 11	1400	286	4.65	Feb. 17	0830	455	5.27
Feb. 7	0930	261	4.68	Feb. 20	0400	*1,090	*6.31

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.09	.00	.04	.24	.26	.01	.00	.00	.00	.00
2	.00	.00	.03	.00	.04	.21	.30	.00	.00	.00	.00	.00
3	.00	.00	.01	.00	2.1	.22	.28	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	9.7	.18	.24	.45	.00	.00	.00	.00
5	.00	.00	.00	.00	.50	.18	.23	.72	.00	.00	.00	.00
6	.00	.00	.00	.00	1.2	2.1	.20	.61	.00	.00	.00	.00
7	.00	.00	.00	.00	100	.42	.20	.10	.00	.00	.00	.00
8	.00	.00	.00	.00	22	.19	.18	.20	.00	.00	.00	.00
9	.00	.00	.00	.00	1.3	.16	3.7	.07	.00	.00	.00	.00
10	.00	2.0	.00	.00	2.5	.16	.56	.54	.00	.00	.00	.00
11	.01	9.3	62	.00	.39	.16	.19	.06	.00	.00	.00	.00
12	.00	.42	2.5	.00	.08	.10	.13	.20	.00	.00	.00	.00
13	.00	.04	.16	.00	.04	.09	.11	.03	.00	.00	.00	.00
14	.00	.01	6.2	.00	.06	.11	.05	.02	.00	.00	.00	.00
15	.00	.00	1.3	.00	.06	.10	.04	.01	.00	.00	.00	.00
16	.00	.00	.10	.00	.05	.08	.06	.00	.00	.00	.00	.00
17	.00	.00	.02	.00	101	.10	.05	.25	.00	.00	.00	.00
18	.00	.00	.00	.00	6.2	.11	.05	.45	.00	.00	.00	.00
19	.00	.00	.08	.00	13	12	.26	.29	.00	.00	.00	.00
20	.00	.00	.10	.00	251	2.9	.27	.91	.00	.00	.00	.00
21	.00	.01	.04	.00	10	.30	.03	.64	.00	.00	.00	.00
22	.00	.01	.01	.00	4.8	.10	.01	.04	.00	.00	.00	.00
23	.00	.00	.00	3.3	2.8	.07	.00	.03	.00	.00	.00	.00
24	.00	.00	.00	32	2.1	47	.00	.01	.00	.00	.00	.00
25	.00	.00	.00	11	1.4	12	2.3	.01	.00	.00	.00	.00
26	.00	.00	.00	1.8	.85	1.8	2.2	.00	.00	.00	.00	.00
27	.00	.00	.00	.38	.48	.56	.37	.00	.00	.00	.00	.00
28	.00	.00	.00	.29	.34	.36	.12	.00	.00	.00	.00	.00
29	.00	41	.00	.10	---	.33	.10	.00	.00	.00	.00	.00
30	.00	1.6	.00	.08	---	.28	.03	.00	.00	.00	.00	.00
31	.00	---	.00	.05	---	.25	---	.00	---	.00	.00	---
TOTAL	0.01	54.39	72.64	49.00	534.03	82.86	12.52	5.65	0.00	0.00	0.00	0.00
MEAN	.000	1.81	2.34	1.58	19.1	2.67	.42	.18	.000	.000	.000	.000
MAX	.01	41	62	32	251	47	3.7	.91	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.04	.07	.00	.00	.00	.00	.00	.00
AC-FT	.02	108	144	97	1060	164	25	11	.00	.00	.00	.00

## 11120000 ATASCADERO CREEK NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.31	3.31	5.51	15.6	19.0	13.0	3.83	.52	.13	.038	.063	.26
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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1942 - 1994			
ANNUAL TOTAL	7816.46				811.10							
ANNUAL MEAN	21.4				2.22				5.06			
HIGHEST ANNUAL MEAN									29.0			
LOWEST ANNUAL MEAN									.018			
HIGHEST DAILY MEAN	1330				251				2410			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					1090				5380			
INSTANTANEOUS PEAK STAGE					6.31				17.30			
ANNUAL RUNOFF (AC-FT)	15500				1610				3660			
10 PERCENT EXCEEDS	35				1.2				2.4			
50 PERCENT EXCEEDS	.02				.00				.02			
90 PERCENT EXCEEDS	.00				.00				.00			

## SAN JOSE CREEK BASIN

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.--No estimated daily discharges. Records fair. 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)
Feb. 20	0300	*277	*5.04				

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.06	.40	.32	.33	1.1	1.1	.34	.18	.06	.03	.02
2	.08	.06	.33	.32	.28	1.1	.85	.32	.14	.06	.03	.02
3	.17	.03	.27	.27	.32	1.1	.57	.26	.16	.01	.02	.01
4	.18	.03	.27	.27	.57	1.1	.57	.23	.16	.05	.00	.01
5	.22	.04	.32	.32	.57	1.1	.51	.30	.29	.07	.00	.01
6	.23	.05	.28	.32	.57	1.1	.38	.42	.26	.04	.00	.01
7	.23	.13	.26	.28	19	1.1	.38	.27	.20	.09	.01	.01
8	.23	.13	.23	.31	8.5	1.1	.38	.52	.15	.05	.01	.00
9	.23	.14	.32	.38	1.9	.87	.50	.57	.15	.03	.01	.00
10	.23	.16	.32	.38	1.1	.87	.71	.50	.15	.06	.01	.00
11	.27	.51	3.3	.35	.65	.80	.56	.30	.15	.00	.01	.00
12	.27	.27	1.5	.30	.56	.51	.38	.32	.15	.08	.00	.00
13	.25	.31	.71	.26	.45	.45	.38	.37	.18	.03	.01	.00
14	.23	.32	.90	.18	.45	.40	.38	.38	.16	.04	.00	.00
15	.23	.32	.83	.16	.45	.32	.27	.38	.12	.05	.00	.00
16	.15	.32	.71	.15	.45	.32	.27	.38	.12	.05	.00	.00
17	.17	.32	.57	.25	16	.32	.27	.38	.10	.06	.00	.01
18	.18	.30	.45	.30	5.2	.27	.27	.54	.10	.06	.01	.01
19	.08	.12	.45	.26	6.2	4.7	.24	.57	.08	.05	.01	.01
20	.07	.11	.45	.23	63	1.4	.23	.51	.08	.05	.01	.01
21	.08	.15	.40	.23	7.2	1.0	.30	.27	.08	.05	.01	.01
22	.08	.21	.38	.21	3.5	.80	.32	.27	.07	.05	.01	.01
23	.06	.26	.38	.41	2.4	.71	.26	.27	.07	.05	.01	.01
24	.08	.15	.38	1.4	2.0	6.0	.29	.27	.06	.03	.01	.01
25	.08	.12	.38	1.4	1.7	4.5	.38	.27	.05	.03	.01	.01
26	.07	.12	.38	.74	1.5	1.8	.57	.27	.06	.04	.01	.01
27	.08	.17	.38	.45	1.4	1.3	.50	.31	.06	.04	.02	.01
28	.09	.24	.38	.39	1.2	1.2	.45	.22	.05	.05	.02	.01
29	.07	.52	.37	.38	---	1.2	.45	.18	.07	.05	.02	.01
30	.07	.99	.32	.38	---	1.1	.45	.22	.07	.06	.01	.01
31	.05	---	.32	.38	---	1.1	---	.17	---	.04	.01	---
TOTAL	4.59	6.66	16.94	11.98	147.45	40.74	13.17	10.58	3.72	1.48	0.31	0.23
MEAN	.15	.22	.55	.39	5.27	1.31	.44	.34	.12	.048	.010	.008
MAX	.27	.99	3.3	1.4	63	6.0	1.1	.57	.29	.09	.03	.02
MIN	.05	.03	.23	.15	.28	.27	.23	.17	.05	.00	.00	.00
AC-FT	9.1	13	34	24	292	81	26	21	7.4	2.9	.6	.5

## 11120500 SAN JOSE CREEK NEAR GOLETA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.25	1.12	2.41	5.55	7.42	5.73	2.73	.73	.29	.15	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1941 - 1994			
ANNUAL TOTAL	2134.39				257.85							
ANNUAL MEAN	5.85				.71				2.05			
HIGHEST ANNUAL MEAN									9.80			
LOWEST ANNUAL MEAN									.042			
HIGHEST DAILY MEAN	182				63				602			
LOWEST DAILY MEAN	.03				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.05				.00				.00			
INSTANTANEOUS PEAK FLOW					277				2000			
INSTANTANEOUS PEAK STAGE					5.04				12.74			
ANNUAL RUNOFF (AC-FT)	4230				511				1480			
10 PERCENT EXCEEDS	18				1.1				2.0			
50 PERCENT EXCEEDS	.54				.25				.23			
90 PERCENT EXCEEDS	.11				.01				.00			

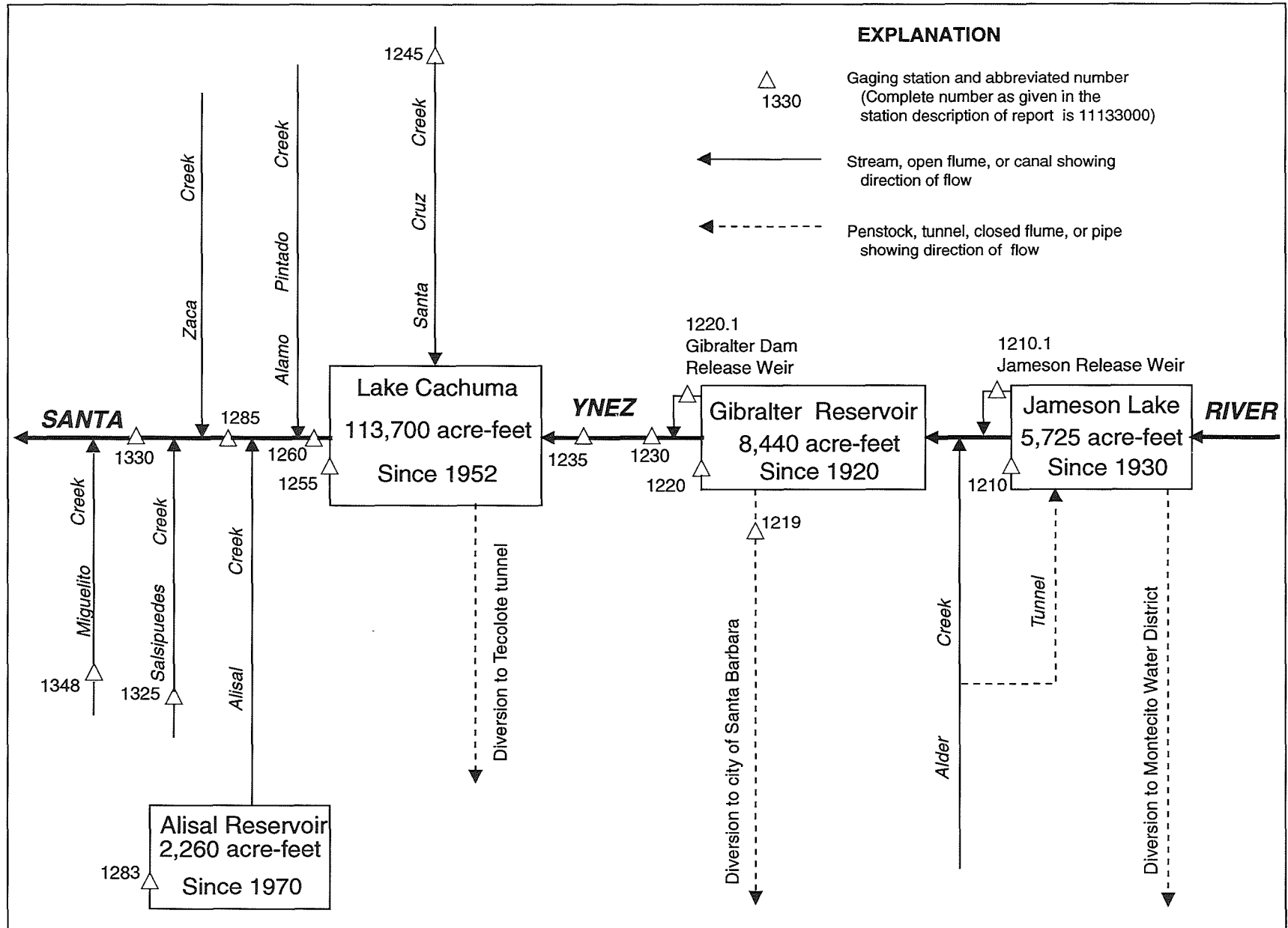


Figure 22. Diversions and storage in Santa Ynez River basin.

## 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 (station 11121010) 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 1987. 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.--63 years (water years 1932-94), spill and release, 7.40 ft<sup>3</sup>/s, 5,360 acre-ft/yr.

## MONTHLY NET INFLOW, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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.....	2,222.57	4,830	--	--	--	--	--	--	--
Oct. 31.....	2,221.72	4,720	-110	132	0	40	62	1	61
Nov. 30.....	2,221.36	4,670	-50	106	0	30	86	18	68
Dec. 31.....	2,221.68	4,720	+50	76	0	22	148	28	120
CAL YR 1993.....	--	--	+220	999	27,204	458	28,776	622	28,154
Jan. 31.....	2,221.87	4,740	+20	92	0	7	119	18	101
Feb. 28.....	2,223.91	5,000	+260	62	367	10	699	111	588
Mar. 31.....	2,223.92	5,000	0	102	283	21	406	35	371
Apr. 30.....	2,223.52	4,950	-50	127	75	20	172	8	164
May 31.....	2,222.72	4,850	-100	134	0	19	53	8	45
June 30.....	2,221.15	4,650	-200	170	0	44	14	0	14
July 31.....	2,218.95	4,380	-270	200	0	75	5	0	5
Aug. 31.....	2,216.54	4,090	-290	216	0	74	0	0	0
Sept. 30.....	2,214.39	3,840	-250	202	0	48	0	5	0
WTR YR 1994.....	--	--	-990	1,619	725	393	1,769	232	1,542

<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.

## SANTA YNEZ RIVER BASIN

## 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.--WSP 706: 1921-22. WSP 1041: 1944. WSP 1395: DA. WSP 1635: 1914, 15 (M). 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--station 11121900) to city of Santa Barbara, spill and release (station 11123000) 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 1993 TO SEPTEMBER 1994

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.....	1,397.36	7,860	--	--	--	--	--	--	--
Oct. 31.....	1,395.47	7,350	-510	478	2.2	76	46	3	43
Nov. 30.....	1,393.96	6,980	-370	495	2.8	49	177	25	152
Dec. 31.....	1,394.46	7,100	+120	373	4.6	25	523	39	484
CAL YR 1993.....	--	--	480	3,088	216,798	1,486	221,771	1,047	220,724
Jan. 31.....	1,394.84	7,180	+80	462	3.3	34	579	28	551
Feb. 28.....	1,399.86	8,530	+1,350	389	3,650	28	5,417	167	5,250
Mar. 31.....	1,399.91	8,550	+20	444	1,640	60	2,164	47	2,117
Apr. 30.....	1,399.91	8,550	0	491	368	81	940	11	929
May 31.....	1,399.41	8,410	-140	504	32	93	489	9	480
June 30.....	1,395.39	7,330	-1,080	472	577	150	119	0	119
July 31.....	1,393.32	6,830	-500	72	297	149	18	0	18
Aug. 31.....	1,392.62	6,670	-160	0	6.8	155	2	0	2
Sept. 30.....	1,392.20	6,580	-90	0	4.4	106	20	1	19
WTR YR 1994.....	--	--	1,280	4,180	6,588	1,006	10,494	330	10,164

<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.



## 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 (station 11122010). 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 4,180 acre-ft during current year from Gibraltar Reservoir; Montecito Water District diverted 1,619 acre-ft during current year from Jameson Lake. See schematic diagram of Santa Ynez River basin.

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, 1,650 ft<sup>3</sup>/s, Feb. 20, gage height, 11.22 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.07	.02	.11	.06	43	16	2.2	6.5	6.2	.23	.03
2	.00	.07	.01	.10	.06	33	15	1.6	11	4.9	.20	.02
3	.00	.07	.00	.09	.08	16	9.8	.57	11	5.0	.18	.03
4	.00	.08	.00	.09	.16	26	5.1	.57	11	5.2	.19	.04
5	.00	.08	.00	.10	.09	36	15	.56	10	4.3	.19	.04
6	.00	.08	.00	.08	.09	35	17	.52	10	5.1	.18	.05
7	.00	.08	.00	.07	.95	28	7.4	.52	10	5.5	.17	.05
8	.00	.07	.00	.06	.38	29	6.0	.51	10	5.7	.16	.05
9	.00	.07	.00	.05	.33	27	7.7	.51	11	5.7	.14	.06
10	.00	.07	.00	.04	.44	21	8.9	.51	11	5.9	.12	.07
11	.00	.10	.17	.04	.42	15	7.9	.53	11	6.1	.11	.07
12	.00	.08	.14	.04	.40	12	7.3	.52	11	6.1	.09	.07
13	.00	.07	.16	.01	.74	35	6.6	.52	11	6.1	.08	.07
14	.00	.06	.26	.00	1.1	15	4.3	.51	11	5.7	.06	.08
15	.00	.06	.16	.00	1.4	15	2.8	.47	8.0	5.9	.07	.09
16	.00	.05	.10	.00	1.4	16	2.8	.46	6.2	6.1	.07	.09
17	.00	.04	.08	.00	2.7	16	3.0	.47	6.5	6.1	.08	.08
18	.02	.04	.07	.00	33	15	2.9	.44	6.9	6.3	.10	.07
19	.05	.03	.07	.01	85	14	2.7	.39	6.9	6.3	.12	.07
20	.09	.03	.07	.02	932	17	2.6	.41	7.0	6.4	.13	.07
21	.11	.02	.07	.02	311	17	1.3	.39	7.4	6.6	.15	.07
22	.11	.02	.08	.02	169	16	.78	.40	7.5	6.7	.15	.07
23	.10	.01	.09	.04	48	14	.76	.39	7.8	6.7	.13	.09
24	.09	.01	.10	.13	46	27	.75	.36	8.0	6.6	.11	.10
25	.09	.00	.10	.15	53	110	.87	.32	8.0	6.7	.09	.10
26	.08	.00	.10	.08	58	44	1.4	.28	8.2	6.9	.03	.10
27	.08	.00	.07	.07	50	42	15	.26	8.2	7.2	.02	.11
28	.09	.00	.09	.06	45	22	8.6	.25	8.2	7.1	.01	.13
29	.07	.00	.09	.06	---	22	2.8	.25	8.1	5.6	.02	.14
30	.06	.03	.10	.06	---	28	2.6	.24	8.0	.45	.02	.13
31	.07	---	.12	.05	---	19	---	.21	---	.28	.02	---
TOTAL	1.11	1.39	2.32	1.65	1840.80	825	185.66	16.14	266.4	175.43	3.42	2.24
MEAN	.036	.046	.075	.053	65.7	26.6	6.19	.52	8.88	5.66	.11	.075
MAX	.11	.10	.26	.15	932	110	17	2.2	11	7.2	.23	.14
MIN	.00	.00	.00	.00	.06	12	.75	.21	6.2	.28	.01	.02
AC-FT	2.2	2.8	4.6	3.3	3650	1640	368	32	528	348	6.8	4.4

## 11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.73	6.68	26.3	109	221	224	99.8	23.9	6.03	2.71	.93	.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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1934 - 1994
ANNUAL TOTAL	109302.70	3321.56	
ANNUAL MEAN	299	9.10	59.3
HIGHEST ANNUAL MEAN			437
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	6130	Feb 19	26600
LOWEST DAILY MEAN	.00	Sep 14	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 14	.00
INSTANTANEOUS PEAK FLOW		1650	54200
INSTANTANEOUS PEAK STAGE		11.22	25.80
ANNUAL RUNOFF (AC-FT)	216800	6590	42960
10 PERCENT EXCEEDS	737	16	70
50 PERCENT EXCEEDS	9.8	.17	.08
90 PERCENT EXCEEDS	.00	.01	.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.--No estimated daily discharges. Records good. 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. See schematic diagram of Santa Ynez River basin.

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, 2,130 ft<sup>3</sup>/s, Feb. 20, gage height, 7.02 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.77	1.4	2.2	4.5	54	27	6.6	2.3	3.6	1.1	.00
2	1.0	.69	1.4	2.3	4.5	55	24	6.0	2.2	3.7	1.1	.00
3	1.0	.62	1.4	2.6	5.0	31	23	5.5	2.2	3.8	1.1	.00
4	1.0	.55	1.4	2.9	8.1	26	20	5.0	2.1	3.7	1.1	.00
5	1.0	.55	1.4	3.3	8.2	30	14	4.6	3.4	2.9	1.1	.00
6	1.0	.54	1.4	3.3	8.0	48	18	4.2	6.7	2.4	.99	.00
7	1.0	.49	1.4	3.4	32	39	21	4.1	8.0	2.2	.95	.00
8	1.0	.47	1.4	3.5	38	35	16	4.3	8.6	1.8	.91	.00
9	1.0	.47	1.4	3.6	11	34	13	3.8	8.8	1.6	.81	.00
10	1.0	.48	1.4	3.8	6.0	32	13	3.4	8.7	1.5	.80	.00
11	1.1	.69	4.6	3.9	4.4	29	13	3.1	8.6	1.3	.74	.00
12	1.1	.71	3.1	4.0	3.6	21	13	3.0	8.8	1.3	.68	.00
13	1.1	.71	2.1	4.0	3.3	19	12	2.9	9.0	1.2	.63	.00
14	1.1	.77	1.9	4.0	3.0	35	12	2.9	8.7	1.2	.56	.00
15	1.1	.80	2.0	4.0	2.8	19	11	2.7	8.7	1.2	.45	.00
16	1.0	.82	1.9	4.0	2.7	18	9.5	2.6	8.5	1.1	.32	.00
17	1.1	.86	1.7	4.0	39	18	8.3	2.4	6.7	1.1	.24	.00
18	1.1	.87	1.6	4.0	19	18	7.4	2.6	5.5	1.2	.16	.00
19	1.2	.87	1.6	3.9	46	20	7.2	3.0	4.6	1.2	.12	.00
20	1.2	.87	1.5	4.0	1440	20	7.2	3.0	4.3	1.2	.08	.00
21	1.2	.87	1.5	4.0	508	19	7.2	2.8	4.5	1.2	.05	.00
22	1.2	.82	1.5	4.0	294	18	7.1	2.4	4.5	1.3	.03	.00
23	1.2	.82	1.5	4.8	101	18	6.7	2.4	3.9	1.3	.01	.00
24	1.1	.82	1.5	6.2	76	31	6.4	2.3	3.8	1.3	.00	.00
25	1.1	.86	1.5	6.7	68	130	5.9	2.4	3.5	1.5	.00	.00
26	1.0	.92	1.6	6.3	72	66	6.3	2.4	3.2	1.5	.00	.00
27	.98	.92	1.6	6.3	71	53	6.0	2.4	3.1	1.5	.00	.00
28	.98	.95	1.7	6.1	59	47	7.7	2.4	3.5	1.5	.00	.00
29	.89	1.1	1.8	5.3	---	30	12	2.4	3.7	1.4	.00	.00
30	.82	1.4	1.9	4.9	---	30	8.3	2.3	3.6	1.1	.00	.00
31	.78	---	2.1	4.7	---	34	---	2.3	---	1.0	.00	---
TOTAL	32.35	23.08	54.2	130.0	2938.1	1077	363.2	102.2	163.7	53.8	14.03	0.00
MEAN	1.04	.77	1.75	4.19	105	34.7	12.1	3.30	5.46	1.74	.45	.000
MAX	1.2	1.4	4.6	6.7	1440	130	27	6.6	9.0	3.8	1.1	.00
MIN	.78	.47	1.4	2.2	2.7	18	5.9	2.3	2.1	1.0	.00	.00
AC-FT	64	46	108	258	5830	2140	720	203	325	107	28	.00

## 11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.48	8.55	37.9	155	308	251	117	32.1	8.23	2.25	.63	.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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1947 - 1994
ANNUAL TOTAL	147376.63	4951.66	
ANNUAL MEAN	404	13.6	75.6
HIGHEST ANNUAL MEAN			554 1969
LOWEST ANNUAL MEAN			.013 1961
HIGHEST DAILY MEAN	8380 Feb 19	1440 Feb 20	33700 Jan 25 1969
LOWEST DAILY MEAN	.47 Nov 8	.00 Aug 24	.00 Jun 24 1947
ANNUAL SEVEN-DAY MINIMUM	.51 Nov 4	.00 Aug 24	.00 Jul 5 1947
INSTANTANEOUS PEAK FLOW		2130 Feb 20	67500 Jan 25 1969
INSTANTANEOUS PEAK STAGE		7.02 Feb 20	18.88 Jan 25 1969
ANNUAL RUNOFF (AC-FT)	292300	9820	54770
10 PERCENT EXCEEDS	1050	22	76
50 PERCENT EXCEEDS	11	2.3	.00
90 PERCENT EXCEEDS	1.0	.00	.00

WATER-QUALITY RECORDS

CHEMICAL DATA: Water years 1973-89, 1991 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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)	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 12...	1545	1.0	1240	7.6	20.5	--	--	--	--	--	--
NOV 01...	1315	0.77	1240	7.5	18.0	--	--	--	--	--	--
DEC 07...	1400	1.4	1210	7.7	14.5	--	--	--	--	--	--
JAN 04...	1505	3.0	1190	7.6	14.0	--	--	--	--	--	--
FEB 01...	1415	4.5	1230	8.3	11.0	--	--	--	--	--	--
MAR 09...	1650	33	1180	8.3	18.0	--	--	--	--	--	--
APR 21...	1120	7.0	1210	8.0	18.0	742	8.4	92	590	140	59
MAY 11...	1515	3.2	1240	7.8	18.5	--	--	--	--	--	--
JUN 07...	1505	8.4	1310	8.0	26.0	--	--	--	--	--	--
JUL 12...	1415	1.3	1290	7.6	23.0	--	--	--	--	--	--
AUG 09...	1000	0.81	1300	7.7	22.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

## 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. 11	1415	108	7.79	Feb. 20	0315	*313	*8.57
Feb. 7	1945	154	8.02				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.0	7.4	6.1	6.5	e20	e11	5.8	3.7	.44	.09	.00
2	1.3	2.0	6.3	6.1	6.5	e18	e10	5.8	3.5	.39	.08	.00
3	1.3	1.9	5.7	6.1	7.2	e17	e9.5	5.5	3.5	.40	.07	.00
4	1.3	1.9	5.4	5.4	11	e16	e9.0	5.4	3.2	.42	.06	.00
5	1.4	1.9	5.3	5.4	9.0	e14	e8.8	5.3	e3.0	.46	.04	.00
6	1.5	1.9	5.3	5.6	8.1	e14	e8.5	5.4	e2.8	.47	.01	.00
7	1.8	1.8	5.2	5.7	38	e13	e8.2	6.3	e2.6	.45	.00	.00
8	1.9	1.9	5.2	5.8	66	e12	e8.0	9.5	e2.5	.40	.00	.00
9	1.8	2.0	5.1	5.9	34	e11	8.9	7.4	2.0	.33	.00	.00
10	1.9	2.1	5.1	5.8	23	e10	8.4	5.9	1.8	.31	.00	.00
11	2.4	3.7	20	5.8	20	9.9	7.6	5.3	1.6	.31	.00	.00
12	2.4	4.7	17	5.7	e19	9.5	7.2	5.3	1.5	.26	.00	.00
13	2.4	4.2	7.5	5.5	e18	9.2	6.9	5.2	1.5	.20	.00	.00
14	2.4	3.9	8.3	5.4	e17	8.8	6.5	4.9	1.5	.19	.00	.00
15	2.4	3.8	6.7	5.4	e16	8.6	6.5	4.7	1.5	.19	.00	.00
16	2.4	3.6	6.5	5.4	e16	8.5	6.3	4.7	1.5	.18	.00	.00
17	2.6	3.5	5.2	5.3	e19	8.6	6.2	6.5	1.5	.13	.00	.00
18	2.7	3.4	4.8	5.4	e16	8.4	5.9	9.9	1.5	.11	.00	.00
19	2.7	3.4	4.8	5.3	e20	10	5.8	8.2	1.3	.11	.00	.00
20	2.4	3.3	4.8	5.2	96	10	5.6	6.8	1.2	.15	.00	.00
21	2.3	3.5	4.8	5.2	56	9.1	5.6	6.0	1.1	.16	.00	.00
22	2.3	3.7	4.8	5.2	49	8.8	5.6	5.2	1.1	.15	.00	.00
23	2.1	3.9	4.8	7.6	e43	8.7	5.6	4.9	.94	.15	.00	.00
24	2.0	3.9	4.8	10	e37	16	5.9	4.7	.81	.16	.00	.00
25	2.0	3.8	4.8	12	e33	17	7.5	4.6	.70	.12	.00	.00
26	1.9	3.7	5.5	8.8	e28	e16	9.7	4.6	.62	.08	.00	.00
27	1.8	3.6	5.6	7.7	e25	e15	7.8	4.4	.56	.08	.00	.00
28	1.8	3.5	5.2	7.1	e22	e14	7.6	4.4	.51	.08	.00	.00
29	1.8	3.8	6.0	6.8	---	e13	6.7	4.2	.46	.08	.00	.00
30	1.8	8.1	5.1	6.6	---	e13	6.1	3.8	.45	.07	.00	.00
31	1.9	---	5.7	6.4	---	e12	---	3.8	---	.08	.00	---
TOTAL	62.0	98.4	198.7	195.7	759.3	379.1	222.9	174.4	50.45	7.11	0.35	0.00
MEAN	2.00	3.28	6.41	6.31	27.1	12.2	7.43	5.63	1.68	.23	.011	.000
MAX	2.7	8.1	20	12	96	20	11	9.9	3.7	.47	.09	.00
MIN	1.3	1.8	4.8	5.2	6.5	8.4	5.6	3.8	.45	.07	.00	.00
AC-FT	123	195	394	388	1510	752	442	346	100	14	.7	.00

e Estimated.

## 11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.55	3.10	11.2	33.8	63.6	54.1	33.0	12.7	5.12	1.80	.72	.40
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 1993 CALENDAR YEAR

## FOR 1994 WATER YEAR

## WATER YEARS 1942 - 1994

ANNUAL TOTAL	30844.8	2148.41	
ANNUAL MEAN	84.5	5.89	18.1
HIGHEST ANNUAL MEAN			134
LOWEST ANNUAL MEAN			.066
HIGHEST DAILY MEAN	1510	Feb 23	5000
LOWEST DAILY MEAN	1.3	Sep 28	.00
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 28	.00
INSTANTANEOUS PEAK FLOW			313
INSTANTANEOUS PEAK STAGE			8.57
ANNUAL RUNOFF (AC-FT)	61180	4260	13110
10 PERCENT EXCEEDS	224	13	29
50 PERCENT EXCEEDS	10	4.2	1.0
90 PERCENT EXCEEDS	2.0	.00	.00



WATER-QUALITY RECORDS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

## 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. See schematic diagram of Santa Ynez River basin.

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, 181,853 acre-ft, Apr. 3-5, elevation, 747.14 ft; minimum, 151,046 acre-ft, Sept. 30, elevation, 735.94 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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177335	174208	172389	172389	171713	179570	181823	180913	179073	174892	167743	157596
2	177220	174094	172333	172361	171713	179686	181823	180884	178956	174692	167298	157278
3	177133	174037	172304	172361	171713	179774	181853	180855	178810	174493	166858	157013
4	177047	173923	172276	172333	171854	179832	181853	180826	178664	174322	166446	156801
5	176931	173837	172248	172276	171854	179862	181853	180767	178518	174179	166006	156536
6	176816	173780	172192	172220	171882	180008	181823	180709	178374	174037	165539	156299
7	176729	173695	172164	172192	172107	180241	181823	180621	178258	173866	165155	156037
8	176643	173638	172135	172164	172897	180271	181823	180621	178114	173752	164853	155776
9	176527	173553	172079	172107	173125	180329	181794	180563	177999	173581	164496	155514
10	176470	173496	172051	172079	173125	180387	181764	180504	177883	173410	164278	155252
11	176441	173467	172079	172051	173182	180387	181764	180475	177739	173239	164007	154964
12	176383	173410	172417	171994	173211	180446	181734	180417	177653	173040	163763	154676
13	176296	173353	172473	171938	173211	180475	181675	180358	177537	172869	163465	154414
14	176210	173267	172501	171882	173211	180504	181646	180300	177422	172670	163221	154153
15	176123	173211	172586	171797	173239	180534	181616	180241	177306	172529	162923	153917
16	176037	173125	172586	171713	173239	180504	181557	180154	177220	172417	162625	153708
17	175950	173068	172586	171629	173724	180475	181498	180066	177076	172220	162299	153450
18	175864	173011	172586	171572	173980	180475	181469	180095	176960	172051	161974	153243
19	175777	172954	172558	171544	174122	180504	181410	180066	176845	171882	161676	153036
20	175691	172897	172558	171460	175691	180592	181351	180008	176729	171713	161328	152829
21	175604	172840	172558	171431	177624	180621	181264	179920	176585	171516	161007	152622
22	175234	172783	172529	171403	178345	180592	181176	179862	176383	171347	160712	152415
23	175405	172755	172501	171488	178752	180592	181088	179803	176239	171178	160418	152234
24	175262	172670	172501	171516	178956	180650	181030	179745	176037	171009	160070	152079
25	175120	172642	172473	171713	179073	181176	181001	179686	175893	170840	159775	151898
26	175006	172586	172473	171769	179219	181410	181030	179599	175748	170446	159427	151716
27	174863	172501	172473	171797	179336	181498	181001	179482	175604	169967	159079	151561
28	174750	172473	172473	171797	179453	181587	181001	179394	175433	169522	158814	151380
29	174436	172361	172473	171797	---	181675	180972	179336	175262	169105	158470	151225
30	174436	172417	172445	171741	---	181705	180942	179248	175092	168633	158178	151046
31	174294	---	172417	171741	---	181764	---	179161	---	168188	157887	---
MAX	177335	174208	172586	172389	179453	181764	181853	180913	179073	174892	167743	157596
MIN	174294	172361	172051	171403	171713	179570	180942	179161	175092	168188	157887	151046
a	744.53	743.87	743.87	743.63	746.32	747.11	746.83	746.22	744.81	742.36	738.56	735.94
b	-3185	-1877	0	-676	+7712	+2311	-822	-1781	-4069	-6904	-10301	-6841
c	2,099	1,412	724	1,384	796	1,200	1,592	1,640	2,970	3,400	4,122	3,176

CAL YR 1993 MAX 193162 MIN 150713 b +21960  
WTR YR 1994 MAX 181853 MIN 151046 b -26433  
a Elevation, in feet, at end of month.  
b Change in contents, in acre-feet.  
c Diversions, in acre-feet, to Tecolote Tunnel.

## SANTA YNEZ RIVER BASIN

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA

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.

DRAINAGE AREA.--422 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1928 to September 1931, October 1932 to September 1976, May 1994 to September 1994.

GAGE.--Water-stage recorder. Datum of gage is 545.66 ft above sea level (Bureau of Reclamation benchmark).

Prior to Oct. 1, 1955, at site 2.5 mi downstream at different datum. Oct. 1, 1955, to Sept. 16, 1969, at site 0.4 mi downstream at datum 7.2 ft higher.

REMARKS.--Records poor. Flow regulated by Jameson Lake since December 1930, Gibraltar Reservoir, and Lake Cachuma since November 1952 (stations 11121000, 11122000, 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and to the Santa Ynez Valley for municipal supply. Some water pumped from wells along river banks for irrigation. See schematic diagram of Santa Ynez River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,000 ft<sup>3</sup>/s Jan. 25, 1969, gage height, 22.00 ft, from floodmark, present datum, on basis of computation of maximum flow over dam; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 162 ft<sup>3</sup>/s Aug. 5, gage height, 4.12 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.00	.00	.00	e135	43
2	---	---	---	---	---	---	---	.00	.00	.00	136	34
3	---	---	---	---	---	---	---	.00	.00	.00	142	28
4	---	---	---	---	---	---	---	.00	.00	.00	151	28
5	---	---	---	---	---	---	---	.00	.00	.00	118	33
6	---	---	---	---	---	---	---	.00	.00	.00	48	33
7	---	---	---	---	---	---	---	.00	.00	.00	60	38
8	---	---	---	---	---	---	---	.00	.00	.00	72	41
9	---	---	---	---	---	---	---	.00	.00	.00	49	42
10	---	---	---	---	---	---	---	.00	.00	.00	33	45
11	---	---	---	---	---	---	---	.00	.00	.00	32	47
12	---	---	---	---	---	---	---	.00	.00	.00	31	48
13	---	---	---	---	---	---	---	.00	.00	e.03	31	49
14	---	---	---	---	---	---	---	.00	.00	e.02	30	50
15	---	---	---	---	---	---	---	.00	.00	e.01	50	50
16	---	---	---	---	---	---	---	.00	.00	e.00	66	51
17	---	---	---	---	---	---	---	.00	.00	e.00	66	51
18	---	---	---	---	---	---	---	.00	.00	e.00	65	52
19	---	---	---	---	---	---	---	.00	.00	e.00	63	51
20	---	---	---	---	---	---	---	.00	.00	e.00	63	40
21	---	---	---	---	---	---	---	.00	.00	e.00	63	18
22	---	---	---	---	---	---	---	.00	.00	e.00	63	19
23	---	---	---	---	---	---	---	.00	.00	e.00	60	25
24	---	---	---	---	---	---	---	.00	.00	e.00	59	27
25	---	---	---	---	---	---	---	.00	.00	e70	58	28
26	---	---	---	---	---	---	---	.00	.00	e135	57	29
27	---	---	---	---	---	---	---	.00	.00	e135	56	31
28	---	---	---	---	---	---	---	.00	.00	e135	56	31
29	---	---	---	---	---	---	---	.00	.00	e135	45	26
30	---	---	---	---	---	---	.00	.00	.00	e135	40	29
31	---	---	---	---	---	---	---	.00	---	e135	40	---
TOTAL	---	---	---	---	---	---	---	0.00	0.00	880.06	2038	1117
MEAN	---	---	---	---	---	---	---	.000	.000	28.4	65.7	37.2
MAX	---	---	---	---	---	---	---	.00	.00	135	151	52
MIN	---	---	---	---	---	---	---	.00	.00	.00	30	18
AC-FT	---	---	---	---	---	---	---	.00	.00	1750	4040	2220

e Estimated.

## 11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.67	2.25	14.7	146	233	293	131	34.6	10.8	5.58	4.49	3.01
MAX	28.2	26.9	104	2498	3971	3098	2034	364	122	51.6	65.7	48.1
(WY)	1958	1947	1942	1969	1969	1941	1941	1941	1941	1941	1994	1957
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1930	1930	1948	1931	1931	1931	1931	1929	1929

## SUMMARY STATISTICS

## WATER YEARS 1929 - 1994

ANNUAL MEAN	73.9	
HIGHEST ANNUAL MEAN	666	1969
LOWEST ANNUAL MEAN	.000	1948
HIGHEST DAILY MEAN	38900	Jan 25 1969
LOWEST DAILY MEAN	.00	Jul 22 1929
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 22 1929
INSTANTANEOUS PEAK FLOW	79000	Jan 25 1969
INSTANTANEOUS PEAK STAGE	22.00	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	53520	
10 PERCENT EXCEEDS	67	
50 PERCENT EXCEEDS	1.0	
90 PERCENT EXCEEDS	.00	

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: October 1991 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July to September 1994.

WATER TEMPERATURE: July to September 1994.

INSTRUMENTATION.--Water-quality monitor since July 1994.

REMARKS.--Water-quality samples collected below spillway. Discharge provided by U.S. Bureau of Reclamation, October 6.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 919 microsiemens, Aug. 7, 1994; minimum recorded 805 microsiemens, Sept. 13, 1994.

WATER TEMPERATURE: Maximum recorded 17.0°C, Aug. 11-14, 1994; minimum recorded 13.5°C, Aug. 1-4, 1994.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 919 microsiemens, Aug. 7; minimum recorded 805 microsiemens, Sept. 13.

WATER TEMPERATURE: Maximum recorded 17.0°C, Aug. 11-14; minimum recorded, 13.5°C, July 29-31, Aug. 1-4.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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)	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 06...	1115	5.0	839	7.9	18.5	--	--	--	--	--	--
JUL 27...	0940	E135	906	8.2	14.0	746	10.1	101	430	96	47
AUG 08...	1525	70	893	8.4	16.0	--	--	--	--	--	--
SEP 13...	1545	48	900	8.5	16.0	--	--	--	--	--	--

[illegible][illegible]

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	912	903	900	886
2	---	---	---	---	---	---	---	---	915	900	899	887
3	---	---	---	---	---	---	---	---	912	901	899	836
4	---	---	---	---	---	---	---	---	911	898	895	858
5	---	---	---	---	---	---	---	---	910	897	899	885
6	---	---	---	---	---	---	---	---	915	897	898	826
7	---	---	---	---	---	---	---	---	919	897	901	877
8	---	---	---	---	---	---	---	---	914	894	910	817
9	---	---	---	---	---	---	---	---	913	895	897	817
10	---	---	---	---	---	---	---	---	915	896	898	887
11	---	---	---	---	---	---	---	---	917	895	895	820
12	---	---	---	---	---	---	---	---	913	891	896	834
13	---	---	---	---	---	---	---	---	911	896	900	805
14	---	---	---	---	---	---	---	---	910	893	901	838
15	---	---	---	---	---	---	---	---	910	896	898	820
16	---	---	---	---	---	---	---	---	907	896	901	875
17	---	---	---	---	---	---	---	---	908	893	899	889
18	---	---	---	---	---	---	---	---	907	893	898	831
19	---	---	---	---	---	---	---	---	912	892	901	887
20	---	---	---	---	---	---	---	---	908	890	897	887
21	---	---	---	---	---	---	---	---	909	892	901	890
22	---	---	---	---	---	---	---	---	905	891	901	884
23	---	---	---	---	---	---	---	---	904	891	900	884
24	---	---	---	---	---	---	---	---	904	891	895	887
25	---	---	---	---	---	---	---	---	903	889	900	887
26	---	---	---	---	---	---	---	---	905	887	901	888
27	---	---	---	---	---	---	914	836	905	887	898	887
28	---	---	---	---	---	---	916	906	902	886	899	815
29	---	---	---	---	---	---	913	906	902	888	897	886
30	---	---	---	---	---	---	912	904	901	863	900	886
31	---	---	---	---	---	---	915	903	900	887	---	---
MONTH	---	---	---	---	---	---	---	---	919	863	910	805

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	15.0	13.5	16.0	14.5
2	---	---	---	---	---	---	---	---	15.5	13.5	16.0	14.0
3	---	---	---	---	---	---	---	---	15.5	13.5	16.0	14.0
4	---	---	---	---	---	---	---	---	15.5	13.5	16.5	14.0
5	---	---	---	---	---	---	---	---	15.5	14.0	16.5	14.0
6	---	---	---	---	---	---	---	---	16.0	14.0	16.5	14.5
7	---	---	---	---	---	---	---	---	16.0	14.0	16.5	14.0
8	---	---	---	---	---	---	---	---	16.5	14.5	16.0	14.5
9	---	---	---	---	---	---	---	---	16.5	14.0	16.0	14.5
10	---	---	---	---	---	---	---	---	16.5	14.5	16.0	14.5
11	---	---	---	---	---	---	---	---	17.0	14.5	16.0	14.0
12	---	---	---	---	---	---	---	---	17.0	14.5	16.0	14.5
13	---	---	---	---	---	---	---	---	17.0	15.0	16.0	14.0
14	---	---	---	---	---	---	---	---	17.0	15.0	16.0	14.0
15	---	---	---	---	---	---	---	---	16.5	15.0	16.0	14.0
16	---	---	---	---	---	---	---	---	16.0	14.5	16.0	14.0
17	---	---	---	---	---	---	---	---	16.5	14.5	16.0	14.0
18	---	---	---	---	---	---	---	---	16.5	14.5	15.5	14.5
19	---	---	---	---	---	---	---	---	16.5	14.5	16.0	14.0
20	---	---	---	---	---	---	---	---	16.5	14.5	16.0	14.5
21	---	---	---	---	---	---	---	---	16.0	14.5	16.5	14.5
22	---	---	---	---	---	---	---	---	16.0	14.0	15.5	14.5
23	---	---	---	---	---	---	---	---	16.0	14.5	16.0	14.5
24	---	---	---	---	---	---	---	---	16.0	14.5	16.5	15.0
25	---	---	---	---	---	---	---	---	16.0	14.5	16.5	14.5
26	---	---	---	---	---	---	16.5	14.5	16.0	14.0	16.5	14.5
27	---	---	---	---	---	---	15.5	14.0	16.0	14.0	16.5	14.5
28	---	---	---	---	---	---	15.0	14.0	16.0	14.0	16.0	15.0
29	---	---	---	---	---	---	15.0	13.5	16.0	14.5	16.5	15.0
30	---	---	---	---	---	---	15.0	13.5	16.0	14.5	16.5	14.5
31	---	---	---	---	---	---	15.0	13.5	16.0	14.5	---	---
MONTH	---	---	---	---	---	---	---	---	17.0	13.5	16.5	14.0

## 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. See schematic diagram of Santa Ynez River basin.

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, 2,440 acre-ft, Feb. 19, elevation, 600.64 ft; minimum contents, 2,060 acre-ft, Sept. 30, elevation, 596.42 ft, Sept. 30.

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 1993 TO SEPTEMBER 1994  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	2170	2150	2160	2180	2380	2380	2370	2350	2290	2210	2120
2	2210	2160	2150	2160	2180	2380	2380	2370	2350	2280	2210	2120
3	2210	2160	2140	2160	2180	2380	2370	2370	2340	2280	2210	2110
4	2210	2160	2140	2160	2190	2380	2370	2370	2340	2280	2210	2110
5	2200	2160	2140	2160	2190	2380	2370	2370	2340	2280	2200	2110
6	2200	2160	2140	2160	2190	2380	2370	2370	2340	2270	2200	2110
7	2200	2160	2140	2160	2240	2380	2370	2370	2340	2270	2200	2110
8	2200	2160	2140	2160	2250	2380	2370	2370	2330	2270	2190	2100
9	2200	2160	2140	2160	2250	2380	2370	2370	2330	2270	2190	2100
10	2200	2160	2140	2160	2260	2380	2370	2370	2330	2260	2190	2100
11	2200	2160	2160	2160	2260	2380	2370	2370	2330	2260	2180	2090
12	2200	2160	2160	2160	2260	2380	2370	2370	2330	2260	2180	2090
13	2200	2160	2160	2160	2260	2380	2370	2370	2330	2250	2180	2090
14	2190	2160	2160	2160	2260	2380	2370	2370	2320	2250	2170	2090
15	2190	2160	2160	2160	2270	2380	2370	2370	2320	2240	2170	2090
16	2190	2150	2160	2160	2270	2380	2370	2360	2320	2240	2170	2090
17	2190	2150	2160	2160	2360	2380	2370	2360	2320	2240	2160	2080
18	2190	2150	2160	2160	2380	2370	2370	2360	2310	2240	2160	2080
19	2190	2150	2160	2160	2440	2380	2370	2360	2310	2240	2160	2080
20	2180	2150	2160	2160	2400	2380	2370	2360	2310	2230	2160	2080
21	2180	2150	2160	2160	2390	2380	2370	2360	2310	2230	2150	2070
22	2180	2150	2160	2160	2380	2380	2370	2360	2300	2230	2150	2070
23	2180	2150	2160	2160	2380	2380	2370	2360	2300	2230	2150	2070
24	2180	2150	2160	2170	2380	2390	2370	2360	2300	2220	2150	2070
25	2180	2150	2160	2170	2380	2380	2370	2360	2300	2220	2140	2070
26	2170	2150	2160	2180	2380	2380	2370	2360	2300	2220	2140	2060
27	2170	2140	2160	2180	2380	2380	2370	2350	2290	2220	2140	2060
28	2170	2140	2160	2180	2380	2380	2370	2350	2290	2220	2130	2060
29	2170	2150	2160	2180	---	2380	2370	2350	2290	2220	2130	2060
30	2170	2150	2160	2180	---	2380	2370	2350	2290	2220	2130	2060
31	2170	---	2160	2180	---	2380	---	2350	---	2210	2120	---
MAX	2210	2170	2160	2180	2440	2390	2380	2370	2350	2290	2210	2120
MIN	2170	2140	2140	2160	2180	2370	2370	2350	2290	2210	2120	2060
a	597.63	597.40	597.55	597.74	599.96	599.96	599.90	599.66	598.98	598.15	597.15	596.42
b	-40	-20	+10	+20	+200	0	-10	-20	-60	-80	-90	-60

CAL YR 1993 b +20

WTR YR 1994 b -150

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.



## 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 poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952, by Lake Cachuma (stations 11121000, 11122000, and 11125500). Additional water may be added by releases from Alisal Reservoir (11128300). 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. See schematic diagram of Santa Ynez River basin.

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, 207 ft<sup>3</sup>/s, Mar. 24, gage height, 3.17 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	3.5	4.2	5.9	e17	15	3.1	e.61	.00	81	46
2	.00	.00	3.1	4.2	5.4	e17	14	3.1	.61	.00	94	45
3	.00	.88	3.0	5.3	6.5	e17	12	3.1	.39	.00	101	45
4	.00	2.1	3.3	4.7	8.5	e17	12	3.0	.30	.00	106	45
5	.00	1.8	3.5	4.7	6.4	e17	11	2.8	.30	.00	108	43
6	.00	1.6	3.2	4.7	6.5	e17	11	2.6	.30	.00	e110	40
7	.00	1.5	3.3	4.9	18	e17	10	2.5	.30	.00	e96	44
8	.00	1.4	2.9	5.1	29	e17	9.6	2.5	.27	.00	e65	44
9	.00	1.2	2.4	5.1	24	17	9.9	2.5	.20	.00	e52	42
10	.00	1.2	2.7	5.1	e21	16	9.2	2.2	.10	.00	e36	40
11	.00	1.2	7.1	5.4	e21	15	8.8	2.2	.19	.00	e30	40
12	.00	1.1	7.0	5.4	e20	14	8.3	2.2	.04	.00	e29	39
13	.00	1.5	5.1	5.4	e20	13	8.1	2.1	.05	.00	e29	40
14	.00	2.0	5.1	5.7	e20	12	7.8	2.0	.09	.00	e30	40
15	.00	1.6	5.3	5.8	e19	12	7.4	2.0	.00	.00	e32	39
16	.00	e2.1	4.7	5.8	e19	12	7.0	2.0	.00	.00	43	39
17	.00	e2.5	4.3	5.9	e50	12	6.8	1.8	.02	.00	48	39
18	.00	e2.5	4.0	6.2	e25	12	6.5	1.8	.05	.00	48	39
19	.00	e2.5	4.1	6.2	e19	16	6.4	1.8	.06	.00	48	39
20	.00	e2.5	4.1	6.2	e90	16	6.2	1.7	.06	.00	49	38
21	.00	e2.5	4.0	6.4	e40	14	6.1	1.6	.06	.00	49	34
22	.00	e3.0	3.9	6.5	e24	13	5.8	1.6	.06	.00	48	32
23	.00	e3.0	3.7	6.5	e18	12	5.7	1.6	.06	.00	50	32
24	.00	e3.2	3.9	6.9	e18	42	5.8	1.5	.06	.00	51	32
25	.00	e3.2	4.3	6.2	e18	41	7.3	e.90	.03	.00	51	32
26	.00	e3.4	4.0	5.8	e18	26	4.2	e.80	.00	.00	52	32
27	.00	e3.4	4.5	5.8	e18	21	3.0	e.80	.00	.00	46	32
28	.00	e3.4	4.7	5.9	e17	19	3.1	e.72	.00	.00	45	32
29	.00	e3.5	4.7	5.8	---	18	3.1	e.70	.00	.60	46	32
30	.00	e3.5	4.7	5.8	---	17	3.1	e.70	.00	5.4	47	32
31	.00	---	4.7	5.6	---	15	---	e.68	---	5.4	46	---
TOTAL	0.00	63.28	128.8	173.2	605.2	541	234.2	58.60	4.21	11.40	1766	1148
MEAN	.000	2.11	4.15	5.59	21.6	17.5	7.81	1.89	.14	.37	57.0	38.3
MAX	.00	3.5	7.1	6.9	90	42	15	3.1	.61	5.4	110	46
MIN	.00	.00	2.4	4.2	5.4	12	3.0	.68	.00	.00	29	32
AC-FT	.00	126	255	344	1200	1070	465	116	8.4	23	3500	2280

e Estimated.

## 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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.00	4.25	20.0	186	348	355	136	38.4	9.23	4.14	4.77	5.38
MAX	88.7	96.2	263	2893	4445	4029	1258	568	105	41.0	57.0	38.3
(WY)	1992	1966	1984	1969	1969	1983	1983	1983	1983	1969	1994	1994
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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1952 - 1994

ANNUAL TOTAL	182639.31	4733.89	
ANNUAL MEAN	500	13.0	91.7
HIGHEST ANNUAL MEAN			758
LOWEST ANNUAL MEAN			.86
HIGHEST DAILY MEAN	12600	Feb 19	40000
LOWEST DAILY MEAN	.00	Aug 28	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 8	.00
INSTANTANEOUS PEAK FLOW			82000
INSTANTANEOUS PEAK STAGE			17.10
ANNUAL RUNOFF (AC-FT)	362300	9390	66430
10 PERCENT EXCEEDS	1280	41	61
50 PERCENT EXCEEDS	10	4.7	1.6
90 PERCENT EXCEEDS	.00	.00	.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.--No estimated daily discharges. Records fair. No regulation upstream from station. Small diversions for irrigation upstream from station. Recording rain gage and satellite telemeter at station. See schematic diagram of Santa Ynez River basin.

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)
Feb. 17	0800	*1,870	*5.86	Mar. 24	1715	351	3.08
Feb. 20	0130	1,040	4.63				

Minimum daily, 0.18 ft<sup>3</sup>/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.4	2.0	2.0	2.0	4.2	4.7	2.4	1.8	1.1	.85	.34
2	1.3	1.2	1.6	1.8	2.0	4.0	4.4	2.5	1.8	.98	.82	.34
3	1.4	1.1	1.5	2.0	2.1	4.0	4.2	2.4	1.7	.98	.73	.30
4	1.4	1.1	1.3	2.0	6.3	3.9	3.9	2.3	1.6	.86	.73	.29
5	1.2	1.2	1.5	2.0	3.1	4.2	3.9	2.4	1.5	.85	.73	.29
6	1.2	.95	1.6	1.9	2.5	12	3.9	2.5	1.6	.85	.73	.29
7	1.2	.98	1.6	1.8	67	5.2	3.9	2.5	1.6	.85	.64	.29
8	1.3	1.4	1.7	1.7	13	4.3	3.9	2.4	1.3	.85	.63	.29
9	1.3	1.5	1.7	1.8	4.8	4.2	4.3	2.1	1.2	.77	.63	.29
10	1.6	1.6	1.7	2.0	3.5	4.0	4.0	2.0	1.3	.81	.47	.29
11	1.9	2.7	11	2.0	3.2	4.0	3.7	2.0	1.3	.85	.47	.29
12	1.8	2.5	3.5	2.0	2.7	3.9	3.2	2.0	1.1	.85	.47	.25
13	1.7	1.8	1.7	2.0	2.6	3.9	3.2	2.0	1.1	.83	.47	.25
14	1.8	1.6	1.8	2.1	2.5	3.9	3.3	2.0	1.1	.73	.46	.25
15	1.7	1.5	2.2	2.2	2.5	3.9	3.0	2.1	1.1	.77	.40	.25
16	1.7	1.4	1.7	2.2	2.5	4.0	3.4	1.8	1.2	.85	.43	.25
17	1.8	1.5	1.5	2.1	236	4.2	3.2	2.2	1.1	.85	.47	.25
18	1.6	1.5	1.6	2.1	13	4.2	3.0	2.4	1.2	.85	.47	.25
19	1.3	1.7	1.6	2.2	31	7.5	3.3	2.2	1.3	.84	.47	.25
20	1.1	1.7	1.5	2.1	217	5.9	2.8	2.0	1.3	.73	.47	.25
21	1.1	1.7	1.5	2.0	17	4.2	2.6	2.0	1.3	.73	.47	.22
22	1.2	1.7	1.5	2.0	9.7	3.8	2.6	2.0	1.4	.73	.47	.21
23	1.1	1.8	1.7	2.8	7.3	3.6	2.7	2.0	1.5	.73	.40	.21
24	1.1	1.6	1.7	7.0	6.5	58	2.9	2.0	1.5	.73	.40	.21
25	1.1	1.5	1.7	7.7	5.9	19	3.2	2.2	1.3	.66	.40	.21
26	1.1	1.5	1.7	3.3	5.1	8.1	4.1	2.2	1.3	.69	.40	.21
27	1.0	1.5	1.7	2.4	4.7	6.0	3.4	1.9	1.3	.73	.40	.21
28	.95	1.5	1.7	2.2	4.4	5.5	3.1	1.6	1.3	.73	.40	.21
29	.97	1.7	1.7	2.0	---	5.2	2.7	1.8	1.3	.73	.40	.21
30	1.0	3.6	1.8	2.0	---	4.8	2.3	1.8	1.1	.73	.37	.18
31	1.2	---	1.9	2.0	---	4.8	---	1.8	---	.75	.35	---
TOTAL	41.22	48.43	62.9	75.4	679.9	218.4	102.8	65.5	40.5	24.99	16.00	7.63
MEAN	1.33	1.61	2.03	2.43	24.3	7.05	3.43	2.11	1.35	.81	.52	.25
MAX	1.9	3.6	11	7.7	236	58	4.7	2.5	1.8	1.1	.85	.34
MIN	.95	.95	1.3	1.7	2.0	3.6	2.3	1.6	1.1	.66	.35	.18
AC-FT	82	96	125	150	1350	433	204	130	80	50	32	15

## SANTA YNEZ RIVER BASIN

11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.73	2.21	7.64	19.9	37.6	29.4	14.5	4.08	2.11	1.22	.83	.71
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 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1941 - 1994	
ANNUAL TOTAL	8594.81		1383.67			
ANNUAL MEAN	23.5		3.79		9.64	
HIGHEST ANNUAL MEAN					50.9	
LOWEST ANNUAL MEAN					.17	
HIGHEST DAILY MEAN	986	Feb 18	236	Feb 17	2600	Mar 15 1952
LOWEST DAILY MEAN	.94	Sep 28	.18	Sep 30	.00	Jul 23 1948
ANNUAL SEVEN-DAY MINIMUM	1.0	Sep 25	.21	Sep 24	.00	Jul 23 1948
INSTANTANEOUS PEAK FLOW			1870	Feb 17	11400	Mar 15 1952
INSTANTANEOUS PEAK STAGE			5.86	Feb 17	20.80	Mar 15 1952
ANNUAL RUNOFF (AC-FT)	17050		2740		6980	
10 PERCENT EXCEEDS	39		4.2		11	
50 PERCENT EXCEEDS	3.4		1.7		1.3	
90 PERCENT EXCEEDS	1.2		.40		.09	

WATER-QUALITY RECORDS

WATER TEMPERATURE: Water years 1982-83.

WATER TEMPERATURE: Water years 1982-83.

INSTRUMENTATION.--Water-quality monitor, water years 1982-83.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (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 07...	1400	1.2	1470	7.8	18.0	--	--	--	--	--	--
NOV 05...	0915	1.2	1530	7.9	11.0	--	--	--	--	--	--
DEC 08...	1400	1.7	1540	8.2	12.0	--	--	--	--	--	--
JAN 06...	0845	1.9	1480	8.0	9.0	--	--	--	--	--	--
FEB 03...	0830	2.1	1450	8.3	8.0	--	--	--	--	--	--
MAR 10...	1310	4.3	1460	8.4	16.0	760	10.4	106	610	160	50
APR 20...	0920	3.0	1460	8.2	15.0	--	--	--	--	--	--
MAY 11...	1225	2.2	1470	8.1	16.0	--	--	--	--	--	--
JUN 01...	1500	1.9	1440	8.4	21.5	--	--	--	--	--	--
JUL 07...	1500	0.84	1510	8.2	21.0	--	--	--	--	--	--
AUG 03...	1230	0.73	1520	8.0	19.5	--	--	--	--	--	--
SEP 14...	0945	0.25	1650	8.1	18.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[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. See schematic diagram of Santa Ynez River basin.

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 most years.

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, 4,420 ft<sup>3</sup>/s, Feb. 17, gage height, 8.91 ft; no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e2.9	7.2	17	14	38	49	e14	3.0	.53	.00	31
2	.00	e3.0	7.2	17	13	36	43	e12	2.3	.49	.00	28
3	.00	e3.0	7.2	15	15	30	40	e11	1.8	.54	.00	28
4	.00	3.3	7.2	15	30	26	37	14	1.7	.67	.00	22
5	.00	3.2	7.2	16	29	e22	34	8.9	1.6	.54	.00	18
6	.00	3.0	7.2	15	22	e22	30	8.6	1.6	.53	14	17
7	.22	3.3	7.2	14	174	e25	28	8.1	1.2	.40	52	17
8	e.40	3.6	7.2	14	92	e30	25	8.4	1.1	.31	40	17
9	e.50	3.6	7.2	14	63	e34	25	7.8	1.0	.21	24	17
10	e.60	3.6	7.2	14	50	e38	25	7.5	.87	.18	20	14
11	e.70	4.5	24	14	39	38	24	7.6	.81	.26	15	14
12	e.80	5.1	44	14	29	36	20	7.3	.78	.29	9.8	17
13	e.70	5.3	44	13	22	32	19	7.1	.70	.29	6.4	20
14	.35	5.5	48	13	21	31	e18	6.7	.75	.28	4.5	22
15	.41	5.7	49	13	18	27	e18	6.4	.65	.39	4.4	23
16	.46	5.7	46	12	17	25	e18	5.8	.67	.39	5.5	20
17	.72	5.7	39	11	565	24	e17	6.7	.62	.30	11	21
18	.74	5.7	34	12	89	22	e17	7.0	.49	.22	20	24
19	1.2	5.7	30	12	43	28	e17	6.5	.46	.39	22	28
20	e1.4	5.7	28	12	921	31	e16	5.9	.74	.31	22	29
21	e1.6	6.0	27	12	137	25	e16	5.6	.82	.23	24	29
22	e1.8	6.1	25	12	85	21	e18	5.3	.74	.24	28	30
23	e2.0	6.1	24	15	77	19	e20	5.2	.60	.12	29	26
24	e2.1	6.1	21	25	76	127	e22	5.2	.52	.07	28	22
25	e2.2	6.0	20	54	76	152	e24	5.1	.48	.10	26	19
26	e2.3	5.7	20	43	55	106	e26	4.9	.45	.06	27	19
27	e2.4	5.7	20	33	41	84	e22	4.6	.45	.05	27	19
28	e2.5	5.2	18	25	40	71	e20	4.2	.39	.00	32	19
29	e2.6	5.3	18	19	---	64	e18	3.7	.50	.00	35	19
30	e2.7	7.2	18	16	---	59	e16	3.6	.57	.00	39	18
31	e2.8	---	18	16	---	53	---	3.4	---	.00	36	---
TOTAL	34.20	146.5	687.0	547	2853	1376	722	218.1	28.36	8.39	601.60	647
MEAN	1.10	4.88	22.2	17.6	102	44.4	24.1	7.04	.95	.27	19.4	21.6
MAX	2.8	7.2	49	54	921	152	49	14	3.0	.67	52	31
MIN	.00	2.9	7.2	11	13	19	16	3.4	.39	.00	.00	14
AC-FT	68	291	1360	1080	5660	2730	1430	433	56	17	1190	1280

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 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.60	5.85	27.5	185	390	371	164	48.7	11.4	3.19	1.61	2.12
MAX	29.9	112	291	3303	4969	3590	1154	618	177	30.0	19.4	29.4
(WY)	1992	1966	1984	1969	1969	1983	1983	1983	1983	1983	1994	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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1952 - 1994			
ANNUAL TOTAL	196637.46				7869.15							
ANNUAL MEAN	539				21.6				99.4			
HIGHEST ANNUAL MEAN									853			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	11300				Feb 19				38000			
LOWEST DAILY MEAN	.00				Oct 1				.00			
ANNUAL SEVEN-DAY MINIMUM	.03				Sep 30				.00			
INSTANTANEOUS PEAK FLOW					4420				Feb 17			
INSTANTANEOUS PEAK STAGE					8.91				Feb 17			
ANNUAL RUNOFF (AC-FT)	390000				15610				71980			
10 PERCENT EXCEEDS	1520				39				84			
50 PERCENT EXCEEDS	20				13				1.2			
90 PERCENT EXCEEDS	.66				.39				.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 120 ft upstream from drop structure to debris basin 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 poor. No regulation or diversion upstream from station; some pumping from wells along stream for irrigation. Satellite telemeter at station. See schematic diagram of Santa Ynez River basin.

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 140 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)
Feb. 19	2400	*132	*1.22				

Minimum daily, 0.06 ft<sup>3</sup>/s, many days in October and August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.13	2.0	1.4	.60	e.60	.33	.33	.52	.33	.66	.11
2	.06	.13	2.0	1.4	.60	e.60	.33	.33	.46	.23	.57	.13
3	.06	.13	2.0	1.4	.87	e.60	.33	.33	.36	.31	.43	.13
4	.06	.13	2.1	1.4	1.3	e.60	.33	.33	.33	.33	.23	.13
5	.06	.13	2.5	1.6	.60	2.8	.33	.33	.33	.33	.23	.13
6	.06	.13	2.8	2.2	.88	3.4	.33	.33	.43	.33	.21	.13
7	.06	.18	2.8	2.4	6.0	e2.0	.33	.45	.43	.33	.11	.18
8	.06	.26	2.7	2.2	3.1	e1.3	.45	.35	.43	.33	.08	.23
9	.06	.32	2.4	2.0	2.8	e.70	1.2	.37	.43	.33	.08	.23
10	.06	.47	2.4	2.0	2.8	e.47	.68	.64	.38	.33	.10	.23
11	.06	.61	5.9	1.7	2.5	.44	.50	.62	.32	.33	.13	.23
12	.06	.45	1.2	2.0	2.4	.33	.43	.67	.23	.25	.13	.23
13	.06	.34	.70	1.8	2.4	.33	.50	.98	.23	.23	.13	.23
14	.06	.38	1.3	2.2	2.4	.33	.56	1.3	.23	.29	.13	.18
15	.06	.43	1.5	2.3	2.4	.33	.68	1.7	.32	.33	.10	.13
16	.07	.44	1.3	2.2	2.4	.33	e.62	1.4	.33	.33	.08	.13
17	.06	.60	1.1	2.4	18	.23	e.56	1.9	.33	.38	.08	.09
18	.06	.70	1.1	2.4	3.7	.23	e.50	1.6	.33	.43	.08	.13
19	.06	.70	1.1	2.4	10	.83	e.45	1.6	.33	.43	.07	.13
20	.06	.70	1.1	2.3	20	.34	e.39	1.7	.33	.57	.06	.13
21	.07	.99	1.1	2.4	2.9	.33	.33	1.4	.33	.62	.06	.13
22	.08	1.5	1.1	2.4	2.8	.33	.33	1.4	.33	.66	.06	.08
23	.08	1.7	1.1	2.5	3.4	.33	.34	1.5	.33	.70	.06	.08
24	.08	1.7	1.1	5.5	3.3	10	.34	1.5	.42	1.0	.07	.11
25	.08	1.7	1.1	1.5	2.8	.76	.54	.78	.43	.71	.08	.13
26	.08	1.7	1.1	1.1	e1.9	.57	.59	.68	.43	.79	.08	.13
27	.08	2.0	1.1	.98	e1.4	.43	.33	.69	.43	2.2	.08	.08
28	.08	2.2	1.1	.70	e.90	.43	.33	.71	.39	2.0	.08	.08
29	.08	3.2	1.1	.61	---	.41	.33	.71	.33	1.3	.08	.08
30	.08	2.1	1.4	.60	---	.33	.33	.66	.33	1.1	.08	.08
31	.08	---	1.4	.60	---	.33	---	.66	---	.94	.08	---
TOTAL	2.08	26.15	52.70	58.59	105.15	31.04	13.62	27.95	10.83	18.77	4.50	4.22
MEAN	.067	.87	1.70	1.89	3.76	1.00	.45	.90	.36	.61	.15	.14
MAX	.08	3.2	5.9	5.5	20	10	1.2	1.9	.52	2.2	.66	.23
MIN	.06	.13	.70	.60	.60	.23	.33	.33	.23	.23	.06	.08
AC-FT	4.1	52	105	116	209	62	27	55	21	37	8.9	8.4

e Estimated.

## SANTA YNEZ RIVER BASIN

11134800 MIGUELITO CREEK AT LOMPOC, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	.47	1.64	2.41	5.00	5.35	1.83	.94	.58	.43	.32	.30
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 1993 CALENDAR YEAR                      FOR 1994 WATER YEAR                      WATER YEARS 1971 - 1994

ANNUAL TOTAL	665.41	355.60	
ANNUAL MEAN	1.82	.97	1.59
HIGHEST ANNUAL MEAN			7.96
LOWEST ANNUAL MEAN			.15
HIGHEST DAILY MEAN	71	Feb 23	231
LOWEST DAILY MEAN	.06	Jan 3	.00
ANNUAL SEVEN-DAY MINIMUM	.06	Jun 26	.00
INSTANTANEOUS PEAK FLOW			1750
INSTANTANEOUS PEAK STAGE			3.62
ANNUAL RUNOFF (AC-FT)	1320	705	1150
10 PERCENT EXCEEDS	2.6	2.4	2.3
50 PERCENT EXCEEDS	.18	.43	.31
90 PERCENT EXCEEDS	.06	.08	.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 WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
NOV 04...	1545	0.13	1640	7.8	15.0	--	--	--	--	--	--
DEC 08...	1510	2.0	1650	8.5	14.5	--	--	--	--	--	--
JAN 05...	1610	1.4	1600	8.4	12.0	--	--	--	--	--	--
FEB 02...	1315	0.60	1550	8.5	13.0	--	--	--	--	--	--
MAR 10...	1630	0.48	1420	8.4	15.0	760	10.8	108	650	150	68
APR 20...	0825	0.46	1530	8.4	14.0	--	--	--	--	--	--
MAY 11...	1100	0.61	1530	8.3	15.0	--	--	--	--	--	--
JUN 01...	1145	0.52	1550	8.5	24.0	--	--	--	--	--	--
JUL 07...	1650	0.36	1580	8.5	22.5	--	--	--	--	--	--
AUG 03...	1620	0.23	1680	8.3	20.0	--	--	--	--	--	--
SEP 14...	1215	0.19	1600	8.5	22.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

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>.

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.

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)	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 08...	0850	0.85	2340	7.7	15.0	--	--	--	--	--	--
NOV 02...	1450	0.68	2520	7.8	20.0	--	--	--	--	--	--
DEC 09...	0900	0.57	2490	8.0	9.0	--	--	--	--	--	--
JAN 06...	1155	0.75	2410	8.0	9.0	765	9.3	81	580	160	43
FEB 03...	1020	1.0	2550	8.0	9.0	--	--	--	--	--	--
MAR 11...	0910	1.2	2650	7.9	14.0	--	--	--	--	--	--
APR 19...	1420	1.7	2810	7.9	19.5	--	--	--	--	--	--
MAY 11...	0815	0.60	2590	8.0	15.5	--	--	--	--	--	--
JUN 01...	0830	0.52	2560	7.9	17.5	--	--	--	--	--	--
JUL 07...	0900	0.45	2580	8.0	16.0	--	--	--	--	--	--
AUG 01...	1720	0.66	2480	8.2	21.0	--	--	--	--	--	--
SEP 14...	1330	0.36	2400	8.1	16.0	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[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)
Feb. 20	0615	*37	*6.39				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.25	.25	.38	.30	1.0	e5.9	e.87	.38	e.12	e.09	.02	.00
2	e.27	.20	.34	.29	1.0	e5.6	e.79	.40	e.12	e.09	.02	.00
3	e.29	.21	.33	.29	1.3	e5.3	e.71	1.1	e.12	e.09	.01	.00
4	e.30	.22	.34	.30	3.4	e4.9	e.63	1.7	e.12	e.09	.01	.00
5	e.32	.22	.33	.30	2.8	e4.6	e.56	1.9	e.12	e.09	.01	.00
6	.34	.23	.33	.30	1.9	4.3	e.48	2.4	e.12	.08	.00	.00
7	.34	.22	.33	.31	2.8	4.2	.40	3.7	e.12	.08	.00	.00
8	.35	.22	.32	.32	5.9	3.1	.40	2.1	e.12	.08	.00	.00
9	.35	.23	.29	.30	3.3	2.7	.53	1.8	e.11	.08	.00	.00
10	.38	.29	.32	.25	2.3	2.3	.48	.95	e.11	.07	.00	.00
11	.56	.59	.88	.27	2.1	2.1	.44	.59	e.11	.07	.00	.00
12	.48	.46	2.9	e.26	1.9	1.9	.37	.50	e.11	.06	.00	.00
13	.43	.37	1.1	e.25	1.7	1.6	.35	.46	e.11	.06	.00	.00
14	.40	.36	1.3	e.24	1.5	1.3	.34	.40	e.11	.06	.00	.00
15	.45	.32	1.8	e.24	1.5	1.2	.34	.36	e.11	.06	.00	.00
16	.43	.30	1.0	e.23	1.4	1.2	.34	.35	e.11	.06	.00	.00
17	.53	.30	.72	e.22	4.1	1.2	.35	1.1	e.11	.05	.00	.00
18	.41	.26	.54	e.22	6.5	1.2	.31	1.3	e.10	.05	.00	.00
19	.37	.25	.40	e.22	5.2	1.7	.30	.83	e.10	.05	.00	.00
20	.32	.27	.47	e.21	24	2.0	.32	.60	e.10	.05	.00	.00
21	.36	.31	.41	e.20	10	1.8	.29	.50	e.10	.06	.00	.00
22	.33	.30	.39	e.20	e9.4	1.3	.28	.43	e.10	.05	.00	.00
23	.28	.28	.38	.79	e8.9	1.0	.33	.34	e.10	.06	.00	.00
24	.28	.26	.36	4.4	e8.3	1.8	.33	.31	e.10	.05	.00	.00
25	.25	.27	.37	5.4	e7.8	2.6	.49	.27	e.10	.03	.00	.00
26	.24	.24	.37	2.9	e7.2	2.0	.78	.27	e.10	.02	.00	.00
27	.23	.29	.33	1.9	e6.8	1.4	.71	.24	e.09	.00	.00	.00
28	.25	.29	.33	1.4	e6.4	1.2	.65	.17	e.09	.00	.00	.00
29	.24	.43	.33	e1.3	---	1.1	.50	.13	e.09	.01	.00	.00
30	.23	.64	.33	e1.2	---	e1.0	.42	e.12	e.09	.02	.00	.00
31	.27	---	.33	e1.1	---	e.95	---	e.12	---	.01	.00	---
TOTAL	10.53	9.08	18.35	26.11	140.4	74.45	14.09	25.82	3.21	1.72	0.07	0.00
MEAN	.34	.30	.59	.84	5.01	2.40	.47	.83	.11	.055	.002	.000
MAX	.56	.64	2.9	5.4	24	5.9	.87	3.7	.12	.09	.02	.00
MIN	.23	.20	.29	.20	1.0	.95	.28	.12	.09	.00	.00	.00
AC-FT	21	18	36	52	278	148	28	51	6.4	3.4	.1	.00

e Estimated.

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.57	2.54	12.9	31.7	92.5	83.0	21.5	5.89	2.79	1.30	.69	1.46
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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1960 - 1994
ANNUAL TOTAL	37416.57	323.83	
ANNUAL MEAN	103	.89	21.0
HIGHEST ANNUAL MEAN			141
LOWEST ANNUAL MEAN			.002
HIGHEST DAILY MEAN	4590	24	9390
LOWEST DAILY MEAN	.14	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.22	.00	.00
INSTANTANEOUS PEAK FLOW		37	17800
INSTANTANEOUS PEAK STAGE		6.39	14.74
ANNUAL RUNOFF (AC-FT)	74220	642	15230
10 PERCENT EXCEEDS	203	2.1	13
50 PERCENT EXCEEDS	3.5	.30	.40
90 PERCENT EXCEEDS	.29	.00	.00



WATER-QUALITY RECORDS

CHEMICAL DATA: Water year 1978 to current year.

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)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (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 05...	1355	0.33	1250	8.0	26.5	--	--	--	--	--	--
NOV 02...	1230	0.27	1260	8.0	23.5	--	--	--	--	--	--
DEC 06...	1345	0.32	1290	8.3	18.0	--	--	--	--	--	--
JAN 03...	1445	0.28	1330	8.2	20.0	--	--	--	--	--	--
31...	1255	1.1	1490	8.3	16.0	--	--	--	--	--	--
MAR 08...	1200	3.3	2180	8.4	20.5	745	9.4	108	950	200	110
APR 06...	1400	0.47	1640	8.0	26.0	--	--	--	--	--	--
MAY 02...	1600	0.30	1620	8.3	27.5	--	--	--	--	--	--
31...	1410	0.12	1630	8.4	29.0	--	--	--	--	--	--
JUL 05...	1325	0.09	1640	8.4	29.0	--	--	--	--	--	--
AUG 01...	1315	0.03	1610	8.3	26.5	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

## 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 fair. 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)
Feb. 8	0145	511	3.38	Feb. 20	0645	*634	*3.63

Minimum daily, 0.18 ft<sup>3</sup>/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.1	2.7	e13	16	72	e34	17	6.6	2.2	.79	.62
2	2.5	2.0	3.1	e13	16	72	e33	15	6.4	2.2	.71	.66
3	2.7	1.9	3.6	e12	17	72	e32	13	6.9	2.6	.66	.76
4	2.8	2.1	4.5	12	30	72	e30	11	7.1	2.9	.62	.56
5	2.8	2.1	5.2	11	36	71	e29	10	6.8	2.8	.52	.56
6	2.7	1.9	5.1	12	28	100	e28	13	6.7	2.5	.19	.58
7	2.7	1.9	5.5	12	57	e80	e27	14	7.1	2.0	.29	.65
8	2.0	1.9	5.8	13	302	e70	24	17	5.8	2.0	.36	.77
9	2.0	1.7	5.9	13	127	e50	22	15	5.2	1.9	.39	.84
10	2.0	1.8	6.4	13	99	44	22	14	4.7	1.5	.40	.95
11	2.5	2.7	32	12	95	39	19	12	4.5	1.1	.35	.83
12	2.3	2.3	95	12	92	36	19	11	4.7	1.1	.24	1.1
13	2.3	1.9	65	11	91	33	17	9.7	4.4	1.1	.23	1.1
14	2.2	1.9	e45	11	90	32	17	9.2	4.3	1.1	.20	1.1
15	2.2	2.0	e40	11	89	30	17	9.2	4.2	1.1	.18	.73
16	2.2	1.8	e36	10	89	30	16	9.2	3.9	1.0	.22	.59
17	2.6	1.7	e32	10	113	30	16	10	4.0	1.1	.34	.83
18	2.3	1.7	e28	10	132	30	15	19	3.8	1.0	.40	1.0
19	2.2	1.5	e24	10	102	30	16	19	3.7	1.0	.37	.98
20	2.0	1.4	e20	9.8	316	33	16	14	4.0	1.1	.37	.99
21	2.1	1.6	e19	9.3	178	30	15	12	3.8	1.8	.38	.86
22	2.1	1.9	e18	9.2	121	30	15	11	3.7	1.8	.38	.94
23	1.9	2.3	e17	12	100	30	16	11	3.2	1.4	.40	.98
24	1.9	2.3	e16	17	88	34	17	11	2.5	1.3	.41	.88
25	1.9	2.4	e16	43	80	76	18	10	2.5	1.1	.47	.81
26	1.8	2.3	e15	36	76	51	21	8.9	2.1	.98	.49	.71
27	1.8	2.3	e15	28	74	44	21	8.6	1.7	1.0	.44	.57
28	1.8	2.3	e15	24	74	e40	21	8.2	2.4	1.1	.45	.58
29	1.8	2.4	e14	21	---	e37	19	7.9	1.9	.98	.53	.92
30	1.9	2.5	e14	19	---	e36	18	7.7	2.3	.91	.60	.70
31	2.1	---	e14	18	---	e35	---	7.2	---	.75	.62	---
TOTAL	68.5	60.6	637.8	467.3	2728	1469	630	364.8	130.9	46.42	13.00	24.15
MEAN	2.21	2.02	20.6	15.1	97.4	47.4	21.0	11.8	4.36	1.50	.42	.80
MAX	2.8	2.7	95	43	316	100	34	19	7.1	2.9	.79	1.1
MIN	1.8	1.4	2.7	9.2	16	30	15	7.2	1.7	.75	.18	.56
AC-FT	136	120	1270	927	5410	2910	1250	724	260	92	26	48

e Estimated.

## SANTA MARIA RIVER BASIN

11138500 SISQUOC RIVER NEAR SISQUOC, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.55	6.86	27.5	76.0	151	135	88.6	29.4	10.6	4.24	2.27	2.37
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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1944 - 1994

ANNUAL TOTAL	54746.6	6640.47	
ANNUAL MEAN	150	18.2	44.0
HIGHEST ANNUAL MEAN			361
LOWEST ANNUAL MEAN			1.07
HIGHEST DAILY MEAN	3200	Feb 23	316
LOWEST DAILY MEAN	1.4	Nov 20	.18
ANNUAL SEVEN-DAY MINIMUM	1.7	Nov 16	.25
INSTANTANEOUS PEAK FLOW			634
INSTANTANEOUS PEAK STAGE			3.63
ANNUAL RUNOFF (AC-FT)	108600	13170	31900
10 PERCENT EXCEEDS	337	44	72
50 PERCENT EXCEEDS	24	5.8	2.4
90 PERCENT EXCEEDS	2.2	.66	.80

WATER-QUALITY RECORDS

CHEMICAL DATA: Water years 1978 to current year.

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)	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...	1515	2.4	1100	8.0	21.0	--	--	--	--	--	--
NOV 03...	1020	2.1	1140	7.7	14.5	--	--	--	--	--	--
DEC 07...	0945	5.8	1140	8.3	10.0	--	--	--	--	--	--
JAN 04...	1050	12	1110	8.4	11.0	748	11.0	102	540	110	65
FEB 01...	1000	16	1100	8.5	8.0	--	--	--	--	--	--
MAR 09...	0935	47	1040	8.6	14.5	--	--	--	--	--	--
APR 19...	1140	16	1140	8.3	17.0	--	--	--	--	--	--
MAY 10...	1650	14	1140	8.5	24.5	--	--	--	--	--	--
JUN 03...	1110	7.6	1160	8.4	19.5	--	--	--	--	--	--
JUL 06...	1420	2.3	1160	8.3	25.0	--	--	--	--	--	--
AUG 04...	1105	1.1	1170	7.9	19.0	--	--	--	--	--	--
SEP 15...	1400	0.48	1180	7.9	20.5	--	--	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

## SANTA MARIA RIVER BASIN

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## 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)
Feb. 8	0530	*1,060	*6.58	Feb. 20	1000	548	6.26

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.45	2.7	24	e5.0	.07	.00	.00	.00	.00
2	.00	.00	.00	e.30	2.8	e22	e4.6	.06	.00	.00	.00	.00
3	.00	.00	.00	e.15	3.0	e19	e4.1	.06	.00	.00	.00	.00
4	.00	.00	.00	e.00	9.0	e18	e3.6	.05	.00	.00	.00	.00
5	.00	.00	.00	.00	14	e17	e3.2	.04	.00	.00	.00	.00
6	.00	.00	.00	.00	11	32	e2.8	.03	.00	.00	.00	.00
7	.00	.00	.00	.00	11	42	e2.3	.03	.00	.00	.00	.00
8	.00	.00	.00	.00	213	36	e1.8	.01	.00	.00	.00	.00
9	.00	.00	.00	.00	66	26	1.4	.01	.00	.00	.00	.00
10	.00	.00	.00	.00	e36	20	1.3	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	e25	15	.81	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	e18	11	.33	.00	.00	.00	.00	.00
13	.00	.00	23	.00	e15	8.3	.24	.00	.00	.00	.00	.00
14	.00	.00	23	.00	e12	4.6	.23	.00	.00	.00	.00	.00
15	.00	.00	24	.00	e9.0	1.4	.21	.00	.00	.00	.00	.00
16	.00	.00	19	.00	e8.0	.69	.19	.00	.00	.00	.00	.00
17	.00	.00	15	.00	6.9	.68	.18	.00	.00	.00	.00	.00
18	.00	.00	11	.00	109	.60	.16	.00	.00	.00	.00	.00
19	.00	.00	9.1	.00	75	.60	.16	.00	.00	.00	.00	.00
20	.00	.00	6.9	.00	291	.60	.15	.00	.00	.00	.00	.00
21	.00	.00	5.9	.00	149	.60	.13	.00	.00	.00	.00	.00
22	.00	.00	6.9	.00	94	.55	.13	.00	.00	.00	.00	.00
23	.00	.00	7.6	.00	67	.53	.11	.00	.00	.00	.00	.00
24	.00	.00	6.3	1.8	53	5.6	.11	.00	.00	.00	.00	.00
25	.00	.00	5.1	6.5	39	29	.10	.00	.00	.00	.00	.00
26	.00	.00	3.2	14	32	20	.09	.00	.00	.00	.00	.00
27	.00	.00	1.2	11	30	13	.09	.00	.00	.00	.00	.00
28	.00	.00	e1.0	9.0	28	10	.08	.00	.00	.00	.00	.00
29	.00	.00	e.90	7.0	---	6.3	.08	.00	.00	.00	.00	.00
30	.00	.00	e.75	5.1	---	e5.9	.07	.00	.00	.00	.00	.00
31	.00	---	e.60	3.8	---	e5.4	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	170.45	59.10	1429.4	396.35	33.75	0.36	0.00	0.00	0.00	0.00
MEAN	.000	.000	5.50	1.91	51.0	12.8	1.12	.012	.000	.000	.000	.000
MAX	.00	.00	24	14	291	42	5.0	.07	.00	.00	.00	.00
MIN	.00	.00	.00	.00	2.7	.53	.07	.00	.00	.00	.00	.00
AC-FT	.00	.00	338	117	2840	786	67	.7	.00	.00	.00	.00

e Estimated.

## SANTA MARIA RIVER BASIN

11140000 SISQUOC RIVER NEAR GAREY, CA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.13	2.80	17.8	75.7	174	154	77.1	14.2	1.86	.19	.050	.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 1993 CALENDAR YEAR				FOR 1994 WATER YEAR				WATER YEARS 1942 - 1994			
ANNUAL TOTAL	91992.02				2089.41							
ANNUAL MEAN	252				5.72				42.5			
HIGHEST ANNUAL MEAN									397			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	8500				291				13200			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					1060				33600			
INSTANTANEOUS PEAK STAGE					6.58				13.50			
ANNUAL RUNOFF (AC-FT)	182500				4140				30760			
10 PERCENT EXCEEDS	698				14				33			
50 PERCENT EXCEEDS	.00				.00				.00			
90 PERCENT EXCEEDS	.00				.00				.00			



LOCATION.--Lat 34°53'01", long 120°29'38", in SW 1/4 SE 1/4 sec.6, T.9 N., R.34 W., Santa Barbara County, Hydrologic Unit 18060008, on right bank 10 ft upstream from Black Road Bridge, 0.2 mi northeast of State Highway 1, and 3.0 mi northeast of Orcutt.

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1983-92, October 1993 to September 1994.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (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)
JAN											
03...	1600	0.03	2540	8.2	14.0	--	--	--	--	--	--
31...	1440	0.07	2440	8.2	16.0	--	--	--	--	--	--
MAR											
08...	1530	0.26	1650	8.1	17.0	760	14.8	154	280	59	31
APR											
18...	1600	0.02	2510	7.8	20.0	--	--	--	--	--	--
MAY											
02...	1820	0.01	2380	7.9	16.5	--	--	--	--	--	--

[illegible][illegible]

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 1994

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.	0.30	1959-74, 1976-94	1994	--	0
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, 1976-94	1994	--	0
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, 1976-94	1994	--	0
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, 1977-94	02-07-94	1.34	1.8
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	1989-94	02-20-94	9.63	1.0
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	1989-94	02-20-94	3.54	.23

a Operated as a continuous-record station.

Annual maximum discharge at crest-stage partial-record stations during water year 1994--Continued

Station No.	Station name	Location	Drain- age area (mi <sup>2</sup> )	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft <sup>3</sup> /s)
Antelope Valley--Continued							
10264520	Amaragosa 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, 1989-94	1994	--	0
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, 03-06-94 1965-73a, 1974, 1978-94		(b)	1.2
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, 03-20-92* 1989-94 03-06-94		1.68 .49	7.5 2.4
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	1989-94	1994	--	0
10264650	Bissell Hills Creek at Edwards Air Force Base, CA	Lat 34°53'47", long 117°56'40", 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	1989-94	03-06-94	7.69	.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, 02-07-94 1989-94		3.74	2.0
11131700	Santa Rita Creek near Lompoc, CA	Lat 34°38'41", long 120°22'09", in Santa Rita Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 2.4 mi upstream from mouth, and 6.5 mi east of Lompoc.	14.1	1976-79, 1981-94	1994	--	0
11133700	Purisima Creek near Lompoc, CA	Lat 34°41'34", long 120°25'51", in Purisima Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank 1.1 mi northeast of junction of Buener Road and Lompoc- Casmalia Road, and 4.0 mi northeast of Lompoc.	4.75	1972-75a 1976-94	1994	--	0
11135200	Rodeo-San Pasqual Creek near Lompoc, CA	Lat 34°38'42", long 120°30'57", in Lompoc Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.1 mi east of Dewolf Avenue at Highway 246, and 3.3 mi west of Lompoc.	7.80	1971-72 1973-78 1980-94	1994	--	0

a Operated as a continuous-record station.

b Not determined

\* Not previously published

## 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 1993 TO SEPTEMBER 1994

DATE	TIME	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 (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
DEC 06...	1520	473	7.7	15.5	--	--	--	--	--	--
FEB 02...	0915	255	8.9	8.0	--	--	--	--	--	--
MAR 09...	1310	158	7.8	17.0	761	7.2	75	55	15	4.3
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 TOT 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 06...	--	--	--	--	--	--	--	--	--	--
FEB 02...	--	--	--	--	--	--	--	--	--	--
MAR 09...	7.0	21	0.4	1.5	41	34	29	5.7	<0.10	5.7
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 06...	324	--	--	--	--	--	--	--	--	--
FEB 02...	166	--	--	--	--	--	--	--	--	--
MAR 09...	104	90	0.14	<0.010	0.220	0.020	0.090	30	37	3

## 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 1993 TO SEPTEMBER 1994

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)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (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)
APR 19...	1410	8.1	2180	8.0	19.0	760	7.2	78	1100	250	120	140
AUG 03...	1240	6.1	2300	8.0	17.5	760	7.9	83	1100	250	110	140

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)
APR 19...	21	2	5.6	327	268	770	140	0.40	31	1800	1740	2.45
AUG 03...	22	2	8.0	381	312	680	160	0.30	33	1760	1670	2.39

DATE	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)	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 (UG/L)
APR 19...	0.560	26.0	1.60	0.380	280	20	50	1	<1.0	<0.10	<0.1	<0.10
AUG 03...	0.250	22.0	0.250	0.540	270	20	110	<1	<1.0	<0.10	<0.1	<0.10

DATE	ATRA-ZINE WATER UNFLTRD REC (UG/L)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L)	DE-ISO PROPYL ATRAZIN, WATER, WHOLE, TOTAL (UG/L)	BROM-ACIL WATER WHLREC (UG/L)	BUTA-CHLOR WATER WHLREC (UG/L)	BUTYL-ATE WATER WHLREC (UG/L)	CARBOX-IN WATER WHOLE RECOV-ERABLE (UG/L)	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/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
APR 19...	<0.1	<0.20	<0.20	<0.20	<0.10	--	<0.20	<2.0	1.6	<0.20	<0.10	4.8
AUG 03...	<0.1	<0.20	<0.20	<0.20	<0.10	<0.10	<0.20	<1.0	0.18	<0.20	<0.10	3.4

DATE	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	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)
APR 19...	15	9.2	<0.01	0.04	1.2	<0.10	<0.01	<0.2	<3.3	<0.01	<0.01	<0.1
AUG 03...	11	5.0	<0.01	0.28	0.5	<0.10	<0.01	<0.1	1.3	<0.01	<0.01	<0.1

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

## SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	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)
APR 19...	<0.1	<0.20	<0.1	0.01	<0.2	<0.01	<0.20	<0.10	<0.1	<0.01	<4.00	<0.01
AUG 03...	<0.1	<0.20	0.1	0.03	<0.6	<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)
APR 19...	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	30	<0.10	<0.01	<0.10
AUG 03...	<0.20	1.2	<0.10	<0.10	<0.10	0.10	<0.20	10	<0.10	<0.01	<0.10

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## CONVERSION FACTORS

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

U.S. DEPARTMENT OF THE INTERIOR  
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