Water Resources Data
California
Water Year 1993

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-93-3
Prepared in cooperation with the California Department of Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1993

1992

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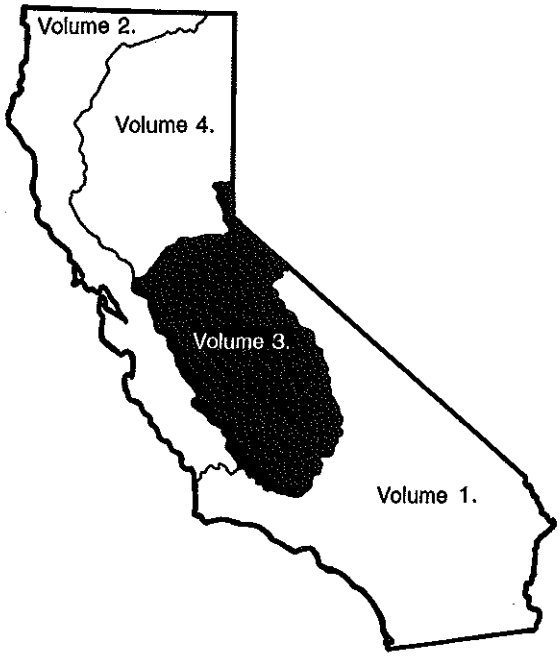
Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

by J.R. Mullen, S.W. Anderson, and P.D. Hayes



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-93-3
Prepared in cooperation with the California Department of Water Resources and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

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U.S. GEOLOGICAL SURVEY

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1994

PREFACE

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

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

Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

Volume 5. Ground-water data

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

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

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15. Supplementary Notes
Prepared in cooperation with the California Department of Water Resources and with other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1993 water year for California consist of records of stage, discharge, and water quality of streams; stage and contents in lakes and reservoirs; and water levels and water quality in wells. Volume 3 contains discharge records for 175 streamflow-gaging stations, 3 crest-stage partial-record streamflow stations and 79 miscellaneous measurement stations; stage and contents records for 45 lakes and reservoirs; water-quality records for 52 streamflow-gaging stations and 7 partial-record stations; and precipitation records for one gaging station. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and with other agencies.

17. Document Analysis a. Descriptors
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SURFACE-WATER AND WATER-QUALITY STATIONS
IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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

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

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^2)	Period of record
10295200	West Walker River at Leavitt Meadows, near Coleville	73.4	1945-64
10303000	Silver King Creek near Coleville	31.8	1947-51
10303500	East Fork Carson River at Silver King Valley, near Markleeville	--	1947-51
10336600	Upper Truckee River near Meyers	33.1	1961-86
10336625	Fallen Leaf Lake near Camp Richardson	16.7	1968-92
10336626	Taylor Creek near Camp Richardson	16.7	1968-92
10336759	Edgewood Creek near Stateline, NV	3.20	1983-87
10342000	Little Truckee River near Hobart Mills	37.1	1947-72
11185000	Grayson Creek near Hookston	1.96	1955-60
11185100	Grayson Creek near Pacheco	4.35	1954-58
11185300	Golden Trout Creek near Cartago	23.6	1957-67, 1969
11185350	Kern River near Quaking Aspen Camp	530	1961-71, 1973-74
11185400	Little Kern River near Quaking Aspen Camp	132	1957-69
11185600	Packsaddle Canyon Creek near Fairview	4.05	1960-66
11186340	Salmon Creek Tributary B near Fairview	.46	1963-69
11186360	Salmon Creek Tributary C near Fairview	.30	1963-69
11186380	Salmon Creek Tributary E near Fairview	.23	1963-69
11186500	Salmon Creek near Kernville	25.8	1922-23
11188000	Kern River at Isabella	1,068	1911, 1926-35
11188200	South Fork Kern River near Olancha	146	1956-67, 1969
11189700	Kelso Creek near Weldon	101	1958-66
11190000	South Fork Kern River at Isabella	982	1929-52
11191000	Kern River below Isabella Dam	2,074	1945-90
11193000	Kern River below Kern Canyon Powerhouse, near Bakersfield	2,307	1954-64
11194000	Kern River near Bakersfield	2,407	1894-1976
11194200	Wagon Wheel Creek near Reward	1.38	1966-71
11195500	San Emigdio Creek at San Emigdio Ranchhouse	48.8	1959-81
11195600	Pastoria Creek near Lebec	27.5	1965-71
11196000	Tejon Creek at Tejon Ranchhouse	48.7	1895-96
11196400	Caliente Creek above Tehachapi Creek, near Caliente	165	1962-83
11196420	Tehachapi Creek near Tehachapi	53.2	1963-85
11197250	Avenal Creek near Avenal	57.1	1962-86
11197800	Poso Creek near Oildale	230	1959-85
11199000	White River near Ornia Hot Springs	14.0	1911-13
11200000	Deer Creek at California Hot Springs	16.8	1911-15, 1917-34
11201200	Deer Creek Diversion near Terra Bella	--	1971-87
11201500	Pacific Gas & Electric Co. Conduit near Springville	--	1940-54, 1966-67, 1969-71, 1976-83
11201800	North Fork of Middle Fork Tule River below Hossack Creek, near Springville	33.8	1909-13
11202750	Middle Fork Tule River above Springville	92.4	1979-88
11203000	Bear Creek near Springville	13.5	1911-16
11203100	North Fork Tule River at Springville	97.6	1957-67
11203190	Tule River Diversion Ditch near Springville	--	1968-88
11203200	Tule River near Springville	247	1958-68
11203220	Tule River at Highway 190, near Springville	247	1968-90
11203500	Tule River near Porterville	253	1902-60
11204000	South Fork Tule River near Porterville	80.3	1911-23, 1925, 1928-32
11204500	South Fork Tule River near Success	109	1930-54, 1956-90
11204680	Pioneer Ditch below Success Dam	--	1959-90
11204900	Tule River below Success Dam	393	1953-90
11205000	Tule River at Worth Bridge, near Porterville	395	1954-60
11208500	Middle Fork Kaweah River Tributary near Hammond	1.90	1967-70, 1972-73
11208610	Monarch Creek near Hammond	1.89	1968-73
11208620	East Fork Kaweah River below Mosquito Creek, near Hammond	16.0	1968-73
11208625	East Fork Kaweah River at Sequoia National Park boundary, near Hammond	23.7	1968-71
11208720	East Fork Kaweah River No. 1 Conduit near Three Rivers	--	1975-78
11208730	East Fork Kaweah River near Three Rivers	85.8	1952-55, 1958-78
11209500	North Fork Kaweah River near Three Rivers	129	1911-60, 1980-81
11209900	Kaweah River at Three Rivers	418	1959-90
11210000	South Fork Kaweah River near Three Rivers	66.5	1912-24
11210100	South Fork Kaweah River at Three Rivers	86.7	1959-90
11210500	Kaweah River near Three Rivers	519	1904-18, 1921-61
11210850	Lemoncove Ditch below Terminus Dam	--	1962-90
11210930	Foothill Ditch below Terminus Dam	--	1962-90
11210950	Kaweah River below Terminus Dam	561	1962-90
11211500	Kaweah River at Mckay Point, near Lemoncove	647	1919-21
11211790	Cottonwood Creek near Elderwood	60.4	1971-85
11212500	South Fork Kings River near Cedar Grove	408	1951-57

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11213000	Kings River near Hume	835	1922-36, 1952-58
11213500	Kings River above North Fork, near Trimmer	952	1927-28, 1932-82
11214000	North Fork Kings River below Meadowbrook	37.7	1922-35, 1957-81
11214200	Fleming Creek near Blackcap Mountain	15.0	1957-65
11214400	Post Corral Creek near Blackcap Mountain	27.9	1957-65
11214500	Helms Creek at Sand Meadows	34.7	1923-31, 1956-58
11215500	Rancheria Creek near Smith Meadows	21.3	1925-31
11215800	Teakettle Creek Tributary No. 3 near Dinkey Creek	.86	1958-69, 1977-83
11215810	Teakettle Creek Tributary No. 7 near Patterson Mountain	.11	1958-63
11215820	Teakettle Creek Tributary No. 2 near Dinkey Creek	.85	1958-69, 1977-83
11215830	Teakettle Creek Tributary No. 2a near Dinkey Creek	.27	1958-69, 1977-83
11215840	Teakettle Creek Tributary No. 1 near Dinkey Creek	.77	1958-69, 1977-83
11216000	North Fork Kings River below Rancheria Creek	229	1927-50
11216800	Rock Creek at Dinkey Creek	7.60	1961-70
11217000	Dinkey Creek at Dinkey Meadow, near Shaver Lake	50.7	1922-35, 1977-87
11217500	Deer Creek below east Fork, near Shaver Lake	19.0	1924-31
11218000	Dinkey Creek at mouth, near Trimmer	132	1920-37
11219000	Big Creek near Tollhouse	19.8	1911-13
11220000	Big Creek above Pine Flat Lake, near Trimmer	70.0	1954-73
11220500	Sycamore Creek above Pine Flat Lake, near Trimmer	56.1	1953-73
11221500	Kings River below Pine Flat Dam	1,545	1954-90
11222000	Kings River at Piedra	1,693	1896-1959
11225000	Los Gatos Creek near Coalinga	105	1932-41
11226000	North Fork San Joaquin River below Iron Creek	35.5	1922-28, 1959-69
11226500	San Joaquin River at Miller Crossing	249	1921-28, 1951-91
11227000	West Fork Granite Creek near Timber Knob	26.4	1922-25
11227500	Middle Fork Granite Creek near Cattle Mountain	2.25	1922-23
11228000	East Fork Granite Creek near Cattle Mountain	14.6	1922-25
11228500	Granite Creek near Cattle Mountain	47.8	1922-28, 1966-86
11230000	South Fork San Joaquin River near Florence Lake	171	1922-81, 1984
11230650	Bolsillo Creek above diversion dam, near Big Creek	1.3	1986
11232000	South Fork San Joaquin River near Hoffman Meadow	424	1922-28
11232500	Jackass Creek near Bass Lake	12.1	1922-28, 1961-68
11234500	Chiquito Creek near Bass Lake	60.1	1922-28, 1956-70
11235000	San Joaquin River above Big Creek	1,050	1913-15, 1922-62
11236080	Huntington-Shaver Conduit at Huntington Lake	--	1975-83
11238000	Pitman Creek at Big Creek	23.7	1910-16, 1922-27
11239000	Huntington-Shaver Conduit near Shaver Lake	--	1929-85
11242350	Soquel diversion near Sugar Pine	--	1970-77
11245000	South Fork Willow Creek near North Fork	39.8	1910-17
11245500	Whiskey Creek near North Fork	11.6	1911-16
11246000	Cascadel Creek near North Fork	3.31	1910-12
11247000	San Joaquin River below Kerckhoff Powerhouse, near Prather	1,480	1910-14, 1937, 1943-82, 1988-89
11247200	Big Sandy Creek Tributary near Tollhouse	.46	1969-71
11247500	Big Sandy Creek near Auberry	27.3	1947-51
11248000	Fine Gold Creek near Friant	92.7	1937-58
11250500	Cottonwood Creek near Friant	35.6	1942-51
11251500	Little Dry Creek near Friant	57.9	1942-56
11251600	Little Dry Creek at mouth, near Friant	77.4	1957-61
11252500	San Joaquin River at Herndon	1,802	1895-1901
11253000	San Joaquin River near Biola	1,811	1953-61
11254000	San Joaquin River near Mendota	3,940	1940-54
11255500	Panoche Creek below Silver Creek, near Panoche	293	1950-53, 1959-70
11255550	Little Panoche Creek Tributary No. 1, near Panoche	.33	1959-64
11256000	San Joaquin River near Dos Palos	4,669	1941-54
11257100	Miami Creek near Oakhurst	10.6	1961-80
11257500	Fresno River near Knowles	133	1911-13, 1915-90
11257700	Picayune Creek near Coarsegold	8.17	1965-68
11258000	Fresno River below Hidden Dam, near Daulton	237	1942-90
11258800	East Fork Chowchilla River near Ahwahnee	57.8	1958-67
11258900	West Fork Chowchilla River near Mariposa	33.6	1958-80
11258920	North Fork Chowchilla River near Nippinnawassee	13.6	1959-67
11258960	Chowchilla River above Willow Creek, near Raymond	173	1980-90
11258980	Chowchilla River near Raymond	201	1972-80
11259000	Chowchilla River below Buchanan Dam, near Raymond	236	1922-23, 1931-72, 1976-90
11259300	Chowchilla River below Raynor Creek, near Raymond	254	1973-75
11259900	Chamerlain Slough near El Nido	--	1940-49
11260000	San Joaquin River above Sand Slough, near El Nido	6,447	1940-49
11260000	San Joaquin River near El Nido	6,443	1940-49
11260001	San Joaquin River plus Chamberlain Slough, near El Nido	6,450	1940-49
11260200	Bear Creek near Catheys Valley	24.9	1958-69
11260225	Burns Creek at Hornitos	26.7	1965-69
11260480	Mariposa Creek near Catheys Valley	65.7	1959-80

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11261000	Salt Slough near Los Banos	--	1941-68
11261500	San Joaquin River at Fremont Ford Bridge	7,615	1937-70, 1986-89
11262800	Los Banos Creek near Los Banos	159	1959-66
11263000	San Luis Creek near Los Banos	84.6	1950-63
11265000	Tenaya Creek near Yosemite	46.9	1912-58
11265500	Merced River at Yosemite	236	1912-17
11266000	Yosemite Creek at Yosemite	42.7	1912-16, 1918
11267300	South Fork Merced River at Wawona	100	1959-68
11267500	South Fork Merced River near Wawona	132	1912, 1914-15, 1918-21
11268000	South Fork Merced River near El Portal	241	1951-75
11268200	Merced River near Briceburg	691	1966-74
11268500	Merced River at Bagby	911	1923-30, 1932-66
11269300	Maxwell Creek at Coulterville	17	1960-74, 1976-80
11270000	Merced River at Exchequer	1,037	1901-14, 1916-64
11271320	Dry Creek near Snelling	67.6	1966-92
11271500	Merced River near Livingston	1,259	1922-24, 1926-44
11273000	Merced River Slough near Newman	1,276	1942-72
11274600	Del Puerto Creek Tributary No. 1 near Patterson	.71	1964-69
11274610	Del Puerto Creek Tributary No. 2 near Patterson	.024	1959-63
11274710	Maclure Creek below Maclure Glacier, near Tuolumne Meadows	.37	1967-72
11274800	Tuolumne River at Hetch Hetchy Cabin, near Sequoia	404	1911-16
11275000	Falls Creek near Hetch Hetchy	46	1916-83
11277000	Cherry Creek near Hetch Hetchy	111	1910-55
11278500	Jawbone Creek near Tuolumne	19.1	1911
11279500	South Fork Toulumne River at Italian Flat, near Sequoia	64.9	1925-30, 1932-33
11280000	South Fork Tuolumne River near Sequoia	68.3	1914-17
11281500	Middle Tuolumne River near Mather	52.4	1925-29, 1932-33
11282500	South Fork Tuolumne River near Buck Meadows	164	1912, 1914, 1917-21
11283000	Tuolumne River near Buck Meadows	924	1908, 1911-36
11283100	Lily Creek near Pinecrest	11.9	1964-74
11283200	Bell Creek near Pinecrest	9.11	1964-79
11284500	Big Creek near Groveland	25	1932-33, 1960-74
11284700	North Fork Tuolumne River near Long Barn	23.1	1962-86
11285000	North Fork Tuolumne River above Dyer Creek, near Tuolumne	69.2	1959-66
11286500	Woods Creek near Jacksonville	97.2	1926-68
11288000	Tuolumne River above La Grange Dam, near La Grange	1,532	1896-1970
11288500	Tuolumne River at La Grange	1,539	1896-1911
11291500	Relief Creek near Baker Station	24.4	1911-18
11292680	Cascade Creek near Pinecrest	4.97	1963-65
11293000	Middle Fork Stanislaus River at Sand Bar Flat, near Avery	325	1906-66
11293500	North Fork Stanislaus River below Silver Creek	27.8	1953-88
11294300	North Fork Stanislaus River below Ganns Dams, near Big Meadow	111	1961-67
11295000	Utica Canal near Avery	--	1970, 1976-89
11299500	Stanislaus River below Melones Powerhouse, near Sonora	905	1931-67
11300000	Stanislaus River near Knights Ferry	980	1916-33
11300600	South San Joaquin Main Canal below diversion point, near Knights Ferry	--	1983-89
11300700	South San Joaquin Main Canal below Woodward Reservoir, near Oakdale	--	1982-89
11300800	North Main Canal below diversion point, near Knights Ferry	--	1983-89
11304000	Corral Hollow Creek near Tracy	61.6	1959-66
11305000	San Domingo Creek near San Andreas	26.2	1950-62
11305500	San Antonio Creek near San Andreas	48.0	1950-59
11306000	South Fork Calaveras River near San Andreas	118	1950-79
11306500	Calaveritas Creek near San Andreas	53	1950-66
11307000	Esperanza Creek near Mokelumne Hill	16.6	1951-59
11307500	Jesus Maria Creek near Mokelumne Hill	34.6	1950-59
11308000	North Fork Calaveras River near San Andreas	85.2	1950-79
11308500	Murray Creek near San Andreas	23.6	1950-59
11308900	Calaveras River below New Hogan Dam, near Valley Springs	363	1961-90
11309000	Cosgrove Creek near Valley Springs	21.6	1930-69
11309500	Calaveras River at Jenny Lind	393	1907-66
11310500	Calaveras River near Stockton	--	1926, 1944-50
11311000	Stockton Diverting Canal at Stockton	--	1944-53
11311500	Bear Creek near Clements	42.2	1927
11312000	Bear Creek near Lockeford	47.4	1931-85
11312500	Bear Creek at Harmony School, near Lockeford	51.1	1927-31
11315500	Bear River at Pardoe Camp	33	1928-51
11316000	Bear River near Salt Springs Dam	48	1952-87
11316500	North Fork Mokelumne River near West Point	273	1924-32
11317500	South Fork Mokelumne River near Railroad Flat	38.7	1912-34
11318000	Licking Fork Mokelumne River near Railroad Flat	6.32	1912-13, 1915-16
11321000	Mokelumne River at Lancha Plana	587	1926-63
11321500	Camanche Creek near Camanche	5.19	1933-34
11322000	Rabbit Creek near Camanche	8.55	1932-34

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11326300	Dry Creek above Sutter Creek, near Ione	70.9	1960-70
11326500	Sutter Creek near Volcano	29.8	1924-27
11327000	Sutter Creek near Sutter Creek	48.1	1936-41, 1961-80
11327500	Sutter Creek at Sutter Creek	50.7	1922-36
11328000	Dry Creek near Ione	266	1912, 1926-32
11329000	Goose Creek near Elliott	8.26	1928-33
11329500	Dry Creek near Galt	324	1927-33, 1945-87
11330000	North Fork Cosumnes River at Cosumnes Mine	38.7	1949-53
11331000	Camp Creek near Sly Park	8.59	1924
11331500	Camp Creek near Camino	32.4	1949-56
11332500	Sly Park Creek near Pollock Pines	18.2	1947-55
11333500	North Fork Cosumnes River near El Dorado	205	1884, 1912-41, 1949-83, 1985-87
11334200	Middle Fork Cosumnes River near Somerset	107	1958-71
11334300	South Fork Cosumnes River near River Pines	64.3	1958-80
11334500	Cosumnes River near Plymouth	436	1952-60
11335700	Deer Creek near Sloughhouse	46	1961-66, 1968-77
11336000	Cosumnes River at Mcconnell	724	1942-82
11336500	Hadselville Creek at Clay	18.1	1931
11336580	Morrison Creek near Sacramento	53.4	1959-87
11337500	Marsh Creek near Byron	42.6	1953-83

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^2)	Period of record
10336625	Fallen Leaf Lake near Camp Richardson	16.7	1968-92
10339380	Martis Creek Lake near Truckee	39.6	1972-90
11190500	Isabella Lake near Lake Isabella	2,074	1954-90
11197000	Tulare Lake in Kings County	--	1969-82
11204700	Success Lake near Success	391	1962-90
11210900	Lake Kaweah near Lemoncove	560	1962-90
11221000	Pine Flat Lake near Piedra	1,545	1952-90
11257950	Hensley Lake near Daulton	236	1976-90
11258990	H.V. Eastman Lake near Raymond	235	1976-90
11308700	New Hogan Lake near Valley Springs	362	1964-90

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^2)	Type of record	Period of record
10336593	Grass Lake Creek near Meyers	6.99	T,S	1972-74
10336610	Upper Truckee River at South Lake Tahoe	54.9	C,T,S	1972-74, 1978, 1980-92
10336630	Eagle Creek near Camp Richardson	6.38	T,S	1972-74
10336640	Meeks Creek at Meeks Bay	8.08	T,S	1971-74
10336645	General Creek near Meeks Bay	7.44	C,T,S	1981-92
10336650	Quail Lake Creek at Homewood	.95	T,S	1972-74
10336655	Madden Creek near Homewood	1.40	T,S	1972-74
10336658	Madden Creek at Homewood	2.06	T,S	1972-73
10336660	Blackwood Creek near Tahoe City	11.2	C,T,S	1975-78, 1980-92
10336670	Ward Creek near Tahoe Pines	2.03	T,S	1973-76
10336672	Ward Creek Tributary near Tahoe Pines	.91	T,S	1973-76
10336676	Ward Creek at State Highway 89, near Tahoe Pines	9.70	C,T,S	1973-78, 1980-92
10336684	Dollar Creek near Tahoe City	1.07	T,S	1972-74

DISCONTINUED WATER-QUALITY STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
10336689	Snow Creek at Tahoe Vista	4.43	C,T,S	1981-85
10336740	Logan House Creek near Glenbrook, NV	2.08	S	1984-87
10336759	Edgewood Creek near Stateline, NV	3.20	S	1983-87
10336780	Trout Creek near Tahoe Valley	36.7	C,T,S	1971-74, 1978, 1980-85, 1987-88
10336790	Trout Creek at South Lake Tahoe		T,S	1972-74, 1989-92
10337000	Lake Tahoe at Tahoe City	506	WQ	1969, 1978-79
10337500	Truckee River at Tahoe City	507	WQ	1978-81
10338000	Truckee River near Truckee	553	WQ,C	1951-66, 1977-82
10339250	Martis Creek at State Highway 267, near Truckee	25.8	T	1975-88
10343500	Sagehen Creek near Truckee	10.5	T	1970-74
10345900	Truckee River at Floriston	932	T	1968-71
10346000	Truckee River at Farad	932	WQ,B,S	1951-61, 1964-81
11185350	Kern River near Quaking Aspen Camp	530	T	1966-74
11187000	Kern River at Kernville	1,009	WQ,B,T,S	1962-93
11191000	Kern River below Isabella Dam	2,074	WQ	1956-66
11204900	Tule River below Success Dam	393	WQ	1962-69, 1971-79
11206500	Middle Fork Kaweah River near Potwisha Camp	102	C	1958-63, 1972, 1979-81
11208000	Marble Fork Kaweah River at Potwisha Camp	51.4	C	1962-72, 1980-81
11208610	Monarch Creek near Hammond	1.89	T	1969-73
11208620	East Fork Kaweah River below Mosquito Creek, near Hammond	16.0	T	1968-73
11208625	East Fork Kaweah River at Sequoia National Park boundary, near Hammond	23.7	T	1968-71
11208730	East Fork Kaweah River near Three Rivers	85.8	T	1968-76
11209500	North Fork Kaweah River near Three Rivers	129	T	1980-81
11209900	Kaweah River at Three Rivers	418	T	1966, 1968-88
11210950	Kaweah River below Terminus Dam	561	WQ	1962-79
11213500	Kings River above North Fork, near Trimmer	952	T	1966-79
11216500	North Fork Kings River above Dinkey Creek, at Balch Camp	250	T	1968-79
11218500	Kings River below North Fork, near Trimmer	1,342	WQ,B,T,S	1956-93
11221500	Kings River below Pine Flat Dam	1,545	WQ	1956-66
11230000	South Fork San Joaquin River near Florence Lake	171	T	1961
11235000	San Joaquin River above Big Creek	1050	T	1961-62
11237000	Big Creek below Huntington Lake	81.1	T	1961-70
11245000	South Fork Willow Creek near North Fork	39.8	T	1961
11246500	Willow Creek at mouth, near Auberry	130	T	1961-72
11247000	San Joaquin River below Kerckhoff Powerhouse, near Prather	1,480	T	1961-68, 1970-74
11253500	Fresno Slough bypass near San Joaquin	--	T	1969-71
11257500	Fresno River near Knowles	133	T	1971-88
11258000	Fresno River below Hidden Dam, near Daulton	237	T	1976-90
11258960	Chowchilla River above Willow Creek, near Raymond	173	T	1980-88
11258980	Chowchilla River near Raymond	201	T	1971-80
11264500	Merced River at Happy Isles Bridge, near Yosemite	181	B,T	1966-93
11268000	South Fork Merced River near El Portal	241	T	1975-78
11268200	Merced River near Briceburg	691	T	1976-77
11283100	Lily Creek near Pinecrest	11.9	T	1965-74
11292700	Middle Fork Stanislaus River at Hells Half Acre Bridge, near Pinecrest	287	T	1966-71, 1973-78
11295400	Stanislaus River near Hathaway Pines	629	T	1970-83
11303000	Stanislaus River at Ripon	1,075	C,T	1986-89
11303500	San Joaquin River near Vernalis	13,536	B	1974-81
11306000	South Fork Calaveras River near San Andreas	118	T	1974-79
11308000	North Fork Calaveras River near San Andreas	85.2	T	1974-79
11308600	Calaveras River above New Hogan Reservoir, near San Andreas	307	T	1970-82, 1984-88
11308900	Calaveras River below New Hogan Dam, near Valley Springs	363	WQ	1964-66
11312000	Bear Creek near Lockeford	47.4	C	1976
11313010	Delta-Mendota Canal below Tracy Pump Plant, near Tracy	--	T	1960-66
11319500	Mokelumne River near Mokelumne Hill	544	WQ,T	1961-79
11323500	Mokelumne River below Camanche Dam	627	WQ,T,S	1906-07, 1956-76
11325500	Mokelumne River at Woodbridge	661	B,C,T	1951-58, 1961-86
11335000	Cosumnes River at Michigan Bar	536	WQ,T,S	1953-80

Type of record: WQ (Water-quality); B (Biological); C (Conductivity); T (Temperature); S (Sediment).

WATER RESOURCES DATA--CALIFORNIA, WATER YEAR 1993

VOLUME 3--SOUTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN

FROM WALKER RIVER TO TRUCKEE RIVER

By J.R. Mullen, S.W. Anderson, and P.D. Hayes

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 175 streamflow-gaging stations, 3 crest-stage partial-record streamflow stations, and 79 miscellaneous measurement stations; (2) stage and contents records for 45 lakes and reservoirs; (3) water-quality records for 52 streamflow-gaging stations and 7 partial-record stations; and (4) precipitation records for one gaging station. Records included for stream stages are only a small fraction of those obtained during the water year.

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

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-93-3." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc--Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

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

COOPERATION

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

California Department of Water Resources, David N. Kennedy, Director.
California State Water Resources Control Board, James Baetge, Executive Director.
East Bay Municipal Utility District, Thomas Linville, Manager, Water Operations.
Madera Irrigation District, Robert L. Stanfield, General Manager-Chief Engineer.
Merced, City of, Stevan M. Stroud, City Engineer.
Merced Irrigation District, Ross Rogers, Manager.
San Francisco, City and County, Hetch-Hetchy Water and Power, Andrew B. Moran, General Manager of Public Utilities.
Tahoe Regional Planning Agency, Davie Ziegler, Executive Director.
Tulare County Flood Control District, Douglas C. Wilson, Public Works Director.
Turlock Irrigation District, Russell Deluca, Irrigation System Administrator.
Woodbridge Irrigation District, Andy Christensen, Manager-Secretary.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Bureau of Reclamation, and National Park Service, U.S. Department of Interior.

The following organizations aided in collecting records: Calaveras County Water District; Five Bears Hydroelectric Project; Lassen Station Hydroelectric, Energy Growth Partnership; Olcese Water District; Pacific Gas & Electric Co.; Southern California Edison Co.; Tuolumne County; Turlock Irrigation District; and Merced and Oakdale-South San Joaquin Irrigation Districts.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1993 water year in the area covered by this volume was 368 percent of the median for the 1961-90 water years based on five representative streamflow records. Total runoff in percent of median, at selected stations in California is shown in figure 1. Runoff ranged from 127 percent of median at Kern River near Kernville (station 11186001) to 1,026 percent at Los Gatos Creek above Nunez Canyon, near Colinga (station 11224500). In the southern portion of the San Joaquin Valley, runoff was below to near normal. Runoff in the Tahoe basin was about 125 percent of normal, where most storm precipitation was in the form of snow, especially above 5,000 feet. This resulted in an above-normal snow pack. In the Sacramento Valley, the Sacramento Weir spilled into the Yolo Bypass for the first time since 1986. In figure 2, monthly mean discharge in the 1993 water year is compared with the 1961-90 median, maximum, and minimum monthly mean discharge at four representative gaging stations. Figure 2 also compares monthly precipitation in the 1993 water year with the long-term average. A comparison of peak discharge for the 1993 water year with peaks for period of record for selected stations is given in table 1. A comparison of low-flow data for various years is given in table 2. No peak discharges for streams in the area covered by this volume exceeded the peaks of record, but many exceeded peak bases. Annual departure from 1961-90 mean discharge for four selected gaging stations is shown in figure 3.

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

Station No.	Station name	1993 water year: Date	1993 water year: Peak discharge (ft^3/s)	Period of record: Water year	Period of record: Peak discharge (ft^3/s)
11186001	Kern River near Kernville	May 24	3,350	1966	60,000
11224500	Los Gatos Creek above Nunez Canyon, near Coalinga	Jan. 14	3,820	1969	4,360
11230500	Bear Creek near Lake Thomas A. Edison	June 24	1,020	1982	3,660
11266500	Merced River at Pohono Bridge, near Yosemite	May 31	6,210	1955	23,400

Table 2. Comparison of 7-day and 1-day low flow for 1993 water year with 7-day, 1-day, and minimum daily flow for 30-year base period 1961-90 for selected stations

Station No.	Station name	7-day low flow (ft^3/s): 1993 water year	7-day low flow (ft^3/s): Base period 1961-90	1-day low flow (ft^3/s): 1993 water year	1-day low flow (ft^3/s): Base period 1961-90	Period of record: Water year	Period of record: Minimum daily (ft^3/s)
11186001	Kern River near Kernville	111	84	106	76	1990,91	76
11224500	Los Gatos Creek above Nunez Canyon, near Coalinga	0	0	0	0	many	0
11230500	Bear Creek near Lake Thomas A. Edison	5.3	2.06	5.0	1.8	1924	1.2
11266500	Merced River at Pohono Bridge, near Yosemite	13	5.6	13	5.4	1977	5.4

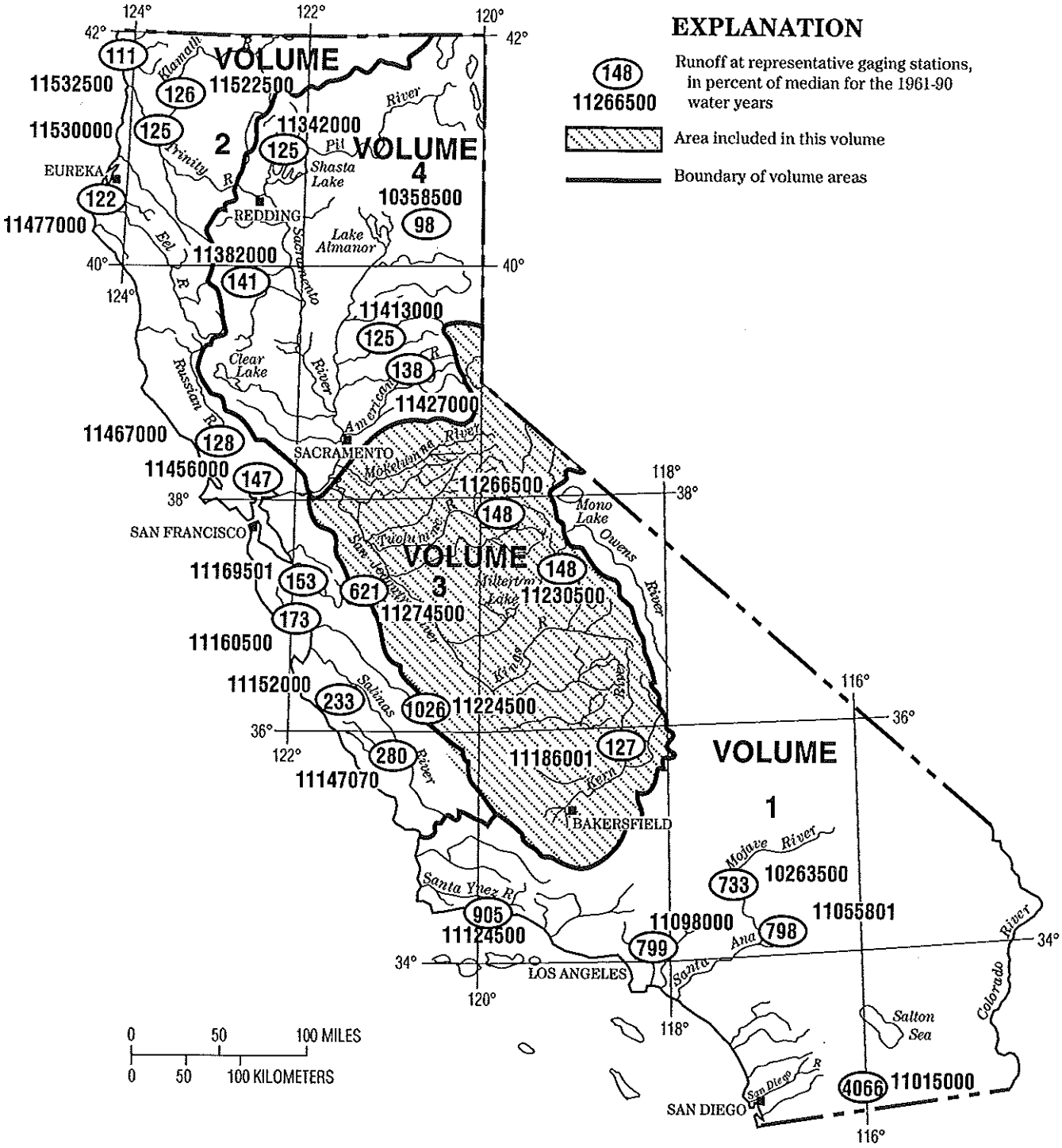

Figure 1. Runoff, in percent of median, for the 1993 water year.

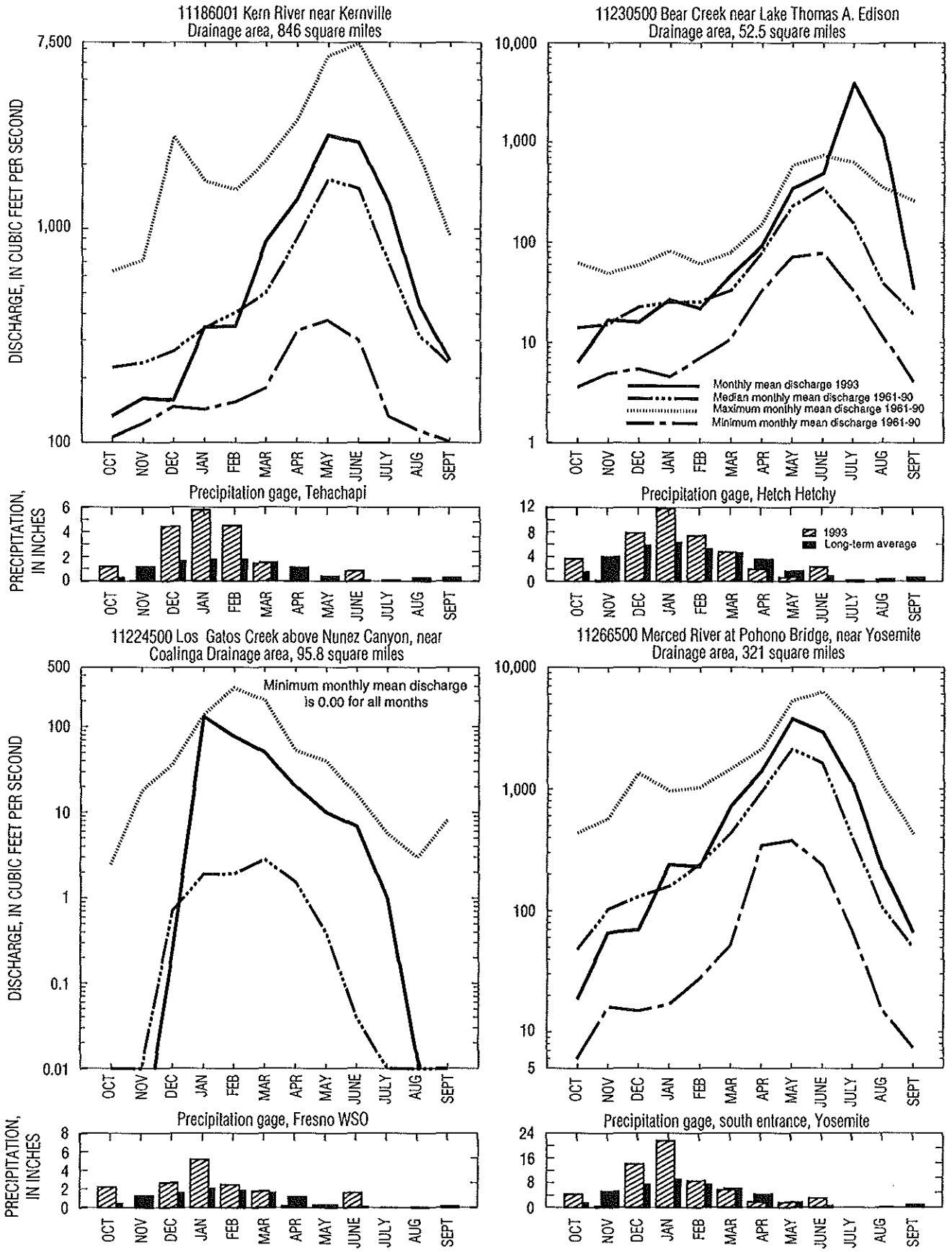

Figure 2. Discharge and precipitation during water year 1993 and long-term average at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration, 1993, Climatological Data, annual summary: v. 97.

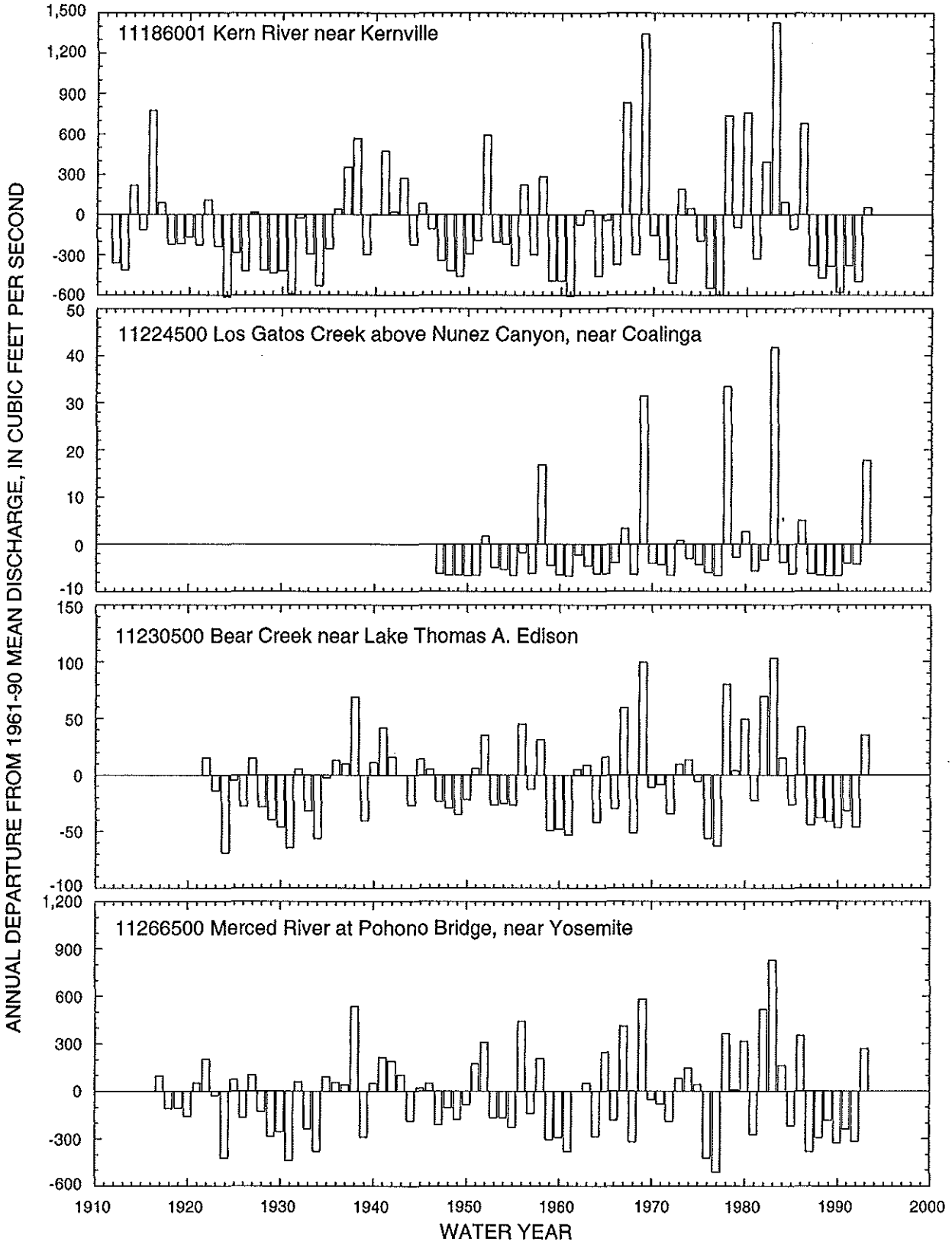

Figure 3. Annual departure from 1961-90 mean discharge for period of record at selected gaging stations.

Precipitation in most of the area covered by this volume was above normal during the 1993 water year. Precipitation, based on 10 representative rain gages, was 130 percent of the long-term average. There were significant storms in December, January, and February, with above-average precipitation throughout most of the region.

Most demands for water were met in 1993, although supplies were limited in some areas. In the Sierra Nevada foothills, population has increased about 70 percent since 1977 and water use has increased 30 percent. In the Central Valley areas, population has increased about 39 percent. There have not been concomitant increases in reservoir storage capacity. Many reservoirs had 60 percent of average or less in storage at the beginning of the water year. In anticipation of another less-than-normal water year, many water agencies limited reservoir releases to maximize storage. The water year began with many reservoir levels below average for October 1.

Water Quality

Water samples collected at four NASQAN and two Hydrologic Benchmark stations reported in this volume were analyzed for water-quality constituents. 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 1993 compared with long-term dissolved-solids concentration at two selected stations. The largest densities of fecal-coliform (>600 colonies per 100 milliliters) and fecal-streptococcus bacteria (>1,000 colonies per 100 milliliters) were in water samples collected from Kern River at Kernville (station 11187000).

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

Station No.	Station name	Water-quality constituent exceeding EPA water-quality criteria
11261100	Salt Slough at Highway 165, near Stevinson	Sulfate, chloride, total-dissolved solids, nitrate, manganese
11262900	Mud Slough near Gustine	Sulfate, chloride, total-dissolved solids, manganese
11272500	Merced River near Stevinson	Manganese
11274538	Orestimba Creek at River Road, near Crows Landing	Sulfate, chloride, total-dissolved solids, nitrate, manganese
11274554	Spanish Grant Combined Drain near Patterson	Sulfate, chloride, total-dissolved solids, nitrate, manganese
11274560	Turlock Irrigation District Lateral No. 5, near Patterson	Total-dissolved solids, manganese
11274570	San Joaquin River at Patterson	Sulfate, total-dissolved solids, manganese
11303500	San Joaquin River near Vernalis	Total-dissolved solids, manganese

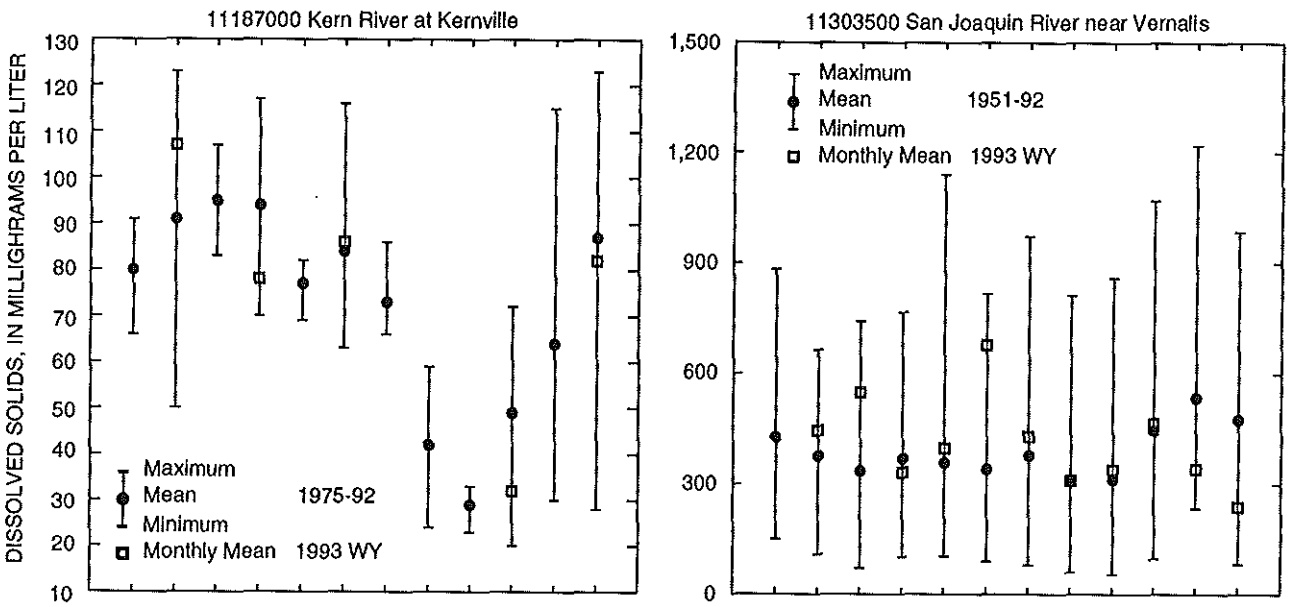

Figure 4. Comparison of monthly mean dissolved-solids concentrations during water year 1993 with long-term dissolved-solids concentrations at two selected stations.

Sediment

This year, suspended-sediment discharge and concentration were monitored daily at one station in the area covered by this volume. The remaining sediment stations were monitored periodically and are in an area extending from as far north as Truckee to as far south as the town of Kernville.

During the 1993 water year, sediment discharge for the San Joaquin River near Vernalis (station 11303500) was 83 percent of the long-term mean (1957-92).

Sediment discharge for the San Joaquin River near Vernalis was 278,000 tons for the year. This equates to an annual sediment yield of 20.5 tons per square mile of drainage area.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 56 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped drainage basins nationwide. The data provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 408 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.

EXPLANATION OF THE RECORDS

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

Station-Identification Numbers

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

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports has been in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream 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 11218500, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "218500." 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.

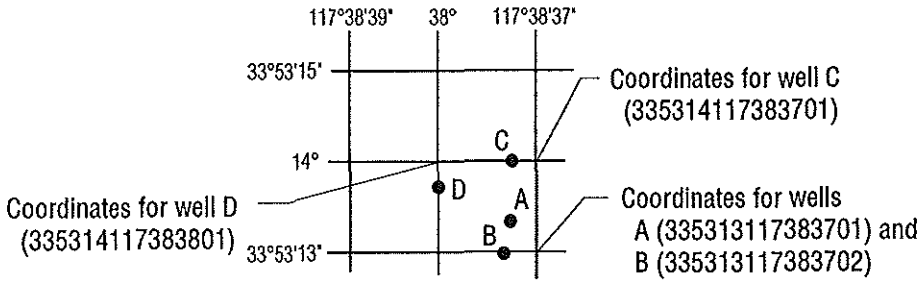

Figure 5. System for numbering miscellaneous sites (latitude and longitude).

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 25.

Data Collection and Computation

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

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

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

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

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

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following records, 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 1992 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 distributed on it uniformly.

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

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

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements generally are 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 (ft^3/s) for values less than 1 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures for more than 1,000 ft^3/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 25.

Arrangement of Records

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

Onsite Measurements and Sample Collection

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

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

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

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

Historical and current (1993) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter (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 the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

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

Sediment

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

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

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

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

Cross-Sectional Data

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

ACCESS TO WATSTORE DATA

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

* Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.

* Daily Values File - Contains more than 220 million daily values of streamflows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.

* Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

* Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.

* Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

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

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

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

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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 (μm^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:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^3 h$ cylinder $\pi r^3 h$.

From cell volume, total algal biomass expressed as biovolume ($\pi m^3/mL$) 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^3/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 minumum 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 benchmarks 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 ($CaCO_3$).

Hydrologic Benchmark Network is a network of 56 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

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

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

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

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, µg/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, µg/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, 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.

Nanograms per liter (NG/L, 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.

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.

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 (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:

Classification	Size (mm)	Method of analysis
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 (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{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 with 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^2.time) for periphyton and macrophytes and mg C/(m^3.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 that 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 [mg O_2/(m^2.time) for periphyton and macrophytes and mg O_2/(m^3.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 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 (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 emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1993, is called the "1993 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

1-D1. Water temperature--influential factors, field measurement, and data presentation, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. Application of surface geophysics to ground-water investigations, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. Application of seismic-refraction techniques to hydrologic studies, by F.P. Haeni: USGS--TWRI Book 2, Chapter D2 1988. 86 pages.

2-E1. Application of borehole geophysics to water-resources investigations, by W. Scott, Keys, and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-E2. Borehole geophysics applied to ground-water investigations, by W. Scott 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 Warren 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, N. 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. 27 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. Introduction to ground-water hydraulics, a programmed text for self-instruction, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J.E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B4. Regression modeling of ground-water flow, by Richard L. Cooley and Richard L. Naff: USGS--TWRI: Book 3, Chapter B4. 1990. 232 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 Eliezer 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, edited by L.J. Britton and P.E. Greeson: 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. [variously paged]

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.

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. Schaffrannek, 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.

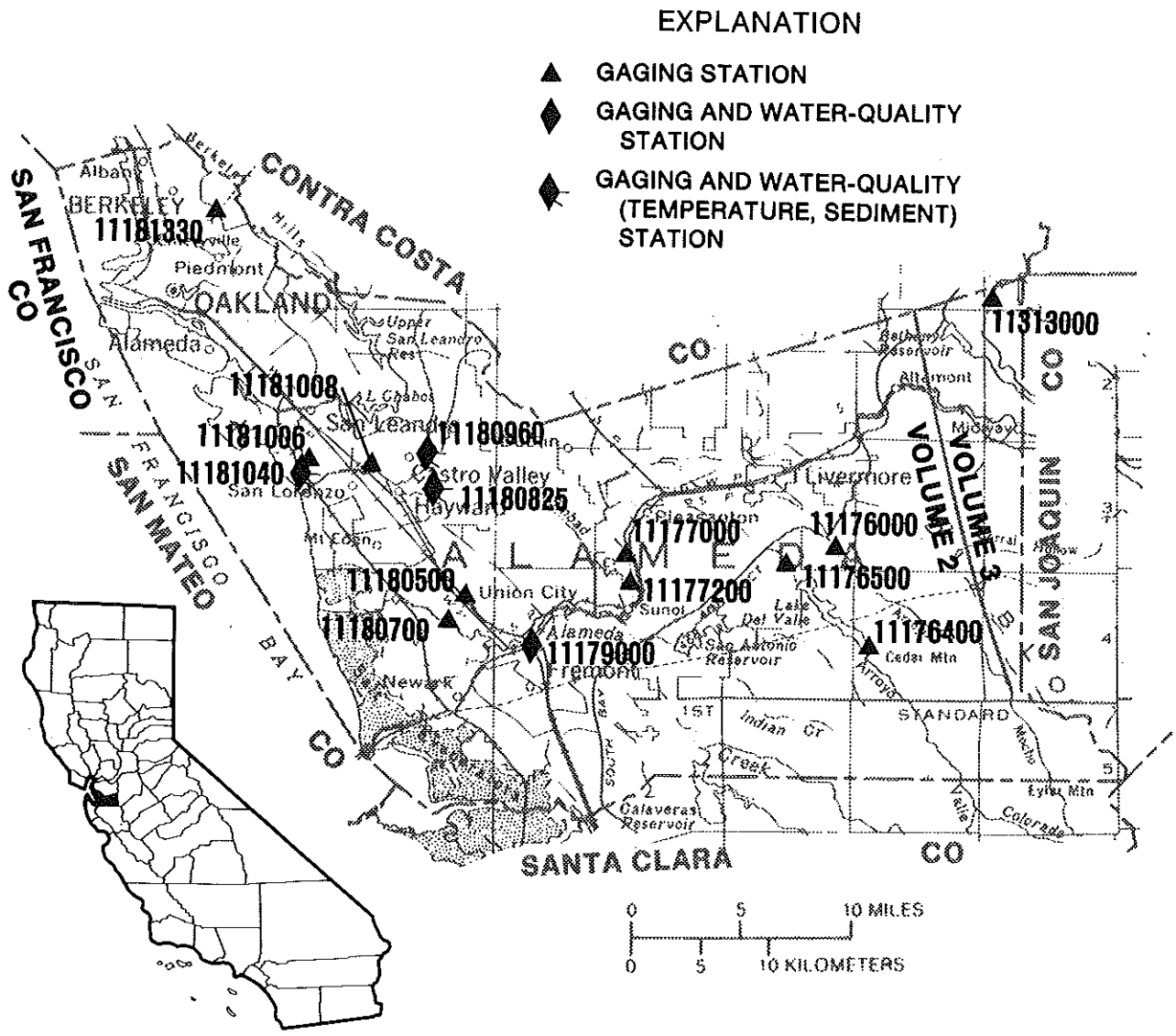

Figure 6. Location of discharge and water-quality stations in Alameda County. (NOTE: Records for stations 11176000 through 11181330 published in volume 2.)

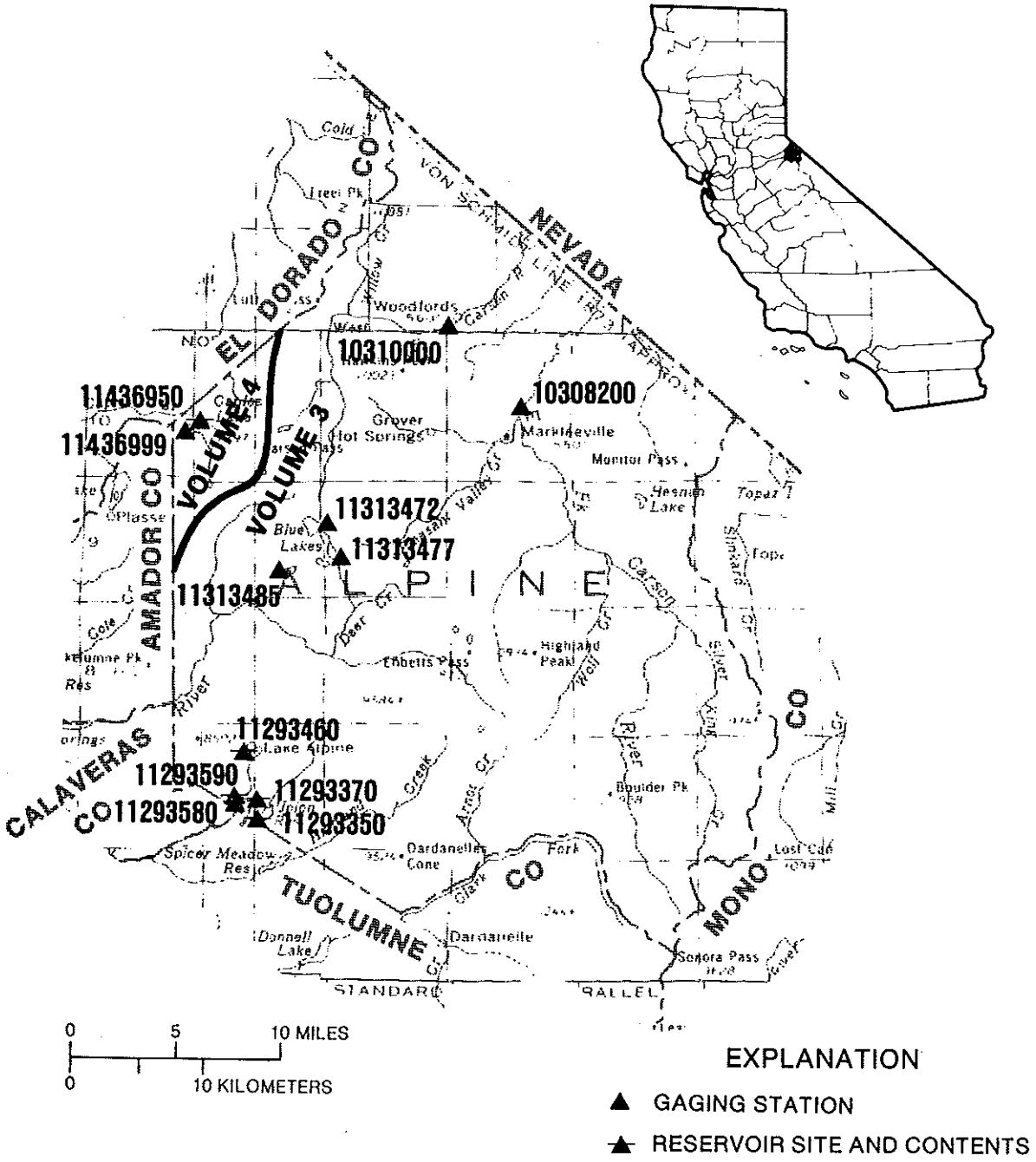

Figure 7. Location of discharge stations in Alpine County. (NOTE: Station 10297000 in Douglas County, Nevada, not shown on this map. Record for stations 11436950 through 11437000 published in volume 4.)

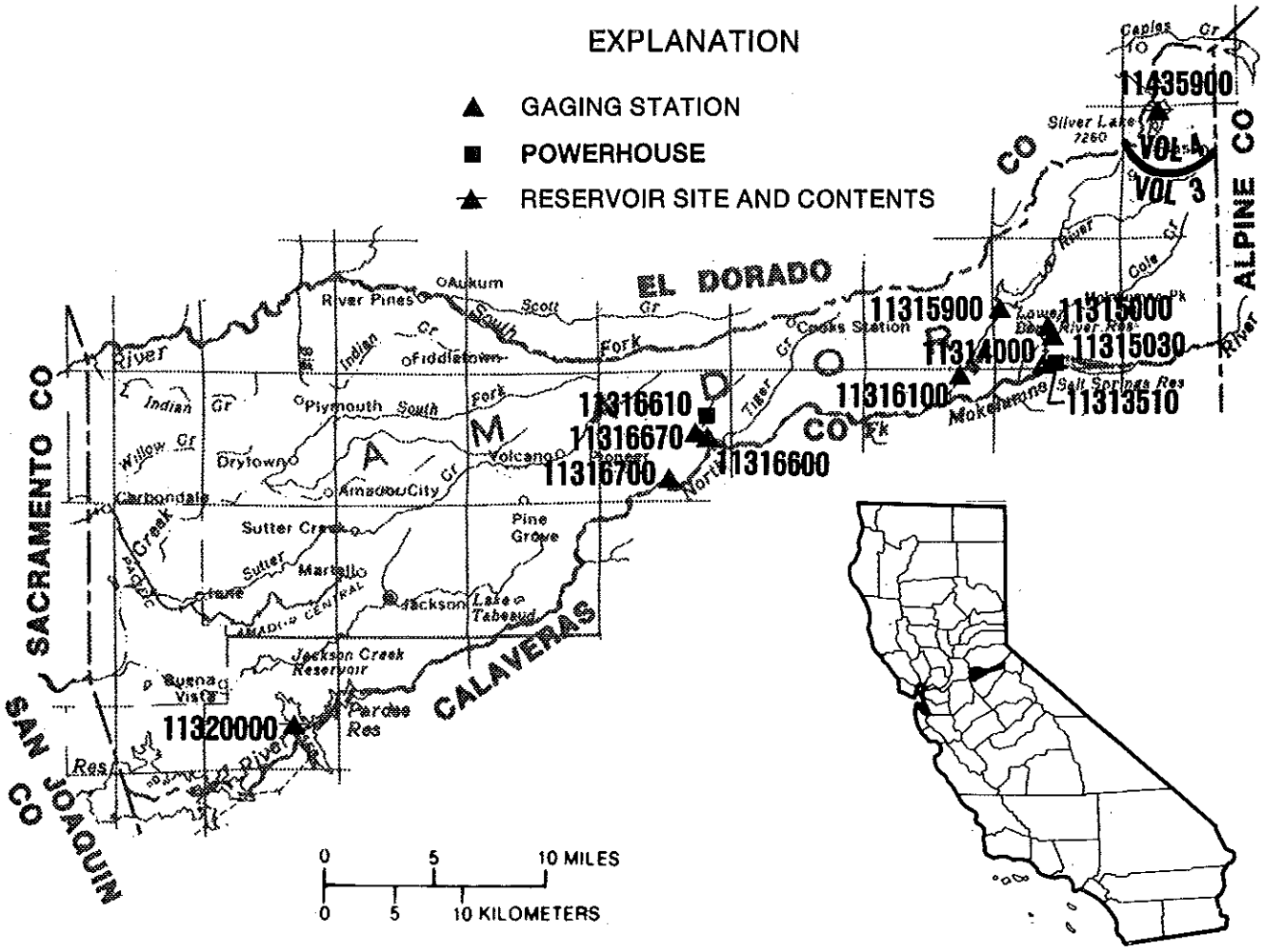

Figure 8. Location of discharge stations in Amador County.
(NOTE: Record for station 11435900 published in volume 4.)

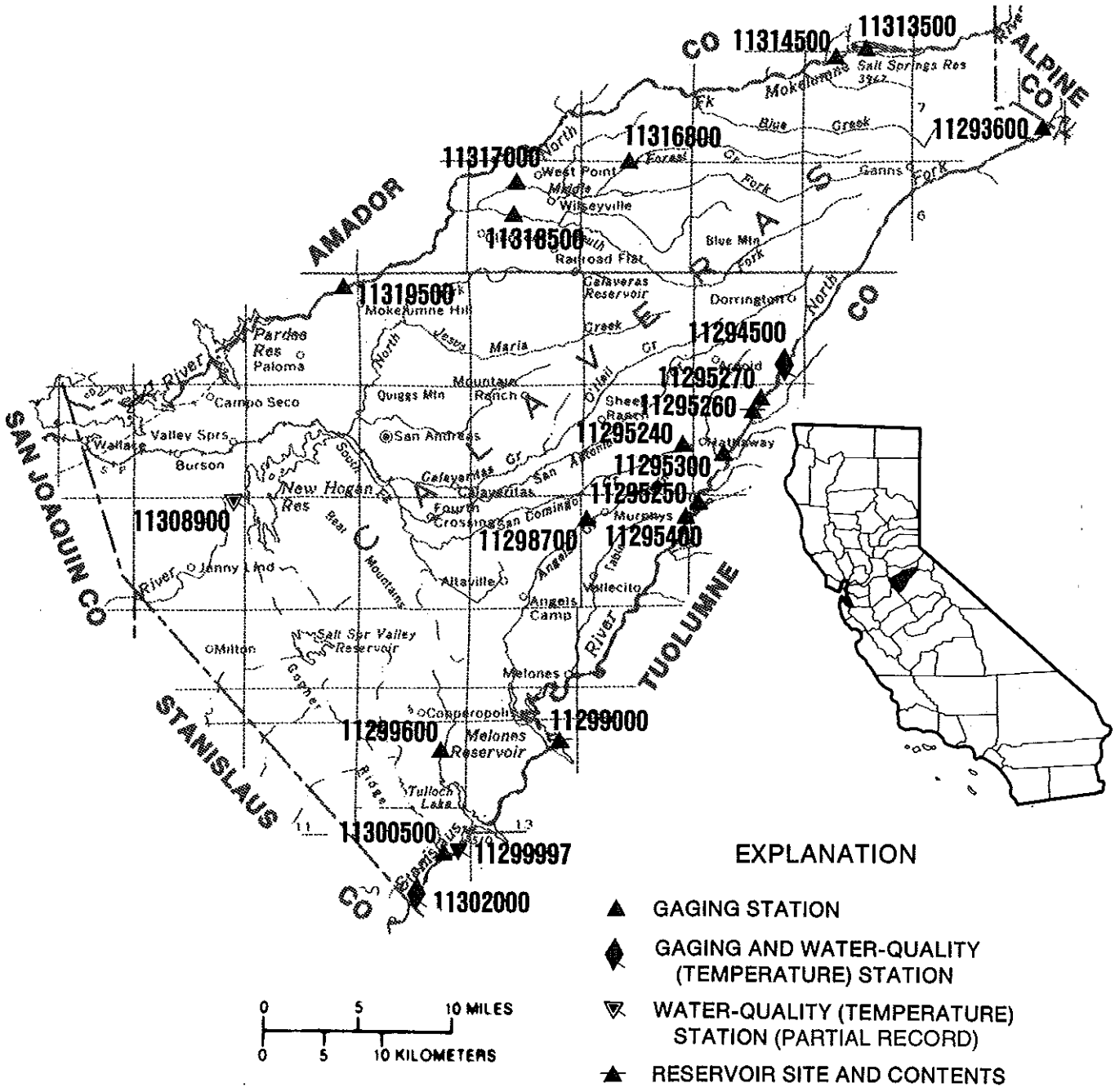

Figure 9. Location of discharge and water-quality stations in Calaveras County.

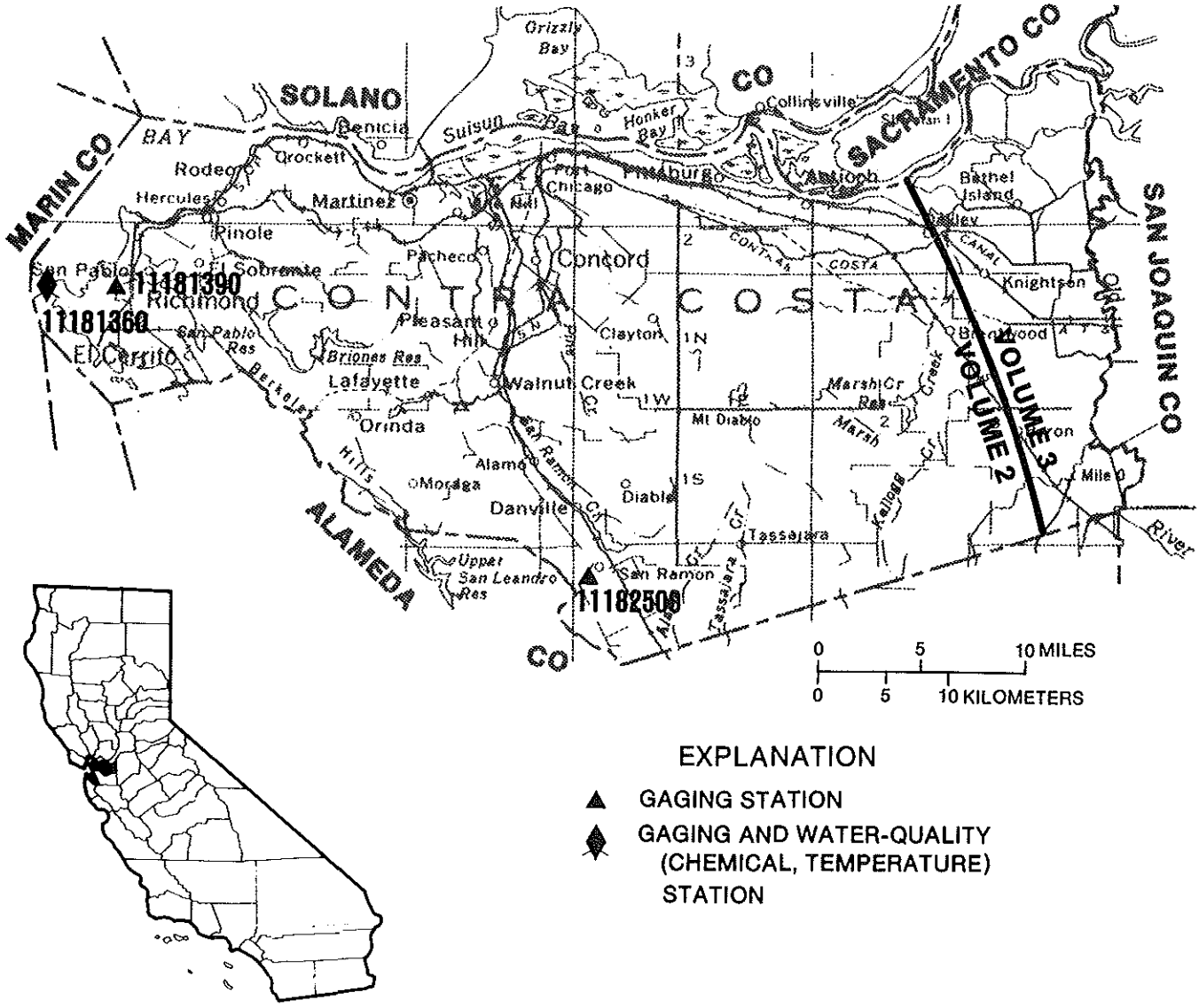

Figure 10. Location of discharge and water-quality stations in Contra Costa County. (NOTE: Records for stations 11181360 through 11182500 published in volume 2.)

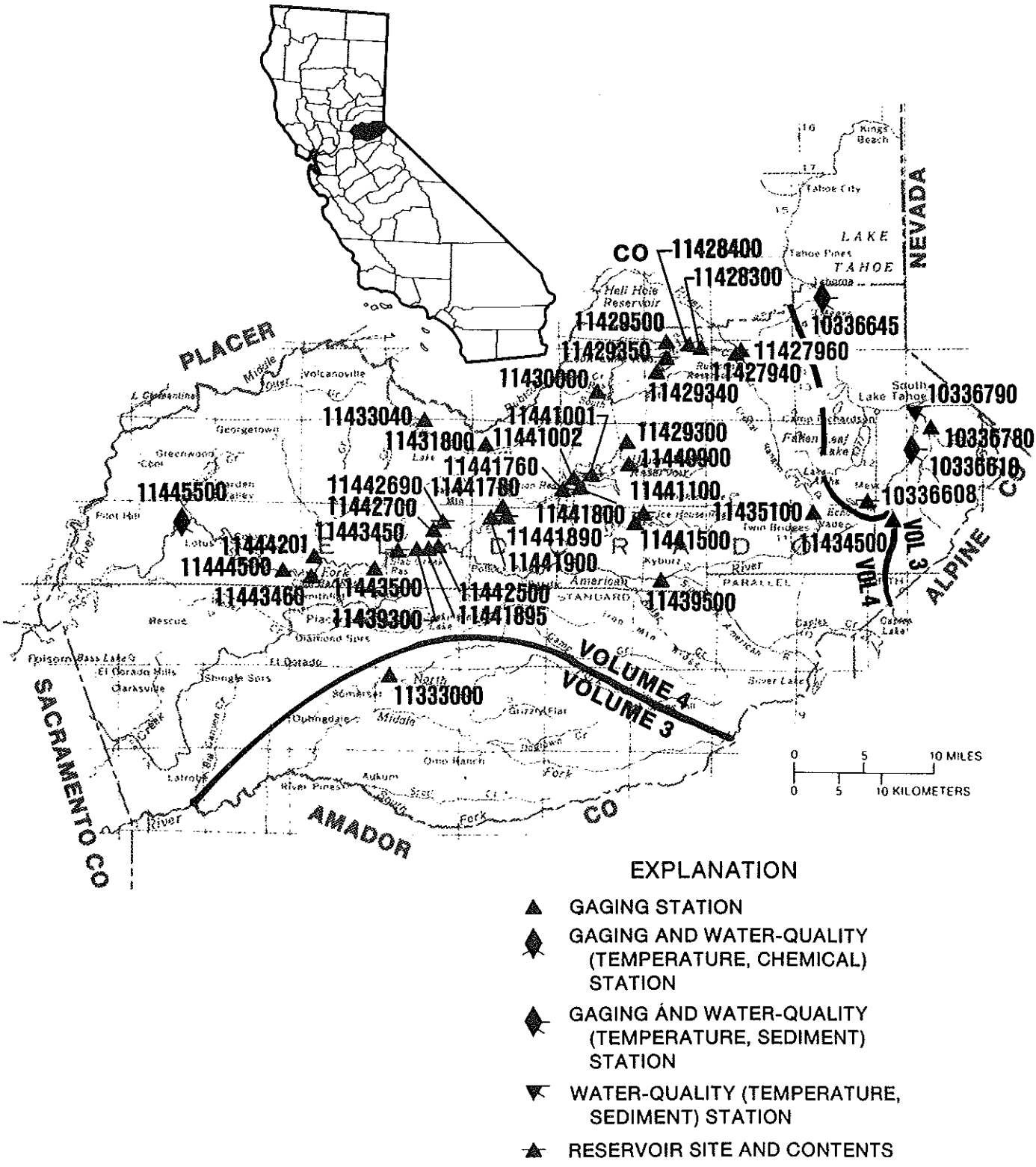

Figure 11. Location of discharge and water-quality stations in El Dorado County. (NOTE: Records for stations 11427940 through 11445500 published in volume 4.)

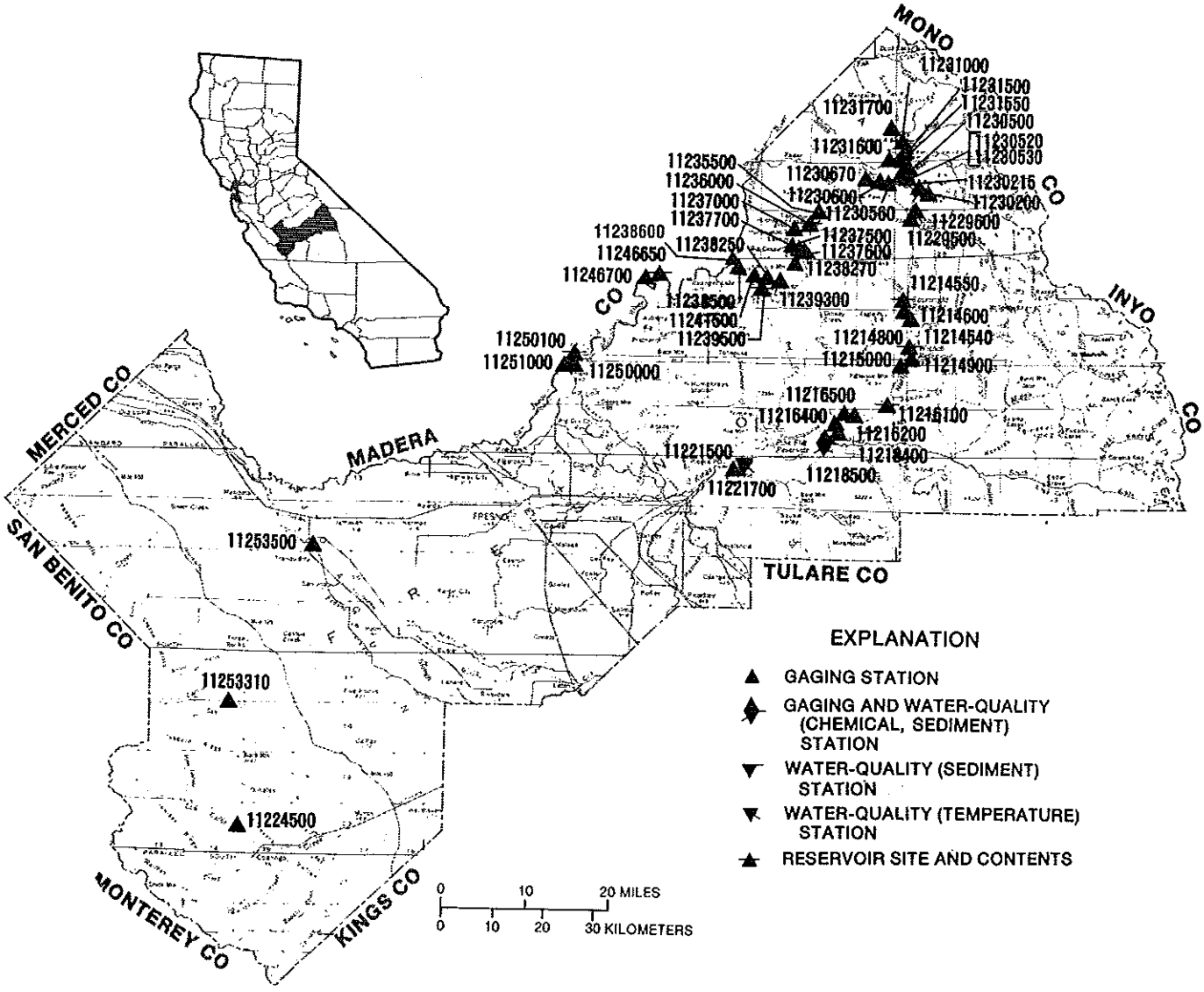

Figure 12. Location of discharge and water-quality stations in Fresno County.

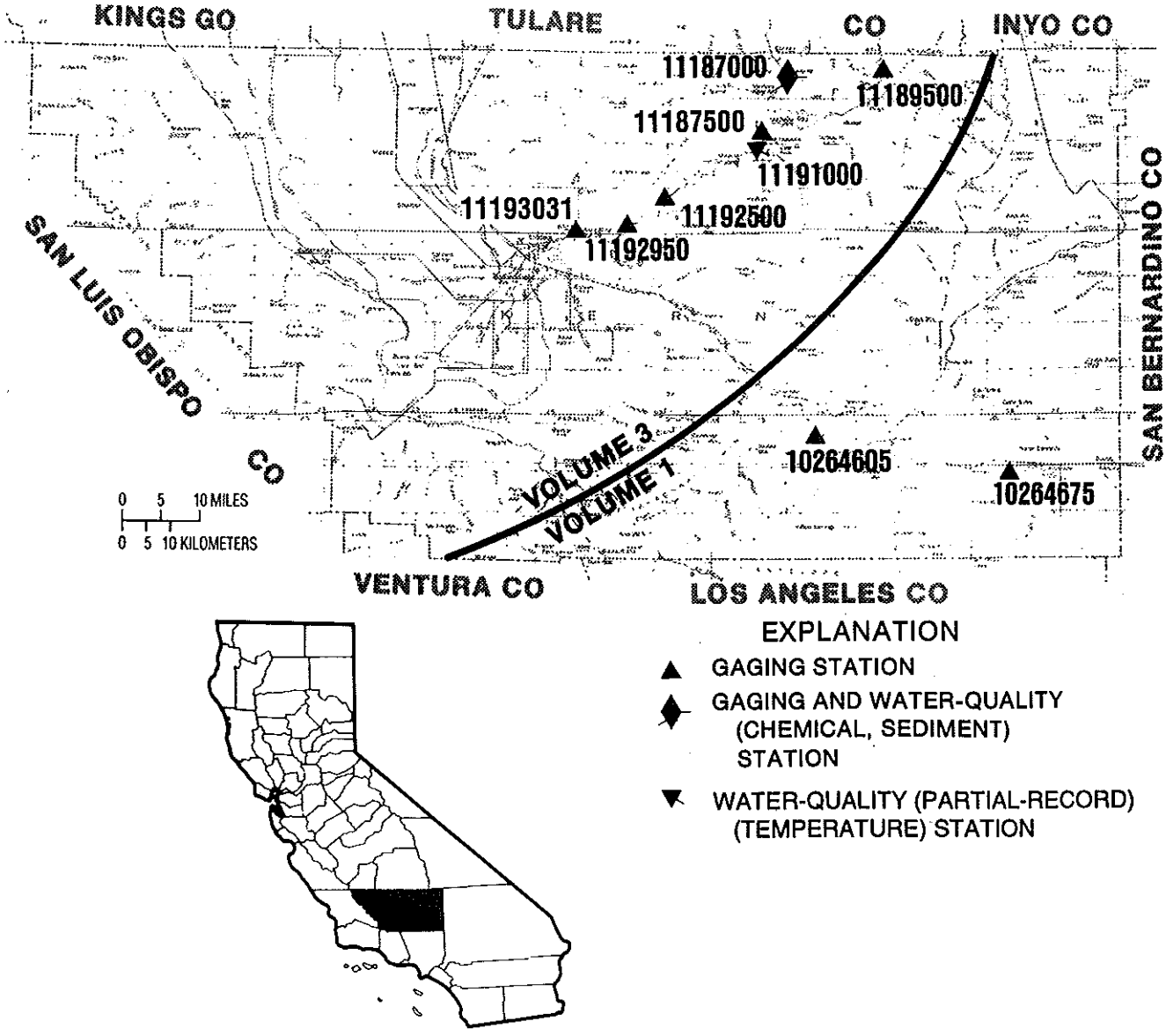

Figure 13. Location of discharge and water-quality stations in Kern County. (NOTE: Records for stations 10264605 and 10264675 published in volume 1.)

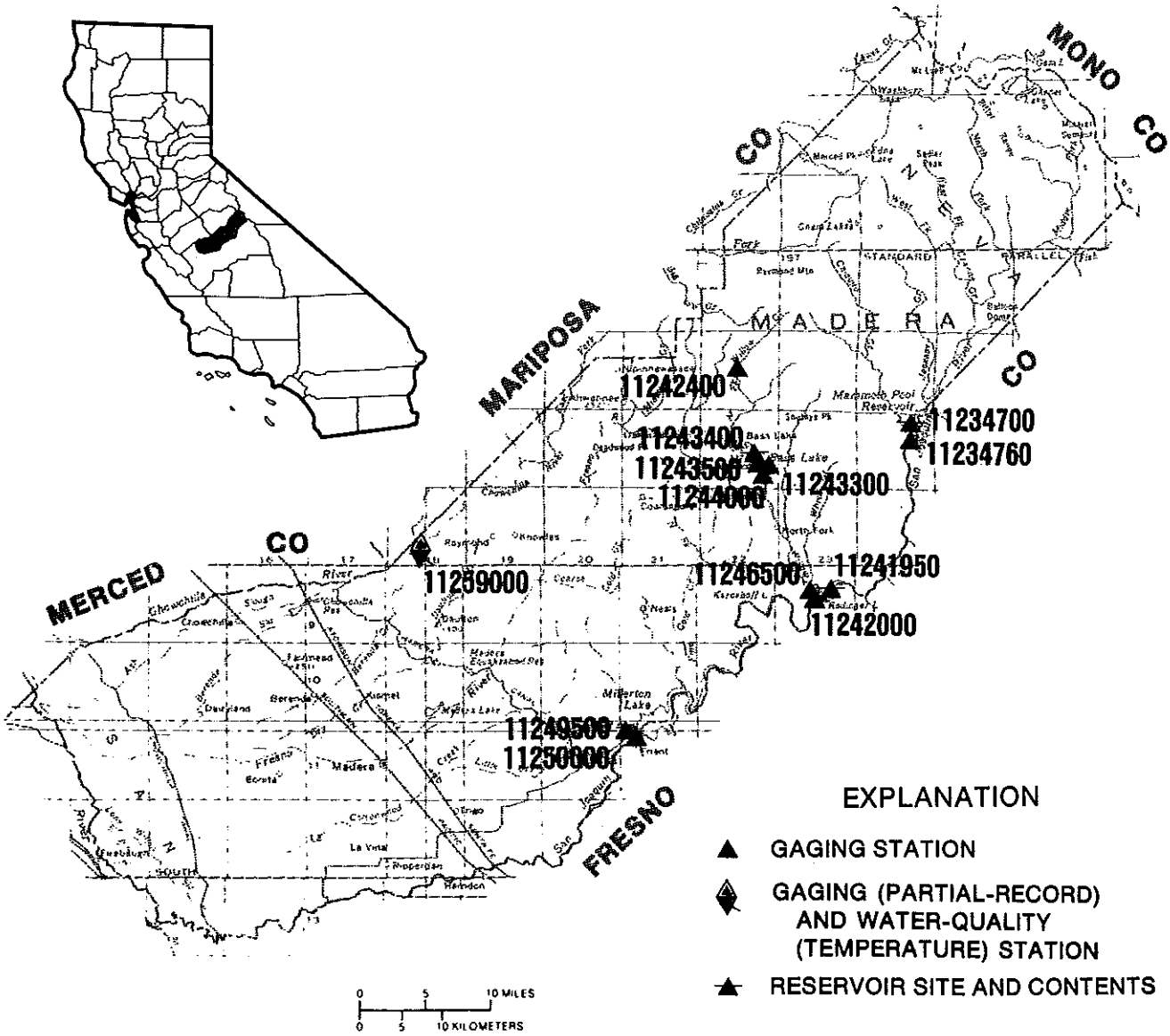

Figure 14. Location of discharge and water-quality stations in Madera County.

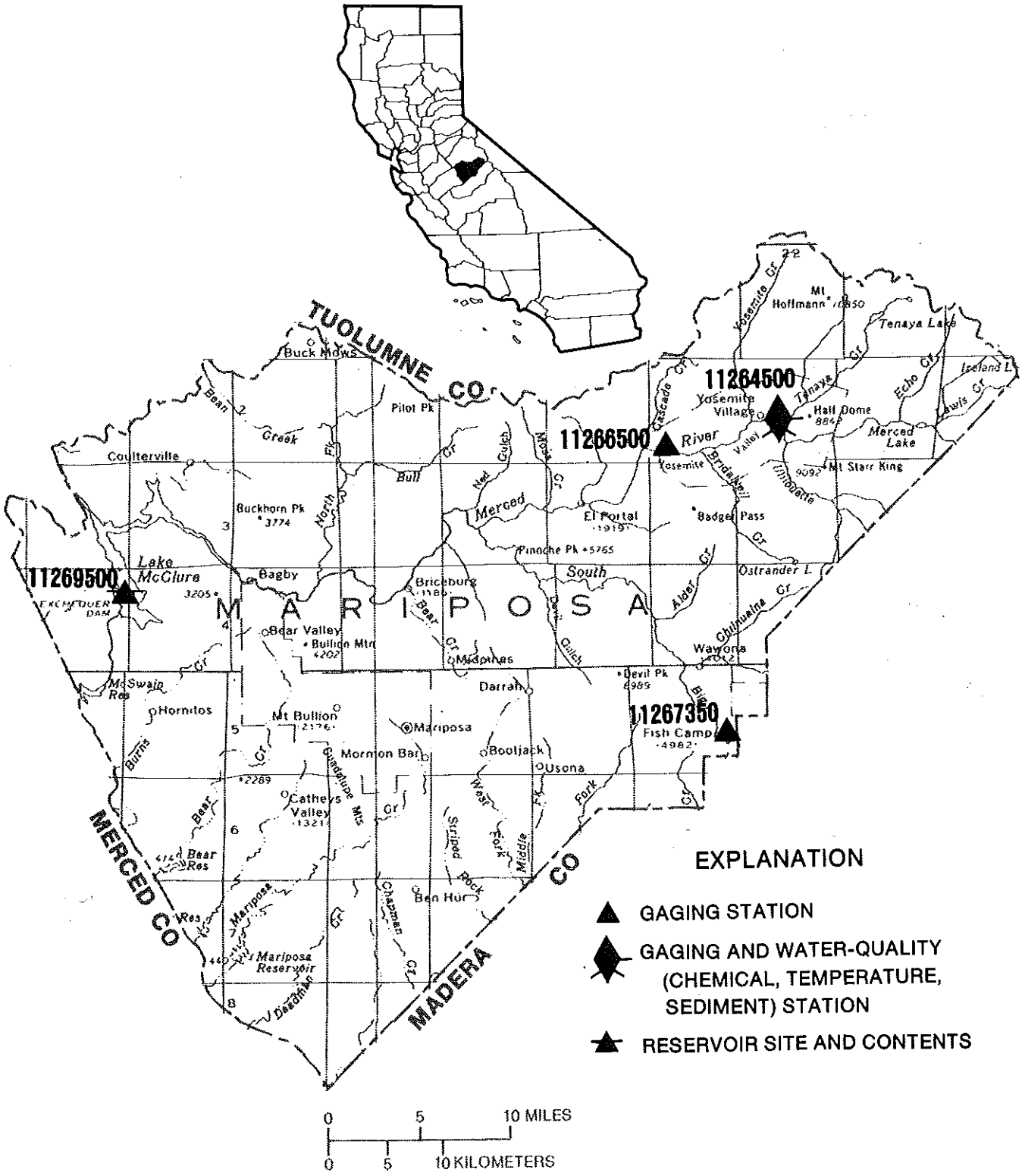

Figure 15. Location of discharge and water-quality stations in Mariposa County.

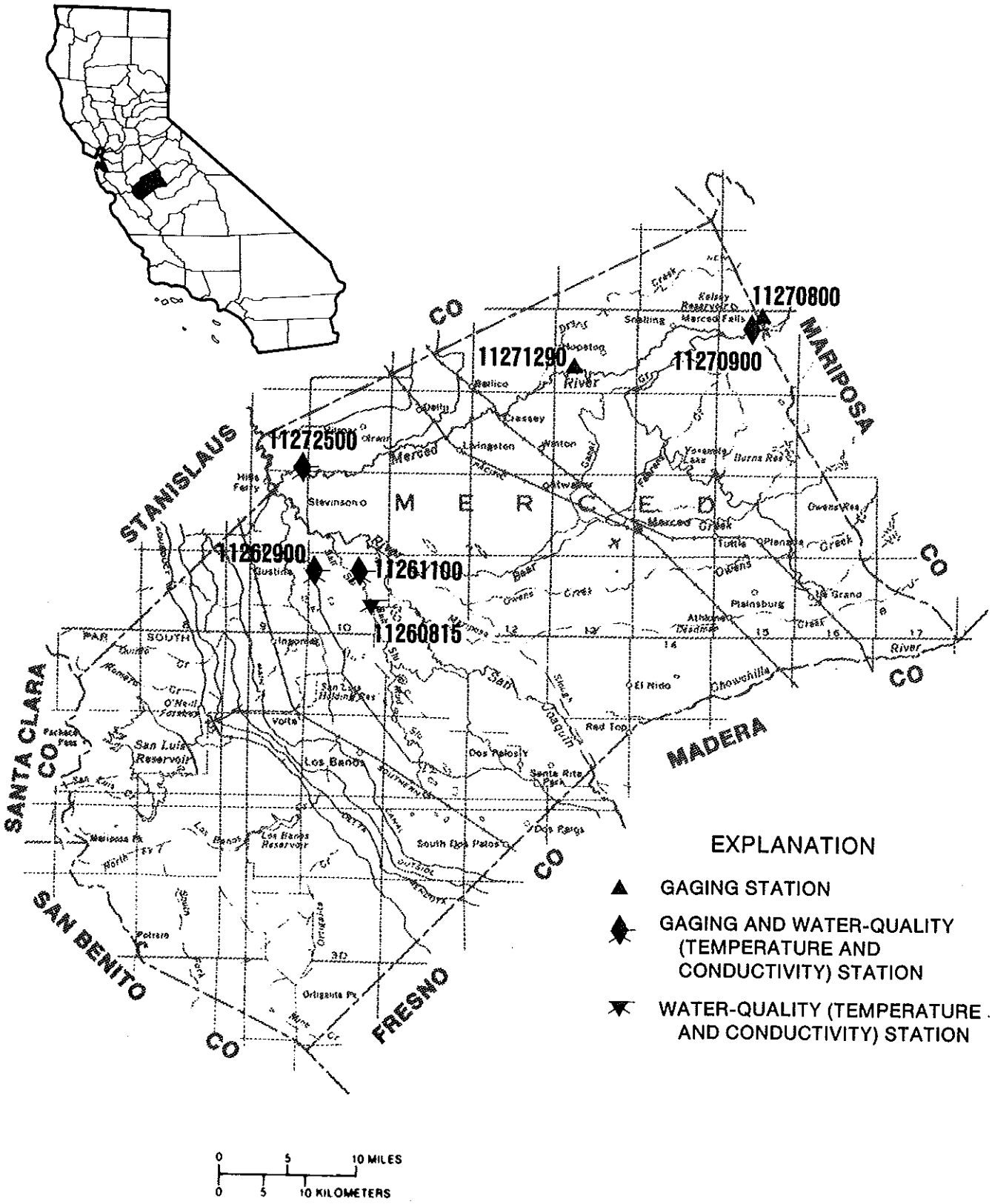

Figure 16. Location of discharge and water-quality stations in Merced County.

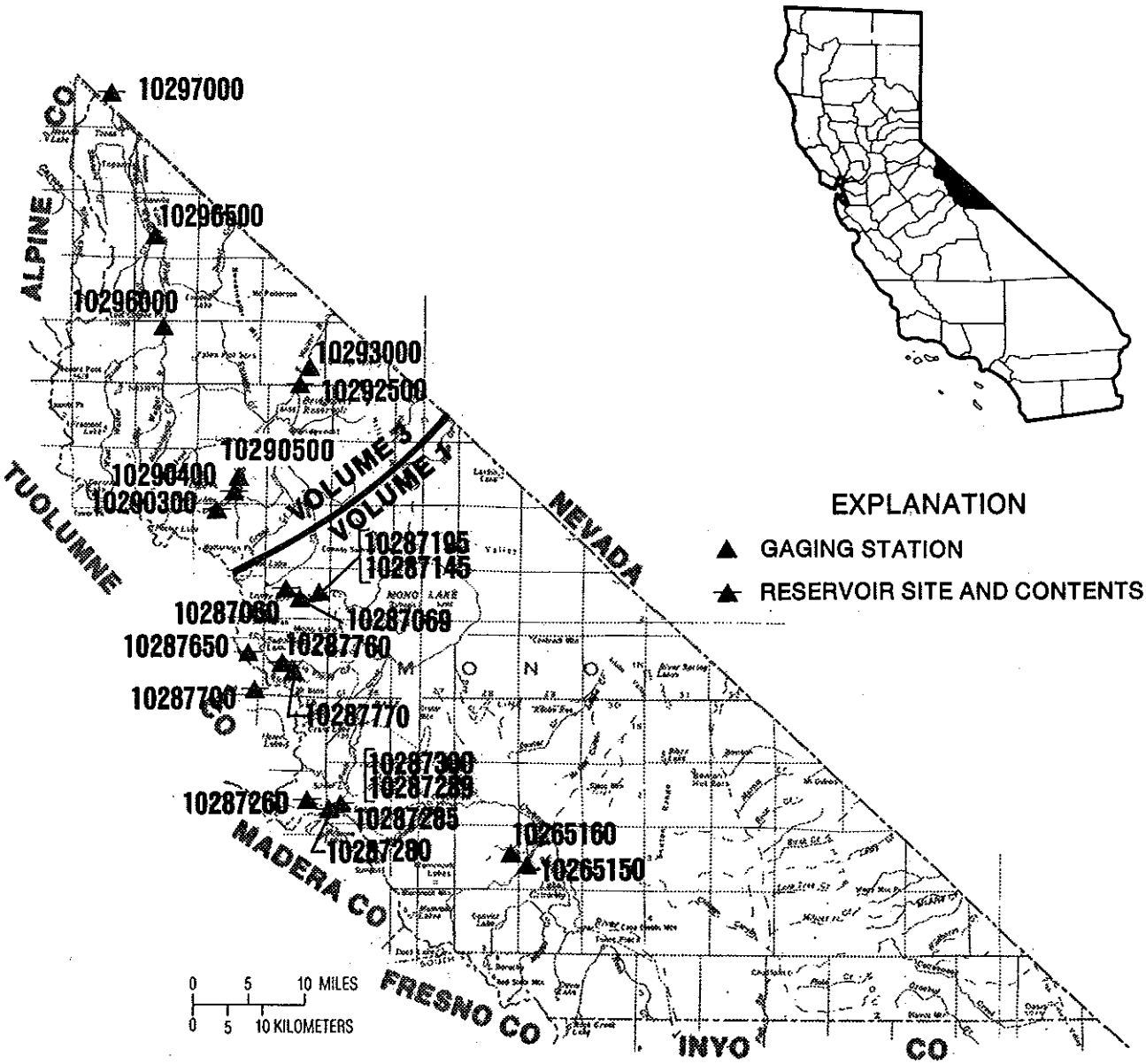

Figure 17. Location of discharge stations in Mono County. (NOTE: Records for stations 10265150 through 10287770 published in volume 1.)

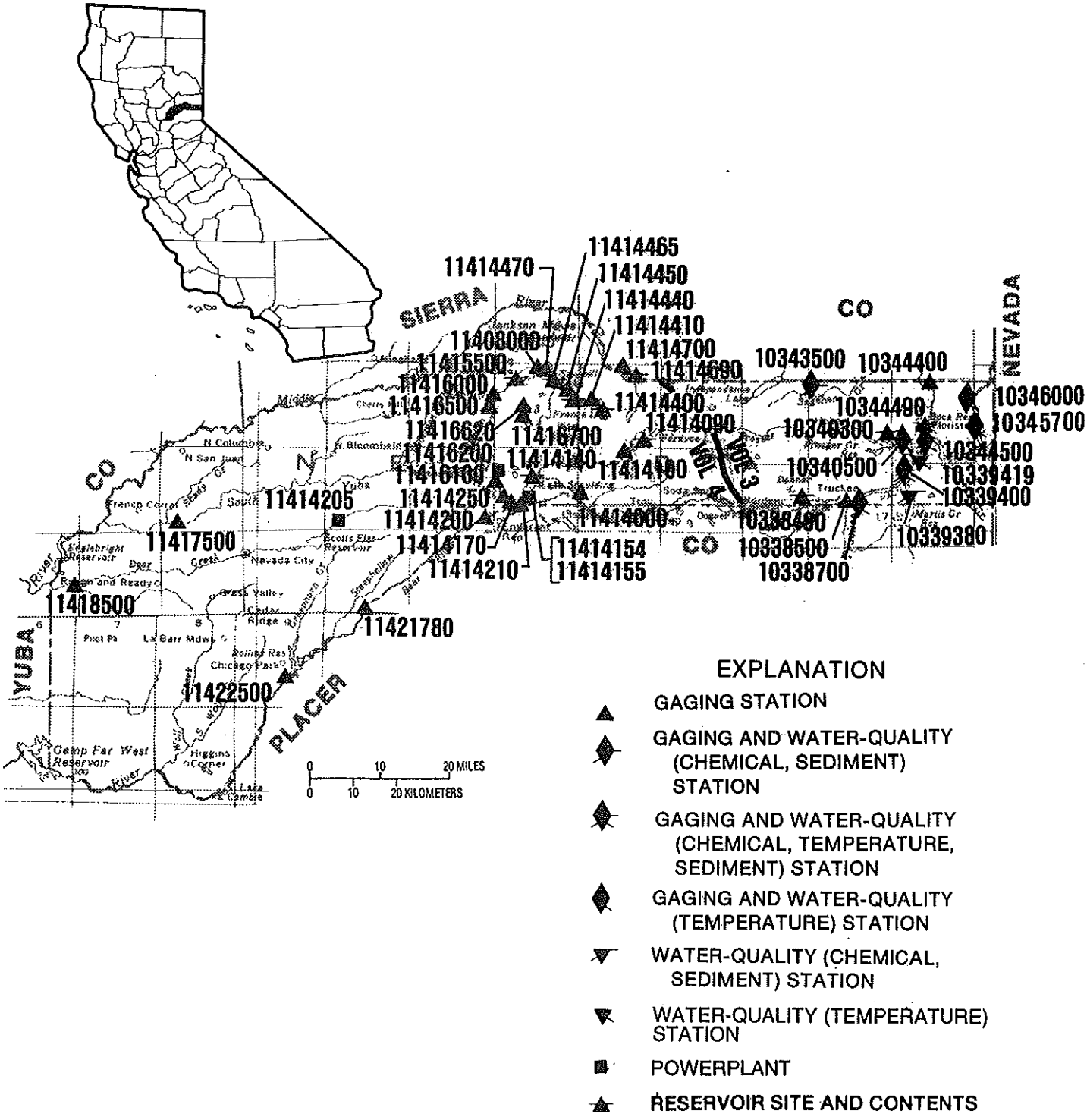

Figure 18. Location of discharge and water-quality stations in Nevada County. (NOTE: Records for stations 11408000 through 11422500 published in volume 4.)

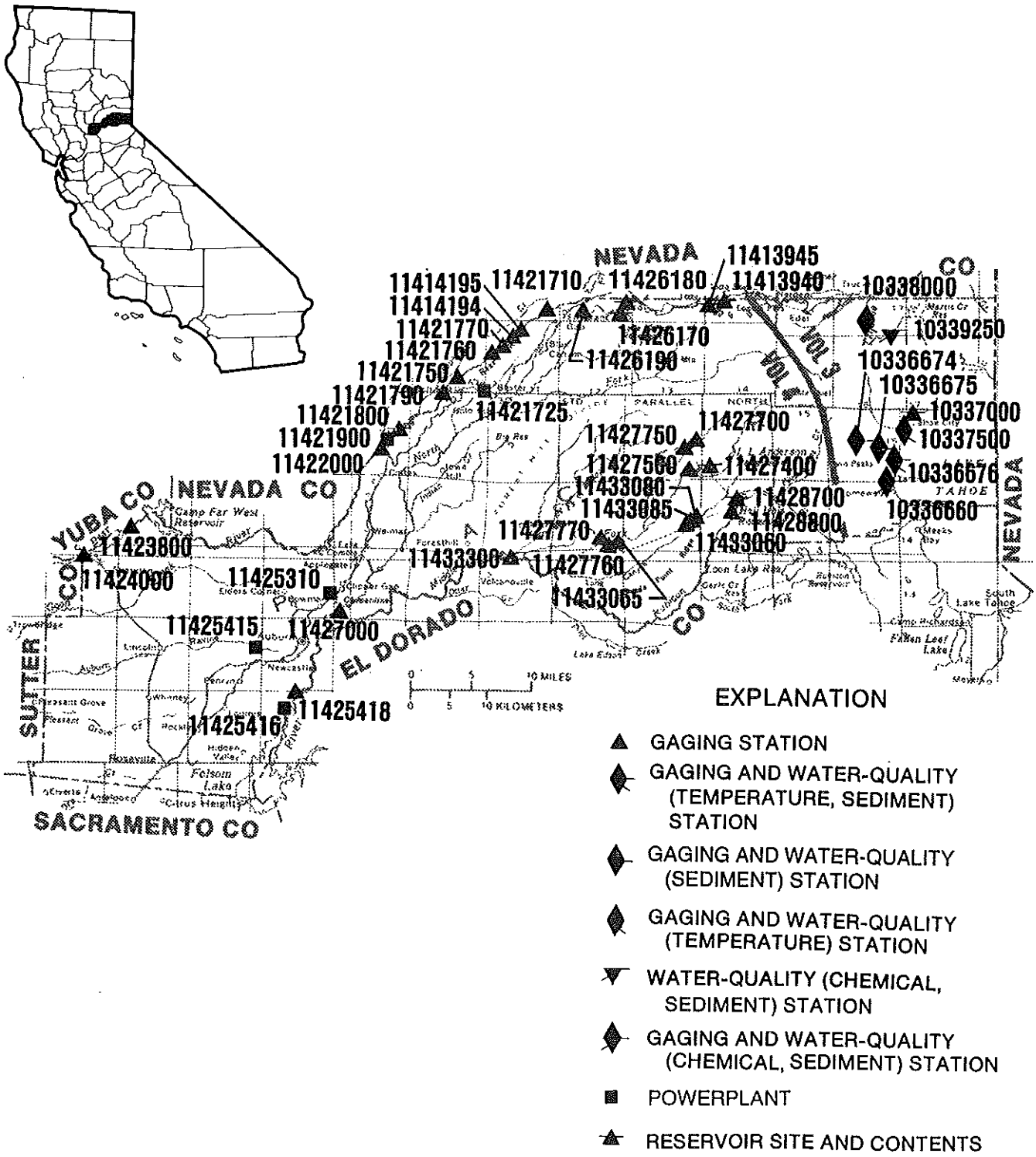

Figure 19. Location of discharge and water-quality stations in Placer County. (NOTE: Records for stations 11413940 through 11433300 published in volume 4.)

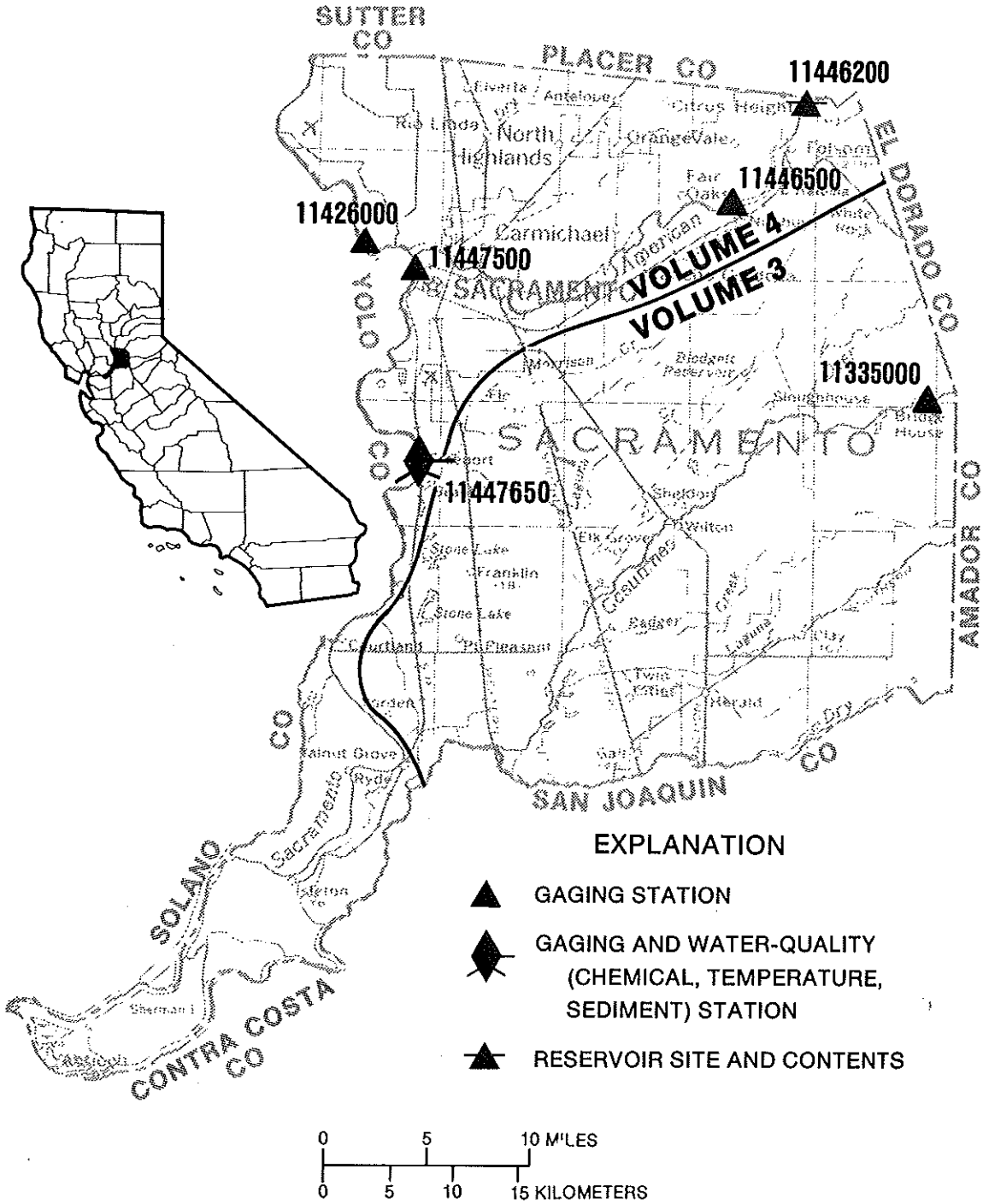

Figure 20. Location of discharge and water-quality stations in Sacramento County. (NOTE: Records for stations 11426000 through 11447650 published in volume 4.)

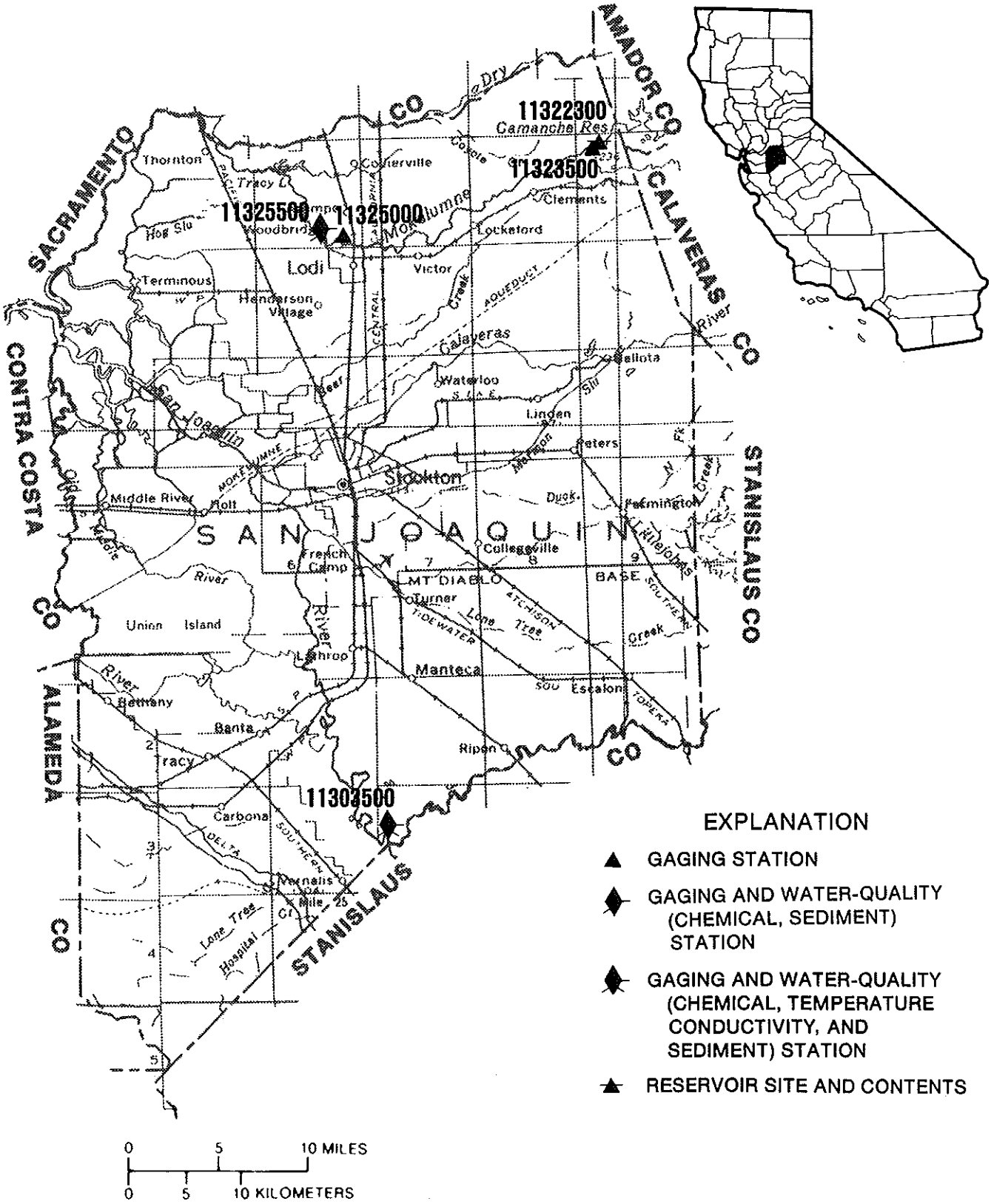

Figure 21. Location of discharge and water-quality stations in San Joaquin County.

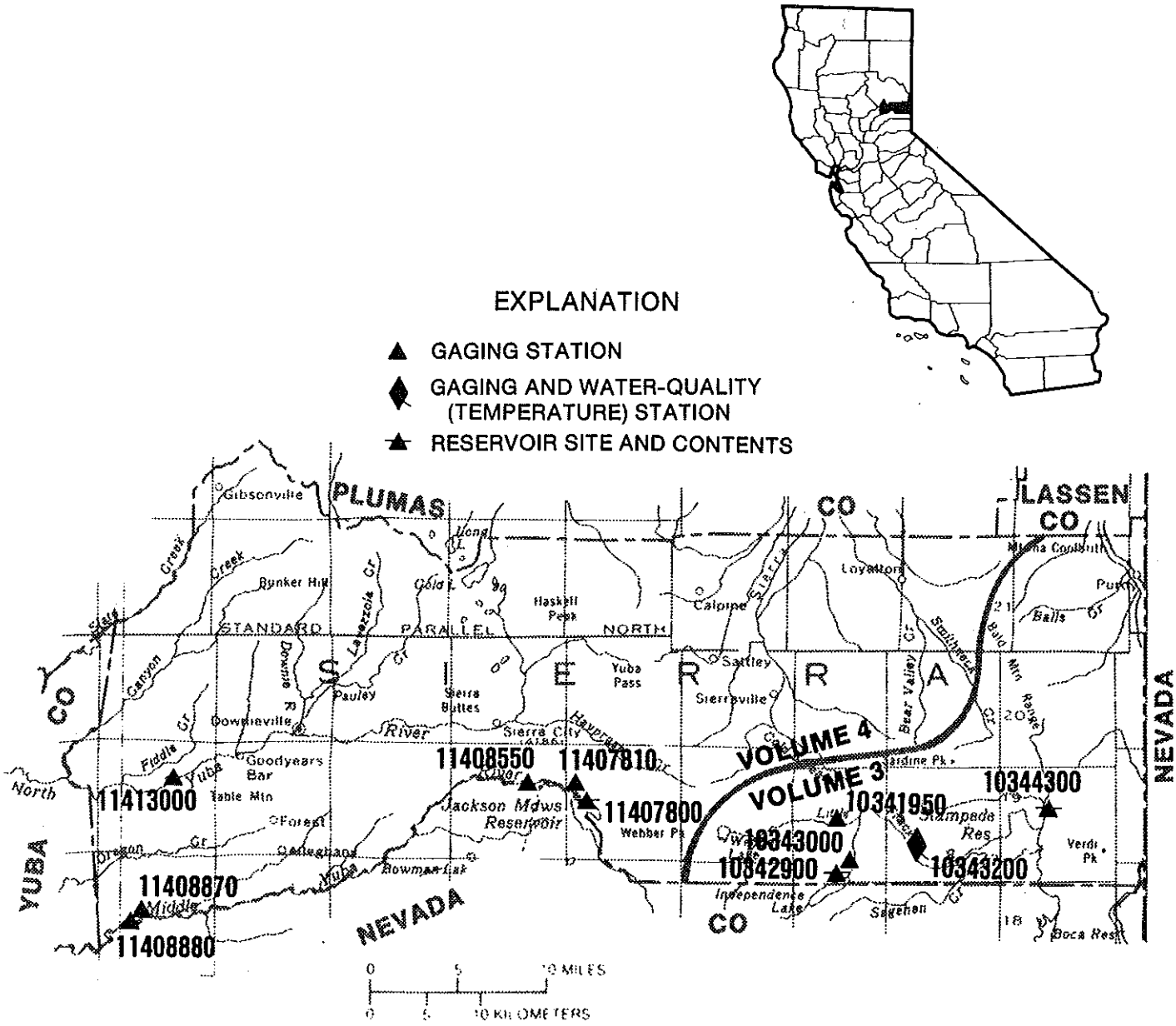

Figure 22. Location of discharge and water-quality stations in Sierra County. (NOTE: Records for stations 11407800 through 11413000 published in volume 4.)

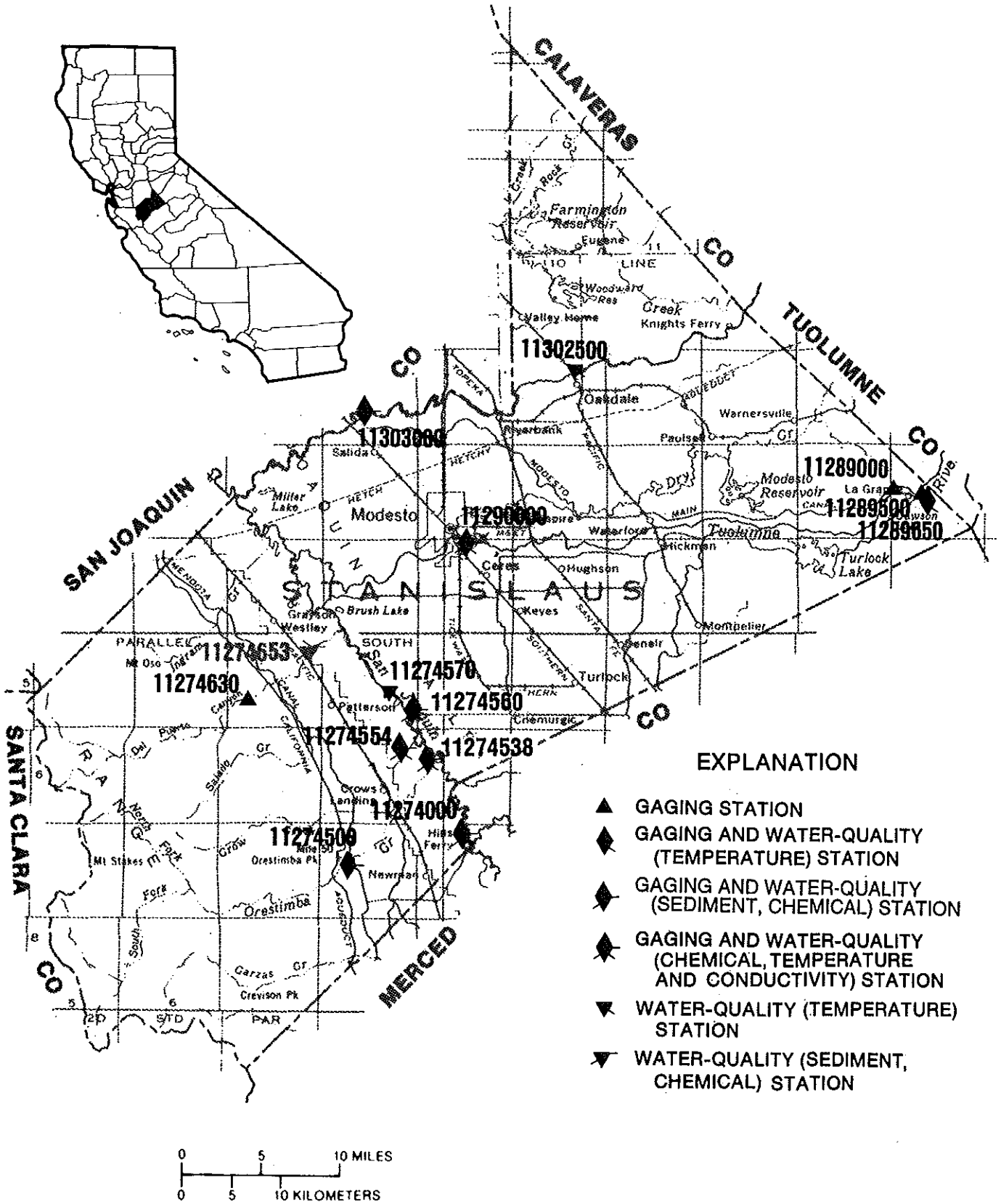

Figure 23. Location of discharge and water-quality stations in Stanislaus County.

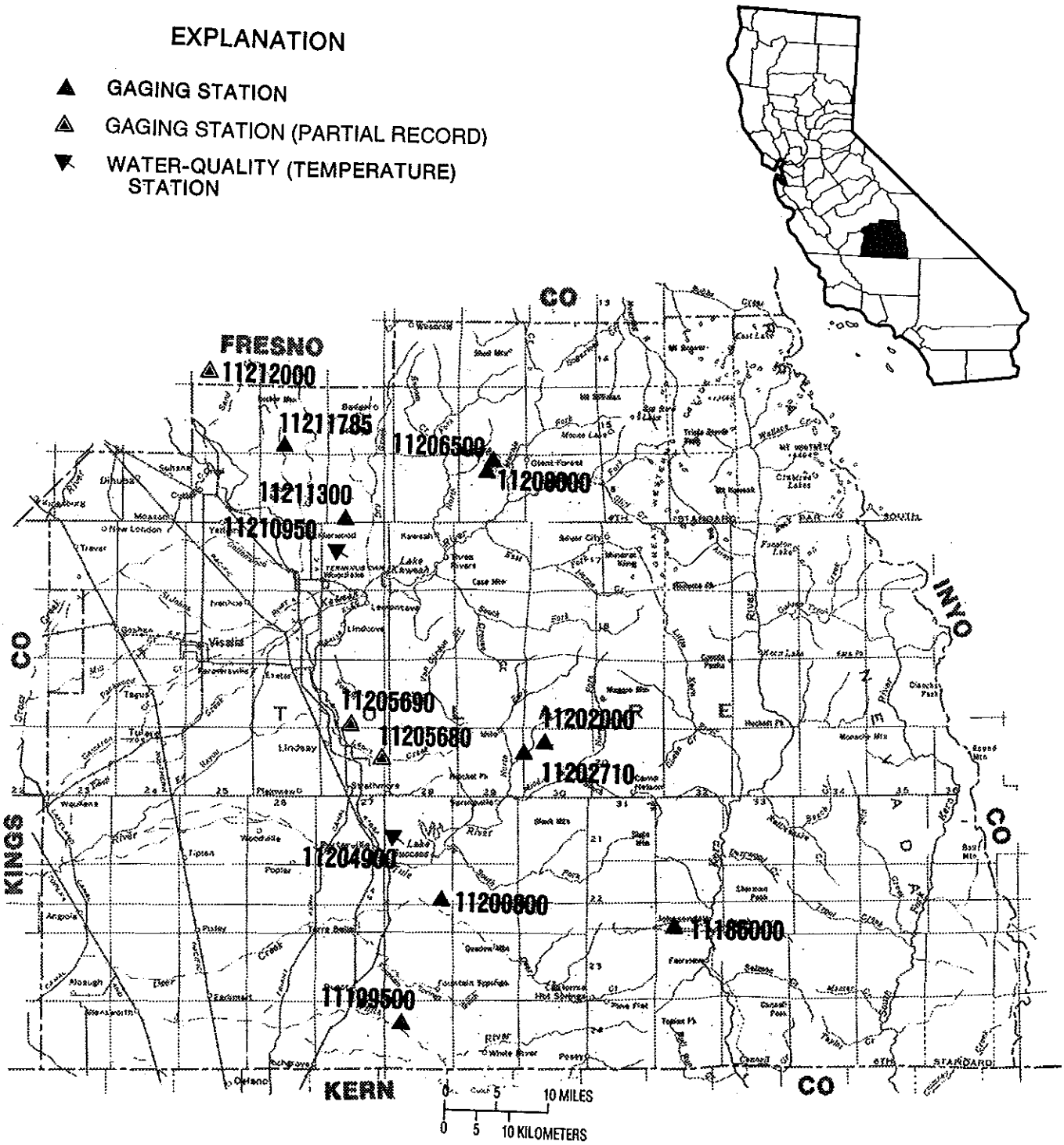

Figure 24. Location of discharge and water-quality stations in Tulare County.

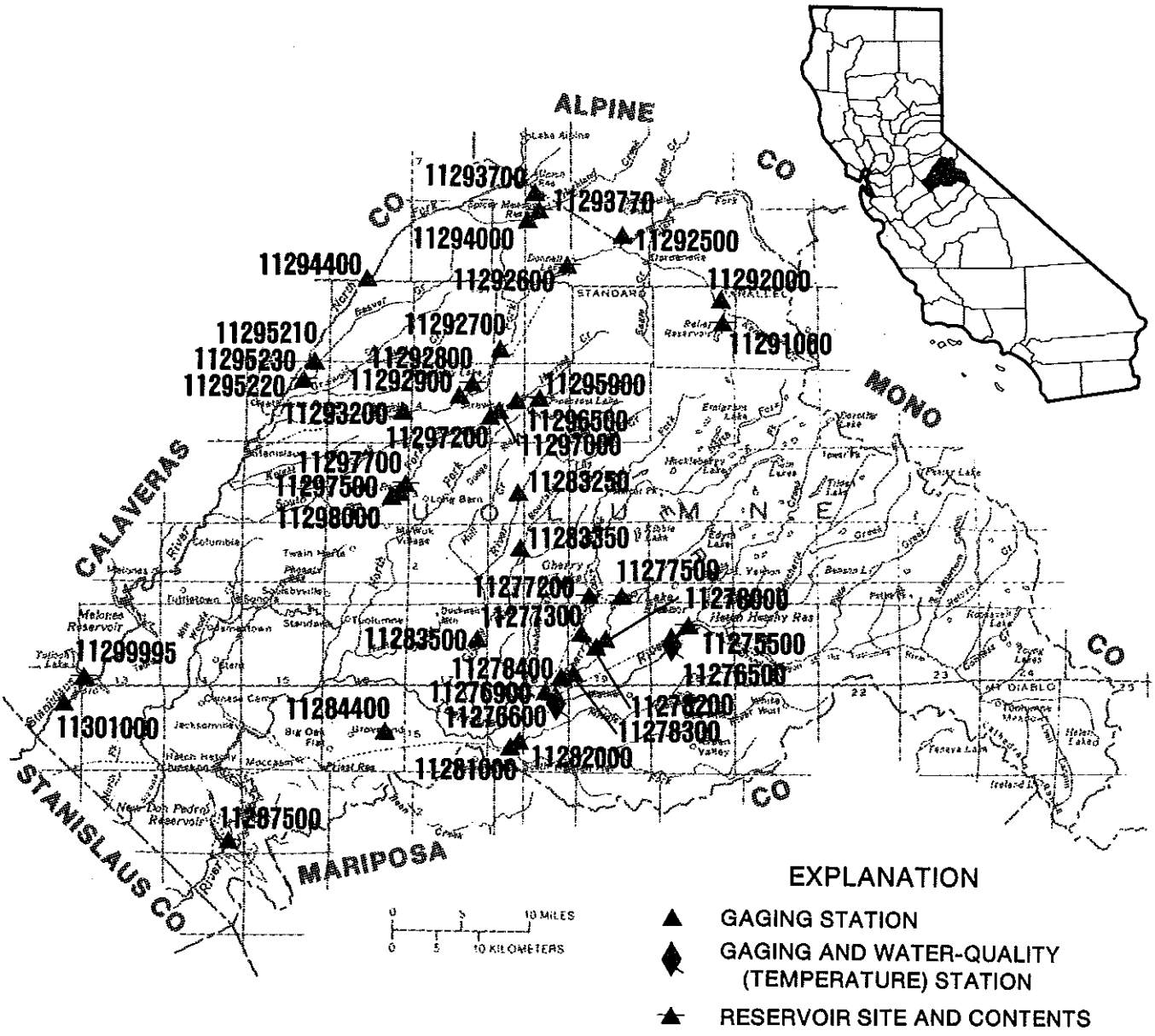

Figure 25. Location of discharge and water-quality stations in Tuolumne County.

GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUT	REMARK
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)
ND	Not detected
&	Biological organism estimated as dominant
*	Instantaneous streamflow at the time of cross-sectional measurement
1	Laboratory value
A	Samples collected by another agency

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

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

where:

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

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

10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°09'15", long 119°20'58", in NW 1/4 NE 1/4 sec.5, T.3 N., R.24 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, at outlet of upper lake dam on Robinson Creek, and 10 mi southwest of Bridgeport.

DRAINAGE AREA.--29.5 mi^2.

PERIOD OF RECORD.--December 1961 to February 1964, September 1964 to current year.

GAGE.--Non-recording gage. Datum of gage is 7,212.86 ft above sea level (project datum of U.S. Indian Irrigation Service).

REMARKS.--Contents regulated by dam at outlet. Figures given herein represent usable contents. Usable contents, 2,070 acre-ft between elevations 7,200 ft, natural rim, and 7,207 ft, spillway crest.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,990 acre-ft, July 7, 1983, elevation, 7,209.85 ft; minimum observed, 30 acre-ft, Nov. 1, 1990, elevation, 7,200.11 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--No contents observed Oct. 17, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,820 acre-ft, June 29, elevation, 7,209.35 ft; minimum observed, 232 acre-ft, Oct. 28, elevation, 7,200.83 ft.

MONTHEND ELEVATION AND CONTENTS, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,200.87	243	--
Oct. 31	7,200.87	243	0
Nov. 30	7,200.97	271	+28
Dec. 31	7,202.71	759	+488
CAL YR 1992	--	--	-281
Jan. 31	7,204.95	1,420	+661
Feb. 28	7,206.08	1,780	+360
Mar. 31	7,207.30	2,170	+390
Apr. 30	7,207.99	2,390	+220
May 31	7,209.13	2,750	+360
June 30	7,209.30	2,810	+60
July 31	7,208.66	2,600	-210
Aug. 31	7,207.90	2,360	-240
Sept. 30	7,207.08	2,100	-260
WTR YR 1993	--	--	+1857

NOTE: Monthend elevations and contents are interpolated from readings made during the year.

10290400 LOWER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°10'05", long 119°19'33", in NE 1/4 NE 1/4 sec.33, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, at outlet of Lower Lake Dam on Robinson Creek, and 8 mi southwest of Bridgeport.

DRAINAGE AREA.--38.9 mi^2.

PERIOD OF RECORD.--December 1961 to current year.

GAGE.--Non-recording gage. Datum of gage is 7,205.45 ft above sea level (project datum of U.S. Indian Irrigation Service).

REMARKS.--Contents regulated by dam at outlet and by Upper Twin Lake. Figures given herein represent usable contents. Usable contents, 4,010 acre-ft between elevations 7,190 ft, natural rim, and 7,200 ft, spillway crest. One transarea diversion out of Tamarack Creek into Summers Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,560 acre-ft, June 19, 1983, elevation, 7,203.58 ft; no contents, Nov. 17, 1966.

EXTREMES FOR CURRENT YEAR--Maximum contents observed, 4,970 acre-ft, June 29, elevation, 7,202.25 ft; minimum observed, 1,180 acre-ft, Oct. 1, elevation 7,192.95 ft.

MONTHEND ELEVATION AND CONTENTS, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,192.95	1,180	--
Oct. 31	7,193.22	1,290	+110
Nov. 30	7,193.90	1,560	+270
Dec. 31	7,194.48	1,790	+230
CAL YR 1992	--	--	+540
Jan. 31	7,195.44	2,180	+390
Feb. 28	7,196.86	2,740	+560
Mar. 31	7,198.39	3,360	+620
Apr. 30	7,199.39	3,760	+400
May 31	7,201.64	4,700	+940
June 30	7,202.20	4,950	+250
July 31	7,201.22	4,520	-430
Aug. 31	7,198.98	3,590	-930
Sept. 30	7,196.70	2,680	-910
WTR YR 1993	--	--	+1,500

NOTE: Monthend elevations and contents are interpolated from readings made during the year.

10290500 ROBINSON CREEK AT TWIN LAKES OUTLET, NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°10'20", long 119°19'25", in SE 1/4 SE 1/4 sec.28, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, on left bank, 0.2 mi downstream from Lower Twin Lake, and 8 mi southwest of Bridgeport.
DRAINAGE AREA.--39.1 mi^2.
PERIOD OF RECORD.--October 1953 to September 1975, May 1992 to current year (irrigation season only).
GAGE.--Water-stage recorder. Elevation of gage is 7,050 ft above sea level, from topographic map.
REMARKS.--Records good. Flow regulated by Upper and Lower Twin Lakes. No flow for many days in some years. Annual mean listed below represents average discharge for water years 1954-75.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known, 660 ft^3/s, June 21, 1911, gage height, 5.2 ft, at site 2.5 mi downstream.
EXTREMES FOR CURRENT YEAR.--Maximum discharge April-September, 308 ft^3/s, June 28, gage height, 3.64 ft; minimum daily, 1.3 ft^3/s, April 5, 6.
REVISIONS.--WSP 1927: Drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	2.5	74	161	261	141	78
2	---	---	---	---	---	---	2.5	74	166	253	138	77
3	---	---	---	---	---	---	3.1	74	159	254	138	77
4	---	---	---	---	---	---	1.7	78	153	253	137	76
5	---	---	---	---	---	---	1.3	83	154	249	137	75
6	---	---	---	---	---	---	1.3	83	152	247	136	77
7	---	---	---	---	---	---	7.5	83	144	252	132	77
8	---	---	---	---	---	---	13	83	134	255	127	76
9	---	---	---	---	---	---	13	83	127	253	119	75
10	---	---	---	---	---	---	18	83	125	244	113	75
11	---	---	---	---	---	---	17	83	129	233	105	74
12	---	---	---	---	---	---	17	84	140	222	101	72
13	---	---	---	---	---	---	17	85	153	214	95	72
14	---	---	---	---	---	---	18	91	166	202	91	70
15	---	---	---	---	---	---	17	96	186	189	87	68
16	---	---	---	---	---	---	21	97	210	175	80	58
17	---	---	---	---	---	---	26	97	226	162	77	49
18	---	---	---	---	---	---	24	100	231	150	75	45
19	---	---	---	---	---	---	27	120	233	141	74	38
20	---	---	---	---	---	---	35	150	250	134	74	31
21	---	---	---	---	---	---	35	176	272	131	73	25
22	---	---	---	---	---	---	47	192	273	128	73	19
23	---	---	---	---	---	---	53	198	257	127	73	17
24	---	---	---	---	---	---	52	204	243	132	72	16
25	---	---	---	---	---	---	52	214	237	140	72	16
26	---	---	---	---	---	---	55	220	243	150	72	16
27	---	---	---	---	---	---	58	210	268	159	72	16
28	---	---	---	---	---	---	58	196	298	160	71	16
29	---	---	---	---	---	---	60	170	301	156	71	16
30	---	---	---	---	---	---	67	147	283	150	78	16
31	---	---	---	---	---	---	---	148	---	145	79	---
TOTAL	---	---	---	---	---	---	819.9	3876	6074	5921	2983	1513
MEAN	---	---	---	---	---	---	27.3	125	202	191	96.2	50.4
MAX	---	---	---	---	---	---	67	220	301	261	141	78
MIN	---	---	---	---	---	---	1.3	74	125	127	71	16
AC-FT	---	---	---	---	---	---	1630	7690	12050	11740	5920	3000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1993, BY WATER YEAR (WY)

MEAN	20.8	7.61	4.93	9.51	13.1	14.3	47.0	102	183	155	96.1	51.1
MAX	37.5	25.0	21.9	39.0	63.4	25.5	79.4	187	349	337	144	89.0
(WY)	1970	1968	1968	1970	1963	1970	1959	1969	1969	1967	1969	1974
MIN	9.80	.67	.000	.000	.000	.000	22.3	59.1	68.2	62.0	35.1	15.9
(WY)	1956	1958	1954	1954	1954	1955	1975	1955	1992	1992	1992	1992

SUMMARY STATISTICS	WATER YEARS 1954 - 1993	
ANNUAL MEAN	60.0	
HIGHEST ANNUAL MEAN	99.5	1969
LOWEST ANNUAL MEAN	33.8	1961
HIGHEST DAILY MEAN	478	Jun 20 1963
LOWEST DAILY MEAN	.00	Nov 3 1953
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 3 1953
INSTANTANEOUS PEAK FLOW	492	Jun 20 1963
INSTANTANEOUS PEAK STAGE	4.62	Jun 6 1969
ANNUAL RUNOFF (AC-FT)	43460	
10 PERCENT EXCEEDS	152	
50 PERCENT EXCEEDS	27	
90 PERCENT EXCEEDS	.20	

10292500 BRIDGEPORT RESERVOIR NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'30", long 119°12'40", in SE 1/4 NE 1/4 sec.34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, at Bridgeport Dam on East Walker River, and 4.5 mi north of Bridgeport.

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--March 1926 to current year. Monthend contents only for some periods, published in WSP 1314.

REVISED RECORDS.--WSP 1180: 1949. WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,466.44 ft above sea level (project datum).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1923. Dam completed in November 1924. Capacity, 42,460 acre-ft between elevations 6,415 ft, approximate elevation of bottom of reservoir, and 6,461 ft, crest of spillway is at elevation 6,460.75 ft; however, there are four siphons that become operative prior to reaching this spillway. Elevation of sill of outlet gate, 6,412 ft. No dead storage. Figures given herein represent total contents. Water is used for irrigation by Walker River Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,880 acre-ft, June 16, 1974, elevation 6,460.78 ft; no contents at times in water years 1929, 1930, 1960, 1977, 1988, and 1989.

EXTREMES FOR CURRENT YEAR.--Maximum recorded contents, 33,910 acre-ft, July 13, elevation, 6,456.92 ft; minimum 1,120 acre-feet, Oct. 8, elevation, 6,429.97 ft.

Capacity table, (elevation, in feet, and contents, in acre-feet)

6,425	334	6,440	6,240
6,430	1,130	6,445	11,380
6,435	2,920	6,450	18,780

RESERVOIR STORAGE (ACRE-FEET) WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
INSTANTANEOUS OBSERVATIONS AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1290	2050	2870	4600	6510	17660	13770	17160	30030	31400	19660
2	1380	1310	2090	e2900	4650	6590	17870	13790	17420	30340	31160	19480
3	1320	1340	2110	e2950	4720	6690	18060	13750	17730	30850	30920	19300
4	1260	1370	2140	2980	4780	6760	18130	13650	18070	31230	30610	19020
5	1210	1410	2120	3020	4850	6820	18130	13540	18470	31650	30270	18710
6	1160	1430	2130	3080	4910	6930	18130	13350	18930	32030	30080	18450
7	1130	1470	2160	3150	4980	7010	18130	13110	19220	32410	29810	18210
8	1130	1490	2190	3200	5060	7110	18210	12900	19530	32740	29570	18010
9	1140	1500	2270	3220	5130	7210	18160	12710	19900	33040	29230	17830
10	1150	1510	2360	3260	5210	7300	18060	12580	20230	33350	28810	17640
11	1170	1530	2410	e3290	5280	7420	17800	12490	20600	33450	28520	17390
12	1180	1550	2420	3340	5330	7530	17700	12270	20970	33530	28150	17130
13	1190	1580	2460	3390	5380	7710	17490	12020	21380	33580	27570	16850
14	1190	1620	2480	3430	5430	7890	17270	11840	21780	33420	27070	16650
15	1190	1650	2510	3490	5500	8130	16950	11730	22110	33300	26420	16380
16	1180	1690	2540	3540	5550	8410	16760	11670	22420	33250	25960	16120
17	1180	1720	2540	3600	5610	8960	16440	11730	22850	33170	25410	15950
18	1170	1740	2560	3640	5670	9560	16150	11890	23310	32970	24970	15790
19	1160	1760	2580	3700	5800	10190	15900	12140	23700	32760	24600	15630
20	1160	1780	2610	3760	5840	10860	15610	12430	24240	32510	24240	15370
21	1150	1800	2640	3850	5860	11540	15310	12700	24970	32310	23890	15140
22	1140	1840	2660	3940	5940	12380	15060	13040	25560	32180	23520	14950
23	1140	1860	2680	4000	6060	13210	14820	13450	26050	32050	23120	14690
24	1140	1860	2700	4080	6140	14180	14570	13920	26530	32130	22640	14400
25	1150	1900	2710	4150	6190	14850	14430	14450	27000	32080	22150	14150
26	1150	1940	2730	4220	6260	15370	14200	15000	27500	32080	21720	13950
27	1160	1980	2760	4300	6350	15740	14030	15400	28060	32030	21330	13720
28	1170	2010	2790	4380	6460	16230	13920	15720	28610	31930	20970	13580
29	1180	2030	2800	4440	---	16630	13840	16040	29230	31850	20580	13470
30	1200	2030	2810	4510	---	17010	13750	16330	29670	31770	20220	13390
31	1250	---	2850	4570	---	17340	---	16680	---	31650	19940	---
MAX	1470	2030	2850	4570	6460	17340	18210	16680	29670	33580	31400	19660
MIN	1130	1290	2050	2870	4600	6510	13750	11670	17160	30030	19940	13390
a	6430.44	6432.94	6434.85	6437.79	6440.25	6449.16	6446.82	6448.76	6455.21	6456.03	6450.63	6446.56
b	-300	+780	+820	+1720	+1890	+10880	-3560	+2930	+12990	+1980	-11710	-6550

CAL YR 1992 MAX 10390 MIN 1130 b -3250
WTR YR 1993 MAX 33910 MIN 1120 b +11870

e Estimated
a Elevation, in feet above sea level, at end of month.
b Change in contents, in acre-feet.

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'40", long 119°12'50", in SW 1/4 NE 1/4 sec.34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, on right bank, 1,500 ft downstream from Bridgeport Reservoir, 5 mi north of Bridgeport, and 10 mi upstream from Sweetwater Creek.

DRAINAGE AREA.--359 mi^2.

PERIOD OF RECORD.--July 1911 to September 1914 (gage height only), October and November 1921, May 1922 to September 1924, March to July 1925, October 1925 to current year.

REVISED RECORDS.--WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,400 ft above sea level, from topographic map. Prior to Oct. 1, 1921, nonrecording gage at site 0.5 mi upstream at different datum. Oct. 1, 1921, to Feb. 21, 1924, water-stage recorder at site 1 mi downstream at different datum. Feb. 22, 1924, to Sep. 30, 1931, water-stage recorder, and Oct. 1, 1931, to May 25, 1939, nonrecording gage at present site at datum 2.34 ft lower. May 26, 1939, to Nov. 27, 1988, water-stage recorder at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Diversions for irrigation of meadow pasturelands near Bridgeport. Flow regulated by Bridgeport Reservoir (station 10292500).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	25	32	31	38	38	95	181	186	301	318	177
2	62	25	27	31	38	38	120	181	183	288	321	156
3	60	25	25	31	38	38	142	187	177	275	330	144
4	54	25	26	31	38	38	163	202	159	275	338	165
5	53	25	33	31	38	38	172	206	129	276	339	202
6	51	25	28	31	36	38	169	236	130	276	298	202
7	41	25	24	32	35	38	152	234	127	273	292	185
8	33	25	24	32	34	38	167	220	110	267	292	160
9	26	25	24	32	34	38	174	243	93	271	302	158
10	24	25	26	33	34	38	189	243	89	285	323	154
11	24	25	31	32	34	38	223	243	90	301	318	160
12	24	25	31	33	34	38	218	253	127	301	334	172
13	24	26	31	34	34	33	207	273	135	300	356	170
14	29	26	31	34	35	28	220	264	133	297	367	168
15	31	26	31	34	35	28	232	241	161	294	366	163
16	31	26	31	34	35	28	231	220	197	300	364	151
17	31	26	31	34	35	25	230	213	201	304	345	144
18	31	26	31	34	35	23	230	199	214	310	293	143
19	31	26	31	35	35	28	226	206	231	301	241	142
20	31	26	31	35	36	37	219	217	234	286	249	141
21	31	26	31	35	37	38	219	213	238	299	273	150
22	30	26	31	35	38	42	211	208	237	258	293	180
23	30	26	31	35	38	56	201	208	234	217	293	178
24	30	26	31	35	38	60	187	209	242	214	292	177
25	30	26	31	36	38	68	161	204	252	206	287	177
26	30	26	31	36	38	82	157	190	255	203	271	174
27	30	26	31	36	38	82	173	184	258	197	253	162
28	30	26	31	36	38	82	172	182	261	204	243	135
29	30	26	31	36	---	79	175	178	257	226	237	117
30	31	27	31	36	---	63	181	185	287	239	230	106
31	27	---	31	37	---	70	---	185	---	261	205	---
TOTAL	1082	769	920	1047	1014	1408	5616	6608	5627	8305	9263	4813
MEAN	34.9	25.6	29.7	33.8	36.2	45.4	187	213	188	268	299	160
MAX	62	27	33	37	38	82	232	273	287	310	367	202
MIN	24	25	24	31	34	23	95	178	89	197	205	106
AC-FT	2150	1530	1820	2080	2010	2790	11140	13110	11160	16470	18370	9550

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	58.3	28.2	34.6	35.2	44.1	85.2	174	250	306	295	238	152
MAX	301	325	398	260	200	417	721	880	1001	797	638	406
(WY)	1984	1983	1984	1942	1963	1983	1952	1938	1938	1967	1983	1983
MIN	7.35	1.10	2.50	.50	.62	5.39	27.5	57.5	36.0	20.4	13.3	17.1
(WY)	1931	1956	1960	1950	1950	1927	1961	1991	1924	1924	1924	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1922 - 1993	
ANNUAL TOTAL	16573		46472			
ANNUAL MEAN	45.3		127		142	
HIGHEST ANNUAL MEAN					443	1983
LOWEST ANNUAL MEAN					37.5	1931
HIGHEST DAILY MEAN	137	May 13	367	Aug 14	1360	Jun 20 1963
LOWEST DAILY MEAN	21	Feb 1	23	Mar 18	.20	Nov 2 1955
ANNUAL SEVEN-DAY MINIMUM	21	Feb 1	25	Nov 1	.20	Nov 2 1955
INSTANTANEOUS PEAK FLOW			371	Aug 13	1390	Jun 19 1963
INSTANTANEOUS PEAK STAGE			4.26	Aug 13	4.95	Jan 22 1943
INSTANTANEOUS LOW FLOW			22	Mar 19		
ANNUAL RUNOFF (AC-FT)	32870		92180		102800	
10 PERCENT EXCEEDS	82		285		339	
50 PERCENT EXCEEDS	33		89		91	
90 PERCENT EXCEEDS	24		26		6.8	

10296000 WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CA

LOCATION.--Lat 38°22'47", long 119°26'57", in NE 1/4 SE 1/4 sec.9, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, in Toiyabe National Forest, on left bank, 50 ft downstream from Little Walker River, 160 ft upstream from bridge on U.S. Highway 395, and 13 mi southeast of Coleville.

DRAINAGE AREA.--181 mi^2.

PERIOD OF RECORD.--April 1938 to current year. Prior to October 1958, published as "below East Fork."

REVISED RECORDS.--WDR NV-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,591.39 ft above sea level. Prior to Oct. 1, 1939, at site, 125 ft downstream at datum 1.00 ft higher. Oct. 1, 1939, to Sep. 30, 1969, at present site and datum. Oct. 1, 1969, to July 10, 1987, at site 100 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poore Lake Reservoir, capacity, 1,200 acre-ft, 7 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge observed prior to 1938, 5,800 ft^3/s, Dec. 11, 1937, on basis of slope-area measurement of peak flow.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	31	e28	e29	e39	e45	236	828	1180	1230	e400	e118
2	20	34	e29	e30	e39	46	223	872	982	1310	e390	e113
3	22	37	e28	e31	39	48	238	911	865	1250	e378	e111
4	21	33	e27	e35	38	e49	257	736	892	1150	365	e110
5	21	33	e28	e42	39	52	234	653	836	1170	357	e111
6	20	32	23	e41	e39	55	212	738	675	1190	333	e111
7	20	34	20	e40	e39	60	212	709	600	1220	307	e105
8	19	33	26	e39	e39	72	234	712	618	1120	267	e100
9	19	26	32	e37	e40	66	259	799	680	987	242	e98
10	19	23	28	e36	e40	67	257	1010	881	896	232	e96
11	19	25	25	e35	e40	69	252	1140	1160	831	235	e94
12	18	29	e25	e34	e37	72	242	1110	1120	802	214	e92
13	18	29	e24	e34	e35	85	223	960	1210	740	199	e90
14	18	28	e23	e35	e35	107	222	956	1450	672	196	e88
15	18	29	e24	35	e36	111	240	991	1680	599	193	e86
16	18	28	e25	35	e36	113	259	1050	1550	511	177	e85
17	18	27	27	37	e36	231	250	1360	1360	451	178	e86
18	18	27	e25	37	38	252	230	1680	1410	441	176	e82
19	18	23	e22	38	38	224	212	1710	1510	467	171	e76
20	18	17	e25	38	27	221	246	1760	1700	455	166	e72
21	18	25	29	e39	27	221	337	1720	1740	445	162	71
22	19	31	29	e36	42	236	436	1560	1400	423	153	69
23	19	18	e27	e34	42	251	428	1570	1290	491	153	68
24	20	21	e25	e35	e42	260	383	1790	1320	527	149	67
25	21	32	e25	e34	e43	224	402	1670	1370	550	146	67
26	20	29	e25	e33	e43	201	494	1400	1560	562	141	65
27	20	28	e26	e35	e44	178	545	1220	1700	e500	131	62
28	21	23	26	e38	e45	176	583	1050	1600	e500	127	59
29	29	20	e27	e40	---	168	672	927	1300	e470	125	58
30	34	26	e27	e41	---	179	770	1120	1160	e440	121	57
31	31	---	e28	e39	---	199	---	1390	---	e420	120	---
TOTAL	632	831	808	1122	1077	4338	9788	36102	36799	22820	6704	2567
MEAN	20.4	27.7	26.1	36.2	38.5	140	326	1165	1227	736	216	85.6
MAX	34	37	32	42	45	260	770	1790	1740	1310	400	118
MIN	18	17	20	29	27	45	212	653	600	420	120	57
AC-FT	1250	1650	1600	2230	2140	8600	19410	71610	72990	45260	13300	5090

e Estimated.

10296000 WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.1	69.3	72.7	67.4	74.0	103	293	753	928	470	145	72.7
MAX	219	539	448	204	246	369	600	1655	2066	1383	663	246
(WY)	1983	1951	1951	1956	1963	1986	1938	1969	1983	1983	1983	1983
MIN	16.6	22.2	20.0	18.1	26.0	32.1	108	139	188	41.1	18.5	12.3
(WY)	1978	1978	1991	1977	1991	1977	1975	1977	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1938 - 1993	
ANNUAL TOTAL	43049		123588			
ANNUAL MEAN	118		339		256	
HIGHEST ANNUAL MEAN					537	1983
LOWEST ANNUAL MEAN					65.3	1977
HIGHEST DAILY MEAN	724	May 7	1790	May 24	3800	Nov 21 1950
LOWEST DAILY MEAN	17	Sep 30	17	Nov 20	9.7	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	18	Oct 12	18	Oct 12	10	Sep 5 1977
INSTANTANEOUS PEAK FLOW			2110	May 18	6220	Nov 20 1950
INSTANTANEOUS PEAK STAGE			4.49	May 18	8.10	Nov 20 1950
INSTANTANEOUS LOW FLOW			1.8	Nov 30	1.8	Nov 30 1992
ANNUAL RUNOFF (AC-FT)	85390		245100		185300	
10 PERCENT EXCEEDS	383		1160		791	
50 PERCENT EXCEEDS	39		92		88	
90 PERCENT EXCEEDS	20		23		34	

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA

LOCATION.--Lat 38°30'55", long 119°27'15", in NW 1/4 NE 1/4 sec.28, T.8 N., R.23 E., Mono County, Hydrologic Unit 16050302, in Toiyabe National Forest, on left bank, 0.2 mi downstream from Rock Creek, and 5 mi southeast of Coleville.

DRAINAGE AREA.--250 mi^2.

PERIOD OF RECORD.--October 1902 to July 1908 (published as West Fork of Walker River near Coleville, 1903, 1905-08 and as Walker River (West Fork) near Coleville, 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to current year. Monthly discharge only for some periods published in WSP 1314.

REVISED RECORDS.--WSP 880: 1917 (runoff in acre-ft). WSP 1514: 1918, 1923. WDR NV-80-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,520 ft above sea level, from topographic map. Prior to July 31, 1908, nonrecording gage at site 0.5 mi upstream at different datum. Mar. 1, 1909, to Aug. 31, 1910, nonrecording gage, and June 18, 1915, to Aug. 15, 1919, water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, water-stage recorder at site 1,000 ft upstream at different datum. May 26, 1957, to Sep. 10, 1963, water-stage recorder at site 10 ft downstream at datum 0.38 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poore Lake Reservoir, capacity, 1,200 acre-ft, 17 mi upstream.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	37	35	34	51	50	253	794	1180	1240	429	133
2	29	39	38	36	50	55	247	829	966	e1330	430	128
3	32	41	33	e38	51	57	255	921	848	e1300	423	125
4	33	39	33	e40	50	56	275	739	865	e1200	406	126
5	32	39	35	e44	51	58	264	613	830	e1190	401	128
6	31	38	34	44	53	61	246	695	682	e1210	379	128
7	31	39	33	44	53	64	245	660	599	e1250	357	118
8	30	39	36	47	54	69	258	646	612	e1190	295	112
9	29	35	44	45	54	74	282	711	660	e1080	231	106
10	29	30	41	44	51	76	287	935	829	e980	224	103
11	29	32	37	e45	52	78	283	1150	1150	e900	227	100
12	29	35	e34	e45	47	81	282	1170	1120	e830	218	96
13	27	38	e33	e46	47	88	270	978	1170	e780	209	94
14	27	37	e33	48	48	110	265	959	1410	e720	206	91
15	27	37	e34	47	46	130	282	1040	1670	e640	201	88
16	27	37	e36	46	47	130	297	1030	1570	e560	191	86
17	27	37	e39	47	48	220	291	1410	1360	507	187	87
18	27	36	e36	46	52	277	280	1680	1420	498	187	88
19	27	34	e34	47	52	243	267	1820	1520	529	184	86
20	26	30	e32	48	37	233	283	1800	1760	516	180	81
21	26	29	e31	e50	37	232	337	1760	1720	506	176	79
22	27	41	e30	e51	44	237	420	1580	1370	485	170	78
23	27	30	e29	e53	49	258	414	1560	1220	519	167	78
24	27	27	e29	e56	50	273	374	1800	1270	559	166	76
25	28	41	e28	61	49	251	383	1700	1320	565	164	75
26	28	36	e28	65	53	236	437	1450	1530	597	159	72
27	28	38	e29	65	53	209	484	1240	1690	510	152	70
28	28	33	e29	58	53	207	536	1060	1620	508	147	69
29	32	28	29	59	---	195	635	905	1280	481	142	68
30	40	29	31	57	---	204	727	1080	1120	464	141	67
31	38	---	e32	55	---	220	---	1340	---	430	137	---
TOTAL	906	1061	1035	1511	1382	4732	10159	36055	36361	24074	7286	2836
MEAN	29.2	35.4	33.4	48.7	49.4	153	339	1163	1212	777	235	94.5
MAX	40	41	44	65	54	277	727	1820	1760	1330	430	133
MIN	26	27	28	34	37	50	245	613	599	430	137	67
AC-FT	1800	2100	2050	3000	2740	9390	20150	71520	72120	47750	14450	5630

e Estimated.

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.5	69.5	65.5	66.4	77.5	115	293	764	939	449	145	77.2
MAX	236	214	270	189	280	403	636	1756	2055	1404	676	262
(WY)	1983	1974	1965	1980	1963	1986	1910	1969	1983	1983	1983	1982
MIN	21.5	25.4	28.7	26.9	32.0	42.1	118	149	106	26.9	17.4	16.1
(WY)	1978	1930	1960	1930	1929	1933	1975	1977	1924	1924	1924	1924

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1903 - 1993	
ANNUAL TOTAL	46002		127398			
ANNUAL MEAN	126		349		272	
HIGHEST ANNUAL MEAN					563	1983
LOWEST ANNUAL MEAN					74.5	1977
HIGHEST DAILY MEAN	719	May 7	1820	May 19	2950	May 29 1983
LOWEST DAILY MEAN	23	Sep 24	26	Oct 20	14	Jul 24 1924
ANNUAL SEVEN-DAY MINIMUM	23	Sep 24	27	Oct 15	14	Aug 28 1924
INSTANTANEOUS PEAK FLOW			2010	May 19	6500	Dec 11 1937
INSTANTANEOUS PEAK STAGE			3.87	May 19	.00	Dec 11 1937
INSTANTANEOUS LOW FLOW			8.9	Nov 21	5.0	Dec 3 1924
ANNUAL RUNOFF (AC-FT)	91240		252700		197100	
10 PERCENT EXCEEDS	375		1180		800	
50 PERCENT EXCEEDS	46		96		92	
90 PERCENT EXCEEDS	28		30		35	

10297000 TOPAZ LAKE NEAR TOPAZ, CA

LOCATION.--Lat 38°41'35", long 119°31'10", in NW 1/4 NE 1/4 sec.33, T.10 N., R.22 E., Douglas County, Hydrologic Unit 16050301, at outlet works of Topaz Lake on West Walker River, and 5.5 mi north of Topaz.

PERIOD OF RECORD.--December 1921 to September 1931 (monthly contents only published in WSP 1734), October 1931 to current year.

GAGE.--Water-stage recorder read once daily. Datum of gage is above sea level. Prior to Oct. 1, 1978, at datum 4.62 ft higher.

REMARKS.--Topaz Lake, formerly known as Alkali Lake and Topaz Reservoir, was formed by the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in rim of lake. Storage began about December 1921. Usable capacity, 59,440 acre-ft, between elevations 4,967.68 ft (lowest practical elevation for diversion through tunnel) and 5,000.38 ft (3 ft below top of levee). Useable capacity of reservoir was increased from about 45,000 acre-ft to 59,440 acre-ft in October 1937 by an earthfill, rock-faced levee at south end. Figures given herein represent usable contents. There is 65,000 acre-ft of lake volume below the point of controllable storage. Water is used for irrigation in Walker River Irrigation District.

EXTREMES FOR CURRENT YEAR.--Maximum contents 53,910 acre-ft, July 10, elevation, 5,002.55 ft; minimum contents, 280 acre-ft, but may have been lower during period of questionable record, Oct. 2 to Nov. 15.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,968	490	4,980	19,760	4,995	47,540
4,970	3,580	4,985	28,310	5,000	58,570
4,975	11,520	4,990	37,360		

RESERVOIR STORAGE (ACRE-FEET) WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
INSTANTANEOUS OBSERVATIONS AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	829	352	459	2280	4770	8050	14070	9900	25260	48990	45470	e29100
2	e814	337	521	2250	4860	8200	14310	9970	25690	49480	45050	e28800
3	e800	321	521	e2220	4960	8320	14530	9950	25910	50000	44590	e28000
4	e785	e306	536	2280	5080	8450	14810	10030	26120	e50720	44050	e27500
5	e770	e300	536	2310	5130	8590	15000	9810	26350	e51460	43540	e27000
6	e755	e300	705	2460	5220	8720	15070	9580	26500	e52200	43000	e26400
7	e740	e300	736	2500	5350	8880	14990	9420	26670	e53020	42430	e26000
8	e725	e300	690	2590	5490	9040	14840	9260	26920	53600	41880	e25300
9	e705	e295	798	2540	5600	9200	14710	9170	27260	53800	41310	e24900
10	e690	e292	967	2600	5710	9360	14560	9250	27750	53910	40730	e24200
11	675	e290	1040	2620	5820	9490	14350	9680	28660	53820	40080	e23900
12	e660	e285	1090	2680	5930	9650	14170	10160	29580	e53640	39550	e23300
13	e645	e280	1150	2770	6030	9780	13920	10390	30570	e53370	38980	e23000
14	e630	e280	1210	2760	6120	9940	13590	10580	31740	e53130	38350	e22500
15	e615	e285	1230	3010	6230	10100	13290	10820	33130	e52780	37710	e22000
16	598	291	e1300	2960	6310	10230	13020	10980	34580	e52420	37090	e21700
17	e583	291	1380	3040	6390	10600	12680	11610	35780	e52070	36480	e21100
18	e568	291	1400	3080	6550	11060	12360	12630	36960	e51700	35910	e20800
19	e553	291	1460	3150	6820	11480	12000	13990	38210	e51240	35390	e20200
20	536	321	1520	3290	6860	11790	11610	15380	39690	50690	34910	e19900
21	521	e318	1580	3610	7020	12070	11480	16800	41270	50130	34470	e19600
22	505	318	1640	3770	7150	12360	11320	17730	42510	49570	34030	19120
23	e490	337	1680	3960	7310	12550	11180	18470	43270	49070	33620	18750
24	e475	352	1720	4070	7420	12830	10930	19960	44010	48750	33160	18430
25	e460	367	1780	4180	7530	13060	10630	21170	44760	48450	32660	18150
26	e445	413	1770	4290	7650	13250	10520	22130	45610	48240	32140	17860
27	e430	413	1860	4380	7780	13350	10320	22860	46500	47810	31650	17600
28	413	444	1830	4460	7910	13510	10180	23310	47490	47450	31170	17300
29	e398	444	2050	4520	---	13590	10020	23580	48170	46980	30680	17000
30	e383	459	2140	4630	---	13710	9870	23920	48540	46500	30180	16700
31	e368	---	2250	4690	---	13860	---	24500	---	45930	e29950	---
MAX	829	459	2250	4690	7910	13860	15070	24500	48540	53910	45470	29100
MIN	368	280	459	2220	4770	8050	9870	9170	25260	45930	29950	16700
a	4967.93	4967.98	4969.14	4970.71	4972.75	4976.44	4973.98	4982.80	4995.49	4994.24	4985.94	4978.17
b	-476	+91	+1791	+2440	+3220	+5950	-3990	+14630	+24040	-2610	-15980	-13250

CAL YR 1992 MAX 12520 MIN 280 b -2280
WTR YR 1993 MAX 53910 MIN 280 b +15860

e Estimated.
a Elevation, in feet above sea level, at end of month.
b Change in contents, in acre-feet.

10308200 EAST FORK CARSON RIVER BELOW MARKLEEVILLE CREEK, NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°42'50", long 119°45'50", in SW 1/4 NE 1/4 sec.15, T.10 N., R.20 E., Alpine County, Hydrologic Unit 16050201, on right bank, 0.5 mi downstream from Markleeville Creek, and 1.5 mi north-northeast of Markleeville.
DRAINAGE AREA.--276 $mi.^2$
PERIOD OF RECORD.--August 1960 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 5,400 ft above sea level, from topographic map. Prior to Oct. 1, 1967, at present site at datum 2.00 ft higher.
REMARKS.--Records good except for estimated daily discharges, which are poor. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs, total capacity, about 5,000 acre-ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	54	e33	e35	e90	90	631	1360	1640	950	245	132
2	30	62	e35	e33	e90	101	541	1460	1390	976	236	130
3	32	60	e36	e32	e90	131	560	1550	1240	917	228	116
4	32	53	e34	e35	e90	143	619	1190	1290	847	218	118
5	31	51	33	e34	e92	154	536	1040	1190	818	208	120
6	37	50	44	e33	e94	182	478	1210	959	811	195	116
7	38	50	50	e36	e96	217	474	1190	860	807	190	118
8	37	49	51	e38	e96	252	519	1190	878	777	182	115
9	30	43	136	e40	e96	268	585	1260	932	722	175	114
10	29	36	83	e39	e96	296	589	1570	1130	675	173	109
11	29	38	63	e36	e94	309	568	1820	1320	635	168	105
12	29	46	56	e36	95	315	552	1810	1280	609	161	103
13	29	44	58	e38	98	382	513	1550	1290	572	158	101
14	28	42	e50	e40	97	525	502	1500	1470	531	157	101
15	29	43	e38	e42	91	495	569	1570	1610	480	152	98
16	29	43	e35	e42	92	470	592	1690	1480	442	151	97
17	29	41	e37	e41	87	1240	565	2060	1370	409	148	79
18	29	41	e30	e42	102	949	527	2350	1380	384	150	78
19	29	38	e29	e44	191	691	484	2430	1470	372	146	76
20	29	32	e28	e45	129	647	550	2490	1510	356	131	73
21	35	33	e28	e50	109	639	715	2320	1300	346	127	71
22	38	49	e28	e60	95	667	867	2040	1200	331	124	70
23	33	36	e27	e82	100	730	797	2050	1120	340	123	69
24	32	32	e26	e110	98	812	671	2300	1100	342	119	69
25	32	46	e25	e133	93	651	705	2170	1090	335	115	67
26	33	48	e28	e100	96	567	816	1900	1190	329	116	65
27	33	40	e35	e90	90	485	913	1700	1240	299	120	65
28	42	37	e38	e88	90	476	986	1410	1190	287	117	63
29	61	35	e36	e89	---	460	1140	1290	1030	274	121	69
30	79	32	e35	e88	---	481	1300	1460	950	262	119	89
31	61	---	e35	e88	---	517	---	1840	---	247	116	---
TOTAL	1094	1304	1300	1739	2777	14342	19864	52770	37099	16482	4889	2796
MEAN	35.3	43.5	41.9	56.1	99.2	463	662	1702	1237	532	158	93.2
MAX	79	62	136	133	191	1240	1300	2490	1640	976	245	132
MIN	28	32	25	32	87	90	474	1040	860	247	115	63
AC-FT	2170	2590	2580	3450	5510	28450	39400	104700	73590	32690	9700	5550

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

MEAN	82.0	115	139	166	205	270	533	1101	957	368	140	88.6
MAX	346	476	718	545	917	983	1121	2447	2996	1428	477	239
(WY)	1983	1984	1965	1980	1986	1986	1982	1969	1983	1983	1983	1983
MIN	24.0	32.6	41.4	44.2	43.9	58.7	183	197	135	58.0	33.0	18.0
(WY)	1978	1977	1991	1977	1991	1977	1977	1977	1992	1977	1977	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993	
ANNUAL TOTAL	47797		156456			
ANNUAL MEAN	131		429		347	
HIGHEST ANNUAL MEAN					809	1983
LOWEST ANNUAL MEAN					83.7	1977
HIGHEST DAILY MEAN	713	Apr 29	2490	May 20	7360	Feb 1 1963
LOWEST DAILY MEAN	25	Dec 25	25	Dec 25	12	Sep 10 1987
ANNUAL SEVEN-DAY MINIMUM	27	Dec 20	27	Dec 20	12	Sep 7 1987
INSTANTANEOUS PEAK FLOW			2950	May 19	15100	Jan 31 1963
INSTANTANEOUS PEAK STAGE			5.53	May 19	10.21	Jan 31 1963
INSTANTANEOUS LOW FLOW			27	Oct 14	9.5	Nov 19 1977
ANNUAL RUNOFF (AC-FT)	94810		310300		251600	
10 PERCENT EXCEEDS	391		1290		921	
50 PERCENT EXCEEDS	63		120		142	
90 PERCENT EXCEEDS	31		33		49	

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA

LOCATION.--Lat 38°46'10", long 119°49'55", in NW 1/4 SE 1/4 sec.34, T.11 N., R.19 E., Alpine County, Hydrologic Unit 16050201, in Toiyabe National Forest, on left bank, 0.3 mi downstream from bridge on State Highway 88-89, 0.6 mi southwest of Woodfords, and 3.8 mi downstream from Willow Creek.

DRAINAGE AREA.--65.4 mi^2.

PERIOD OF RECORD.--October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to current year. January 1890 to March 1892, June 1907 to September 1920 (except parts of 1910-11), at site 0.7 mi downstream; records not equivalent owing to diversions for irrigation. Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WDR NV-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,754.5 ft above sea level. Prior to Oct. 1, 1938, nonrecording gage at about the same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 11, 1937, reached a stage of 8.0 ft, present datum, from floodmarks, discharge, 3,500 ft^3/s, on basis of slope-area measurement of peak flow.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	19	19	17	25	27	209	582	512	213	68	6
2	8.1	22	17	e17	26	27	158	606	403	218	75	59
3	8.3	20	18	e17	26	29	177	623	346	208	76	59
4	8.5	17	16	17	26	30	198	429	360	189	67	56
5	8.6	18	16	17	26	30	170	390	372	182	66	34
6	8.8	19	17	17	26	32	146	525	311	180	63	30
7	8.8	19	16	17	26	35	154	505	281	182	55	28
8	8.8	20	e16	17	25	39	193	480	266	178	48	27
9	8.8	20	e18	16	26	40	233	514	268	167	46	35
10	8.8	18	19	17	26	41	250	624	301	156	45	40
11	8.8	17	19	17	26	43	238	701	341	147	45	38
12	8.8	18	17	18	27	46	234	694	325	143	42	36
13	8.8	18	18	20	29	51	223	573	317	139	42	29
14	8.8	18	18	21	26	56	235	539	342	129	41	30
15	8.8	17	19	21	27	58	279	550	369	120	40	41
16	8.8	17	e21	21	25	68	279	580	341	110	40	46
17	8.8	16	19	21	24	114	248	684	312	101	39	43
18	8.8	16	e19	21	27	157	208	758	319	98	47	43
19	8.8	15	e20	21	26	146	198	738	335	95	65	32
20	8.8	14	19	24	23	146	256	748	355	94	68	26
21	11	14	19	29	26	154	368	666	311	93	59	25
22	12	17	e20	31	23	165	361	589	293	91	49	25
23	12	15	e20	27	25	183	302	562	266	94	36	25
24	11	15	19	27	25	183	242	618	257	92	33	24
25	11	17	e20	28	26	157	279	702	248	90	32	25
26	10	14	19	28	24	133	331	594	264	94	31	25
27	9.9	15	19	28	25	118	372	516	274	84	30	24
28	10	14	17	28	25	111	408	418	266	79	30	24
29	12	12	20	27	---	109	507	372	231	79	30	23
30	20	14	19	26	---	126	586	391	212	79	30	32
31	19	---	17	26	---	157	---	566	---	71	37	---
TOTAL	311.5	505	570	679	717	2811	8042	17837	9398	3995	1475	1040
MEAN	10.0	16.8	18.4	21.9	25.6	90.7	268	575	313	129	47.6	34.7
MAX	20	22	21	31	29	183	586	758	512	218	76	59
MIN	8.1	12	16	16	23	27	146	372	212	71	30	23
AC-FT	618	1000	1130	1350	1420	5580	15950	35380	18640	7920	2930	2060

e Estimated.

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.5	39.6	46.9	43.8	50.2	69.3	198	354	236	91.9	43.9	28.8
MAX	79.1	321	347	140	258	283	390	791	996	433	213	120
(WY)	1983	1951	1951	1970	1963	1986	1986	1969	1983	1983	1983	1983
MIN	8.27	13.1	12.8	13.7	16.3	18.2	46.6	56.4	37.4	18.1	11.1	7.00
(WY)	1989	1991	1991	1961	1977	1977	1975	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1901 - 1993	
ANNUAL TOTAL	14034.1		47380.5			
ANNUAL MEAN	38.3		130		110	
HIGHEST ANNUAL MEAN					244	1983
LOWEST ANNUAL MEAN					26.1	1977
HIGHEST DAILY MEAN	227	Apr 17	758	May 18	3000	Feb 1 1963
LOWEST DAILY MEAN	7.9	Sep 22	8.1	Oct 1	5.3	Sep 2 1977
ANNUAL SEVEN-DAY MINIMUM	7.9	Sep 22	8.5	Oct 1	5.4	Sep 5 1977
INSTANTANEOUS PEAK FLOW			935	May 19	4890	Feb 1 1963
INSTANTANEOUS PEAK STAGE			3.99	May 19	9.00	Feb 1 1963
INSTANTANEOUS LOW FLOW			5.7	Nov 30	5.0	Dec 28 1961
ANNUAL RUNOFF (AC-FT)	27840		93980		79700	
10 PERCENT EXCEEDS	112		372		273	
50 PERCENT EXCEEDS	20		35		42	
90 PERCENT EXCEEDS	8.8		15		17	

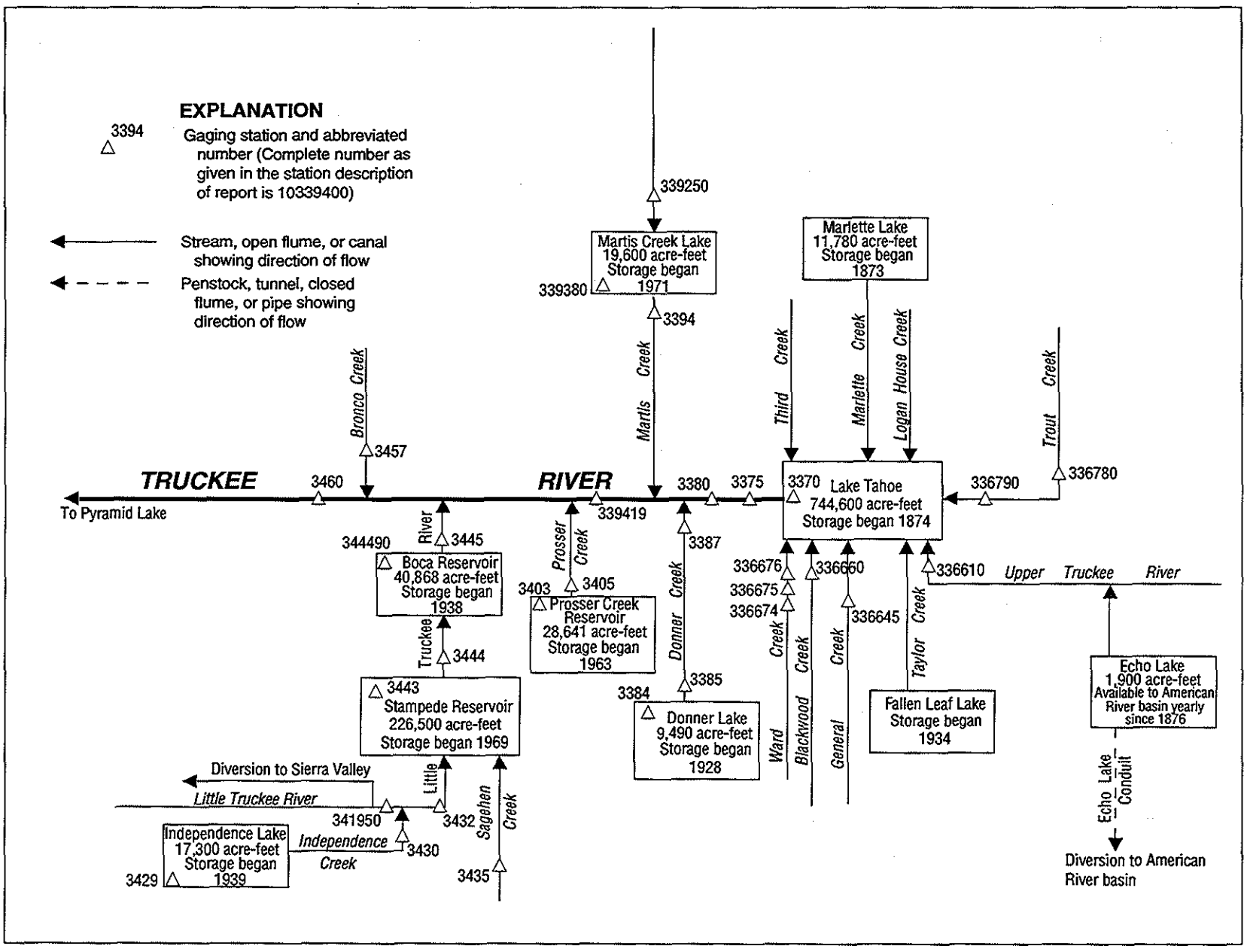

Figure 26. Diversions and storage in Truckee River basin.

10336608 ECHO LAKE NEAR PHILLIPS, CA

LOCATION.--Lat 38°50'05", long 120°02'36", in NE 1/4 NE 1/4 sec.1, T.11 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, at right end of dam on Lower Echo Lake near valve outlet to Echo Lake Conduit and 2.0 mi northeast of Phillips.

DRAINAGE AREA.--4.84 mi^2.

PERIOD OF RECORD.--October 1991 to September 1992, April 1993 to September 1993. Unpublished records for 1981-91 water years are available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Prior to Dec. 3, 1991, nonrecording gage read periodically. Elevation of gage is 7,414 ft above sea level, from topographic map.

REMARKS.--Reservoir is formed by concrete dam completed in 1922 and rebuilt in 1992; storage began in 1922. Usable capacity, 1,890 acre-ft between gage heights 0.0 ft, spillway crest, and 6.0 ft, top of spillway gates. Water is released via Echo Lake Conduit (station 11434500) to the South Fork American River for power and domestic use. Records from Dec. 3, 1991, including extremes, represent usable contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 1,893 acre-ft, several days in July 1993, gage height, 6.01 ft; minimum, 48 acre-ft, Sept. 10, 1992, gage height, 0.16 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,893 acre-ft, several days in July, gage height, 6.01 ft; minimum, 161 acre-ft, Apr. 14, gage height, 0.52 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1934)

0	0	4	1,255
2	625	5	1,570
3	940	6	1,890

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	310	1313	1825	1877	1799
2	---	---	---	---	---	---	---	331	1427	1861	1874	1796
3	---	---	---	---	---	---	---	359	1487	1877	1880	1792
4	---	---	---	---	---	---	---	331	1580	1877	1880	1789
5	---	---	---	---	---	---	---	289	1557	1893	1883	1789
6	---	---	---	---	---	---	---	289	1524	1893	1874	1786
7	---	---	---	---	---	---	---	295	1508	1893	1861	1786
8	---	---	---	---	---	---	---	292	1541	1893	1857	1779
9	---	---	---	---	---	---	---	298	1625	1890	1854	1779
10	---	---	---	---	---	---	---	346	1760	1893	1854	1776
11	---	---	---	---	---	---	---	395	1812	1883	1851	1770
12	---	---	---	---	---	---	---	392	1815	1883	1851	1757
13	---	---	---	---	---	---	---	389	1818	1890	1854	1757
14	---	---	---	---	---	---	161	379	1835	1887	1857	1742
15	---	---	---	---	---	---	164	376	1796	1887	1841	1751
16	---	---	---	---	---	---	173	395	1748	1880	1841	1745
17	---	---	---	---	---	---	188	433	1730	1874	1838	1739
18	---	---	---	---	---	---	185	470	1748	1857	1835	1736
19	---	---	---	---	---	---	173	491	1786	1857	1841	1733
20	---	---	---	---	---	---	167	509	1789	1864	1822	1724
21	---	---	---	---	---	---	185	512	1760	1877	1822	1724
22	---	---	---	---	---	---	216	470	1751	1883	1825	1718
23	---	---	---	---	---	---	244	449	1766	1890	1812	1712
24	---	---	---	---	---	---	229	485	1799	1887	1815	1706
25	---	---	---	---	---	---	238	515	1831	1890	1815	1706
26	---	---	---	---	---	---	223	509	1867	1893	1812	1700
27	---	---	---	---	---	---	223	563	1851	1893	1809	1697
28	---	---	---	---	---	---	244	676	1818	1887	1805	1671
29	---	---	---	---	---	---	265	790	1783	1887	1802	1632
30	---	---	---	---	---	---	295	910	1783	1890	1802	1576
31	---	---	---	---	---	---	---	1157	---	1887	1799	---
MAX	---	---	---	---	---	---	---	1157	1867	1893	1883	1799
MIN	---	---	---	---	---	---	---	289	1313	1825	1799	1576
a							.95	3.69	5.67	5.99	5.72	5.02
b								+862	+626	+104	-88	-223

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°55'22", long 119°59'23", in NW 1/4 SE 1/4 sec.4, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, near center of bridge span on downstream side of U.S. Highway 50 Bridge, 1.0 mi northeast of South Lake Tahoe Post Office, and 1.4 mi upstream from Lake Tahoe.

DRAINAGE AREA.--54.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to September 1974, October 1976 to June 1977, October 1977 to June 1978, March 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,229.04 ft above sea level. Prior to Apr. 26, 1984, at datum 2.00 ft higher.

REMARKS.--Records fair. Two small dams may cause slight regulation at times. Some small diversions for domestic use upstream from station. Echo Lake conduit (station 11434500) diverts from Echo Lake, capacity 1,900 acre-ft, to South Fork American River basin. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,740 ft^3/s, Mar. 8, 1986, gage height, 9.08 ft; maximum gage height, 10.12 ft, present datum, Feb. 16, 1982; minimum daily, 0.94 ft^3/s, Oct. 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	0800	unknown	a6.31	May 19	0415	*729	*6.35
Mar. 17	1745	604	6.16	May 31	2400	699	6.21
Mar. 24	1715	404	5.20	June 15	0400	506	5.38
May 3	0515	455	5.26				

(a) Backwater from ice.

Minimum daily, 2.3 ft^3/s, Oct. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	9.2	12	53	53	207	376	533	202	48	13
2	14	14	9.1	11	49	54	166	393	346	203	47	12
3	13	13	9.2	13	46	55	170	429	297	194	43	11
4	14	12	9.0	12	43	55	242	366	342	182	40	11
5	15	11	7.3	12	41	72	191	303	382	172	39	11
6	12	11	8.2	12	38	74	162	343	304	171	36	11
7	11	11	7.5	19	37	76	158	334	260	168	35	11
8	8.4	11	9.2	e25	37	76	168	333	239	164	32	9.6
9	7.8	11	15	e30	36	77	209	337	215	157	28	9.1
10	5.7	10	23	e30	32	79	199	415	255	145	26	9.0
11	3.5	9.6	18	e40	33	77	183	484	342	138	27	8.8
12	2.3	9.6	16	48	32	79	173	529	350	128	26	8.6
13	3.2	9.8	14	58	28	88	165	473	359	119	24	8.7
14	3.1	9.5	13	72	26	116	164	442	408	108	23	8.6
15	4.2	9.3	12	60	26	119	185	461	466	e100	23	8.6
16	6.0	9.1	11	60	24	125	196	478	430	e97	23	9.2
17	7.1	8.5	9.5	57	22	453	188	571	382	95	22	10
18	5.7	9.0	9.5	55	e22	417	205	627	394	90	21	10
19	6.2	8.8	9.9	52	e25	294	174	663	407	84	20	10
20	6.3	9.1	9.7	67	22	251	173	658	420	75	19	9.4
21	8.3	8.4	9.4	166	e25	237	216	645	363	73	19	9.1
22	9.2	9.7	8.9	243	e30	239	275	571	329	70	19	9.0
23	9.3	10	8.7	e200	e35	261	265	550	272	69	18	9.5
24	9.9	9.1	8.6	e130	e40	366	225	595	257	68	17	9.0
25	11	9.4	8.4	e100	e45	259	219	587	259	69	15	8.8
26	11	9.3	8.4	e90	e48	211	250	551	284	65	15	8.6
27	12	9.1	8.7	e80	50	169	254	481	309	59	15	11
28	14	9.5	6.9	e75	52	164	268	346	303	59	14	8.0
29	19	9.2	7.2	e65	---	160	308	279	253	59	14	7.9
30	25	8.1	6.2	62	---	165	359	325	219	55	13	7.7
31	20	---	11	56	---	177	---	454	---	50	13	---
TOTAL	312.2	305.1	321.7	2012	997	5098	6317	14399	9979	3488	774	288.2
MEAN	10.1	10.2	10.4	64.9	35.6	164	211	464	333	113	25.0	9.61
MAX	25	17	23	243	53	453	359	663	533	203	48	13
MIN	2.3	8.1	6.2	11	22	53	158	279	215	50	13	7.7
AC-FT	619	605	638	3990	1980	10110	12530	28560	19790	6920	1540	572

e Estimated.

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.6	45.9	52.2	51.0	68.3	103	161	292	235	74.1	18.9	12.4
MAX	72.1	225	218	165	307	305	300	567	795	365	102	55.3
(WY)	1983	1984	1982	1974	1986	1986	1982	1982	1983	1983	1983	1983
MIN	2.60	7.36	8.07	8.00	10.5	21.2	64.0	55.3	23.5	5.10	2.02	1.39
(WY)	1989	1991	1991	1991	1991	1977	1977	1977	1992	1987	1981	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1972 - 1993	
ANNUAL TOTAL	12366.4		44291.2			
ANNUAL MEAN	33.8		121		96.4	
HIGHEST ANNUAL MEAN					203	1983
LOWEST ANNUAL MEAN					29.2	1988
HIGHEST DAILY MEAN	220	Apr 18	663	May 19	2010	Feb 16 1982
LOWEST DAILY MEAN	2.3	Oct 12	2.3	Oct 12	.94	Oct 5 1988
ANNUAL SEVEN-DAY MINIMUM	2.7	Aug 8	4.0	Oct 10	1.0	Oct 2 1988
INSTANTANEOUS PEAK FLOW			729	May 19	2740	Mar 8 1986
INSTANTANEOUS PEAK STAGE			6.35	May 19	10.12	Feb 16 1982
ANNUAL RUNOFF (AC-FT)	24530		87850		69840	
10 PERCENT EXCEEDS	101		361		265	
50 PERCENT EXCEEDS	16		43		37	
90 PERCENT EXCEEDS	6.9		8.8		7.2	

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972-74, 1978, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1981 to September 1983.
WATER TEMPERATURE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1992.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
11...	1340	3.3	70	--	--	16.0	--	--	--	0.002	--	0.003
14...	0950	3.0	--	--	--	10.5	--	--	--	--	--	--
29...	1225	20	--	--	--	5.5	--	--	--	--	--	--
30...	0940	24	--	--	--	4.5	--	--	--	--	--	--
NOV												
01...	1015	18	95	--	--	9.0	--	--	--	0.013	--	<0.001
16...	1420	9.0	--	--	--	5.0	--	--	--	--	--	--
22...	1150	10	101	--	--	6.0	--	--	--	0.012	--	0.001
28...	1440	9.3	101	--	--	5.5	--	--	--	0.012	--	<0.001
DEC												
03...	1230	9.7	--	--	--	--	--	--	--	--	--	--
16...	1330	11	96	8.0	5.0	0.5	--	--	--	0.023	--	<0.001
28...	1245	6.4	--	--	--	--	--	--	--	--	--	--
JAN												
27...	1315	80	80	7.1	12.0	4.0	--	--	--	0.016	--	ND
29...	1420	65	--	--	--	--	--	--	--	--	--	--
FEB												
11...	1145	34	97	7.7	4.0	2.0	--	--	--	0.030	0.023	0.003
MAR												
02...	1250	52	--	--	--	--	--	--	--	--	--	--
04...	1230	50	95	7.7	7.5	1.0	--	--	--	0.027	0.012	ND
12...	1115	77	92	7.9	9.0	3.5	--	--	--	0.032	--	ND
17...	1145	500	--	--	--	--	--	--	--	--	--	--
17...	1645	595	56	--	2.5	1.0	--	--	--	0.034	--	0.008
18...	1230	378	55	7.2	9.0	3.0	--	--	--	0.034	--	0.009
23...	1300	239	66	7.4	9.0	5.0	--	--	--	0.039	0.008	0.002
30...	1310	151	79	--	9.0	7.0	607	9.5	98	0.040	--	0.013
APR												
02...	1315	157	--	--	--	--	--	--	--	--	--	--
13...	1135	162	--	--	--	--	--	--	--	--	--	--
14...	1240	159	74	--	9.0	6.0	--	--	--	0.038	--	ND
20...	1400	171	71	7.4	15.0	7.5	607	10.0	105	0.029	--	0.013
28...	1145	271	46	--	14.0	4.0	--	--	--	0.024	--	ND
MAY												
06...	1245	350	41	--	7.0	5.0	--	--	--	0.020	--	ND
12...	0925	566	--	--	--	--	--	--	--	--	--	--
13...	1540	447	31	7.5	17.0	7.5	--	--	--	0.023	--	<0.001
20...	1430	646	27	--	21.0	9.0	603	9.6	105	0.018	--	ND
21...	0840	702	24	--	12.0	4.5	--	--	--	0.012	--	ND
25...	1430	590	27	--	18.0	8.0	--	--	--	0.015	--	0.001
JUN												
01...	1345	523	29	7.3	14.0	8.0	605	9.9	105	0.006	--	ND
10...	1315	251	36	--	18.5	10.5	--	--	--	0.009	--	ND
15...	1610	457	23	--	23.0	13.0	--	--	--	0.010	--	ND
16...	1307	423	--	--	--	--	--	--	--	--	--	--
18...	0900	416	26	--	13.0	8.0	--	--	--	0.014	--	0.016
22...	0830	353	27	7.8	8.0	6.5	605	9.9	102	0.008	--	ND
29...	1100	258	27	--	14.0	10.0	--	--	--	0.003	--	ND
JUL												
13...	1345	122	--	--	--	--	--	--	--	--	--	--
21...	1240	73	44	7.2	22.0	11.0	596	8.8	102	0.003	--	ND
AUG												
03...	1045	46	54	7.3	28.0	17.0	--	--	--	0.008	--	ND
06...	0918	35	--	--	--	--	--	--	--	--	--	--
24...	1045	16	77	7.2	20.0	19.5	617	6.8	92	0.013	--	ND
SEP												
10...	1315	9.0	--	--	--	--	--	--	--	--	--	--
22...	0930	8.4	95	7.4	11.0	8.5	603	9.7	105	0.009	--	ND

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHATE, TOTAL (MG/L AS PO4)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS HYDRO. + ORTHO DIS. (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	IRON, BIO. REACTIVE DISSOLVED (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT												
11...	0.08	--	0.013	--	--	--	0.003	--	299	--	9	0.08
14...	--	--	--	--	--	--	--	--	--	--	36	0.29
29...	--	--	--	--	--	--	--	--	--	--	24	1.3
30...	--	--	--	--	--	--	--	--	--	--	8	0.52
NOV												
01...	0.14	--	0.019	--	--	--	0.005	--	374	--	6	0.30
16...	--	--	--	--	--	--	--	--	--	--	14	0.34
22...	0.08	--	0.004	--	--	--	0.004	--	299	--	4	0.11
28...	0.07	--	0.007	--	--	--	0.003	--	387	--	10	0.25
DEC												
03...	--	--	--	--	--	--	--	--	--	--	--	--
16...	0.17	--	0.018	--	--	--	0.007	--	345	--	2	0.06
28...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
27...	0.30	--	0.032	--	--	--	0.009	--	367	--	5	1.1
29...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
11...	0.18	0.09	0.043	0.03	0.020	0.011	0.007	0.01	567	270	5	0.46
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
04...	0.18	0.11	0.033	0.03	0.019	0.010	0.006	0.01	571	230	6	0.80
12...	0.21	--	0.039	--	--	--	0.006	--	909	--	15	3.1
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	0.94	--	0.124	--	--	--	0.005	--	2770	--	283	455
18...	0.41	--	0.059	--	--	--	0.004	--	1290	--	45	46
23...	0.22	0.18	0.028	0.03	0.016	0.009	0.007	0.01	490	150	15	9.7
30...	0.34	--	0.029	--	--	--	0.006	--	374	--	5	2.0
APR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
14...	0.13	--	0.017	--	--	--	0.005	--	305	--	3	1.3
20...	0.29	--	0.030	--	--	--	0.006	--	295	--	7	3.2
28...	0.25	--	0.037	--	--	--	0.004	--	440	--	15	11
MAY												
06...	0.16	--	0.029	--	--	--	0.005	--	473	--	59	56
12...	--	--	--	--	--	--	--	--	--	--	--	--
13...	0.26	--	0.044	--	--	--	0.008	--	616	--	44	53
20...	0.25	--	0.056	--	--	--	0.008	--	603	--	40	70
21...	0.26	--	0.048	--	--	--	0.010	--	770	--	34	64
25...	0.23	--	0.039	--	--	--	0.004	--	361	--	22	35
JUN												
01...	0.17	--	0.031	--	--	--	0.006	--	280	--	24	34
10...	0.10	--	0.026	--	--	--	0.008	--	261	--	10	6.8
15...	0.35	--	0.038	--	--	--	0.007	--	471	--	34	42
16...	--	--	--	--	--	--	--	--	--	--	--	--
18...	0.23	--	0.032	--	--	--	0.005	--	302	--	19	21
22...	0.08	--	0.030	--	--	--	0.007	--	254	--	16	15
29...	0.24	--	0.024	--	--	--	0.004	--	259	--	9	6.3
JUL												
13...	--	--	--	--	--	--	--	--	--	--	--	--
21...	0.15	--	0.018	--	--	--	0.004	--	213	--	3	0.59
AUG												
03...	0.13	--	0.029	--	--	--	0.006	--	229	--	5	0.62
06...	--	--	--	--	--	--	--	--	--	--	--	--
24...	0.25	--	0.024	--	--	--	0.008	--	261	--	3	0.13
SEP												
10...	--	--	--	--	--	--	--	--	--	--	--	--
22...	0.20	--	0.036	--	--	--	0.004	--	231	--	3	0.07

10336645 GENERAL CREEK NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'07", long 120°07'03", in NE 1/4 NE 1/4 sec.20, T.14 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, on right bank 200 ft upstream from State Highway 89, 0.4 mi upstream from Lake Tahoe, and 1.1 mi north of Meeks Bay.

DRAINAGE AREA.--7.44 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,250.38 ft above sea level.

REMARKS.--Records good except for estimated daily discharges and discharges less than 0.5 ft^3/s, which are fair. No known diversion or regulation upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s, Dec. 20, 1981, gage height, 5.43 ft, from rating curve extended above 180 ft^3/s on basis of computation of flow through culvert; minimum daily, 0.31 ft^3/s, Sept. 11, 1992.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	2300	unknown	*a3.21	May 17	2245	233	2.73
May 2	2230	139	2.24	May 31	1545	*288	3.02
May 11	2300	229	2.72	June 10	2145	125	2.14

(a) Backwater from ice.

Minimum daily, 0.43 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	1.3	.82	2.1	4.5	4.2	32	107	102	14	1.9	.89
2	.52	1.1	.78	2.1	4.2	4.2	29	113	77	13	1.8	.90
3	.52	.98	.97	2.1	4.2	4.2	28	123	66	12	1.7	.90
4	.54	.90	.88	2.1	4.2	4.2	34	84	79	10	1.7	.91
5	.54	.87	.86	2.1	4.2	4.2	31	68	72	9.5	1.5	.91
6	.54	.84	.78	2.1	4.2	4.5	26	89	48	8.6	1.5	.91
7	.52	.78	1.5	e6.0	4.2	5.2	24	94	45	7.9	1.5	.91
8	.45	.78	1.7	e5.0	4.2	6.2	26	95	51	7.1	1.5	.90
9	.51	.78	e6.0	e4.5	4.2	6.9	37	96	63	6.5	1.4	.90
10	.48	.78	e4.0	e3.9	4.2	7.3	36	133	84	5.4	1.4	.87
11	.48	.78	e3.0	e3.5	4.5	7.5	33	160	78	5.0	1.4	.86
12	.47	.78	e2.0	e3.3	4.5	8.2	32	142	64	4.4	1.4	.85
13	.50	.78	1.9	e3.2	4.5	9.3	30	88	64	4.0	1.2	.87
14	.47	.75	1.5	e3.1	4.2	15	29	95	71	3.5	1.2	.87
15	.47	.69	1.3	e3.1	4.2	17	34	111	66	3.3	1.2	.90
16	.47	.69	1.4	e3.0	4.2	15	40	131	55	3.1	1.2	.93
17	.51	.68	1.3	e2.9	4.2	37	38	158	54	3.0	1.2	.98
18	.51	.69	1.4	e2.8	4.8	46	36	165	55	2.9	1.1	.98
19	.54	.69	1.3	e2.6	e5.5	32	32	151	52	2.7	1.1	.98
20	.54	.69	1.2	e11	e6.0	28	34	137	47	2.6	1.1	.94
21	.64	.69	1.2	e16	e5.5	29	48	124	38	2.4	1.2	.87
22	.66	.88	1.2	e21	e5.5	31	58	117	33	2.4	1.1	.87
23	.59	.91	1.1	e20	5.5	38	58	132	28	2.3	1.1	.87
24	.59	.87	1.1	e18	5.5	53	47	134	27	2.4	1.0	.87
25	.59	.87	1.1	e13	4.5	40	47	129	25	2.2	1.0	.85
26	.60	.83	1.1	e10	4.5	33	57	114	26	2.1	.92	.78
27	1.0	.97	1.1	8.8	4.5	28	64	92	24	2.2	.89	.78
28	1.3	1.0	1.1	6.2	4.2	25	70	66	21	2.2	.89	.78
29	2.5	.90	1.1	5.5	---	23	85	60	17	2.1	.89	.78
30	2.4	.87	1.4	5.2	---	24	104	75	15	2.1	.89	.78
31	1.8	---	1.7	4.8	---	26	---	164	---	2.1	.89	---
TOTAL	22.68	25.12	47.79	199.0	128.6	616.1	1279	3547	1547	153.0	38.77	26.39
MEAN	.73	.84	1.54	6.42	4.59	19.9	42.6	114	51.6	4.94	1.25	.88
MAX	2.5	1.3	6.0	21	6.0	53	104	165	102	14	1.9	.98
MIN	.43	.68	.78	2.1	4.2	4.2	24	60	15	2.1	.89	.78
AC-FT	45	50	95	395	255	1220	2540	7040	3070	303	77	52

e Estimated.

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.53	9.27	9.83	6.43	12.8	17.7	38.2	57.4	29.9	5.90	1.27	1.32
MAX	15.5	45.4	58.7	19.4	64.2	60.1	70.4	114	158	49.6	4.72	4.36
(WY)	1983	1982	1982	1984	1986	1986	1989	1993	1983	1983	1983	1983
MIN	.73	.84	.89	.90	.99	5.88	15.9	7.18	2.23	.73	.58	.39
(WY)	1993	1993	1991	1991	1991	1987	1991	1992	1992	1981	1988	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1981 - 1993	
ANNUAL TOTAL	1972.69		7630.45			
ANNUAL MEAN	5.39		20.9		16.0	
HIGHEST ANNUAL MEAN					34.7	1982
LOWEST ANNUAL MEAN					4.96	1988
HIGHEST DAILY MEAN	70	Apr 17	165	May 18	588	Dec 20 1981
LOWEST DAILY MEAN	.31	Sep 11	.43	Oct 1	.31	Sep 11 1992
ANNUAL SEVEN-DAY MINIMUM	.33	Sep 10	.48	Oct 10	.33	Sep 10 1992
INSTANTANEOUS PEAK FLOW			288	May 31	765	Dec 20 1981
INSTANTANEOUS PEAK STAGE			3.21	Jan 23	5.43	Dec 20 1981
ANNUAL RUNOFF (AC-FT)	3910		15130		11610	
10 PERCENT EXCEEDS	16		71		46	
50 PERCENT EXCEEDS	1.2		3.5		3.2	
90 PERCENT EXCEEDS	.47		.78		.77	

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PFRIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURE: October 1980 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1992.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
09...	0910	0.54	--	--	--	5.5	--	--	--	--	--	--
10...	1135	0.47	--	--	--	7.0	--	--	--	--	--	--
23...	1720	0.54	64	--	--	7.0	--	--	--	0.004	--	0.001
28...	0845	1.1	--	--	--	5.0	--	--	--	--	--	--
29...	1115	2.9	60	--	3.0	5.0	--	--	--	0.006	--	0.001
29...	1410	3.2	--	--	--	5.5	--	--	--	--	--	--
30...	1135	2.9	62	7.3	2.5	5.0	--	--	--	0.011	0.001	0.001
NOV												
16...	1540	0.69	61	--	--	4.0	--	--	--	0.002	--	0.003
17...	0955	0.69	--	--	--	2.0	--	--	--	--	--	--
30...	1045	0.87	63	--	1.0	0.0	--	--	--	0.004	--	0.002
DEC												
23...	1630	1.1	56	7.4	-2.0	0.0	614	10.8	92	0.018	0.003	0.003
JAN												
21...	1650	16	44	--	--	0.0	--	--	--	0.023	--	0.001
26...	1415	10	38	--	3.0	0.0	--	--	--	0.033	--	0.001
FEB												
24...	1530	5.5	37	7.2	-4.5	0.0	600	10.8	94	0.009	0.003	0.003
MAR												
09...	1105	6.9	37	--	7.0	2.0	--	--	--	0.008	--	ND
17...	1305	41	28	--	6.0	0.0	--	--	--	0.017	--	<0.001
18...	1500	42	26	--	7.5	1.0	--	--	--	0.013	--	ND
31...	1445	26	27	7.3	13.5	4.0	604	10.4	100	0.005	ND	ND
APR												
13...	1855	29	26	--	4.0	4.0	--	--	--	0.005	--	ND
19...	1340	31	24	7.0	--	3.5	608	10.7	102	0.004	ND	0.001
28...	1420	66	19	--	15.0	4.0	--	--	--	0.008	--	<0.001
28...	1945	73	20	--	7.0	3.0	--	--	--	0.007	--	ND
MAY												
03...	1550	113	15	6.7	4.0	2.0	598	10.8	100	0.007	0.001	0.001
11...	1920	174	15	--	1.5	3.5	--	--	--	0.005	--	0.001
11...	2325	227	13	--	--	1.0	--	--	--	0.006	--	0.001
12...	1425	109	15	6.9	6.5	3.5	600	10.1	97	0.004	ND	<0.001
17...	1345	105	13	--	--	4.5	--	--	--	0.003	--	0.001
17...	2005	189	12	--	9.0	4.0	--	--	--	0.004	--	0.001
18...	0810	144	12	6.9	11.0	1.5	606	11.0	99	0.004	0.001	0.001
27...	1600	75	13	--	9.0	4.5	--	--	--	0.003	--	0.001
31...	1530	284	12	--	8.0	4.0	--	--	--	0.006	--	0.002
31...	2250	178	12	--	4.5	2.5	--	--	--	0.004	--	0.001
JUN												
07...	1500	42	16	7.1	11.5	7.0	607	9.6	99	0.004	ND	ND
14...	2015	80	12	--	14.5	10.0	--	--	--	0.003	--	<0.001
15...	1100	59	12	--	--	--	--	--	--	0.004	--	ND
JUL												
01...	1455	14	21	7.2	25.0	14.0	607	8.2	101	0.004	0.001	0.003
21...	1515	2.3	39	--	--	14.0	--	--	--	0.006	--	0.003
AUG												
31...	1650	0.87	58	--	18.5	14.0	--	--	--	0.009	--	0.003
SEP												
28...	1750	0.78	62	7.8	14.0	9.0	610	8.2	89	0.005	0.001	0.001

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHATE, TOTAL (MG/L AS PO4)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS HYDRO. + ORTHO DIS. (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	IRON, BIO. REACTIVE DISSOLVED (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT												
09...	--	--	--	--	--	--	--	--	--	--	8	0.01
10...	--	--	--	--	--	--	--	--	--	--	2	<0.01
23...	0.06	--	0.021	--	--	--	0.012	--	59	--	<1	--
28...	--	--	--	--	--	--	--	--	--	--	2	0.01
29...	0.23	--	0.052	--	--	--	0.015	--	296	--	7	0.05
29...	--	--	--	--	--	--	--	--	--	--	13	0.11
30...	0.36	0.31	0.044	0.05	0.029	0.016	0.014	0.02	199	120	7	0.05
NOV												
16...	0.04	--	0.024	--	--	--	0.015	--	77	--	<1	--
17...	--	--	--	--	--	--	--	--	--	--	1	<0.01
30...	0.04	--	0.017	--	--	--	0.014	--	76	--	<1	--
DEC												
23...	0.10	0.08	0.015	0.03	0.012	0.010	0.009	0.01	79	52	5	0.02
JAN												
21...	0.17	--	0.020	--	--	--	0.007	--	139	--	10	0.43
26...	0.18	--	0.014	--	--	--	0.004	--	101	--	4	0.11
FEB												
24...	0.09	0.08	0.019	0.01	0.017	0.004	0.004	0.01	43	27	2	0.03
MAR												
09...	0.08	--	0.021	--	--	--	0.004	--	47	--	1	0.02
17...	0.25	--	0.045	--	--	--	0.005	--	473	--	20	2.2
18...	0.20	--	0.018	--	--	--	0.003	--	125	--	6	0.68
31...	0.15	0.13	0.013	0.01	0.011	0.003	0.003	<0.01	39	30	2	0.14
APR												
13...	0.10	--	0.007	--	--	--	0.003	--	41	--	2	0.16
19...	0.10	0.10	0.007	0.01	0.006	0.002	0.003	<0.01	38	32	<1	--
28...	0.10	--	0.015	--	--	--	0.002	--	43	--	3	0.53
28...	0.11	--	0.014	--	--	--	0.003	--	64	--	8	1.6
MAY												
03...	0.14	0.12	0.035	0.01	0.010	0.003	0.003	<0.01	108	26	10	3.1
11...	0.16	--	0.029	--	--	--	0.003	--	247	--	25	12
11...	0.33	--	0.046	--	--	--	0.003	--	3040	--	50	31
12...	0.12	0.08	0.018	0.01	0.012	0.004	0.003	<0.01	122	23	10	2.9
17...	0.09	--	0.015	--	--	--	0.004	--	51	--	8	2.3
17...	0.18	--	0.027	--	--	--	0.004	--	204	--	22	11
18...	0.16	0.11	0.018	0.02	0.012	0.005	0.004	<0.01	174	28	9	3.5
27...	0.08	--	0.015	--	--	--	0.003	--	130	--	7	1.4
31...	0.40	--	0.053	--	--	--	0.005	--	1060	--	70	54
31...	0.15	--	0.024	--	--	--	0.003	--	301	--	17	8.2
JUN												
07...	0.09	0.08	0.010	0.01	0.008	0.003	0.002	<0.01	48	32	1	0.11
14...	0.11	--	0.014	--	--	--	0.003	--	48	--	4	0.86
15...	0.14	--	0.012	--	--	--	0.003	--	45	--	<1	--
JUL												
01...	0.06	0.09	0.014	0.02	0.012	0.006	0.005	0.01	47	31	--	--
21...	0.08	--	0.020	--	--	--	0.007	--	54	--	--	--
AUG												
31...	0.07	--	0.053	--	--	--	0.024	--	77	--	--	--
SEP												
28...	0.07	0.08	0.036	0.06	0.033	0.021	0.019	0.02	79	62	--	--

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA

LOCATION.--Lat 39°06'27", long 120°09'40", in NW 1/4 NE 1/4 sec.36, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft upstream from bridge on State Highway 89, 1,000 ft upstream from Lake Tahoe, and 4.6 mi south of Tahoe City.

DRAINAGE AREA.--11.2 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,234.59 ft above sea level. Oct. 1, 1960, to Sept. 30, 1964, at datum 10.25 ft lower and Oct. 1, 1964, to Aug. 27, 1970, at datum 12 ft lower, at site 400 ft downstream.

REMARKS.--Records good except for estimated daily discharges, which are fair. No known diversion or regulation upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft^3/s, Dec. 22 or 24, 1964, on basis of computation of flow through culvert; maximum gage height, 9.90 ft, site and datum then in use, Dec. 22, 1964; minimum discharge, 0.30 ft^3/s, Sept. 19, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	0145	unknown	*a4.15	May 19	2045	363	3.08
May 2	2200	204	2.45	May 31	1245	*534	3.59
May 11	2030	296	2.84	June 14	2115	254	2.67

(a) Backwater from ice.

Minimum daily, 1.1 ft^3/s, Oct. 3-8, 11, 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.4	2.1	e5.0	9.2	e8.8	63	159	245	96	16	3.9
2	1.2	2.2	2.1	e5.0	9.0	8.8	54	167	190	97	15	3.8
3	1.1	2.0	2.1	e5.0	8.8	9.3	56	186	161	89	15	3.8
4	1.1	1.7	2.1	e5.0	8.7	9.0	71	150	190	81	14	3.7
5	1.1	1.7	e2.1	e5.0	8.9	9.5	61	131	176	77	12	3.6
6	1.1	1.7	e2.5	e5.0	8.9	10	53	153	129	75	11	3.6
7	1.1	1.7	e4.0	e15	8.9	12	52	161	118	74	10	3.4
8	1.1	1.7	e5.0	e11	9.2	13	58	159	119	70	9.9	3.5
9	1.2	1.7	e15	e9.0	9.1	15	83	162	126	65	9.0	3.4
10	1.3	1.7	e13	e7.5	8.6	15	76	203	160	60	8.5	3.3
11	1.1	1.7	e11	7.2	9.0	16	70	241	177	55	8.0	3.2
12	1.1	1.8	e9.0	6.7	e8.5	18	67	224	154	53	7.7	3.2
13	1.2	1.8	e6.0	e7.0	e8.4	22	64	169	157	50	7.4	3.1
14	1.2	1.8	e4.5	e7.0	8.3	33	64	172	184	45	7.2	3.1
15	1.2	1.9	e4.0	6.8	8.4	35	73	185	191	40	6.9	3.1
16	1.2	1.9	3.8	6.2	8.5	32	79	213	179	37	6.6	3.1
17	1.2	2.0	e4.1	6.1	8.7	138	73	251	178	34	6.2	3.3
18	1.2	1.9	e4.1	5.8	8.9	107	70	279	178	32	5.9	3.3
19	1.2	2.3	4.1	5.5	e10	76	65	291	189	30	5.7	3.2
20	1.3	2.3	4.2	e15	e10	67	71	295	180	29	5.8	3.0
21	1.6	2.2	4.2	e25	e10	67	89	254	153	28	5.6	2.9
22	1.5	2.7	3.6	e30	e10	71	101	227	132	26	5.3	2.9
23	1.5	2.4	3.6	e28	e10	91	96	234	118	26	5.0	2.9
24	1.5	2.3	3.6	e25	e10	100	80	254	114	26	4.7	2.9
25	1.5	2.2	3.6	e20	e10	75	84	255	116	25	4.4	2.9
26	1.8	2.2	3.6	e17	9.8	61	95	218	129	24	4.5	2.8
27	1.8	2.3	3.6	15	8.8	52	102	185	131	22	4.5	2.8
28	1.8	2.2	e4.0	11	8.8	48	112	157	115	21	4.2	2.8
29	3.9	2.2	e4.0	9.9	---	48	131	147	99	20	4.0	2.7
30	5.3	e2.1	e5.0	9.5	---	52	158	159	94	19	3.9	2.8
31	3.0	---	e5.0	9.5	---	57	---	315	---	17	3.8	---
TOTAL	48.6	60.7	148.6	345.7	255.4	1376.4	2371	6356	4582	1443	237.7	96.0
MEAN	1.57	2.02	4.79	11.2	9.12	44.4	79.0	205	153	46.5	7.67	3.20
MAX	5.3	2.7	15	30	10	138	158	315	245	97	16	3.9
MIN	1.1	1.7	2.1	5.0	8.3	8.8	52	131	94	17	3.8	2.7
AC-FT	96	120	295	686	507	2730	4700	12610	9090	2860	471	190

e Estimated.

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.35	14.0	20.7	22.4	20.9	29.4	59.8	127	98.3	26.3	5.42	2.93
MAX	28.1	94.8	157	166	116	122	124	312	320	149	36.1	10.3
(WY)	1963	1984	1965	1970	1986	1986	1989	1969	1983	1983	1983	1982
MIN	1.31	1.68	1.90	2.00	2.27	3.82	13.6	29.7	7.20	3.11	1.53	1.21
(WY)	1978	1978	1977	1991	1991	1977	1975	1977	1992	1987	1981	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	4563.0		17321.1				
ANNUAL MEAN	12.5		47.5		36.1		
HIGHEST ANNUAL MEAN					73.4		1982
LOWEST ANNUAL MEAN					8.71		1977
HIGHEST DAILY MEAN	115	Apr 17	315	May 31	1370	Dec 20	1981
LOWEST DAILY MEAN	1.0	Sep 25	1.1	Oct 3	.50	Sep 24	1968
ANNUAL SEVEN-DAY MINIMUM	1.0	Sep 24	1.1	Oct 2	.54	Sep 23	1968
INSTANTANEOUS PEAK FLOW			534	May 31	2100	Dec 22	1964
INSTANTANEOUS PEAK STAGE			4.15	Jan 23	9.90	Dec 22	1964
ANNUAL RUNOFF (AC-FT)	9050		34360		26140		
10 PERCENT EXCEEDS	43		160		104		
50 PERCENT EXCEEDS	3.8		9.3		9.9		
90 PERCENT EXCEEDS	1.3		1.8		2.1		

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-78, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1980 to September 1983.
WATER TEMPERATURE: October 1974 to June 1978 (1977-78 storm season only), October 1979 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1974 to June 1978 (1977-78 storm season only), October 1979 to September 1992.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
09...	1015	1.1	--	--	--	6.5	--	--	--	--	--	--
10...	1155	1.1	--	--	--	7.0	--	--	--	--	--	--
23...	1620	1.2	92	--	--	9.0	--	--	--	0.009	--	0.002
28...	0905	1.5	--	--	--	7.0	--	--	--	--	--	--
29...	1005	3.4	81	--	3.0	4.0	--	--	--	0.011	--	0.002
29...	1640	5.3	80	--	2.5	4.5	--	--	--	0.016	--	0.002
30...	0850	7.2	73	7.5	4.0	4.5	--	--	--	0.016	0.004	0.003
30...	1210	5.8	--	--	5.0	--	--	--	--	--	--	--
30...	1335	5.5	77	--	2.5	5.0	--	--	--	0.015	--	0.003
NOV												
16...	1625	1.9	83	--	--	5.0	--	--	--	0.002	--	0.002
17...	1135	1.9	--	--	--	3.0	--	--	--	--	--	--
30...	1245	2.1	85	--	6.0	1.5	--	--	--	0.004	--	0.003
DEC												
23...	1430	3.6	78	7.4	2.0	0.0	615	11.4	97	0.010	0.006	0.007
JAN												
21...	1745	25	63	--	--	0.0	--	--	--	0.026	--	0.004
21...	2245	25	58	--	--	0.0	--	--	--	0.026	--	0.005
26...	1305	17	66	--	1.0	0.0	--	--	--	0.051	--	0.003
FEB												
25...	1615	10	66	7.2	-2.5	0.0	601	11.2	97	0.021	0.004	0.004
MAR												
09...	1305	15	64	--	--	--	--	--	--	0.017	--	ND
17...	1115	130	44	--	3.5	0.0	--	--	--	0.059	--	<0.001
17...	2150	175	47	--	--	--	--	--	--	0.086	--	<0.001
18...	1540	93	55	--	6.5	3.5	--	--	--	0.086	--	ND
31...	1340	53	55	7.4	10.5	7.0	605	9.4	98	0.047	ND	ND
APR												
13...	1825	63	56	--	5.5	7.0	--	--	--	0.009	--	ND
19...	1525	63	56	7.4	8.0	8.0	607	9.7	103	0.022	<0.001	0.001
28...	1340	101	50	--	11.0	7.0	--	--	--	0.039	--	<0.001
28...	1855	119	50	--	6.0	6.0	--	--	--	0.035	--	<0.001
MAY												
03...	1400	175	43	7.3	5.0	3.0	598	10.6	100	0.042	0.002	0.002
11...	1835	273	40	--	7.5	4.5	--	--	--	0.044	--	0.002
11...	2245	296	37	--	5.5	2.0	--	--	--	0.045	--	0.002
12...	1315	206	39	7.3	8.5	5.5	601	9.8	99	0.049	ND	0.001
17...	1300	202	37	--	12.0	6.5	--	--	--	0.033	--	0.002
17...	1830	286	34	--	11.5	5.0	--	--	--	0.028	--	0.002
18...	0705	258	35	7.2	4.0	2.0	606	10.9	99	0.032	<0.001	0.002
27...	1520	171	37	--	8.5	6.0	--	--	--	0.021	--	0.002
31...	1430	490	28	--	8.0	4.0	--	--	--	0.030	--	0.006
31...	2205	340	32	--	5.5	3.0	--	--	--	0.029	--	0.004
JUN												
07...	1600	119	40	7.5	11.5	9.0	608	9.2	100	0.016	ND	<0.001
14...	1910	230	30	--	14.0	7.5	--	--	--	0.017	--	0.001
15...	1020	159	33	--	--	5.5	--	--	--	0.019	--	0.001
22...	1720	126	33	7.5	--	10.5	608	8.9	100	0.007	<0.001	0.002
JUL												
01...	1550	88	31	--	17.5	13.5	--	--	--	0.002	--	0.003
21...	1610	26	42	--	17.0	15.0	--	--	--	0.007	--	0.002
AUG												
31...	1735	3.9	69	--	18.5	17.0	--	--	--	0.009	--	0.005
SEP												
28...	1650	2.8	80	7.0	13.0	12.0	611	8.2	95	0.005	0.001	0.001

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHATE, TOTAL (MG/L AS PO4)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS HYDRO. + ORTHO DIS. (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	IRON, BIO. REACTIVE DISSOLVED (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT												
09...	--	--	--	--	--	--	--	--	--	--	3	0.01
10...	--	--	--	--	--	--	--	--	--	--	4	0.01
23...	0.08	--	0.025	--	--	--	0.012	--	912	--	5	0.02
28...	--	--	--	--	--	--	--	--	--	--	2	0.01
29...	0.12	--	0.045	--	--	--	0.014	--	1120	--	14	0.13
29...	0.23	--	0.052	--	--	--	0.013	--	1180	--	16	0.23
30...	0.90	0.14	0.135	0.04	0.031	0.014	0.014	0.02	5460	360	60	1.2
30...	--	--	--	--	--	--	--	--	--	--	13	0.20
30...	0.14	--	0.045	--	--	--	0.013	--	936	--	16	0.24
NOV												
16...	0.04	--	0.024	--	--	--	0.012	--	708	--	3	0.02
17...	--	--	--	--	--	--	--	--	--	--	2	0.01
30...	0.04	--	0.014	--	--	--	0.009	--	562	--	2	0.01
DEC												
23...	0.06	0.05	0.012	0.02	0.008	0.007	0.006	0.01	379	180	2	0.02
JAN												
21...	0.08	--	0.021	--	--	--	0.004	--	456	--	8	0.54
21...	0.11	--	0.030	--	--	--	0.005	--	717	--	10	0.68
26...	0.11	--	0.025	--	--	--	0.004	--	943	--	12	0.55
FEB												
25...	0.04	0.03	0.026	0.01	0.017	0.004	0.004	<0.01	244	84	2	0.05
MAR												
09...	0.05	--	0.025	--	--	--	0.005	--	392	--	4	0.16
17...	0.75	--	0.243	--	--	--	0.005	--	7070	--	248	87
17...	0.57	--	0.143	--	--	--	0.007	--	3320	--	127	60
18...	0.19	--	0.040	--	--	--	0.006	--	597	--	22	5.5
31...	0.07	0.06	0.025	0.02	0.017	0.006	0.005	0.01	194	120	6	0.86
APR												
13...	0.07	--	0.012	--	--	--	0.003	--	167	--	6	1.0
19...	0.08	0.07	0.010	0.02	0.007	0.005	0.005	<0.01	176	110	3	0.51
28...	0.06	--	0.028	--	--	--	0.004	--	251	--	12	3.3
28...	0.13	--	0.037	--	--	--	0.004	--	425	--	24	7.7
MAY												
03...	0.13	0.05	0.019	0.02	0.017	0.006	0.005	0.01	422	44	30	14
11...	0.49	--	0.103	--	--	--	0.005	--	1730	--	202	149
11...	0.32	--	0.094	--	--	--	0.005	--	3730	--	166	133
12...	0.10	0.03	0.044	0.03	0.018	0.009	0.004	<0.01	527	45	34	19
17...	0.08	--	0.040	--	--	--	0.006	--	291	--	27	15
17...	0.19	--	0.073	--	--	--	0.007	--	841	--	114	88
18...	0.14	0.06	0.054	0.03	0.019	0.009	0.007	<0.01	484	39	63	44
27...	0.06	--	0.034	--	--	--	0.005	--	278	--	15	6.9
31...	1.2	--	0.267	--	--	--	0.007	--	6720	--	478	632
31...	0.33	--	0.116	--	--	--	0.006	--	1760	--	152	140
JUN												
07...	0.11	0.04	0.026	0.02	0.014	0.005	0.005	0.01	282	61	22	7.1
14...	0.26	--	0.053	--	--	--	0.005	--	681	--	98	61
15...	0.13	--	0.032	--	--	--	0.005	--	218	--	18	7.7
22...	0.05	0.02	0.031	0.02	0.016	0.007	0.005	<0.01	164	44	10	3.4
JUL												
01...	0.09	--	0.021	--	--	--	0.007	--	178	--	--	--
21...	0.11	--	0.019	--	--	--	0.004	--	161	--	--	--
AUG												
31...	0.06	--	0.045	--	--	--	0.012	--	283	--	--	--
SEP												
28...	0.07	0.02	0.026	0.03	0.024	0.010	0.007	0.01	265	180	--	--

10336674 WARD CREEK BELOW CONFLUENCE NEAR TAHOE CITY, CA

LOCATION.--Lat 39°08'27", long 120°12'40", in SE 1/4 SE 1/4 sec.16, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on left bank 0.1 mi downstream from confluence with unnamed tributary, 3.2 mi west of William Kent Campground, and 4.8 mi southwest of Tahoe City.

DRAINAGE AREA.--4.96 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,600 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No storage or diversion upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 316 ft^3/s, May 31, 1993, gage height, 6.66 ft; no flow for some days each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	1045	97	5.60	May 19	1830	168	6.02
May 2	2145	73	5.42	May 31	1030	*316	*6.66
May 11	1900	131	5.82	June 10	1730	121	5.92

No flow for several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.70	.51	e1.1	e2.6	e2.3	21	54	111	60	10	1.1
2	.04	e.80	.50	e1.0	e2.6	e2.3	16	59	90	60	10	1.1
3	.02	e.70	.47	e1.0	e2.5	e2.4	16	64	81	55	9.7	1.1
4	.02	e.60	.55	e1.0	e2.5	e2.6	22	51	100	50	8.8	1.1
5	.02	e.55	.47	e1.0	e2.5	2.9	18	46	82	47	7.9	1.0
6	.01	e.50	e1.0	e1.0	e2.5	3.6	15	54	55	42	7.2	1.0
7	.01	e.50	e1.5	e1.5	e2.5	4.6	14	58	56	43	6.3	.98
8	.01	e.50	e1.0	e1.7	e2.5	5.7	17	59	58	40	5.2	.93
9	.01	.47	e5.0	e1.6	e2.4	6.6	27	62	66	37	4.8	.88
10	.00	.33	e2.0	e1.5	e2.4	7.0	22	78	88	34	4.6	.83
11	.00	.38	e1.8	e1.5	e2.2	8.3	21	94	86	32	4.3	.81
12	.00	.53	e1.5	e1.5	e2.2	9.5	19	89	80	31	4.0	.81
13	.00	.64	e1.3	e1.5	e2.1	12	18	70	83	29	3.8	.82
14	.00	.68	e1.0	e1.5	e2.0	19	19	72	99	26	3.6	.79
15	.00	.62	e1.0	e1.4	e2.0	16	23	78	100	23	3.4	.79
16	.00	.62	e1.0	e1.4	e2.0	13	e23	94	93	21	3.3	.82
17	.00	.62	e1.0	e1.4	e2.0	e45	e23	106	94	20	3.0	.86
18	.01	.55	e1.0	e1.4	e2.0	28	e22	123	100	18	3.0	.85
19	.01	.55	e1.0	e1.4	e2.2	22	e22	133	109	17	2.7	.81
20	.01	e.50	e1.0	e5.0	e2.4	19	21	145	107	17	2.5	.76
21	.09	.41	e1.0	e8.0	e2.6	21	30	125	96	16	2.3	.75
22	.03	e1.2	e1.0	e11	e2.6	24	34	113	82	16	2.1	.76
23	.03	.83	e1.0	e9.0	e2.6	33	32	121	72	16	1.8	.75
24	.03	.64	e1.0	e8.0	e2.6	34	25	131	69	16	1.6	.73
25	.03	.54	e1.0	e5.0	e2.5	24	25	134	71	15	1.5	.71
26	.03	.62	e1.0	e4.0	e2.4	19	30	124	79	14	1.5	.69
27	.05	e.70	e1.0	e3.0	e2.4	15	34	105	82	13	1.4	.67
28	.11	.79	e1.1	e2.8	e2.3	13	38	87	72	13	1.3	.65
29	.29	.72	e1.1	e2.6	---	13	46	86	62	13	1.2	.64
30	2.1	.63	e1.1	e2.6	---	15	55	96	59	12	1.2	.65
31	.60	---	e1.0	e2.6	---	17	---	166	---	11	1.1	---
TOTAL	3.56	18.42	35.90	89.0	66.1	459.8	748	2877	2482	857	125.1	25.14
MEAN	.11	.61	1.16	2.87	2.36	14.8	24.9	92.8	82.7	27.6	4.04	.84
MAX	2.1	1.2	5.0	11	2.6	45	55	166	111	60	10	1.1
MIN	.00	.33	.47	1.0	2.0	2.3	14	46	55	11	1.1	.64
AC-FT	7.1	37	71	177	131	912	1480	5710	4920	1700	248	50

e Estimated.

10336674 WARD CREEK BELOW CONFLUENCE NEAR TAHOE CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.37	.83	1.03	1.84	2.35	10.9	27.0	56.7	43.2	14.3	2.03	.42
MAX	.62	1.04	1.16	2.87	2.36	14.8	29.0	92.8	82.7	27.6	4.04	.84
(WY)	1992	1992	1993	1993	1993	1993	1992	1993	1993	1993	1993	1993
MIN	.11	.61	.90	.82	2.34	7.02	24.9	20.5	3.67	.91	.025	.008
(WY)	1993	1993	1992	1992	1992	1992	1993	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1992 - 1993	
ANNUAL TOTAL	2015.36		7787.02			
ANNUAL MEAN	5.51		21.3		13.4	
HIGHEST ANNUAL MEAN					21.3	1993
LOWEST ANNUAL MEAN					5.56	1992
HIGHEST DAILY MEAN	47	Apr 17	166	May 31	166	May 31 1993
LOWEST DAILY MEAN	.00	Aug 21	.00	Oct 1	.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 9	.00	Oct 10	.00	Sep 9 1992
INSTANTANEOUS PEAK FLOW			316	May 31	316	May 31 1993
INSTANTANEOUS PEAK STAGE			6.66	May 31	6.66	May 31 1993
ANNUAL RUNOFF (AC-FT)	4000		15450		9730	
10 PERCENT EXCEEDS	20		80		40	
50 PERCENT EXCEEDS	.85		2.6		1.5	
90 PERCENT EXCEEDS	.01		.50		.03	

10336674 WARD CREEK BELOW CONFLUENCE NEAR TAHOE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1992 to September 1993.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT							
23...	1410	0.03	53	--	9.0	0.003	0.001
29...	1330	0.18	48	--	0.5	0.026	0.001
30...	0935	4.1	--	--	2.0	--	--
NOV							
16...	1240	0.54	48	--	4.0	0.008	0.002
17...	1250	0.59	--	--	3.5	--	--
DEC							
21...	1150	1.0	48	0.0	1.0	0.038	0.002
JAN							
21...	1110	8.0	51	--	1.5	0.038	0.002
FEB							
26...	1200	2.4	51	-4.0	2.0	0.030	<0.001
MAR							
17...	1530	50	42	2.0	0.0	0.061	ND
APR							
13...	1530	18	47	8.0	3.0	0.003	0.001
19...	0945	22	43	3.0	1.5	0.034	0.002
28...	1055	34	41	9.0	2.0	0.028	0.001
28...	1615	37	38	14.0	1.5	0.053	ND
MAY							
03...	1055	62	38	3.0	1.0	0.050	<0.001
11...	1455	93	32	16.0	2.0	0.046	0.002
17...	1010	85	32	15.0	2.0	0.038	<0.001
17...	1620	119	28	17.0	1.5	0.033	0.001
31...	1720	167	27	5.5	2.0	0.030	0.001
JUN							
07...	1055	51	32	6.5	2.5	0.017	0.001
14...	1620	125	26	19.0	5.0	0.019	0.002
15...	0750	84	28	6.5	2.5	0.021	<0.001
22...	1510	83	27	16.0	6.5	0.010	0.002
JUL							
01...	1115	52	27	20.0	7.0	0.006	0.002
21...	1140	15	30	14.5	8.5	0.004	0.002
AUG							
31...	1250	1.1	42	17.0	14.0	0.005	0.003
SEP							
28...	1345	0.66	45	21.5	11.5	0.005	0.004

10336674 WARD CREEK BELOW CONFLUENCE NEAR TAHOE CITY, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT						
23...	0.05	0.009	0.004	48	1	<0.00
29...	0.09	0.023	0.005	44	4	<0.00
30...	--	--	--	--	13	0.14
NOV						
16...	0.02	0.010	0.005	16	1	<0.00
17...	--	--	--	--	1	<0.00
DEC						
21...	0.04	0.007	0.004	9	<1	--
JAN						
21...	0.04	0.010	0.002	22	2	0.04
FEB						
26...	0.05	0.028	0.005	8	2	0.01
MAR						
17...	0.17	0.057	0.006	580	52	7.0
APR						
13...	0.07	0.006	0.002	20	--	--
19...	0.05	0.007	0.003	14	<1	--
28...	0.06	0.015	0.003	43	2	0.18
28...	0.08	0.019	0.004	49	3	0.30
MAY						
03...	0.07	0.022	0.005	100	6	1.0
11...	0.20	0.079	0.005	655	59	15
17...	0.07	0.037	0.007	72	12	2.8
17...	0.15	0.082	0.008	401	68	22
31...	0.21	0.066	0.006	678	80	36
JUN						
07...	0.04	0.016	0.004	40	4	0.55
14...	0.31	0.064	0.005	482	71	24
15...	0.09	0.021	0.005	67	12	2.7
22...	0.06	0.022	0.005	64	6	1.3
JUL						
01...	0.06	0.020	0.006	51	--	--
21...	0.07	0.016	0.003	62	--	--
AUG						
31...	0.06	0.031	0.007	11	--	--
SEP						
28...	0.03	0.020	0.006	40	--	--

10336675 WARD CREEK AT STANFORD ROCK TRAIL CROSSING NEAR TAHOE CITY, CA

LOCATION.--Lat 39°08'13", long 120°10'48", in NE 1/4 NW 1/4 sec.23, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on left bank 1.5 mi west of William Kent Campground, 1.7 mi upstream from mouth, and 3.6 mi southwest of Tahoe City.

DRAINAGE AREA.--8.97 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,450 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No storage or diversion upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 415 ft^3/s, May 31, 1993, gage height, 5.87 ft; minimum daily, 0.34 ft^3/s, Sept. 13, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	1230	181	5.04	May 19	1845	268	5.57
May 2	2000	211	5.12	May 31	1145	*415	*5.87
May 11	1845	248	5.52	June 10	1830	175	5.31

Minimum daily, 0.45 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	e4.0	1.5	2.1	4.5	e4.7	38	e104	e170	59	12	1.8
2	.51	e4.5	1.5	2.3	4.3	e4.8	32	e111	e140	59	11	1.8
3	.55	e3.0	1.5	2.2	4.3	e5.1	30	e127	129	54	10	1.7
4	.58	e2.1	1.4	2.1	4.2	e5.2	39	e106	162	51	9.5	1.7
5	.57	e2.1	1.2	2.1	4.1	e5.5	e33	e95	140	49	8.6	1.6
6	.59	e2.1	1.6	2.3	4.1	6.3	29	e114	93	48	7.7	1.6
7	.57	e2.1	2.0	3.0	4.0	7.0	28	e119	88	48	7.2	1.5
8	.59	e2.0	4.8	3.9	4.3	7.9	32	e116	83	47	6.6	1.5
9	.62	1.8	e10	e3.5	4.3	8.8	e53	e120	86	43	5.9	1.5
10	.64	1.5	3.9	e3.3	4.1	9.5	e46	e150	113	38	5.9	1.6
11	.64	1.5	e3.5	3.1	4.0	11	e43	177	e120	36	5.8	1.5
12	.64	1.5	3.1	3.0	4.0	12	e40	e160	e112	35	5.6	1.5
13	.63	1.7	2.6	2.8	3.8	14	e38	130	e112	33	5.3	1.5
14	.64	1.6	2.4	e3.3	3.8	23	39	129	e125	30	5.0	1.5
15	.66	1.6	2.3	3.3	3.8	24	e46	139	e125	27	4.8	1.5
16	.64	1.6	2.1	3.1	3.8	21	e49	165	e117	25	4.6	1.7
17	.65	1.6	2.3	2.9	3.8	80	e45	186	122	23	4.3	1.9
18	.65	1.6	2.1	3.0	3.9	65	e41	204	123	21	3.9	1.9
19	.70	1.6	2.2	2.9	e4.0	e44	e38	215	132	21	3.7	1.8
20	.69	1.5	2.2	e10	3.8	e34	e39	225	127	20	3.5	1.7
21	.90	1.4	2.2	e15	e4.0	e35	e60	188	114	19	3.2	1.7
22	.83	2.3	2.1	e22	e4.5	e38	e70	167	95	18	3.0	1.7
23	.80	1.8	2.0	e18	e4.7	e52	e64	173	81	19	2.7	1.7
24	.75	1.7	2.0	e16	e5.0	e56	e53	186	76	19	2.6	1.7
25	.74	1.7	2.0	e10	e5.0	e40	e55	197	77	18	2.5	1.6
26	.71	1.6	1.9	8.5	e4.9	35	e64	180	85	17	2.3	1.5
27	.86	1.8	1.9	6.2	e4.8	30	e70	148	86	16	2.2	1.5
28	1.1	1.7	e2.0	5.5	e4.7	27	e78	117	75	15	2.0	1.5
29	4.2	1.5	e2.1	5.2	---	26	e91	108	65	15	1.9	1.5
30	8.3	1.4	e2.2	4.7	---	29	e100	122	60	13	1.9	1.5
31	e2.9	---	2.2	4.7	---	34	---	251	---	12	1.8	---
TOTAL	34.30	57.9	76.8	180.0	118.5	794.8	1483	4729	3233	948	157.0	48.7
MEAN	1.11	1.93	2.48	5.81	4.23	25.6	49.4	153	108	30.6	5.06	1.62
MAX	8.3	4.5	10	22	5.0	80	100	251	170	59	12	1.9
MIN	.45	1.4	1.2	2.1	3.8	4.7	28	95	60	12	1.8	1.5
AC-FT	68	115	152	357	235	1580	2940	9380	6410	1880	311	97

e Estimated.

10336675 WARD CREEK AT STANFORD ROCK TRAIL CROSSING NEAR TAHOE CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.31	2.29	2.54	4.03	5.09	19.3	45.5	87.6	56.2	16.2	2.78	1.03
MAX	1.51	2.64	2.60	5.81	5.91	25.6	49.4	153	108	30.6	5.06	1.62
(WY)	1992	1992	1992	1993	1992	1993	1993	1993	1993	1993	1993	1993
MIN	1.11	1.93	2.48	2.26	4.23	12.9	41.6	22.7	4.60	1.87	.50	.44
(WY)	1993	1993	1993	1992	1993	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1992 - 1993	
ANNUAL TOTAL	2988.91		11861.00			
ANNUAL MEAN	8.17		32.5		20.4	
HIGHEST ANNUAL MEAN					32.5	1993
LOWEST ANNUAL MEAN					8.27	1992
HIGHEST DAILY MEAN	83	Apr 17	251	May 31	251	May 31 1993
LOWEST DAILY MEAN	.34	Sep 13	.45	Oct 1	.34	Sep 13 1992
ANNUAL SEVEN-DAY MINIMUM	.36	Sep 10	.55	Oct 1	.36	Sep 10 1992
INSTANTANEOUS PEAK FLOW			415	May 31	415	May 31 1993
INSTANTANEOUS PEAK STAGE			5.87	May 31	5.87	May 31 1993
ANNUAL RUNOFF (AC-FT)	5930		23530		14750	
10 PERCENT EXCEEDS	31		117		59	
50 PERCENT EXCEEDS	2.3		4.8		3.2	
90 PERCENT EXCEEDS	.48		1.5		.64	

10336675 WARD CREEK AT STANFORD ROCK TRAIL CROSSING NEAR TAHOE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1992 to September 1993.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT							
09...	1415	0.63	--	--	12.0	--	--
23...	1505	0.81	85	--	9.0	0.006	0.002
29...	1500	5.5	67	3.0	4.0	0.012	0.003
30...	0820	12	--	--	4.0	--	--
NOV							
16...	1420	1.6	64	--	4.0	0.002	0.003
17...	1415	1.6	--	--	3.5	--	--
DEC							
21...	1415	3.6	60	--	0.0	0.013	<0.001
JAN							
21...	1235	15	65	--	0.0	0.030	0.003
FEB							
26...	1415	4.9	60	-1.5	0.0	0.016	0.001
MAR							
17...	1715	157	46	2.0	0.0	0.048	<0.001
APR							
13...	1650	38	51	8.0	5.0	0.032	ND
19...	1055	38	50	6.5	4.0	0.009	0.002
28...	1250	78	47	9.5	5.0	0.065	ND
28...	1715	78	46	12.0	4.0	0.019	<0.001
MAY							
03...	1205	127	43	3.0	2.0	0.019	0.001
11...	1555	200	37	19.0	3.5	0.030	0.001
17...	1125	146	36	16.5	4.5	0.025	0.001
17...	1715	232	33	12.5	3.5	0.022	0.002
31...	1850	276	31	--	3.5	0.023	0.001
JUN							
07...	1210	81	39	10.0	6.5	0.010	0.001
14...	1720	125	30	20.0	7.0	0.012	0.001
15...	0850	125	33	12.0	4.0	0.012	0.001
22...	1605	96	32	16.5	9.0	0.006	0.002
JUL							
01...	1215	57	33	22.5	10.0	0.002	0.002
21...	1240	19	37	--	12.0	0.005	0.001
AUG							
31...	1450	1.7	61	22.0	17.0	0.009	0.004
SEP							
28...	1445	1.6	71	23.0	13.0	0.007	0.003

10336675 WARD CREEK AT STANFORD ROCK TRAIL CROSSING NEAR TAHOE CITY, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT						
09...	--	--	--	--	4	0.01
23...	0.07	0.022	0.011	370	4	0.01
29...	0.19	0.089	0.013	2200	46	0.68
30...	--	--	--	--	56	1.9
NOV						
16...	0.04	0.019	0.010	258	2	0.01
17...	--	--	--	--	2	0.01
DEC						
21...	0.09	0.021	0.006	387	--	--
JAN						
21...	0.08	0.018	0.007	212	2	0.08
FEB						
26...	0.04	0.035	0.006	119	<1	--
MAR						
17...	0.26	0.066	0.007	991	40	17
APR						
13...	0.07	0.009	0.003	36	2	0.21
19...	0.10	0.008	0.005	64	1	0.10
28...	0.06	0.020	0.003	71	20	4.2
28...	0.09	0.024	0.005	111	3	0.63
MAY						
03...	0.12	0.024	0.005	137	6	2.1
11...	0.25	0.103	0.007	1030	75	41
17...	0.10	0.041	0.008	124	12	4.7
17...	0.26	0.075	0.009	538	50	31
31...	0.27	0.081	0.007	893	70	52
JUN						
07...	0.12	0.020	0.006	100	4	0.87
14...	0.21	0.048	0.007	336	29	9.8
15...	0.07	0.022	0.007	77	6	2.0
22...	0.09	0.022	0.007	73	6	1.6
JUL						
01...	0.06	0.024	0.008	131	--	--
21...	0.08	0.020	0.006	87	--	--
AUG						
31...	0.12	0.047	0.016	342	--	--
SEP						
28...	0.10	0.025	0.011	322	--	--

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA

LOCATION.--Lat 39°07'56", long 120°09'24", in NW 1/4 SE 1/4 sec.24, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on right bank 165 ft downstream from State Highway 89 Bridge, 2.1 mi north of Tahoe Pines, and 2.6 mi southwest of Tahoe City.

DRAINAGE AREA.--9.70 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,230 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges and discharges less than 1 ft^3/s, which are fair. Minor diversion for local water supply upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s, Dec. 19, 1981, gage height, 8.05 ft, from rating curve extended above 800 ft^3/s; no flow for many days during 1977-78, 1981, 1988.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	0300	Unknown	*a8.29	May 19	1900	243	6.01
Mar. 17	1900	Unknown	a6.72	May 31	1230	*461	6.48
May 2	2230	149	5.53	June 10	1815	156	5.57
May 11	1915	243	5.91				

(a) Backwater from ice.

Minimum daily, 0.24 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	3.7	e2.0	e2.1	e4.7	4.7	37	107	177	74	12	1.8
2	.35	4.5	e1.9	e2.3	e4.5	4.8	32	114	144	74	12	1.7
3	.35	3.0	e1.8	e2.2	e4.5	5.1	31	131	131	69	11	1.7
4	.38	2.0	e1.7	e2.1	e4.4	5.2	40	109	156	64	11	1.7
5	.35	2.1	e1.6	e2.1	e4.4	e5.5	35	98	138	60	9.7	1.7
6	.33	2.1	e2.0	e2.3	e4.4	e6.4	31	117	105	58	8.9	1.6
7	.32	2.2	e3.0	e3.0	e4.4	e7.1	30	123	100	58	8.1	1.5
8	.32	2.1	e4.5	e3.9	e4.6	e8.0	34	120	98	54	7.3	1.5
9	.30	e1.9	e12	e3.5	e4.6	e9.0	54	124	103	50	6.7	1.4
10	.27	e1.8	e4.5	e3.3	e4.4	e10	47	155	124	46	6.4	1.3
11	.28	e1.7	e4.0	e3.1	e4.4	e11	43	180	123	42	6.1	1.2
12	.29	e1.6	e3.5	e3.0	e4.3	e13	40	164	115	40	5.7	1.2
13	.30	e1.5	e2.6	e3.1	e4.2	15	38	135	115	37	5.3	1.2
14	.31	e1.5	e2.4	e3.3	e4.2	24	38	137	129	34	5.0	1.3
15	.33	1.4	e2.3	e3.3	e4.0	25	46	144	128	31	4.7	1.2
16	.32	1.4	e2.1	e3.1	e4.0	22	49	167	119	28	4.6	1.3
17	.32	1.4	e2.3	e3.0	e4.0	e90	45	184	119	26	4.2	1.5
18	.31	1.3	e2.1	e3.0	e4.1	e70	41	206	123	24	4.0	1.5
19	.32	1.8	e2.2	e2.9	e4.2	47	38	210	130	23	3.7	1.4
20	.33	e1.8	e2.2	e12	e4.3	37	43	219	127	22	3.6	1.3
21	.78	2.1	e2.2	e17	e4.5	38	61	187	117	21	3.4	1.3
22	.78	2.7	e2.1	e25	e4.7	41	71	170	103	20	3.1	1.3
23	.82	e2.5	e2.0	e20	e5.0	55	65	177	91	20	2.8	1.3
24	.87	2.2	e2.0	e18	5.2	59	54	189	86	20	2.7	1.3
25	.82	1.9	e2.0	e12	5.0	42	56	202	88	18	2.5	1.2
26	.78	2.3	e1.9	e10	4.9	34	65	179	94	17	2.4	1.2
27	.94	2.4	e1.9	e7.0	4.8	30	71	151	96	16	2.2	1.1
28	1.2	e2.3	e2.2	e6.5	4.7	28	79	128	87	16	2.1	1.0
29	5.5	e2.2	e2.2	e5.5	---	28	93	120	77	15	1.9	1.0
30	8.2	e2.1	e2.5	e5.0	---	30	109	130	74	14	1.9	1.0
31	2.9	---	e2.2	e4.9	---	33	---	260	---	13	1.8	---
TOTAL	29.91	63.5	83.9	197.5	125.4	837.8	1516	4837	3417	1104	166.8	40.7
MEAN	.96	2.12	2.71	6.37	4.48	27.0	50.5	156	114	35.6	5.38	1.36
MAX	8.2	4.5	12	25	5.2	90	109	260	177	74	12	1.8
MIN	.24	1.3	1.6	2.1	4.0	4.7	30	98	74	13	1.8	1.0
AC-FT	59	126	166	392	249	1660	3010	9590	6780	2190	331	81

e Estimated.

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.63	12.9	12.6	13.4	14.5	20.0	40.9	86.8	71.0	20.4	3.66	1.82
MAX	22.4	73.9	92.5	74.0	77.7	80.3	89.2	156	265	123	26.9	7.93
(WY)	1983	1982	1982	1980	1982	1986	1989	1993	1983	1983	1983	1983
MIN	.15	1.06	.80	1.10	1.24	2.52	8.06	18.7	4.59	1.14	.003	.005
(WY)	1978	1978	1977	1991	1991	1977	1975	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1973 - 1993		
ANNUAL TOTAL	2953.72		12419.51				
ANNUAL MEAN	8.07		34.0		25.1		
HIGHEST ANNUAL MEAN					59.0		1983
LOWEST ANNUAL MEAN					5.29		1977
HIGHEST DAILY MEAN	92	Apr 17	260	May 31	784	Jan 13	1980
LOWEST DAILY MEAN	.01	Aug 28	.24	Oct 1	.00	Aug 4	1977
ANNUAL SEVEN-DAY MINIMUM	.06	Aug 23	.30	Oct 8	.00	Aug 4	1977
INSTANTANEOUS PEAK FLOW			461	May 31	1800	Dec 19	1981
INSTANTANEOUS PEAK STAGE			8.29	Jan 23	8.05	Dec 19	1981
ANNUAL RUNOFF (AC-FT)	5860		24630		18210		
10 PERCENT EXCEEDS	31		121		72		
50 PERCENT EXCEEDS	2.2		4.9		6.6		
90 PERCENT EXCEEDS	.19		1.2		.82		

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURE: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to September 1992.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
09...	1115	0.33	--	--	--	8.0	--	--	--	--	--	--
10...	1215	0.22	--	--	--	9.0	--	--	--	--	--	--
23...	1540	0.84	91	--	--	8.5	--	--	--	0.039	--	0.001
28...	0920	1.1	--	--	--	6.0	--	--	--	--	--	--
29...	0915	5.2	76	--	1.5	3.0	--	--	--	0.010	--	0.013
29...	1440	7.4	--	--	--	4.0	--	--	--	--	--	--
29...	1545	7.7	71	--	--	4.0	--	--	--	0.009	--	0.002
30...	0955	11	58	--	3.0	4.0	--	--	--	0.030	0.003	0.002
30...	1100	10	--	--	--	4.5	--	--	--	--	--	--
30...	1425	8.3	60	7.5	2.0	3.5	--	--	--	0.035	--	0.002
NOV												
16...	1705	1.4	68	--	--	3.0	--	--	--	0.001	--	0.001
17...	1450	1.4	--	--	--	3.0	--	--	--	--	--	--
30...	1330	2.1	71	--	4.5	0.0	--	--	--	0.002	--	<0.001
DEC												
21...	1610	2.2	64	7.5	-3.0	0.0	606	11.2	96	0.013	0.005	0.001
JAN												
21...	1535	17	62	--	--	0.0	--	--	--	0.029	--	0.002
21...	2215	17	62	--	--	0.0	--	--	--	0.037	--	0.003
26...	1535	10	65	--	3.0	0.0	--	--	--	0.032	--	0.001
FEB												
26...	1620	4.9	63	7.5	-1.0	0.0	603	11.0	95	0.017	<0.001	<0.001
MAR												
09...	1435	9.0	64	--	9.0	1.5	--	--	--	0.019	--	ND
17...	1005	90	49	--	3.0	0.0	--	--	--	0.031	--	0.002
17...	1800	90	47	--	--	--	--	--	--	0.039	--	ND
18...	1640	90	51	--	--	0.0	--	--	--	0.042	--	ND
31...	1230	31	53	7.5	13.0	5.5	606	9.8	98	0.008	ND	ND
APR												
13...	1745	38	54	--	7.0	5.5	--	--	--	0.022	--	ND
19...	1155	37	52	7.4	5.5	4.5	609	10.6	102	0.004	0.001	<0.001
28...	1210	36	49	--	7.5	5.0	--	--	--	0.004	--	ND
28...	1755	71	48	--	7.0	4.5	--	--	--	0.004	--	<0.001
MAY												
03...	1255	119	44	7.3	4.0	2.5	600	10.8	101	0.066	0.001	<0.001
11...	1755	240	36	--	11.0	3.5	--	--	--	0.026	--	<0.001
11...	2205	238	36	--	5.5	1.5	--	--	--	0.033	--	<0.001
12...	1150	151	41	7.3	8.0	4.5	602	10.2	99	0.023	<0.001	ND
17...	1210	145	38	--	12.0	5.5	--	--	--	0.011	--	<0.001
17...	1745	232	34	--	--	4.5	--	--	--	0.016	--	ND
18...	0605	180	36	7.3	4.0	1.5	606	11.1	100	0.024	<0.001	<0.001
28...	0905	127	37	--	--	4.5	--	--	--	0.009	--	0.001
31...	1410	385	31	--	9.0	4.0	--	--	--	0.021	--	0.003
31...	2125	249	34	--	5.0	3.0	--	--	--	0.022	--	0.002
JUN												
07...	1250	94	39	7.5	11.0	7.5	608	9.7	102	0.006	ND	<0.001
14...	1755	156	30	--	18.0	8.0	--	--	--	0.007	--	<0.001
15...	0935	121	35	--	--	4.5	--	--	--	0.008	--	<0.001
22...	1240	97	36	7.5	--	8.5	608	9.5	102	0.003	<0.001	0.002
JUL												
01...	1305	67	34	--	20.5	11.0	--	--	--	0.003	--	0.002
21...	1325	21	38	--	--	13.0	--	--	--	0.003	--	0.001
AUG												
31...	1410	2.1	65	--	19.5	17.0	--	--	--	0.006	--	0.003
SEP												
28...	1530	1.1	75	7.8	19.5	12.0	612	7.6	88	0.003	ND	0.002

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHATE, TOTAL (MG/L AS PO4)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS HYDRO. + ORTHO DIS. (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	IRON, BIO. REACTIVE DISSOLVED (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT												
09...	--	--	--	--	--	--	--	--	--	--	2	<0.01
10...	--	--	--	--	--	--	--	--	--	--	2	<0.01
23...	0.06	--	0.014	--	--	--	0.007	--	40	--	3	0.01
28...	--	--	--	--	--	--	--	--	--	--	2	0.01
29...	0.28	--	0.069	--	--	--	0.030	--	331	--	8	0.11
29...	--	--	--	--	--	--	--	--	--	--	12	0.24
29...	0.36	--	0.067	--	--	--	0.016	--	468	--	12	0.25
30...	0.35	0.15	0.086	0.05	0.030	0.016	0.014	0.02	1230	96	24	0.71
30...	--	--	--	--	--	--	--	--	--	--	15	0.41
30...	0.20	--	0.050	--	--	--	0.012	--	345	--	6	0.13
NOV												
16...	0.04	--	0.014	--	--	--	0.007	--	77	--	<1	<0.01
17...	--	--	--	--	--	--	--	--	--	--	1	<0.01
30...	0.03	--	0.010	--	--	--	0.007	--	66	--	1	0.01
DEC												
21...	0.06	0.06	0.014	0.02	0.009	0.006	0.006	<0.01	100	36	<1	<0.01
JAN												
21...	0.05	--	0.020	--	--	--	0.003	--	143	--	8	0.37
21...	0.07	--	0.023	--	--	--	0.008	--	143	--	10	0.46
26...	0.12	--	0.015	--	--	--	0.007	--	76	--	2	0.05
FEB												
26...	0.05	0.04	0.032	0.02	0.037	0.006	0.006	0.01	80	28	2	0.03
MAR												
09...	0.05	--	0.028	--	--	--	0.006	--	290	--	2	0.05
17...	0.17	--	0.061	--	--	--	0.009	--	920	--	30	7.3
17...	0.25	--	0.056	--	--	--	0.015	--	546	--	28	6.8
18...	0.17	--	0.039	--	--	--	0.008	--	381	--	16	3.9
31...	0.06	0.04	0.022	0.02	0.014	0.006	0.005	0.01	61	27	2	0.17
APR												
13...	0.08	--	0.008	--	--	--	0.003	--	135	--	4	0.41
19...	0.08	0.17	0.009	0.01	0.006	0.003	0.004	<0.01	60	25	1	0.10
28...	0.09	--	0.023	--	--	--	0.002	--	64	--	6	0.58
28...	0.12	--	0.029	--	--	--	0.003	--	159	--	12	2.3
MAY												
03...	0.16	0.07	0.027	0.02	0.015	0.005	0.005	0.01	183	16	7	2.2
11...	0.61	--	0.178	--	--	--	0.007	--	2640	--	202	131
11...	0.34	--	0.128	--	--	--	0.007	--	1370	--	108	69
12...	0.12	0.05	0.058	0.04	0.033	0.012	0.006	0.01	319	24	32	13
17...	0.09	--	0.041	--	--	--	0.007	--	135	--	15	5.9
17...	0.14	--	0.092	--	--	--	0.008	--	661	--	67	42
18...	0.10	0.07	0.057	0.03	0.019	0.010	0.008	<0.01	209	21	47	23
28...	0.09	--	0.034	--	--	--	0.008	--	115	--	8	2.7
31...	0.77	--	0.214	--	--	--	0.009	--	3580	--	306	318
31...	0.28	--	0.084	--	--	--	0.007	--	925	--	76	51
JUN												
07...	0.08	0.06	0.021	0.02	0.014	0.006	0.006	0.01	96	22	6	1.5
14...	0.20	--	0.038	--	--	--	0.006	--	360	--	32	13
15...	0.09	--	0.027	--	--	--	0.005	--	96	--	8	2.6
22...	0.05	0.04	0.023	0.02	0.017	0.005	0.005	<0.01	81	17	14	3.7
JUL												
01...	0.08	--	0.020	--	--	--	0.006	--	64	--	--	--
21...	0.05	--	0.017	--	--	--	0.005	--	61	--	--	--
AUG												
31...	0.05	--	0.041	--	--	--	0.011	--	104	--	--	--
SEP												
28...	0.04	0.04	0.018	0.03	0.016	0.009	0.008	0.01	62	40	--	--

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA

LOCATION.--Lat 38°55'12", long 119°58'17", in NW 1/4 SE 1/4 sec.3, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 5 ft upstream from Martin Avenue Bridge, 500 ft upstream from Heavenly Valley Creek, and 1.8 mi east of Tahoe Valley.
DRAINAGE AREA.--36.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to current year.
SPECIFIC CONDUCTANCE: March 1981 to September 1983.
WATER TEMPERATURE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1985, October 1987 to September 1988.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1985, October 1987 to September 1988.

GAGE.--Water-stage recorder and sharp-crested weir in culvert at bridge. Datum of gage is 6,241.57 ft above sea level.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Minor diversions for local water supply upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft^3/s, Feb. 1, 1963, gage height, 11.14 ft, from rating curve extended above 250 ft^3/s on basis of computation of peak flow (weir formula); no flow for part of Sept. 11, 1966.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	0230	148	8.18	June 20	0315	142	8.10
May 31	1745	*165	*8.39				

Minimum daily, 4.2 ft^3/s, Oct. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	11	10	13	15	14	42	74	128	102	38	23
2	5.7	11	9.3	12	e15	14	38	76	116	98	37	22
3	5.5	10	9.2	10	e15	13	39	86	109	95	37	21
4	5.7	9.0	7.0	9.1	e15	12	49	79	114	89	37	22
5	7.0	9.5	6.3	8.2	e15	12	45	70	116	85	37	22
6	8.4	8.9	8.2	7.1	15	13	38	78	103	81	36	22
7	8.2	9.0	7.5	15	14	14	38	76	96	78	36	22
8	8.3	8.9	8.7	e14	13	14	40	75	91	75	34	20
9	8.0	8.0	15	e14	13	15	47	77	88	72	33	20
10	7.8	6.8	23	e13	12	17	47	88	96	70	33	19
11	7.4	7.5	17	e13	12	18	45	100	102	69	33	19
12	6.9	8.8	15	13	11	18	43	105	101	66	33	19
13	8.4	8.3	14	14	11	21	40	98	104	64	32	19
14	4.2	8.3	14	17	11	28	40	95	112	62	32	19
15	6.1	e8.6	13	16	11	29	45	96	121	60	31	19
16	6.3	8.7	13	15	11	30	46	98	124	58	31	19
17	6.2	8.8	13	14	11	66	44	111	123	57	30	20
18	6.7	8.7	11	13	11	62	47	121	126	55	29	20
19	7.0	8.5	11	13	e13	38	42	126	132	52	29	19
20	6.8	7.2	11	30	e14	34	44	131	137	51	28	19
21	10	8.0	11	58	e15	34	51	129	132	50	28	18
22	9.0	10	10	68	e15	34	57	125	127	49	28	18
23	7.3	7.6	10	e45	e15	39	53	126	123	49	26	19
24	7.4	8.3	9.8	e35	e15	58	47	134	119	48	26	18
25	7.6	11	9.8	30	15	42	48	140	116	47	25	18
26	7.4	9.6	9.8	23	15	34	52	136	117	46	24	18
27	7.6	10	9.9	20	14	29	55	131	116	45	24	18
28	8.8	9.2	8.9	17	13	27	58	120	115	43	24	18
29	16	7.1	5.3	14	---	27	64	112	111	42	24	18
30	18	7.5	6.0	14	---	30	72	115	105	40	23	18
31	11	---	10	14	---	36	---	139	---	39	24	---
TOTAL	246.1	263.8	336.7	611.4	375	872	1416	3267	3420	1937	942	586
MEAN	7.94	8.79	10.9	19.7	13.4	28.1	47.2	105	114	62.5	30.4	19.5
MAX	18	11	23	68	15	66	72	140	137	102	38	23
MIN	4.2	6.8	5.3	7.1	11	12	38	70	88	39	23	18
AC-FT	488	523	668	1210	744	1730	2810	6480	6780	3840	1870	1160

e Estimated.

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.7	19.5	20.8	22.7	24.4	28.4	42.0	75.8	88.6	45.1	22.5	16.5
MAX	37.6	61.1	64.0	60.3	68.7	85.0	81.9	184	286	186	88.7	49.6
(WY)	1983	1984	1984	1970	1986	1986	1982	1969	1983	1983	1983	1983
MIN	5.19	7.43	8.18	8.00	8.02	11.0	15.7	14.2	10.9	5.21	3.43	3.71
(WY)	1989	1978	1991	1991	1991	1977	1988	1988	1988	1988	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	4430.9		14273.0				
ANNUAL MEAN	12.1		39.1		35.3		
HIGHEST ANNUAL MEAN					85.3		1983
LOWEST ANNUAL MEAN					10.2		1977
HIGHEST DAILY MEAN	29	Apr 30	140	May 25	352	Feb 1	1963
LOWEST DAILY MEAN	4.2	Oct 14	4.2	Oct 14	2.5	Sep 7	1988
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 24	6.2	Oct 14	3.0	Sep 9	1977
INSTANTANEOUS PEAK FLOW			165	May 31	535	Feb 1	1963
INSTANTANEOUS PEAK STAGE			8.39	May 31	11.14	Feb 1	1963
ANNUAL RUNOFF (AC-FT)	8790		28310		25540		
10 PERCENT EXCEEDS	22		107		79		
50 PERCENT EXCEEDS	11		22		22		
90 PERCENT EXCEEDS	5.8		8.2		8.5		

10336780 TROUT CREEK NEAR TAHOE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1993 to March 1993.

REMARKS.--In January 1993, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
JAN											
29...	1100	14	62	7.4	5.0	1.0	0.015	--	ND	0.22	--
FEB											
11...	1045	12	67	7.7	3.0	2.0	0.015	--	0.001	0.16	--
MAR											
04...	1015	13	66	7.6	4.0	1.0	0.019	0.031	ND	0.15	0.08

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS HYDRO. + ORTHO DIS. (MG/L AS P) (00677)	IRON, BIO. REACT-IVE TOTAL (UG/L AS FE) (46568)	IRON, BIO. REACTIVE DIS-SOLVED (UG/L AS FE) (99901)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
JAN										
29...	0.032	--	--	--	0.011	--	669	--	5	0.19
FEB										
11...	0.047	--	--	--	0.013	--	859	--	7	0.23
MAR										
04...	0.036	0.04	0.026	0.014	0.006	0.01	780	360	13	0.44

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 38°55'56", long 119°58'40", in SE 1/4 NW 1/4 sec.3, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, near center of bridge span on downstream side of U.S. Highway 50 bridge, 1.2 mi upstream from Lake Tahoe, and 1.9 mi northeast of South Lake Tahoe Post Office.

PERIOD OF RECORD.--Water years 1972-74, 1989 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1971 to June 1974, October 1988 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1988 to September 1992.

REMARKS.--In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
11...	1425	7.7	67	--	--	14.0	--	--	--	0.002	--	0.032
14...	1020	3.2	--	--	--	8.5	--	--	--	--	--	--
29...	1005	16	--	--	--	5.5	--	--	--	--	--	--
30...	0905	18	--	--	--	4.5	--	--	--	--	--	--
NOV												
01...	1100	11	59	--	--	7.5	--	--	--	0.014	--	0.024
16...	0920	8.7	--	--	--	1.5	--	--	--	--	--	--
22...	1230	10	60	--	--	4.0	--	--	--	0.005	--	0.028
28...	1510	9.0	56	--	--	4.0	--	--	--	0.005	--	0.007
DEC												
21...	1000	11	54	7.3	5.0	0.5	--	--	--	0.017	--	<0.001
MAR												
12...	0930	17	71	7.7	6.5	1.0	--	--	--	0.029	--	<0.001
17...	1415	79	62	8.4	8.0	5.0	--	--	--	0.044	--	0.011
18...	1430	61	54	7.3	15.0	6.5	--	--	--	0.037	--	<0.001
23...	1215	35	57	7.5	18.0	6.0	--	--	--	0.030	--	0.001
30...	1110	28	63	--	10.5	4.5	607	10.0	97	0.019	0.010	0.001
APR												
14...	1130	39	56	--	10.0	5.0	--	--	--	0.013	--	ND
20...	1250	43	55	7.3	15.0	7.0	607	10.1	105	0.012	--	ND
28...	1000	57	46	--	13.0	3.5	608	--	--	0.011	--	ND
MAY												
04...	1345	76	40	7.5	15.0	8.0	--	--	--	0.006	--	0.001
13...	1315	91	34	7.6	21.0	8.0	--	--	--	0.013	--	0.001
20...	1410	120	29	7.8	18.0	11.0	--	--	--	0.006	--	ND
25...	1420	137	28	--	18.0	10.0	--	--	--	0.006	--	ND
JUN												
02...	1120	116	29	8.0	10.0	7.0	--	--	--	0.005	--	ND
10...	1240	95	28	--	16.0	10.0	--	--	--	0.004	--	<0.001
15...	1330	119	27	7.2	17.0	11.0	--	--	--	0.004	--	ND
18...	0930	127	26	7.3	14.0	7.0	607	9.3	96	0.007	--	0.001
24...	1000	121	27	7.3	13.0	7.0	608	9.5	98	0.006	--	0.001
29...	1015	113	26	--	18.0	8.0	--	--	--	0.003	--	ND
JUL												
21...	1315	51	32	7.3	22.0	10.0	605	8.5	96	0.004	--	ND
27...	1100	55	34	--	14.0	10.5	--	--	--	0.003	--	<0.001
AUG												
25...	1145	27	40	7.0	20.5	11.0	605	8.7	100	0.004	--	ND
SEP												
21...	0910	18	45	7.2	12.5	4.0	604	9.9	96	0.003	--	<0.001

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA--Continued

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHATE, TOTAL (MG/L AS PO4)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS HYDRO. + ORTHO DIS. (MG/L AS P)	IRON, BIO. REACTIVE TOTAL (UG/L AS FE)	IRON, BIO. REACTIVE DISSOLVED (UG/L AS FE)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT												
11...	0.19	--	0.040	--	--	--	0.012	--	855	--	9	0.19
14...	--	--	--	--	--	--	--	--	--	--	6	0.05
29...	--	--	--	--	--	--	--	--	--	--	10	0.42
30...	--	--	--	--	--	--	--	--	--	--	10	0.48
NOV												
01...	0.26	--	0.028	--	--	--	0.008	--	696	--	6	0.18
16...	--	--	--	--	--	--	--	--	--	--	3	0.07
22...	0.16	--	0.029	--	--	--	0.006	--	501	--	8	0.22
28...	0.08	--	0.003	--	--	--	0.004	--	417	--	6	0.15
DEC												
21...	0.09	--	0.017	--	--	--	0.014	--	418	--	2	0.06
MAR												
12...	0.22	--	0.046	--	--	--	0.007	--	1190	--	17	0.78
17...	0.48	--	0.084	--	--	--	0.009	--	2430	--	40	8.5
18...	0.53	--	0.069	--	--	--	0.009	--	1380	--	22	3.6
23...	0.30	--	0.044	--	--	--	0.011	--	650	--	7	0.66
30...	0.28	0.22	0.044	0.05	0.023	0.017	0.012	0.01	644	220	7	0.53
APR												
14...	0.15	--	0.023	--	--	--	0.007	--	573	--	4	0.42
20...	0.21	--	0.043	--	--	--	0.009	--	521	--	17	2.0
28...	0.25	--	0.035	--	--	--	0.009	--	534	--	7	1.1
MAY												
04...	0.27	--	0.044	--	--	--	0.006	--	556	--	11	2.3
13...	0.26	--	0.044	--	--	--	0.007	--	598	--	11	2.7
20...	0.25	--	0.048	--	--	--	0.007	--	618	--	15	4.9
25...	0.31	--	0.044	--	--	--	0.006	--	590	--	12	4.4
JUN												
02...	0.18	--	0.032	--	--	--	0.008	--	374	--	7	2.2
10...	0.15	--	0.035	--	--	--	0.006	--	438	--	7	1.8
15...	0.21	--	0.045	--	--	--	0.008	--	500	--	11	3.5
18...	0.15	--	0.040	--	--	--	0.013	--	442	--	9	3.1
24...	0.23	--	0.030	--	--	--	0.010	--	376	--	10	3.3
29...	0.22	--	0.041	--	--	--	0.007	--	481	--	9	2.7
JUL												
21...	0.16	--	0.037	--	--	--	0.009	--	478	--	7	0.86
27...	0.39	--	0.038	--	--	--	0.009	--	595	--	11	1.6
AUG												
25...	0.14	--	0.032	--	--	--	0.013	--	500	--	6	0.44
SEP												
21...	0.12	--	0.042	--	--	--	0.012	--	436	--	8	0.39

10337000 LAKE TAHOE AT TAHOE CITY, CA

LOCATION.--Lat 39°10'51", long 120°07'06", in NE 1/4 NE 1/4 sec.5, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050101, on U.S. Coast Guard pier at Lake Forest, 1.1 mi northeast of Tahoe City, and 1.8 mi northeast of Lake Tahoe outlet dam on Truckee River at Tahoe City.
DRAINAGE AREA.--506 mi^2, at lake outlet.
PERIOD OF RECORD.--April 1900 to current year. Monthend elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe."
CHEMICAL DATA: Water year 1969, bimonthly; 1978, biannually; 1979, annually.
REVISED RECORDS.--WDR CA-78-3: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft above U.S. Bureau of Reclamation datum, 6,218.86 ft above sea level. Prior to Oct. 1, 1957, nonrecording gages at several sites near outlet of lake at same datum except for water years 1907 and 1908, which were at a datum 5.5 ft higher. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum. May 9, 1958, to Sept. 30, 1968, water-stage recorder on pier, 1,000 ft east of dam at lake outlet.
REMARKS.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Monthly figures given represent usable contents. Usable capacity, 744,600 acre-ft between elevations 6,223 ft, natural rim of lake, and 6,229.1 ft, maximum permissible elevation by Federal Court decree. Lake elevations are referred to U.S. Bureau of Reclamation datum because that datum is used as the official reference point by all local, State, and Federal agencies. There are minor diversions for domestic purposes, irrigation, and power. See schematic diagram of Truckee River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 6,231.26 ft, July 14, 15, 17, 18, 1907; minimum, 6,220.26 ft, Nov. 30, 1992.
EXTREMES FOR CURRENT YEAR.--Maximum elevation, 6,223.69 ft, July 8; minimum, 6,220.26 ft, Nov. 30.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on topographic information available in April 1959)

6,223	0	6,227	486,800
6,224	121,400	6,228	609,300
6,225	243,000	6,229.1	744,600
6,226	364,800		

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.79	e.56	e.27	e.69	1.29	e1.58	1.99	2.32	3.18	3.65	3.56	3.20
2	e.78	e.56	e.29	e.69	1.29	1.57	2.00	2.34	3.20	3.67	3.56	3.21
3	e.77	e.55	e.29	e.68	e1.30	1.56	2.00	2.34	3.25	3.68	3.53	3.19
4	e.75	e.53	e.29	e.68	e1.30	1.55	2.02	2.37	3.28	3.66	3.53	3.17
5	e.74	e.51	e.29	e.67	1.30	1.54	2.03	2.39	3.31	3.68	3.54	3.17
6	e.72	e.50	e.31	.73	e1.30	1.53	2.04	2.40	3.34	3.68	3.52	3.17
7	e.70	e.49	e.35	.81	e1.30	1.54	2.05	2.42	3.35	3.68	3.52	3.16
8	e.68	e.48	e.39	.81	e1.30	1.55	2.03	2.45	3.33	3.69	3.47	3.16
9	e.68	e.47	e.44	.83	e1.30	1.55	2.04	2.47	3.38	3.68	3.49	3.15
10	e.67	e.46	e.47	.82	e1.30	1.54	2.05	2.49	3.38	3.68	3.44	3.15
11	e.67	e.46	e.48	.82	e1.30	1.54	2.05	2.51	3.39	3.68	3.44	3.13
12	e.66	e.45	e.49	.80	1.32	1.56	2.05	2.56	3.41	3.68	3.43	3.12
13	e.65	e.44	e.50	.90	e1.32	1.56	2.07	2.58	3.44	3.65	3.43	3.07
14	e.63	e.43	e.50	.93	e1.33	1.57	2.10	2.61	3.44	3.65	3.42	3.03
15	e.62	e.42	e.50	.95	e1.33	1.56	2.10	2.64	3.46	3.65	3.38	3.02
16	e.61	e.40	e.50	.96	e1.34	1.59	2.10	2.66	3.50	3.63	3.35	3.01
17	e.59	e.39	e.52	.97	1.35	1.66	2.11	2.69	3.50	3.64	3.37	2.96
18	e.58	e.38	e.55	.98	e1.37	1.67	2.12	2.71	3.51	3.62	3.35	2.96
19	e.57	e.36	e.58	1.01	e1.40	1.67	2.15	2.75	3.55	3.60	3.33	2.94
20	e.56	e.35	e.60	1.11	1.43	1.69	2.15	2.78	3.57	3.61	3.31	2.93
21	e.55	e.34	e.60	1.21	1.47	1.70	2.14	2.83	3.54	3.57	3.32	2.93
22	e.56	e.33	e.60	1.24	e1.52	1.71	2.17	2.87	3.60	3.59	3.28	2.90
23	e.56	e.33	e.60	1.24	e1.56	1.74	2.20	2.90	3.64	3.60	3.30	2.91
24	e.56	e.32	e.60	1.24	e1.56	1.76	2.21	2.92	3.60	3.59	3.28	2.87
25	e.56	e.31	e.60	1.26	e1.56	1.81	2.21	2.97	3.62	3.59	3.26	2.87
26	e.56	e.30	e.60	1.27	e1.56	1.86	2.22	3.00	3.63	3.61	3.26	2.86
27	e.56	e.29	e.60	1.26	e1.56	1.87	2.23	3.01	3.65	3.59	3.24	2.85
28	e.56	e.28	e.63	1.26	e1.57	1.91	2.26	3.02	3.65	3.58	3.24	2.85
29	e.56	e.27	e.68	1.25	---	1.92	2.28	3.05	3.65	3.57	3.23	2.84
30	e.56	e.26	e.70	1.25	---	1.93	2.31	3.07	3.63	3.54	3.22	2.82
31	e.56	---	e.70	1.24	---	1.94	---	3.15	---	3.56	3.19	---
MEAN	.63	.41	.50	.99	1.39	1.67	2.12	2.69	3.47	3.63	3.38	3.02
MAX	.79	.56	.70	1.27	1.57	1.94	2.31	3.15	3.65	3.69	3.56	3.21
MIN	.55	.26	.27	.67	1.29	1.53	1.99	2.32	3.18	3.54	3.19	2.82
a	0	0	0	0	0	0	0	18200	76500	68000	23100	0
b	0	0	0	0	0	0	0	+18200	+58300	-8500	-44900	-23100

CAL YR 1992 MEAN 1.28 MAX 1.87 MIN .26 b 0
WTR YR 1993 MEAN 1.99 MAX 3.69 MIN .26 b 0

e Estimated.
a Usable contents, in acre-feet, at end of month.
b Change in contents, in acre-feet.
NOTE.--Add 6,220 ft to obtain elevation, U.S. Bureau of Reclamation datum, at 2400 hours.

10337500 TRUCKEE RIVER AT TAHOE CITY, CA

LOCATION.--Lat 39°09'59", long 120°08'36", in NE 1/4 NW 1/4 sec.7, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050102, on left bank 510 ft downstream from dam at outlet of Lake Tahoe at Tahoe City.

DRAINAGE AREA.--507 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1895 to February 1896, March 1900 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe."

REVISED RECORDS.--WDR CA-78-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,216.59 ft above sea level. Prior to Nov. 12, 1912, nonrecording gage at site 370 ft upstream at different datum. Nov. 12, 1912, to Sept. 30, 1937, nonrecording gage; Oct. 1, 1937, to Aug. 21, 1957, water-stage recorder at datum 2.26 ft higher; and Aug. 22, 1957, to July 10, 1960, at datum 2.42 ft higher; all at site 270 ft upstream.

REMARKS.--Records poor. Stage-discharge relation affected by beaver dams and ice. Flow completely regulated by dam at outlet of Lake Tahoe (station 10337000), 510 ft upstream. There are several diversions for irrigation, power, and domestic water supply. In addition, sewer effluent is pumped from the Lake Tahoe basin. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft^3/s, June 19, 1969, gage height, 9.32 ft; no flow for parts of many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 71 ft^3/s, July 9, gage height, 2.80 ft, maximum gage height, 3.42 ft, June 1 (backwater from beaver dam); minimum daily, 0.01 ft^3/s Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.20	e.20	e.20	e.10	e.20	e.20	e3.0	e2.0	e2.4	8.5	38	e3.3
2	e.20	e.20	e.20	e.10	e.20	e.30	e3.0	e2.0	e3.0	20	40	e3.0
3	e.20	e.20	e.20	e.10	e.20	e.40	e3.0	e2.0	e3.6	23	38	e2.9
4	e.20	e.20	e.20	e.10	e.20	e.50	e3.0	e2.0	e5.0	25	40	e2.8
5	e.20	e.20	e.20	e.10	e.20	e.60	e3.0	e2.0	7.4	25	38	e2.6
6	e.20	e.20	e.20	e.10	e.20	e.70	e3.0	e2.0	9.6	26	38	e2.5
7	e.20	e.20	e.20	e1.5	e.20	e.80	e3.0	e2.0	11	26	36	e2.4
8	e.20	e.20	e.20	e3.0	e.20	e.90	e3.0	e2.0	12	26	34	e2.4
9	e.20	e.20	e.30	e2.0	e.20	e1.0	e3.0	e2.0	9.4	41	32	e2.3
10	e.20	e.20	e.20	e1.0	e.20	e1.1	e3.0	e2.0	9.3	50	31	e2.2
11	e.20	e.20	e.20	e.70	e.20	e1.2	e3.0	e2.0	11	51	29	e1.9
12	e.20	e.20	e.15	e.50	e.20	e1.6	e2.5	e2.0	12	51	29	e1.4
13	e.20	e.20	e.10	e2.0	e.20	e2.0	e2.5	e2.0	15	50	30	e1.0
14	e.20	e.20	e.10	e5.0	e.20	e2.4	e2.5	e2.0	15	46	28	e.90
15	e.20	e.20	e.10	e3.0	e.20	e2.8	e2.5	e2.0	17	45	24	e.90
16	e.20	e.20	e.10	e2.0	e.20	e3.0	e2.5	e2.0	22	43	24	e.80
17	e.20	e.20	e.10	e1.0	e.20	e6.5	e2.0	e2.0	19	44	25	e.40
18	e.20	e.20	e.10	e.70	e.20	e3.0	e2.0	e2.0	17	42	24	e.30
19	e.20	e.20	e.10	e.50	e.20	e3.0	e2.0	e2.0	23	42	21	e.30
20	e.20	e.20	e.10	e6.0	e.20	e3.0	e2.0	e2.0	26	38	14	e.20
21	e.20	e.20	e.10	e17	e.20	e3.0	e2.0	e2.0	26	38	14	e.20
22	e.20	e.20	e.10	e20	e.20	e3.0	e2.0	e2.2	29	39	17	e.10
23	e.20	e.20	e.10	e10	e.20	e3.0	e2.0	e2.4	30	39	14	e.10
24	e.20	e.20	e.10	e5.0	e.20	e3.0	e2.0	e2.5	28	40	12	e.05
25	e.20	e.20	e.10	e1.0	e.20	e3.0	e2.0	e3.0	29	38	10	e.05
26	e.20	e.20	e.10	e.40	e.20	e3.0	e2.0	e2.0	32	40	9.7	e.05
27	e.20	e.20	e.10	e.35	e.20	e3.0	e2.0	e1.5	34	38	9.3	e.03
28	e.20	e.20	e.10	e.30	e.20	e3.0	e2.0	e1.6	30	38	7.5	e.03
29	e.30	e.20	e.10	e.25	---	e3.0	e2.0	e1.8	29	34	7.7	e.03
30	e.50	e.20	e.10	e.20	---	e3.0	e2.0	e2.0	22	35	4.3	e.01
31	e.30	---	e.10	e.20	---	e3.0	---	e2.2	---	37	3.6	---
TOTAL	6.70	6.00	4.35	84.20	5.60	68.00	73.5	63.2	538.7	1138.5	722.1	35.15
MEAN	.22	.20	.14	2.72	.20	2.19	2.45	2.04	18.0	36.7	23.3	1.17
MAX	.50	.20	.30	20	.20	6.5	3.0	3.0	34	51	40	3.3
MIN	.20	.20	.10	.10	.20	.20	2.0	1.5	2.4	8.5	3.6	.01
AC-FT	13	12	8.6	167	11	135	146	125	1070	2260	1430	70

e Estimated.

10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	187	203	226	223	274	245	167	150	220	278	320	271
MAX	413	1575	2209	2088	1767	2235	1806	1746	1673	1071	638	687
(WY)	1910	1983	1984	1984	1983	1986	1983	1958	1969	1983	1918	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1932	1927	1925	1925	1925	1925	1919	1919	1921	1931	1931	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1909 - 1993	
ANNUAL TOTAL	79.65		2746.00			
ANNUAL MEAN	.22		7.52		228	
HIGHEST ANNUAL MEAN					1150	1983
LOWEST ANNUAL MEAN					.23	1992
HIGHEST DAILY MEAN	1.5	Feb 21	51	Jul 11	2620	Jun 20 1969
LOWEST DAILY MEAN	.10	Apr 30	.01	Sep 30	.00	Jan 4 1914
ANNUAL SEVEN-DAY MINIMUM	.10	Apr 30	.04	Sep 24	.00	Jan 23 1914
INSTANTANEOUS PEAK FLOW			71	Jul 9	2630	Jun 19 1969
INSTANTANEOUS PEAK STAGE			3.42	Jun 1	9.32	Jun 19 1969
ANNUAL RUNOFF (AC-FT)	158		5450		165100	
10 PERCENT EXCEEDS	.35		30		470	
50 PERCENT EXCEEDS	.20		2.0		143	
90 PERCENT EXCEEDS	.10		.20		.00	

10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1978-81, monthly.
WATER TEMPERATURE: June to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June to September 1993.

INSTRUMENTATION.--Data logger and temperature sensor since June 4, 1993.

REMARKS.--Temperatures are affected by regulation from Lake Tahoe. There was no flow from Lake Tahoe Sept. 17-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 22.0 °C, July 24, 27, and Aug. 2, 1993; minimum recorded, 7.0 °C, June 5-7, 1993.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 22.0 °C, July 24, 27, and Aug. 2; minimum recorded 7.0 °C June 5-7.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	21.0	10.5	21.5	16.0	19.0	14.0
2	---	---	---	---	---	---	16.0	11.5	22.0	17.0	19.5	14.5
3	---	---	---	---	---	---	17.0	12.5	21.0	16.5	19.5	15.0
4	---	---	---	---	---	---	19.0	13.0	21.5	16.5	19.5	15.0
5	---	---	---	---	9.0	7.0	20.5	13.0	21.0	16.0	19.0	15.0
6	---	---	---	---	7.5	7.0	20.0	13.5	20.0	15.5	19.5	15.0
7	---	---	---	---	9.0	7.0	18.5	14.0	20.0	15.5	20.0	14.5
8	---	---	---	---	11.0	7.5	18.0	13.5	20.0	15.0	21.0	15.0
9	---	---	---	---	12.5	7.5	18.0	13.5	20.5	15.5	21.0	15.5
10	---	---	---	---	13.0	8.0	18.0	13.5	17.0	15.0	20.5	15.0
11	---	---	---	---	12.0	8.0	18.5	14.0	17.5	14.5	19.0	14.5
12	---	---	---	---	13.5	8.0	19.0	14.5	18.5	14.0	19.0	13.5
13	---	---	---	---	16.0	8.5	18.5	14.0	19.0	15.0	---	---
14	---	---	---	---	16.0	9.0	18.0	13.5	19.0	15.5	---	---
15	---	---	---	---	15.0	9.0	17.5	13.0	17.5	15.0	---	---
16	---	---	---	---	19.5	9.0	18.0	12.5	18.0	13.5	13.0	11.0
17	---	---	---	---	18.0	10.0	18.5	13.0	19.0	14.5	12.0	9.5
18	---	---	---	---	20.0	10.0	19.5	14.0	19.5	15.5	13.0	8.5
19	---	---	---	---	19.5	12.5	19.0	14.0	18.5	15.0	13.0	9.5
20	---	---	---	---	17.5	12.5	18.5	14.5	17.0	13.5	12.5	10.0
21	---	---	---	---	18.0	12.5	19.5	13.5	18.5	12.5	12.5	9.0
22	---	---	---	---	18.0	10.5	20.0	14.5	19.0	14.5	12.0	8.5
23	---	---	---	---	17.5	11.0	20.5	15.5	18.5	14.5	11.5	8.0
24	---	---	---	---	16.5	12.0	22.0	15.0	18.0	14.0	11.5	7.5
25	---	---	---	---	17.5	12.5	19.5	15.0	18.0	13.5	12.0	8.0
26	---	---	---	---	18.5	13.0	21.5	15.0	18.5	13.0	12.0	8.5
27	---	---	---	---	19.0	11.0	22.0	15.0	19.0	13.5	12.5	9.5
28	---	---	---	---	19.5	12.0	21.5	15.5	18.5	14.5	12.5	9.5
29	---	---	---	---	13.5	11.0	20.0	14.0	19.0	14.0	12.5	9.5
30	---	---	---	---	14.0	10.0	21.0	14.0	19.0	13.5	12.5	9.5
31	---	---	---	---	---	---	21.0	14.5	19.5	14.0	---	---
MONTH	---	---	---	---	---	---	22.0	10.5	22.0	12.5	---	---

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA

LOCATION.--Lat 39°17'17", long 120°12'16", in SW 1/4 NE 1/4 sec.28, T.17 N., R.16 E., Placer County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 1.4 mi downstream from Cabin Creek and 2.5 mi southwest of Truckee.

DRAINAGE AREA.--553 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1944 to September 1961, June 1977 to September 1982, October 1992 to September 1993. Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WDR CA-77-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,857.66 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Lake Tahoe (station 10337000), operating capacity, 744,600 acre-feet. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,760 ft^3/s, Dec. 23, 1955; gage height, 7.92 ft, from rating curve extended above 3,100 ft^3/s on basis of slope-area measurements at gage heights 7.62 ft and 7.92 ft; minimum daily, 4.5 ft^3/s Oct. 9, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 936 ft^3/s, May 31, gage height, 3.10 ft; minimum daily, 4.5 ft^3/s, Oct 9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.0	22	11	e12	34	29	241	461	506	185	64	16
2	e5.8	26	11	e12	32	30	196	488	411	190	63	16
3	e5.6	22	10	12	32	32	203	559	364	183	62	15
4	e5.4	16	8.3	14	32	32	278	461	394	171	59	15
5	e5.2	15	7.8	14	e31	36	226	396	370	161	56	14
6	e5.0	15	9.8	15	e30	44	189	429	301	160	54	14
7	e4.7	15	9.2	16	e30	55	185	451	273	162	51	13
8	5.0	15	11	15	e30	67	219	446	276	153	49	13
9	4.5	13	22	16	e29	79	383	446	292	148	46	13
10	5.4	12	59	19	e29	84	323	542	356	151	45	12
11	7.2	11	37	21	e29	96	281	646	354	143	43	12
12	5.7	11	30	21	e29	101	254	625	321	144	41	12
13	4.7	11	24	20	e29	117	232	492	321	137	39	12
14	4.6	10	22	22	e29	161	233	472	365	121	38	12
15	4.7	10	20	26	e29	166	269	490	370	111	36	12
16	4.8	10	19	25	29	146	277	540	340	100	34	11
17	5.0	9.6	20	23	30	522	259	610	337	97	31	11
18	5.1	10	16	22	34	440	244	668	352	94	29	11
19	5.3	10	17	21	44	306	215	687	377	93	28	11
20	5.3	9.4	17	25	40	253	237	717	368	89	27	11
21	6.1	9.4	15	47	e38	254	318	639	324	85	26	11
22	6.5	11	15	115	36	269	361	564	280	82	24	11
23	6.0	11	13	99	e35	341	323	554	251	88	24	10
24	5.7	9.9	13	89	33	387	265	594	243	85	23	9.7
25	6.1	11	13	68	32	295	263	615	245	82	22	9.5
26	6.0	10	e13	57	31	228	281	561	273	78	20	9.5
27	6.6	11	14	50	30	182	305	481	280	74	19	9.5
28	7.6	11	e13	45	29	157	331	402	242	75	19	8.9
29	19	9.4	e13	41	---	150	385	359	204	72	18	8.9
30	37	9.1	e13	39	---	175	456	384	195	69	18	8.8
31	24	---	e12	36	---	203	---	630	---	64	17	---
TOTAL	235.6	375.8	528.1	1057	895	5437	8232	16409	9585	3647	1125	352.8
MEAN	7.60	12.5	17.0	34.1	32.0	175	274	529	319	118	36.3	11.8
MAX	37	26	59	115	44	522	456	717	506	190	64	16
MIN	4.5	9.1	7.8	12	29	29	185	359	195	64	17	8.8
AC-FT	467	745	1050	2100	1780	10780	16330	32550	19010	7230	2230	700

e Estimated.

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	218	222	264	257	277	273	396	570	441	301	297	270
MAX	387	551	1019	1140	1560	1421	1734	2403	1381	535	492	453
(WY)	1948	1951	1951	1951	1952	1952	1958	1958	1952	1953	1959	1954
MIN	7.60	11.6	17.0	34.1	32.0	70.6	114	131	86.0	114	30.3	11.8
(WY)	1993	1978	1993	1993	1993	1945	1955	1959	1959	1958	1958	1993

SUMMARY STATISTICS	FOR 1993 WATER YEAR		WATER YEARS 1945 - 1993	
ANNUAL TOTAL	47879.3			
ANNUAL MEAN	131		321	
HIGHEST ANNUAL MEAN			821	1952
LOWEST ANNUAL MEAN			131	1993
HIGHEST DAILY MEAN	717	May 20	5280	Dec 23 1955
LOWEST DAILY MEAN	4.5	Oct 9	4.5	Oct 9 1992
ANNUAL SEVEN-DAY MINIMUM	4.9	Oct 13	4.9	Oct 13 1992
INSTANTANEOUS PEAK FLOW	936	May 31	7760	Dec 23 1955
INSTANTANEOUS PEAK STAGE	3.10	May 31	7.92	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	94970		232800	
10 PERCENT EXCEEDS	386		486	
50 PERCENT EXCEEDS	35		237	
90 PERCENT EXCEEDS	8.4		59	

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-66, 1977-82, March to September 1993.
CHEMICAL DATA: Water years 1951-66.
SPECIFIC CONDUCTANCE: Water years 1977-82.
WATER TEMPERATURE: Water years 1977-82, March to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1977 to September 1982.
WATER TEMPERATURE: July 1977 to September 1982, March to September 1993.

INSTRUMENTATION.--Water-temperature recorder since March 1993.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, Aug. 4, 1978, Aug. 2, 1993; minimum recorded, 0.0°C, many days each year.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, Aug. 2; minimum recorded, 0.5°C Mar. 6-8, 17.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	7.0	1.0
6	---	---	---	---	---	---	---	---	---	---	6.0	.5
7	---	---	---	---	---	---	---	---	---	---	5.5	.5
8	---	---	---	---	---	---	---	---	---	---	6.0	.5
9	---	---	---	---	---	---	---	---	---	---	5.0	1.0
10	---	---	---	---	---	---	---	---	---	---	6.5	1.5
11	---	---	---	---	---	---	---	---	---	---	6.5	1.0
12	---	---	---	---	---	---	---	---	---	---	6.5	1.5
13	---	---	---	---	---	---	---	---	---	---	6.0	1.5
14	---	---	---	---	---	---	---	---	---	---	5.0	1.5
15	---	---	---	---	---	---	---	---	---	---	5.5	1.5
16	---	---	---	---	---	---	---	---	---	---	5.5	2.5
17	---	---	---	---	---	---	---	---	---	---	3.0	.5
18	---	---	---	---	---	---	---	---	---	---	5.0	1.0
19	---	---	---	---	---	---	---	---	---	---	6.0	2.0
20	---	---	---	---	---	---	---	---	---	---	7.0	2.0
21	---	---	---	---	---	---	---	---	---	---	7.5	2.0
22	---	---	---	---	---	---	---	---	---	---	7.5	2.0
23	---	---	---	---	---	---	---	---	---	---	5.0	2.5
24	---	---	---	---	---	---	---	---	---	---	6.0	2.0
25	---	---	---	---	---	---	---	---	---	---	4.5	2.5
26	---	---	---	---	---	---	---	---	---	---	5.0	2.5
27	---	---	---	---	---	---	---	---	---	---	6.5	2.5
28	---	---	---	---	---	---	---	---	---	---	5.5	2.5
29	---	---	---	---	---	---	---	---	---	---	9.0	3.5
30	---	---	---	---	---	---	---	---	---	---	8.5	3.0
31	---	---	---	---	---	---	---	---	---	---	8.5	2.5
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	2.5	8.5	3.0	9.5	4.5	16.0	6.5	23.0	13.5	21.0	10.5
2	7.0	2.0	8.5	3.5	10.0	3.5	15.5	6.5	24.0	15.5	21.0	11.0
3	8.0	2.5	5.0	3.0	10.5	3.5	16.0	6.5	21.5	15.5	20.5	11.5
4	6.0	3.0	8.5	2.5	7.0	5.0	16.5	7.0	22.5	14.5	22.0	12.0
5	6.0	2.5	9.5	3.0	8.5	4.0	17.0	7.0	22.5	13.5	20.5	12.0
6	7.0	2.0	7.5	4.5	5.5	4.0	18.0	8.0	22.0	13.0	20.0	11.5
7	8.5	2.5	9.0	3.0	11.0	4.5	18.0	8.5	20.5	12.5	21.5	10.5
8	8.0	2.5	9.5	3.0	12.5	5.0	17.5	8.0	20.5	11.0	22.0	10.5
9	7.0	3.0	10.0	3.0	13.0	5.0	18.0	8.5	20.5	12.0	22.5	11.0
10	7.5	2.5	10.0	3.5	13.0	5.0	18.5	9.0	21.5	13.0	21.5	10.0
11	8.0	2.5	9.5	3.5	12.0	3.5	19.0	9.5	19.5	11.5	20.5	9.5
12	7.5	2.0	7.0	3.5	12.5	4.0	19.0	10.0	20.5	10.5	20.0	8.0
13	8.0	2.0	9.5	3.0	13.5	4.5	18.0	9.5	21.0	11.5	18.5	6.5
14	9.0	2.0	10.0	3.0	13.5	5.0	17.5	9.0	21.0	12.5	18.0	7.0
15	8.5	3.0	9.5	3.5	13.0	5.0	16.5	9.0	19.5	13.0	18.5	7.0
16	7.0	2.5	10.5	3.5	12.5	4.5	17.0	8.0	20.0	10.0	16.0	7.5
17	4.0	2.5	10.0	3.5	13.5	5.0	18.0	8.5	20.5	11.0	14.5	6.0
18	7.5	2.0	9.0	4.0	14.0	5.0	18.5	9.5	22.0	12.0	17.0	6.0
19	9.0	2.0	10.0	3.5	14.0	5.5	19.0	10.5	18.0	11.5	17.5	6.0
20	9.0	3.0	8.0	4.5	12.5	5.5	15.0	10.0	16.0	9.5	18.0	7.0
21	7.5	3.5	9.5	4.0	12.5	6.0	18.0	9.5	20.0	8.5	17.5	5.5
22	8.5	3.0	10.5	3.5	13.0	4.5	19.0	10.5	22.0	11.0	14.5	5.5
23	5.0	2.5	11.0	4.0	14.0	5.0	19.0	12.5	21.5	11.5	16.5	4.0
24	9.0	2.5	10.5	4.5	14.5	5.5	20.5	11.0	21.0	10.5	17.0	4.0
25	7.5	3.5	6.5	5.0	16.0	6.0	20.5	11.5	20.5	10.5	18.5	4.5
26	9.5	3.0	10.5	4.5	16.0	6.5	20.0	11.5	20.0	9.0	19.0	5.0
27	9.5	2.5	8.5	4.5	15.5	6.5	21.0	11.5	21.0	10.0	19.0	5.5
28	10.0	3.0	8.0	4.5	14.5	6.0	21.0	12.5	21.5	11.0	19.5	5.5
29	10.0	3.5	10.5	3.5	15.5	5.5	21.0	13.5	21.0	10.5	19.5	5.5
30	9.0	3.0	8.5	5.0	16.0	6.5	20.5	11.0	21.0	10.5	19.5	6.0
31	---	---	6.5	5.0	---	---	22.0	12.0	20.0	11.0	---	---
MONTH	10.0	2.0	11.0	2.5	16.0	3.5	22.0	6.5	24.0	8.5	22.5	4.0

10338400 DONNER LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'30", long 120°16'53", in SE 1/4 NW 1/4 sec.14, T.17 N., R.15 E., Nevada County, Hydrologic Unit 16050102, on north shore 2.5 mi upstream from outlet gates and 4.9 mi west of Truckee.

DRAINAGE AREA.--14.0 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Westpac Utilities).

REMARKS.--Lake levels regulated by a concrete dam at the outlet constructed in 1928. Usable capacity, 9,490 acre-ft between elevations 5,923.8 and 5,935.8 ft, maximum storage level. Water is used for irrigation and power development downstream. Records, including extremes, represent usable contents. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,740 acre-ft, June 29, 1993, elevation, 5,936.08 ft; minimum, 2,510 acre-ft, Jan. 24, 28-31, 1991, elevation, 5,927.23 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,740 acre-ft, June 29, elevation, 5,936.08 ft; minimum, 2,700 acre-ft, Oct. 26, elevation, 5,927.49 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Westpac Utilities, dated Aug. 22, 1980)

5,923.8	0	5,932	6,310
5,926.0	1,600	5,934	7,970
5,928.0	3,120	5,936	9,670
5,930.0	4,690		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3150	3010	2730	3330	3260	3300	4340	5060	9350	9490	9420	8860
2	3110	3010	2730	3290	3250	3280	4300	5250	9350	9350	9410	8830
3	3060	2970	2720	3260	3240	3270	4270	5500	9290	9270	9400	8830
4	3030	2980	2710	3200	3230	3270	4340	5540	9360	9320	9380	8810
5	2990	2960	2710	3180	3230	3260	4320	5510	9360	9360	9360	8790
6	2960	2940	2800	3210	3220	3290	4260	5610	9300	9390	9330	8780
7	2930	2930	2830	3230	3210	3310	4220	5730	9210	9420	9290	8790
8	2910	2910	2940	3230	3220	3330	4260	5820	9140	9450	9270	8720
9	2880	2890	3160	3210	3230	3380	4400	5920	9090	9470	9270	8730
10	2850	2880	3230	3200	3210	3410	4430	6150	9160	9490	9230	8720
11	2840	2870	3250	3160	3240	3470	4430	6430	9250	9480	9230	8540
12	2840	2860	3220	3180	3230	3520	4400	6600	9350	9500	9200	8470
13	2830	2850	3190	3230	3210	3580	4370	6650	9440	9500	9200	8370
14	2810	2840	3180	3230	3200	3710	4350	6730	9480	9500	9150	8150
15	2790	2840	3140	3230	3190	3770	4340	6860	9520	9520	9140	7950
16	2780	2830	3110	3210	3200	3860	4360	7030	9540	9520	9140	7750
17	2760	2830	3160	3210	3250	4340	4430	7230	9490	9520	9120	7560
18	2760	2800	3130	3190	3320	4470	4420	7500	9420	9500	9100	7360
19	2750	2800	3120	3150	3410	4510	4360	7810	9360	9500	9080	7170
20	2730	2780	3110	3320	3450	4480	4320	8130	9330	9500	9080	6970
21	2740	2770	3080	3440	3440	4460	4380	8330	9240	9490	9050	6780
22	2730	2800	3040	3540	3430	4460	4430	8460	9270	9470	9050	6590
23	2730	2800	3030	3540	3480	4660	4470	8540	9360	9480	9000	6400
24	2730	2830	2990	3500	3480	4750	4430	8660	9450	9490	8990	6240
25	2720	2800	2990	3470	3440	4730	4380	8870	9520	9470	8990	6070
26	2700	2800	2970	3420	3390	4630	4420	8970	9600	9480	8970	5910
27	2720	2780	2930	3400	3350	4530	4460	8980	9680	9470	8960	5750
28	2730	2770	3120	3380	3320	4420	4580	8930	9730	9440	8920	5610
29	2880	2800	3220	3330	---	4330	4750	8870	9740	9430	8920	5450
30	2970	2760	3230	3310	---	4290	4930	8850	9600	9440	8910	5300
31	3000	---	3230	3290	---	4290	---	9300	---	9420	8880	---
MAX	3150	3010	3250	3540	3480	4750	4930	9300	9740	9520	9420	8860
MIN	2700	2760	2710	3150	3190	3260	4220	5060	9090	9270	8880	5300
a	5927.86	5927.57	5928.16	5928.24	5928.28	5929.51	5930.31	5935.58	5935.92	5935.72	5935.08	5930.78
b	-160	-240	+470	+60	+30	+970	+640	+4370	+300	-180	-540	-3580

CAL YR 1992 MAX 8630 MIN 2700 b +370
WTR YR 1993 MAX 9740 MIN 2700 b +2140

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

10338500 DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'25", long 120°14'00", in SW 1/4 NW 1/4 sec.17, T.17 N., R.16 E., Nevada County, Hydrologic Unit 16050102, in Donner Memorial State Park, on left bank 10 ft downstream from bridge on Donner Memorial State Park Road, 0.2 mi downstream from outlet of Donner Lake, 0.7 mi upstream from Cold Creek, and 2.5 mi west of Truckee.

DRAINAGE AREA.--14.3 mi^2.

PERIOD OF RECORD.--November 1909 to August 1910, January 1929 to October 1935, January 1936 to March 1938, July to October 1938, January 1939 to February 1943, June 1943 to December 1953, May 1955 to December 1957, October 1958 to current year. Monthly discharge only prior to October 1958, published in WSP 1314 and 1734.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder and concrete control, completed Oct. 3, 1989. Datum of gage is 5,924.40 ft above sea level. Nov. 1, 1909, to Aug. 31, 1910, nonrecording gage at different datum. January 1929 to December 1957, water-stage recorder at same site at unknown datum.

REMARKS.--Records good. Flow completely regulated at dam at outlet of Donner Lake (station 10338400) since 1928. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 707 ft^3/s, Feb. 19, 1986; gage height, 4.83 ft; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft^3/s, May 3, 4, gage height, 4.09 ft; minimum daily, 1.7 ft^3/s, Dec. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	8.2	3.2	21	27	29	113	123	141	91	e4.0	3.7
2	17	8.7	3.1	29	26	27	109	133	141	90	e4.0	3.7
3	15	8.5	3.1	26	24	27	105	153	141	47	e4.1	3.7
4	14	8.1	3.0	23	24	26	110	154	141	4.3	e4.2	3.7
5	13	7.8	3.0	20	23	26	111	145	141	4.3	4.3	3.8
6	12	7.4	3.2	20	23	27	106	140	142	4.1	4.3	3.7
7	11	7.0	4.0	23	23	29	101	132	141	3.9	4.3	3.7
8	10	6.5	4.3	22	23	32	100	135	141	4.2	4.1	3.6
9	9.5	6.0	12	22	24	35	116	137	119	4.3	3.9	3.5
10	8.8	5.5	20	21	23	37	122	130	83	4.3	3.9	23
11	8.2	5.3	24	19	24	40	121	118	63	4.0	3.9	77
12	7.3	5.0	23	18	24	43	119	122	49	3.9	3.9	35
13	6.4	4.6	21	21	23	46	115	122	52	4.1	4.0	53
14	6.3	4.5	20	23	22	52	111	124	83	3.9	4.1	103
15	6.0	4.1	18	22	21	59	111	126	81	4.2	3.9	100
16	5.8	3.9	17	22	22	63	114	128	96	4.6	e3.9	98
17	5.5	4.0	18	22	24	88	115	132	112	4.6	e3.9	99
18	5.3	3.9	18	21	27	118	117	116	113	4.1	e3.9	100
19	5.1	4.0	17	19	33	124	112	97	113	3.9	e3.9	99
20	4.9	3.8	16	24	38	122	108	101	111	3.9	e3.9	98
21	5.4	3.8	15	32	40	121	110	104	89	3.9	e3.9	95
22	5.1	3.7	14	43	37	120	117	130	42	3.9	e3.9	93
23	4.9	3.7	13	45	40	131	120	155	7.6	3.9	e3.9	90
24	4.7	3.6	12	42	41	150	118	154	6.4	3.9	e4.0	87
25	4.3	3.6	12	40	38	153	115	154	6.3	3.9	e4.0	84
26	4.2	3.5	11	38	36	146	115	154	6.1	e3.9	e4.0	82
27	4.2	3.5	11	36	33	135	105	153	6.1	e3.9	e4.0	80
28	4.5	3.4	8.4	34	31	124	91	145	5.9	e3.9	e4.0	78
29	7.5	3.3	1.7	32	---	116	101	138	55	e3.9	4.2	76
30	8.8	3.2	2.4	30	---	111	113	137	92	e3.9	3.9	74
31	8.4	---	26	28	---	109	---	138	---	e3.9	3.7	---
TOTAL	251.1	152.1	377.4	838	794	2466	3341	4130	2520.4	341.5	123.9	1757.1
MEAN	8.10	5.07	12.2	27.0	28.4	79.5	111	133	84.0	11.0	4.00	58.6
MAX	18	8.7	26	45	41	153	122	155	142	91	4.3	103
MIN	4.2	3.2	1.7	18	21	26	91	97	5.9	3.9	3.7	3.5
AC-FT	498	302	749	1660	1570	4890	6630	8190	5000	677	246	3490

e Estimated.

10338500 DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.7	28.4	31.0	29.6	30.7	34.3	50.8	85.3	45.0	11.8	8.14	23.7
MAX	85.7	195	214	174	197	182	144	243	244	67.2	52.7	99.1
(WY)	1973	1951	1951	1970	1986	1986	1940	1952	1983	1934	1932	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1929	1929	1929	1929	1929	1929	1937	1936	1930

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1929 - 1993	
ANNUAL TOTAL	4786.94		17092.5			
ANNUAL MEAN	13.1		46.8		34.9	
HIGHEST ANNUAL MEAN					83.3	1982
LOWEST ANNUAL MEAN					7.71	1977
HIGHEST DAILY MEAN	84	Jul 8	155	May 23	700	Nov 21 1950
LOWEST DAILY MEAN	.65	Jul 22	1.7	Dec 29	.00	Jan 1 1929
ANNUAL SEVEN-DAY MINIMUM	1.0	Jul 19	3.1	Nov 30	.00	Jan 1 1929
INSTANTANEOUS PEAK FLOW			163	May 3	707	Feb 19 1986
INSTANTANEOUS PEAK STAGE			4.09	May 3	4.83	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	9490		33900		25320	
10 PERCENT EXCEEDS	32		124		96	
50 PERCENT EXCEEDS	5.9		23		12	
90 PERCENT EXCEEDS	1.9		3.9		.00	

10338700 DONNER CREEK AT HIGHWAY 89, NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'16", long 120°12'25", in NE 1/4 SW 1/4 sec.16, T.17 N., R.16 E., Nevada County, Hydrologic Unit 16050102, on right bank 50 ft upstream from State Highway 89 bridge, 0.5 mi upstream from mouth, and 1.4 mi southwest of Truckee.

DRAINAGE AREA.--29.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 5,870 ft above sea level, from topographic map.

REMARKS.--Records fair. About half the drainage area is regulated at dam at outlet of Donner Lake (station 10338400) 2.0 mi upstream. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 695 ft^3/s, May 31, 1993; gage height, 7.01 ft; minimum daily, 3.2 ft^3/s, Sept. 9, 1993.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	212	276	381	147	28	4.0
2	---	---	---	---	---	---	198	295	332	148	25	4.0
3	---	---	---	---	---	---	196	345	304	116	24	4.0
4	---	---	---	---	---	---	221	322	333	83	22	4.0
5	---	---	---	---	---	---	204	310	301	79	20	3.9
6	---	---	---	---	---	---	195	319	259	80	e19	3.7
7	---	---	---	---	---	---	184	315	250	82	e18	3.5
8	---	---	---	---	---	---	195	317	250	78	e17	3.4
9	---	---	---	---	---	---	267	325	238	74	e15	3.2
10	---	---	---	---	---	---	250	365	230	71	e14	20
11	---	---	---	---	---	---	232	385	206	67	e13	86
12	---	---	---	---	---	---	226	374	182	65	e11	49
13	---	---	---	---	---	---	222	320	185	62	9.2	61
14	---	---	---	---	---	---	217	330	235	58	8.9	103
15	---	---	---	---	---	---	225	346	227	54	8.5	102
16	---	---	---	---	---	---	232	382	226	50	8.6	101
17	---	---	---	---	---	---	234	420	246	47	8.2	102
18	---	---	---	---	---	---	229	431	253	45	7.5	104
19	---	---	---	---	---	---	212	413	258	44	7.2	102
20	---	---	---	---	---	---	215	429	246	42	6.4	102
21	---	---	---	---	---	---	230	389	204	40	6.3	100
22	---	---	---	---	---	---	232	399	147	39	6.1	98
23	---	---	---	---	---	---	223	456	112	41	5.9	92
24	---	---	---	---	---	299	206	478	108	40	5.4	86
25	---	---	---	---	---	269	204	478	111	38	5.2	83
26	---	---	---	---	---	246	212	446	117	36	4.7	80
27	---	---	---	---	---	219	213	389	120	34	4.6	79
28	---	---	---	---	---	205	207	336	105	33	4.6	77
29	---	---	---	---	---	191	232	316	125	32	4.5	73
30	---	---	---	---	---	194	265	336	148	29	4.4	71
31	---	---	---	---	---	200	---	479	---	27	4.1	---
TOTAL	---	---	---	---	---	---	6590	11521	6439	1881	344.3	1804.7
MEAN	---	---	---	---	---	---	220	372	215	60.7	11.1	60.2
MAX	---	---	---	---	---	---	267	479	381	148	26	104
MIN	---	---	---	---	---	---	184	276	105	27	4.1	3.2
AC-FT	---	---	---	---	---	---	13070	22850	12770	3730	683	3580

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

MEAN	---	---	---	---	---	---	220	372	215	60.7	11.1	60.2
MAX	---	---	---	---	---	---	220	372	215	60.7	11.1	60.2
(WY)	---	---	---	---	---	---	1993	1993	1993	1993	1993	1993
MIN	---	---	---	---	---	---	220	372	215	60.7	11.1	60.2
(WY)	---	---	---	---	---	---	1993	1993	1993	1993	1993	1993

e Estimated.

10338700 DONNER CREEK AT HIGHWAY 89 NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: August to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August to September 1993.

INSTRUMENTATION.--Water-temperature recorder since August 1993.

REMARKS.--Water temperature is affected by regulation from Donner Lake.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 23.5°C, Sept. 9, 1993; minimum recorded, 9.5°C, Aug. 21, 1993.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	22.5	12.0
2	---	---	---	---	---	---	---	---	---	---	22.5	12.0
3	---	---	---	---	---	---	---	---	---	---	22.5	12.5
4	---	---	---	---	---	---	---	---	---	---	23.0	13.0
5	---	---	---	---	---	---	---	---	---	---	21.5	13.0
6	---	---	---	---	---	---	---	---	---	---	22.5	12.5
7	---	---	---	---	---	---	---	---	---	---	22.5	11.5
8	---	---	---	---	---	---	---	---	---	---	23.0	12.0
9	---	---	---	---	---	---	---	---	---	---	23.5	12.5
10	---	---	---	---	---	---	---	---	---	---	22.5	11.5
11	---	---	---	---	---	---	---	---	---	---	21.0	18.0
12	---	---	---	---	---	---	---	---	---	---	20.5	16.0
13	---	---	---	---	---	---	---	---	21.5	11.5	19.0	15.0
14	---	---	---	---	---	---	---	---	22.0	12.0	19.0	16.0
15	---	---	---	---	---	---	---	---	19.5	13.0	19.5	16.5
16	---	---	---	---	---	---	---	---	21.0	11.0	18.5	16.5
17	---	---	---	---	---	---	---	---	21.0	11.0	17.5	16.0
18	---	---	---	---	---	---	---	---	22.5	12.0	18.5	15.5
19	---	---	---	---	---	---	---	---	18.5	12.0	18.5	15.5
20	---	---	---	---	---	---	---	---	17.5	10.0	18.5	16.0
21	---	---	---	---	---	---	---	---	21.5	9.5	18.5	15.0
22	---	---	---	---	---	---	---	---	23.0	11.5	18.0	15.0
23	---	---	---	---	---	---	---	---	23.0	11.5	17.5	14.5
24	---	---	---	---	---	---	---	---	22.5	11.5	17.5	14.0
25	---	---	---	---	---	---	---	---	22.0	11.5	18.0	14.0
26	---	---	---	---	---	---	---	---	21.5	10.0	18.0	14.0
27	---	---	---	---	---	---	---	---	22.0	11.0	18.5	14.5
28	---	---	---	---	---	---	---	---	22.5	11.5	18.5	15.0
29	---	---	---	---	---	---	---	---	22.0	11.5	18.5	15.0
30	---	---	---	---	---	---	---	---	22.0	11.5	18.5	14.5
31	---	---	---	---	---	---	---	---	22.5	12.0	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	23.5	11.5

10339250 MARTIS CREEK AT STATE HIGHWAY 267, NEAR TRUCKEE, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 39°18'08", long 120°07'13", in SW 1/4 SW 1/4 sec.20, T.17 N., R.17 E., Placer County, Hydrologic Unit 16050102, 4.0 mi southeast of Truckee. Water-quality samples are collected 300 ft upstream from State Highway 267.

DRAINAGE AREA.--25.8 mi^2.

PERIOD OF RECORD.--Water years 1975 to current year.
CHEMICAL DATA: Water years 1975 to current year.
WATER TEMPERATURE: Water years 1975 to September 1988.
SEDIMENT DATA: Water years 1975, 1977 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October to November 1974, August 1975 to September 1988.

REVISED RECORDS.--WDR CA-80-3: Drainage area.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3
NOV										
12...	1042	3.4	134	8.2	0.0	1.7	623	12.3	103	82
APR										
08...	1005	73	67	7.7	2.5	4.0	--	--	--	34
AUG										
13...	1135	4.5	135	8.2	13.0	2.1	620	9.3	109	77
SEP										
17...	1008	3.0	140	8.0	6.0	0.90	615	10.4	104	90

DATE	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (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)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
NOV									
12...	0	68	<0.050	0.020	<0.20	0.040	0.030	<1	<1
APR									
08...	0	28	--	--	<0.20	0.020	0.010	1	<1
AUG									
13...	0	63	--	--	<0.20	0.030	0.020	1	<1
SEP									
17...	0	74	--	--	<0.20	0.020	<0.010	<1	<1

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV									
12...	320	270	<1	<1	<4	20	19	<10	4
APR									
08...	190	89	<1	<1	<4	20	6	10	<3
AUG									
13...	540	250	<1	<1	<4	30	19	<10	4
SEP									
17...	370	250	<1	<1	<4	20	19	<10	<3

10339250 MARTIS CREEK AT HIGHWAY 267, NEAR TRUCKEE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV					
12...	1042	3.4	0.0	2	0.02
APR					
08...	1005	73	2.5	5	0.99
AUG					
13...	1135	4.5	13.0	12	0.15
SEP					
17...	1008	3.0	6.0	2	0.02

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 39°19'38", long 120°06'48", in NE 1/4 NW 1/4 sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, near intake structure at Martis Creek Dam, 2.0 mi upstream from mouth, and 3.5 mi east of Truckee.

DRAINAGE AREA.--39.6 mi^2.

PERIOD OF RECORD.--
WATER-CONTENT DATA: Water years 1972-90.
CHEMICAL DATA: Water years 1975 to current year.
SEDIMENT DATA: Water years 1975-76, 1978 to current year.

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

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER DIS IT FIELD MG/L AS CO3
NOV										
12...	1130	152	8.7	8.5	2.5	623	10.8	113	88	3
APR										
08...	1155	62	7.6	6.5	4.7	--	--	--	34	0
AUG										
13...	1240	129	9.6	21.5	1.3	620	10.5	147	40	15
SEP										
17...	1103	140	9.2	15.0	0.60	617	8.3	102	61	12

DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
NOV										
12...	77	<0.050	0.030	0.37	0.40	0.40	0.050	0.030	<1	<1
APR										
08...	28	--	--	--	<0.20	--	0.030	0.030	<1	<1
AUG										
13...	57	--	--	0.38	0.40	0.40	0.030	<0.010	2	1
SEP										
17...	70	--	--	0.27	0.30	0.30	0.020	<0.010	2	1

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV									
12...	330	110	<1	2	<4	30	10	20	5
APR									
08...	220	120	<1	<1	<4	10	10	10	<3
AUG									
13...	290	110	13	3	<4	10	5	<10	7
SEP									
17...	170	69	11	2	<4	20	4	10	4

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA--Continued

SUSPENDED-SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)
NOV			
12...	1130	8.5	5
APR			
08...	1155	6.5	7
AUG			
13...	1240	21.5	2
SEP			
17...	1103	15.0	1

10339400 MARTIS CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'44", long 120°07'00", in NE 1/4 NW 1/4 sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.2 mi downstream from Martis Creek Lake Dam, 1.8 mi upstream from mouth, and 3.5 mi east of Truckee.

DRAINAGE AREA.--39.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to September 1990, June to September 1993.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,730 ft above sea level, from topographic map. Prior to July 10, 1972, at site 1.0 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Low and medium flow may be regulated and high flow completely regulated by Martis Creek Lake Dam (station 10339380) since Oct. 7, 1971. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft^3/s, Feb. 1, 1963, gage height, 6.16 ft, site and datum then in use; minimum, 1.1 ft^3/s, July 19, 20, 1961. Maximum discharge since construction of Martis Creek Lake Dam in 1971, 663 ft^3/s, Feb. 28, 1986, gage height, 5.66 ft; maximum gage height, 6.01 ft, Apr. 2, 1974; minimum daily, 0.20 ft^3/s, Nov. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period June to September, 19 ft^3/s, June 16, gage height, 2.31 ft; minimum daily discharge during period June to September, 4.7 ft^3/s, Aug. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	10	6.3	5.2
2	---	---	---	---	---	---	---	---	---	10	6.0	5.2
3	---	---	---	---	---	---	---	---	---	9.7	5.9	5.1
4	---	---	---	---	---	---	---	---	---	9.7	5.8	5.2
5	---	---	---	---	---	---	---	---	---	9.7	5.7	5.3
6	---	---	---	---	---	---	---	---	---	9.3	5.7	5.3
7	---	---	---	---	---	---	---	---	---	8.8	5.7	5.3
8	---	---	---	---	---	---	---	---	---	8.5	5.7	5.2
9	---	---	---	---	---	---	---	---	---	8.5	5.6	5.0
10	---	---	---	---	---	---	---	---	---	8.4	5.7	5.0
11	---	---	---	---	---	---	---	---	---	8.0	5.7	4.8
12	---	---	---	---	---	---	---	---	---	8.2	5.7	4.8
13	---	---	---	---	---	---	---	---	---	8.3	5.5	4.8
14	---	---	---	---	---	---	---	---	---	7.9	5.6	4.9
15	---	---	---	---	---	---	---	---	---	7.6	5.6	4.9
16	---	---	---	---	---	---	---	---	19	7.7	5.6	5.2
17	---	---	---	---	---	---	---	---	18	7.7	5.7	5.4
18	---	---	---	---	---	---	---	---	17	7.7	5.7	5.5
19	---	---	---	---	---	---	---	---	16	7.6	5.7	5.6
20	---	---	---	---	---	---	---	---	16	7.4	5.5	5.5
21	---	---	---	---	---	---	---	---	15	7.5	5.6	5.5
22	---	---	---	---	---	---	---	---	15	7.4	5.6	5.5
23	---	---	---	---	---	---	---	---	14	7.7	5.5	5.5
24	---	---	---	---	---	---	---	---	14	8.1	5.5	5.5
25	---	---	---	---	---	---	---	---	12	7.4	5.5	5.5
26	---	---	---	---	---	---	---	---	12	7.0	4.7	5.5
27	---	---	---	---	---	---	---	---	11	6.8	5.3	5.5
28	---	---	---	---	---	---	---	---	11	6.6	5.3	5.4
29	---	---	---	---	---	---	---	---	11	6.4	5.3	5.4
30	---	---	---	---	---	---	---	---	11	6.2	5.3	5.4
31	---	---	---	---	---	---	---	---	---	6.4	5.2	---
TOTAL	---	---	---	---	---	---	---	---	---	248.2	173.2	157.9
MEAN	---	---	---	---	---	---	---	---	---	8.01	5.59	5.26
MAX	---	---	---	---	---	---	---	---	---	10	6.3	5.6
MIN	---	---	---	---	---	---	---	---	---	6.2	4.7	4.8
AC-FT	---	---	---	---	---	---	---	---	---	492	344	313

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1971, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.05	12.0	18.5	30.6	28.0	36.5	60.2	59.5	22.6	6.40	4.90	5.51
MAX	16.4	18.0	86.5	116	83.4	78.8	148	202	96.6	18.0	10.8	10.1
(WY)	1963	1971	1965	1970	1963	1967	1969	1967	1967	1967	1967	1967
MIN	3.73	4.81	5.38	4.28	9.60	11.1	15.4	9.80	3.21	1.79	1.81	2.37
(WY)	1962	1962	1962	1962	1964	1961	1961	1961	1960	1961	1964	1960

SUMMARY STATISTICS	WATER YEARS 1959 - 1971		
ANNUAL MEAN	24.4		
HIGHEST ANNUAL MEAN	47.2		1969
LOWEST ANNUAL MEAN	6.89		1961
HIGHEST DAILY MEAN	903	Jan 31	1963
LOWEST DAILY MEAN	1.3	Jul 30	1961
ANNUAL SEVEN-DAY MINIMUM	1.4	Jul 29	1961
INSTANTANEOUS PEAK FLOW	1880	Feb 1	1963
INSTANTANEOUS PEAK STAGE	6.16	Feb 1	1963
ANNUAL RUNOFF (AC-FT)	17650		
10 PERCENT EXCEEDS	57		
50 PERCENT EXCEEDS	11		
90 PERCENT EXCEEDS	2.7		

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.21	18.8	22.4	24.3	36.1	47.5	50.1	50.7	33.0	13.1	7.53	7.84
MAX	20.8	80.0	95.5	77.7	149	181	139	219	169	75.0	20.5	18.9
(WY)	1983	1984	1982	1980	1986	1986	1982	1983	1983	1986	1983	1983
MIN	3.09	1.57	1.25	6.42	8.60	8.35	8.52	7.99	5.32	3.45	3.06	2.68
(WY)	1972	1978	1978	1978	1990	1974	1980	1988	1981	1981	1977	1978

SUMMARY STATISTICS	WATER YEARS 1972 - 1993		
ANNUAL MEAN	26.7		
HIGHEST ANNUAL MEAN	74.5		1983
LOWEST ANNUAL MEAN	6.90		1977
HIGHEST DAILY MEAN	626	Mar 1	1986
LOWEST DAILY MEAN	.20	Nov 9	1977
ANNUAL SEVEN-DAY MINIMUM	.21	Nov 9	1977
INSTANTANEOUS PEAK FLOW	663	Feb 28	1986
INSTANTANEOUS PEAK STAGE	6.01	Apr 2	1974
ANNUAL RUNOFF (AC-FT)	19350		
10 PERCENT EXCEEDS	64		
50 PERCENT EXCEEDS	12		
90 PERCENT EXCEEDS	4.4		

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1975 to current year.
WATER TEMPERATURE: Water years 1975 to current year.
SEDIMENT DATA: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1974 to current year.

INSTRUMENTATION.--Digital water-temperature recorder since October 1974.

REMARKS.--Water temperature is affected by regulation from Martis Creek Lake Dam (station 10339380). Missing record Oct. 1, 2, due to equipment malfunction. Unpublished chemical-quality, water temperature, and sediment data prior to October 1974, available at the U.S. Geological Survey office in Carson City, NV.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 25.5°C, July 11, 12, 1993; minimum recorded, 0.0°C, Feb. 16, 17, 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 25.5°C, July 11, 12; minimum recorded, 0.5°C, several days.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3
NOV										
12...	1414	3.7	150	9.1	8.0	1.9	623	13.1	136	79
APR										
08...	1300	95	70	7.7	6.0	4.9	--	--	--	39
AUG										
13...	1430	5.5	128	9.3	19.5	1.8	620	9.3	126	43
SEP										
17...	1406	5.5	140	9.2	16.0	0.60	620	10.5	131	61

DATE	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
NOV										
12...	8	79	0.054	0.030	0.37	0.40	0.45	0.030	0.040	2
APR										
08...	0	32	--	--	--	<0.20	--	0.030	0.020	<1
AUG										
13...	16	63	--	--	0.27	0.30	0.45	0.040	0.030	<1
SEP										
17...	10	66	--	--	0.17	0.20	0.33	0.010	<0.010	<1

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
12...	<1	270	120	<1	<1	<4	40	22	<10	3
APR										
08...	<1	250	120	<1	<1	<4	30	12	<10	<3
AUG										
13...	<1	280	100	<1	<1	<4	20	10	<10	4
SEP										
17...	<1	190	66	<1	<1	<4	30	9	<10	<3

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV					
12...	1414	3.7	8.0	3	0.03
APR					
08...	1300	95	6.0	6	1.5
AUG					
13...	1430	5.5	19.5	4	0.06
SEP					
17...	1406	5.5	16.0	2	0.03

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	10.5	9.0	5.5	3.5	3.0	2.0	2.0	1.0	2.5	1.0
2	---	---	10.0	8.5	4.5	3.5	4.0	2.0	2.0	1.0	2.5	1.0
3	16.5	12.0	10.0	8.0	5.0	3.5	3.5	2.0	2.0	1.0	2.0	1.0
4	16.5	11.5	9.5	8.0	4.5	2.5	4.0	2.0	2.5	1.0	2.0	.5
5	16.0	11.5	10.0	7.5	4.5	2.5	4.0	2.5	2.0	1.0	2.0	1.0
6	15.5	11.0	10.0	7.5	4.5	3.0	3.5	2.5	2.5	1.0	2.0	1.0
7	15.5	10.5	10.0	7.0	4.5	3.0	4.5	2.0	2.5	1.0	2.0	1.0
8	15.5	11.0	9.0	6.5	4.5	3.0	3.5	.5	2.0	1.5	2.0	1.0
9	15.5	11.0	8.5	6.0	4.0	3.5	3.5	.5	2.0	1.0	1.5	1.0
10	15.5	11.0	8.0	5.5	4.0	3.5	3.5	2.0	2.0	1.0	2.0	1.0
11	15.5	10.5	7.5	5.0	3.5	3.0	3.5	1.5	2.0	1.0	2.0	1.0
12	15.5	10.5	8.0	5.5	4.0	3.0	3.0	2.0	2.0	1.0	2.0	1.0
13	15.0	11.0	7.5	5.0	4.0	2.5	3.5	2.0	2.5	1.0	2.0	1.0
14	14.5	10.5	7.5	5.0	4.0	1.0	3.5	2.5	2.5	1.0	1.5	1.0
15	14.5	10.5	7.0	5.0	4.0	2.5	3.0	2.0	2.0	1.0	1.5	1.0
16	14.5	10.5	7.0	5.5	4.0	2.5	3.5	1.0	2.0	1.0	1.5	1.0
17	14.5	10.5	7.0	5.5	3.5	2.5	2.5	2.0	2.0	1.0	1.5	1.0
18	13.0	10.5	7.5	5.0	4.0	2.5	3.0	2.0	2.0	1.0	1.0	.5
19	14.0	10.5	6.0	5.0	4.0	2.5	3.0	2.0	1.0	1.0	1.0	1.0
20	13.0	10.0	6.0	4.0	4.5	3.0	2.5	1.5	1.0	.5	1.5	1.0
21	14.0	10.5	5.5	4.0	4.5	2.5	2.5	1.5	1.5	1.0	2.0	1.0
22	13.5	10.5	6.0	4.0	4.0	2.5	1.5	1.0	1.5	1.0	2.0	1.5
23	13.5	9.5	5.5	3.5	4.5	1.0	1.0	1.0	1.5	.5	2.5	2.0
24	12.0	9.5	5.0	3.5	4.5	2.5	1.0	1.0	1.5	.5	2.5	1.5
25	12.5	9.5	5.5	4.0	4.5	2.5	1.0	.5	1.5	.5	2.5	2.0
26	12.5	9.5	6.0	3.5	4.5	2.5	1.0	.5	1.5	.5	2.5	2.0
27	12.5	10.0	6.0	4.0	4.5	3.0	1.0	.5	2.0	.5	2.5	2.0
28	11.5	10.0	5.5	4.0	3.0	1.5	1.5	1.0	2.0	.5	3.0	2.5
29	10.0	9.5	5.5	3.0	2.5	2.0	1.5	.5	---	---	3.5	2.5
30	9.5	9.5	5.0	3.0	3.5	2.5	1.5	1.0	---	---	4.0	3.0
31	9.5	9.0	---	---	4.0	2.5	1.5	1.0	---	---	4.0	3.5
MONTH	---	---	10.5	3.0	5.5	2.5	4.5	.5	2.5	.5	4.0	.5

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.5	3.5	11.5	9.5	13.5	12.0	24.0	19.0	20.0	16.5	18.5	14.5
2	4.5	3.5	12.5	10.5	13.0	12.0	24.5	19.5	20.5	16.5	19.0	14.5
3	4.5	4.0	10.5	8.5	13.5	12.0	24.0	19.5	20.5	16.5	18.0	15.0
4	4.5	4.0	8.5	7.5	13.0	12.0	23.5	19.5	20.5	16.5	18.5	15.0
5	5.0	4.5	10.0	7.5	12.5	12.0	24.0	19.0	20.5	16.5	19.0	15.0
6	5.0	4.0	11.0	9.5	12.0	11.0	24.0	19.5	20.5	16.5	18.5	15.0
7	5.0	4.5	11.0	9.5	11.5	10.5	24.5	20.0	20.5	16.5	19.0	15.0
8	6.5	5.0	10.0	9.0	12.0	10.5	24.5	19.5	20.5	16.0	19.0	15.0
9	7.5	5.5	13.0	9.5	13.5	11.0	25.0	20.0	20.0	16.5	19.0	15.0
10	8.0	6.5	13.5	10.5	15.0	12.5	25.0	20.0	20.0	16.5	19.0	14.5
11	7.0	6.0	12.5	10.5	14.5	12.5	25.5	20.0	20.0	16.0	18.5	14.5
12	6.5	5.5	10.5	10.0	14.0	12.5	25.5	20.0	19.5	15.5	18.5	14.5
13	7.5	6.5	11.5	10.0	15.5	13.0	24.5	17.0	19.5	15.5	17.5	13.5
14	8.5	7.0	11.5	9.5	16.5	14.0	20.0	16.5	19.5	16.0	17.5	13.5
15	9.0	7.5	12.5	10.5	20.0	14.5	19.5	16.0	19.5	16.0	17.5	13.5
16	9.0	7.5	13.5	11.0	20.0	17.5	19.0	15.5	19.0	15.5	16.0	13.5
17	8.0	6.5	13.5	12.0	20.0	17.5	19.0	15.5	19.0	15.0	16.0	13.0
18	6.5	6.0	14.5	12.5	22.0	17.5	19.0	15.0	19.0	15.5	16.0	12.5
19	8.5	6.0	14.5	12.5	23.0	19.0	19.0	15.5	18.5	15.0	16.0	12.5
20	10.0	7.0	14.0	12.5	23.0	19.5	18.5	15.5	17.5	15.0	16.0	12.5
21	9.0	7.5	13.5	12.0	22.5	20.0	18.5	15.0	18.5	14.5	16.0	12.0
22	9.5	8.0	14.5	12.0	22.0	19.0	18.5	15.0	18.5	14.5	15.5	12.0
23	9.0	8.0	15.5	13.0	21.5	18.5	19.0	15.5	18.5	14.5	15.0	11.5
24	8.0	7.5	15.5	13.0	22.0	18.0	19.5	16.0	18.5	14.5	15.0	11.0
25	9.5	8.0	14.5	13.0	23.0	18.5	19.5	15.5	18.5	14.5	15.0	11.0
26	9.0	8.0	14.5	13.0	23.5	19.5	19.5	15.5	21.0	14.5	14.5	11.0
27	9.0	8.0	14.0	13.0	24.0	19.5	19.5	15.5	18.5	14.5	15.0	11.0
28	10.5	9.0	13.5	12.5	23.5	19.5	19.5	16.0	18.5	14.5	14.5	11.0
29	11.5	8.5	13.5	12.0	23.0	19.0	20.0	16.0	18.5	14.5	15.0	11.0
30	11.5	7.5	13.5	12.5	23.5	19.0	20.0	15.5	18.5	14.5	15.0	11.5
31	---	---	13.5	12.5	---	---	20.0	16.0	18.5	14.5	---	---
MONTH	11.5	3.5	15.5	7.5	24.0	10.5	25.5	15.0	21.0	14.5	19.0	11.0

10339419 TRUCKEE RIVER ABOVE PROSSER CREEK NEAR TRUCKEE, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 39°22'07", long 120°06'50", in SE 1/4 NW 1/4 sec.32, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on right bank 0.2 mi upstream from Prosser Creek, and 4.5 mi northeast of Truckee.

DRAINAGE AREA.--644 mi^2.

PERIOD OF RECORD.--
WATER TEMPERATURE: March to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: March to September 1993.

INSTRUMENTATION.--Water-temperature recorder since March 1993. Instrument malfunction Aug. 31 and Sept. 1, 1993.

REMARKS.--Water temperature is affected by regulation from Lake Tahoe and Donner Lake.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, Aug. 2, 1993; minimum recorded 2.5°C, Mar. 24 and Apr. 6, 1993.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	5.0	2.5
25	---	---	---	---	---	---	---	---	---	---	4.5	3.0
26	---	---	---	---	---	---	---	---	---	---	4.5	3.0
27	---	---	---	---	---	---	---	---	---	---	6.0	3.0
28	---	---	---	---	---	---	---	---	---	---	5.5	3.0
29	---	---	---	---	---	---	---	---	---	---	8.0	4.0
30	---	---	---	---	---	---	---	---	---	---	8.0	3.5
31	---	---	---	---	---	---	---	---	---	---	8.0	3.5
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

10339419 TRUCKEE RIVER ABOVE PROSSER CREEK NEAR TRUCKEE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	3.5	10.0	4.5	10.5	5.5	17.0	9.5	23.0	15.0	---	---
2	6.5	3.0	9.5	5.5	11.0	5.5	16.0	10.0	24.0	16.5	21.0	12.0
3	8.5	3.5	8.0	4.5	11.5	5.5	16.5	9.5	22.5	16.5	20.0	13.0
4	6.0	4.0	9.5	4.0	9.0	6.5	16.5	9.0	23.0	15.5	21.5	13.0
5	7.0	3.5	10.5	4.5	9.5	6.0	17.0	9.5	22.5	14.5	21.0	13.0
6	7.0	2.5	9.0	6.0	8.0	6.0	17.5	10.5	22.0	14.5	21.0	13.5
7	8.5	3.5	10.5	5.0	11.5	6.5	17.5	11.0	21.0	13.5	21.0	12.0
8	8.5	4.0	10.5	4.5	13.5	7.0	17.5	10.5	20.5	12.0	21.0	12.5
9	8.0	3.5	11.5	4.5	13.5	7.5	17.5	11.0	20.0	13.0	21.5	12.5
10	8.0	3.5	11.5	5.5	13.5	7.0	18.0	11.0	21.5	13.5	20.5	12.0
11	8.0	3.5	11.0	5.0	12.5	5.5	18.5	11.5	20.0	12.5	20.0	13.0
12	8.0	3.0	8.0	5.0	13.0	5.0	18.5	12.0	20.0	11.5	19.0	11.5
13	8.5	3.0	10.5	4.5	14.0	6.0	17.5	11.5	21.5	12.5	17.5	9.5
14	8.5	3.5	11.5	5.0	14.5	7.0	17.0	11.0	21.0	13.5	18.0	11.0
15	10.0	4.5	10.5	5.0	14.0	6.5	16.0	10.5	17.0	13.5	18.0	11.5
16	8.0	4.0	12.0	5.5	13.5	6.0	17.0	10.0	20.0	11.5	16.5	11.5
17	6.0	4.0	11.5	5.0	14.0	6.5	17.5	10.5	21.0	12.0	16.0	11.0
18	8.0	3.0	11.0	6.0	15.0	6.5	18.5	11.0	21.5	13.0	18.0	11.0
19	9.5	3.5	12.0	5.0	15.5	7.5	18.5	12.0	17.5	13.0	17.5	11.0
20	10.5	4.5	10.0	6.0	13.5	7.5	16.0	11.5	14.5	10.5	17.5	11.5
21	9.5	4.5	11.5	5.0	13.5	8.0	18.0	10.5	19.5	9.5	17.0	10.5
22	9.5	4.5	12.0	5.0	13.5	6.5	18.5	12.0	21.5	12.5	15.0	10.5
23	6.5	4.0	12.5	6.0	14.0	6.0	18.0	14.0	21.0	12.5	16.5	9.5
24	9.5	4.0	12.5	6.0	14.5	6.5	20.5	13.5	20.5	11.5	16.5	9.0
25	9.0	5.0	9.5	6.5	15.5	7.0	20.5	13.0	20.0	11.5	17.0	9.5
26	10.0	4.5	12.0	6.0	16.0	8.0	20.5	13.0	20.0	10.5	17.0	9.5
27	10.5	4.0	10.0	6.5	15.5	7.5	21.0	13.0	21.0	11.0	17.5	10.0
28	10.5	4.5	9.5	6.5	14.5	7.0	21.0	14.0	21.0	12.0	17.0	10.5
29	11.0	5.0	11.5	5.5	16.0	7.0	21.5	15.0	20.5	11.5	17.5	10.5
30	10.5	5.0	10.5	6.5	16.5	9.5	21.0	13.0	20.5	12.0	17.5	10.5
31	---	---	8.5	6.5	---	---	22.5	13.5	---	---	---	---
MONTH	11.0	2.5	12.5	4.0	16.5	5.0	22.5	9.0	---	---	---	---

10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'46", long 120°08'12", in NW 1/4 SW 1/4 sec.30, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house on Prosser Creek Dam on Prosser Creek, 1.4 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--50.3 mi^2.

PERIOD OF RECORD.--January 1963 to current year. January 1963 to September 1987 (monthend elevations and contents only). Prior to October 1976, published as "near Boca."

REVISED RECORDS.--WDR CA-76-3: 1975. WDR CA-79-3: Drainage area.

GAGE.--Nonrecording gage read five times weekly. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Jan. 30, 1963. Usable capacity, 28,641 acre-ft between elevations 5,660.6 ft, top of inactive contents, and 5,741.2 ft, crest of spillway. Inactive contents, 1,201 acre-ft, includes 83 acre-ft dead contents below elevation 5,637.0 ft. Figures given represent total contents at 0800 hours. Reservoir is used for flood control, enhancement of fishery, and recreation. See schematic diagram of Truckee River basin.

COOPERATION.--Gage readings and capacity table were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 32,269 acre-ft, June 1, 1973, elevation, 5,744.33 ft; minimum since reservoir first filled, 66 acre-ft, Oct. 10-12, 1983, elevation, 5,635.75 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 24,515 acre-ft, June 12, elevation, 5,733.61 ft; minimum observed, 9,352 acre-ft, Mar. 29, elevation, 5,702.26 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated August 1962)

5,630	17	5,680	3,791	5,720	16,643
5,640	143	5,690	5,901	5,730	22,220
5,650	491	5,700	8,636	5,740	28,949
5,660	1,148	5,710	12,147	5,750	37,046
5,670	2,230				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9720	---	9655	---	9723	9642	9767	16414	20957	22110	---	14394
2	9723	9723	9655	---	9710	9636	9811	16694	21630	22014	21469	14200
3	---	9689	9655	---	9696	9626	---	17040	22214	21990	21230	13943
4	---	9654	9655	9858	9682	9615	---	17878	22628	---	21004	---
5	9716	9659	---	9865	9665	9615	9619	18515	---	22220	20782	---
6	9710	9662	---	9885	---	---	9523	18853	23586	22331	20577	---
7	9706	---	9669	9841	---	---	9461	19217	23907	22560	---	13314
8	---	---	9676	9764	9682	9682	9549	19508	24023	22814	---	13140
9	9696	9676	9764	---	9696	9744	9862	---	24087	23028	19863	12942
10	---	9676	9824	---	9703	9824	---	19920	24204	---	19609	12773
11	---	---	9824	9767	9716	9790	---	20542	---	---	19384	---
12	---	9672	---	9767	9716	9771	11259	21457	24515	23612	19128	---
13	---	9672	---	9777	---	---	11594	22282	24432	23650	18897	12220
14	---	---	9619	9764	---	---	11860	22381	24113	23650	---	12021
15	---	---	9622	9730	---	10078	12196	---	23882	23637	---	11852
16	9669	9669	9629	---	9716	10226	12550	---	23650	23592	18153	11659
17	---	9669	9649	---	9723	10385	---	23294	23262	---	17904	11486
18	---	9669	9669	---	9744	11095	---	23933	22740	---	17671	---
19	9659	9662	---	9622	9797	11102	13515	23765	---	23420	17411	---
20	9655	9669	---	9649	---	---	13889	---	22456	23357	17168	10954
21	9655	---	9689	9757	---	---	14317	23496	22567	23287	---	10765
22	9655	---	9699	---	---	9994	14935	---	22603	23212	---	10598
23	9659	---	9703	---	9696	9946	15467	---	22579	23142	16428	10406
24	---	9659	9710	---	9703	10237	---	20443	22518	---	16125	10237
25	---	9662	---	9669	9696	10133	---	19649	22456	---	15862	10064
26	9655	---	---	9669	9696	9797	15881	19305	---	22820	15562	---
27	9655	9662	---	9696	---	---	15852	19469	---	22678	15305	10036
28	9659	---	9716	9723	---	---	15862	19666	22406	22542	---	10036
29	9676	---	9780	9730	---	9352	15891	---	22319	22331	---	10043
30	9757	9655	9817	---	---	9457	15872	---	22214	22135	14754	10043
31	---	---	9817	---	---	9609	---	---	---	---	14562	---

10340500 PROSSER CREEK BELOW PROSSER CREEK DAM, NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'24", long 120°07'50", in NW 1/4 NE 1/4 sec.31, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 300 ft downstream from Station Creek, 0.5 mi downstream from Prosser Creek Dam, 0.9 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--52.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1902 to June 1903 (gage heights only), October 1942 to December 1950, June 1951 to current year. Prior to October 1976, published as "near Boca." Monthly discharge only for October 1942 to December 1950 published in WSP 1734; daily discharge in files of U.S. Geological Survey. Records for April 1889 to November 1890, published in the 11th and 12th Annual Reports, Part 2, have been found to be unreliable and should not be used.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,602.31 ft above sea level (levels by U.S. Bureau of Reclamation). See WSP 2127 for history of changes prior to September 1956. October 1956 to May 1976, water-stage recorder at site 0.8 mi downstream at datum 29.69 ft lower.

REMARKS.--Records good to Mar. 31 and fair thereafter. Flow regulated by Prosser Creek Reservoir (station 10340300) since Jan. 30, 1963. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Water years 1943-63, prior to construction of Prosser Creek Dam, maximum discharge, 4,560 ft^3/s, Dec. 23, 1955, gage height, 10.13 ft, present datum, from rating curve extended above 910 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft from floodmarks, present datum, Nov. 20, 1950; minimum discharge, 0.4 ft^3/s, July 18, 1961, result of work on dam upstream. Maximum discharge since construction of Prosser Creek Dam in 1963, 1,790 ft^3/s, Feb. 20-22, 1986, gage height, 6.66 ft, from rating curve extended above 880 ft^3/s on basis of valve setting at Prosser Creek Dam; minimum daily, 0.02 ft^3/s, Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s, May 21-24, gage height, unknown; minimum daily, 1.8 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	37	11	14	e38	34	e275	e195	e5.0	195	141	92
2	4.9	37	11	13	e38	34	e329	e250	e5.0	172	141	91
3	6.5	37	11	13	38	34	e350	e115	e40	101	141	91
4	6.5	19	11	13	38	34	e350	e20	e55	68	134	91
5	6.5	11	11	13	34	32	e335	e135	e55	68	129	90
6	6.5	11	11	34	31	31	e290	e200	e55	42	129	90
7	6.5	11	11	51	31	31	e230	e250	e150	13	129	89
8	6.5	11	11	34	31	31	e200	e275	152	13	129	89
9	6.5	11	18	23	31	31	e155	e275	154	13	128	89
10	6.5	11	43	23	30	70	e125	e190	153	13	128	89
11	6.5	11	60	23	30	88	e125	e53	154	13	128	89
12	6.5	11	59	23	29	79	e125	e5.0	210	57	128	89
13	6.5	11	58	32	29	75	e125	e170	365	88	128	89
14	6.5	11	34	38	29	75	e125	e250	394	89	128	88
15	6.5	11	12	38	29	92	e125	e250	396	89	128	88
16	6.6	11	12	38	28	119	e125	e87	418	89	127	88
17	6.9	11	12	38	28	134	e125	e230	537	88	127	88
18	6.9	11	13	38	28	274	e125	e615	477	88	128	87
19	7.1	11	13	26	42	485	e74	e650	286	88	128	87
20	7.4	11	13	15	56	481	e18	e650	230	87	127	87
21	8.2	11	13	16	55	479	e5.0	e835	194	87	127	86
22	8.4	11	14	50	44	389	e5.0	e1050	195	87	127	86
23	8.4	11	14	77	35	262	e68	e1050	197	93	138	86
24	8.4	11	14	77	35	353	e175	e950	197	112	142	86
25	8.4	11	14	65	35	470	e250	e765	196	112	141	45
26	8.7	11	15	39	35	376	e285	e465	198	112	141	8.0
27	9.0	11	16	39	34	260	e285	e285	196	112	110	8.0
28	8.8	11	16	39	34	260	e305	e250	194	123	92	7.9
29	9.6	11	15	38	---	218	e370	e250	196	141	92	7.9
30	22	11	15	38	---	177	e215	e250	196	141	92	7.8
31	37	---	14	e38	---	205	---	e84	---	141	92	---
TOTAL	263.0	416	595	1056	975	5713	5694.0	11099.0	6250.0	2735	3900	2209.6
MEAN	8.48	13.9	19.2	34.1	34.8	184	190	358	208	88.2	126	73.7
MAX	37	37	60	77	56	485	370	1050	537	195	142	92
MIN	1.8	11	11	13	28	31	5.0	5.0	5.0	13	92	7.8
AC-FT	522	825	1180	2090	1930	11330	11290	22010	12400	5420	7740	4380

e Estimated.

10340500 PROSSER CREEK BELOW PROSSER CREEK DAM, NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.1	34.5	47.9	36.1	45.1	75.4	203	261	157	48.5	12.1	8.45
MAX	22.4	268	321	155	89.7	175	406	669	395	176	44.5	19.6
(WY)	1946	1951	1956	1956	1943	1943	1952	1952	1952	1952	1952	1952
MIN	6.63	8.62	9.81	10.0	11.0	20.0	94.5	106	55.9	10.0	3.79	3.90
(WY)	1961	1960	1960	1948	1948	1948	1955	1959	1947	1961	1961	1947

SUMMARY STATISTICS	WATER YEARS 1943 - 1962	
ANNUAL MEAN	76.8	
HIGHEST ANNUAL MEAN	162	1952
LOWEST ANNUAL MEAN	38.1	1961
HIGHEST DAILY MEAN	3490	Dec 23 1955
LOWEST DAILY MEAN	2.7	Aug 24 1961
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 19 1947
INSTANTANEOUS PEAK FLOW	4560	Dec 23 1955
INSTANTANEOUS PEAK STAGE	11.00	Nov 20 1950
ANNUAL RUNOFF (AC-FT)	55620	
10 PERCENT EXCEEDS	212	
50 PERCENT EXCEEDS	27	
90 PERCENT EXCEEDS	7.0	

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	99.9	43.6	58.7	68.4	73.0	109	125	205	109	50.5	39.8	113
MAX	282	214	361	321	397	371	372	545	494	167	126	477
(WY)	1983	1982	1965	1970	1986	1986	1969	1983	1983	1985	1993	1983
MIN	5.41	6.84	5.32	7.96	17.5	27.1	21.7	17.2	8.39	6.33	3.51	1.96
(WY)	1989	1989	1989	1989	1991	1977	1977	1985	1966	1966	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1964 - 1993	
ANNUAL TOTAL	11903.1		40905.6			
ANNUAL MEAN	32.5		112		91.2	
HIGHEST ANNUAL MEAN					214	1983
LOWEST ANNUAL MEAN					24.4	1977
HIGHEST DAILY MEAN	164	Apr 4	1050	May 22	1790	Feb 21 1986
LOWEST DAILY MEAN	1.8	Oct 1	1.8	Oct 1	.02	Jan 2 1975
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 25	5.6	Oct 1	.30	Apr 13 1977
INSTANTANEOUS PEAK FLOW			1050	May 21	1790	Feb 20 1986
INSTANTANEOUS PEAK STAGE			unknown		6.66	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	23610		81140		66060	
10 PERCENT EXCEEDS	98		274		219	
50 PERCENT EXCEEDS	12		65		43	
90 PERCENT EXCEEDS	2.5		8.8		9.0	

10340500 PROSSER CREEK BELOW PROSSER CREEK DAM NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: June to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June to September 1993.

INSTRUMENTATION.--Water-temperature recorder since June 1993.

REMARKS.--Water temperature is affected by regulation from Prosser Creek Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 22.0°C, Sept. 25-27, 1993; minimum recorded, 9.0°C, several days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	12.0	10.5	14.0	12.0	18.0	16.5
2	---	---	---	---	---	---	12.0	10.5	14.0	12.5	18.5	16.5
3	---	---	---	---	---	---	13.5	10.5	13.5	12.5	18.5	16.5
4	---	---	---	---	---	---	13.5	10.5	14.0	12.5	18.5	16.5
5	---	---	---	---	---	---	13.5	10.5	14.0	12.5	18.5	16.5
6	---	---	---	---	---	---	20.0	10.5	14.5	12.5	18.5	16.5
7	---	---	---	---	---	---	20.0	9.5	14.5	12.5	18.5	16.5
8	---	---	---	---	10.5	9.0	20.0	9.0	14.5	12.5	18.5	16.5
9	---	---	---	---	10.5	9.0	20.0	9.0	14.5	13.0	18.5	16.5
10	---	---	---	---	10.5	9.0	20.0	9.0	15.0	13.0	18.5	16.5
11	---	---	---	---	10.5	9.0	20.0	9.5	15.0	13.0	18.5	16.5
12	---	---	---	---	10.5	9.0	13.5	9.5	15.0	13.0	18.5	16.5
13	---	---	---	---	10.0	9.0	13.5	11.0	15.0	13.5	18.5	16.5
14	---	---	---	---	10.0	9.0	13.5	11.0	15.5	13.5	18.5	16.5
15	---	---	---	---	10.0	9.5	13.5	11.0	15.5	14.0	18.5	16.5
16	---	---	---	---	10.0	9.5	13.5	11.0	15.5	14.0	18.0	16.5
17	---	---	---	---	10.5	9.5	13.0	11.0	15.5	14.0	18.0	16.0
18	---	---	---	---	10.5	9.5	13.5	11.0	16.0	14.0	17.5	16.0
19	---	---	---	---	10.5	9.5	13.5	11.0	15.5	14.0	17.5	15.5
20	---	---	---	---	11.0	9.5	13.0	11.0	15.5	14.5	17.5	15.5
21	---	---	---	---	10.5	9.5	13.5	11.0	16.0	14.5	17.0	15.0
22	---	---	---	---	11.0	9.5	13.5	11.5	16.5	15.0	17.0	15.0
23	---	---	---	---	11.0	9.5	13.5	11.5	16.5	15.0	17.0	15.0
24	---	---	---	---	11.0	9.5	13.5	11.5	17.0	15.0	16.5	14.5
25	---	---	---	---	11.5	10.0	13.5	11.5	17.0	15.5	22.0	11.0
26	---	---	---	---	11.5	10.0	14.0	11.5	17.0	15.5	22.0	9.0
27	---	---	---	---	11.5	10.0	13.5	11.5	17.5	16.0	22.0	9.5
28	---	---	---	---	11.5	10.0	13.5	11.5	18.0	15.5	21.5	9.5
29	---	---	---	---	12.0	10.0	13.5	12.0	18.0	16.0	21.5	9.0
30	---	---	---	---	12.0	10.5	14.0	12.0	18.0	16.0	21.5	10.0
31	---	---	---	---	---	---	14.0	12.0	18.0	16.0	---	---
MONTH	---	---	---	---	---	---	20.0	9.0	18.0	12.0	22.0	9.0

10341950 LITTLE TRUCKEE RIVER BELOW DIVERSION DAM NEAR SIERRAVILLE, CA

LOCATION.--Lat 39°29'29", long 120°17'39", in SE 1/4 SE 1/4 sec.15, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 50 ft upstream from Independence Lake Road Bridge, 0.7 mi downstream from diversion dam, and 7.8 mi southeast of Sierraville.

DRAINAGE AREA.--36.1 mi^2.

PERIOD OF RECORD.--June to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 6,380 ft above sea level, from topographic map.

REMARKS.--Records fair. Some water diverted to Sierra Valley about 0.7 mi upstream for irrigation in the summer months. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 350 ft^3/s, June 26, 1993, gage height, 5.86 ft; minimum daily, 2.8 ft^3/s, Aug. 3-5, 1993.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	197	6.1	8.8
2	---	---	---	---	---	---	---	---	---	201	7.8	8.4
3	---	---	---	---	---	---	---	---	---	181	2.8	8.1
4	---	---	---	---	---	---	---	---	---	156	2.8	8.0
5	---	---	---	---	---	---	---	---	---	158	2.8	7.8
6	---	---	---	---	---	---	---	---	---	145	2.9	7.9
7	---	---	---	---	---	---	---	---	---	136	3.0	7.6
8	---	---	---	---	---	---	---	---	---	120	2.9	7.2
9	---	---	---	---	---	---	---	---	---	102	2.9	6.9
10	---	---	---	---	---	---	---	---	---	107	3.0	6.5
11	---	---	---	---	---	---	---	---	---	94	2.9	6.3
12	---	---	---	---	---	---	---	---	---	73	2.9	6.2
13	---	---	---	---	---	---	---	---	---	60	3.0	6.2
14	---	---	---	---	---	---	---	---	---	58	3.0	6.2
15	---	---	---	---	---	---	---	---	---	46	3.1	6.1
16	---	---	---	---	---	---	---	---	---	30	12	6.1
17	---	---	---	---	---	---	---	---	---	21	19	6.5
18	---	---	---	---	---	---	---	---	---	15	16	6.9
19	---	---	---	---	---	---	---	---	---	14	15	6.7
20	---	---	---	---	---	---	---	---	---	15	15	6.2
21	---	---	---	---	---	---	---	---	---	9.9	14	6.0
22	---	---	---	---	---	---	---	---	---	7.3	13	6.1
23	---	---	---	---	---	---	---	---	---	8.1	12	6.1
24	---	---	---	---	---	---	---	---	---	6.8	12	5.8
25	---	---	---	---	---	---	---	---	---	7.4	11	5.5
26	---	---	---	---	---	---	---	---	290	18	11	5.3
27	---	---	---	---	---	---	---	---	287	23	10	5.0
28	---	---	---	---	---	---	---	---	248	4.8	9.8	4.8
29	---	---	---	---	---	---	---	---	212	5.7	9.5	4.7
30	---	---	---	---	---	---	---	---	199	4.7	9.2	4.5
31	---	---	---	---	---	---	---	---	---	3.1	9.0	---
TOTAL	---	---	---	---	---	---	---	---	---	2027.8	249.4	194.4
MEAN	---	---	---	---	---	---	---	---	---	65.4	8.05	6.48
MAX	---	---	---	---	---	---	---	---	---	201	19	8.8
MIN	---	---	---	---	---	---	---	---	---	3.1	2.8	4.5
AC-FT	---	---	---	---	---	---	---	---	---	4020	495	386

10342900 INDEPENDENCE LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°27'07", long 120°17'23", in NW 1/4 SW 1/4 sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, on right bank of outlet channel, 60 ft upstream from outlet gates, and 10.5 mi northwest of Truckee.

DRAINAGE AREA.--7.51 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sierra Pacific Power Co.).

REMARKS.--Lake levels regulated by an earthfill dam at the outlet constructed in 1939. Usable capacity, 17,300 acre-ft between elevations 6,921.0 ft, invert of outlet gate and 6,949.0 ft, normal maximum storage level. Water is used for irrigation and power development downstream. Records, including extremes, represent usable contents. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,500 acre-ft, July 1-10, 1993, elevation, 6,949.27 ft; minimum, 4,750 acre-ft, Nov. 10, 11, 1988, elevation, 6,929.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,500 acre-ft, July 1-10, elevation, 6,949.27 ft; minimum, 7,720 acre-ft, Oct. 23, 25-27, elevation, 6,934.36 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sierra Pacific Power Co., dated Nov. 5, 1941)

6,921	0	6,940	11,240
6,925	2,220	6,945	14,530
6,930	5,110	6,950	18,000
6,935	8,110		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7840	7890	7790	8710	9380	9910	11300	12400	15800	17500	17000	16400
2	7840	7890	7790	8710	9390	9910	11400	12500	15700	17500	16900	16400
3	7840	7910	7790	8720	9400	9920	11500	12600	15600	17500	16900	16400
4	7850	7910	7780	8730	9400	9940	11500	12700	15600	17500	16900	16400
5	7840	7890	7800	8740	9420	9940	11600	12800	15500	17500	16900	16400
6	7790	7880	7870	8800	9430	9940	11600	12800	15400	17500	16800	16400
7	7840	7860	7880	8870	9430	9950	11700	12900	15200	17500	16800	16300
8	7830	7830	8010	8900	9450	9960	11800	13000	15100	17500	16800	16300
9	7810	7800	8130	8920	9470	9970	11900	13100	15000	17500	16800	16300
10	7830	7800	8210	8930	9480	9990	11900	13300	15000	17500	16700	16300
11	7830	7800	8210	8930	9500	9990	12000	13500	15100	17400	16700	16300
12	7810	7800	8200	8940	9490	10000	12000	e13600	15100	17400	16700	16200
13	7800	7810	8200	9000	9500	10000	12100	e13700	15200	17400	16700	16200
14	7790	7810	8210	9010	9500	10100	12200	13800	15300	17400	16700	16200
15	7790	7790	8210	9050	9500	10100	12200	13900	15400	17300	16700	16200
16	7770	7800	8230	9060	9530	10200	12200	14100	15500	17300	16700	16100
17	7760	7790	8280	9070	9620	10300	12300	14300	15700	17300	16700	16100
18	7740	7780	8280	9080	9580	10400	12300	14500	15900	17300	16700	16100
19	7750	7780	8280	9070	9760	10400	12200	14800	16100	17300	16600	16100
20	7730	7780	8290	9200	9790	10500	12200	15100	16300	17300	16600	16100
21	7730	7790	8280	9250	9810	10500	12200	15200	16400	17200	16600	16000
22	7730	7790	8280	9310	9830	10600	12200	15400	16600	17200	16600	16000
23	7720	7790	8290	9330	9900	10800	12200	15600	16700	17200	16600	16000
24	7730	7800	8290	9330	9910	10900	12200	15800	16800	17200	16600	16000
25	7720	7800	8310	9340	9910	10900	12200	15900	16900	17200	16500	16000
26	7720	7810	8290	9340	9910	11000	12200	15800	17100	17100	16500	16000
27	7720	7800	8310	9350	9910	11000	12200	15800	17300	17100	16500	15900
28	7760	7790	8390	9350	9910	11100	12200	15700	17300	17100	16500	15900
29	7810	7790	8600	9350	---	11100	12300	15700	17400	17000	16500	15900
30	7900	7810	8590	9360	---	11100	12400	15700	17400	17000	16500	15900
31	7890	---	8620	9380	---	11200	---	15800	---	17000	16500	---
MAX	7900	7910	8620	9380	9910	11200	12400	15900	17400	17500	17000	16400
MIN	7720	7780	7780	8710	9380	9910	11300	12400	15000	17000	16500	15900
a	6934.64	6934.50	6935.83	6937.06	6937.90	6940.00	6941.71	6946.80	6949.19	6948.55	6947.80	6947.00
b	+50	-80	+810	+760	+530	+1290	+1200	+3400	+1600	-400	-500	-600

CAL YR 1992 MAX 16700 MIN 7720 b -4880
WTR YR 1993 MAX 17500 MIN 7720 b +8060

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°27'24", long 120°17'10", in SW 1/4 NW 1/4 sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, on left bank 0.4 mi downstream from Independence Lake outlet and 10.5 mi northwest of Truckee.

DRAINAGE AREA.--8.10 mi^2.

PERIOD OF RECORD.--November 1902 to September 1907, November 1909 to June 1910, August 1968 to current year.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,920 ft above sea level, from topographic map. July 1, 1904, to June 30, 1910, nonrecording gage 75 ft downstream from Independence Lake outlet; prior to July 1, 1904, nonrecording gage 600 ft downstream at approximately same datum.

REMARKS.--Records good except for winter months, which are poor. Flow regulated by Independence Lake (station 10342900) since 1939. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft^3/s, Dec. 20, 1981, gage height, 6.12 ft; maximum gage height, 8.16 ft, Apr. 16, 1993, backwater from snow and ice; no flow Sept. 28 to Nov. 10, 1905, June 1, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 200 ft^3/s, Apr. 16, gage height, 8.16 ft; minimum daily, 0.37 ft^3/s, Oct. 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	.89	e.60	e.78	e1.2	1.9	1.6	39	128	41	26	7.0
2	.64	.82	e.60	e.77	e1.2	e1.8	1.8	40	127	47	25	7.0
3	.66	.94	e.60	e.76	e1.2	e1.8	2.0	40	126	49	18	7.0
4	.64	5.0	e.60	e.74	e1.2	e1.7	2.2	39	127	48	12	6.9
5	.57	11	e.60	e.73	e1.2	e1.7	2.4	39	126	48	12	7.0
6	.56	11	e.61	e.73	e1.2	e1.6	2.4	41	125	48	11	7.0
7	.51	10	e.62	e.72	e1.2	e1.6	2.3	44	124	48	11	6.9
8	.48	10	e.63	e.72	e1.2	e1.5	2.3	31	123	48	11	6.6
9	.48	11	e.66	e.72	e1.2	e1.5	2.4	31	122	46	12	6.8
10	.48	6.6	e.68	e.72	e1.2	e1.4	2.4	32	85	44	12	6.4
11	.48	2.2	e.70	e.72	e1.2	e1.4	2.1	33	62	42	12	6.0
12	.48	1.9	e.71	e.76	e1.2	e1.3	2.0	31	61	40	11	6.2
13	.41	1.7	e.72	e.87	e1.2	e1.3	1.9	31	61	38	9.4	6.6
14	.40	1.5	e.74	e.85	e1.2	e1.2	2.2	32	61	35	9.2	7.0
15	.37	1.3	e.75	e.80	e1.2	1.1	2.5	32	43	33	9.1	7.2
16	1.6	1.2	e.76	e.77	e1.2	1.2	e30	32	27	31	8.1	7.3
17	4.5	1.1	e.76	e.76	e1.2	1.6	39	33	16	30	8.1	7.0
18	3.3	1.1	e.75	e.75	e1.2	1.3	37	33	7.5	29	7.8	6.8
19	2.5	1.0	e.73	e.75	e1.2	1.3	37	33	6.8	28	7.5	6.4
20	2.3	.94	e.72	e.85	1.4	1.3	37	33	5.9	27	7.4	6.5
21	2.0	.94	e.72	e2.1	1.4	1.3	37	33	5.9	27	7.9	6.2
22	1.9	.84	e.72	e2.9	1.4	1.5	38	32	5.6	27	7.5	6.4
23	1.8	.80	e.71	e1.9	1.6	1.5	38	32	6.5	27	7.1	6.1
24	1.9	.80	e.70	e1.5	1.6	1.5	37	82	8.1	26	6.8	6.3
25	1.9	.69	e.68	e1.3	1.6	1.5	37	133	8.1	26	7.0	6.7
26	2.1	.68	e.68	e1.2	1.6	1.4	38	132	7.5	26	6.5	6.5
27	1.9	.68	e.70	e1.2	1.7	1.4	38	130	6.3	26	7.0	6.2
28	2.1	.68	e.73	e1.2	1.9	1.4	38	129	5.7	26	7.0	6.0
29	1.9	.60	e.79	e1.2	---	1.4	39	128	22	26	6.6	6.4
30	1.3	e.60	e.82	e1.2	---	1.4	39	127	36	26	6.2	6.7
31	1.0	---	e.82	e1.2	---	1.5	---	131	---	26	6.6	---
TOTAL	41.91	88.50	21.61	32.17	37.0	45.3	591.5	1788	1675.9	1089	315.8	199.1
MEAN	1.35	2.95	.70	1.04	1.32	1.46	19.7	57.7	55.9	35.1	10.2	6.64
MAX	4.5	11	.82	2.9	1.9	1.9	39	133	128	49	26	7.3
MIN	.37	.60	.60	.72	1.2	1.1	1.6	31	5.6	26	6.2	6.0
AC-FT	83	176	43	64	73	90	1170	3550	3320	2160	626	395

e Estimated.

10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.4	23.2	11.1	7.94	10.7	12.7	17.1	39.7	55.9	26.3	21.1	22.0
MAX	45.8	97.6	58.2	25.1	58.0	79.2	72.9	112	188	89.2	114	133
(WY)	1976	1984	1982	1982	1986	1986	1986	1982	1983	1983	1988	1973
MIN	.47	1.36	.70	1.04	1.07	1.45	1.50	1.51	2.09	1.78	2.05	.58
(WY)	1980	1989	1993	1993	1974	1977	1977	1977	1977	1977	1976	1979

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1968 - 1993	
ANNUAL TOTAL	5719.09		5925.79			
ANNUAL MEAN	15.6		16.2		21.9	
HIGHEST ANNUAL MEAN					46.7	1983
LOWEST ANNUAL MEAN					7.63	1989
HIGHEST DAILY MEAN	80	Jul 30	133	May 25	269	Dec 20 1981
LOWEST DAILY MEAN	.19	Sep 24	.37	Oct 15	.02	Sep 26 1973
ANNUAL SEVEN-DAY MINIMUM	.32	Sep 18	.44	Oct 9	.02	Sep 26 1973
INSTANTANEOUS PEAK FLOW			200	Apr 16	291	Dec 20 1981
INSTANTANEOUS PEAK STAGE			8.16	Apr 16	8.16	Apr 16 1993
ANNUAL RUNOFF (AC-FT)	11340		11750		15860	
10 PERCENT EXCEEDS	57		40		61	
50 PERCENT EXCEEDS	2.6		2.4		9.6	
90 PERCENT EXCEEDS	.68		.71		1.8	

10343200 LITTLE TRUCKEE RIVER AT HIGHWAY 89 NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'42", long 120°13'54", in SW 1/4 SW 1/4 sec.20, T.19 N., R.16 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, on right bank 10 ft upstream from State Highway 89 bridge, 3.3 mi upstream from Stampede Reservoir, and 10.5 mi north of Truckee.

DRAINAGE AREA.--59.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 6,090 ft above sea level, from topographic map.

REMARKS.--Records good except estimated daily discharges, which are fair. Flow at times regulated by Independence Lake (station 10342900). Some water diverted to Sierra Valley about 6 mi upstream for irrigation in the summer months. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 12	0345	1010	8.16	May 25	2300	1090	8.25
May 20	0300	1130	8.30	May 31	1345	*1260	*8.43

Minimum daily, 14 ft^3/s, several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e302	602	996	242	33	18
2	---	---	---	---	---	---	244	636	762	251	38	17
3	---	---	---	---	---	---	242	726	635	237	27	17
4	---	---	---	---	---	---	274	625	645	211	18	17
5	---	---	---	---	---	---	235	539	657	210	16	16
6	---	---	---	---	---	---	211	614	550	199	16	17
7	---	---	---	---	---	---	210	638	483	189	15	16
8	---	---	---	---	---	---	245	628	471	176	15	16
9	---	---	---	---	---	---	348	627	486	156	15	15
10	---	---	---	---	---	---	320	724	525	156	15	15
11	---	---	---	---	---	---	302	871	533	144	15	14
12	---	---	---	---	---	---	283	863	482	120	15	14
13	---	---	---	---	---	---	268	617	475	108	14	14
14	---	---	---	---	---	---	270	599	523	101	14	15
15	---	---	---	---	---	---	302	646	535	89	14	15
16	---	---	---	---	---	---	322	696	489	72	19	15
17	---	---	---	---	---	---	357	824	459	60	29	16
18	---	---	---	---	---	---	332	877	456	52	26	16
19	---	---	---	---	---	---	294	937	470	48	25	16
20	---	---	---	---	---	---	315	1030	476	50	25	15
21	---	---	---	---	---	---	384	906	433	45	24	15
22	---	---	---	---	---	---	431	798	365	41	23	15
23	---	---	---	---	---	---	402	778	307	41	22	e15
24	---	---	---	---	---	---	348	886	280	41	21	e15
25	---	---	---	---	---	---	356	1030	276	39	20	e15
26	---	---	---	---	---	---	394	992	306	45	20	e15
27	---	---	---	---	---	---	424	871	311	59	19	e15
28	---	---	---	---	---	---	460	739	271	35	19	e15
29	---	---	---	---	---	---	514	644	238	36	18	e15
30	---	---	---	---	---	---	580	655	240	35	18	e15
31	---	---	---	---	---	---	---	971	---	33	17	---
TOTAL	---	---	---	---	---	---	9969	23589	14135	3321	625	464
MEAN	---	---	---	---	---	---	332	761	471	107	20.2	15.5
MAX	---	---	---	---	---	---	580	1030	996	251	38	18
MIN	---	---	---	---	---	---	210	539	238	33	14	14
AC-FT	---	---	---	---	---	---	19770	46790	28040	6590	1240	920

e Estimated.

10343200 LITTLE TRUCKEE RIVER AT HIGHWAY 89 NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: September 1993.

INSTRUMENTATION.--Water-temperature recorder since September 1993.

REMARKS.--Data-transmission malfunction Sept. 23-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 20.5°C, Sept. 9, 1993; minimum recorded, 6.5°C, Sept. 18, 21, 1993.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	20.0	12.5
5	---	---	---	---	---	---	---	---	---	---	19.5	12.0
6	---	---	---	---	---	---	---	---	---	---	20.0	12.5
7	---	---	---	---	---	---	---	---	---	---	19.5	10.5
8	---	---	---	---	---	---	---	---	---	---	20.0	11.0
9	---	---	---	---	---	---	---	---	---	---	20.5	11.5
10	---	---	---	---	---	---	---	---	---	---	19.5	11.0
11	---	---	---	---	---	---	---	---	---	---	19.0	10.5
12	---	---	---	---	---	---	---	---	---	---	17.5	9.0
13	---	---	---	---	---	---	---	---	---	---	16.0	8.0
14	---	---	---	---	---	---	---	---	---	---	16.0	7.5
15	---	---	---	---	---	---	---	---	---	---	15.5	8.0
16	---	---	---	---	---	---	---	---	---	---	14.0	8.0
17	---	---	---	---	---	---	---	---	---	---	12.0	7.5
18	---	---	---	---	---	---	---	---	---	---	14.5	6.5
19	---	---	---	---	---	---	---	---	---	---	15.0	7.0
20	---	---	---	---	---	---	---	---	---	---	15.5	9.0
21	---	---	---	---	---	---	---	---	---	---	14.5	6.5
22	---	---	---	---	---	---	---	---	---	---	13.5	7.0
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA
(Hydrologic Benchmark Station)

LOCATION.--Lat 39°25'54", long 120°14'13", in NE 1/4 NE 1/4 sec.7, T.18 N., R.16 E., Nevada County, Hydrologic Unit 16050102, on left bank 2.2 mi upstream from bridge on State Highway 89 and 7.5 mi north of Truckee.

DRAINAGE AREA.--10.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,320 ft above sea level, from topographic map. Prior to Dec. 2, 1953, nonrecording gage at site 100 ft upstream at different datum.

REMARKS.--Records excellent. No storage or diversion upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s, Feb. 1, 1963, gage height, 4.64 ft, from floodmarks, from rating curve extended above 160 ft^3/s on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 ft^3/s, Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 11	1815	128	3.24	May 31	1200	*150	*3.36

Minimum daily, 1.3 ft^3/s, Oct. 1, 8-10, 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.4	1.8	e2.5	2.8	2.4	18	68	61	14	3.4	1.9
2	1.4	2.2	1.9	2.4	2.8	2.5	15	78	52	14	3.3	1.9
3	1.4	2.1	1.9	2.6	2.8	2.8	18	86	47	13	3.2	1.9
4	1.4	1.9	1.7	2.3	2.8	2.8	21	71	51	12	3.1	1.8
5	1.4	1.9	2.0	2.2	2.8	2.9	17	70	50	11	2.9	1.8
6	1.4	1.8	1.8	2.2	2.8	3.1	16	83	41	11	2.8	1.8
7	1.4	1.8	1.9	2.3	2.8	3.4	17	81	37	10	2.8	1.8
8	1.3	1.8	1.8	2.2	2.7	3.8	22	76	35	9.8	2.7	1.8
9	1.3	1.7	e2.5	2.2	2.7	4.3	39	77	33	9.2	2.6	1.7
10	1.3	1.7	e3.8	2.2	2.7	4.6	32	89	33	8.7	2.6	1.7
11	1.4	1.7	3.7	2.2	2.7	5.0	29	100	31	8.1	2.6	1.7
12	1.3	1.7	2.9	2.2	2.7	5.2	26	90	30	7.7	2.6	1.7
13	1.4	1.8	2.6	2.5	2.7	6.1	25	77	29	7.4	2.6	1.7
14	1.5	1.8	2.5	2.7	2.6	7.9	27	77	29	7.0	2.6	1.7
15	1.5	1.8	2.3	2.4	2.6	8.4	32	77	29	6.9	2.6	1.7
16	1.4	1.8	2.3	2.4	2.7	8.2	32	82	29	6.7	3.1	1.8
17	1.4	1.8	2.3	2.3	2.7	26	30	86	28	6.3	2.6	1.8
18	1.4	1.8	2.3	2.3	2.7	22	26	90	27	5.8	2.5	1.9
19	1.4	1.8	2.2	2.2	3.0	15	25	95	27	5.5	2.4	1.8
20	1.4	1.7	2.2	3.6	2.8	14	30	99	28	5.4	2.4	1.7
21	1.7	1.7	2.2	6.2	2.7	15	37	89	27	5.4	2.4	1.7
22	1.5	1.9	2.1	9.6	2.6	16	40	80	24	5.4	2.2	1.8
23	1.5	1.8	2.1	7.2	2.6	22	36	78	22	5.4	2.1	1.8
24	1.5	1.7	2.1	4.4	2.5	25	34	78	20	5.3	2.1	1.8
25	1.5	1.8	2.1	3.6	2.5	18	38	89	19	4.7	2.1	1.8
26	1.5	1.8	2.0	3.3	2.4	15	43	78	19	4.5	2.0	1.7
27	1.5	1.9	2.1	3.0	2.4	13	46	69	18	4.2	2.0	1.7
28	2.0	1.8	e2.1	2.9	2.4	12	51	61	17	4.0	2.0	1.7
29	4.1	1.7	e2.5	2.9	---	13	60	55	16	3.8	2.0	1.7
30	6.4	1.7	e2.5	2.8	---	14	68	52	15	3.6	1.9	1.7
31	2.8	---	2.6	2.8	---	16	---	86	---	3.5	1.9	---
TOTAL	53.7	54.8	70.8	96.6	75.0	329.4	950	2467	924	229.3	78.1	53.0
MEAN	1.73	1.83	2.28	3.12	2.68	10.6	31.7	79.6	30.8	7.40	2.52	1.77
MAX	6.4	2.4	3.8	9.6	3.0	26	68	100	61	14	3.4	1.9
MIN	1.3	1.7	1.7	2.2	2.4	2.4	15	52	15	3.5	1.9	1.7
AC-FT	107	109	140	192	149	653	1880	4890	1830	455	155	105

e Estimated.

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.54	5.26	7.34	7.21	8.28	10.3	24.0	42.4	24.6	6.96	3.10	2.72
MAX	11.9	27.7	44.0	33.8	51.0	50.1	51.6	117	142	37.4	11.8	7.56
(WY)	1963	1984	1965	1970	1963	1986	1986	1969	1983	1983	1983	1983
MIN	1.71	1.83	2.03	1.81	2.62	2.74	6.13	3.45	1.82	1.42	1.23	1.11
(WY)	1989	1993	1977	1962	1991	1962	1975	1988	1992	1992	1992	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1954 - 1993	
ANNUAL TOTAL	1077.9		5381.7			
ANNUAL MEAN	2.95		14.7		12.1	
HIGHEST ANNUAL MEAN					30.0	1983
LOWEST ANNUAL MEAN					2.65	1977
HIGHEST DAILY MEAN	12	Apr 13	100	May 11	398	Dec 23 1955
LOWEST DAILY MEAN	1.2	Jul 26	1.3	Oct 1	1.0	Sep 13 1960
ANNUAL SEVEN-DAY MINIMUM	1.2	Jul 26	1.3	Oct 6	1.1	Sep 9 1960
INSTANTANEOUS PEAK FLOW			150	May 31	765	Feb 1 1963
INSTANTANEOUS PEAK STAGE			3.36	May 31	4.64	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	2140		10670		8800	
10 PERCENT EXCEEDS	6.8		51		31	
50 PERCENT EXCEEDS	2.1		2.8		4.4	
90 PERCENT EXCEEDS	1.3		1.7		1.9	

PRECIPITATION RECORDS

PERIOD OF RECORD.--December 1990 to current year.
INSTRUMENTATION.--Recording-weighing gage since Dec. 1, 1990.
REMARKS.--Estimated precipitation provided by National Oceanic and Atmospheric Administration.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily precipitation, 3.36 in, Mar. 4, 1991; no precipitation for many days.
EXTREMES FOR CURRENT YEAR.-- Maximum daily precipitation, 2.39 in, Jan. 20; no precipitation for many days.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e1.92	.00	.00	.41	.00	.00	.00	.00	e.00
2	.07	.00	.03	e.00	.00	.06	.00	.00	.00	.00	.00	e.00
3	.00	.00	.07	e.00	.00	.04	.00	.45	.04	.00	.00	e.00
4	.00	.00	.00	e.00	.00	.00	.31	.00	.54	.00	.00	e.00
5	.00	.00	.00	e.00	.00	.00	.04	.03	.09	.00	.00	e.00
6	.03	.00	1.11	.81	.00	.00	.00	.13	.14	.00	.00	e.00
7	.00	.00	.46	.95	.00	.00	.00	.03	.00	.00	.00	e.00
8	.00	.00	.77	.38	.24	.00	.47	.00	.03	.00	.00	e.00
9	.00	.00	1.48	.18	.06	.00	.08	.00	.00	.00	.00	e.00
10	.00	.00	.92	.23	.00	.00	.00	.04	.04	.00	.00	e.00
11	.00	.00	.34	.04	.38	.00	.00	.00	.00	.00	.00	e.00
12	.00	.00	.00	.70	.00	.00	.00	.03	.00	.00	.11	e.00
13	.03	.00	.00	.86	.00	.00	.00	.00	.00	.00	.00	e.00
14	.00	.00	.00	.23	.00	.19	.00	.00	.00	.00	.09	e.00
15	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00	.09	e.00
16	.00	.00	.00	.30	e.14	1.08	.00	.00	.00	.00	e.00	e.00
17	.00	.00	.11	.27	e.91	.41	.92	.00	.00	.00	e.00	e.00
18	.04	.00	.00	.03	e.63	.03	.08	.00	.00	.00	e.00	e.00
19	.00	.06	.00	.12	e1.75	.00	.00	.00	.00	.00	e.00	e.00
20	.00	.00	.00	2.39	e1.26	.00	.05	.00	.00	.00	e.00	e.00
21	.25	.00	.00	1.96	e.33	.00	.00	.00	.00	.00	e.00	e.00
22	.00	.03	.00	.03	e.34	.03	.00	.00	.03	.16	e.00	e.00
23	.00	.00	.00	.00	e1.15	1.00	.06	.00	.00	.00	e.00	e.00
24	.00	.00	.00	.00	.33	.50	.03	.00	.00	.00	e.00	e.00
25	.00	.00	.00	.00	.03	.35	.00	.46	.00	.00	e.00	e.00
26	.00	.05	.00	.00	.14	.10	.00	.05	.00	.00	e.00	e.00
27	.11	.04	1.20	.00	.03	.10	.00	.00	.00	.00	e.00	e.00
28	.56	.00	2.29	.00	.04	.08	.00	.00	.00	.00	e.00	e.00
29	1.82	.00	1.19	.00	---	.00	.00	.00	.00	.00	e.00	e.00
30	.98	.00	.07	.00	---	.00	.00	.00	.00	.00	e.00	e.00
31	.05	---	.00	.00	---	.00	---	1.04	---	.00	e.00	---
TOTAL	3.94	0.18	10.04	11.92	7.76	3.97	2.45	2.26	0.91	0.16	0.29	0.00

CAL YR 1992 TOTAL 25.76
WTR YR 1993 TOTAL 43.88

e Estimated.

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-75, 1981 to current year.
CHEMICAL DATA: Water years 1968-72, October 1985 to current year.
WATER TEMPERATURE: Water years 1970-74.
SEDIMENT DATA: Water years 1968-75, 1981 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1969 to September 1974.

WATER-QUALITY DATA, OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (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)
NOV 1992												
09...	1055	1.7	128	8.3	0.5	4.1	619	11.8	101	K2	K6	55
FEB 1993												
23...	1230	2.5	116	7.9	1.5	3.1	--	--	--	K2	K2	51
MAY												
12...	1130	86	38	7.8	4.5	2.6	599	9.8	97	K1	K2	16
AUG												
17...	1150	2.9	116	8.2	9.0	0.50	608	9.2	100	K12	34	46

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 1992												
09...	0	14	4.9	6.7	20	0.4	2.3	88	0	72	0.30	0.60
FEB 1993												
23...	0	13	4.4	5.9	19	0.4	2.2	79	0	65	<0.10	0.50
MAY												
12...	0	4.0	1.5	2.0	20	0.2	0.60	26	0	21	0.10	0.90
AUG												
17...	0	12	3.9	5.0	18	0.3	1.7	67	0	55	0.20	0.30

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 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
NOV 1992												
09...	<0.10	32	100	104	0.14	0.007	0.016	0.014	0.014	0.020	<0.20	0.019
FEB 1993												
23...	<0.10	29	75	--	--	0.010	--	0.028	--	0.018	<0.20	0.017
MAY												
12...	<0.10	17	--	39	0.12	<0.001	--	0.010	--	<0.002	<0.20	0.014
AUG												
17...	<0.10	30	78	86	0.11	<0.001	--	0.008	--	0.006	<0.20	0.015

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	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)
NOV 1992												
09...	0.018	0.013	0.010	--	24	<3	100	<4	3	<10	<1	<1
FEB 1993												
23...	0.015	--	0.010	90	24	<3	68	<4	2	<10	<1	<1
MAY												
12...	0.007	--	<0.001	70	10	<3	46	<4	1	<10	<1	<1
AUG												
17...	0.009	--	0.005	<10	20	<3	53	<4	3	<10	<1	<1

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY DATA, OCTOBER 1992 TO SEPTEMBER 1993

DATE	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
NOV 1992											
09...	<1.0	150	<6	--	--	--	--	--	--	--	--
FEB 1993											
23...	<1.0	140	<6	--	--	--	--	--	--	--	--
MAY											
12...	<1.0	51	<6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.04	0.04
AUG											
17...	<1.0	130	<6	1.1	<0.6	2.2	<0.6	1.8	<0.6	0.11	0.44

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

DATE	TIME	DEPTH AT SAMPLE LOC-ATION, TOTAL (FEET)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY											
12...*	1135	2.10	2.00	39	7.8	4.5	599	9.8	97	7	64
12...*	1140	1.95	3.50	39	7.8	4.5	599	9.8	97	14	80
12...*	1145	2.20	6.00	39	7.8	4.5	599	9.8	97	18	74
12...*	1150	2.20	8.00	39	7.8	4.5	599	9.8	97	13	81
12...*	1155	2.40	10.0	39	7.7	4.5	599	9.8	97	13	80
AUG											
17...*	1125	0.52	1.40	116	8.3	9.5	608	9.2	101	1	--
17...*	1130	0.58	2.90	117	8.3	9.5	608	9.2	101	1	--
17...*	1135	0.55	4.10	117	8.3	9.5	608	9.2	101	2	--
17...*	1140	0.52	6.40	116	8.3	9.5	608	9.2	101	0	--
17...*	1145	0.25	7.90	116	8.3	9.5	608	9.0	99	3	--

* Instantaneous discharge at the time of cross-sectional measurements: May 12, 86 ft^3/s; Aug. 17, 2.9 ft^3/s.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 1992						
09...	1055	1.7	0.5	2	0.01	--
FEB 1993						
23...	1230	2.5	1.5	2	0.01	--
MAY						
12...	1130	86	4.5	12	2.8	76
AUG						
17...	1150	2.9	9.0	1	0.01	--

10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'14", long 120°06'11", in SE 1/4 NE 1/4 sec.29, T.19 N., R.17 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, in control house near base of spillway of Stampede Dam on Little Truckee River, 0.2 mi upstream from Worn Mill Canyon, and 11.0 mi northeast of Truckee.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--August 1969 to current year. August 1969 to September 1977 (monthend elevations and contents only). October 1977 to September 1987 (daily contents). Prior to October 1976, published as "near Boca."

GAGE.--Nonrecording gage read five times weekly. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Aug. 1, 1969. Total capacity, 226,500 acre-ft at elevation 5,948.7 ft, spillway crest. Inactive contents, 5,010 acre-ft, includes 660 acre-ft dead contents below elevation 5,798.3 ft. Figures given, including extremes, represent total contents at 0800 hours. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation. See schematic diagram of Truckee River basin.

COOPERATION.--Records and capacity table were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 254,493 acre-ft, June 1, 1983, elevation, 5,956.55 ft; minimum since reservoir first filled, 30,772 acre-ft, Jan. 31, Feb. 1, 1978, elevation, 5,853.60 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 181,049 acre-ft, June 22, elevation, 5,934.66 ft; minimum observed, 72,792 acre-ft, Mar. 16-17, elevation, 5,888.10 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated July 1971)

5,850	27,915	5,880	60,185	5,910	115,865	5,940	197,630
5,860	36,470	5,890	76,008	5,920	140,141	5,950	231,005
5,870	47,090	5,900	94,535	5,930	167,355	5,960	267,386

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75854	---	73461	---	75751	76677	80186	113577	166955	177424	---	172442
2	75802	74540	73478	---	75751	76659	80812	115296	168761	177334	174288	172384
3	---	74455	73478	---	75802	76642	---	116940	170117	---	174317	172325
4	---	74405	73411	73982	75819	76625	---	118900	171044	---	174258	---
5	75596	74371	---	74016	75854	76539	82617	120414	---	176799	174170	---
6	75528	74337	---	74084	---	---	83273	121940	172851	176621	174082	---
7	75477	---	73478	74202	---	---	84044	123502	173524	176443	---	172208
8	75408	---	73427	74236	75939	75374	84967	125101	174003	176206	---	172150
9	75357	74269	73746	---	75974	74948	86290	---	174435	175910	173788	172121
10	---	74219	73797	---	75957	74557	---	128144	175024	---	173730	172092
11	---	---	73898	74252	76022	74151	---	130150	175585	---	173612	---
12	---	74151	---	74236	76008	73797	90129	132026	---	175881	173524	---
13	75152	74117	---	74371	---	---	91232	133770	---	175792	173466	171800
14	75101	---	73612	74472	---	---	92207	135100	176978	175644	---	171684
15	75050	---	73612	74439	---	72976	93346	---	177572	175496	---	171597
16	74982	74033	73578	---	76074	72792	94515	---	178049	175349	173231	171509
17	---	73999	73629	---	76160	72792	---	139626	178706	---	173173	171422
18	---	73949	73612	---	76194	73243	---	141573	179365	---	173144	---
19	74829	73932	---	74540	76366	73679	98103	143319	---	174818	173144	---
20	74795	73881	---	74659	---	---	99145	---	180567	174700	173056	171248
21	74778	---	73629	74965	---	---	100299	147458	180868	174553	---	171190
22	74710	---	73595	75152	---	74761	101754	---	181049	174464	---	171102
23	74659	---	73562	---	76746	75255	103076	---	180868	174376	172939	171044
24	---	73696	73545	---	76798	76142	---	152722	180506	---	172909	170957
25	---	73679	---	---	76763	76919	---	154683	180115	---	172851	---
26	74540	---	---	75494	76763	77492	106658	156851	---	174317	172763	---
27	74489	73629	---	75562	---	---	107871	158898	---	174347	172676	170812
28	74489	---	73528	75631	---	---	---	160514	179035	174406	---	170754
29	74557	---	73814	75665	---	78506	110501	---	178467	174376	---	170754
30	74727	73478	73932	---	---	78928	112010	---	177960	174288	172559	170696
31	---	---	73932	---	---	79440	---	---	---	---	172500	---

10344400 LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR TRUCKEE, CA

LOCATION.--Lat 39°26'09", long 120°05'00", in SW 1/4 SW 1/4 sec.3, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 1 mi upstream from Boca Reservoir, 1.5 mi upstream from Dry Creek, 3.0 mi downstream from Stampede Dam, and 5.5 mi northeast of Truckee.

DRAINAGE AREA.--146 mi^2.

PERIOD OF RECORD.--June 1903 to October 1910, September 1939 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734. Published as "at Pine Station," June 1903 to December 1907, as "at Starr," January 1908 to October 1910, and as "near Boca," September 1939 to September 1976.

REVISED RECORDS.--WSP 1564: 1903-4, 1906-7, 1910, drainage area at site used in 1903-7.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,618.67 ft above sea level (U.S. Bureau of Reclamation Benchmark). June 1903 to October 1910, nonrecording gages at different sites and datums.

REMARKS.--Records excellent except for estimated daily discharges, which are good. Flow regulated by Independence Lake (station 10342900) since 1939 and Stampede Reservoir (station 10344300) since 1969. There is one transbasin diversion to Sierra Valley. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft^3/s, Feb. 1, 1963, gage height, 9.00 ft, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft^3/s, Sept. 16-21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 464 ft^3/s, June 26 to July 1, gage height, 2.00 ft; minimum daily, 15 ft^3/s, Dec. 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	59	21	e30	30	49	330	38	32	375	28	27
2	29	59	15	e30	30	51	321	37	72	290	28	27
3	28	44	18	e30	27	54	326	37	172	290	28	27
4	28	31	28	e30	28	64	330	35	246	290	28	27
5	28	30	e30	e30	27	147	252	33	263	290	28	28
6	28	30	30	e30	27	246	136	32	263	288	28	27
7	28	30	30	e30	28	275	71	32	263	287	28	27
8	28	30	30	30	29	276	62	30	263	286	28	27
9	28	30	e30	29	30	276	60	29	263	215	27	28
10	28	30	e30	33	30	278	55	33	263	138	27	29
11	28	30	e30	32	31	282	47	36	263	136	27	27
12	28	30	e30	34	31	282	41	36	263	136	27	27
13	28	30	e31	32	32	289	37	35	263	136	27	27
14	28	29	e31	30	32	297	36	34	263	136	27	27
15	29	29	31	32	31	302	38	33	263	134	27	27
16	30	29	e31	29	29	302	38	33	208	134	27	27
17	29	29	e31	29	41	331	38	33	116	133	27	27
18	29	29	e31	29	52	325	36	33	130	133	27	27
19	29	29	e31	29	49	314	32	35	235	109	27	27
20	29	29	31	35	41	312	33	38	261	89	27	27
21	29	29	e31	36	49	314	37	37	263	89	27	26
22	28	29	e31	38	49	333	38	37	330	89	27	26
23	29	29	e31	34	50	323	34	36	438	65	27	27
24	29	26	e31	33	49	327	29	35	458	30	27	27
25	30	29	e30	32	49	317	27	36	458	29	27	27
26	30	29	e30	32	49	310	31	34	464	29	27	27
27	29	29	e30	31	49	308	35	33	464	29	27	27
28	29	29	30	28	50	307	35	33	464	28	27	27
29	30	28	e30	30	---	320	36	32	464	28	27	27
30	46	28	e30	28	---	323	39	32	464	28	27	27
31	59	---	e30	31	---	330	---	34	---	28	27	---
TOTAL	936	951	904	966	1049	8264	2660	1061	8632	4497	845	812
MEAN	30.2	31.7	29.2	31.2	37.5	267	88.7	34.2	288	145	27.3	27.1
MAX	59	59	31	38	52	333	330	38	464	375	28	29
MIN	28	26	15	28	27	49	27	29	32	28	27	26
AC-FT	1860	1890	1790	1920	2080	16390	5280	2100	17120	8920	1680	1610

e Estimated.

10344400 LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	76.0	83.5	123	87.3	131	170	399	543	310	78.1	29.8	25.8
MAX	394	630	725	264	835	374	855	1304	1045	433	180	76.5
(WY)	1963	1951	1965	1956	1963	1967	1952	1952	1967	1967	1940	1959
MIN	13.5	13.0	11.6	9.45	22.0	39.0	106	171	45.7	6.06	4.45	5.93
(WY)	1962	1940	1960	1962	1948	1948	1961	1961	1954	1949	1949	1948

SUMMARY STATISTICS	WATER YEARS 1939 - 1968	
ANNUAL MEAN	170	
HIGHEST ANNUAL MEAN	321	1952
LOWEST ANNUAL MEAN	58.9	1961
HIGHEST DAILY MEAN	8810	Feb 1 1963
LOWEST DAILY MEAN	3.0	Nov 30 1954
ANNUAL SEVEN-DAY MINIMUM	4.0	Jul 17 1949
INSTANTANEOUS PEAK FLOW	13300	Feb 1 1963
INSTANTANEOUS PEAK STAGE	9.00	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	123200	
10 PERCENT EXCEEDS	454	
50 PERCENT EXCEEDS	70	
90 PERCENT EXCEEDS	13	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	84.9	44.4	72.8	78.6	66.2	122	294	548	341	153	109	57.7
MAX	503	132	711	349	149	368	923	1371	1733	1301	573	359
(WY)	1974	1975	1984	1984	1975	1983	1986	1969	1983	1983	1975	1971
MIN	.56	.75	2.85	16.7	10.6	13.8	25.6	30.6	28.1	24.1	1.65	.47
(WY)	1970	1970	1970	1980	1970	1970	1970	1988	1988	1981	1969	1969

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1969 - 1993	
ANNUAL TOTAL	19643		31577			
ANNUAL MEAN	53.7		86.5		165	
HIGHEST ANNUAL MEAN					427	1983
LOWEST ANNUAL MEAN					53.4	1992
HIGHEST DAILY MEAN	193	Apr 15	464	Jun 26	2460	Jun 9 1982
LOWEST DAILY MEAN	15	Dec 2	15	Dec 2	.30	Sep 16 1969
ANNUAL SEVEN-DAY MINIMUM	24	Nov 28	24	Nov 28	.31	Sep 15 1969
INSTANTANEOUS PEAK FLOW			464	Jun 26	2830	Jan 13 1983
INSTANTANEOUS PEAK STAGE			2.00	Jun 26	3.82	Jan 13 1983
ANNUAL RUNOFF (AC-FT)	38960		62630		119400	
10 PERCENT EXCEEDS	133		289		445	
50 PERCENT EXCEEDS	30		31		44	
90 PERCENT EXCEEDS	27		27		27	

10344490 BOCA RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'20", long 120°05'43", in NE 1/4 NW 1/4 sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house at Boca Dam on Little Truckee River, 1,800 ft upstream from mouth, and 6.3 mi northeast of Truckee.
DRAINAGE AREA.--172 mi^2.
PERIOD OF RECORD.--December 1938 to current year. Prior to October 1976 published as "at Boca." Monthend contents only for December 1938 to September 1957, published in WSP 1734.

REVISED RECORDS.--WSP 1634: Drainage area.
GAGE.--Pressure gage with mercury column read most days. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,868 acre-ft between elevations 5,521 ft, outlet sill, and 5,605 ft, top of spillway gates. Elevation of spillway (gate open) is 5,589.01 ft. Dead contents, 241 acre-ft. Records, including extremes, represent usable contents at 0800 hours. Water is used for irrigation in the State of Nevada and for power development. See schematic diagram of Truckee River basin.
COOPERATION.--Records and capacity table were provided by U.S. Bureau of Reclamation; not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 41,440 acre-ft, Dec. 23, 1955, elevation, 5,605.55 ft; minimum, 37 acre-ft, Mar. 4-9, 1955, elevation, 5,521.65 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents observed, 39,464 acre-ft, July 9, elevation, 5,603.55 ft; minimum, 2,737 acre-ft, Mar. 3, elevation, 5,541.80 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated November 1970)

5,540	2,356	5,570	13,768
5,545	3,513	5,580	20,002
5,550	4,970	5,590	27,488
5,555	6,725	5,600	36,128
5,560	8,778	5,605	40,868

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3359	4456	5297	5247	4396	2955	26763	37473	38604	38084	34582	24002
2	3384	4426	5331	5181	4219	2851	27854	37520	38604	37989	34224	---
3	3410	4487	5347	5116	4060	2737	28843	37613	38320	37895	---	23216
4	3435	4502	5381	5035	3891	2749	29850	---	37989	37660	33689	22847
5	3461	4517	5415	4970	3726	2771	30875	37754	37801	37473	33335	22407
6	3500	4532	5465	4906	3540	3014	31568	37801	37848	38367	33026	22044
7	3540	4547	5550	4827	3371	3561	31979	37895	37613	38652	32719	21649
8	3592	4563	5568	4748	3208	4118	32370	37895	37520	---	32370	21258
9	3632	4563	5654	4733	3050	---	32807	37942	37379	39464	32023	20870
10	3672	4578	5465	4701	2897	5465	33158	37942	---	39128	31568	20520
11	3726	4593	5482	4670	2897	6167	33511	---	37286	39128	31177	20140
12	3767	4624	5585	4640	2897	6840	33867	38084	37473	39128	---	19866
13	3822	4655	5619	4609	2920	7592	---	---	37660	---	30360	19458
14	3863	4686	5636	4578	2943	8322	34358	38131	37801	39272	29765	19088
15	3905	4717	5602	4487	2967	9089	---	38178	38178	39320	29428	18854
16	3947	4748	5533	4502	2990	---	34853	38225	38652	39272	29093	---
17	3975	4780	5482	4487	3014	10724	35124	38225	38937	39128	28718	18392
18	4003	4811	5415	4472	2967	---	35397	38272	39080	39033	28511	18163
19	4032	4843	5431	4456	2920	13104	35670	38272	39128	38937	---	17904
20	4075	4874	5448	4441	3002	14192	35853	---	39176	---	27936	17678
21	4118	4906	5465	4532	3086	15268	36036	38320	39224	38367	27650	---
22	4161	4938	5448	4578	3134	16357	36266	38367	39320	---	27366	17168
23	4204	4970	5431	4609	3159	17422	36450	38367	39176	37801	27084	16885
24	4248	5002	5415	4640	3183	18622	36635	38414	38985	37473	---	16604
25	4292	5018	5398	4686	3159	19695	36774	---	38985	37099	26603	16326
26	4322	5067	5381	4938	3134	20800	36913	38462	38557	36728	---	16326
27	4367	5116	5364	4922	3074	21721	37006	38462	38462	---	26009	16357
28	4411	5165	5347	4843	3014	22663	37146	38509	38367	35990	25616	---
29	4456	5214	5381	4780	---	23589	---	38509	38272	35670	25227	16388
30	4517	5264	5398	4640	---	24649	37379	38557	38178	35306	24802	---
31	4487	---	5314	4517	---	25694	---	38557	---	34943	---	---
MAX	4517	5264	5654	5247	4396	---	---	---	---	---	---	---
MIN	3359	4426	5297	4441	2897	---	---	---	---	---	---	---

CAL YR 1992 MAX 13104 MIN 2447

10344500 LITTLE TRUCKEE RIVER BELOW BOCA DAM, NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'13", long 120°05'40", in NE 1/4 NW 1/4 sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on right bank 800 ft upstream from mouth, 1,000 ft downstream from Boca Dam, and 6.2 mi northeast of Truckee.

DRAINAGE AREA.--173 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to current year. Prior to October 1976 published as "at Boca." Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,500 ft above sea level, from topographic map. Jan. 1, 1911, to Sept. 30, 1915, nonrecording gage at site 650 ft downstream at different datum. January 1939 to September 1957, records computed from daily log of rated settings of needle valve in dam, and from computed flow over spillway.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Boca Reservoir (station 10344490) since 1938, Independence Lake (station 10342900) since 1939, and Stampede Reservoir (station 10344300) since 1969. There is one transmountain diversion to Sierra Valley of about 6,000 acre-ft per year. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft^3/s, Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 683 ft^3/s, June 25, 26, gage height, 3.86 ft; minimum daily, 0.05 ft^3/s, Jan. 23-25, Mar. 9, 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	74	4.7	66	111	105	1.1	19	19	433	218	227
2	12	43	4.7	66	117	112	1.2	19	176	336	218	227
3	12	25	4.7	66	117	98	1.3	20	323	310	220	230
4	12	25	4.7	66	117	92	1.4	22	355	311	224	233
5	9.1	25	4.7	66	117	92	1.4	21	298	277	195	232
6	3.3	25	4.7	67	116	80	1.4	22	356	198	195	232
7	3.4	25	15	66	115	75	3.8	22	350	94	223	230
8	3.4	25	23	52	115	28	5.1	22	316	80	224	230
9	3.7	22	107	45	113	e.05	2.5	21	309	80	233	234
10	3.8	20	95	45	69	e.05	2.5	21	284	104	237	237
11	3.7	20	34	45	43	.15	2.4	22	226	138	236	193
12	3.8	16	46	46	36	.36	1.9	20	191	118	234	217
13	3.8	13	62	46	32	.45	1.5	20	191	91	235	226
14	4.0	13	62	62	32	.58	1.5	19	120	91	243	e181
15	6.3	13	61	72	32	.58	1.5	20	41	119	242	e160
16	10	13	61	38	32	.57	1.6	20	20	154	211	157
17	16	13	61	38	62	1.0	1.7	20	19	181	158	156
18	16	13	36	38	80	1.3	1.7	20	98	193	166	156
19	11	13	20	39	55	1.1	1.8	20	219	214	170	156
20	6.8	13	20	39	40	.94	1.7	20	218	225	169	156
21	6.8	13	29	40	40	.87	1.7	20	219	224	169	156
22	6.8	13	35	16	67	.83	1.8	18	345	223	168	163
23	6.8	13	35	e.05	82	.91	1.8	18	533	223	176	168
24	6.8	13	35	e.05	82	1.1	1.8	17	505	223	181	167
25	6.8	7.5	35	e.05	83	1.2	1.8	17	604	223	175	93
26	6.8	4.7	35	31	89	.89	1.8	17	580	222	170	20
27	7.0	4.7	34	66	92	.74	1.8	18	528	221	210	20
28	7.2	4.7	34	76	92	.77	1.8	18	528	220	231	20
29	17	4.7	34	90	---	.77	9.7	18	528	220	230	20
30	53	4.7	53	99	---	.91	22	19	527	219	229	20
31	72	---	66	100	---	.92	---	19	---	218	228	---
TOTAL	353.1	532.0	1156.2	1586.15	2178	699.04	85.0	609	9026	6183	6418	4917
MEAN	11.4	17.7	37.3	51.2	77.8	22.5	2.83	19.6	301	199	207	164
MAX	72	74	107	100	117	112	22	22	604	433	243	237
MIN	3.3	4.7	4.7	.05	32	.05	1.1	17	19	80	158	20
AC-FT	700	1060	2290	3150	4320	1390	169	1210	17900	12260	12730	9750

e Estimated.

10344500 LITTLE TRUCKEE RIVER BELOW BOCA DAM, NEAR TRUCKEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1915, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.8	38.1	29.2	83.4	75.5	196	721	790	582	169	36.5	26.3
MAX	34.2	58.4	39.3	283	173	558	1367	1260	1211	435	66.3	35.7
(WY)	1915	1913	1914	1914	1914	1914	1914	1911	1911	1911	1911	1912
MIN	14.1	28.4	23.2	20.5	28.4	56.3	106	379	212	50.7	20.1	14.4
(WY)	1914	1915	1912	1913	1912	1912	1912	1912	1913	1912	1915	1915

SUMMARY STATISTICS	WATER YEARS 1911 - 1915		
ANNUAL MEAN	193		
HIGHEST ANNUAL MEAN	387		1914
LOWEST ANNUAL MEAN	94.7		1912
HIGHEST DAILY MEAN	2360	Apr 15	1914
LOWEST DAILY MEAN	.00	Sep 26	1911
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 26	1911
ANNUAL RUNOFF (AC-FT)	140100		
10 PERCENT EXCEEDS	800		
50 PERCENT EXCEEDS	49		
90 PERCENT EXCEEDS	16		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1969, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	89.7	106	144	156	160	132	264	426	315	159	146	120
MAX	303	611	856	649	606	442	808	1647	974	389	408	414
(WY)	1968	1951	1951	1965	1963	1967	1952	1952	1967	1967	1958	1952
MIN	.000	.12	.20	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1940	1967	1960	1939	1939	1939	1939	1939	1939	1939	1939	1939

SUMMARY STATISTICS	WATER YEARS 1939 - 1969		
ANNUAL MEAN	190		
HIGHEST ANNUAL MEAN	435		1952
LOWEST ANNUAL MEAN	65.8		1961
HIGHEST DAILY MEAN	5520	Dec 24	1955
LOWEST DAILY MEAN	.00	Jan 1	1939
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	1939
INSTANTANEOUS PEAK FLOW	8800	Dec 24	1955
ANNUAL RUNOFF (AC-FT)	137700		
10 PERCENT EXCEEDS	430		
50 PERCENT EXCEEDS	107		
90 PERCENT EXCEEDS	.02		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	77.2	102	88.0	71.5	117	253	460	299	190	150	108
MAX	441	327	568	410	256	470	975	1148	1788	1131	585	418
(WY)	1972	1984	1984	1984	1975	1983	1986	1985	1983	1983	1975	1971
MIN	.035	.020	.11	.10	4.19	.54	.39	.31	2.63	.75	13.6	.55
(WY)	1991	1991	1978	1978	1978	1979	1988	1988	1977	1981	1984	1970

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1970 - 1993	
ANNUAL TOTAL	20274.95		33742.49			
ANNUAL MEAN	55.4		92.4		170	
HIGHEST ANNUAL MEAN					470	1983
LOWEST ANNUAL MEAN					55.6	1992
HIGHEST DAILY MEAN	350	Jun 4	604	Jun 25	2240	Jun 2 1983
LOWEST DAILY MEAN	.05	Feb 22	.05	Jan 23	.02	Oct 28 1990
ANNUAL SEVEN-DAY MINIMUM	3.6	Oct 6	.32	Mar 9	.02	Oct 28 1990
INSTANTANEOUS PEAK FLOW			683	Jun 25	2520	Jul 17 1983
INSTANTANEOUS PEAK STAGE			3.86	Jun 25	6.11	Jul 17 1983
ANNUAL RUNOFF (AC-FT)	40220		66930		122900	
10 PERCENT EXCEEDS	105		230		425	
50 PERCENT EXCEEDS	32		38		77	
90 PERCENT EXCEEDS	6.8		1.7		.58	

10344500 LITTLE TRUCKEE RIVER BELOW BOCA DAM NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: April to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April to September 1993.

INSTRUMENTATION.--Water-temperature recorder since April 1993.

REMARKS.--Water temperature is affected by regulation from Boca Dam. Equipment removed for maintenance Sept. 14, 15.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 19.0°C, June 17, 1993; minimum recorded, 6.0°C, Apr. 24.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.5	9.5	15.5	13.5	11.0	10.0	12.0	11.5	15.5	14.5
2	---	---	11.5	8.5	13.5	8.0	11.5	10.0	12.0	11.5	15.5	14.5
3	---	---	11.5	7.5	8.5	8.0	11.0	10.5	12.0	11.5	16.0	15.0
4	---	---	12.0	9.0	8.5	8.0	11.0	10.5	12.5	11.5	16.0	15.5
5	---	---	12.5	10.5	8.5	8.0	11.0	10.5	12.5	11.5	16.5	15.5
6	---	---	11.5	9.5	8.5	8.0	12.0	10.5	12.5	12.0	16.5	16.0
7	---	---	12.5	9.5	8.5	8.0	13.0	11.0	12.5	11.5	16.5	16.0
8	---	---	12.5	9.5	8.5	8.0	13.0	11.0	12.5	12.0	17.0	16.0
9	---	---	13.5	11.0	8.5	8.0	13.0	11.5	12.5	12.0	17.0	16.5
10	---	---	13.5	9.0	9.5	8.0	12.5	11.0	12.5	12.0	17.0	16.5
11	---	---	13.5	8.5	9.5	8.0	12.0	11.0	12.5	12.0	17.0	16.5
12	---	---	13.0	10.0	9.5	8.5	13.0	11.0	12.5	12.0	17.5	16.5
13	---	---	14.0	11.0	9.0	8.5	13.0	11.5	12.5	12.0	17.5	16.5
14	---	---	14.0	11.0	11.0	8.5	12.5	11.5	12.5	12.0	---	---
15	---	---	14.0	11.0	17.5	9.5	12.0	11.0	13.0	12.0	---	---
16	---	---	15.0	12.0	18.0	13.5	12.0	11.0	13.0	12.0	17.0	17.0
17	---	---	15.5	12.5	19.0	15.5	11.5	11.0	12.5	12.0	17.0	16.5
18	---	---	16.0	13.0	18.0	9.0	11.5	11.0	13.0	12.0	16.5	16.0
19	---	---	16.0	12.0	9.5	9.0	11.5	11.0	13.5	12.0	16.5	16.0
20	---	---	15.5	12.0	10.0	9.0	11.5	11.0	13.0	12.5	16.5	16.0
21	---	---	16.0	13.0	9.5	9.0	11.5	11.0	13.0	12.5	16.5	16.0
22	12.0	7.5	16.5	13.5	10.0	9.0	11.5	11.0	13.5	12.5	16.0	15.5
23	9.0	6.5	17.0	14.0	10.0	9.0	11.5	11.0	13.5	12.5	16.0	15.0
24	12.0	6.0	17.0	14.0	9.5	9.0	11.5	11.0	13.5	13.0	15.5	15.0
25	11.0	8.0	16.5	14.0	10.0	9.5	12.0	11.0	13.5	13.0	16.0	14.0
26	13.5	7.0	16.5	13.5	10.0	9.0	12.0	11.0	14.0	13.0	15.5	14.0
27	12.0	7.5	16.0	13.5	10.5	9.5	12.0	11.0	14.0	13.5	15.5	14.0
28	11.5	8.0	15.5	14.0	10.5	9.5	12.0	11.0	14.5	13.5	15.5	13.5
29	15.5	7.0	16.5	13.5	10.5	9.5	12.0	11.5	14.5	13.5	15.5	13.5
30	14.0	9.0	16.0	14.0	10.5	10.0	12.0	11.5	15.0	13.5	15.5	13.5
31	---	---	15.0	13.5	---	---	12.0	11.5	15.0	14.0	---	---
MONTH	---	---	17.0	7.5	19.0	8.0	13.0	10.0	15.0	11.5	---	---

10345700 BRONCO CREEK AT FLORISTON, CA

LOCATION.--Lat 39°23'02", long 120°01'11", in SE 1/4 NW 1/4 sec.31, T.18 N., R.18 E., Nevada County, Hydrologic Unit 16050102, on right bank 80 ft upstream from railroad bridge, 200 ft upstream from mouth, and 0.7 mi north of Floriston.

DRAINAGE AREA.--15.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 5,350 ft above sea level, from topographic map.

REMARKS.--Records fair except for July, which are poor. No storage or diversion upstream from station. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 20	1915	*71	*4.03				

Minimum daily, 6.3 ft^3/s, Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	26	44	29	16	7.4
2	---	---	---	---	---	---	---	25	42	29	16	7.2
3	---	---	---	---	---	---	---	24	44	29	15	7.2
4	---	---	---	---	---	---	---	22	43	28	15	7.2
5	---	---	---	---	---	---	---	22	41	28	14	7.9
6	---	---	---	---	---	---	---	23	40	27	13	7.8
7	---	---	---	---	---	---	---	24	40	27	12	7.4
8	---	---	---	---	---	---	---	25	41	27	11	6.9
9	---	---	---	---	---	---	---	25	38	26	11	6.7
10	---	---	---	---	---	---	---	27	39	26	10	6.6
11	---	---	---	---	---	---	---	31	38	25	e8.5	6.7
12	---	---	---	---	---	---	---	30	38	25	8.3	6.9
13	---	---	---	---	---	---	---	29	40	24	8.6	7.1
14	---	---	---	---	---	---	---	30	43	24	8.7	7.0
15	---	---	---	---	---	---	---	30	38	24	8.8	7.1
16	---	---	---	---	---	---	---	33	37	23	8.8	7.5
17	---	---	---	---	---	---	---	31	37	23	8.1	7.7
18	---	---	---	---	---	---	---	31	37	22	8.0	7.5
19	---	---	---	---	---	---	---	31	38	24	8.2	7.3
20	---	---	---	---	---	---	---	41	39	24	8.5	7.1
21	---	---	---	---	---	---	---	54	40	23	8.4	7.1
22	---	---	---	---	---	---	---	49	42	23	8.1	7.2
23	---	---	---	---	---	---	18	45	40	23	7.9	e7.4
24	---	---	---	---	---	---	17	50	36	22	7.8	e7.5
25	---	---	---	---	---	---	17	49	34	22	7.7	e7.3
26	---	---	---	---	---	---	18	46	34	21	7.6	e7.1
27	---	---	---	---	---	---	19	50	33	18	7.6	e6.9
28	---	---	---	---	---	---	21	51	32	18	7.5	e6.7
29	---	---	---	---	---	---	22	49	31	19	7.5	e6.5
30	---	---	---	---	---	---	26	49	30	19	7.4	e6.3
31	---	---	---	---	---	---	---	49	---	18	7.3	---
TOTAL	---	---	---	---	---	---	---	1101	1149	740	302.3	214.2
MEAN	---	---	---	---	---	---	---	35.5	38.3	23.9	9.75	7.14
MAX	---	---	---	---	---	---	---	54	44	29	16	7.9
MIN	---	---	---	---	---	---	---	22	30	18	7.3	6.3
AC-FT	---	---	---	---	---	---	---	2180	2280	1470	600	425

e Estimated.

10345700 BRONCO CREEK AT FLORISTON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: April to September 1993.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April to September 1993.

INSTRUMENTATION.--Water-temperature recorded since April 1993.

REMARKS.--Equipment malfunction Sept. 23-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 15.0°C, Aug. 4, 1993; minimum recorded, 3.0°C, several days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.5	3.5	8.5	4.5	13.5	6.5	14.5	9.5	12.5	8.5
2	---	---	7.0	4.0	8.5	3.5	12.5	6.5	14.5	10.5	12.5	8.5
3	---	---	7.0	3.5	9.5	3.5	12.5	6.0	14.5	10.5	13.0	9.5
4	---	---	7.5	3.0	6.5	5.0	13.0	6.5	15.0	11.0	13.5	9.5
5	---	---	9.0	3.0	5.5	4.0	13.5	6.0	14.5	9.5	12.5	9.5
6	---	---	7.5	5.0	4.5	3.0	14.0	7.5	14.0	9.5	13.0	9.0
7	---	---	8.5	4.0	8.0	4.5	14.0	8.0	13.0	8.5	12.5	8.0
8	---	---	8.5	3.5	10.5	4.0	14.0	6.5	12.5	7.5	13.0	8.5
9	---	---	9.5	3.0	11.0	5.0	14.0	6.5	12.5	8.5	13.0	9.0
10	---	---	10.0	4.0	11.0	5.5	13.5	6.5	14.0	9.5	13.0	8.5
11	---	---	9.5	4.5	10.5	4.0	13.5	7.0	12.0	8.0	12.5	8.5
12	---	---	6.5	4.0	10.5	4.0	13.5	7.5	11.5	7.0	11.0	7.0
13	---	---	9.0	3.5	12.0	5.0	12.5	6.5	12.0	8.0	9.5	5.5
14	---	---	9.5	3.5	12.5	6.0	12.0	6.0	13.0	8.5	10.5	5.5
15	---	---	9.0	3.5	11.5	5.5	10.0	6.0	11.0	9.0	10.5	6.5
16	---	---	10.0	4.0	10.5	5.0	11.5	5.0	11.5	7.0	9.0	6.5
17	---	---	10.0	4.5	12.0	5.5	11.5	5.0	12.0	7.5	9.0	6.0
18	---	---	9.5	5.0	12.5	6.0	12.5	5.5	13.0	8.5	9.5	5.5
19	---	---	10.0	4.5	13.0	6.5	12.5	7.0	11.5	8.5	9.5	5.5
20	---	---	10.0	5.0	12.0	6.5	11.0	6.5	9.5	7.0	9.5	6.0
21	---	---	9.0	4.5	10.0	6.0	11.5	6.0	11.5	6.5	9.0	5.0
22	---	---	10.0	3.5	10.5	3.5	12.0	7.0	13.0	8.0	8.0	5.0
23	5.0	3.0	10.5	5.0	11.5	4.5	11.5	9.0	13.0	8.5	---	---
24	7.5	3.0	10.0	5.0	12.0	5.0	13.0	7.5	12.5	8.0	---	---
25	7.0	4.0	9.0	5.5	13.5	6.0	13.5	8.0	11.5	8.0	---	---
26	8.0	3.5	10.0	5.0	13.5	6.5	13.0	8.0	11.5	6.5	---	---
27	8.0	3.0	8.5	5.0	13.0	6.5	13.5	7.5	12.0	7.0	---	---
28	8.5	3.0	7.5	5.0	11.5	6.0	13.5	9.0	12.5	8.0	---	---
29	9.0	3.5	10.0	4.0	12.5	5.0	13.5	10.0	12.0	8.0	---	---
30	9.0	4.0	9.0	5.5	13.0	6.0	13.5	7.5	12.0	8.0	---	---
31	---	---	7.5	5.5	---	---	14.0	8.5	12.0	8.0	---	---
MONTH	---	---	10.5	3.0	13.5	3.0	14.0	5.0	15.0	6.5	---	---

10346000 TRUCKEE RIVER AT FARAD, CA

LOCATION.--Lat 39°25'41", long 120°01'59", in SE 1/4 NE 1/4 sec.12, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.5 mi upstream from Mystic Canyon, 0.7 mi downstream from Farad Powerplant, 2.5 mi north of Floriston, and 3.5 mi upstream from California-Nevada State line.

DRAINAGE AREA.--932 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to October 1890 (monthly discharge only), September 1899 to current year. Monthly discharge only for January 1944 to July 1957, published in WSP 1734. Published as "near Boca," March to October 1890, "at or near Nevada-California State Line," September 1899 to August 1912, and as "at Iceland," August 1912 to December 1937.

REVISED RECORDS.--WSP 1714: Drainage area. WDR CA-88-3: 1906-07 (monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 5,153.21 ft above sea level (U.S. Bureau of Reclamation benchmark). See WSP 2127 for history of changes prior to Aug. 26, 1957.

REMARKS.--Records good. Flow regulated by Lake Tahoe and Donner, Martis Creek, and Independence Lakes, and Prosser Creek, Stampede, and Boca Reservoirs (stations 10337000, 10338400, 10339380, 10342900, 10340300, 10344300, and 10344490), and by several powerplants. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft^3/s, Nov. 21, 1950, gage height, 14.5 ft, present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 28 ft^3/s, Dec. 18, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,540 ft^3/s, May 24, gage height, 5.75 ft; minimum daily, 41 ft^3/s, Oct. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	197	62	166	303	274	1110	1340	1240	1170	525	440
2	65	175	61	164	310	293	995	1450	1170	1040	523	436
3	66	142	61	180	306	296	1010	1500	1260	925	523	437
4	64	121	58	186	299	297	1170	1270	1380	780	519	441
5	62	97	58	194	302	303	1060	1120	1350	726	483	440
6	52	94	92	214	290	313	923	1300	1190	631	466	439
7	50	93	78	267	292	331	870	1330	1190	480	496	400
8	48	92	91	203	298	335	877	1410	1210	451	491	396
9	48	87	233	145	306	337	1140	1380	1210	422	493	397
10	46	80	358	144	257	388	1030	1470	1220	439	497	400
11	46	80	281	146	215	451	939	1510	1200	453	497	419
12	46	81	233	151	196	468	880	1480	1080	467	487	405
13	43	75	242	189	183	496	834	1280	1250	475	483	420
14	41	74	214	211	182	579	813	1370	1340	451	491	429
15	42	73	168	205	175	652	858	1420	1300	454	485	407
16	45	72	158	181	176	646	902	1480	1230	468	461	405
17	52	71	161	174	203	1130	863	1520	1330	482	397	405
18	52	81	139	167	255	1520	896	1960	1420	492	398	410
19	51	73	109	155	302	1490	782	2090	1430	503	404	407
20	44	72	127	174	302	1340	743	2190	1380	515	405	402
21	47	69	111	242	275	1320	849	2190	1220	508	398	397
22	46	74	127	392	282	1290	960	2350	1200	504	394	402
23	45	71	116	433	297	1300	962	2340	1320	510	402	407
24	44	69	124	406	289	1620	926	2370	1270	537	408	403
25	45	71	121	351	278	1550	964	e2280	1340	531	404	318
26	45	62	118	299	277	1270	1050	e1800	1400	524	393	178
27	47	62	135	315	269	985	1100	1520	1350	515	403	174
28	52	62	116	308	264	931	1120	1270	1300	517	404	167
29	63	60	84	307	---	884	1300	1130	1230	542	402	165
30	177	63	122	310	---	890	1390	1170	1270	535	400	161
31	239	---	170	299	---	936	---	1510	---	527	401	---
TOTAL	1876	2593	4328	7278	7383	24915	29316	49800	38280	17574	13933	11107
MEAN	60.5	86.4	140	235	264	804	977	1606	1276	567	449	370
MAX	239	197	358	433	310	1620	1390	2370	1430	1170	525	441
MIN	41	60	58	144	175	274	743	1120	1080	422	393	161
AC-FT	3720	5140	8580	14440	14640	49420	58150	98780	75930	34860	27640	22030

e Estimated.

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	387	431	532	552	628	771	1270	1704	1248	644	508	463
MAX	982	2469	3596	3053	2394	4073	3887	5674	5214	2921	1084	1482
(WY)	1972	1984	1984	1984	1986	1986	1952	1952	1983	1983	1975	1983
MIN	51.0	55.6	80.4	77.7	85.3	142	369	349	142	53.9	53.9	47.3
(WY)	1978	1991	1991	1991	1933	1933	1977	1934	1931	1931	1931	1933

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1909 - 1993	
ANNUAL TOTAL	70946		208383			
ANNUAL MEAN	194		571		754	
HIGHEST ANNUAL MEAN					2443	1983
LOWEST ANNUAL MEAN					184	1931
HIGHEST DAILY MEAN	594	Apr 17	2370	May 24	13400	Dec 23 1955
LOWEST DAILY MEAN	41	Oct 14	41	Oct 14	37	Sep 15 1933
ANNUAL SEVEN-DAY MINIMUM	44	Oct 10	44	Oct 10	40	Sep 9 1933
INSTANTANEOUS PEAK FLOW			2540	May 24	17500	Nov 21 1950
INSTANTANEOUS PEAK STAGE			5.75	May 24	14.50	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	140700		413300		546000	
10 PERCENT EXCEEDS	459		1340		1650	
50 PERCENT EXCEEDS	114		403		504	
90 PERCENT EXCEEDS	64		64		209	

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1951-61, 1964-81. Published as Truckee River at Floriston (station 10345900) January 1964 to September 1971.
BIOLOGICAL DATA: Water years 1975-77.
SPECIFIC CONDUCTANCE: Water years 1964-80, July to September 1993.
WATER TEMPERATURE: Water years 1964-81, July to September 1993.
SUSPENDED SEDIMENT: Water years 1974, 1978.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1964 to September 1980, July to September 1993.
WATER TEMPERATURE: January 1964 to September 1981, July to September 1993.

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

REMARKS.--Water temperature and specific conductance are affected by upstream reservoirs and several powerplants. Interruption of record due to recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily recorded, 377 micromhos Dec. 27, 1979; minimum daily recorded, 39 micromhos Dec. 23, 1964.
WATER TEMPERATURE: Maximum recorded, 21.0°C Aug. 2, 6, 1971; minimum recorded, 0.0°C several days during winter periods of most years.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 138 microsiemens Sept. 29, 30; minimum recorded, 66 microsiemens Aug. 12.
WATER TEMPERATURE: Maximum recorded, 20.0°C, Sept. 8, 9; minimum recorded, 10.0°C, July 17, 21, Sept. 26, 27, 29.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	81	79	---	---
2	---	---	---	---	---	---	---	---	81	80	---	---
3	---	---	---	---	---	---	---	---	81	80	---	---
4	---	---	---	---	---	---	---	---	82	79	---	---
5	---	---	---	---	---	---	---	---	84	78	---	---
6	---	---	---	---	---	---	---	---	83	82	---	---
7	---	---	---	---	---	---	---	---	83	81	90	90
8	---	---	---	---	---	---	---	---	83	81	91	90
9	---	---	---	---	---	---	---	---	83	81	91	90
10	---	---	---	---	---	---	---	---	83	79	90	90
11	---	---	---	---	---	---	---	---	84	81	109	89
12	---	---	---	---	---	---	---	---	83	66	96	90
13	---	---	---	---	---	---	---	---	83	82	93	91
14	---	---	---	---	---	---	---	---	83	82	100	92
15	---	---	---	---	---	---	---	---	83	82	96	94
16	---	---	---	---	---	---	---	---	86	82	96	95
17	---	---	---	---	---	---	82	80	86	85	96	95
18	---	---	---	---	---	---	82	81	86	85	97	95
19	---	---	---	---	---	---	82	80	87	84	96	95
20	---	---	---	---	---	---	81	80	86	85	96	95
21	---	---	---	---	---	---	82	80	86	85	96	95
22	---	---	---	---	---	---	82	81	87	86	96	94
23	---	---	---	---	---	---	82	81	86	84	95	94
24	---	---	---	---	---	---	81	79	85	84	95	94
25	---	---	---	---	---	---	81	80	86	84	108	95
26	---	---	---	---	---	---	81	80	86	85	134	108
27	---	---	---	---	---	---	81	80	88	84	137	134
28	---	---	---	---	---	---	81	79	88	87	136	135
29	---	---	---	---	---	---	80	79	88	88	138	135
30	---	---	---	---	---	---	80	79	89	88	138	136
31	---	---	---	---	---	---	80	79	89	88	---	---
MONTH	---	---	---	---	---	---	---	---	89	66	---	---

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	18.5	12.5	---	---
2	---	---	---	---	---	---	---	---	18.0	13.5	---	---
3	---	---	---	---	---	---	---	---	18.0	13.5	---	---
4	---	---	---	---	---	---	---	---	18.5	12.5	---	---
5	---	---	---	---	---	---	---	---	19.0	12.5	---	---
6	---	---	---	---	---	---	---	---	18.5	12.5	---	---
7	---	---	---	---	---	---	---	---	17.5	11.5	19.5	14.0
8	---	---	---	---	---	---	---	---	17.5	11.0	20.0	14.0
9	---	---	---	---	---	---	---	---	17.0	11.5	20.0	14.0
10	---	---	---	---	---	---	---	---	17.0	12.0	19.5	14.0
11	---	---	---	---	---	---	---	---	16.5	11.5	19.0	14.0
12	---	---	---	---	---	---	---	---	17.0	11.0	18.5	13.0
13	---	---	---	---	---	---	---	---	17.0	11.5	18.0	12.5
14	---	---	---	---	---	---	---	---	18.0	12.0	17.5	12.5
15	---	---	---	---	---	---	---	---	16.0	12.5	18.0	13.5
16	---	---	---	---	---	---	---	---	17.5	11.0	16.0	13.0
17	---	---	---	---	---	---	16.0	10.0	18.0	11.5	16.0	13.0
18	---	---	---	---	---	---	17.0	10.5	18.0	12.5	17.0	12.5
19	---	---	---	---	---	---	17.0	11.0	16.0	12.5	17.0	12.5
20	---	---	---	---	---	---	15.0	11.0	14.5	11.0	17.0	12.5
21	---	---	---	---	---	---	16.0	10.0	17.5	11.0	16.5	11.5
22	---	---	---	---	---	---	16.0	11.0	19.0	12.5	15.5	11.5
23	---	---	---	---	---	---	14.5	12.0	18.5	12.5	16.0	11.0
24	---	---	---	---	---	---	17.5	12.0	18.0	12.0	15.5	11.0
25	---	---	---	---	---	---	17.5	11.5	18.0	12.0	15.5	10.5
26	---	---	---	---	---	---	17.5	11.5	18.0	11.5	15.0	10.0
27	---	---	---	---	---	---	18.0	11.5	18.5	12.0	16.0	10.0
28	---	---	---	---	---	---	18.0	12.0	18.5	12.5	15.5	10.5
29	---	---	---	---	---	---	18.0	12.5	18.0	12.5	16.0	10.0
30	---	---	---	---	---	---	17.5	11.5	18.0	12.5	16.0	10.5
31	---	---	---	---	---	---	18.0	11.5	18.0	13.0	---	---
MONTH	---	---	---	---	---	---	---	---	19.0	11.0	---	---

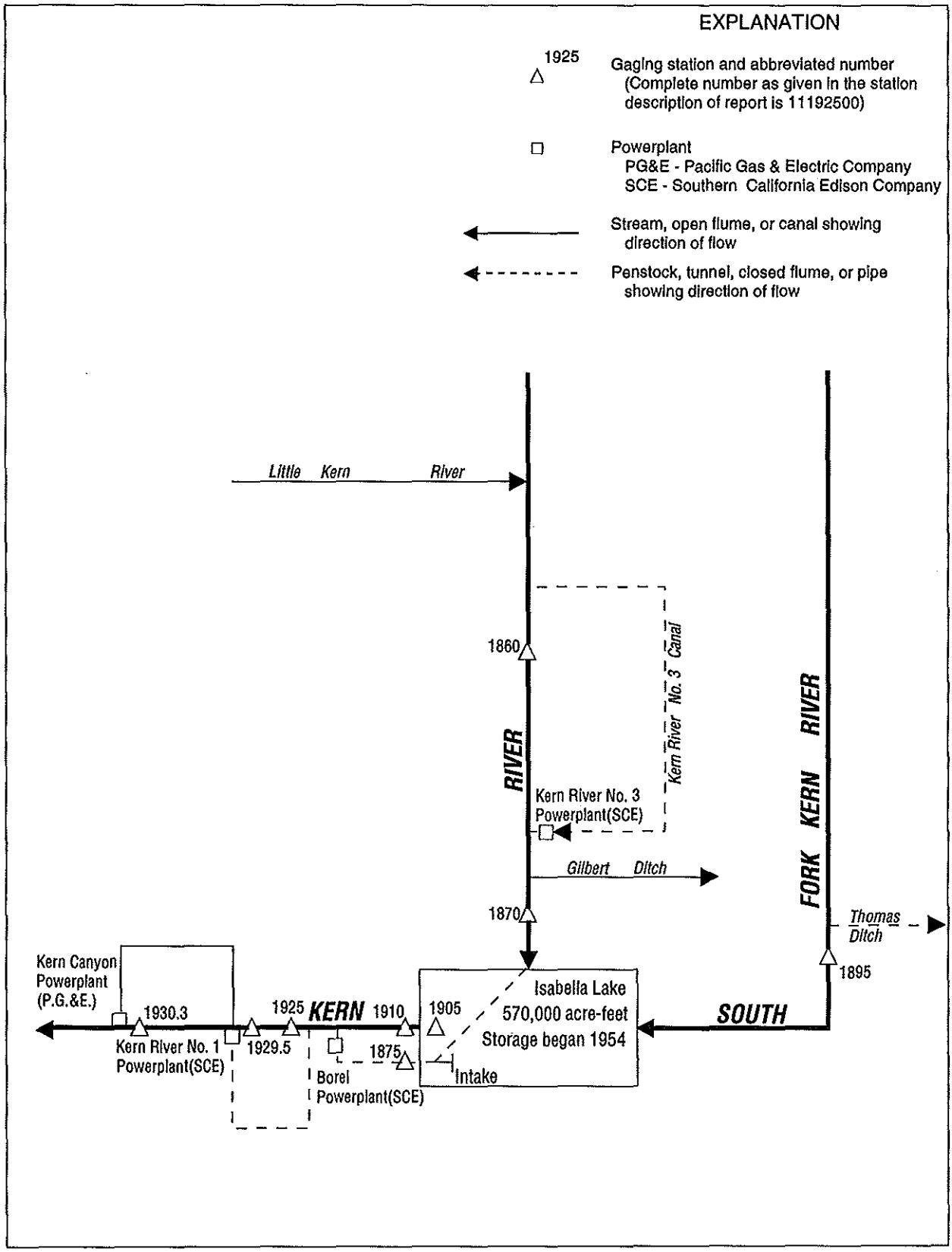

Figure 27. Diversions and storage in Kern River basin.

BUENA VISTA LAKE BASIN

11186000 KERN RIVER NEAR KERNVILLE, CA

LOCATION.--Lat 35°56'43", long 118°28'36", unsurveyed, Tulare County, Hydrologic Unit 18030001, on left bank at Packsaddle Canyon Creek, 100 ft downstream from diversion dam, and 13.4 mi north of Kernville.
DRAINAGE AREA.--846 mi^2.

PERIOD OF RECORD.--January 1912 to current year. Records for water year 1912 incomplete; yearly estimates published in WSP 1315-A. March 1921 to October 1953, records for river and canal published separately; combined flow only, October 1953 to September 1960.
REVISED RECORDS.--WSP 1445: 1912, 1916(M). WSP 1930: 1914(M), 1918(M).

GAGE.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. Elevation of gage is 3,620 ft above sea level, from topographic map. Prior to Apr. 1, 1913, at site 1.4 mi downstream at different datum. Apr. 1 to Sept. 14, 1913, nonrecording gage, and Sept. 15, 1913, to Sept. 30, 1967, water-stage recorder, at site 1.2 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Since 1921, Kern River No. 3 Canal diverts up to 630 ft^3/s 100 ft upstream from station, from left bank of Kern River for power development; water is returned to river 15 mi downstream from station. See schematic diagram of Kern River basin. For records of combined discharge of river and canal, see following page.
COOPERATION.--Records 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, 60,000 ft^3/s, Dec. 6, 1966, gage height, 22.77 ft, site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft^3/s on basis of computed flow over dam at gage height 17.55 ft (basic data for computation provided by Southern California Edison Co.) and slope-area measurement of peak flow; no flow for many days in 1924 and 1925.
Combined river and diversion: Maximum discharge, 60,000 ft^3/s, Dec. 6, 1966; minimum daily, 76 ft^3/s, Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 3,350 ft^3/s, May 24, gage height, 8.57 ft; minimum daily, 17 ft^3/s, Jan. 12.
Combined river and diversion: Maximum daily discharge, 3,680 ft^3/s, May 24; minimum daily, 106 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	26	27	30	30	65	482	1830	2050	1490	105	84
2	29	26	26	30	27	62	508	1990	1800	1550	106	77
3	29	27	26	33	27	63	583	2130	1650	1480	105	74
4	26	26	27	35	27	63	689	2120	1720	1360	101	75
5	27	27	31	38	27	62	708	1780	1870	1360	102	76
6	27	27	30	30	29	64	573	1720	1660	1430	104	76
7	27	27	29	383	30	63	529	1570	1380	1390	107	75
8	28	27	28	462	33	62	571	1540	1370	1380	105	74
9	27	27	28	36	32	63	634	1610	1360	1210	99	75
10	28	26	27	28	30	64	689	1900	1540	1170	98	78
11	29	26	27	27	30	68	709	2090	1860	1080	100	77
12	33	26	27	38	29	97	654	2100	2000	1030	96	77
13	29	27	26	36	31	126	600	1880	2180	852	97	77
14	29	27	26	34	30	215	592	1760	2400	703	95	76
15	29	27	27	31	28	294	636	1800	2570	593	95	78
16	30	27	27	29	28	277	670	1900	2530	471	95	79
17	30	27	28	31	29	431	719	2160	2300	365	96	77
18	29	26	27	32	29	659	723	2340	2220	302	96	77
19	29	26	30	29	44	519	689	2630	2330	288	95	77
20	29	26	31	28	29	487	767	2810	2450	280	96	77
21	29	25	29	30	28	552	865	2770	2020	257	97	77
22	34	26	29	28	30	595	952	2710	1870	228	96	78
23	28	26	29	28	35	631	937	2890	1860	210	98	78
24	33	26	28	27	33	680	858	3100	1950	276	98	78
25	32	25	28	27	31	767	924	2870	2110	312	99	78
26	29	25	29	27	30	1000	1120	2530	2230	323	98	77
27	32	25	30	27	29	658	1190	2230	2170	271	97	78
28	28	27	28	27	29	550	1250	1960	1890	245	97	79
29	29	25	27	28	---	419	1380	1870	1640	198	96	79
30	93	27	28	28	---	396	1600	2060	1500	151	96	82
31	27	---	29	29	---	402	---	2270	---	112	96	---
TOTAL	970	788	869	1726	844	10454	23801	66920	58480	22367	3061	2320
MEAN	31.3	26.3	28.0	55.7	30.1	337	793	2159	1949	722	98.7	77.3
MAX	93	27	31	462	44	1000	1600	3100	2570	1550	107	84
MIN	26	25	26	27	27	62	482	1540	1360	112	95	74
AC-FT	1920	1560	1720	3420	1670	20740	47210	132700	116000	44360	6070	4600

11186000 KERN RIVER NEAR KERNVILLE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.3	47.1	133	130	149	246	584	1462	1618	706	210	107
MAX	197	194	2488	1370	967	1480	2631	5874	6819	3482	1583	538
(WY)	1983	1984	1967	1969	1986	1986	1969	1969	1983	1983	1983	1982
MIN	2.01	1.36	.98	2.01	1.51	1.84	1.93	6.68	7.22	2.66	12.5	2.70
(WY)	1961	1961	1961	1961	1961	1961	1961	1961	1961	1961	1961	1963

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993	
ANNUAL TOTAL	43788		192600			
ANNUAL MEAN	120		528		455	
HIGHEST ANNUAL MEAN					1727	1969
LOWEST ANNUAL MEAN					3.65	1961
HIGHEST DAILY MEAN	989	May 13	3100	May 24	33600	Dec 6 1966
LOWEST DAILY MEAN	25	Nov 21	25	Nov 21	.20	Dec 16 1960
ANNUAL SEVEN-DAY MINIMUM	25	Nov 21	25	Nov 21	.26	Dec 12 1960
INSTANTANEOUS PEAK FLOW			3350	May 24	60000	Dec 6 1966
INSTANTANEOUS PEAK STAGE			8.57	May 24	22.77	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	86850		382000		329400	
10 PERCENT EXCEEDS	337		1890		1440	
50 PERCENT EXCEEDS	71		78		77	
90 PERCENT EXCEEDS	27		27		26	

BUENA VISTA LAKE BASIN

11186001 KERN RIVER NEAR KERNVILLE, CA--Continued

KERN RIVER AND KERN RIVER NO. 3 CANAL NEAR KERNVILLE,
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	215	126	201	258	345	1070	2410	2630	2070	666	305
2	109	202	136	242	256	365	1090	2570	2390	2130	649	300
3	111	198	137	187	260	408	1170	2710	2230	2060	647	292
4	114	194	135	173	258	421	1270	2710	2300	1940	651	284
5	114	190	136	187	273	443	1290	2360	2450	1940	635	283
6	113	188	136	214	288	498	1160	2300	2240	2010	632	281
7	111	186	158	863	294	552	1110	2150	1960	1970	597	273
8	112	187	151	1040	416	593	1150	2120	1950	1960	558	265
9	111	182	153	469	502	614	1220	2190	1940	1790	514	256
10	111	169	171	368	414	606	1270	2480	2120	1750	513	251
11	113	158	183	316	370	657	1290	2680	2440	1660	472	244
12	109	155	182	264	344	685	1240	2680	2580	1610	447	242
13	110	156	143	336	328	714	1180	2460	2760	1430	424	242
14	110	155	151	441	320	802	1180	2340	2980	1280	404	240
15	111	158	173	376	306	878	1220	2380	3150	1170	394	237
16	112	162	159	359	297	861	1250	2480	3110	1050	393	236
17	112	152	172	358	295	1020	1300	2740	2890	947	379	237
18	111	148	163	395	312	1240	1310	2930	2800	888	364	237
19	112	146	141	339	389	1100	1270	3220	2910	874	353	233
20	112	146	146	319	420	1070	1350	3390	3030	866	348	229
21	112	140	162	321	367	1140	1450	3350	2600	843	341	225
22	114	142	156	334	356	1180	1540	3290	2450	813	330	222
23	115	147	160	336	459	1220	1520	3470	2440	796	319	220
24	119	140	171	309	463	1270	1440	3680	2530	861	316	217
25	127	137	160	298	403	1350	1510	3450	2690	896	321	215
26	124	140	152	290	420	1590	1700	3110	2810	907	319	210
27	122	139	153	287	386	1240	1770	2810	2750	855	312	204
28	126	140	170	286	351	1130	1830	2540	2470	828	328	202
29	130	132	218	282	---	1000	1960	2450	2220	780	338	200
30	478	127	186	277	---	980	2180	2640	2080	733	323	199
31	332	---	167	269	---	987	---	2850	---	688	309	---
TOTAL	4123	4831	4907	10736	9805	26959	41290	84940	75900	40395	13596	7281
MEAN	133	161	158	346	350	870	1376	2740	2530	1303	439	243
MAX	478	215	218	1040	502	1590	2180	3680	3150	2130	666	305
MIN	106	127	126	173	256	345	1070	2120	1940	688	309	199
AC-FT	8180	9580	9730	21290	19450	53470	81900	168500	150500	80120	26970	14440

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

MEAN	246	264	366	415	503	672	1107	2028	2165	1121	506	312
MAX	634	715	2696	1668	1524	2075	3235	6475	7401	4059	2175	934
(WY)	1983	1984	1967	1969	1980	1986	1969	1969	1983	1983	1983	1978
MIN	106	112	109	121	120	181	333	373	303	133	114	100
(WY)	1962	1991	1991	1991	1991	1977	1976	1977	1976	1961	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993	
ANNUAL TOTAL	122655		324763			
ANNUAL MEAN	335		890		809	
HIGHEST ANNUAL MEAN					2264	1983
LOWEST ANNUAL MEAN					228	1961
HIGHEST DAILY MEAN	1570	May 13	3680	May 24	33600	Dec 6 1966
LOWEST DAILY MEAN	106	Oct 1	106	Oct 1	76	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	109	Sep 26	111	Oct 9	84	Sep 11 1990
INSTANTANEOUS PEAK STAGE			.00	May 24	.00	May 24 1993
ANNUAL RUNOFF (AC-FT)	243300		644200		586400	
10 PERCENT EXCEEDS	923		2470		2030	
50 PERCENT EXCEEDS	185		386		379	
90 PERCENT EXCEEDS	114		137		154	

11187000 KERN RIVER AT KERNVILLE, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 35°45'16", long 118°25'21", in NE 1/4 SW 1/4 sec.15, T.25 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 300 ft downstream from highway bridge at Kernville, 1.1 mi upstream from Caldwell Creek, 8.9 mi upstream from Isabella Dam, and 42 mi northeast of Bakersfield.
DRAINAGE AREA.--1,009 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1905 to December 1912, October 1953 to September 1993 (discontinued). Monthly discharge only for September to December 1912, published in WSP 1315-A.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 2,621.57 ft above sea level. January 1905 to September 1912, nonrecording gage at two sites 3.5 mi downstream at different datums. October 1953 to Feb. 20, 1967, at present site and datum. Feb. 20, 1967, to Oct. 11, 1976, water-stage recorder 0.6 mi upstream at datum 2,634.57 ft above sea level.
REMARKS.--Records good. Slight regulation at times by operation of Kern River No. 3 Canal and Powerplant. A few small diversions for irrigation upstream from station. Gilbert Irrigation Ditch diverts up to 7 ft^3/s around station during irrigation season. U.S. Army Corps of Engineers satellite telemeter at station.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft^3/s, Dec. 6, 1966, gage height, 22.2 ft, from floodmarks, present site, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 70 ft^3/s, Sept. 29, 1977.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known from at least 1912 to December 1966, 18.4 ft, from floodmarks, Nov. 19, 1950, discharge, 38,700 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 8	0030	2,960	7.51	May 24	1230	*4,020	*8.20
Mar. 26	0745	2,410	7.19	June 15	1230	3,710	7.92
May 4	0845	3,260	7.68				

Minimum daily, 107 ft^3/s, Oct. 8

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	249	133	228	328	498	1320	2750	2890	2120	675	273
2	113	224	142	285	327	540	1350	2960	2540	2170	657	262
3	111	213	143	221	329	611	1440	3070	2390	2100	659	253
4	116	210	139	201	323	624	1570	3100	2420	1960	663	242
5	112	205	138	217	340	652	1620	2680	2690	1930	644	239
6	112	201	141	254	358	725	1430	2570	2530	2010	639	237
7	111	195	187	1440	365	792	1370	2420	2150	1990	603	231
8	110	196	178	1880	571	835	1410	2360	2120	1960	570	225
9	111	191	170	723	719	851	1500	2410	2050	1800	521	214
10	110	183	190	519	584	833	1560	2680	2220	1730	510	207
11	109	173	204	429	504	876	1600	2920	2560	1640	472	201
12	107	167	213	343	463	892	1540	2970	2700	1580	451	201
13	112	169	165	460	431	919	1460	2720	2910	1450	423	205
14	109	169	166	657	419	1000	1430	2560	3190	1290	400	204
15	110	167	192	553	401	1130	1470	2570	3400	1180	387	200
16	110	172	176	511	383	1110	1510	2660	3400	1080	383	200
17	111	160	190	505	372	1270	1570	2990	3150	971	368	206
18	111	157	194	651	402	1700	1580	3200	2990	894	349	205
19	112	155	156	533	526	1470	1540	3520	3100	856	331	199
20	115	154	158	472	607	1380	1610	3720	3240	860	323	192
21	114	148	183	473	538	1450	1730	3680	2840	838	316	191
22	113	148	175	506	508	1490	1810	3600	2560	823	304	187
23	119	156	178	498	738	1540	1790	3730	2540	789	291	185
24	118	148	192	440	772	1570	1690	3950	2630	821	284	186
25	131	146	180	414	639	1670	1710	3730	2820	879	281	184
26	128	149	169	398	643	2100	1960	3390	2970	893	281	182
27	121	149	169	388	595	1620	2070	3090	2920	865	277	173
28	130	146	190	380	538	1440	2100	2750	2620	814	284	173
29	129	143	249	369	---	1270	2240	2620	2340	796	298	173
30	571	131	238	361	---	1230	2480	2780	2130	747	289	166
31	437	---	199	344	---	1230	---	3040	---	722	273	---
TOTAL	4348	5174	5497	15653	13723	35318	49460	93190	81010	40558	13206	6196
MEAN	140	172	177	505	490	1139	1649	3006	2700	1308	426	207
MAX	571	249	249	1880	772	2100	2480	3950	3400	2170	675	273
MIN	107	131	133	201	323	498	1320	2360	2050	722	273	166
AC-FT	8620	10260	10900	31050	27220	70050	98100	184800	160700	80450	26190	12290

11187000 KERN RIVER AT KERNVILLE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	252	271	404	492	594	761	1237	2082	2241	1189	508	300
MAX	654	815	3541	1939	2100	2571	3685	6748	7768	4538	2172	948
(WY)	1983	1984	1967	1969	1986	1983	1969	1969	1983	1906	1983	1982
MIN	90.3	114	123	144	138	186	344	366	281	118	113	94.9
(WY)	1962	1962	1991	1991	1991	1977	1977	1977	1976	1961	1960	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1905 - 1993	
ANNUAL TOTAL	129165		363333			
ANNUAL MEAN	353		995		867	
HIGHEST ANNUAL MEAN					2504	1983
LOWEST ANNUAL MEAN					223	1961
HIGHEST DAILY MEAN	1560	May 13	3950	May 24	44500	Dec 6 1966
LOWEST DAILY MEAN	107	Sep 28	107	Oct 12	70	Sep 29 1977
ANNUAL SEVEN-DAY MINIMUM	108	Sep 24	110	Oct 10	81	Sep 24 1977
INSTANTANEOUS PEAK FLOW			4020	May 24	74000	Dec 6 1966
INSTANTANEOUS PEAK STAGE			8.20	May 24	22.20	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	256200		720700		628100	
10 PERCENT EXCEEDS	905		2680		2200	
50 PERCENT EXCEEDS	205		511		414	
90 PERCENT EXCEEDS	113		143		160	

11187000 KERN RIVER AT KERNVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to September 1993 (discontinued).
CHEMICAL DATA: Water years 1975 to September 1993 (discontinued).
BIOLOGICAL DATA: Water years 1978-81.
WATER TEMPERATURE: Water years 1962-88.
SEDIMENT DATA: Water years 1967-74, 1978 to September 1993 (discontinued).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1962 to September 1988.

REMARKS.--Water-quality samples obtained at the gage.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
10...	1130	182	167	8.3	8.0	0.60	696	11.0	102	E10	E14
JAN											
07...	1300	1620	114	7.9	4.0	55	685	11.4	97	>600	>1000
MAR											
10...	1340	818	123	8.1	17.0	2.3	783	12.4	125	K4	K5
JUL											
14...	1410	1240	50	7.6	17.0	0.50	691	8.3	95	<8	<14
SEP											
15...	1455	188	133	8.4	18.0	0.30	690	8.6	101	<19	<14

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3
NOV											
10...	44	0	14	2.2	16	43	1	1.7	75	0	61
JAN											
07...	32	0	10	1.7	10	39	0.8	2.1	51	0	42
MAR											
10...	35	0	11	1.9	12	41	0.9	1.3	61	0	50
JUL											
14...	15	0	4.8	0.64	4.2	37	0.5	0.50	25	0	21
SEP											
15...	38	0	12	1.9	12	40	0.8	1.4	61	2	53

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV										
10...	12	7.6	0.30	15	107	106	0.15	<0.010	0.010	<0.050
JAN										
07...	7.1	3.7	0.20	14	78	77	0.11	--	0.020	--
MAR										
10...	7.1	3.5	0.20	20	86	88	0.12	--	<0.010	--
JUL										
14...	2.5	1.1	0.10	8.4	32	35	0.04	--	<0.010	--
SEP										
15...	8.5	4.4	0.30	15	82	88	0.11	--	<0.010	--

11187000 KERN RIVER AT KERNVILLE, CA--Continued

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

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)
NOV										
10...	<0.050	0.010	0.020	<0.20	0.020	0.020	<0.010	0.010	<10	13
JAN										
07...	0.640	--	0.070	2.2	0.470	0.050	--	0.040	--	--
MAR										
10...	0.100	--	0.020	<0.20	<0.010	<0.010	--	<0.010	40	11
JUL										
14...	<0.050	--	0.040	<0.20	0.020	<0.010	--	<0.010	10	4
SEP										
15...	<0.050	--	0.010	<0.20	<0.010	0.010	--	<0.010	<10	10

DATE	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)
NOV										
10...	<3	62	31	5	<10	<1	<1	<1.0	98	<6
JAN										
07...	--	--	--	--	--	--	--	--	--	--
MAR										
10...	<3	69	20	4	10	<1	<1	<1.0	81	<6
JUL										
14...	<3	62	7	3	<10	<1	<1	<1.0	32	<6
SEP										
15...	<3	45	29	4	<10	<1	<1	<1.0	79	<6

11187000 KERN RIVER AT KERNVILLE, CA--Continued

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

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUL											
14...*	1415	2.80	40.0	50	7.8	17.5	691	8.4	97	8	82
14...*	1430	3.20	90.0	54	7.8	17.0	691	8.8	101	7	70
14...*	1448	4.00	115	53	7.6	17.0	691	8.8	101	4	--
14...*	1455	4.20	130	49	7.6	17.0	691	8.8	101	5	--
14...*	1508	5.00	150	51	7.6	17.0	691	8.7	100	5	--
SEP											
15...*	1456	1.90	97.0	136	8.4	18.0	690	8.5	99	0	--
15...*	1457	2.25	86.0	136	8.4	18.0	690	8.9	104	0	--
15...*	1458	1.85	76.0	135	8.5	18.0	690	8.7	102	3	--
15...*	1500	1.70	64.0	135	8.5	18.0	690	8.8	103	0	--
15...*	1502	1.48	45.0	135	8.5	18.0	690	8.8	103	0	--

* Instantaneous discharge at the time of cross-sectional measurement: July 14, 1,240 ft^3/s; Sept. 15, 188 ft^3/s.

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

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
10...	1135	182	8.0	2	0.98	72
JAN						
07...	1305	1620	4.0	423	1850	78
MAR						
10...	1345	818	17.0	11	24	60
JUL						
14...	1410	1240	17.0	6	20	78
SEP						
15...	1510	188	18.0	1	0.51	--

11187500 BOREL CANAL BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'32", long 118°28'09", in SW 1/4 NE 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 500 ft downstream from Isabella Dam and 3 mi upstream from point where canal crosses Erskine Creek.

PERIOD OF RECORD.--January 1910 to September 1914, October 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Kern River Power Co.'s Canal at or near Kernville 1910-14. Published as "at Tillie Creek" 1925-51.

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft above sea level, from topographic map. Prior to Apr. 29, 1952, at site 4 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Canal diverts from right bank of Kern River 5.5 mi upstream from Isabella Dam and above South Fork Kern River. When contents of Isabella Reservoir are above 110,000 acre-ft, diversion is at the dam. Canal is used to supply Borel Powerplant of Southern California Edison Co., 6 mi downstream from station, at which point water is returned to the Kern River.

COOPERATION.--Records were provided by Southern California Edison Co., 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, 634 ft^3/s, Mar. 13, 14, 1952; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	.00	132	222	309	502	593	598	595	598	593	591
2	104	.00	146	279	311	476	595	595	595	599	590	589
3	101	.00	146	219	312	543	595	598	597	597	594	586
4	107	.00	142	198	310	586	596	597	599	596	596	584
5	104	.00	137	208	310	592	596	596	598	598	594	587
6	103	73	144	244	313	591	595	595	597	600	594	586
7	101	192	184	306	312	591	555	597	595	598	593	584
8	100	193	184	308	367	597	595	596	596	598	588	588
9	99	189	172	297	399	598	594	596	599	598	591	585
10	98	180	188	302	400	595	594	597	598	600	588	584
11	97	170	202	309	399	596	595	597	595	597	589	585
12	92	164	212	303	400	597	594	596	598	599	586	587
13	99	164	167	306	402	599	596	598	596	600	590	589
14	97	164	165	309	402	599	597	600	595	597	591	585
15	102	161	188	310	397	599	597	602	595	593	590	585
16	104	169	176	308	379	599	596	597	595	593	590	585
17	106	158	189	307	365	599	596	598	595	591	595	590
18	107	155	192	308	378	600	596	599	599	589	594	588
19	107	153	158	307	403	600	597	597	596	590	595	588
20	106	152	159	307	405	599	596	598	598	590	592	588
21	6.6	153	181	310	404	598	598	601	597	591	592	585
22	3.8	148	174	313	402	599	597	602	597	589	590	588
23	.66	158	175	312	403	598	594	600	597	591	594	587
24	.59	152	186	311	404	597	594	598	603	588	592	586
25	.56	147	175	309	404	596	593	598	608	587	594	588
26	.19	150	166	308	404	598	595	599	605	594	592	585
27	.00	150	167	306	405	598	599	598	608	594	594	583
28	.00	150	186	308	454	596	603	597	606	592	591	587
29	.00	145	243	310	---	594	601	596	608	590	588	582
30	.00	131	232	307	---	594	598	597	603	595	594	586
31	.00	---	194	307	---	593	---	596	---	596	596	---
TOTAL	2061.40	3921.00	5462	9058	10553	18219	17840	18529	17963	18428	18350	17591
MEAN	66.5	131	176	292	377	588	595	598	599	594	592	586
MAX	115	193	243	313	454	600	603	602	608	600	596	591
MIN	.00	.00	132	198	309	476	555	595	595	587	586	582
AC-FT	4090	7780	10830	17970	20930	36140	35390	36750	35630	36550	36400	34890

11187500 BOREL CANAL BELOW ISABELLA DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	236	236	264	305	383	457	504	518	535	480	383	287
MAX	588	584	576	584	590	611	605	607	614	605	607	586
(WY)	1979	1984	1951	1984	1984	1985	1984	1989	1989	1985	1952	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	9.23	2.25	.000	.000
(WY)	1973	1946	1973	1952	1951	1973	1990	1914	1914	1990	1972	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1910 - 1993	
ANNUAL TOTAL	109229.40		157975.40			
ANNUAL MEAN	298		433		381	
HIGHEST ANNUAL MEAN					585	1984
LOWEST ANNUAL MEAN					106	1990
HIGHEST DAILY MEAN	597	May 22	608	Jun 25	634	Mar 13 1952
LOWEST DAILY MEAN	.00	Feb 26	.00	Oct 27	.00	Oct 23 1910
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 27	.00	Oct 27	.00	May 24 1912
INSTANTANEOUS PEAK FLOW			612	Jun 25		
INSTANTANEOUS PEAK STAGE			8.38	Jun 25		
ANNUAL RUNOFF (AC-FT)	216700		313300		276200	
10 PERCENT EXCEEDS	573		598		587	
50 PERCENT EXCEEDS	277		588		427	
90 PERCENT EXCEEDS	97		112		124	

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA

LOCATION.--Lat 35°44'15", long 118°10'22", unsurveyed, T.25 S., R.35 E., Kern County, Hydrologic Unit 18030002, on left bank 0.8 mi north of State Highway 178, 1.6 mi upstream from Canebrake Creek, and 5 mi northeast of Onyx.

DRAINAGE AREA.--530 mi^2.

PERIOD OF RECORD.--September 1911 to August 1914, January 1919 to September 1942, October 1947 to current year. Yearly estimate for water year 1927 (incomplete) and monthly discharges for incomplete water years 1914, 1919, 1926, 1928, 1929, published in WSP 1315-A.
REVISED RECORDS.--WSP 1151: 1948(M). WSP 1445: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,900 ft above sea level, from topographic map. Sept. 12, 1911, to Aug. 31, 1914, nonrecording gage, and Jan. 23, 1919, to Apr. 17, 1936, water-stage recorder, 140 ft upstream at datum 2.88 ft lower. Apr. 18, 1936, to September 1942, and October 1947 to Feb. 8, 1967, at datum 6.88 ft higher. Feb. 9, 1967, to May 31, 1972, at datum 2.00 ft higher.

REMARKS.--Records good. Lowell and Thomas Ditches divert upstream from station for irrigation downstream of station, combined capacity, 7 ft^3/s. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft^3/s, Dec. 6, 1966, gage height, 18.9 ft, from floodmarks, present datum, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; no flow for several days in 1929, 1934, 1960-61.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 8	0430	618	5.78	May 3	1900	*1,400	*7.18
Mar. 26	0515	1,070	6.71				

Minimum daily, 4.5 ft^3/s, Sept. 13, 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	47	15	28	47	96	489	1100	316	89	24	22
2	5.2	42	19	36	47	101	520	1150	308	78	20	21
3	5.5	39	24	23	50	121	580	1130	288	74	19	20
4	6.0	37	24	20	46	142	654	1050	280	71	17	19
5	6.2	35	25	26	49	152	778	909	292	68	15	22
6	6.3	31	25	26	53	181	722	839	340	67	12	13
7	6.5	30	37	265	57	208	677	809	322	64	15	8.6
8	6.5	29	34	404	132	225	674	786	312	62	17	6.6
9	6.9	e29	28	125	155	225	720	732	288	67	20	5.2
10	7.3	28	29	83	115	222	792	699	262	56	22	5.2
11	7.3	27	31	65	101	240	833	674	247	54	21	4.9
12	e7.4	25	31	49	93	244	797	669	231	50	21	4.7
13	7.5	24	26	53	87	253	709	627	219	48	20	4.5
14	7.4	26	23	100	85	291	705	596	210	50	20	4.5
15	7.6	26	22	84	80	325	739	579	203	52	20	6.2
16	7.7	25	22	88	76	314	778	577	196	47	22	13
17	8.0	20	24	76	73	417	872	608	186	46	23	17
18	8.0	21	27	99	96	560	901	582	178	46	23	17
19	8.4	21	20	83	124	466	894	556	170	44	24	18
20	8.5	19	22	72	141	443	943	544	166	41	24	19
21	11	19	25	79	116	480	1020	532	176	40	22	20
22	17	17	24	92	107	501	1020	503	178	40	23	20
23	17	17	26	94	162	544	978	491	153	39	22	20
24	20	18	28	78	155	564	891	470	140	40	19	20
25	24	17	27	72	120	632	857	464	130	41	18	19
26	23	17	24	69	120	945	953	448	121	39	17	20
27	23	18	24	63	117	608	967	412	115	36	22	19
28	24	19	30	61	103	572	936	385	109	33	22	18
29	24	18	e33	61	---	522	931	365	104	28	19	17
30	47	16	35	57	---	480	980	349	91	27	21	18
31	68	---	27	51	---	463	---	322	---	27	24	---
TOTAL	437.3	757	811	2582	2707	11537	24310	19957	6331	1564	628	442.4
MEAN	14.1	25.2	26.2	83.3	96.7	372	810	644	211	50.5	20.3	14.7
MAX	68	47	37	404	162	945	1020	1150	340	89	24	22
MIN	5.1	16	15	20	46	96	489	322	91	27	12	4.5
AC-FT	867	1500	1610	5120	5370	22880	48220	39580	12560	3100	1250	878

e Estimated.

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.2	35.9	58.2	61.4	93.3	158	351	437	171	48.6	23.5	18.8
MAX	98.9	143	942	426	448	686	1583	2896	1311	349	184	90.2
(WY)	1984	1984	1967	1969	1980	1978	1969	1969	1983	1983	1983	1978
MIN	1.00	8.92	12.4	14.0	17.3	24.1	23.4	9.52	1.00	.19	.20	.10
(WY)	1962	1930	1949	1931	1961	1961	1961	1961	1924	1961	1934	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1912 - 1993		
ANNUAL TOTAL	19023.3		72063.7				
ANNUAL MEAN	52.0		197		123		
HIGHEST ANNUAL MEAN					605		1969
LOWEST ANNUAL MEAN					11.5		1961
HIGHEST DAILY MEAN	333	Apr 18	1150	May 2	14000	Dec 6	1966
LOWEST DAILY MEAN	3.0	Aug 29	4.5	Sep 13	.00	Sep 1	1934
ANNUAL SEVEN-DAY MINIMUM	3.2	Aug 24	5.0	Sep 9	.00	Jul 23	1961
INSTANTANEOUS PEAK FLOW			1400	May 3	28700	Dec 6	1966
INSTANTANEOUS PEAK STAGE			7.18	May 3	18.90	Dec 6	1966
ANNUAL RUNOFF (AC-FT)	37730		142900		89330		
10 PERCENT EXCEEDS	147		675		286		
50 PERCENT EXCEEDS	25		50		41		
90 PERCENT EXCEEDS	4.1		16		7.0		

11191000 KERN RIVER BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'21", long 118°29'02", in SW 1/4 NW 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 200 ft downstream from highway bridge, 0.6 mi downstream from Isabella Dam, and 1.6 mi southwest of town of Lake Isabella.

DRAINAGE AREA.--2,074 mi^2.

PERIOD OF RECORD.--Water years 1956-66, 1971 to current year.
WATER-DISCHARGE RECORDS: Water years 1945-90.
CHEMICAL DATA: Water years 1956-66.
WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in the record were due to malfunction of the recording instrument. Water temperature is affected by regulation from Isabella Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C, Aug. 24, 1981; minimum recorded, 2.5°C, Feb. 25, 26, 1989, Dec. 25, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 22.0°C, several days in August and September; minimum recorded, 5.0°C, Jan. 24, Feb. 1.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	16.0	13.5	---	---	---	---	9.0	5.0	11.0	6.0
2	---	---	16.0	13.0	---	---	---	---	9.5	5.5	11.5	6.0
3	---	---	15.5	12.5	---	---	---	---	8.5	6.0	11.0	7.0
4	---	---	15.0	14.0	---	---	---	---	10.0	6.0	11.5	6.5
5	---	---	15.0	13.5	---	---	---	---	10.0	7.0	12.0	6.5
6	---	---	14.5	13.0	---	---	---	---	10.5	6.5	10.0	7.0
7	---	---	14.5	13.0	---	---	---	---	9.0	7.0	8.5	7.5
8	20.0	19.0	14.0	12.5	---	---	---	---	8.5	7.5	8.5	8.0
9	19.5	18.5	14.0	12.5	---	---	---	---	9.0	7.5	8.5	8.0
10	20.0	18.5	14.0	12.5	10.5	9.0	---	---	10.5	7.0	8.5	8.0
11	19.5	18.0	14.0	12.0	10.0	9.0	---	---	10.0	6.0	8.5	8.0
12	19.5	18.0	13.5	12.0	10.5	8.0	---	---	10.5	6.5	9.5	8.5
13	19.5	17.5	14.0	11.0	9.5	7.0	7.5	6.5	10.5	6.0	9.0	8.5
14	18.5	18.0	12.0	10.0	9.5	8.5	7.5	6.5	10.5	6.0	9.0	8.5
15	18.5	18.0	12.5	10.0	9.0	8.5	7.0	6.5	11.0	6.5	9.0	8.5
16	18.5	18.0	13.0	10.0	9.0	8.0	8.0	6.5	8.5	7.0	9.5	8.5
17	18.5	18.0	11.5	9.5	9.5	8.5	7.5	6.0	8.5	7.5	9.5	9.5
18	18.5	18.0	11.5	10.0	9.5	7.0	7.5	6.5	9.0	8.0	10.0	9.5
19	18.0	17.5	11.5	10.5	8.5	6.0	9.0	6.0	10.0	8.0	11.0	10.0
20	18.0	17.5	11.5	10.5	9.0	6.0	9.0	6.0	8.5	7.5	10.5	10.0
21	18.0	17.5	11.5	10.5	9.0	6.0	9.5	7.0	10.5	7.0	11.0	10.5
22	17.5	17.5	11.0	10.0	9.0	6.0	10.5	6.5	9.5	6.5	11.0	10.5
23	17.5	17.0	11.0	10.0	9.0	6.0	9.0	5.5	10.0	7.5	11.0	10.5
24	17.5	16.5	10.5	10.0	9.0	7.5	9.0	5.0	8.0	6.5	11.0	10.5
25	16.5	16.0	10.5	9.5	8.5	7.5	9.5	5.5	10.5	6.0	11.5	11.0
26	16.0	15.5	---	---	8.0	7.0	9.5	6.0	8.5	7.0	11.0	10.0
27	16.5	16.0	---	---	7.5	7.0	9.0	5.5	9.0	7.0	10.5	9.5
28	16.0	15.5	---	---	8.0	7.0	8.5	5.5	9.0	6.5	13.0	9.0
29	16.0	15.5	---	---	7.5	7.0	9.5	5.5	---	---	14.5	8.5
30	16.5	14.5	---	---	8.0	6.5	9.5	6.0	---	---	15.0	9.0
31	16.5	13.0	---	---	---	---	9.5	5.5	---	---	15.5	9.0
MONTH	---	---	---	---	---	---	---	---	11.0	5.0	15.5	6.0

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	9.5	13.5	13.0	15.0	14.0	17.5	16.5	21.0	20.0	21.5	21.0
2	15.0	9.0	13.5	13.0	15.0	14.5	17.5	17.0	21.0	20.0	21.5	21.0
3	16.0	9.0	13.5	13.5	15.0	14.5	17.5	17.0	21.0	20.0	21.5	21.0
4	14.0	10.0	13.5	13.0	15.0	14.5	17.5	17.0	21.0	20.0	21.5	21.0
5	11.0	10.0	14.0	13.5	15.5	15.0	18.0	17.0	21.5	20.0	21.5	21.0
6	15.0	9.0	14.0	13.5	15.0	14.5	18.0	17.0	21.0	20.5	21.5	21.0
7	16.0	9.5	13.5	13.0	15.0	14.5	18.5	17.0	21.0	20.0	21.5	21.0
8	17.0	10.0	14.0	13.5	15.0	14.5	18.5	17.5	21.0	20.5	22.0	21.0
9	16.5	10.5	14.0	13.5	15.5	14.5	18.5	17.5	21.0	20.5	22.0	21.0
10	16.5	10.5	14.0	13.5	15.0	14.5	18.5	17.5	21.0	20.5	22.0	21.0
11	15.0	10.0	14.0	13.0	15.0	14.5	18.5	17.5	21.5	20.5	21.5	21.0
12	16.0	9.5	14.0	13.0	15.5	14.5	18.5	17.5	21.5	20.5	21.5	21.0
13	12.0	9.5	14.0	13.5	16.0	15.0	18.5	17.5	21.5	20.5	22.0	21.5
14	12.0	11.5	14.0	13.5	16.0	15.0	19.0	18.0	21.5	20.5	22.0	21.5
15	12.0	11.5	14.0	13.5	16.0	15.5	18.5	18.0	21.0	20.5	21.5	21.5
16	12.0	11.5	14.0	13.5	16.0	15.5	19.5	18.0	21.5	21.0	21.5	21.5
17	12.0	11.5	14.0	13.5	16.5	15.5	19.5	18.0	21.5	21.0	21.5	21.0
18	12.0	11.5	14.0	13.5	16.5	16.0	19.5	18.5	21.5	21.0	21.5	20.5
19	12.5	12.0	14.5	13.5	16.0	15.5	19.0	18.5	21.5	21.0	21.0	20.5
20	12.5	12.0	14.0	13.5	16.5	16.0	19.0	18.5	21.5	21.0	21.0	20.5
21	12.5	12.0	14.0	14.0	16.5	16.0	19.0	18.5	21.5	21.0	21.0	20.5
22	12.5	12.0	14.5	14.0	16.5	15.5	20.0	18.5	21.5	21.0	21.0	20.5
23	12.5	12.0	15.0	14.0	16.5	16.0	19.5	19.0	21.5	21.0	21.0	20.5
24	12.5	12.0	14.5	14.0	17.0	16.0	20.0	19.5	21.5	21.0	20.5	20.5
25	13.0	12.0	15.0	14.0	16.5	16.0	20.0	19.0	21.5	21.0	20.5	20.0
26	13.0	12.5	15.0	14.0	16.5	16.5	20.0	19.5	21.5	21.0	20.5	20.0
27	13.0	12.5	14.5	14.0	17.0	16.5	20.5	19.5	21.5	21.0	20.5	20.0
28	13.5	12.5	14.5	14.0	17.0	16.5	20.5	19.5	21.5	21.0	21.5	20.0
29	13.5	12.5	15.0	14.0	17.5	16.5	20.5	19.5	21.5	21.0	20.5	20.0
30	13.5	13.0	15.0	14.0	17.5	16.5	21.0	19.5	22.0	21.5	20.5	20.0
31	---	---	14.5	14.0	---	---	20.5	19.5	21.5	21.5	---	---
MONTH	17.0	9.0	15.0	13.0	17.5	14.0	21.0	16.5	22.0	20.0	22.0	20.0

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA

LOCATION.--Lat 35°31'15", long 118°40'34", in NE 1/4 SE 1/4 sec.6, T.28 S., R.31 E., Kern County, Hydrologic Unit 18030003, on left bank 1.0 mi southwest of Democrat Springs and 2.1 mi upstream from Cow Creek.

DRAINAGE AREA.--2,258 mi^2.

PERIOD OF RECORD.--July 1950 to current year. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder for conduit diversion. Datum of gage is 1,837.7 ft above sea level.

REMARKS.--No estimated daily discharges. Kern River No. 1 Conduit diverts up to about 420 ft^3/s from left bank of Kern River 0.4 mi upstream from station in sec.13, T.28 S., R.30 E., for power development; water is returned to river 10 mi below station. Flow regulated by Isabella Lake 22 mi upstream beginning in 1954 (station 11190500). Many diversions upstream from station for irrigation. See schematic diagram of Kern River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records 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, prior to regulation by Isabella Lake in 1954: Maximum discharge, 40,000 ft^3/s, Nov. 19, 1950, gage height, 30.7 ft, from rating curve extended above 8,700 ft^3/s on basis of computation of peak flow over dam (basic data for computation provided by Southern California Edison Co.); minimum daily, 0.7 ft^3/s, Nov. 17-19, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft^3/s, Dec. 6, 1966, gage height, 18.55 ft; no flow May 26-28, 1977.

Combined flow, prior to regulation by Isabella Lake: Maximum discharge, 40,000 ft^3/s, Nov. 19, 1950; minimum daily, 123 ft^3/s, Sept. 22, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft^3/s, Dec. 6, 1966; minimum daily, 10 ft^3/s, Dec. 17, 1968.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 2,140 ft^3/s, June 21, gage height, 10.95 ft; minimum daily, 21 ft^3/s, for several days.

Combined flow: Maximum daily discharge, 2,240 ft^3/s, June 18; minimum daily, 74 ft^3/s, Oct. 22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	23	23	23	190	217	348	914	1740	1190	705
2	23	22	23	23	23	122	217	337	1010	1660	1420	661
3	22	22	23	23	23	186	216	409	1110	1530	1480	633
4	22	21	23	23	23	223	215	388	1140	1430	1470	562
5	22	22	23	23	23	234	214	409	1110	1640	1360	488
6	22	22	23	24	23	239	210	377	869	1480	1290	482
7	22	22	24	49	23	325	179	441	829	1460	1110	473
8	22	23	24	92	28	390	207	426	806	1550	1050	521
9	21	22	24	24	68	417	207	335	847	1360	1130	513
10	21	22	24	23	55	535	206	341	849	1260	1070	440
11	22	23	24	23	50	575	205	323	891	1200	1110	354
12	22	22	24	23	44	445	205	424	926	1250	1010	302
13	22	22	24	23	42	441	217	434	973	1320	991	398
14	22	22	24	23	42	404	328	492	1200	1410	814	408
15	22	22	24	23	40	402	393	450	1420	1500	734	411
16	22	22	24	23	30	383	440	420	1770	1550	835	447
17	22	22	23	23	39	465	405	454	1780	1470	874	383
18	22	23	24	23	50	487	396	522	1850	1410	807	350
19	22	23	24	23	61	477	643	567	1760	1510	840	289
20	22	22	23	23	109	486	420	597	1780	1590	853	308
21	22	22	23	23	97	462	385	638	1850	1500	745	300
22	22	22	23	23	72	477	341	586	1820	1580	714	342
23	22	22	23	23	244	490	355	555	1610	1500	745	385
24	21	22	23	24	231	518	313	653	1450	1420	820	382
25	21	22	23	23	143	552	268	691	1560	1300	873	365
26	21	22	23	23	115	419	264	750	1550	1490	874	338
27	22	22	23	23	104	314	268	831	1590	1520	761	452
28	22	22	23	23	109	251	274	843	1760	1520	701	484
29	22	22	23	23	---	228	315	797	1760	1550	671	547
30	22	22	23	23	---	222	347	785	1780	1390	845	543
31	22	---	23	23	---	220	---	835	---	1220	756	---
TOTAL	681	663	725	811	1934	11579	8870	16458	40564	45310	29943	13266
MEAN	22.0	22.1	23.4	26.2	69.1	374	296	531	1352	1462	966	442
MAX	25	23	24	92	244	575	643	843	1850	1740	1480	705
MIN	21	21	23	23	23	122	179	323	806	1200	671	289
AC-FT	1350	1320	1440	1610	3840	22970	17590	32640	80460	89870	59390	26310

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	316	221	135	182	259	502	770	976	1477	1449	1004	435
MAX	1455	1298	1052	1967	1394	3289	5306	5512	6446	5712	3435	2115
(WY)	1984	1983	1984	1967	1969	1969	1969	1983	1983	1983	1967	1983
MIN	.53	.18	.13	.16	2.19	2.37	1.94	1.69	50.5	57.6	53.1	50.4
(WY)	1978	1977	1977	1977	1977	1961	1961	1977	1961	1961	1961	1981

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	34072		170804				
ANNUAL MEAN	93.1		468		646		
HIGHEST ANNUAL MEAN					2837		1983
LOWEST ANNUAL MEAN					23.7		1961
HIGHEST DAILY MEAN	470	Jul 31	1850	Jun 18	6640	Jun 7	1969
LOWEST DAILY MEAN	21	Oct 9	21	Oct 9	.00	May 26	1977
ANNUAL SEVEN-DAY MINIMUM	22	Oct 20	22	Oct 20	.01	May 16	1977
INSTANTANEOUS PEAK FLOW			2140	Jun 21			
INSTANTANEOUS PEAK STAGE			10.95	Jun 21			
ANNUAL RUNOFF (AC-FT)	67580		338800		467900		
10 PERCENT EXCEEDS	291		1440		1820		
50 PERCENT EXCEEDS	28		313		223		
90 PERCENT EXCEEDS	22		22		1.8		

11192501 KERN RIVER NEAR DEMOCRAT SPRINGS, CA--Continued

KERN RIVER AND KERN RIVER NO. 1 CONDUIT NEAR DEMOCRAT SPRINGS,
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	144	177	230	322	558	588	724	1300	2120	1550	1090
2	140	152	210	287	325	492	588	712	1390	2030	1780	1040
3	134	160	209	289	325	556	587	782	1490	1900	1850	1020
4	121	167	192	233	324	591	586	765	1520	1800	1830	945
5	158	177	185	259	322	600	587	786	1490	2010	1730	871
6	125	207	201	286	324	605	586	755	1250	1850	1660	866
7	116	214	226	379	325	691	554	820	1210	1830	1480	857
8	115	196	215	435	353	744	581	806	1190	1920	1420	905
9	122	195	196	348	432	758	581	716	1230	1730	1500	897
10	126	188	204	334	420	903	580	725	1230	1630	1440	823
11	127	201	223	337	414	943	579	709	1270	1570	1480	732
12	127	209	270	328	409	814	580	809	1300	1620	1390	681
13	133	185	201	339	409	810	592	819	1350	1690	1370	778
14	138	185	210	352	408	773	703	877	1580	1780	1190	790
15	142	184	208	346	407	771	769	835	1800	1870	1100	794
16	131	188	232	344	397	752	816	805	2150	1920	1210	829
17	133	179	239	337	406	833	783	839	2160	1840	1250	767
18	124	189	231	375	417	855	775	907	2240	1780	1180	733
19	124	167	187	352	426	845	1020	949	2150	1870	1210	669
20	118	160	169	339	471	853	802	979	2170	1950	1230	688
21	95	160	182	337	459	831	768	1020	2230	1870	1120	678
22	74	150	188	340	435	845	724	969	2200	1950	1090	720
23	81	159	179	340	608	858	738	939	1990	1870	1120	763
24	87	161	197	336	596	888	696	1040	1830	1790	1200	759
25	94	154	229	332	509	923	652	1070	1940	1670	1250	743
26	100	182	227	328	482	791	648	1130	1930	1860	1260	715
27	108	184	196	325	472	687	651	1210	1970	1880	1140	828
28	115	186	201	325	476	624	657	1220	2140	1880	1080	862
29	122	182	228	326	---	600	697	1180	2140	1910	1050	924
30	131	174	300	324	---	594	728	1170	2160	1750	1230	925
31	138	---	240	322	---	591	---	1220	---	1580	1140	---
TOTAL	3718	5339	6552	10164	11673	22979	20196	28287	52000	56720	41530	24692
MEAN	120	178	211	328	417	741	673	912	1733	1830	1340	823
MAX	158	214	300	435	608	943	1020	1220	2240	2120	1850	1090
MIN	74	144	169	230	322	492	554	709	1190	1570	1050	669
AC-FT	7370	10590	13000	20160	23150	45580	40060	56110	103100	112500	82370	48980

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

MEAN	576	480	408	489	609	854	1147	1358	1853	1827	1371	726
MAX	1835	1689	1432	2338	1785	3644	5695	5922	6850	6110	3824	2501
(WY)	1984	1983	1984	1967	1969	1969	1969	1983	1983	1983	1967	1983
MIN	116	127	131	154	152	221	260	256	311	400	334	127
(WY)	1962	1991	1991	1991	1991	1961	1961	1961	1961	1961	1961	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993	
ANNUAL TOTAL	132907		283850			
ANNUAL MEAN	363		778		977	
HIGHEST ANNUAL MEAN					3173	1983
LOWEST ANNUAL MEAN					246	1961
HIGHEST DAILY MEAN	847	Jul 31	2240	Jun 18	7030	Jun 7 1969
LOWEST DAILY MEAN	74	Oct 22	74	Oct 22	10	Dec 17 1968
ANNUAL SEVEN-DAY MINIMUM	91	Oct 21	91	Oct 21	12	Dec 11 1968
ANNUAL RUNOFF (AC-FT)	263600		563000		707600	
10 PERCENT EXCEEDS	673		1810		2170	
50 PERCENT EXCEEDS	362		688		603	
90 PERCENT EXCEEDS	139		160		194	

11192950 KERN RIVER FISHWATER RELEASE AT KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA

LOCATION.--Lat 35°27'37", long 118°46'43", in SE 1/4 SE 1/4 sec.29, T.28 S., R.30 E., Kern County, Hydrologic Unit 18030003, Sequoia National Forest, on left bank at diversion dam 16.4 mi northeast of Bakersfield.
DRAINAGE AREA.--Not determined.
PERIOD OF RECORD.--October 1987 to current year.
GAGE.--Water-stage recorder and sharp-crested rectangular weir. Elevation of gage is 975 ft above sea level, from topographic map.
REMARKS.--Flow regulated at diversion dam immediately upstream and does not include leakage through diversion dam radial gates. Discharge exceeding fishwater requirement bypassed the gage Oct. 12-20 when maintenance was being performed. Bypass flow entered the main channel immediately downstream from the gage. See schematic diagram of Kern River basin. No records computed above 36 ft^3/s.
COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Minimum daily, 6.0 ft^3/s, Dec. 18, 1988.
EXTREMES FOR CURRENT YEAR.--Minimum daily, 15 ft^3/s, several days in October and November.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	16	17	17	32	31	34	36	36	34	32
2	17	15	17	17	17	31	31	34	35	36	34	31
3	17	15	17	17	17	31	31	34	35	35	35	32
4	17	16	17	17	17	31	31	34	35	35	34	31
5	17	15	17	17	17	31	31	35	34	36	34	31
6	17	15	17	17	17	31	31	35	35	35	34	31
7	17	15	17	17	17	35	30	35	34	35	33	30
8	17	15	17	17	17	36	31	35	34	36	33	31
9	16	15	17	17	17	36	31	35	35	35	e33	32
10	16	15	17	17	17	36	31	35	35	35	e33	32
11	16	15	17	17	17	35	31	35	35	35	e33	32
12	---	16	17	17	17	35	30	36	34	35	33	27
13	---	16	17	17	17	35	30	35	35	35	33	33
14	---	16	17	17	17	35	35	35	35	35	32	35
15	---	17	17	17	17	35	35	35	35	35	33	---
16	---	17	17	17	17	35	35	35	---	35	33	---
17	---	17	17	17	17	35	35	35	---	35	33	35
18	---	17	17	17	17	35	35	35	---	35	32	35
19	---	17	17	17	17	35	35	35	---	35	32	31
20	---	17	17	17	17	35	34	36	---	35	32	36
21	15	17	17	17	17	35	35	36	---	36	32	---
22	15	17	17	17	17	35	34	36	---	36	31	---
23	15	16	17	17	23	35	34	36	36	34	32	---
24	17	16	17	17	31	35	34	---	35	33	32	---
25	17	16	17	17	30	35	34	---	36	34	32	---
26	16	16	17	17	30	35	32	---	36	36	32	---
27	15	16	17	17	30	35	34	---	36	36	31	---
28	15	17	17	17	31	33	34	35	---	36	32	---
29	16	16	17	17	---	35	34	35	---	36	32	---
30	16	16	17	17	---	30	34	35	---	34	32	---
31	15	---	17	17	---	30	---	36	---	34	32	---
TOTAL	---	479	526	527	549	1053	983	---	---	1089	1013	---
MEAN	---	16.0	17.0	17.0	19.6	34.0	32.8	---	---	35.1	32.7	---
MAX	---	17	17	17	31	36	35	---	---	36	35	---
MIN	---	15	16	17	17	30	30	---	---	33	31	---
AC-FT	---	950	1040	1050	1090	2090	1950	---	---	2160	2010	---

The following table is for random instantaneous discharges for leakage around radial gates and is in addition to recorded discharge:

Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)	Date	Discharge (ft^3/s)
Oct. 2	.63	Nov. 16	.74	Dec. 21	2.0	Jan. 24	1.8	Feb. 25	2.0
Oct. 5	.63	Nov. 18	.74	Dec. 23	2.0	Jan. 27	2.0	Feb. 27	1.7
Oct. 6	.63	Nov. 20	.74	Dec. 26	1.8	Jan. 30	1.8	Feb. 28	2.0
Oct. 7	.63	Nov. 23	2.0	Dec. 28	1.8	Feb. 1	2.0	Mar. 2	1.7
Oct. 8	.63	Nov. 24	1.8	Dec. 29	1.8	Feb. 2	2.0	Mar. 5	1.7
Oct. 27	.74	Nov. 27	1.7	Dec. 30	2.0	Feb. 4	2.0	Mar. 29	2.0
Oct. 28	.74	Nov. 29	1.7	Jan. 4	2.0	Feb. 8	2.0	Mar. 31	2.0
Oct. 29	.74	Dec. 1	1.7	Jan. 6	2.0	Feb. 9	2.0	Apr. 1	2.0
Nov. 2	.74	Dec. 2	1.7	Jan. 9	1.8	Feb. 11	1.8	Apr. 4	2.0
Nov. 3	.74	Dec. 3	1.7	Jan. 11	1.8	Feb. 13	2.0	Apr. 6	2.0
Nov. 5	.74	Dec. 5	1.8	Jan. 13	1.8	Feb. 16	2.0	Apr. 9	2.0
Nov. 6	.74	Dec. 11	2.0	Jan. 14	1.8	Feb. 18	2.0	Apr. 12	2.0
Nov. 9	.74	Dec. 14	1.8	Jan. 15	2.0	Feb. 19	2.0	Apr. 26	2.0
Nov. 10	.74	Dec. 15	1.8	Jan. 18	1.8	Feb. 22	2.0		
Nov. 12	.74	Dec. 17	1.7	Jan. 20	1.8	Feb. 23	2.0		
Nov. 13	.74	Dec. 19	1.7	Jan. 22	1.8	Feb. 24	2.0		

e Estimated.

11193031 KERN RIVER AT RIO BRAVO POWERPLANT NEAR BAKERSFIELD, CA

LOCATION.--Lat 35°25'49", long 118°49'18", in NE 1/4 SW 1/4 SW 1/4 sec.1, T.29 S., R.29 E., Kern County, Hydrologic Unit 18030012, on left bank at diversion to Rio Bravo Powerplant, and 15.5 mi northeast of Bakersfield.

DRAINAGE AREA.--Not determined.

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

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and Parshall flume. Datum of gage is 678.17 ft above sea level.

REMARKS.--No estimated daily discharges. Flow regulated by Isabella Lake, capacity 570,000 acre-ft. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11193020) and flow through a Parshall flume (station 11193030). Water is diverted upstream from weir through a channel to Rio Bravo Powerplant (station 11193010), returning to Kern River about one mile downstream. See schematic diagram of Kern River basin.

COOPERATION.--Records provided by Rio Bravo Hydro Project, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft^3/s, Aug. 7, 1993; minimum daily, 47 ft^3/s, June 14-17, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft^3/s, Aug. 7; minimum daily, 57 ft^3/s, June 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	161	156	221	64	62	60	62	62	254	62	60
2	120	161	185	287	64	60	60	62	65	225	118	61
3	117	157	184	286	64	59	61	63	66	174	155	61
4	101	165	171	226	64	59	60	63	61	112	160	60
5	135	162	162	252	64	59	60	62	82	259	104	60
6	104	186	180	271	64	59	60	62	57	140	79	60
7	95	204	211	388	64	61	60	62	58	117	71	59
8	92	182	198	500	64	60	60	62	59	186	60	60
9	102	180	173	373	64	64	61	61	58	85	60	60
10	109	172	180	242	63	63	60	61	58	60	60	59
11	108	183	202	60	63	63	60	62	58	60	60	59
12	104	192	256	61	63	61	60	61	59	60	60	59
13	118	168	181	61	62	61	64	61	59	80	60	59
14	118	168	188	61	61	61	66	63	72	105	59	59
15	120	168	188	60	61	62	67	61	97	144	59	60
16	114	169	219	60	61	62	67	60	276	164	60	61
17	115	164	242	60	60	62	84	60	267	141	61	61
18	107	170	237	61	61	62	67	60	351	96	60	61
19	96	147	188	61	61	61	67	60	259	146	61	60
20	95	141	170	60	62	62	66	60	261	180	61	61
21	89	140	182	61	62	61	97	60	365	145	61	61
22	71	131	188	61	61	61	68	59	342	180	60	62
23	92	137	180	61	84	62	71	58	196	156	61	62
24	78	139	197	62	61	62	70	59	109	129	61	62
25	87	131	228	62	60	62	70	60	176	62	62	62
26	109	157	228	62	60	62	66	60	163	148	62	61
27	122	162	198	62	60	63	61	60	173	169	61	62
28	139	165	194	62	60	60	62	60	255	169	61	62
29	123	164	219	62	---	62	62	60	239	185	60	75
30	145	153	297	62	---	61	62	60	267	119	61	61
31	162	---	232	63	---	61	---	60	---	60	61	---
TOTAL	3421	4879	6214	4331	1762	1900	1959	1884	4670	4310	2201	1830
MEAN	110	163	200	140	62.9	61.3	65.3	60.8	156	139	71.0	61.0
MAX	162	204	297	500	84	64	97	63	365	259	160	75
MIN	71	131	156	60	60	59	60	58	57	60	59	59
AC-FT	6790	9680	12330	8590	3490	3770	3890	3740	9260	8550	4370	3630
a	0	0	0	11940	20270	45650	38950	57170	89080	99270	78920	46820

11193031 KERN RIVER AT RIO BRAVO POWERPLANT NEAR BAKERSFIELD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	170	188	187	167	157	157	57.5	56.9	89.1	78.0	119	172
MAX	258	261	244	232	267	282	65.3	60.8	156	139	170	258
(WY)	1990	1990	1992	1992	1992	1990	1993	1993	1993	1993	1990	1990
MIN	110	122	116	129	62.9	61.3	49.5	51.5	51.6	52.1	71.0	61.0
(WY)	1993	1991	1991	1991	1993	1993	1991	1991	1991	1991	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	47370		39361			
ANNUAL MEAN	129		108		122	
HIGHEST ANNUAL MEAN					143	1992
LOWEST ANNUAL MEAN					108	1993
HIGHEST DAILY MEAN	485	Feb 21	500	Jan 8	701	Feb 26 1990
LOWEST DAILY MEAN	51	Aug 10	57	Jun 6	47	Jun 14 1991
ANNUAL SEVEN-DAY MINIMUM	54	Mar 8	58	Jun 6	47	Jun 14 1991
INSTANTANEOUS PEAK FLOW			1110	Aug 7	1110	Aug 7 1992
ANNUAL RUNOFF (AC-FT)	93960		78070		88240	
ANNUAL DIVERSION (AC-FT) a	168590		488100		223270	
10 PERCENT EXCEEDS	244		198		291	
50 PERCENT EXCEEDS	95		63		99	
90 PERCENT EXCEEDS	55		60		52	

a Diversion, in acre-feet, through Rio Bravo Powerplant.

11199500 WHITE RIVER NEAR DUCOR, CA

LOCATION.--Lat 35°48'36", long 118°55'03", in NW 1/4 SE 1/4 sec.26, T.24 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi upstream from Tyler Gulch and 9.0 mi southeast of Ducor.

DRAINAGE AREA.--90.6 mi^2.

PERIOD OF RECORD.--October 1942 to September 1953, February 1971 to current year. Monthly discharge only for October 1942 to September 1944, published in WSP 1315-A.

GAGE.--Water-stage recorder. Elevation of gage is 715 ft above sea level, from topographic map. October 1942 to September 1946, at site 3,800 ft downstream; October 1946 to September 1953, at site 4,300 ft downstream; and October 1971 to November 1978, at site 4,000 ft downstream, all at different datums.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, estimated by U.S. Bureau of Reclamation, Mar. 9, 1943; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 8	1030	51	1.63	Mar. 27	1015	85	1.87
Feb. 23	1545	*168	*2.38				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	4.2	2.5	17	21	9.5	3.2	.21	.00	.00
2	.00	.00	.00	12	2.5	16	21	9.4	3.1	.17	.00	.00
3	.00	.00	.00	6.1	2.5	15	19	9.1	2.8	.12	.00	.00
4	.00	.00	.00	2.6	2.5	14	19	9.0	2.8	.09	.00	.00
5	.00	.00	.00	1.9	2.3	13	18	8.7	6.0	.06	.00	.00
6	.00	.00	.00	1.9	2.4	14	16	8.3	9.9	.01	.00	.00
7	.00	.00	.00	16	2.8	14	15	7.9	6.7	.00	.00	.00
8	.00	.00	.00	38	3.8	13	14	7.8	5.3	.00	.00	.00
9	.00	.00	.00	16	12	13	13	7.1	4.5	.00	.00	.00
10	.00	.00	.00	9.8	15	12	13	6.4	3.8	.00	.00	.00
11	.00	.00	.00	10	10	12	12	5.9	3.2	.00	.00	.00
12	.00	.00	.00	6.6	7.8	12	12	6.0	2.9	.00	.00	.00
13	.00	.00	.00	14	6.6	12	12	5.8	2.4	.00	.00	.00
14	.00	.00	.00	21	6.0	13	11	5.5	2.1	.00	.00	.00
15	.00	.00	.00	15	5.6	13	11	5.4	1.9	.00	.00	.00
16	.00	.00	.00	9.8	5.0	12	11	5.0	1.8	.00	.00	.00
17	.00	.00	.00	7.8	4.5	12	11	4.9	1.7	.00	.00	.00
18	.00	.00	.00	10	4.5	18	12	4.6	1.3	.00	.00	.00
19	.00	.00	.00	17	4.8	15	12	4.6	1.1	.00	.00	.00
20	.00	.00	.00	11	9.4	14	11	4.5	.97	.00	.00	.00
21	.00	.00	.00	7.7	12	13	10	4.7	.89	.00	.00	.00
22	.00	.00	.00	6.7	8.8	13	11	4.5	.85	.00	.00	.00
23	.00	.00	.00	7.9	54	12	11	4.2	.92	.00	.00	.00
24	.00	.00	.00	6.0	67	12	9.9	3.7	.79	.00	.00	.00
25	.00	.00	.00	4.9	38	16	9.4	3.7	.63	.00	.00	.00
26	.00	.00	.00	4.3	25	25	9.5	3.6	.45	.00	.00	.00
27	.00	.00	.00	3.8	28	54	10	3.4	.35	.00	.00	.00
28	.00	.00	.00	3.4	22	59	9.6	3.3	.29	.00	.00	.00
29	.00	.00	.00	3.4	---	35	9.1	3.2	.26	.00	.00	.00
30	.00	.00	.00	3.2	---	26	9.3	3.0	.23	.00	.00	.00
31	.00	---	1.0	2.9	---	22	---	2.9	---	.00	.00	---
TOTAL	0.00	0.00	1.00	284.9	367.3	561	382.8	175.6	73.13	0.66	0.00	0.00
MEAN	.000	.000	.032	9.19	13.1	18.1	12.8	5.66	2.44	.021	.000	.000
MAX	.00	.00	1.0	38	67	59	21	9.5	9.9	.21	.00	.00
MIN	.00	.00	.00	1.9	2.3	12	9.1	2.9	.23	.00	.00	.00
AC-FT	.00	.00	2.0	565	729	1110	759	348	145	1.3	.00	.00

11199500 WHITE RIVER NEAR DUCOR, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.44	2.38	5.77	11.9	17.2	34.0	21.3	10.9	3.98	.83	.26	.22
MAX	8.05	20.6	36.5	52.0	103	260	131	55.3	31.2	12.6	8.30	5.35
(WY)	1984	1984	1984	1983	1983	1943	1943	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.084	.76	1.79	.85	.19	.000	.000	.000	.000
(WY)	1943	1943	1948	1949	1991	1977	1977	1992	1950	1947	1943	1943

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1943 - 1993		
ANNUAL TOTAL	379.40		1846.39				
ANNUAL MEAN	1.04		5.06		9.21		
HIGHEST ANNUAL MEAN					44.5		1943
LOWEST ANNUAL MEAN					.58		1977
HIGHEST DAILY MEAN	22	Feb 17	67	Feb 24	1320	Mar 9	1943
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1	1942
ANNUAL SEVEN-DAY MINIMUM	.00	May 18	.00	Oct 1	.00	Oct 1	1942
INSTANTANEOUS PEAK FLOW			168	Feb 23	2300	Mar 9	1943
INSTANTANEOUS PEAK STAGE			2.38	Feb 23			
ANNUAL RUNOFF (AC-FT)	753		3660		6670		
10 PERCENT EXCEEDS	3.9		14		19		
50 PERCENT EXCEEDS	.00		.21		1.9		
90 PERCENT EXCEEDS	.00		.00		.00		

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA

LOCATION.--Lat 35°56'30", long 118°49'19", in SE 1/4 NE 1/4 sec.10, T.23 S., R.29 E., Tulare County, Hydrologic Unit 18030005, on left bank 1.0 mi upstream from Pothole Creek, 6.3 mi northeast of Fountain Springs, and 12 mi east of Terra Bella.

DRAINAGE AREA.--83.3 mi^2.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 980 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft^3/s, Feb. 24, 1969, gage height, 9.85 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurements at gage heights 8.83 ft in gage well, 9.18 ft from floodmarks, and 12.54 ft from floodmarks; no flow for periods in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 6, 1966, reached a stage of 12.54 ft, from floodmarks, discharge, 5,330 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 8	0430	*367	*5.05	Feb. 23	1315	246	4.60

Minimum daily, 0.43 ft3/s, Aug. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	9.8	5.9	15	20	54	56	31	20	8.2	1.6	1.3
2	.59	7.7	6.0	31	20	51	56	28	20	8.2	1.6	1.4
3	.94	7.3	6.1	21	19	52	53	30	19	6.9	2.5	1.4
4	1.3	6.2	6.1	16	18	49	51	30	18	6.2	1.8	1.1
5	1.6	6.0	6.3	14	18	49	50	31	41	8.0	1.6	.99
6	1.4	5.8	6.2	13	19	53	48	30	53	8.4	2.0	.65
7	1.2	5.7	10	121	18	56	46	29	39	7.9	1.8	.77
8	1.3	5.7	19	159	29	56	44	29	33	e6.7	.87	.94
9	.88	5.8	10	58	67	54	43	26	30	e5.2	.69	1.1
10	.58	5.8	10	44	59	51	43	26	26	e6.4	1.3	1.1
11	.72	5.8	12	39	44	49	42	26	24	e7.0	1.2	1.2
12	1.5	5.8	20	31	37	48	41	26	22	5.7	1.7	.71
13	1.5	5.8	12	58	33	47	38	26	20	5.4	2.5	.45
14	1.7	5.6	11	70	30	48	37	24	19	5.3	2.3	.98
15	2.1	5.4	9.0	54	28	47	37	24	18	5.5	1.3	1.6
16	2.6	5.4	8.7	45	27	44	36	22	17	5.4	1.3	1.8
17	2.8	5.7	9.7	40	26	48	36	22	16	6.3	2.4	2.0
18	2.9	6.5	22	50	25	63	37	21	15	4.6	1.8	2.5
19	2.9	5.7	12	48	28	51	37	21	13	3.6	1.7	1.6
20	2.7	5.8	10	39	53	47	35	22	11	5.2	1.6	1.8
21	2.4	5.9	9.1	35	42	46	34	23	12	5.2	1.7	2.3
22	2.9	5.8	9.1	37	36	44	34	23	12	5.5	1.2	2.3
23	2.9	5.9	8.9	39	115	42	34	20	12	5.1	.94	2.3
24	2.5	6.1	8.8	32	142	42	33	20	12	4.5	1.6	2.0
25	3.2	6.1	8.8	29	84	50	30	19	11	2.8	1.5	1.5
26	4.1	5.8	9.3	27	72	71	32	19	10	4.2	1.4	1.3
27	4.3	6.0	8.6	27	70	88	32	19	6.8	5.0	1.3	.98
28	4.6	5.8	8.0	25	61	94	31	19	7.3	4.7	1.2	.68
29	4.7	5.7	20	24	---	74	31	19	8.8	4.6	.59	1.3
30	29	6.3	33	23	---	64	31	16	8.4	4.4	.43	1.2
31	24	---	19	21	---	58	---	15	---	3.6	.92	---
TOTAL	116.55	182.7	354.6	1285	1240	1690	1188	736	574.3	175.7	46.34	41.25
MEAN	3.76	6.09	11.4	41.5	44.3	54.5	39.6	23.7	19.1	5.67	1.49	1.37
MAX	29	9.8	33	159	142	94	56	31	53	8.4	2.5	2.5
MIN	.58	5.4	5.9	13	18	42	30	15	6.8	2.8	.43	.45
AC-FT	231	362	703	2550	2460	3350	2360	1460	1140	349	92	82

e Estimated.

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.03	12.8	21.3	45.1	66.5	81.6	65.5	38.4	20.2	8.22	3.72	3.34
MAX	23.5	62.8	120	229	353	443	254	182	120	53.5	32.1	19.6
(WY)	1984	1984	1984	1969	1969	1983	1983	1983	1983	1983	1983	1983
MIN	.77	3.35	4.88	6.69	4.65	8.38	4.12	2.96	.71	.000	.000	.000
(WY)	1978	1991	1991	1991	1991	1977	1977	1992	1992	1972	1972	1972

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1968 - 1993	
ANNUAL TOTAL	2312.36		7630.44			
ANNUAL MEAN	6.32		20.9		30.9	
HIGHEST ANNUAL MEAN					143	1983
LOWEST ANNUAL MEAN					4.29	1977
HIGHEST DAILY MEAN	45	Feb 17	159	Jan 8	1610	Feb 25 1969
LOWEST DAILY MEAN	.00	Jun 25	.43	Aug 30	.00	Jun 24 1972
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 1	.90	Sep 7	.00	Jun 30 1972
INSTANTANEOUS PEAK FLOW			367	Jan 8	3340	Feb 24 1969
INSTANTANEOUS PEAK STAGE			5.05	Jan 8	9.85	Feb 24 1969
ANNUAL RUNOFF (AC-FT)	4590		15130		22350	
10 PERCENT EXCEEDS	14		50		67	
50 PERCENT EXCEEDS	5.4		12		11	
90 PERCENT EXCEEDS	.00		1.3		.70	

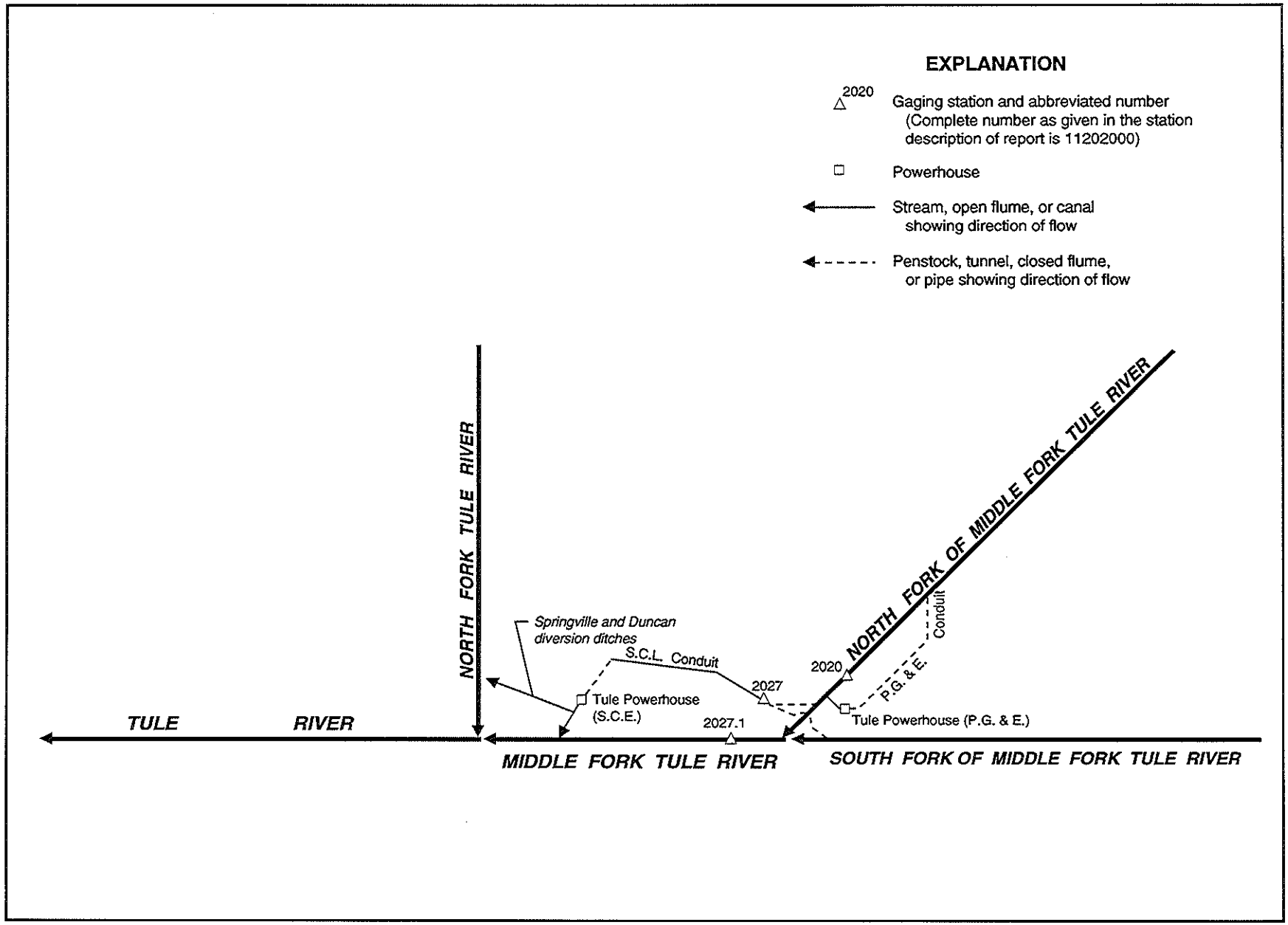

Figure 28. Diversions and storage in Tule River basin.

11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°10'29", long 118°41'41", unsurveyed, in T.20 S., R.30 E., Tulare County, Hydrologic Unit 18030006, on right bank 1.2 mi upstream from mouth, 2.2 mi downstream from Hossack Creek, and 7.4 mi northeast of Springville.
DRAINAGE AREA.--39.3 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A. January 1909 to December 1912 at site 2 mi upstream, records not equivalent. Prior to October 1954, records for river and Pacific Gas & Electric Co. Conduit published separately; combined flow only, October 1954 to September 1960. Prior to October 1982, combined flow consisted of river and conduit. October 1982 to present, combined flow consists of river and Pacific Gas & Electric Co., Tule River Powerplant.

REVISED RECORDS.--WSP 1445: 1951. WSP 1930: Drainage area. WDR CA-91-3: Adjusted data for 1990.

GAGE.--Water-stage recorder. Concrete control on river since Aug. 6, 1958. Rectangular weir and concrete control on river since July 10, 1991. Elevation of gage is 2,920 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Pacific Gas and Electric Co. conduit diverts 2.5 mi above station; water is returned to river 1.1 mi below station after passing through Tule River Powerplant. See schematic diagram of Tule River basin. For records of combined discharge of river and powerplant, see following page.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 16,900 ft^3/s, Dec. 6, 1966, gage height, 13.83 ft, from floodmarks, from rating curve extended above 1,820 ft^3/s on basis of critical-depth determinations at gage heights 9.67 and 12.47 ft; no flow Sept. 10, 11, 1955.
Combined flow: Maximum discharge, 16,900 ft^3/s, Dec. 6, 1966; minimum daily, 6.4 ft^3/s, Sept. 5-8, 1993.
EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 406 ft^3/s, Jan. 7, gage height, 4.91 ft; minimum daily, 0.46 ft^3/s, Oct. 11.
Combined flow: Maximum daily discharge, 298 ft^3/s, Jan. 7; minimum daily, 6.4 ft^3/s, Sept. 5-8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	1.9	.78	3.1	3.0	7.6	44	157	67	5.8	4.8	14
2	.61	1.1	.78	8.8	2.8	7.2	40	162	56	6.5	4.8	14
3	.65	.93	.87	4.9	2.6	7.0	48	155	50	5.1	4.8	12
4	.65	.87	.78	3.1	2.3	7.8	56	143	45	5.1	4.8	6.6
5	.54	.89	.75	2.5	2.1	10	52	117	84	4.1	4.8	6.4
6	.51	.89	.83	3.5	2.0	10	38	101	58	4.0	4.8	6.4
7	.54	.83	3.7	235	1.9	10	32	90	46	3.9	4.8	6.4
8	.49	.83	2.6	114	3.9	10	35	93	56	5.8	4.1	6.4
9	.48	.83	1.5	30	9.8	11	42	106	57	5.9	2.0	6.3
10	.47	.71	1.3	18	5.6	9.8	39	126	57	6.1	2.4	6.2
11	.46	.66	4.1	12	4.6	10	38	140	62	6.2	4.5	6.2
12	.47	.64	3.1	20	4.2	13	35	143	65	6.3	4.5	6.2
13	.48	1.0	1.8	67	4.2	13	27	128	68	6.0	4.8	6.2
14	.52	.81	1.5	51	3.9	17	28	118	68	5.6	4.7	6.0
15	.54	.71	1.3	24	3.6	15	33	118	68	5.7	4.8	5.6
16	.56	.72	1.2	9.7	3.3	11	35	125	65	5.8	4.8	5.6
17	.56	.73	2.0	10	3.0	93	34	136	59	5.6	4.8	5.7
18	.56	.80	2.3	12	3.7	109	38	148	49	4.9	4.7	5.7
19	.54	.82	1.4	8.9	5.0	62	33	150	45	3.5	4.7	5.6
20	.54	.77	1.3	7.3	13	57	46	145	41	5.0	4.7	5.5
21	.54	.74	1.2	6.5	8.1	61	62	137	31	5.0	4.8	5.6
22	.56	.74	1.1	6.3	7.0	67	67	132	27	5.0	4.7	5.6
23	.54	.74	1.1	5.9	23	68	61	132	23	5.0	5.2	5.6
24	.64	.74	1.1	5.7	21	65	54	132	19	4.7	11	5.6
25	.91	.74	1.1	5.3	12	73	61	121	16	5.0	15	5.6
26	.65	.74	1.1	5.0	11	89	81	104	13	5.0	13	5.5
27	.55	.74	1.1	4.6	9.7	65	88	88	10	5.0	14	5.5
28	1.9	.74	1.1	4.4	8.5	54	101	75	8.2	5.0	14	5.5
29	2.0	.82	5.8	4.1	---	39	121	67	6.6	4.9	14	5.5
30	132	.79	5.6	3.8	---	37	142	68	6.1	4.9	14	5.5
31	8.5	---	3.4	3.5	---	38	---	73	---	4.9	14	---
TOTAL	159.54	24.97	57.59	699.9	184.8	1146.4	1611	3730	1325.9	161.3	212.8	198.5
MEAN	5.15	.83	1.86	22.6	6.60	37.0	53.7	120	44.2	5.20	6.86	6.62
MAX	132	1.9	5.8	235	23	109	142	162	84	6.5	15	14
MIN	.46	.64	.75	2.5	1.9	7.0	27	67	6.1	3.5	2.0	5.5
AC-FT	316	50	114	1390	367	2270	3200	7400	2630	320	422	394

11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.73	12.4	27.5	24.9	26.6	33.5	50.2	81.7	44.2	9.47	4.01	3.22
MAX	19.1	362	786	266	182	337	229	381	316	121	14.4	22.7
(WY)	1953	1951	1967	1980	1986	1943	1969	1969	1983	1983	1983	1952
MIN	.53	.76	.73	.81	.80	1.21	1.13	1.03	.61	.34	.32	.31
(WY)	1965	1963	1991	1991	1991	1977	1977	1992	1992	1961	1964	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993		
ANNUAL TOTAL	826.50		9512.70				
ANNUAL MEAN	2.26		26.1		26.4		
HIGHEST ANNUAL MEAN					129		1967
LOWEST ANNUAL MEAN					1.25		1961
HIGHEST DAILY MEAN	132	Oct 30	235	Jan 7	13300	Dec 6	1966
LOWEST DAILY MEAN	.43	Jun 23	.46	Oct 11	.06	Nov 2	1979
ANNUAL SEVEN-DAY MINIMUM	.45	Sep 1	.48	Oct 8	.20	Aug 24	1964
INSTANTANEOUS PEAK FLOW			406	Jan 7	16900	Dec 6	1966
INSTANTANEOUS PEAK STAGE			4.91	Jan 7	13.83	Dec 6	1966
ANNUAL RUNOFF (AC-FT)	1640		18870		19110		
10 PERCENT EXCEEDS	5.8		88		75		
50 PERCENT EXCEEDS	1.1		5.8		4.4		
90 PERCENT EXCEEDS	.50		.74		.79		

11202001 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA--Continued

NORTH FORK OF MIDDLE FORK TULE RIVER AND PACIFIC GAS & ELECTRIC CO., TULE RIVER POWERPLANT
COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	26	13	20	34	40	112	225	135	63	23	14
2	11	20	13	26	31	39	108	230	124	56	23	14
3	11	20	13	21	34	44	116	223	117	55	23	12
4	11	19	14	20	32	41	122	207	111	53	21	6.6
5	10	17	13	17	37	36	120	184	149	52	23	6.4
6	11	16	13	21	34	36	106	156	124	52	23	6.4
7	10	16	22	298	38	36	100	157	113	47	23	6.4
8	10	15	19	173	53	36	102	160	121	46	22	6.4
9	10	15	16	68	68	79	110	173	122	44	20	12
10	10	15	16	51	51	78	104	193	123	44	21	17
11	10	15	27	39	46	80	106	205	127	47	21	17
12	10	15	21	43	39	83	103	210	130	44	22	17
13	10	14	17	85	39	83	95	193	133	35	22	17
14	10	14	16	91	37	87	96	183	133	28	22	16
15	10	14	17	66	37	85	101	183	133	31	21	16
16	10	14	15	60	33	81	103	190	130	34	22	16
17	11	14	15	56	33	163	102	201	121	35	22	18
18	10	8.0	15	59	35	179	106	216	114	34	21	18
19	10	13	19	48	45	132	101	218	110	32	21	18
20	10	15	15	45	52	127	114	208	106	33	20	17
21	12	14	16	39	46	131	130	205	81	31	21	18
22	11	14	15	46	42	137	135	200	93	31	21	18
23	11	13	15	46	72	138	129	200	88	30	12	15
24	11	14	15	43	64	135	122	200	84	32	11	17
25	12	14	15	40	48	142	129	189	80	30	15	17
26	12	14	18	42	48	157	149	167	78	28	13	16
27	11	13	16	40	44	133	156	154	75	28	14	16
28	12	13	16	44	41	121	169	139	73	27	14	16
29	15	13	28	40	---	107	189	131	65	27	14	15
30	164	14	24	39	---	105	210	132	66	26	14	15
31	36	---	20	35	---	105	---	137	---	26	14	---
TOTAL	512	451.0	527	1761	1213	2976	3645	5769	3259	1181	599	434.2
MEAN	16.5	15.0	17.0	56.8	43.3	96.0	121	186	109	38.1	19.3	14.5
MAX	164	26	28	298	72	179	210	230	149	63	23	18
MIN	10	8.0	13	17	31	36	95	131	65	26	11	6.4
AC-FT	1020	895	1050	3490	2410	5900	7230	11440	6460	2340	1190	861

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

MEAN	17.8	28.1	50.3	50.6	59.0	73.2	104	140	90.0	37.8	21.5	17.9
MAX	44.3	375	794	317	241	381	296	445	384	187	72.3	42.6
(WY)	1983	1951	1967	1980	1980	1943	1969	1969	1983	1983	1983	1983
MIN	8.66	10.5	11.9	13.3	12.5	16.7	21.8	25.1	16.4	10.1	8.99	8.63
(WY)	1962	1962	1991	1961	1991	1977	1977	1977	1992	1961	1977	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993	
ANNUAL TOTAL	7812.5		22327.2			
ANNUAL MEAN	21.3		61.2		57.4	
HIGHEST ANNUAL MEAN					157	1983
LOWEST ANNUAL MEAN					15.1	1977
HIGHEST DAILY MEAN	164	Oct 30	298	Jan 7	13300	Dec 6 1966
LOWEST DAILY MEAN	6.7	Jul 22	6.4	Sep 5	5.0	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	9.4	Sep 13	8.0	Sep 3	5.2	Oct 1 1987
INSTANTANEOUS PEAK FLOW					16900	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	15500		44290		41610	
10 PERCENT EXCEEDS	43		155		130	
50 PERCENT EXCEEDS	15		35		28	
90 PERCENT EXCEEDS	10		12		13	

11202710 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA

LOCATION (REVISED).--Lat 36°09'41", long 118°42'31", unsurveyed, T.20 S., R.30 E., Tulare County, Hydrologic Unit 18030006, Sequoia National Forest, on right bank 700 ft downstream from confluence of North Fork Middle Fork Tule River and South Fork Middle Fork Tule River, and 6.5 mi northeast of Springville.

DRAINAGE AREA.--85.3 mi^2.

PERIOD OF RECORD.--October 1988 to September 1990, October 1991 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir in concrete control on river; water-stage recorder and metal flume for conduit diversion. Elevation of gage is 2,370 ft (revised) above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Southern California Edison Co.'s Tule River Conduit (station 11202700) diverts from the right bank of Middle Fork Tule River upstream from station. Flow from this conduit passes through Tule River Powerplant of Southern California Edison Co. Diversions are made from powerplant tailrace ditch to Springville Diversion and Duncan Diversion Ditches. Remaining water is returned to the Tule River 1.5 mi upstream from confluence of Middle and North Forks. See schematic diagram of Tule River basin. For records of combined discharge of river and conduit, see following page.

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.--River only; maximum discharge, 1,160 ft^3/s, Oct. 30, 1992, gage height, 5.47 ft; minimum daily, 5.6 ft^3/s, Oct. 4, 1988.
Combined flow, maximum daily discharge, 419 ft^3/s, Jan. 7, 1993; minimum daily, 6.5 ft^3/s, Dec. 12, 1991.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 1,160 ft^3/s, Oct. 30, gage height, 5.47 ft; minimum daily, 5.7 ft^3/s, Nov. 22.
Combined flow, maximum daily discharge, 419 ft^3/s, Jan. 7; minimum daily, 13 ft^3/s, several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	52	6.5	8.3	25	48	147	236	135	50	38	10
2	14	43	6.5	23	22	48	142	243	128	47	39	9.4
3	15	38	6.3	7.5	20	51	150	234	120	44	17	10
4	14	34	6.3	6.3	20	49	158	222	115	41	11	10
5	14	32	6.4	6.7	32	52	150	201	165	39	10	11
6	13	32	6.5	8.6	33	62	132	185	134	39	11	11
7	13	30	21	386	34	80	130	175	124	36	11	11
8	13	30	7.9	294	60	93	134	179	134	35	11	11
9	14	17	6.0	107	86	95	134	187	126	33	11	11
10	13	7.1	5.9	72	61	91	132	199	124	31	11	10
11	13	6.1	20	54	50	91	132	208	129	29	11	10
12	13	6.4	8.1	52	42	95	126	208	133	27	11	10
13	14	6.6	6.2	128	38	99	119	197	134	24	11	10
14	14	6.2	6.2	133	36	112	123	188	132	21	11	10
15	14	6.4	6.6	100	35	110	125	188	133	19	11	10
16	15	6.4	6.6	81	32	105	125	194	128	18	11	11
17	15	6.5	7.4	82	30	184	128	205	122	16	11	11
18	14	6.2	6.3	89	38	208	135	209	116	15	9.9	11
19	15	6.9	6.4	67	53	165	125	215	108	13	10	11
20	15	6.1	6.2	55	83	156	142	209	106	12	10	11
21	15	5.8	6.1	48	59	159	156	202	102	13	11	11
22	16	5.7	6.1	55	53	167	154	194	98	18	11	19
23	15	6.2	6.2	53	116	171	145	196	95	12	11	29
24	16	6.3	6.4	45	111	168	141	195	85	14	12	29
25	17	6.2	6.2	43	77	183	147	190	77	12	13	28
26	16	6.1	6.1	41	70	217	167	174	72	28	13	28
27	16	6.1	6.4	41	62	178	172	162	70	43	12	27
28	20	6.3	6.6	37	55	165	183	146	65	42	11	27
29	27	6.4	29	35	---	145	199	138	59	41	10	27
30	326	6.4	17	34	---	141	218	134	54	40	9.9	26
31	85	---	7.0	31	---	147	---	140	---	39	10	---
TOTAL	847	440.4	262.4	2223.4	1433	3835	4371	5953	3323	891	400.8	460.4
MEAN	27.3	14.7	8.46	71.7	51.2	124	146	192	111	28.7	12.9	15.3
MAX	326	52	29	386	116	217	218	243	165	50	39	29
MIN	13	5.7	5.9	6.3	20	48	119	134	54	12	9.9	9.4
AC-FT	1680	874	520	4410	2840	7610	8670	11810	6590	1770	795	913

11202710 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.5	10.8	8.06	23.6	24.4	58.3	77.1	72.3	38.7	16.5	13.0	13.7
MAX	27.3	14.7	9.87	71.7	51.2	124	146	192	111	28.7	14.6	15.3
(WY)	1993	1993	1989	1993	1993	1993	1993	1993	1993	1993	1990	1993
MIN	6.78	7.86	6.65	6.82	8.21	15.5	32.9	22.6	12.1	12.0	11.6	12.0
(WY)	1989	1990	1992	1992	1990	1992	1990	1992	1992	1989	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	6473.9		24440.4			
ANNUAL MEAN	17.7		67.0		31.0	
HIGHEST ANNUAL MEAN					67.0	1993
LOWEST ANNUAL MEAN					15.6	1990
HIGHEST DAILY MEAN	326	Oct 30	386	Jan 7	386	Jan 7 1993
LOWEST DAILY MEAN	5.7	Nov 22	5.7	Nov 22	5.6	Oct 4 1988
ANNUAL SEVEN-DAY MINIMUM	6.1	Nov 20	6.1	Nov 20	6.1	Nov 20 1992
INSTANTANEOUS PEAK FLOW			1160	Oct 30	1160	Oct 30 1992
INSTANTANEOUS PEAK STAGE			5.47	Oct 30	5.47	Oct 30 1992
ANNUAL RUNOFF (AC-FT)	12840		48480		22460	
10 PERCENT EXCEEDS	40		174		81	
50 PERCENT EXCEEDS	13		35		13	
90 PERCENT EXCEEDS	6.4		6.5		6.8	

11202711 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA--Continued

MIDDLE FORK TULE RIVER BELOW INTAKE AND SOUTHERN CALIFORNIA EDISON CO.'S TULE RIVER CONDUIT ABOVE SPRINGVILLE, CA
COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	52	19	39	61	82	181	275	172	88	38	26
2	14	43	19	59	58	82	177	282	165	85	39	25
3	15	38	20	40	56	86	185	273	157	82	36	26
4	14	34	21	36	55	84	193	261	152	79	39	24
5	14	32	21	35	66	87	185	240	202	77	38	23
6	13	32	22	38	67	97	167	224	171	77	38	24
7	13	30	47	419	68	115	165	214	160	74	37	24
8	13	30	34	325	95	128	169	218	170	73	38	23
9	14	24	28	140	121	130	169	226	162	71	36	23
10	13	23	30	105	96	126	167	238	160	69	35	23
11	13	23	51	86	85	125	167	248	165	67	35	22
12	13	21	40	84	76	129	161	247	169	65	35	23
13	14	22	30	161	72	133	154	236	170	62	36	23
14	14	21	28	167	69	146	159	227	167	58	36	23
15	14	21	27	135	68	144	161	227	168	57	36	23
16	15	21	26	116	65	139	162	232	163	56	36	24
17	15	21	29	116	63	218	165	243	158	53	35	25
18	14	21	31	124	70	241	172	248	152	52	34	25
19	15	22	26	103	85	199	163	254	144	50	33	24
20	15	21	25	92	115	190	160	248	142	49	32	23
21	15	21	25	84	91	194	194	241	137	49	32	23
22	16	21	25	91	85	202	193	233	132	49	30	26
23	15	21	25	89	149	206	184	234	125	47	27	29
24	16	20	26	80	143	203	180	233	120	48	26	29
25	17	20	26	78	109	217	186	228	114	46	27	28
26	16	20	26	76	102	250	206	212	110	46	27	28
27	16	20	25	77	95	211	211	200	108	43	26	27
28	20	19	26	73	89	198	222	183	103	42	26	27
29	27	19	62	71	---	178	238	175	97	41	26	27
30	326	19	51	70	---	174	257	171	92	40	26	26
31	85	---	39	67	---	174	---	177	---	39	26	---
TOTAL	847	752	930	3276	2374	4888	5473	7148	4407	1834	1021	746
MEAN	27.3	25.1	30.0	106	84.8	158	182	231	147	59.2	32.9	24.9
MAX	326	52	62	419	149	250	257	282	202	88	39	29
MIN	13	19	19	35	55	82	154	171	92	39	26	22
AC-FT	1680	1490	1840	6500	4710	9700	10860	14180	8740	3640	2030	1480

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

MEAN	22.6	26.1	26.6	49.8	55.5	93.1	114	107	64.7	31.4	21.3	18.6
MAX	27.3	29.8	33.5	106	84.8	158	182	231	147	59.2	32.9	24.9
(WY)	1993	1989	1989	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	18.2	22.7	21.4	28.5	34.7	48.2	69.6	53.3	26.6	19.2	15.8	14.8
(WY)	1989	1990	1990	1992	1990	1992	1990	1992	1992	1990	1990	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	12921		33696			
ANNUAL MEAN	35.3		92.3		52.5	
HIGHEST ANNUAL MEAN					92.3	1993
LOWEST ANNUAL MEAN					34.0	1990
HIGHEST DAILY MEAN	326	Oct 30	419	Jan 7	419	Jan 7 1993
LOWEST DAILY MEAN	13	Sep 27	13	Oct 1	6.5	Dec 12 1991
ANNUAL SEVEN-DAY MINIMUM	13	Oct 6	13	Oct 6	13	Oct 6 1992
ANNUAL RUNOFF (AC-FT)	25630		66840		38020	
10 PERCENT EXCEEDS	73		211		115	
50 PERCENT EXCEEDS	26		65		30	
90 PERCENT EXCEEDS	15		20		17	

11204900 TULE RIVER BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'23", long 118°55'22", in NW 1/4 SW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from Success Dam, 650 ft downstream from hydro-generating plant and 5 mi east of Porterville.

DRAINAGE AREA.--393 mi^2.

PERIOD OF RECORD.--Water years 1962-69, 1971 to current year.
WATER DISCHARGE: Water years 1953-90.
CHEMICAL DATA: Water years 1962-69, 1971-79.
WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Water temperature is affected by regulation from Success Dam and the powerplant.

EXTREMES PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 34.5°C, Aug. 23, 1990; minimum recorded, 3.0°C, Jan. 3, 1975.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 27.0°C, Oct. 1, 13; minimum recorded, 8.5°C, on many days in December and January.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	27.0	20.0	22.0	15.5	18.0	9.0	12.5	8.5	10.0	9.5	10.5	10.0
2	26.0	22.0	23.5	17.5	17.5	8.5	13.5	8.5	10.0	9.5	10.5	10.0
3	26.0	20.5	21.5	17.0	18.5	9.5	13.0	8.5	10.0	9.5	10.5	10.0
4	26.0	20.5	23.0	15.5	13.5	9.5	9.0	8.5	10.0	9.5	11.0	10.0
5	23.5	22.0	23.0	15.0	17.0	8.5	8.5	8.5	10.0	9.5	10.5	10.0
6	23.0	22.5	23.0	14.5	16.0	9.0	9.0	8.5	10.0	9.5	10.5	10.5
7	23.0	22.0	22.0	14.5	13.0	11.5	9.5	8.5	10.0	9.5	10.5	10.5
8	23.0	22.0	21.0	14.5	16.5	10.0	9.5	9.0	10.5	9.5	11.0	10.5
9	22.5	22.0	21.0	14.5	16.0	10.0	9.0	9.0	10.5	9.5	11.0	10.5
10	23.0	22.0	20.5	14.0	18.5	10.0	9.0	9.0	10.5	10.0	11.0	10.5
11	22.5	22.0	20.5	12.0	17.0	11.0	9.0	8.5	10.5	10.0	11.0	10.5
12	25.5	21.0	20.5	12.0	13.0	9.5	8.5	8.5	10.5	10.0	11.0	10.5
13	27.0	20.0	20.5	12.0	16.0	8.5	9.0	8.5	10.5	10.0	11.0	11.0
14	26.5	18.0	21.0	12.0	15.5	8.5	9.5	8.5	10.5	10.0	11.5	10.5
15	26.0	17.5	20.0	12.5	11.0	9.5	9.0	9.0	10.5	10.0	11.5	10.5
16	23.5	17.5	16.5	15.5	15.5	8.5	9.0	8.5	11.5	10.0	11.0	11.0
17	24.0	19.5	16.5	15.5	14.0	8.5	9.5	8.5	11.0	10.0	11.0	11.0
18	24.5	19.5	16.0	15.5	14.0	8.5	9.5	9.0	10.5	10.0	11.5	11.0
19	21.5	21.0	16.0	15.5	14.5	8.5	9.5	9.0	11.0	10.0	11.0	11.0
20	21.0	20.5	15.5	15.0	15.0	8.5	10.0	9.5	12.0	10.0	11.5	11.0
21	21.0	20.5	15.5	14.5	14.5	8.5	10.0	9.5	11.5	10.5	11.5	11.0
22	21.0	20.5	15.0	14.5	13.5	8.5	10.5	9.5	11.5	9.0	11.5	11.0
23	21.0	20.5	18.0	12.5	11.5	8.5	10.0	9.5	11.0	10.5	12.0	11.0
24	21.0	20.5	16.5	11.0	12.5	8.5	10.5	9.5	11.0	10.5	12.5	11.0
25	21.5	20.5	19.0	11.5	12.5	8.5	10.0	10.0	10.5	10.5	11.5	11.0
26	23.5	19.5	18.5	10.5	11.5	8.5	10.0	9.5	10.5	10.0	11.5	11.0
27	22.0	19.5	19.0	10.5	12.0	8.5	15.5	9.5	10.5	10.5	12.0	11.0
28	22.5	19.5	17.0	10.0	14.5	8.5	11.5	10.0	11.0	10.5	11.5	11.0
29	22.0	18.5	18.0	10.0	12.5	9.5	10.5	9.5	---	---	11.5	11.5
30	20.0	18.0	18.0	9.0	16.0	8.5	10.0	9.5	---	---	11.5	11.0
31	23.5	17.0	---	---	15.0	8.5	10.0	9.5	---	---	11.5	11.0
MONTH	27.0	17.0	23.5	9.0	18.5	8.5	15.5	8.5	12.0	9.0	12.5	10.0

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	11.0	13.0	12.5	14.5	13.5	15.0	14.5	16.0	16.0	19.0	18.5
2	11.5	11.0	13.0	12.5	14.0	14.0	15.5	14.5	16.5	16.0	19.0	18.5
3	11.5	11.5	13.0	12.5	14.5	14.0	15.5	14.5	16.5	16.0	19.0	18.5
4	11.5	11.5	13.5	12.5	14.0	14.0	15.5	15.0	16.5	16.0	19.0	18.5
5	11.5	11.0	13.0	12.5	14.0	14.0	15.5	15.0	16.5	16.0	19.0	18.5
6	11.5	11.5	13.0	13.0	14.5	13.5	15.5	15.0	16.5	16.0	19.0	18.5
7	11.5	11.5	13.5	13.0	14.5	14.0	15.5	15.0	16.5	16.5	19.5	19.0
8	11.5	11.5	13.5	13.0	14.5	14.0	15.5	15.0	17.0	16.5	20.0	19.0
9	11.5	11.5	13.5	13.0	14.5	14.0	15.5	15.0	17.0	16.5	20.5	19.5
10	12.0	11.5	13.5	13.0	14.5	14.0	16.0	15.0	17.0	16.5	20.5	20.0
11	12.0	11.5	13.5	13.0	14.5	14.0	16.0	15.0	17.0	16.5	21.0	20.0
12	12.0	11.5	13.5	13.0	14.5	14.0	15.5	15.0	17.0	16.5	21.0	20.5
13	12.0	11.5	13.5	13.5	14.5	14.0	15.5	15.0	17.0	17.0	21.0	20.5
14	12.0	11.5	13.5	13.5	14.5	14.0	16.0	15.0	17.0	17.0	22.0	21.0
15	12.0	11.5	13.5	13.0	14.5	14.5	16.0	15.0	17.5	17.0	22.5	21.5
16	12.0	11.5	13.5	13.5	14.5	14.5	16.0	15.0	17.5	17.0	23.0	22.0
17	12.0	12.0	13.5	13.5	15.0	14.5	16.0	15.0	17.5	17.0	23.0	22.5
18	12.0	12.0	14.0	13.5	15.0	14.5	16.0	15.0	17.5	17.0	23.0	22.5
19	12.0	12.0	14.0	13.5	15.0	14.5	15.5	15.5	17.5	17.0	23.0	22.5
20	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.0	17.5	17.0	23.0	23.0
21	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	17.5	17.0	23.5	23.0
22	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	17.5	17.5	23.5	23.0
23	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	18.0	17.5	23.5	23.0
24	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	18.0	17.5	23.0	23.0
25	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	18.0	17.5	23.0	23.0
26	12.5	12.0	14.0	13.5	15.0	14.5	16.0	15.5	18.0	17.5	23.0	23.0
27	12.5	12.0	14.0	13.5	15.5	14.5	16.0	15.5	18.0	18.0	23.0	23.0
28	12.5	12.5	14.0	13.5	15.0	14.5	16.0	15.5	18.5	18.0	23.0	23.0
29	12.5	12.5	14.0	13.5	15.5	14.5	16.0	15.5	18.5	18.0	23.5	23.0
30	13.0	12.5	14.0	13.5	15.5	14.5	16.0	16.0	18.5	18.0	23.5	22.5
31	---	---	14.0	14.0	---	---	16.0	16.0	18.5	18.5	---	---
MONTH	13.0	11.0	14.0	12.5	15.5	13.5	16.0	14.5	18.5	16.0	23.5	18.5

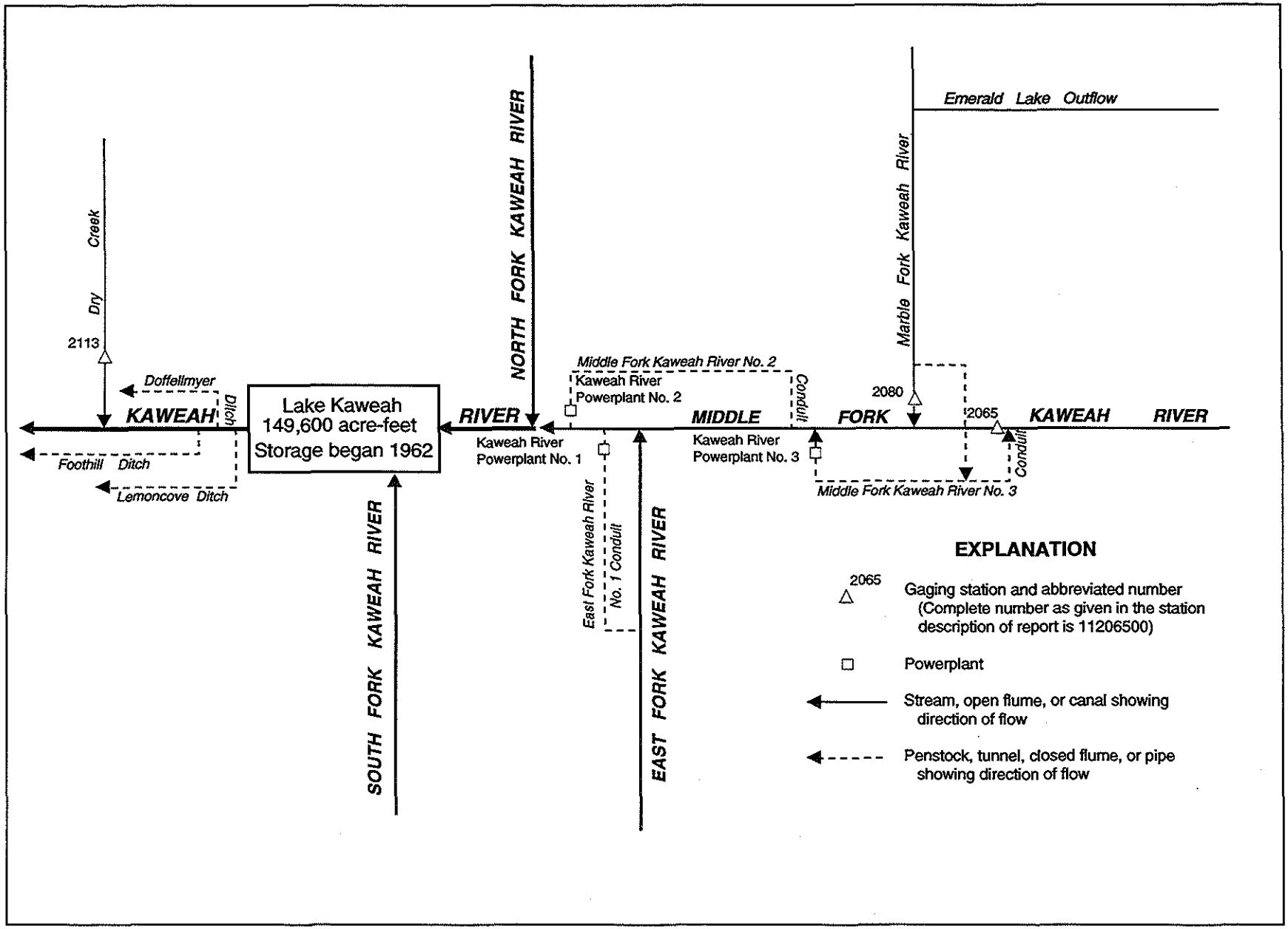

Figure 29. Diversions and storage in Kaweah River basin.

11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA

LOCATION.--Lat 36°30'48", long 118°47'27", unsurveyed, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on right bank 0.5 mi southeast of Potwisha Camp and 0.7 mi upstream from confluence with Marble Fork Kaweah River.
DRAINAGE AREA.--102 mi^2.
PERIOD OF RECORD.--July 1949 to current year. Monthly discharge only for water years 1956-57, published in WSP 1735. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.
CHEMICAL ANALYSES: June to September 1980.
SPECIFIC CONDUCTANCE: October 1979 to September 1981.
WATER TEMPERATURE: October 1979 to September 1981.
REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder and rectangular flume on river; water-stage recorder and concrete-lined channel for conduit diversion. Elevation of gage is 2,100 ft above sea level, from topographic map. Prior to October 1955, at datum 0.70 ft higher.
REMARKS.--Middle Fork No. 3 Conduit (station 11206000) diverts from left bank of Middle Fork Kaweah River, 0.1 mi upstream from station. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 Conduit, and passes through Kaweah River No. 3 Powerplant of Southern California Edison Co. Water is returned to Kaweah River 2.7 mi downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and diversion to Middle Fork Kaweah No. 3 Conduit, see following page.
COOPERATION.--Records 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, 46,800 ft^3/s, Dec. 23, 1955, gage height, 29.0 ft, from floodmarks, datum then in use, on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft^3/s, Nov. 12-15, 1949.
Combined flow, maximum discharge, 46,800 ft^3/s, Dec. 23, 1955; minimum daily, 7.0 ft^3/s, Sept. 16, 17, 1990.
EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 974 ft^3/s, Jan. 7, gage height, 7.28 ft; minimum daily, 7.1 ft^3/s, Oct. 1, 12-14.
Combined flow, maximum daily discharge, 786 ft^3/s, May 19; minimum daily, 7.1 ft^3/s, Oct. 1, 12-14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	42	11	20	24	63	234	620	500	389	67	16
2	7.3	32	11	30	22	67	223	635	422	390	73	13
3	8.2	27	11	16	23	76	239	608	399	356	80	13
4	8.4	25	11	16	21	71	256	546	383	336	75	13
5	8.2	19	11	16	36	84	234	445	498	358	74	13
6	8.0	15	11	20	33	107	200	437	376	357	69	13
7	7.8	13	13	527	34	130	183	390	336	357	64	13
8	7.6	11	11	298	53	137	197	423	399	333	55	13
9	7.3	11	11	103	80	136	225	506	455	302	49	13
10	7.3	12	11	81	54	127	230	609	497	280	47	13
11	7.3	12	24	56	45	130	236	656	514	263	44	12
12	7.1	12	11	63	40	139	222	648	541	248	41	12
13	7.1	12	11	201	37	146	201	547	606	213	38	12
14	7.1	12	11	197	36	192	208	539	660	184	35	e12
15	7.3	12	11	112	32	162	230	562	682	162	33	e12
16	7.6	12	11	105	28	145	236	584	647	134	28	e12
17	7.8	12	11	96	24	354	239	627	601	117	22	e12
18	7.8	18	11	103	47	306	236	710	605	112	19	e12
19	7.8	22	11	70	114	237	218	728	626	112	18	e12
20	8.0	16	11	61	105	222	261	719	580	109	e18	e12
21	8.0	11	11	53	92	237	308	689	465	104	e18	e12
22	8.2	11	11	66	82	250	312	673	456	97	e18	12
23	8.2	11	11	56	131	256	294	699	476	99	e38	12
24	8.0	11	11	47	122	280	272	679	516	105	e51	12
25	8.2	11	11	43	93	302	311	652	547	98	e49	12
26	8.4	11	11	42	97	356	378	554	561	100	e35	11
27	8.4	11	11	42	82	263	410	503	526	98	17	11
28	9.1	11	11	41	70	247	451	446	470	101	17	11
29	14	11	15	38	---	216	517	446	398	86	17	11
30	e510	11	11	36	---	213	582	519	374	81	17	11
31	e100	---	15	30	---	215	---	601	---	72	17	---
TOTAL	842.6	457	364	2685	1657	5866	8343	18000	15116	6153	1243	368
MEAN	27.2	15.2	11.7	86.6	59.2	189	278	581	504	198	40.1	12.3
MAX	510	42	24	527	131	356	582	728	682	390	80	16
MIN	7.1	11	11	16	21	63	183	390	336	72	17	11
AC-FT	1670	906	722	5330	3290	11640	16550	35700	29980	12200	2470	730

e Estimated.

11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.1	26.2	58.0	83.6	99.8	130	232	428	386	164	46.9	23.6
MAX	125	145	732	528	489	504	630	1178	1271	786	354	157
(WY)	1983	1983	1967	1980	1986	1986	1982	1969	1983	1983	1983	1982
MIN	.92	1.07	1.08	.36	.60	12.8	64.3	78.6	27.1	1.07	2.43	1.56
(WY)	1962	1962	1962	1961	1961	1961	1976	1977	1976	1961	1962	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	16540.3		61094.6				
ANNUAL MEAN	45.2		167		141		
HIGHEST ANNUAL MEAN					417		1983
LOWEST ANNUAL MEAN					25.2		1961
HIGHEST DAILY MEAN	510	Oct 30	728	May 19	10500	Dec 6	1966
LOWEST DAILY MEAN	7.1	Oct 1	7.1	Oct 1	.30	Dec 27	1960
ANNUAL SEVEN-DAY MINIMUM	7.2	Oct 9	7.2	Oct 9	.30	Dec 27	1960
INSTANTANEOUS PEAK FLOW			974	Jan 7	46800	Dec 23	1955
INSTANTANEOUS PEAK STAGE			7.28	Jan 7	29.00	Dec 23	1955
ANNUAL RUNOFF (AC-FT)	32810		121200		102400		
10 PERCENT EXCEEDS	153		522		419		
50 PERCENT EXCEEDS	17		66		30		
90 PERCENT EXCEEDS	8.9		11		9.7		

11206501 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA--Continued

MIDDLE FORK KAWEAH RIVER AND MIDDLE FORK KAWEAH RIVER NO. 3 CONDUIT NEAR POTWISHA CAMP, CA,
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	87	20	59	78	118	290	678	556	446	122	35
2	7.3	81	20	83	76	122	279	692	478	447	118	35
3	8.2	79	20	59	77	132	295	665	455	412	120	34
4	8.4	77	20	56	74	127	312	603	439	392	115	33
5	8.2	70	20	52	91	140	290	502	554	414	113	33
6	8.0	65	20	61	88	163	256	494	432	414	108	33
7	7.8	61	52	579	89	187	239	447	391	414	102	32
8	7.6	57	34	338	109	193	253	481	454	390	93	30
9	7.3	48	34	156	137	193	280	564	510	359	86	28
10	7.3	43	37	132	110	184	285	667	552	337	83	27
11	7.3	39	71	108	101	187	291	714	569	319	79	25
12	7.1	35	46	116	95	196	277	706	596	304	74	25
13	7.1	34	36	255	92	203	256	605	661	269	71	25
14	7.1	32	37	252	91	249	263	597	716	240	68	25
15	7.3	32	37	167	87	219	285	620	737	218	67	24
16	7.6	31	35	160	82	202	291	642	702	190	64	24
17	7.8	29	38	149	78	411	294	686	656	172	59	26
18	7.8	29	36	153	102	362	291	769	660	168	55	26
19	7.8	29	33	126	171	293	273	786	682	168	54	24
20	8.0	28	36	111	162	277	317	777	636	165	52	23
21	8.0	26	34	109	148	292	364	747	521	159	51	23
22	8.2	25	33	122	137	305	368	730	511	153	48	22
23	8.2	25	33	111	187	311	351	755	531	156	50	22
24	8.0	24	35	102	178	336	328	734	571	162	51	21
25	8.2	24	35	98	149	358	367	709	602	155	49	20
26	8.4	23	35	97	153	412	435	611	617	157	46	19
27	8.4	23	34	97	138	318	467	560	582	155	42	18
28	9.1	22	33	96	126	302	508	503	526	157	40	18
29	14	21	57	93	---	272	574	503	454	142	40	17
30	539	20	49	91	---	269	640	576	430	137	38	17
31	151	---	47	84	---	271	---	658	---	128	36	---
TOTAL	922.6	1219	1107	4272	3206	7604	10019	19781	16781	7899	2194	764
MEAN	29.8	40.6	35.7	138	114	245	334	638	559	255	70.8	25.5
MAX	539	87	71	579	187	412	640	786	737	447	122	35
MIN	7.1	20	20	52	74	118	239	447	391	128	36	17
AC-FT	1830	2420	2200	8470	6360	15080	19870	39240	33290	15670	4350	1520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.0	50.1	100	117	139	175	280	476	435	197	69.5	39.8
MAX	177	201	743	565	540	556	683	1225	1318	826	395	201
(WY)	1983	1983	1956	1980	1986	1986	1982	1969	1983	1983	1983	1982
MIN	9.58	11.1	12.2	18.9	17.2	40.4	124	139	75.6	25.1	13.7	8.93
(WY)	1991	1960	1991	1991	1991	1977	1976	1977	1976	1961	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1955 - 1993	
ANNUAL TOTAL	26032.3		75768.6			
ANNUAL MEAN	71.1		208		176	
HIGHEST ANNUAL MEAN					468	1983
LOWEST ANNUAL MEAN					53.5	1977
HIGHEST DAILY MEAN	539	Oct 30	786	May 19	10500	Dec 6 1966
LOWEST DAILY MEAN	7.1	Oct 1	7.1	Oct 1	7.0	Sep 16 1990
ANNUAL SEVEN-DAY MINIMUM	7.2	Oct 9	7.2	Oct 9	7.1	Sep 11 1990
INSTANTANEOUS PEAK FLOW					46800	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	51640		150300		127400	
10 PERCENT EXCEEDS	199		577		467	
50 PERCENT EXCEEDS	35		115		84	
90 PERCENT EXCEEDS	8.9		20		16	

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA

LOCATION.--Lat 36°31'08", long 118°48'03", in NE 1/4 SW 1/4 sec.23, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank 0.1 mi north of Potwisha Camp, 0.3 mi upstream from confluence with Middle Fork Kaweah River, and 7.9 mi northeast of Three Rivers.

DRAINAGE AREA.--51.4 mi^2.

PERIOD OF RECORD.--March 1950 to current year. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.
CHEMICAL ANALYSES: June to September 1980.
SPECIFIC CONDUCTANCE: October 1979 to September 1981.
WATER TEMPERATURE: October 1979 to September 1981.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder and concrete control for conduit diversion. Elevation of gage is 2,150 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Marble Fork Kaweah River No. 3 Conduit diverts from left bank of Marble Fork 0.3 mi upstream from station. Water is returned to Kaweah River 2.7 mi downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records 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, 12,500 ft^3/s, Dec. 23, 1955, gage height, 13.4 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.10 ft^3/s at times in 1961-64.
Combined flow, maximum discharge, 12,500 ft^3/s, Dec. 23, 1955; minimum daily, 0.82 ft^3/s, Oct. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 1,710 ft^3/s, Oct. 30, gage height, 7.81 ft; minimum daily, 1.8 ft^3/s, Oct. 1, 2, 13.
Combined flow, maximum daily discharge, 639 ft^3/s, May 19; minimum daily, 1.8 ft^3/s, Oct. 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	11	8.0	9.0	8.3	15	130	543	394	293	32	7.5
2	1.8	8.6	8.2	8.8	8.6	16	129	552	325	282	32	1.9
3	1.9	6.7	8.8	9.2	8.3	16	151	520	315	248	33	2.6
4	1.9	6.4	8.4	10	8.2	14	167	454	310	246	27	2.6
5	2.0	3.9	8.2	10	10	18	147	385	361	267	28	2.6
6	1.9	3.0	7.8	9.0	11	25	117	380	265	270	26	2.7
7	2.0	2.6	15	170	11	38	112	363	240	282	24	10
8	1.9	2.2	11	122	21	47	132	419	289	252	17	14
9	1.9	2.7	11	44	31	50	162	501	320	230	16	14
10	1.9	12	13	26	21	51	167	568	373	211	19	13
11	1.9	15	21	16	18	58	170	584	396	201	18	12
12	1.9	14	15	12	16	65	153	558	421	185	15	12
13	1.8	13	14	53	15	73	134	500	479	158	12	11
14	1.9	13	14	65	14	95	145	495	517	133	11	11
15	2.0	13	13	38	13	81	173	521	532	117	12	11
16	2.1	13	13	47	12	71	176	544	503	95	11	11
17	2.1	12	14	36	11	201	171	568	467	82	9.5	11
18	2.2	12	7.4	31	24	187	166	606	477	78	8.2	12
19	2.2	11	3.5	22	79	132	159	607	491	79	8.2	11
20	2.4	11	3.5	17	69	128	203	592	429	74	8.2	9.6
21	2.6	10	3.5	15	58	145	242	557	341	71	8.5	4.2
22	2.9	10	3.5	20	55	159	242	545	368	63	9.0	3.5
23	2.8	10	3.5	18	62	169	236	560	386	68	23	3.6
24	2.7	9.6	3.3	14	51	200	213	545	420	76	26	2.0
25	2.7	9.4	3.3	12	25	196	259	531	430	62	24	2.0
26	4.0	9.3	3.3	11	23	192	352	443	422	64	17	2.0
27	3.8	9.0	3.3	11	20	139	375	401	393	62	7.6	2.0
28	8.6	8.9	3.3	11	17	122	408	352	342	59	6.8	2.1
29	8.3	8.5	4.5	9.2	---	107	468	374	286	47	6.6	2.2
30	340	8.0	3.3	8.6	---	112	514	437	278	44	7.1	2.4
31	33	---	7.1	8.2	---	115	---	502	---	35	7.9	---
TOTAL	450.9	278.8	259.7	893.0	720.4	3037	6373	15507	11570	4434	510.6	208.5
MEAN	14.5	9.29	8.38	28.8	25.7	98.0	212	500	386	143	16.5	6.95
MAX	340	15	21	170	79	201	514	607	532	293	33	14
MIN	1.8	2.2	3.3	8.2	8.2	14	112	352	240	35	6.6	1.9
AC-FT	894	553	515	1770	1430	6020	12640	30760	22950	8790	1010	414

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.43	9.94	32.3	37.1	43.6	59.8	135	281	244	86.8	18.6	9.81
MAX	60.5	72.5	385	262	259	278	396	812	784	441	135	103
(WY)	1983	1983	1956	1980	1986	1986	1982	1969	1983	1969	1983	1978
MIN	.38	.39	.44	.15	.17	.92	32.7	46.5	9.58	.57	.83	.38
(WY)	1963	1963	1962	1961	1961	1961	1975	1977	1976	1961	1962	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1955 - 1993	
ANNUAL TOTAL	9294.9		44242.9			
ANNUAL MEAN	25.4		121		80.4	
HIGHEST ANNUAL MEAN					235	1969
LOWEST ANNUAL MEAN					10.9	1961
HIGHEST DAILY MEAN	340	Oct 30	607	May 19	5700	Dec 23 1955
LOWEST DAILY MEAN	1.7	Sep 29	1.8	Oct 1	.10	Jan 10 1961
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 26	1.9	Oct 8	.10	Jan 10 1961
INSTANTANEOUS PEAK FLOW			1710	Oct 30	12500	Dec 23 1955
INSTANTANEOUS PEAK STAGE			7.81	Oct 30	13.40	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	18440		87760		58230	
10 PERCENT EXCEEDS	89		421		245	
50 PERCENT EXCEEDS	8.9		21		12	
90 PERCENT EXCEEDS	2.0		2.7		1.5	

11208001 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA--Continued

MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER NO. 3 CONDUIT AT POTWISHA CAMP, CA,
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	44	8.0	27	48	49	169	543	432	334	71	15
2	2.1	45	8.2	26	48	50	166	552	362	322	56	13
3	2.2	46	8.8	22	47	54	189	525	352	285	45	12
4	2.3	44	8.4	20	46	51	205	475	347	282	42	12
5	2.4	39	8.2	18	52	56	183	406	399	303	43	12
6	2.2	35	7.8	20	54	65	152	400	304	306	41	12
7	2.1	33	15	203	53	77	147	368	280	318	39	13
8	1.9	29	11	154	65	86	167	419	329	287	32	14
9	1.9	23	11	75	70	88	198	501	361	264	31	14
10	1.9	18	13	56	55	87	204	568	414	245	34	13
11	1.8	15	21	47	51	94	207	584	438	238	33	12
12	1.9	14	15	45	48	103	190	558	463	221	31	12
13	1.8	13	14	93	47	109	170	500	521	194	28	11
14	1.9	13	14	106	46	131	181	495	557	172	27	11
15	2.0	13	13	77	45	121	210	521	569	155	28	11
16	2.1	13	13	88	44	113	213	544	539	132	28	11
17	2.1	12	14	76	43	245	208	568	506	118	26	11
18	2.2	12	13	71	50	226	203	621	517	114	24	12
19	2.2	11	13	62	79	168	196	639	529	115	23	11
20	2.4	11	13	58	69	166	240	626	465	110	22	9.6
21	2.6	10	13	59	63	185	281	590	377	107	21	6.0
22	2.9	10	13	71	55	197	278	580	404	99	21	7.8
23	2.8	10	13	70	62	207	271	597	422	106	27	9.4
24	2.7	9.6	13	63	66	237	247	583	457	116	26	10
25	2.7	9.4	14	60	60	230	294	570	467	101	24	11
26	4.0	9.3	14	58	58	226	362	481	458	106	20	11
27	3.8	9.0	14	59	55	173	375	437	428	104	15	11
28	8.7	8.9	14	59	51	155	408	387	377	100	14	10
29	8.4	8.5	20	57	---	141	468	411	322	84	14	10
30	360	8.0	17	56	---	149	514	475	319	84	14	11
31	68	---	24	52	---	154	---	541	---	73	14	---
TOTAL	508.2	575.7	411.4	2008	1530	4193	7296	16065	12715	5595	914	338.8
MEAN	16.4	19.2	13.3	64.8	54.6	135	243	518	424	180	29.5	11.3
MAX	360	46	24	203	79	245	514	639	569	334	71	15
MIN	1.8	8.0	7.8	18	43	49	147	368	280	73	14	6.0
AC-FT	1010	1140	816	3980	3030	8320	14470	31860	25220	11100	1810	672

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

MEAN	13.0	21.5	45.6	52.8	66.1	86.8	165	310	272	106	29.5	17.2
MAX	88.8	103	385	300	295	315	426	840	839	487	184	134
(WY)	1983	1983	1956	1980	1986	1986	1982	1969	1983	1983	1983	1978
MIN	2.02	2.77	2.61	5.25	6.67	16.9	57.2	78.4	24.9	4.09	2.43	1.40
(WY)	1962	1991	1991	1991	1991	1977	1975	1977	1976	1961	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1955 - 1993	
ANNUAL TOTAL	14550.1		52150.1			
ANNUAL MEAN	39.8		143		98.7	
HIGHEST ANNUAL MEAN					257	1969
LOWEST ANNUAL MEAN					24.7	1977
HIGHEST DAILY MEAN	360	Oct 30	639	May 19	5700	Dec 23 1955
LOWEST DAILY MEAN	1.8	Oct 13	1.8	Oct 13	.82	Oct 4 1977
ANNUAL SEVEN-DAY MINIMUM	1.9	Oct 8	1.9	Oct 8	1.0	Sep 2 1977
ANNUAL RUNOFF (AC-FT)	28860		103400		71530	
10 PERCENT EXCEEDS	134		460		275	
50 PERCENT EXCEEDS	13		56		33	
90 PERCENT EXCEEDS	2.3		8.5		4.8	

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'51", long 119°00'42", in SE 1/4 SE 1/4 sec.26, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi downstream from Terminus Dam, 0.6 mi downstream from the hydroelectric plant below the dam, and 2.2 mi northeast of Lemoncove.

DRAINAGE AREA.--561 mi^2.

PERIOD OF RECORD.--Water years 1962 to current year.
WATER DISCHARGE: Water years 1962-90.
CHEMICAL DATA: Water years 1962-79.
WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction of recording instrument or no flow. Water temperature is affected by regulation from Terminus Dam and the powerplant.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.5°C, Aug. 26, 1988; minimum recorded, 3.0°C, Dec. 31, 1993.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 2-4; minimum recorded, 3.0°C, Dec. 31.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	20.0	17.0	13.5	13.0	10.0	8.5	8.0	---	---	---	---
2	23.0	20.5	17.0	15.0	12.5	9.5	8.5	8.0	---	---	---	---
3	23.5	19.5	17.0	15.0	13.5	10.5	8.5	7.5	---	---	---	---
4	23.5	19.0	17.0	14.0	12.5	10.5	8.0	7.0	---	---	---	---
5	23.5	19.0	17.0	13.5	12.5	9.5	7.5	7.0	---	---	---	---
6	23.5	19.0	17.0	13.5	12.0	9.5	7.5	7.0	---	---	---	---
7	23.5	19.5	17.0	13.5	12.0	11.0	8.0	7.5	---	---	---	---
8	22.5	18.5	16.5	13.5	12.0	10.0	8.0	7.5	---	---	---	---
9	22.5	19.5	16.5	14.0	13.0	9.5	8.0	7.5	---	---	---	---
10	22.0	20.0	16.0	13.5	13.0	10.5	8.0	7.5	---	---	---	---
11	22.5	20.0	15.5	12.5	12.5	10.5	8.0	7.5	---	---	---	---
12	22.0	20.0	15.5	12.5	11.5	9.5	7.5	7.5	---	---	---	---
13	23.0	19.5	16.0	12.5	11.0	8.5	7.5	7.5	---	---	---	---
14	22.5	18.0	16.0	12.5	11.0	8.0	8.5	7.5	---	---	---	---
15	21.5	18.0	15.0	12.5	11.0	9.0	8.0	8.0	---	---	---	---
16	21.5	18.0	15.0	12.5	11.0	10.5	8.5	8.0	---	---	---	---
17	21.5	18.0	15.0	14.5	10.5	10.5	9.0	8.5	---	---	---	---
18	21.5	17.5	15.0	14.5	10.5	10.0	9.0	8.5	---	---	---	---
19	21.5	18.0	14.5	14.5	10.0	9.5	9.0	8.5	---	---	---	---
20	21.5	17.0	14.5	13.0	9.5	9.0	9.0	8.5	---	---	---	---
21	21.5	18.0	14.0	11.5	10.0	7.5	9.5	9.0	---	---	---	---
22	21.5	18.0	14.0	12.0	9.5	7.0	9.5	9.0	---	---	---	---
23	21.5	17.0	14.5	12.5	8.5	7.5	9.5	9.0	---	---	---	---
24	21.0	18.0	13.5	12.0	8.5	7.0	9.5	9.0	---	---	---	---
25	21.0	18.0	14.5	12.0	8.5	7.0	9.0	9.0	---	---	---	---
26	21.0	18.0	14.0	11.0	8.5	7.0	11.0	9.0	---	---	---	---
27	20.0	18.0	14.5	11.5	8.5	6.5	---	---	---	---	---	---
28	20.5	18.0	13.5	11.0	10.0	7.5	---	---	---	---	---	---
29	19.5	18.5	13.5	10.5	10.0	8.5	9.5	8.5	---	---	---	---
30	18.5	16.5	13.5	10.0	10.5	4.0	11.0	7.0	---	---	---	---
31	17.5	14.5	---	---	8.5	3.0	11.0	7.0	---	---	---	---
MONTH	24.5	14.5	17.0	10.0	13.5	3.0	---	---	---	---	---	---

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	26.5	21.5
2	---	---	---	---	---	---	---	---	---	---	27.0	21.0
3	---	---	---	---	---	---	---	---	---	---	27.0	22.0
4	---	---	---	---	---	---	---	---	---	---	27.0	21.5
5	---	---	---	---	---	---	---	---	---	---	26.5	21.5
6	---	---	---	---	---	---	---	---	---	---	26.5	21.0
7	---	---	---	---	---	---	---	---	---	---	26.0	21.0
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	13.0	11.0	17.5	17.0	---	---	---	---
11	---	---	---	---	13.0	10.0	17.5	17.5	---	---	---	---
12	---	---	---	---	13.5	11.0	18.0	17.5	---	---	---	---
13	---	---	---	---	13.5	12.0	18.0	17.0	---	---	---	---
14	---	---	---	---	13.5	12.0	18.5	17.5	---	---	---	---
15	---	---	---	---	13.5	11.0	19.0	16.0	---	---	---	---
16	---	---	---	---	14.0	11.5	19.5	18.5	---	---	---	---
17	---	---	---	---	---	---	19.5	19.0	---	---	---	---
18	---	---	---	---	---	---	19.5	19.0	---	---	---	---
19	---	---	---	---	---	---	20.0	19.5	---	---	---	---
20	---	---	---	---	---	---	20.0	20.0	---	---	---	---
21	---	---	---	---	---	---	20.5	20.0	---	---	---	---
22	---	---	---	---	---	---	20.5	20.0	---	---	---	---
23	---	---	---	---	---	---	21.0	20.5	---	---	---	---
24	---	---	---	---	---	---	21.5	20.5	---	---	---	---
25	---	---	---	---	---	---	---	---	24.5	21.5	---	---
26	---	---	---	---	---	---	---	---	23.5	21.5	---	---
27	---	---	---	---	---	---	---	---	24.0	21.5	---	---
28	---	---	---	---	---	---	---	---	26.0	21.5	---	---
29	---	---	---	---	---	---	---	---	25.5	21.5	---	---
30	---	---	---	---	---	---	---	---	25.0	21.0	---	---
31	---	---	---	---	---	---	---	---	25.0	21.0	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11211300 DRY CREEK NEAR LEMONCOVE, CA

LOCATION.--Lat 36°26'51", long 119°01'38", in NE 1/4 SE 1/4 sec.15, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on right bank 0.5 mi downstream from Bequette Canyon, 2.9 mi upstream from mouth, and 4.4 mi north of Lemoncove.

DRAINAGE AREA.--75.6 mi^2.

PERIOD OF RECORD.--October 1959 to current year.

REVISED RECORDS.--WSP 2130: 1960(M).

GAGE.--Water-stage recorder. Elevation of gage is 570 ft above sea level, from topographic map. Prior to Mar. 8, 1969, 1.6 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Small diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft^3/s, Dec. 6, 1966, gage height, 7.30 ft in gage well, 8.94 ft from floodmarks, site and datum then in use; no flow for several months most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 6,070 ft^3/s, from slope-area measurement. Flood of 1867 is believed to have exceeded that of December 1955 from information provided by local residents.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 30	2300	65	2.37	Feb. 9	1115	226	3.29
Dec. 11	2130	53	2.28	Feb. 20	0915	718	4.47
Dec. 30	1000	99	2.58	Feb. 23	1130	705	4.44
Jan. 2	0700	256	3.29	Mar. 14	1615	81	2.42
Jan. 7	0915	1,280	5.19	Mar. 17	2030	147	2.77
Jan. 14	0815	*2,370	*6.51	Mar. 26	0145	831	4.64
Jan. 18	0030	321	3.52	Apr. 18	0645	51	2.22

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.5	.00	15	30	123	113	27	14	2.2	.52	.00
2	.00	2.4	.00	124	29	110	103	26	12	2.1	.46	.00
3	.00	1.0	.00	42	28	102	95	25	11	1.9	.41	.00
4	.00	.17	.00	22	26	93	89	25	11	1.7	.39	.00
5	.00	.01	.00	16	25	86	87	25	26	1.7	.32	.00
6	.00	.00	.00	14	24	83	80	24	25	1.6	.29	.00
7	.00	.00	13	433	24	80	73	22	19	1.6	.24	.00
8	.00	.00	24	291	30	77	68	22	15	1.5	.17	.00
9	.00	.00	8.0	114	132	71	64	21	13	1.4	.09	.00
10	.00	.00	5.4	117	84	66	62	20	12	1.4	.05	.00
11	.00	.00	22	99	57	62	59	19	11	1.4	.23	.00
12	.00	.00	28	70	48	57	56	18	10	1.3	.15	.00
13	.00	.00	11	166	43	53	53	18	9.3	1.2	.08	.00
14	.00	.00	7.8	755	40	65	50	18	8.7	1.3	.02	.00
15	.00	.00	6.2	200	37	58	47	17	8.2	1.3	.00	.00
16	.00	.00	5.4	133	32	50	44	16	7.8	1.3	.00	.00
17	.00	.00	5.5	142	31	76	44	15	7.2	1.3	.00	.00
18	.00	.00	8.7	261	41	82	49	15	6.6	1.2	.00	.00
19	.00	.00	8.1	169	208	58	44	14	5.9	1.2	.00	.00
20	.00	.00	6.9	106	435	50	40	15	5.4	1.2	.00	.00
21	.00	.00	6.3	83	245	47	37	15	5.3	1.2	.00	.00
22	.00	.00	6.2	92	153	44	35	15	5.0	1.1	.00	.00
23	.00	.00	6.0	75	395	41	34	14	4.8	1.1	.00	.00
24	.00	.00	5.9	63	401	61	32	13	4.6	1.0	.00	.00
25	.00	.00	5.9	56	228	148	31	13	4.3	.99	.00	.00
26	.00	.00	5.9	51	218	421	30	14	3.5	.92	.00	.00
27	.00	.00	6.2	47	185	212	30	13	2.7	.86	.00	.00
28	.00	.00	6.5	42	146	230	29	12	2.5	.78	.00	.00
29	.00	.00	34	38	---	186	28	12	2.4	.71	.00	.00
30	15	.00	64	36	---	149	28	11	2.3	.68	.00	.00
31	22	---	23	32	---	127	---	11	---	.58	.00	---
TOTAL	37.00	8.08	329.90	3904	3375	3168	1634	545	275.5	39.72	3.42	0.00
MEAN	1.19	.27	10.6	126	121	102	54.5	17.6	9.18	1.28	.11	.000
MAX	22	4.5	64	755	435	421	113	27	26	2.2	.52	.00
MIN	.00	.00	.00	14	24	41	28	11	2.3	.58	.00	.00
AC-FT	73	16	654	7740	6690	6280	3240	1080	546	79	6.8	.00

11211300 DRY CREEK NEAR LEMONCOVE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.63	4.06	20.4	46.2	65.3	63.8	48.7	17.5	6.06	1.44	.29	.32
MAX	9.38	63.4	263	386	441	419	254	113	35.9	13.5	5.42	3.84
(WY)	1983	1983	1967	1969	1969	1983	1982	1967	1967	1983	1983	1978
MIN	.000	.000	.000	.000	.000	1.14	.30	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1960	1961	1977	1977	1961	1960	1960	1960	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993		
ANNUAL TOTAL	1274.62		13319.62				
ANNUAL MEAN	3.48		36.5		22.7		
HIGHEST ANNUAL MEAN					129		1983
LOWEST ANNUAL MEAN					.19		1961
HIGHEST DAILY MEAN	79	Feb 15	755	Jan 14	6370	Dec 6	1966
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1	1959
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 6	.00	Oct 1	.00	Oct 1	1959
INSTANTANEOUS PEAK FLOW			2370	Jan 14	14500	Dec 6	1966
INSTANTANEOUS PEAK STAGE			6.51	Jan 14	8.94	Dec 6	1966
ANNUAL RUNOFF (AC-FT)	2530		26420		16420		
10 PERCENT EXCEEDS	8.3		100		43		
50 PERCENT EXCEEDS	.01		6.9		1.4		
90 PERCENT EXCEEDS	.00		.00		.00		

11211785 COTTONWOOD CREEK ABOVE COLLIER CREEK, NEAR ELDERWOOD, CA

LOCATION.--Lat 36°32'33", long 119°06'40", in NW 1/4 NE 1/4 sec.14, T.16 S., R.26 E., Tulare County, Hydrologic Unit 18030012, on left bank, 4.0 mi north of Elderwood and 8.0 mi north of Woodlake, on State Highway 245.

DRAINAGE AREA.--52.3 mi^2.

PERIOD OF RECORD.--January 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 600 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, 3,670 ft^3/s, Jan. 14, 1993, gage height, 7.15 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 35 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 30	0445	93	2.39	Feb. 20	0730	300	2.96
Jan. 2	0600	345	3.28	Feb. 23	0830	715	4.07
Jan. 7	0630	1,650	5.43	Mar. 17	1730	57	1.15
Jan. 14	0515	*3,670	*7.15	Mar. 25	2300	454	3.47
Feb. 9	0630	464	3.50	Jun. 5	1115	57	1.26

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	6.9	14	61	52	16	6.7	2.1	1.1	.35
2	.00	.00	.00	137	14	60	46	14	5.4	2.0	1.0	.37
3	.00	.00	.00	20	14	56	42	14	4.6	1.9	.98	.41
4	.00	.00	.00	16	14	50	40	14	4.4	1.8	1.1	.37
5	.00	.00	.00	15	13	46	37	15	35	1.7	1.4	.35
6	.00	.00	.00	14	12	43	35	14	15	1.6	2.0	.42
7	.00	.00	5.2	410	12	40	34	14	13	1.6	1.8	.52
8	.00	.00	5.5	144	18	38	33	13	10	1.4	1.6	.58
9	.00	.00	1.4	71	139	35	31	12	8.3	1.4	1.5	.56
10	.00	.00	.89	98	51	32	31	11	7.2	1.4	1.5	.56
11	.00	.00	5.4	48	32	31	30	11	6.8	1.4	1.3	.59
12	.00	.00	9.7	31	28	30	28	11	6.8	1.4	1.3	.56
13	.00	.00	3.5	105	24	29	27	11	6.0	1.3	1.1	.55
14	.00	.00	2.2	886	23	34	26	11	5.2	1.3	1.1	.51
15	.00	.00	1.6	149	22	27	24	10	4.7	1.2	1.0	.45
16	.00	.00	1.4	85	17	26	23	10	4.7	1.3	.88	.45
17	.00	.00	1.3	97	16	37	24	9.0	4.4	1.3	.78	.48
18	.00	.00	3.6	103	26	30	25	8.7	4.1	1.2	.68	.49
19	.00	.00	2.1	73	54	26	22	8.3	3.7	1.2	.50	1.5
20	.00	.00	1.5	57	187	23	21	8.4	3.4	1.1	.39	1.2
21	.00	.00	1.3	51	124	23	20	8.8	3.4	1.2	.39	.97
22	.00	.00	1.2	46	67	21	20	8.7	3.4	1.2	.40	.80
23	.00	.00	1.1	36	243	19	20	8.0	3.3	1.2	.42	.72
24	.00	.00	1.0	31	206	22	19	6.8	3.2	1.2	.40	.70
25	.00	.00	.98	27	104	86	18	7.3	3.0	1.2	.36	.68
26	.00	.00	.98	25	81	201	18	8.6	2.9	1.2	.37	.62
27	.00	.00	.98	23	69	138	18	8.0	2.6	1.2	.35	.53
28	.00	.00	.98	21	63	162	17	8.3	2.4	1.2	.35	.50
29	.00	.00	13	19	---	116	16	7.8	2.3	1.2	.33	.48
30	1.2	.00	37	18	---	86	17	6.9	2.2	1.2	.28	.47
31	1.3	---	9.6	16	---	61	---	7.5	---	1.2	.29	---
TOTAL	2.50	0.00	113.41	2878.9	1687	1689	814	322.1	188.1	42.8	26.95	17.74
MEAN	.081	.000	3.66	92.9	60.2	54.5	27.1	10.4	6.27	1.38	.87	.59
MAX	1.3	.00	37	886	243	201	52	16	35	2.1	2.0	1.5
MIN	.00	.00	.00	6.9	12	19	16	6.8	2.2	1.1	.28	.35
AC-FT	5.0	.00	225	5710	3350	3350	1610	639	373	85	53	35

11211785 COTTONWOOD CREEK ABOVE COLLIER CREEK, NEAR ELDERWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.51	1.06	2.15	15.2	26.0	27.0	8.88	3.21	1.36	.39	.18	.39
MAX	3.00	3.80	4.99	92.9	117	92.0	27.1	10.4	6.27	1.70	.87	2.53
(WY)	1987	1986	1986	1993	1986	1986	1993	1993	1993	1986	1993	1986
MIN	.000	.000	.000	.000	.36	2.45	.96	.18	.000	.000	.000	.000
(WY)	1988	1990	1991	1991	1991	1990	1990	1992	1989	1987	1987	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1986 - 1993		
ANNUAL TOTAL	701.33		7782.50				
ANNUAL MEAN	1.92		21.3		7.10		
HIGHEST ANNUAL MEAN					21.9		1986
LOWEST ANNUAL MEAN					.81		1990
HIGHEST DAILY MEAN	90	Feb 15	886	Jan 14	886	Jan 14	1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1	1985
ANNUAL SEVEN-DAY MINIMUM	.00	May 20	.00	Oct 1	.00	Jun 16	1987
INSTANTANEOUS PEAK FLOW			3670	Jan 14	3670	Jan 14	1993
INSTANTANEOUS PEAK STAGE			7.15	Jan 14	7.15	Jan 14	1993
ANNUAL RUNOFF (AC-FT)	1390		15440		5140		
10 PERCENT EXCEEDS	3.5		51		11		
50 PERCENT EXCEEDS	.00		3.3		.77		
90 PERCENT EXCEEDS	.00		.00		.00		

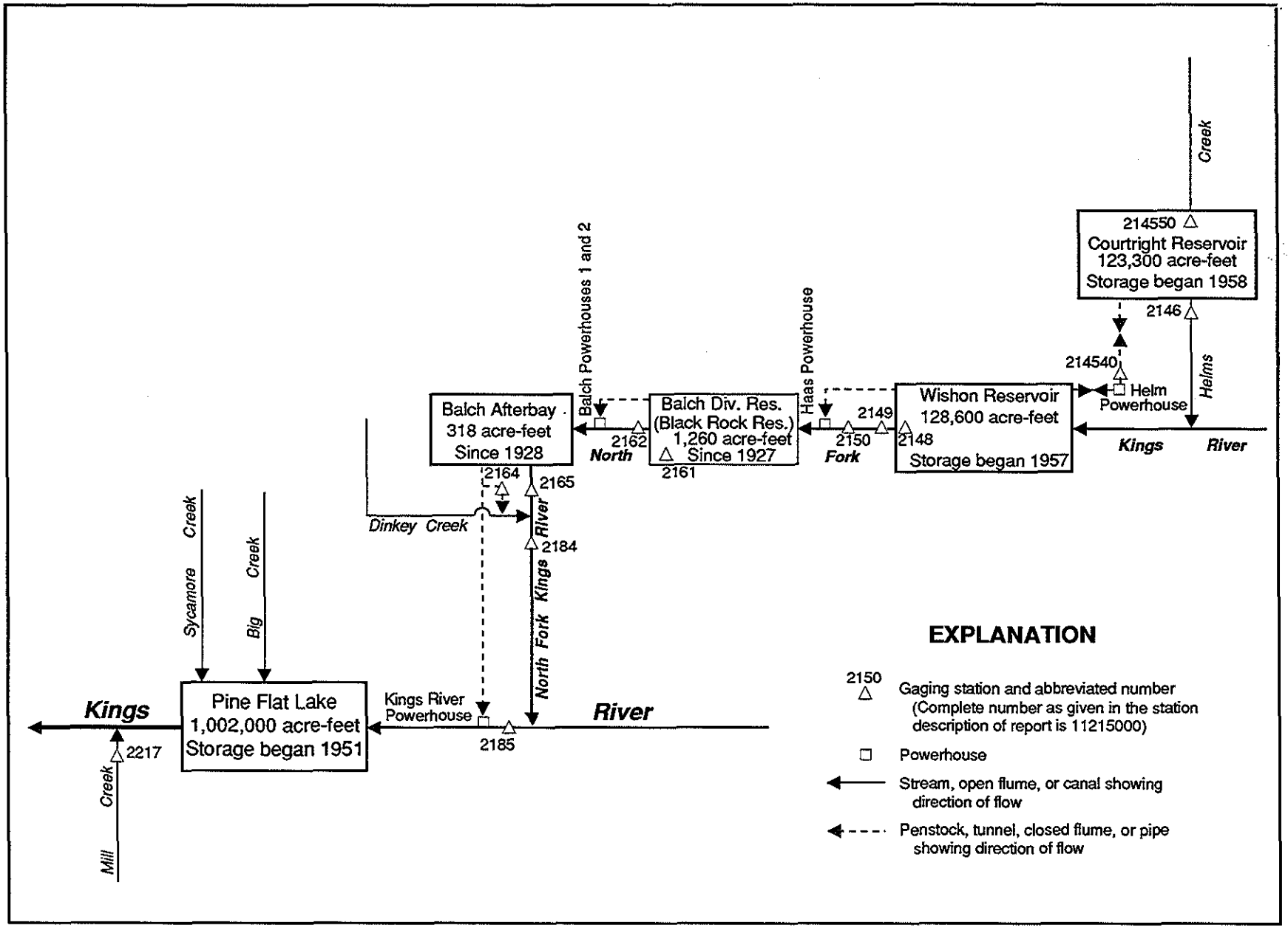

Figure 30. Diversions and storage in Kings River basin.

11214540 HELMS POWERPLANT NEAR WISHON RESERVOIR, CA

LOCATION.--Lat 37°02'22", long 118°57'16", unsurveyed, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, underground facility, 2.4 mi north of Wishon Dam, and 2.8 mi south of Courtright Dam.

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

GAGE.--Acoustic-velocity meter in penstock. Elevation of powerplant, approximately 1,000 ft below land surface, is 6,286.0 ft above sea level (levels by Pacific Gas & Electric Co.)

REMARKS.--No estimated daily discharges. Flow is diverted from Courtright Reservoir (station 11214550) through a tunnel to the powerplant which generates electricity during peak power demand, then to Wishon Reservoir (station 11214800). During periods of low power demand, reversible turbines pump water from Wishon Reservoir to Courtright Reservoir. Turbines draft up to 9,000 ft^3/s and pump up to 7,200 ft^3/s. Figures shown represent the net daily flow from Courtright Reservoir to Wishon Reservoir. Negative values represent net flow pumped to Courtright Reservoir. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 4,250 ft^3/s, Nov. 1, 1991; maximum daily pumpage, 3,650 ft^3/s, May 28, 1990.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	902	-534	148	-426	-891	582	-529	-161	-1460	139	566	2270
2	-943	-105	726	-92	50	.00	-976	-1150	-780	-506	539	493
3	-1790	450	466	1760	359	430	-1220	193	1280	1160	17	.00
4	-1980	-195	124	2500	817	771	816	.00	274	175	215	.00
5	-155	143	-266	1810	474	294	393	-22	1060	-51	.00	133
6	947	714	-314	-591	.00	334	360	-918	706	140	.00	-64
7	1130	.00	1030	-1260	470	356	899	-649	29	-67	.00	373
8	-306	.00	-16	-978	.00	451	707	-1580	615	1320	-508	.00
9	508	.00	570	-899	-167	211	-274	-417	1180	-456	243	37
10	-856	.00	-222	-1430	116	59	34	-105	-965	-62	.00	.00
11	-1220	.00	-647	53	1090	192	.00	-696	-1060	-42	.00	.00
12	243	.00	-511	1260	188	252	501	-1020	-1890	-67	1010	211
13	780	.00	-627	1830	-115	29	933	-950	-16	-95	.00	78
14	-815	.00	39	1300	.00	.00	-171	-880	68	120	156	.00
15	136	.00	429	-891	98	80	-496	-2410	-733	-178	-738	348
16	64	.00	562	-1630	.00	.00	325	-2730	-1060	.00	372	.00
17	-427	.00	.00	-1590	746	209	173	-1290	-864	283	256	830
18	.00	.00	1310	-891	1350	-282	-366	643	-478	-63	.00	2880
19	808	138	-107	-430	112	-363	1500	31	223	-57	.00	2970
20	1650	.00	-256	1020	52	403	-842	-622	-2080	173	.00	1800
21	-177	-214	-604	-321	-733	3.0	85	-716	-1350	.00	919	262
22	-456	204	140	-434	-287	57	602	-1190	-1030	.00	889	.00
23	76	361	39	.00	99	871	267	-749	406	221	1070	.00
24	-427	2300	.00	43	320	-990	-104	962	645	.00	.00	.00
25	-345	667	-515	1370	331	251	-139	571	1150	.00	.00	.00
26	413	-1650	-463	186	.00	435	-151	797	268	.00	143	826
27	107	-1110	-485	.00	.00	1110	306	1330	148	-165	490	790
28	-272	-1160	274	.00	14	-475	-165	371	38	-280	120	95
29	-157	-1180	325	.00	---	719	-177	328	509	-282	.00	218
30	-384	-427	1220	-498	---	1040	686	-371	308	1350	.00	1130
31	-477	---	562	-305	---	-367	---	352	---	387	.00	---
TOTAL	-3423.00	-1598.00	2931.00	466.00	4493.00	6662.00	2977.00	-13048.00	-4859	3097.00	5759.00	15680.00
MEAN	-110	-53.3	94.5	15.0	160	215	99.2	-421	-162	99.9	186	523
MAX	1650	2300	1310	2500	1350	1110	1500	1330	1280	1350	1070	2970
MIN	-1980	-1650	-647	-1630	-891	-990	-1220	-2730	-2080	-506	-738	-64
AC-FT	-6790	-3170	5810	924	8910	13210	5900	-25880	-9640	6140	11420	31100

CAL YR 1992 TOTAL 27448.00 MEAN 75.0 MAX 2300 MIN -1980 AC-FT 54440
WTR YR 1993 TOTAL 19137.00 MEAN 52.4 MAX 2970 MIN -2730 AC-FT 37960

11214550 COURTRIGHT RESERVOIR NEAR NELSON MOUNTAIN, CA

LOCATION.--Lat 37°04'45", long 119°58'07", in NW 1/4 NW 1/4 sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, at left end of dam on Helms Creek, 2.5 mi upstream from mouth, 4.6 mi east of Nelson Mountain, and 9.7 mi west of Blackcap Mountain.

DRAINAGE AREA.--39.7 mi^2.

PERIOD OF RECORD.--October 1958 to September 1982 (monthend elevation and contents only), October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,286 acre-ft between elevations 7,902 ft, invert of tunnel, and 8,184 ft, elevation of spillway. Dead storage negligible. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 124,220 acre-ft, Sept. 26, 1982, elevation, 8,184.57 ft; no contents in 1961-62, 1968, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 121,921 acre-ft, July, 2, elevation, 8,183.16 ft; minimum, 6,049 acre-ft, Apr. 19, elevation, 8,033.77 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Apr. 13, 1959)

7,902	0	7,970	736	8,035	6,269	8,115	42,141
7,950	267	7,990	1,617	8,060	12,298	8,150	75,878
7,960	462	8,010	3,129	8,085	22,584	8,184	123,286

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21071	31873	33350	29842	31050	19513	9455	13415	84295	120501	115463	99459
2	22878	32131	31994	29716	30940	19513	11730	16971	87038	121921	114372	98461
3	26360	31238	30985	26233	30210	18623	14429	17731	85582	119971	114325	98418
4	30222	31623	30740	21291	28557	17021	12826	18686	86015	120051	113860	98376
5	30599	31349	31238	17800	27608	16416	12261	19623	85025	120501	113829	98055
6	28728	29943	31933	18827	27602	15723	11633	22437	84245	120581	113782	98147
7	26505	29943	30069	21624	26651	15001	9852	24538	84710	121010	113736	97372
8	27104	29930	30171	23632	26715	14063	8492	26891	84232	118678	114683	97108
9	26141	29943	29547	25529	27079	13599	9254	28968	82762	119747	114170	97206
10	27608	29943	29962	28459	26844	13485	9368	30914	85849	120051	114108	97150
11	30165	29930	31394	28368	24644	13089	9541	33507	89399	120212	114046	97108
12	29678	29930	32390	25963	24263	12576	8657	37094	94472	120533	112041	96638
13	28152	29924	33561	22469	24494	12533	6718	40192	95990	120822	112000	96444
14	29735	29911	33520	20065	24494	12573	7395	43177	97400	120662	111658	96389
15	29428	29878	32677	21915	24291	12427	8633	49283	100294	121048	113072	96652
16	29297	29829	32124	25196	24285	12445	8211	56285	103669	121064	112872	95640
17	30114	29754	31571	28557	22773	12100	8113	60851	106592	120533	111735	93942
18	31335	29691	28987	30438	20137	12775	9105	61526	108713	120694	111673	88369
19	29729	29409	29185	31303	19989	13582	6049	63363	109498	120822	111612	82589
20	26488	29409	29710	29260	19946	12797	8222	66482	114605	120533	111551	79037
21	26879	29823	30908	29930	21432	13005	8385	69724	118027	120533	109695	78500
22	27728	29397	30605	30856	22095	12925	7467	73716	120967	119108	107918	78465
23	27572	28685	30515	30856	22018	11179	7358	77022	121177	118662	105793	78435
24	28398	24197	30496	30766	21377	13445	7934	76987	120854	118662	105749	78381
25	29067	22894	31512	27986	20706	13073	8694	77634	119491	118662	105704	77930
26	28204	26026	32410	27608	20755	12258	9609	77422	119811	118662	105365	76309
27	27944	28216	33350	27602	20755	10010	9654	75878	120292	118981	104354	74734
28	28532	30471	32912	27602	20725	11108	10770	76285	120854	119507	104077	74520
29	28925	32858	32450	27596	---	9583	12034	76823	120356	120019	104033	74081
30	29848	33683	30038	28606	---	7422	11887	78930	120276	117355	103974	71841
31	30779	---	28919	29235	---	8162	---	80023	---	116607	103930	---
MAX	31335	33683	33561	31303	31050	19513	14429	80023	121177	121921	115463	99459
MIN	21071	22894	28919	17800	19946	7422	6049	13415	82762	116607	103930	71841
a	8099.08	8103.46	8096.13	8096.64	8081.34	8044.28	8058.64	8153.50	8182.14	8179.83	8171.47	8146.46
b	+7922	+2904	-4764	+316	-8510	-12563	+3725	+68136	+40253	-3669	-12677	-32089

CAL YR 1992 b -31942
WTR YR 1993 b +48948

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA

LOCATION.--Lat 37°04'35", long 118°58'04", in SW 1/4 NW 1/4 sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 500 ft downstream from Courtright Dam, 2.5 mi upstream from North Fork Kings River, and 17 mi southeast of town of Huntington Lake.

DRAINAGE AREA.--39.7 mi^2.

PERIOD OF RECORD.--October 1958 to current year. Record for water year 1986 is incomplete.

REVISED RECORDS.--WSP 1715: 1959. WSP 2130: 1959.

GAGE.--Water-stage recorder and broad-crested weir (with low-water 90° V-notch weir since Nov. 13, 1990). Elevation of gage is 7,836 ft above sea level, from photogrammetry survey.

REMARKS.--Flow regulated since October 1958 by Courtright Reservoir (station 11214550) 500 ft upstream and by Helms Creek Project pump/generator facility since June 1984. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 1,340 ft^3/s, Aug. 29, 1969, gage height, 5.81 ft; maximum gage height, 7.70 ft, Aug. 23, 1978; no flow on several days in 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft^3/s, several days in June and July, gage height, 4.17 ft, several days in June and July, maximum gage height, 4.94 ft, Jan. 14, result of freeze-up; minimum daily, 5.2 ft^3/s, Mar. 30, 31, Apr. 13, 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.7	6.5	6.4	6.3	5.9	5.3	6.5	12	21	17	14
2	6.3	6.7	6.5	6.4	6.3	5.9	5.4	6.9	13	22	17	14
3	6.4	6.7	6.4	6.4	6.3	5.9	5.7	7.1	13	22	17	13
4	6.6	6.7	6.4	6.2	6.3	5.9	5.9	7.0	13	22	17	13
5	6.7	6.6	6.4	6.1	6.2	5.9	5.6	7.0	13	22	17	13
6	6.6	6.5	6.4	6.0	6.2	5.8	5.4	7.2	13	21	17	13
7	6.5	6.5	6.4	6.1	6.2	5.8	5.3	7.4	13	22	17	13
8	6.5	6.4	6.4	6.2	6.2	5.7	5.3	7.6	13	22	17	13
9	6.5	6.4	6.4	6.3	6.2	5.6	5.4	7.8	13	22	17	13
10	6.5	6.4	6.4	6.1	6.2	5.6	5.4	7.9	13	19	17	13
11	6.6	6.4	6.4	5.6	6.2	5.6	5.4	8.1	13	15	17	13
12	6.6	6.4	6.4	5.5	6.1	5.6	5.3	8.3	14	15	17	13
13	6.6	6.4	6.5	5.4	6.1	5.5	5.2	8.5	15	16	17	13
14	6.6	6.4	6.5	e5.6	6.1	5.5	5.2	8.7	15	16	17	13
15	6.6	6.4	6.4	5.8	6.0	5.5	5.4	9.2	15	17	17	13
16	6.6	6.4	6.4	6.0	6.0	5.5	5.4	10	16	17	17	13
17	6.6	6.4	6.4	6.1	6.0	5.8	5.3	11	17	17	16	13
18	6.6	6.4	6.4	6.3	6.0	5.8	5.3	11	18	17	16	12
19	6.6	6.4	6.3	6.4	5.9	5.8	5.3	11	18	17	16	11
20	6.5	6.3	6.4	6.6	5.9	5.8	5.3	11	18	17	16	11
21	6.4	6.3	6.4	6.5	5.9	5.8	5.4	11	20	17	16	10
22	6.4	6.3	6.4	6.5	5.9	5.9	5.5	11	22	17	16	10
23	6.4	6.3	6.4	6.5	6.0	5.8	5.5	12	21	17	16	10
24	6.5	6.3	6.4	6.5	6.0	5.7	5.4	12	21	17	15	10
25	6.5	6.2	6.4	6.5	6.1	5.7	5.6	12	22	17	15	10
26	6.5	6.2	6.5	6.3	5.9	5.7	5.9	12	21	17	15	10
27	6.4	6.2	6.5	6.2	5.9	5.5	6.0	12	21	17	15	9.9
28	6.5	6.3	6.6	6.2	5.9	5.3	6.0	12	22	17	15	9.7
29	6.6	6.4	6.6	6.2	---	5.3	6.1	12	21	18	15	9.6
30	7.0	6.5	6.5	6.2	---	5.2	6.4	12	21	18	15	9.5
31	6.7	---	6.4	6.2	---	5.2	---	12	---	17	15	---
TOTAL	202.5	192.5	199.4	191.3	170.3	175.5	165.6	299.2	500	568	504	355.7
MEAN	6.53	6.42	6.43	6.17	6.08	5.66	5.52	9.65	16.7	18.3	16.3	11.9
MAX	7.0	6.7	6.6	6.6	6.3	5.9	6.4	12	22	22	17	14
MIN	6.1	6.2	6.3	5.4	5.9	5.2	5.2	6.5	12	15	15	9.5
AC-FT	402	382	396	379	338	348	328	593	992	1130	1000	706

e Estimated.

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1983, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.4	25.7	25.0	43.0	31.3	43.3	77.0	83.9	73.4	111	209	146
MAX	235	145	212	373	408	642	645	488	410	576	734	890
(WY)	1970	1964	1979	1979	1979	1983	1983	1961	1961	1968	1980	1969
MIN	2.29	.42	.051	.095	.17	.42	1.53	3.35	4.02	3.38	2.39	1.97
(WY)	1973	1971	1971	1971	1971	1971	1971	1971	1971	1976	1977	1977

SUMMARY STATISTICS	WATER YEARS 1959 - 1983	
ANNUAL MEAN	75.4	
HIGHEST ANNUAL MEAN	185	1983
LOWEST ANNUAL MEAN	2.29	1971
HIGHEST DAILY MEAN	986	Aug 29 1969
LOWEST DAILY MEAN	.00	Nov 21 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 3 1970
INSTANTANEOUS PEAK FLOW	1340	Aug 29 1969
INSTANTANEOUS PEAK STAGE	7.70	Aug 23 1978
ANNUAL RUNOFF (AC-FT)	54610	
10 PERCENT EXCEEDS	287	
50 PERCENT EXCEEDS	10	
90 PERCENT EXCEEDS	2.5	

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.8	5.84	4.50	4.68	4.36	4.99	5.65	7.97	12.0	12.5	10.2	7.46
MAX	58.3	8.88	6.43	7.46	6.08	7.65	8.27	11.7	17.5	21.6	18.0	11.9
(WY)	1985	1992	1993	1989	1993	1989	1989	1989	1991	1991	1991	1993
MIN	5.32	4.15	2.92	3.47	3.30	3.48	3.73	5.15	6.80	6.82	6.07	5.71
(WY)	1991	1986	1987	1987	1991	1991	1991	1990	1990	1990	1992	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1985 - 1993	
ANNUAL TOTAL	2484.4		3524.0			
ANNUAL MEAN	6.79		9.65		7.80	
HIGHEST ANNUAL MEAN					9.98	1985
LOWEST ANNUAL MEAN					5.65	1987
HIGHEST DAILY MEAN	12	May 24	22	Jun 22	679	Oct 13 1984
LOWEST DAILY MEAN	3.7	Mar 11	5.2	Mar 30	2.4	Dec 3 1986
ANNUAL SEVEN-DAY MINIMUM	3.8	Mar 7	5.3	Apr 12	2.5	Dec 10 1986
INSTANTANEOUS PEAK FLOW			22	Jun 22		
INSTANTANEOUS PEAK STAGE			4.17	Jun 22		
ANNUAL RUNOFF (AC-FT)	4930		6990		5650	
10 PERCENT EXCEEDS	11		17		13	
50 PERCENT EXCEEDS	6.4		6.5		6.1	
90 PERCENT EXCEEDS	4.2		5.6		3.8	

11214800 WISHON RESERVOIR NEAR CLIFF CAMP, CA

LOCATION.--Lat 37°00'19", long 118°58'07", in NW 1/4 NW 1/4 sec.6, T.11 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right end of dam on North Fork Kings River, 1.2 mi north of Cliff Camp, and 20 mi southeast of Big Creek.

DRAINAGE AREA.--177 mi^2.

PERIOD OF RECORD.--December 1957 to September 1982 (monthend elevation and contents only), October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by rockfill dam completed in 1957. Capacity, 128,600 acre-ft between elevations 6,317 ft, bottom of slide gates, and 6,550 ft, operating crest of spillway gates. Dead storage negligible. Water is diverted to Haas Powerplant. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 129,700 acre-ft, July 29, 1958, elevation, 6,551.1 ft; no contents in 1960.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 127,291 acre-ft, July 8, elevation, 6,548.71 ft; minimum, 34,454 acre-ft, Apr. 18, elevation, 6,431.25 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Apr. 13, 1959)

6,317	40	6,385	11,618	6,440	39,471	6,520	99,807
6,360	2,810	6,400	18,359	6,460	51,900	6,550	129,118
6,370	5,738	6,420	28,362	6,490	74,128	6,551.1	129,733

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51294	40796	40445	46285	42354	41638	41554	42360	89309	125600	116100	92472
2	49435	40700	41920	46572	42016	40885	38821	42089	89203	124563	116042	91754
3	45837	41722	42862	50113	42348	41058	35471	44252	92982	126550	115027	90036
4	41836	41440	43117	54808	43604	41920	36380	45558	94826	126439	114219	89091
5	41404	41860	42596	58138	44436	41818	36095	46578	98187	126054	113109	88503
6	43287	43415	42034	56590	44522	41854	35675	45893	99961	125933	111881	87332
7	45533	43701	44252	54631	45434	41968	36414	45428	100494	125304	110847	86621
8	44891	43811	44142	52763	45168	42312	37273	45255	102211	127291	109000	85119
9	45874	43940	44811	50849	44749	42173	36499	46216	105488	126094	108344	83721
10	44289	43976	44430	47876	44700	41686	36408	48104	105405	125872	107270	82365
11	41650	44021	43178	47332	46472	41297	36226	49796	105312	125690	106080	80985
12	42113	44056	42173	49216	46428	41117	37089	50198	104042	125348	106721	80410
13	43659	44086	40992	52291	45811	40510	38932	50289	106879	124955	105636	79230
14	42004	44111	41070	54658	45508	40190	37596	50393	110290	124975	104722	77777
15	42257	44129	42010	52543	45286	40694	36163	47749	112147	123771	102485	76881
16	42372	44148	43311	49518	44811	41147	36260	44884	113024	123082	102056	75508
17	41506	44148	43293	46572	45731	42717	35981	45199	113750	122803	101102	75606
18	40232	44166	45992	44878	48174	42953	34454	50211	115481	121589	99600	79562
19	41848	44466	45837	44160	48212	42801	36722	54053	119887	120441	98098	83983
20	45156	44485	45391	46079	47564	43500	35167	56807	118176	119966	96577	85988
21	44786	44080	44148	45378	45323	43287	35150	58877	117257	119326	96988	84924
22	43878	44534	44473	44780	43707	43391	36140	59849	116868	119878	97945	83350
23	44007	45273	44608	44540	43336	45310	36345	61911	119385	119483	98861	81854
24	43147	49867	44663	44043	43305	43409	35652	67690	121034	118736	97265	80102
25	42439	51189	43683	46967	43281	43196	35336	72510	122076	118461	95740	78965
26	43311	47977	42808	47408	42626	42929	35477	76447	121173	117706	94499	79753
27	43561	45756	41872	47610	41884	43903	36665	80634	120618	116479	94030	80010
28	42983	43427	42565	47743	41183	41626	37124	82634	120846	115085	92648	79007
29	42832	40980	43439	47307	---	41872	37983	85000	123032	114066	91736	77727
30	42614	40125	45775	45880	---	43311	40790	86501	124784	115674	90358	78411
31	41776	---	46967	44614	---	42662	---	90340	---	115664	89264	---
MAX	51294	51189	46967	58138	48212	45310	41554	90340	124784	127291	116100	92472
MIN	40232	40125	40445	44043	41183	40190	34454	42089	89203	114066	89264	75508
a	6443.88	6441.11	6452.34	6448.55	6442.89	6445.35	6442.23	6507.32	6546.23	6536.99	6508.08	6495.24
b	-7768	-1651	+6842	-2353	-3431	+1479	-1872	+49550	+34444	-9120	-26400	-10853

CAL YR 1992 b +2033
WTR YR 1993 b +28867

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11214900 NORTH FORK KINGS RIVER BELOW WISHON RESERVOIR, CA

LOCATION.--Lat 37°00'05", long 118°58'20", in SE 1/4 NE 1/4 sec.1, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 1,700 ft downstream from Wishon Dam and 20 mi southeast of Big Creek.

DRAINAGE AREA.--178 mi^2.

PERIOD OF RECORD.--October 1986 to current year (since October 1990, no records computed above 25 ft^3/s).

GAGE.--Water-stage recorder and 90° V-notch steel weir and concrete control. Elevation of gage is 6,300 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Wishon Reservoir (station 11214800) and Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas Powerplant. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	12	13	13	13	16	14	21	25	25	22
2	13	12	12	13	13	13	15	14	21	25	25	22
3	13	12	12	13	13	13	15	13	20	---	25	22
4	12	12	12	13	13	13	16	13	19	---	25	22
5	12	12	12	14	14	13	14	13	21	---	25	22
6	12	12	12	15	14	14	13	13	21	---	25	22
7	12	12	12	---	14	14	15	13	21	---	25	22
8	12	12	12	17	16	15	15	13	21	---	25	22
9	12	12	12	15	15	14	15	13	21	---	25	21
10	12	12	12	14	14	14	15	13	21	---	25	21
11	12	12	12	14	14	15	15	13	21	---	24	21
12	12	12	12	14	14	15	14	13	21	---	24	21
13	12	12	12	15	14	15	14	13	21	---	24	21
14	12	12	12	15	14	16	15	13	22	---	24	21
15	12	12	12	16	13	15	15	13	22	---	24	20
16	12	12	12	18	13	15	15	12	22	---	24	20
17	12	12	12	15	13	---	14	14	23	---	24	20
18	12	12	12	14	14	16	16	15	23	---	24	20
19	12	12	13	14	17	15	15	16	24	---	23	21
20	12	12	12	13	15	16	15	16	24	---	23	21
21	12	12	12	14	14	17	14	16	24	---	23	21
22	12	12	12	17	14	17	15	16	24	---	23	21
23	12	12	12	14	13	17	14	16	24	---	23	21
24	12	12	12	14	13	20	14	16	24	---	23	21
25	12	13	12	14	13	16	15	16	24	---	23	21
26	12	13	12	14	13	15	15	16	24	---	23	20
27	12	13	12	14	13	14	14	17	24	---	23	21
28	12	12	12	14	13	14	14	17	24	---	23	21
29	12	12	12	14	---	14	14	17	24	25	23	20
30	16	12	12	14	---	15	14	18	25	25	23	20
31	12	---	13	13	---	16	---	---	---	25	22	---
TOTAL	379	363	374	---	386	---	440	---	671	---	740	631
MEAN	12.2	12.1	12.1	---	13.8	---	14.7	---	22.4	---	23.9	21.0
MAX	16	13	13	---	17	---	16	---	25	---	25	22
MIN	12	12	12	---	13	---	13	---	19	---	22	20
AC-FT	752	720	742	---	766	---	873	---	1330	---	1470	1250

11214900 NORTH FORK KINGS RIVER BELOW WISHON RESERVOIR, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.7	18.2	16.5	16.5	16.6	17.3	16.7	19.5	20.0	15.3	13.5	13.6
MAX	22.9	23.5	22.8	22.0	21.5	22.5	20.3	25.6	28.3	19.5	17.0	17.1
(WY)	1987	1987	1987	1987	1987	1987	1989	1987	1987	1989	1989	1989
MIN	14.9	16.2	8.60	8.23	8.52	9.84	8.74	10.2	8.67	9.01	8.40	8.20
(WY)	1988	1988	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	WATER YEARS 1987 - 1990	
ANNUAL TOTAL		
ANNUAL MEAN	16.8	
HIGHEST ANNUAL MEAN	20.9	1987
LOWEST ANNUAL MEAN	10.1	1990
HIGHEST DAILY MEAN	30	Mar 6 1987
LOWEST DAILY MEAN	7.2	Feb 18 1990
ANNUAL SEVEN-DAY MINIMUM	7.8	Jan 5 1990
INSTANTANEOUS PEAK FLOW	35	Nov 23 1988
INSTANTANEOUS PEAK STAGE	3.59	Nov 23 1988
ANNUAL RUNOFF (AC-FT)	12150	
10 PERCENT EXCEEDS	23	
50 PERCENT EXCEEDS	17	
90 PERCENT EXCEEDS	8.6	

11215000 NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CA

LOCATION.--Lat 36°59'38", long 118°58'49", in NE 1/4 NW 1/4 sec.12, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank at Cliff Camp Bridge, 1 mi northwest of Cliff Camp, 1.2 mi downstream from Wishon Dam, and 2 mi downstream from Woodchuck Creek.

DRAINAGE AREA.--181 mi^2.

PERIOD OF RECORD.--August 1921 to current year (since October 1990, no records computed below 25 ft^3/s). Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1951, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,143.95 ft above sea level (levels by San Joaquin Light and Power Corp.). Prior to Nov. 24, 1922, at site 1 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Flow regulated since Dec. 5, 1957, by Wishon Reservoir (station 11214800) 1.2 mi upstream, and since Oct. 17, 1958, by Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas Powerplant since Dec. 10, 1958. See schematic diagram of Kings River basin. Monthly chemical, trace-element, biological, and sediment data are available in files of the U.S. Geological Survey and in U.S. Geological Survey Open-File Report 88-479. Also available in the same report are daily maximum, minimum, and mean specific-conductance and water-temperature values.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon Reservoir).--Maximum discharge, 14,000 ft^3/s, Dec. 11, 1937, gage height, 18.0 ft, from floodmarks, from rating curve extended above 4,200 ft^3/s on basis of velocity-area studies.
1957 to 1990.--Maximum discharge, 5,110 ft^3/s, Sept. 5, 1978, gage height, 11.96 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	36	45	28	292	---	---
2	---	---	---	---	---	---	35	42	26	598	---	---
3	---	---	---	---	---	---	35	38	---	613	---	---
4	---	---	---	---	---	---	41	33	---	616	---	---
5	---	---	---	---	---	---	33	31	38	611	---	---
6	---	---	---	---	---	---	---	30	34	588	---	---
7	---	---	---	89	---	---	30	29	31	595	---	---
8	---	---	---	37	32	25	37	29	29	566	---	---
9	---	---	---	---	25	---	40	30	28	236	---	---
10	---	---	---	---	---	---	39	32	27	26	---	---
11	---	---	---	---	---	27	37	31	26	26	---	---
12	---	---	---	---	---	28	32	30	25	26	---	---
13	---	---	---	25	---	31	29	27	25	26	---	---
14	---	---	---	---	---	38	33	25	25	25	---	---
15	---	---	---	25	---	33	42	26	25	25	---	---
16	---	---	---	42	---	31	42	27	25	25	---	---
17	---	---	---	---	---	75	38	28	26	25	---	---
18	---	---	---	---	---	48	55	29	26	25	---	---
19	---	---	---	---	43	37	41	28	26	25	---	---
20	---	---	---	---	---	39	43	28	26	25	---	---
21	---	---	---	---	---	46	41	25	26	25	---	---
22	---	---	---	38	---	45	42	---	26	25	---	---
23	---	---	---	26	---	45	36	---	54	25	---	---
24	---	---	---	---	---	75	35	---	912	25	---	---
25	---	---	---	---	---	46	43	25	1860	25	---	---
26	---	---	---	---	---	35	48	---	1980	25	---	---
27	---	---	---	---	---	26	44	---	1530	---	---	---
28	---	---	---	---	---	---	44	---	848	---	---	---
29	---	---	---	---	---	---	47	---	26	---	---	---
30	33	---	---	---	---	26	48	---	25	---	---	---
31	---	---	---	---	---	31	---	29	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11215000 NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.3	49.3	84.9	62.2	93.6	197	709	1670	1177	211	27.7	9.45
MAX	121	550	605	300	212	402	1210	3232	3395	1161	131	37.4
(WY)	1946	1951	1956	1956	1945	1956	1926	1952	1938	1938	1938	1938
MIN	5.54	6.25	7.00	11.6	20.3	36.0	306	357	35.7	5.52	1.83	1.60
(WY)	1956	1930	1931	1924	1948	1924	1948	1934	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1922 - 1957		
ANNUAL MEAN	360		
HIGHEST ANNUAL MEAN	749		1938
LOWEST ANNUAL MEAN	80.2		1924
HIGHEST DAILY MEAN	7460	Dec 23	1955
LOWEST DAILY MEAN	1.3	Sep 9	1924
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 9	1924
INSTANTANEOUS PEAK FLOW	14000	Dec 11	1937
INSTANTANEOUS PEAK STATE	18.00	Dec 11	1937
ANNUAL RUNOFF (AC-FT)	260600		
10 PERCENT EXCEEDS	1240		
50 PERCENT EXCEEDS	63		
90 PERCENT EXCEEDS	6.5		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.3	17.5	15.8	17.8	18.4	20.7	36.1	96.1	173	97.3	17.9	19.1
MAX	24.5	29.4	41.0	49.8	66.9	49.2	298	1170	1339	918	27.0	84.1
(WY)	1987	1966	1967	1969	1986	1986	1986	1969	1983	1967	1986	1978
MIN	7.67	7.53	7.45	7.62	8.20	9.21	8.62	8.45	8.21	7.37	7.56	7.83
(WY)	1960	1960	1963	1964	1964	1961	1961	1961	1961	1964	1961	1964

SUMMARY STATISTICS	WATER YEARS 1960 - 1990		
ANNUAL MEAN	45.5		
HIGHEST ANNUAL MEAN	241		1969
LOWEST ANNUAL MEAN	10.0		1964
HIGHEST DAILY MEAN	3040	Jul 1	1967
LOWEST DAILY MEAN	3.9	Dec 9	1967
ANNUAL SEVEN-DAY MINIMUM	4.2	Dec 6	1967
INSTANTANEOUS PEAK FLOW	5110	Sep 5	1978
INSTANTANEOUS PEAK STAGE	11.96	Sep 5	1978
ANNUAL RUNOFF (AC-FT)	32970		
10 PERCENT EXCEEDS	29		
50 PERCENT EXCEEDS	17		
90 PERCENT EXCEEDS	8.6		

11216100 BLACK ROCK RESERVOIR NEAR BALCH CAMP, CA

LOCATION.--Lat 36°55'13", long 119°01'20", in NW 1/4 NW 1/4 sec.6, T.12 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank at intake tower on North Fork Kings River, 5.6 mi east-northeast of Balch Camp.

DRAINAGE AREA.--233 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete arch-type dam, completed to elevation 4,054 ft in 1927 and raised to 4,098 ft in 1958. Storage began in 1927. Spillway is ungated. Capacity, 1,260 acre-ft between elevation 4,054 ft, fish release valve, and 4,098 ft, top of spillway crest. Water is diverted from reservoir through tunnel to Balch Powerplant 3.7 mi downstream and returns to the North Fork Kings River at Balch Afterbay. Flow is again diverted from Balch Afterbay in a closed conduit to Kings River Powerplant. See schematic diagram of Kings River basin. Records, including extremes, represent contents at 2400 hours.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,275 acre-ft, Mar. 4, 1991, elevation, 4,098.43 ft; minimum, 359 acre-ft, Nov. 3, 1986, elevation 4,064.51 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,296 acre-ft, June 24-26, elevation, 4,099.02 ft; minimum, 579 acre-ft, Mar. 19, elevation, 4,075.02 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas and Electric Co., dated Dec. 1, 1958)

4,050	165	4,065	367	4,080	706	4,095	1,157
4,055	219	4,070	465	4,085	846	4,100	1,331
4,060	286	4,075	579	4,090	996	4,108	1,635

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	957	737	1131	1141	732	665	1060	1291	1286	1291	1054	1082
2	981	807	915	688	715	678	1236	1289	1282	1289	986	1132
3	1009	868	951	584	745	819	1275	1289	1282	1289	891	1192
4	969	874	985	754	798	670	1279	1286	1282	1289	1035	1237
5	1003	912	915	651	731	721	1278	1286	1282	1291	928	1199
6	912	942	702	683	745	1016	1273	1286	1282	1289	1019	1158
7	939	966	796	729	689	885	1273	1286	1279	1289	1178	963
8	963	1006	809	625	731	765	1219	1289	1282	1289	1089	865
9	921	1047	891	734	813	626	1219	1289	1282	1272	1054	1000
10	885	997	709	853	841	629	1212	1289	1286	1268	1158	1070
11	906	1031	790	762	988	939	1209	1291	1289	1272	976	970
12	859	1071	868	868	1003	960	1025	1289	1284	1219	985	982
13	879	1101	927	836	1022	1095	712	1289	1283	1158	903	966
14	909	1035	969	609	1115	1019	1192	1289	1284	1003	1044	891
15	933	1069	939	589	874	754	1282	1289	1286	1212	1092	1003
16	827	1105	979	589	646	768	1282	1289	1286	1138	1216	939
17	857	1141	1038	634	787	784	1282	1291	1286	1082	1168	885
18	877	1115	1092	647	773	629	1281	1291	1283	1182	1119	948
19	896	1148	1112	699	906	579	1268	1291	1185	1212	1115	1060
20	799	1181	1161	681	997	906	1243	1291	1282	1212	1115	1076
21	841	1003	1188	651	816	1057	1285	1291	1282	1239	1216	960
22	847	1044	1006	654	933	1188	1286	1289	1282	1105	1066	903
23	756	1076	1063	824	765	1246	1282	1289	1282	1075	1035	776
24	776	1009	1118	581	588	1250	1282	1289	1296	1131	1128	1022
25	807	1051	1141	737	702	1288	1286	1289	1296	1060	1041	1118
26	836	1089	1195	954	678	1282	1286	1286	1296	1219	1060	1175
27	740	1118	891	1141	694	1282	1286	1282	1286	1229	1057	1125
28	790	1151	957	954	637	1275	1289	1281	1274	1161	1070	654
29	885	1181	948	997	---	1268	1289	1283	1275	921	977	670
30	632	1209	1006	868	---	1147	1289	1286	1279	1229	945	686
31	654	---	1092	827	---	1037	---	1289	---	859	992	---
MAX	1009	1209	1195	1141	1115	1288	1289	1291	1296	1291	1216	1237
MIN	632	737	702	581	588	579	712	1281	1185	859	891	654
a	4078.03	4096.53	4093.03	4084.33	4077.36	4091.31	4098.82	4098.82	4089.54	4085.43	4089.86	4079.24
b	-328	+555	-117	-265	-190	+400	+252	0	-10	-420	+133	-306

CAL YR 1992 b -17
WTR YR 1993 b -296

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11216200 NORTH FORK KINGS RIVER BELOW BALCH DIVERSION DAM, CA

LOCATION.--Lat 36°54'10", long 119°03'00", in NE 1/4 sec.8, T.12 S., R.27 E., Fresno County, Hydrologic Unit 18030010, on right bank 2.0 mi downstream from Balch Diversion Dam (Black Rock Reservoir), 400 ft upstream from Weir Creek, and 4 mi east of Balch Camp.

DRAINAGE AREA.--238 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,890 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100). Water diverted past station from Black Rock Reservoir through tunnel to Balch Powerplant 1.7 mi downstream and returns to the North Fork Kings River at Balch Afterbay. Flow is again diverted from Balch Afterbay in a closed conduit to Kings River Powerplant.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 5,360 ft^3/s, Mar. 4, 1991, gage height, 8.84 ft, from rating curve extended above 827 ft^3/s on basis of computation of spill over Balch Diversion Dam; minimum daily, 0.89 ft^3/s, Oct. 21, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,730 ft^3/s, June 25, gage height, 7.19 ft; minimum daily, 3.8 ft^3/s, several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.8	5.0	12	9.9	21	27	539	559	408	12	7.9
2	3.9	4.6	3.8	14	9.4	21	25	539	480	723	11	8.1
3	3.9	4.6	3.8	7.7	9.3	21	219	529	443	709	11	8.4
4	3.9	4.7	3.9	6.4	8.9	20	406	489	423	712	7.1	8.3
5	3.9	4.6	4.4	6.2	9.2	21	285	444	485	701	10	8.4
6	3.9	4.7	4.6	12	8.9	23	217	446	415	671	7.8	8.4
7	3.8	4.7	18	79	8.8	24	220	423	296	667	8.0	7.9
8	3.8	4.7	6.5	35	15	24	133	458	370	633	7.9	7.4
9	3.8	4.8	5.6	19	27	22	20	489	381	436	7.9	7.5
10	3.8	4.9	5.3	18	17	21	20	536	426	160	8.0	7.9
11	3.8	4.8	13	14	13	21	19	559	451	150	7.9	7.8
12	3.8	4.9	7.1	19	12	20	19	554	457	76	7.6	7.7
13	3.8	4.9	5.6	51	11	20	16	512	470	8.7	7.5	7.7
14	4.5	4.9	5.3	96	11	22	15	500	488	6.7	7.2	7.8
15	4.6	4.9	5.2	43	11	20	146	511	496	9.5	7.8	7.7
16	4.6	4.9	5.0	48	9.6	19	315	557	479	14	8.2	7.8
17	4.5	4.9	5.6	64	11	34	310	639	455	14	8.3	7.7
18	4.5	5.0	5.5	42	19	28	385	617	455	14	8.2	7.7
19	4.6	5.0	5.2	25	40	24	324	616	134	14	7.8	8.0
20	4.6	5.0	5.2	20	31	23	33	615	393	14	7.6	8.2
21	4.5	5.0	5.2	18	24	23	278	586	395	14	7.8	8.0
22	4.5	4.9	5.1	30	22	21	360	569	380	14	8.0	7.7
23	4.5	4.9	4.9	21	44	19	353	583	370	11	7.7	7.7
24	4.4	4.9	4.9	18	35	262	314	599	1070	8.9	7.7	7.8
25	4.3	4.9	4.9	15	27	516	350	610	2220	9.1	7.8	8.0
26	4.4	4.9	4.9	14	31	600	416	543	2420	8.7	7.6	8.5
27	4.5	4.9	4.9	14	25	473	429	480	1890	7.5	7.7	8.6
28	4.6	5.0	5.3	13	23	274	439	452	1250	7.4	7.9	7.3
29	7.0	5.0	27	12	---	197	476	450	301	7.1	7.9	9.7
30	26	5.0	12	12	---	127	520	476	278	9.2	7.6	9.1
31	6.4	---	8.6	10	---	28	---	596	---	14	7.6	---
TOTAL	157.6	145.7	211.3	808.3	523.0	2989	7089	16516	19130	6251.8	254.1	240.7
MEAN	5.08	4.86	6.82	26.1	18.7	96.4	236	533	638	202	8.20	8.02
MAX	26	5.0	27	96	44	600	520	639	2420	723	12	9.7
MIN	3.8	4.6	3.8	6.2	8.8	19	15	423	134	6.7	7.1	7.3
AC-FT	313	289	419	1600	1040	5930	14060	32760	37940	12400	504	477

11216200 NORTH FORK KINGS RIVER BELOW BALCH DIVERSION DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.38	7.96	5.98	7.93	26.1	64.7	82.5	118	149	26.2	5.68	5.50
MAX	7.06	26.4	18.8	26.1	193	441	541	615	810	202	8.20	8.02
(WY)	1992	1984	1984	1993	1986	1986	1986	1986	1986	1993	1993	1993
MIN	3.48	3.54	3.18	3.16	4.69	5.43	3.59	3.25	2.84	3.10	3.14	3.06
(WY)	1988	1991	1987	1987	1985	1988	1987	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1984 - 1993		
ANNUAL TOTAL	2112.4		54316.5				
ANNUAL MEAN	5.77		149		42.0		
HIGHEST ANNUAL MEAN					221		1986
LOWEST ANNUAL MEAN					3.97		1987
HIGHEST DAILY MEAN	27	Dec 29	2420	Jun 26	2420	Jun 26	1993
LOWEST DAILY MEAN	3.5	Apr 28	3.8	Oct 7	.89	Oct 21	1984
ANNUAL SEVEN-DAY MINIMUM	3.8	Oct 7	3.8	Oct 7	2.5	May 24	1984
INSTANTANEOUS PEAK FLOW			2730	Jun 25	5360	Mar 4	1991
INSTANTANEOUS PEAK STAGE			7.19	Jun 25	8.84	Mar 4	1991
ANNUAL RUNOFF (AC-FT)	4190		107700		30450		
10 PERCENT EXCEEDS	7.4		504		15		
50 PERCENT EXCEEDS	4.9		13		5.6		
90 PERCENT EXCEEDS	4.3		4.7		3.4		

11216400 DINKEY CREEK SIPHON FISH RELEASE AT BALCH CAMP, CA

LOCATION.--Lat 36°54'29", long 119°07'27", in NW 1/4 NE 1/4 sec.10, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, in concrete vault on right bank of Dinkey Creek, 200 ft downstream from Dinkey Creek Siphon at invert of Kings River Powerplant Conduit, and 1,700 ft northwest of Balch Camp.

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

GAGE.--Pressure-differential flowmeter. Elevation of gage is 1,320 ft above sea level, from topographic map.

REMARKS.--Water diverted from the North Fork Kings River is released into Dinkey Creek for fishery enhancement from June 1 to Sept. 30 when natural flow of Dinkey Creek is equal to or less than 60 ft^3/s. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 15 ft^3/s, several days in October 1990, September to October 1991, and many days in September 1992; no flow many days most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	6.0	.00	.00	.00	.00	.00	.00	.00	.00	e4.7	5.6
2	10	6.0	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
3	10	6.0	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
4	10	3.5	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
5	9.8	.00	e1.1	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
6	8.5	.00	e1.0	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
7	8.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
8	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
9	7.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	e8.0	5.6
10	7.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	e6.6	5.6
11	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
12	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
13	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
14	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
15	7.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
16	7.8	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
17	8.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.4	5.6
18	8.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	5.6
19	8.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	5.6
20	8.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	5.5
21	8.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.5
22	8.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.5
23	8.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.5
24	7.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.4
25	7.7	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.4
26	8.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e5.3
27	8.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e7.1
28	8.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	e8.4
29	8.2	.00	.00	.00	---	.00	.00	.00	.00	.00	5.5	e8.4
30	3.2	.00	.00	.00	---	.00	.00	.00	.00	.00	5.5	8.1
31	6.2	---	.00	.00	---	.00	---	.00	---	.00	5.5	---
TOTAL	250.9	21.50	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.1	176.5
MEAN	8.09	.72	.068	.000	.000	.000	.000	.000	.000	.000	6.13	5.88
MAX	12	6.0	1.1	.00	.00	.00	.00	.00	.00	.00	8.0	8.4
MIN	3.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.7	5.3
AC-FT	498	43	4.2	.00	.00	.00	.00	.00	.00	.00	377	350

e Estimated.

11216400 DINKEY CREEK SIPHON FISH RELEASE AT BALCH CAMP, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.14	1.64	.75	.26	.20	.000	.000	.000	3.07	6.62	8.78	9.83
MAX	14.4	7.09	3.20	1.71	1.41	.000	.000	.000	5.63	11.0	11.2	15.0
(WY)	1991	1991	1991	1990	1991	1987	1987	1987	1992	1990	1990	1992
MIN	.22	.000	.000	.000	.000	.000	.000	.000	.000	.000	5.57	5.33
(WY)	1987	1987	1987	1987	1987	1987	1987	1987	1991	1993	1987	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	1426.30		641.10			
ANNUAL MEAN	3.90		1.76		3.21	
HIGHEST ANNUAL MEAN					4.76	1991
LOWEST ANNUAL MEAN					1.71	1987
HIGHEST DAILY MEAN	15	Sep 1	12	Oct 1	15	Oct 12 1990
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 5	.00	Oct 3 1986
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 5	.00	Oct 3 1986
ANNUAL RUNOFF (AC-FT)	2830		1270		2320	
10 PERCENT EXCEEDS	13		7.4		11	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA

LOCATION.--Lat 36°54'12", long 119°07'14", in SE 1/4 NE 1/4 sec.10, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 12 ft downstream from bridge at Balch Camp, 300 ft upstream from Dinkey Creek, and 9.3 mi east of Trimmer.

DRAINAGE AREA.--250 mi^2.

PERIOD OF RECORD.--October 1919 to September 1930 (published as "above Dinkey Creek"), March 1960 to current year. Records for water year 1920 incomplete; yearly estimate and monthly discharge only for some months, published in WSP 1315-A.
WATER TEMPERATURE: Water years 1968-79.
REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder and Cippoletti weir since May 9, 1988. Concrete control Apr. 15, 1966, to May 9, 1988. Elevation of gage is 1,240 ft above sea level, from river-profile map. October 1919 to Sept. 30, 1930, and Mar. 24, 1960, to Apr. 14, 1966, at site 100 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100); Balch Afterbay, capacity, 318 acre-ft; and Haas and Balch Powerplants. Water is diverted from Balch Afterbay to Kings River Powerplant, beginning Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon and Courtright Reservoirs).--Maximum discharge, 6,080 ft^3/s, June 4, 1922, gage height, 12.18 ft, site and datum then in use; minimum, 4.0 ft^3/s, Aug. 29 to Sept. 1, 1924.
1960 to current year: Maximum discharge, 14,000 ft^3/s, Feb. 1, 1963, gage height, 13.24 ft, site and datum then in use, backwater from Dinkey Creek, from rating curve extended above 890 ft^3/s; minimum daily, 0.30 ft^3/s, Nov. 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,170 ft^3/s, June 26, gage height, 5.16 ft; minimum daily, 11 ft^3/s, Oct. 6, Nov. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	12	17	16	19	30	488	493	295	18	18
2	13	14	13	20	16	18	29	480	396	641	18	17
3	12	13	13	17	16	18	102	470	356	625	18	18
4	12	12	12	15	14	17	220	417	334	645	17	17
5	12	13	12	14	13	17	207	348	415	633	17	18
6	11	13	14	15	12	17	163	361	338	600	16	17
7	13	13	18	54	12	17	160	324	337	597	18	18
8	12	13	14	28	14	16	114	371	275	561	19	18
9	12	13	14	20	17	16	27	410	286	394	18	18
10	12	12	13	23	15	15	27	461	326	125	18	18
11	13	14	17	20	14	15	27	492	360	106	17	19
12	12	13	15	19	14	14	27	486	364	83	17	20
13	13	13	14	30	14	14	26	427	380	62	17	19
14	12	13	13	99	13	15	28	415	410	56	17	19
15	12	14	13	37	13	14	70	430	418	46	17	17
16	12	13	15	29	13	14	222	484	395	32	17	18
17	14	12	15	46	12	16	217	532	365	24	17	18
18	13	12	15	39	15	14	298	570	365	23	17	17
19	12	13	14	25	18	14	234	565	131	23	18	17
20	12	12	14	22	24	14	68	550	239	22	17	17
21	13	11	14	20	20	13	215	526	303	23	18	17
22	13	12	14	21	19	13	270	492	287	22	18	16
23	12	13	13	19	35	13	261	511	273	19	18	16
24	13	13	13	18	53	26	215	533	986	19	18	19
25	13	14	13	18	26	287	250	555	2370	18	18	18
26	12	13	13	17	25	427	331	480	2570	18	18	18
27	13	13	13	17	21	223	350	386	2020	17	18	17
28	14	13	13	17	20	213	355	356	1290	18	18	17
29	15	12	18	17	---	155	409	347	218	18	18	17
30	20	12	19	17	---	119	463	381	193	18	18	17
31	14	---	17	17	---	31	---	515	---	18	18	---
TOTAL	398	385	440	787	514	1834	5415	14163	17493	5801	546	530
MEAN	12.8	12.8	14.2	25.4	18.4	59.2	180	457	583	187	17.6	17.7
MAX	20	14	19	99	53	427	463	570	2570	645	19	20
MIN	11	11	12	14	12	13	26	324	131	17	16	16
AC-FT	789	764	873	1560	1020	3640	10740	28090	34700	11510	1080	1050

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1930, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.2	69.3	65.4	66.4	132	280	779	1877	1136	164	29.0	15.3
MAX	52.1	225	130	111	397	498	1434	3040	3200	472	73.8	41.2
(WY)	1921	1928	1923	1923	1927	1921	1926	1922	1922	1922	1922	1923
MIN	10.0	11.2	18.7	24.1	42.2	54.6	389	552	42.2	9.50	5.40	5.09
(WY)	1922	1922	1930	1926	1924	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1920 - 1930		
ANNUAL MEAN	387		
HIGHEST ANNUAL MEAN	646		1922
LOWEST ANNUAL MEAN	102		1924
HIGHEST DAILY MEAN	4890	Jun 4	1922
LOWEST DAILY MEAN	4.0	Aug 29	1924
ANNUAL SEVEN-DAY MINIMUM	4.2	Aug 28	1924
INSTANTANEOUS PEAK FLOW	6080	Jun 4	1922
INSTANTANEOUS PEAK STAGE	12.18	Jun 4	1922
ANNUAL RUNOFF (AC-FT)	280500		
10 PERCENT EXCEEDS	1300		
50 PERCENT EXCEEDS	74		
90 PERCENT EXCEEDS	11		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.6	20.6	27.2	46.2	47.0	40.9	67.8	218	303	161	51.2	30.0
MAX	60.5	92.3	332	408	239	405	490	1838	2042	1176	822	331
(WY)	1962	1962	1967	1969	1962	1986	1986	1969	1983	1967	1960	1960
MIN	5.80	5.42	5.87	8.07	7.32	7.29	7.18	4.54	6.81	7.34	8.86	8.72
(WY)	1978	1978	1978	1977	1964	1971	1971	1977	1977	1968	1976	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993		
ANNUAL TOTAL	4721		48306				
ANNUAL MEAN	12.9		132		82.2		
HIGHEST ANNUAL MEAN					406		1983
LOWEST ANNUAL MEAN					8.47		1977
HIGHEST DAILY MEAN	25	Feb 15	2570	Jun 26	7680	Dec 6	1966
LOWEST DAILY MEAN	11	Jan 8	11	Oct 6	.30	Nov 3	1964
ANNUAL SEVEN-DAY MINIMUM	12	Jun 7	12	Oct 3	4.3	May 30	1977
INSTANTANEOUS PEAK FLOW			3170	Jun 26	14000	Feb 1	1963
INSTANTANEOUS PEAK STAGE			5.16	Jun 26	13.24	Feb 1	1963
ANNUAL RUNOFF (AC-FT)	9360		95810		59520		
10 PERCENT EXCEEDS	14		417		177		
50 PERCENT EXCEEDS	12		18		15		
90 PERCENT EXCEEDS	12		13		8.2		

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA

LOCATION.--Lat 36°52'47", long 119°07'40", in NE 1/4 NW 1/4 sec.22, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 1.1 mi upstream from mouth, 1.7 mi south of Balch Camp, 2.1 mi downstream from Dinkey Creek, and 9 mi east of Trimmer.

DRAINAGE AREA.--387 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,035 ft above sea level, from river-profile map.

REMARKS.--No estimated daily discharges. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100); Balch Afterbay, capacity, 318 acre-ft; and Haas and Balch Powerplants. Water is diverted from Balch Afterbay to Kings River Powerplant, beginning Mar. 1, 1962. Some water diverted from Balch Afterbay returns upstream from station at a release to Dinky Creek. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 27,400 ft^3/s, Feb. 1, 1963, gage height, 19.20 ft, from rating curve extended above 10,100 ft^3/s; minimum daily, 6.4 ft^3/s, Oct. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,690 ft^3/s, May 31, gage height, 8.59 ft; minimum daily, 26 ft^3/s, Oct. 9, 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	88	28	86	157	218	613	2310	2070	783	84	47
2	30	75	30	132	153	217	616	2290	1690	1240	84	46
3	29	71	30	81	153	232	686	2170	1480	1170	81	46
4	29	65	30	73	147	223	929	1970	1420	1140	81	45
5	30	60	29	67	165	231	982	1760	1730	1120	78	45
6	28	52	31	70	164	263	675	1740	1300	1060	75	44
7	29	48	92	962	167	307	661	1630	1140	1030	75	45
8	27	45	50	616	268	336	735	1840	1120	955	75	44
9	26	42	47	305	334	337	726	2060	1160	719	72	44
10	27	38	58	256	237	320	733	2300	1400	335	70	43
11	27	37	90	195	207	342	744	2360	1550	305	66	44
12	27	35	71	174	188	364	709	2290	1570	279	64	44
13	27	34	52	404	178	379	619	2050	1620	249	64	44
14	27	33	50	1210	171	467	653	2000	1680	229	63	44
15	26	34	49	454	166	455	813	2060	1700	208	62	41
16	27	33	48	494	159	403	1080	2320	1600	184	62	42
17	30	32	54	562	153	900	1040	2420	1460	164	61	42
18	29	32	51	424	158	921	1220	2590	1450	155	60	43
19	29	32	47	302	392	639	1060	2540	1160	147	58	43
20	29	31	49	246	358	585	928	2520	1230	140	57	42
21	30	31	48	228	282	664	1260	2350	1150	137	56	41
22	30	30	47	429	247	695	1370	2240	1060	132	56	40
23	33	34	47	353	396	720	1290	2320	1050	122	54	39
24	31	33	49	273	425	976	1090	2370	1780	119	53	43
25	29	32	50	232	305	1230	1310	2450	2970	115	52	42
26	28	32	51	212	297	1600	1650	2060	3130	112	51	41
27	30	32	50	202	257	952	1730	1760	2650	105	50	41
28	34	31	51	195	232	815	1840	1600	2010	100	49	41
29	48	31	137	184	---	623	2050	1570	750	93	48	41
30	559	29	98	176	---	636	2250	1720	659	89	48	40
31	155	---	74	166	---	544	---	2350	---	84	47	---
TOTAL	1572	1232	1688	9763	6516	17594	32062	66010	46739	12820	1956	1287
MEAN	50.7	41.1	54.5	315	233	568	1069	2129	1558	414	63.1	42.9
MAX	559	88	137	1210	425	1600	2250	2590	3130	1240	84	47
MIN	26	29	28	67	147	217	613	1570	659	84	47	39
AC-FT	3120	2440	3350	19360	12920	34900	63590	130900	92710	25430	3880	2550

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.1	89.1	141	219	276	343	600	1020	825	276	59.4	49.6
MAX	288	347	920	1187	1269	1329	2163	4253	4210	1894	422	233
(WY)	1983	1984	1967	1980	1986	1986	1982	1969	1983	1983	1961	1978
MIN	10.6	17.6	19.3	26.3	30.0	48.1	111	129	47.3	21.9	16.2	14.1
(WY)	1978	1978	1977	1991	1991	1977	1977	1977	1976	1976	1968	1968

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993	
ANNUAL TOTAL	47939		199239			
ANNUAL MEAN	131		546		329	
HIGHEST ANNUAL MEAN					1045	1983
LOWEST ANNUAL MEAN					49.2	1977
HIGHEST DAILY MEAN	699	Apr 30	3130	Jun 26	14900	Dec 6 1966
LOWEST DAILY MEAN	26	Oct 9	26	Oct 9	6.4	Oct 3 1977
ANNUAL SEVEN-DAY MINIMUM	27	Oct 9	27	Oct 9	9.6	Oct 2 1977
INSTANTANEOUS PEAK FLOW			3690	May 31	27400	Feb 1 1963
INSTANTANEOUS PEAK STAGE			8.59	May 31	19.20	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	95090		395200		238000	
10 PERCENT EXCEEDS	474		1730		813	
50 PERCENT EXCEEDS	52		166		93	
90 PERCENT EXCEEDS	31		31		28	

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 36°52'29", long 119°08'27", in SW 1/4 NE 1/4 sec.21, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, on right bank 0.8 mi downstream from North Fork, 2.4 mi southwest of Balch Camp, and 8.5 mi southeast of Trimmer.
DRAINAGE AREA.--1,342 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to September 1993 (discontinued). Prior to January 1952 monthly discharge only, published in WSP 1735. Published as Kings River below North Fork, October 1951 to September 1965. Published records for 1962 to 1984 for station 11218500 include flow diverted to Kings River Powerplant.
REVISED RECORDS.--WSP 1930: Drainage area. WDR CA-72-2: Adjusted data for 1971.
GAGE.--Water-stage recorder. Datum of gage is 942.42 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Courtright and Wishon Reservoirs (stations 11214550 and 11214800). Water is diverted from Balch Afterbay on the North Fork Kings River to Kings River Powerplant, beginning Mar. 1, 1962. This station measures inflow to Pine Flat Lake (station 11221000). See schematic diagram of Kings River basin. For records of combined discharge of river and powerplant, see following page.
COOPERATION.--Records of diversion to Kings River Powerplant and contents for Courtright and Wishon Reservoirs were provided by Pacific Gas & Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,200 ft^3/s, Dec. 23, 1955, gage height, 23.08 ft, from rating curve extended above 22,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 73 ft^3/s, Oct. 3, 1977.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 21.6 ft from floodmarks, discharge, 74,200 ft^3/s.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 12,900 ft^3/s, May 20, gage height, 10.45 ft; minimum daily, 100 ft^3/s, Oct. 14.
Combined river and powerplant: Maximum daily discharge, 12,600 ft^3/s, May 24; minimum daily, 100 ft^3/s, Oct. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	416	170	503	716	1200	2580	7920	8500	6520	1950	581
2	106	369	178	865	672	1170	2580	8390	7110	7170	1910	551
3	108	364	178	566	649	1220	2800	8200	6430	6750	1970	531
4	111	366	174	490	618	1190	3230	7470	6410	6320	1980	522
5	112	360	170	455	671	1210	3110	6350	7050	6530	1910	519
6	107	358	176	466	692	1350	2630	6450	5720	6800	1800	509
7	106	348	421	3020	692	1480	2460	5820	5010	6720	1700	492
8	104	352	299	2540	935	1580	2590	6040	5430	6540	1530	462
9	103	335	252	1400	1320	1600	2770	6790	5860	5770	1370	431
10	102	300	288	1290	1040	1510	2860	8280	6820	5210	1360	410
11	101	273	463	1070	916	1560	2900	9070	7860	4810	1250	396
12	101	258	424	964	845	1620	2830	8890	8170	4720	1140	384
13	101	248	314	1910	793	1660	2630	7880	8900	4150	1040	378
14	100	242	294	4810	760	1940	2620	7560	9720	3700	982	366
15	101	239	294	2360	723	1940	2850	7750	10200	3390	959	351
16	103	237	279	2440	691	1750	3220	8420	9810	2950	935	341
17	108	232	294	2470	662	2800	3290	9170	8880	2600	881	339
18	107	225	308	2270	815	3070	3450	10300	8550	2470	836	337
19	106	221	266	1800	1900	2510	3170	11300	8770	2520	815	324
20	106	218	264	1500	1930	2370	3250	11500	9190	2500	786	306
21	111	207	276	1350	1600	2500	3830	11200	7400	2500	746	291
22	113	208	263	1720	1470	2620	4050	10800	7370	2400	702	302
23	122	210	264	1500	2160	2740	4020	11100	7340	2450	677	272
24	116	202	272	1270	2360	3260	3610	11500	8470	2750	690	267
25	114	198	268	1090	1810	3870	3910	11200	10500	2850	703	258
26	117	198	264	1010	1720	4650	4850	9230	11100	2890	686	249
27	122	193	259	957	1500	3220	5320	7910	10500	2660	654	242
28	134	193	261	913	1320	2940	5670	7070	8960	2640	633	238
29	166	185	791	857	---	2540	6420	7080	6910	2400	653	235
30	1580	176	680	812	---	2460	7260	8080	6170	2310	638	230
31	712	---	454	767	---	2370	---	9800	---	2080	606	---
TOTAL	5514	7931	9558	45435	31980	67900	106760	268520	239110	126070	34492	11114
MEAN	178	264	308	1466	1142	2190	3559	8662	7970	4067	1113	370
MAX	1580	416	791	4810	2360	4650	7260	11500	11100	7170	1980	581
MIN	100	176	170	455	618	1170	2460	5820	5010	2080	606	230
AC-FT	10940	15730	18960	90120	63430	134700	211800	532600	474300	250100	68410	22040

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	338	450	665	961	1112	1444	2622	5474	5572	2729	942	511
MAX	1542	1691	3530	4060	4814	4497	6599	14570	16130	9602	4309	2625
(WY)	1983	1983	1967	1969	1986	1986	1982	1969	1983	1967	1983	1982
MIN	115	138	131	150	140	242	859	984	739	326	178	101
(WY)	1978	1991	1977	1991	1991	1977	1976	1977	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1962 - 1993		
ANNUAL TOTAL	278680		954384				
ANNUAL MEAN	761		2615		1899		
ADJUSTED MEAN a	961		3239				
HIGHEST ANNUAL MEAN					4775		1983
LOWEST ANNUAL MEAN					450		1977
HIGHEST DAILY MEAN	4140	Apr 30	11500	May 20	45300	Dec 6	1966
LOWEST DAILY MEAN	100	Oct 14	100	Oct 14	73	Oct 3	1977
ANNUAL SEVEN-DAY MINIMUM	101	Oct 9	101	Oct 9	79	Sep 30	1977
INSTANTANEOUS PEAK FLOW			12900	May 20	85200	Dec 23	1955
INSTANTANEOUS PEAK STAGE			10.45	May 20	23.08	Dec 23	1955
ANNUAL RUNOFF (AC-FT)	552800		1893000		1376000		
ADJUSTED MEAN RUNOFF (AC-FT) a	695700		2345000				
10 PERCENT EXCEEDS	2070		7870		5160		
50 PERCENT EXCEEDS	329		1320		770		
90 PERCENT EXCEEDS	133		182		205		

a Adjusted for diversion to Kings River Powerplant and change in contents in Wishon and Courtright Reservoirs.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956 to September 1993 (discontinued).
CHEMICAL DATA: Water years 1956-66, 1968-70, 1973 to September 1993 (discontinued).
BIOLOGICAL DATA: Water years 1978-81.
WATER TEMPERATURE: Water years 1967-88.
SEDIMENT DATA: Water years 1978 to September 1993 (discontinued).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1966 to September 1988.

REMARKS.--Water-quality samples are obtained at the gaging station upstream from the powerplant. There was no backwater during the year.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	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-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
09...	1310	330	48	7.7	12.0	0.50	735	10.2	98	K9	K3
JAN											
06...	1305	455	58	7.5	5.0	0.70	730	12.1	99	K3	K5
MAR											
09...	1530	1560	52	7.5	10.0	1.2	739	11.1	101	K2	K2
JUL											
13...	1550	4020	19	7.3	17.0	0.20	734	9.2	99	<2	<3
SEP											
14...	1335	364	42	7.6	19.0	0.30	737	9.2	103	2	<2

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3
NOV											
09...	15	0	5.1	0.59	3.6	33	0.4	0.80	19	0	16
JAN											
06...	20	2	6.7	0.89	4.0	29	0.4	0.80	22	0	18
MAR											
09...	19	0	6.1	0.87	3.8	29	0.4	0.90	24	0	20
JUL											
13...	6	0	2.0	0.20	1.2	30	0.2	0.30	9	0	7
SEP											
14...	13	0	4.2	0.50	2.6	30	0.3	0.70	18	0	15

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV										
09...	4.1	2.5	0.10	8.4	42	35	0.06	0.010	0.010	<0.050
JAN										
06...	4.9	2.1	0.10	12	43	43	0.06	--	0.020	--
MAR										
09...	3.4	1.4	0.10	15	43	44	0.06	--	<0.010	--
JUL										
13...	1.2	0.20	<0.10	4.6	15	14	0.02	--	<0.010	--
SEP										
14...	3.0	1.0	0.10	8.0	26	29	0.03	--	<0.010	--

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

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

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)
NOV										
09...	<0.050	0.010	0.020	<0.20	0.020	0.030	<0.010	<0.010	<10	7
JAN										
06...	0.180	--	0.050	<0.20	0.020	0.010	--	<0.010	--	--
MAR										
09...	0.060	--	0.020	<0.20	<0.010	0.020	--	0.010	<10	8
JUL										
13...	<0.050	--	0.020	<0.20	0.010	<0.010	--	<0.010	30	3
SEP										
14...	<0.050	--	0.020	<0.20	<0.010	<0.010	--	<0.010	<10	6

DATE	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)
NOV										
09...	<3	16	<4	1	<10	<1	<1	<1.0	33	<6
JAN										
06...	--	--	--	--	--	--	--	--	--	--
MAR										
09...	<3	26	<4	2	<10	<1	<1	<1.0	38	<6
JUL										
13...	<3	14	<4	1	<10	<1	<1	<1.0	12	<6
SEP										
14...	<3	13	8	1	<10	1	<1	<1.0	27	<6

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

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

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUL											
13...*	1530	9.00	165	20	7.3	17.0	734	9.3	100	6	73
13...*	1540	10.0	137	20	7.4	17.0	734	9.4	101	6	67
13...*	1550	10.7	112	18	7.3	17.0	734	9.4	101	11	36
13...*	1600	11.1	95.0	20	7.3	17.0	734	9.4	101	10	44
13...*	1608	9.70	80.0	19	7.2	17.0	734	9.4	101	6	65
SEP											
14...*	1340	2.60	39.0	48	8.0	19.0	737	9.0	100	0	--
14...*	1343	3.06	64.0	46	8.1	19.0	737	9.0	100	0	--
14...*	1345	2.92	85.0	43	7.9	19.0	737	9.0	100	0	--
14...*	1348	2.60	107	44	8.0	19.0	737	9.1	102	0	--
14...*	1350	2.54	135	43	8.0	19.0	737	9.3	104	--	--

* Instantaneous discharge at the time of cross-sectional measurement: July 13, 4,020 ft^3/s; Sept. 14, 364 ft^3/s.

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

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
09...	1305	330	12.0	2	1.8	82
JAN						
06...	1310	455	5.0	2	2.5	81
MAR						
09...	1540	1560	10.0	6	25	62
JUL						
13...	1535	4040	17.0	9	98	56
SEP						
14...	1335	364	19.0	1	1	--

11218501 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

KINGS RIVER BELOW NORTH FORK AND KINGS RIVER POWERPLANT
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	416	170	579	1090	1690	3120	8900	9500	7320	2370	1220
2	106	369	330	1200	977	1670	3400	9360	7990	8080	2600	1290
3	108	364	178	701	976	1720	3740	9150	7350	7620	2640	1400
4	111	366	174	668	942	1800	4140	8450	7340	7180	2620	928
5	112	360	170	681	953	1740	4130	7350	7930	7380	2570	956
6	107	358	336	765	816	1760	3680	7350	6630	7650	2420	991
7	106	348	483	3740	905	2120	3450	6810	5750	7560	2210	1300
8	104	352	299	2890	1370	2220	3570	7040	6320	7390	2030	1220
9	103	335	320	1590	1610	2200	3610	7750	6790	6620	2010	1070
10	102	300	432	1510	1330	2110	3670	9250	7700	6060	1890	945
11	101	273	532	1560	1200	2100	3730	10000	8770	5660	1930	1060
12	101	258	424	1420	1130	2250	3670	9860	9070	5500	1820	882
13	101	248	314	2610	1100	2280	3430	8840	9790	4940	1690	1030
14	100	242	294	5580	1030	2580	3410	8540	10600	4390	1520	1080
15	101	239	294	2900	1150	2280	3660	8540	11100	4100	1280	959
16	103	237	279	2810	1230	1960	4240	9320	10700	3700	1550	1020
17	108	232	294	2760	1050	3350	4260	10300	9730	3320	1640	1140
18	107	225	308	2500	1220	3430	4440	11200	9420	3220	1580	1160
19	106	221	266	1970	2420	2820	4160	12200	9590	3270	1530	1010
20	106	218	264	1780	2550	2940	4220	12300	10100	3170	1520	1050
21	111	331	276	1590	2210	3090	4590	12300	8260	3080	1360	1050
22	113	208	423	2060	2120	3280	5030	11700	8260	3140	1210	1050
23	122	210	264	1810	2860	3340	5020	12000	8210	3100	1290	1010
24	116	202	272	1840	3030	4080	4590	12600	9310	3370	1440	963
25	114	198	268	1170	2300	4830	4890	12200	11400	3270	1430	872
26	117	198	264	1010	2300	5650	5830	10200	12000	3480	1410	664
27	122	193	437	957	2020	4270	6310	8830	11300	3310	1350	844
28	134	193	261	1120	1860	3940	6640	8010	9840	3220	1380	1050
29	166	185	941	1200	---	3500	7400	8040	7760	2930	1180	1050
30	2090	176	826	1220	---	3250	8240	8970	7010	2830	1300	933
31	712	---	454	1250	---	2940	---	10700	---	2780	1110	---
TOTAL	6024	8055	10847	55441	43749	87190	134270	298060	265520	148640	53880	31197
MEAN	194	268	350	1788	1562	2813	4476	9615	8851	4795	1738	1040
MAX	2090	416	941	5580	3030	5650	8240	12600	12000	8080	2640	1400
MIN	100	176	170	579	816	1670	3120	6810	5750	2780	1110	664
AC-FT	11950	15980	21520	110000	86780	172900	266300	591200	526700	294800	106900	61880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1993, BY WATER YEAR (WY)

MEAN	565	603	887	1116	1314	1667	3096	6023	6113	3059	1332	831
MAX	1739	2137	4695	4607	5473	5377	7328	15510	17070	10420	5104	3440
(WY)	1983	1983	1956	1969	1986	1986	1982	1969	1983	1967	1983	1982
MIN	130	136	139	167	146	352	915	1042	832	471	333	159
(WY)	1955	1960	1960	1991	1991	1977	1977	1977	1976	1976	1954	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1952 - 1993	
ANNUAL TOTAL	365763		1142873			
ANNUAL MEAN	999		3131		2184	
HIGHEST ANNUAL MEAN					5567	1983
LOWEST ANNUAL MEAN					547	1977
HIGHEST DAILY MEAN	4620	May 9	12600	May 24	52500	Dec 23 1955
LOWEST DAILY MEAN	100	Oct 14	100	Oct 14	86	Oct 1 1977
ANNUAL SEVEN-DAY MINIMUM	101	Oct 9	101	Oct 9	99	Sep 20 1977
ANNUAL RUNOFF (AC-FT)	725500		2267000		1583000	
10 PERCENT EXCEEDS	2520		8790		5740	
50 PERCENT EXCEEDS	666		1800		1130	
90 PERCENT EXCEEDS	161		193		246	

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA

LOCATION.--Lat 36°49'50", long 119°20'07", in SW 1/4 NW 1/4 sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030012, on right bank 0.6 mi downstream from Pine Flat Dam, 0.6 mi downstream from the hydroelectric plant on the right bank at the foot of the dam, and 2.9 mi northeast of Piedra.

DRAINAGE AREA.--1,545 mi^2.

PERIOD OF RECORD.--Water years 1956-66, 1970 to current year.
WATER-DISCHARGE RECORDS: Water years 1954-90
CHEMICAL DATA: Water years 1956-66.
WATER TEMPERATURE: Water years 1970 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1969 to current year.

INSTRUMENTATION.--Water-temperature recorder since October 1969.

REMARKS.--Interruptions in record were due to malfunction of recording equipment. Water temperature is affected by regulation from Pine Flat Dam and the powerplant.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 26.0°C, Aug. 7, 26-28, Sept. 10, 1990; minimum recorded, 6.0°C, Feb. 13-16, 1989, Dec. 24, 1990, Mar. 8, 1992.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 23.0°C, Oct. 1-3; minimum recorded, 6.5°C, Feb. 3, 4.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.0	20.0	18.5	15.5	14.5	12.0	---	---	---	---	---	---
2	23.0	20.0	18.5	15.0	14.0	11.5	---	---	---	---	---	---
3	23.0	19.5	18.5	15.0	14.5	10.5	---	---	10.0	6.5	---	---
4	22.5	20.0	18.5	15.0	13.5	9.5	---	---	9.5	6.5	---	---
5	22.5	19.5	17.5	15.0	---	---	---	---	---	---	---	---
6	22.5	19.0	17.5	15.0	---	---	---	---	---	---	---	---
7	---	---	17.0	14.0	---	---	---	---	---	---	---	---
8	---	---	17.0	14.0	---	---	---	---	---	---	---	---
9	---	---	16.5	14.0	---	---	---	---	---	---	---	---
10	---	---	16.0	14.0	---	---	---	---	---	---	---	---
11	---	---	16.0	14.0	---	---	---	---	---	---	---	---
12	---	---	15.5	14.0	---	---	---	---	---	---	---	---
13	---	---	14.5	13.5	---	---	---	---	---	---	---	---
14	---	---	15.5	13.5	---	---	---	---	---	---	---	---
15	22.5	19.5	15.0	13.0	---	---	---	---	---	---	---	---
16	22.0	19.5	15.5	13.0	---	---	---	---	---	---	---	---
17	22.0	19.5	15.5	13.0	---	---	---	---	---	---	---	---
18	22.0	19.5	15.0	12.5	---	---	---	---	---	---	---	---
19	22.0	19.5	---	---	---	---	---	---	---	---	---	---
20	22.0	19.0	---	---	---	---	---	---	---	---	---	---
21	22.5	19.5	---	---	---	---	---	---	---	---	---	---
22	22.0	19.0	---	---	---	---	---	---	---	---	---	---
23	21.5	19.0	---	---	---	---	---	---	---	---	---	---
24	22.0	18.5	---	---	---	---	---	---	---	---	---	---
25	22.0	19.0	---	---	---	---	---	---	---	---	---	---
26	22.0	19.0	---	---	---	---	---	---	---	---	---	---
27	20.5	19.0	---	---	---	---	---	---	---	---	---	---
28	20.5	19.0	---	---	---	---	---	---	---	---	---	---
29	19.0	15.5	---	---	---	---	---	---	---	---	---	---
30	19.0	16.0	---	---	---	---	---	---	---	---	---	---
31	18.5	15.5	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	11.0	10.5	12.0	12.0	13.0	13.0	14.5	14.5
2	---	---	---	---	11.0	10.5	---	---	13.0	13.0	15.0	15.0
3	---	---	---	---	11.0	11.0	---	---	12.5	12.5	15.0	15.0
4	---	---	---	---	11.0	10.5	---	---	13.5	13.5	15.0	15.0
5	---	---	---	---	11.0	10.5	---	---	13.0	13.0	15.0	15.0
6	---	---	---	---	11.0	10.5	---	---	13.0	13.0	15.0	15.0
7	---	---	---	---	11.0	11.0	---	---	13.5	13.5	15.0	15.0
8	---	---	---	---	11.0	11.0	---	---	13.0	13.0	15.5	15.5
9	---	---	---	---	11.0	11.0	---	---	13.0	13.0	15.5	15.5
10	---	---	---	---	11.0	11.0	---	---	13.0	13.0	15.5	15.5
11	---	---	---	---	11.5	11.0	---	---	13.5	13.5	15.5	15.5
12	---	---	9.5	9.5	---	11.0	---	---	13.5	13.5	15.5	15.5
13	---	---	9.5	9.5	11.5	11.0	---	---	13.5	13.5	15.5	15.5
14	---	---	10.0	9.5	11.5	11.0	12.0	11.5	13.5	13.5	15.5	15.5
15	---	---	10.0	9.5	11.0	11.0	12.0	12.0	13.5	13.5	15.5	15.5
16	---	---	10.0	9.5	11.0	11.0	12.5	12.0	13.5	13.5	15.5	15.5
17	---	---	10.0	10.0	11.0	11.0	12.5	12.0	14.0	14.0	15.5	15.5
18	---	---	10.5	10.0	11.0	11.0	12.5	12.0	14.0	14.0	15.5	15.5
19	---	---	10.5	10.0	11.5	11.0	12.5	12.5	14.0	14.0	16.0	16.0
20	---	---	10.5	10.5	11.5	11.0	12.5	12.0	14.0	14.0	16.0	16.0
21	---	---	10.5	10.5	11.5	11.0	13.0	13.0	14.0	14.0	16.0	16.0
22	---	---	11.5	10.5	11.5	11.0	12.5	12.5	14.0	14.0	16.0	16.0
23	---	---	11.0	10.5	11.5	11.0	13.0	13.0	14.0	14.0	16.0	16.0
24	---	---	11.0	10.5	11.5	11.5	13.0	13.0	14.5	14.5	16.0	16.0
25	---	---	10.5	10.5	11.5	11.0	13.0	13.0	14.5	14.5	16.0	16.0
26	---	---	11.0	10.5	11.5	11.5	13.0	13.0	14.5	14.5	16.0	16.0
27	---	---	11.0	10.5	11.5	11.5	13.5	13.5	14.5	14.5	16.0	16.0
28	---	---	11.0	10.5	11.5	11.5	13.5	13.5	14.5	14.5	16.0	16.0
29	---	---	11.0	10.5	12.0	11.5	13.0	13.0	14.5	14.5	16.0	16.0
30	---	---	11.0	10.5	12.0	12.0	13.5	13.5	14.5	14.5	16.0	16.0
31	---	---	11.0	10.5	---	---	13.5	13.5	15.0	15.0	---	---
MONTH	---	---	---	---	---	10.5	---	---	15.0	12.5	16.0	14.5

11221700 MILL CREEK NEAR PIEDRA, CA

LOCATION.--Lat 36°49'07", long 119°20'27", in NE 1/4 NE 1/4 sec.10, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030008, on left bank 150 ft upstream from road bridge, 0.7 mi upstream from mouth, and 2.3 mi east of Piedra.

DRAINAGE AREA.--127 mi^2.

PERIOD OF RECORD.--October 1957 to current year. November 1938 to September 1957 in reports of Kings River Water Association.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 550 ft above sea level, from topographic map. Prior to July 14, 1958, at site 150 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Some small diversions upstream from station for irrigation. See schematic diagram of Kings River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s, Jan. 14, 1993, gage height, 8.55 ft; maximum gage height, 9.65 ft in gage well (backwater from debris), Jan. 19, 1969; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 30	1830	254	3.42	Dec. 30	0530	384	3.64
Jan. 2	0700	660	3.97	Jan. 7	1245	1,730	4.87
Jan. 14	0530	*11,300	*8.55	Feb. 9	0845	769	4.08
Feb. 20	1215	1,210	4.47	Feb. 23	1045	1,610	4.78
Mar. 26	0230	1,780	4.90				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.7	.00	51	56	249	192	46	23	2.4	.00	.00
2	.00	.79	.00	368	52	221	176	43	19	2.2	.00	.00
3	.00	.27	.00	111	49	206	160	42	17	2.0	.00	.00
4	.00	.19	.00	62	47	190	160	41	16	1.8	.00	.00
5	.00	.17	.00	44	44	176	154	41	32	1.7	.00	.00
6	.00	.17	.00	37	42	159	138	39	36	1.5	.00	.00
7	.00	.10	18	886	40	143	127	37	31	1.2	.00	.00
8	.00	.08	39	713	74	136	120	36	26	1.1	.00	.00
9	.00	.08	14	359	490	127	114	35	22	1.0	.00	.00
10	.00	.00	8.2	450	212	120	109	33	19	.89	.00	.00
11	.00	.00	77	303	148	114	104	31	16	.77	.00	.00
12	.00	.00	94	203	126	107	100	31	14	.45	.00	.00
13	.00	.00	27	661	102	99	94	30	14	.32	.00	.00
14	.00	.00	16	3860	83	115	88	29	12	.25	.00	.00
15	.00	.00	12	805	75	113	83	28	11	.21	.00	.00
16	.00	.00	9.4	509	68	96	81	26	10	.08	.00	.00
17	.00	.00	9.0	694	63	102	78	25	9.7	.08	.00	.00
18	.00	.00	17	705	83	130	94	24	8.8	.08	.00	.00
19	.00	.00	14	355	237	103	82	23	7.9	.03	.00	.00
20	.00	.00	9.9	246	799	95	74	23	7.2	.00	.00	.00
21	.00	.00	8.6	194	434	84	68	23	7.1	.00	.00	.00
22	.00	.00	7.7	223	301	79	65	24	7.1	.00	.00	.00
23	.00	.00	7.0	163	978	74	65	22	6.6	.00	.00	.00
24	.00	.00	6.6	136	1100	88	62	20	6.0	.00	.00	.00
25	.00	.00	6.2	120	575	229	58	19	5.6	.00	.00	.00
26	.00	.00	6.0	108	484	1010	56	21	4.8	.00	.00	.00
27	.00	.00	5.7	94	401	418	54	20	4.0	.00	.00	.00
28	.00	.00	5.7	82	298	390	52	19	3.2	.00	.00	.00
29	.00	.00	44	75	---	301	50	19	2.8	.00	.00	.00
30	58	.00	220	69	---	239	48	17	2.4	.00	.00	.00
31	27	---	66	61	---	208	---	18	---	.00	.00	---
TOTAL	85.00	5.55	748.00	12747	7461	5921	2906	885	401.2	18.06	0.00	0.00
MEAN	2.74	.18	24.1	411	266	191	96.9	28.5	13.4	.58	.000	.000
MAX	58	3.7	220	3860	1100	1010	192	46	36	2.4	.00	.00
MIN	.00	.00	.00	37	40	74	48	17	2.4	.00	.00	.00
AC-FT	169	11	1480	25280	14800	11740	5760	1760	796	36	.00	.00

11221700 MILL CREEK NEAR PIEDRA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.03	7.45	31.8	100	126	121	94.0	28.4	8.55	1.79	.33	.44
MAX	12.3	110	296	1048	756	709	463	169	51.7	18.8	9.57	7.11
(WY)	1983	1983	1967	1969	1969	1983	1967	1967	1967	1983	1983	1983
MIN	.000	.000	.000	.000	.000	3.61	1.78	1.22	.000	.000	.000	.000
(WY)	1958	1958	1960	1991	1991	1977	1977	1972	1966	1959	1959	1958

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1958 - 1993		
ANNUAL TOTAL	3807.28		31177.81				
ANNUAL MEAN	10.4		85.4		42.9		
HIGHEST ANNUAL MEAN					211		1983
LOWEST ANNUAL MEAN					1.35		1977
HIGHEST DAILY MEAN	403	Feb 15	3860	Jan 14	7400	Jan 25	1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1	1957
ANNUAL SEVEN-DAY MINIMUM	.00	May 24	.00	Oct 1	.00	Oct 1	1957
INSTANTANEOUS PEAK FLOW			11300	Jan 14	11300	Jan 14	1993
INSTANTANEOUS PEAK STAGE			8.55	Jan 14	9.65	Jan 19	1969
ANNUAL RUNOFF (AC-FT)	7550		61840		31080		
10 PERCENT EXCEEDS	22		210		80		
50 PERCENT EXCEEDS	.00		9.9		4.0		
90 PERCENT EXCEEDS	.00		.00		.00		

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA

LOCATION.--Lat 36°12'53", long 120°28'11", in NW 1/4 SE 1/4 sec.5, T.20 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 50 ft downstream from highway bridge, 1.1 mi upstream from Nunez Canyon, 3.0 mi downstream from White Creek, and 8.1 mi northwest of Coalinga.
DRAINAGE AREA.--95.8 mi^2.

PERIOD OF RECORD.--May 1945 to current year. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1950. WSP 1735: 1952(M), 1956(M). WSP 1930: Drainage area. WDR CA-72-2: 1971(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,065.2 ft above sea level. Aug. 2, 1959, to Jan. 11, 1985, at site on right bank at datum 2.00 ft higher. Prior to Aug. 2, 1959, at site 100 ft downstream on right bank at datum 2.00 ft higher.

REMARKS.--Records fair. No estimated daily discharges. Minor diversion for irrigation and stock ponds.

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).--Maximum discharge, 4,360 ft^3/s, Feb. 24, 1969, gage height, 12.34 ft, present datum, in gage well, 13.30 ft from floodmarks, from rating curve extended above 800 ft^3/s on basis of slope-area measurement at gage height 12.34 ft; maximum gage height, 12.65 ft in gage well, 13.95 ft from floodmarks, Jan. 16, 1978; no flow for several months in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0230	210	4.56	Feb. 8	0515	384	5.76
Jan. 10	0730	261	4.71	Feb. 18	1430	299	5.46
Jan. 14	0215	*3,820	*12.08	Feb. 23	0500	521	6.19
Jan. 19	1230	755	6.83	Mar. 25	2000	479	6.08

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	17	91	35	11	12	2.3	.37	.00
2	.00	.00	.00	.00	16	81	32	12	11	2.0	.03	.00
3	.00	.00	.00	.00	16	74	29	11	10	2.2	.00	.00
4	.00	.00	.00	.00	15	68	28	11	11	2.5	.00	.00
5	.00	.00	.00	.00	15	62	27	11	12	2.1	.00	.00
6	.00	.00	.00	.67	15	59	26	10	11	1.6	.00	.00
7	.00	.00	6.3	88	15	56	25	9.1	11	1.5	.00	.00
8	.00	.00	.32	30	202	53	24	8.3	10	1.2	.00	.00
9	.00	.00	.00	6.4	62	50	22	7.4	8.9	.94	.00	.00
10	.00	.00	.00	81	48	46	21	7.6	8.2	.69	.00	.00
11	.00	.00	.21	13	51	44	20	7.6	7.8	.61	.00	.00
12	.00	.00	.29	64	46	42	21	7.2	7.6	.54	.00	.00
13	.00	.00	.00	474	39	39	20	7.2	7.3	.40	.00	.00
14	.00	.00	.00	1310	37	38	19	7.1	6.9	.27	.00	.00
15	.00	.00	.00	476	34	36	18	6.8	6.7	.36	.00	.00
16	.00	.00	.00	269	32	35	19	6.0	6.4	.52	.00	.00
17	.00	.00	.00	321	32	34	21	5.5	5.9	.64	.00	.00
18	.00	.00	.00	273	157	32	20	5.5	6.1	.64	.00	.00
19	.00	.00	.00	150	168	30	19	7.7	5.5	.51	.00	.00
20	.00	.00	.00	107	123	27	18	13	5.3	.55	.00	.00
21	.00	.00	.00	74	96	27	17	13	4.6	.84	.00	.00
22	.00	.00	.00	62	87	25	17	12	4.2	.97	.00	.00
23	.00	.00	.00	51	260	24	17	12	4.9	.86	.00	.00
24	.00	.00	.00	42	126	31	16	11	4.3	.79	.00	.00
25	.00	.00	.00	35	109	130	15	13	3.8	.63	.00	.00
26	.00	.00	.00	29	118	97	14	13	3.3	.77	.00	.00
27	.00	.00	.00	24	122	57	14	12	2.8	.78	.00	.00
28	.00	.00	.00	22	107	60	12	12	2.6	.77	.00	.00
29	.00	.00	.00	20	---	47	12	11	2.6	.91	.00	.00
30	.00	.00	.00	19	---	40	11	11	2.5	1.0	.00	.00
31	.00	---	.00	17	---	37	---	11	---	.69	.00	---
TOTAL	0.00	0.00	7.12	4058.07	2165	1572	609	303.0	206.2	31.08	0.40	0.00
MEAN	.000	.000	.23	131	77.3	50.7	20.3	9.77	6.87	1.00	.013	.000
MAX	.00	.00	6.3	1310	260	130	35	13	12	2.5	.37	.00
MIN	.00	.00	.00	.00	15	24	11	5.5	2.5	.27	.00	.00
AC-FT	.00	.00	14	8050	4290	3120	1210	601	409	62	.8	.00

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.24	.94	3.82	12.2	23.3	17.1	8.76	2.41	.87	.22	.076	.25
MAX	7.15	18.2	36.3	139	287	204	160	40.0	16.4	5.71	2.92	8.33
(WY)	1946	1966	1967	1969	1978	1983	1958	1983	1983	1983	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1947	1948	1948	1948	1948	1961	1949	1948	1948	1947	1945	1945

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1945 - 1993		
ANNUAL TOTAL	933.93		8951.87				
ANNUAL MEAN	2.55		24.5		5.75		
HIGHEST ANNUAL MEAN					48.5		1983
LOWEST ANNUAL MEAN					.000		1989
HIGHEST DAILY MEAN	270	Feb 12	1310	Jan 14	2190	Feb 24	1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jul 5	1945
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00	Oct 1	.00	Jul 5	1945
INSTANTANEOUS PEAK FLOW			3820	Jan 14	4360	Feb 24	1969
INSTANTANEOUS PEAK STAGE			12.08	Jan 14	13.95	Jan 16	1978
ANNUAL RUNOFF (AC-FT)	1850		17760		4170		
10 PERCENT EXCEEDS	1.9		56		5.6		
50 PERCENT EXCEEDS	.00		1.5		.00		
90 PERCENT EXCEEDS	.00		.00		.00		

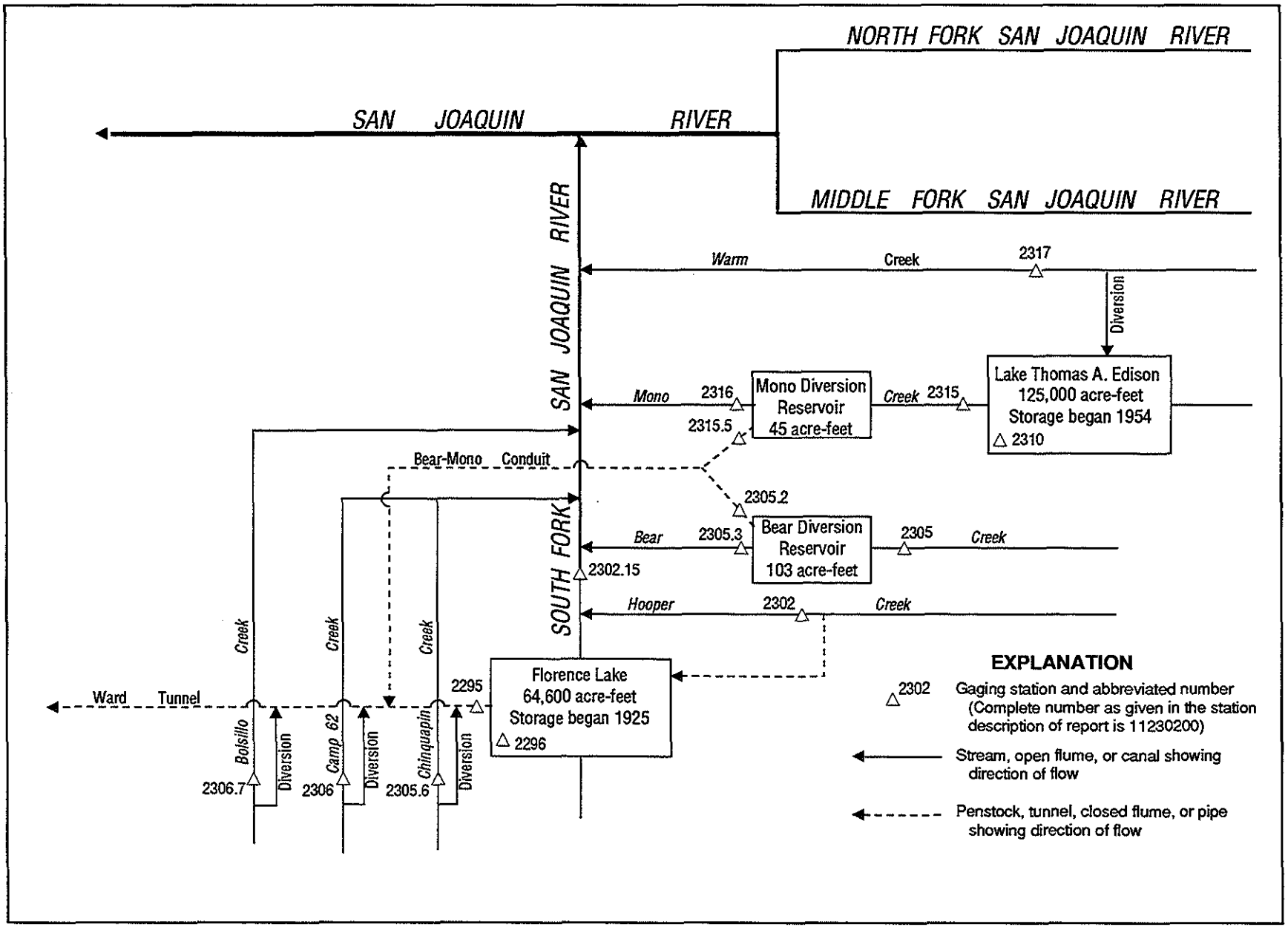

Figure 31. Diversions and storage in upper San Joaquin River basin.

11229500 WARD TUNNEL INTAKE AT FLORENCE LAKE, CA

LOCATION.--Lat 37°16'20", long 118°58'17", unsurveyed, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse at entrance of tunnel, 0.4 mi south of left abutment of Florence Lake Dam, and 16 mi northeast of town of Big Creek.

PERIOD OF RECORD.--April 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Florence Lake Tunnel at Intake 1925-36 and as Ward Tunnel at Intake 1937-60.

REVISED RECORDS.--WSP 1515: 1931.

GAGE.--Water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--Ward Tunnel diverts from Florence Lake (station 11229600), a reservoir on South Fork San Joaquin River, to Huntington Lake (station 11236000) via Portal Powerplant (station 11235500). Water used again in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,990 ft^3/s, Apr. 30, 1926; no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	59	8.9	61	63	92	245	932	353	865	700	568
2	166	59	11	67	59	86	273	953	360	775	670	567
3	166	55	10	61	58	87	304	948	417	485	735	564
4	165	50	7.7	65	58	86	315	911	559	485	819	561
5	163	48	7.9	60	62	92	261	768	862	613	956	566
6	162	46	7.4	56	61	105	197	744	1040	659	1020	555
7	161	46	12	78	62	118	189	681	1250	746	964	599
8	160	46	7.8	85	67	129	229	674	1200	890	879	640
9	419	39	12	99	67	125	273	770	1240	946	815	633
10	647	30	20	108	66	115	278	901	1210	948	811	749
11	710	25	30	90	65	122	258	990	36	948	795	820
12	683	26	32	86	62	136	234	1060	136	949	748	808
13	757	25	34	82	59	143	208	1060	337	950	729	796
14	662	23	43	34	59	171	200	1050	237	1010	694	670
15	643	22	49	115	55	168	247	1060	201	1030	688	594
16	371	21	45	147	54	148	280	e1070	203	850	684	614
17	74	20	40	157	52	227	274	e1200	316	874	679	621
18	30	18	36	148	54	276	233	e1160	e720	871	767	570
19	16	16	35	148	50	176	224	e1080	920	869	953	543
20	13	13	36	131	58	178	299	1100	859	869	950	537
21	11	14	33	110	89	345	387	1080	588	749	945	532
22	12	19	31	103	112	291	379	1080	631	673	939	591
23	12	17	29	97	116	303	361	1060	747	634	898	593
24	10	13	28	93	116	311	312	1120	881	634	714	565
25	9.3	16	27	47	130	260	364	1190	908	633	607	555
26	8.2	14	26	1.1	122	218	471	1210	710	633	627	541
27	7.5	15	24	1.1	111	184	543	1240	693	874	717	515
28	8.0	13	24	180	102	163	584	761	693	941	767	477
29	11	8.0	28	177	---	149	632	332	866	920	763	468
30	48	7.3	28	87	---	162	712	335	1050	827	735	349
31	55	---	36	70	---	186	---	344	---	767	631	---
TOTAL	6526.0	823.3	798.7	2844.2	2089	5352	9766	28864	20223	24917	24399	17761
MEAN	211	27.4	25.8	91.7	74.6	173	326	931	674	804	787	592
MAX	757	59	49	180	130	345	712	1240	1250	1030	1020	820
MIN	7.5	7.3	7.4	1.1	50	86	189	332	36	485	607	349
AC-FT	12940	1630	1580	5640	4140	10620	19370	57250	40110	49420	48400	35230

e Estimated.

11229500 WARD TUNNEL INTAKE AT FLORENCE LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	237	137	113	79.8	76.3	108	269	455	547	525	408	342
MAX	522	745	1064	546	240	297	573	949	1161	1199	788	778
(WY)	1943	1938	1946	1939	1986	1986	1982	1974	1974	1967	1965	1983
MIN	.000	.47	3.04	2.13	.64	22.5	35.4	.85	1.49	90.1	48.3	1.50
(WY)	1946	1965	1991	1991	1991	1977	1991	1939	1938	1931	1977	1949

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1925 - 1993		
ANNUAL TOTAL	55596.8		144363.2				
ANNUAL MEAN	152		396		277		
HIGHEST ANNUAL MEAN					460		1956
LOWEST ANNUAL MEAN					98.1		1977
HIGHEST DAILY MEAN	757	Oct 13	1250	Jun 7	1990	Apr 30	1926
LOWEST DAILY MEAN	2.7	Sep 20	1.1	Jan 26	.00	Oct 7	1925
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 14	8.6	Nov 30	.00	Nov 5	1925
ANNUAL RUNOFF (AC-FT)	110300		286300		200500		
10 PERCENT EXCEEDS	372		947		653		
50 PERCENT EXCEEDS	130		247		163		
90 PERCENT EXCEEDS	12		20		12		

11229600 FLORENCE LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°16'20", long 118°58'17", unsurveyed, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of Ward Tunnel intake, 0.3 mi west of dam on South Fork San Joaquin River and 16 mi northeast of town of Big Creek.
DRAINAGE AREA.--171 mi^2.

PERIOD OF RECORD.--November 1925 to current year. Prior to October 1931, published in WSP 721. Maximum and minimum daily contents (water years 1926-39) summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.
REVISED RECORDS.--WDR CA-78-3: 1977.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,406 acre-ft between elevations 7,220.94 ft, throat of Venturi tube in Ward Tunnel intake (station 11229500), and 7,327.50 ft, top of spillway drum gates. Additional storage of 168 acre-ft is not available for diversion. Water is diverted through Ward Tunnel to Huntington Lake (station 11236000) via Portal Powerplant (station 11235500) and used for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
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, 65,990 acre-ft, July 3, 1932, elevation, 7,329.14 ft; minimum occurred during period of no record, Oct. 2-4, 1926, or Nov. 30 to Dec. 2, 1927.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,379 acre-ft, July 22, elevation, 7,327.43 ft; minimum, 1,061 acre-ft, Dec. 8, elevation, 7,231.11 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Aug. 26, 1926)

7,220.94	0	7,240	2,976	7,270	17,755
7,222	63	7,245	4,666	7,280	24,588
7,225	281	7,250	6,648	7,290	31,966
7,230	887	7,255	8,950	7,310	48,284
7,235	1,774	7,260	11,608	7,330	66,826

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13958	1166	1074	1119	1193	1221	1389	2360	28954	63666	63983	38305
2	13597	1159	1076	1115	1190	1221	1410	2449	30503	63638	64137	37495
3	13237	1156	1068	1113	1190	1223	1430	2353	31692	63609	64089	36684
4	12879	1147	1066	1117	1190	1223	1406	1947	32747	63561	64195	35892
5	12519	1147	1062	1117	1190	1223	1341	1719	33287	63657	63915	35084
6	12160	1142	1069	1119	1185	1223	1309	1709	33333	63676	63503	34240
7	11809	1146	1069	1197	1185	1223	1334	1656	32863	63532	63044	33287
8	11458	1142	1061	1198	1192	1225	1380	1717	31548	63408	62443	32249
9	10562	1125	1088	1198	1192	1228	1398	1978	31206	63436	61824	31206
10	9293	1110	1107	1198	1190	1228	1384	2624	31761	63331	61074	29924
11	7888	1112	1119	1198	1190	1232	1366	3248	35139	63274	60318	28495
12	6539	1110	1115	1202	1188	1259	1341	3457	38418	63408	59518	27062
13	4982	1108	1117	1202	1188	1287	1319	3328	41824	63321	58702	25648
14	3401	1103	1119	1343	1185	1327	1344	3162	46036	63302	57926	24475
15	1985	1102	1117	1298	1183	1296	1393	3194	50478	63628	57155	23429
16	1262	1100	1119	1307	1181	1294	1398	3558	54665	63858	56331	22331
17	1147	1098	1119	1294	1180	1440	1370	4339	58243	63839	55482	21207
18	1110	1090	1115	1289	1183	1373	1344	6106	61293	63820	54427	20174
19	1093	1086	1115	1285	1175	1492	1375	7625	62957	63829	52979	19181
20	1083	1079	1117	1259	1193	1600	1471	9496	62681	63839	51512	18181
21	1085	1093	1117	1241	1217	1423	1486	11230	63503	64130	50016	17191
22	1086	1096	1117	1237	1221	1425	1477	12796	63686	64379	48521	16064
23	1083	1085	1117	1230	1221	1425	1434	14890	63341	64312	47129	14933
24	1078	1085	1117	1223	1221	1408	1436	17107	63733	64204	46139	13844
25	1074	1088	1117	1343	1221	1357	1526	18775	64021	64262	45369	12772
26	1071	1085	1117	1561	1221	1323	1598	19475	63695	64098	44511	11717
27	1073	1086	1117	1774	1221	1296	1645	19475	63331	64031	43457	10742
28	1073	1071	1119	1494	1221	1278	1754	20181	63120	63973	42288	9840
29	1105	1068	1119	1257	---	1282	2010	21923	63274	63887	41129	8950
30	1168	1064	1117	1219	---	1298	2304	24198	63590	63925	40031	8249
31	1166	---	1117	1202	---	1341	---	26931	---	63877	39120	---
MAX	13958	1166	1119	1774	1221	1600	2304	26931	64021	64379	64195	38305
MIN	1071	1064	1061	1113	1175	1221	1309	1656	28954	63274	39120	8249
a	7231.73	7231.13	7231.44	7231.94	7232.05	7232.72	7237.39	7283.25	7326.65	7326.95	7299.10	7253.55
b	-13164	-102	+53	+85	+19	+120	+963	+24627	+36659	+287	-24757	-30871

CAL YR 1992 MAX 48757 MIN 1061 b +38
WTR YR 1993 MAX 64379 MIN 1061 b -6081
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11230200 HOOPER CREEK BELOW DIVERSION DAM, NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°18'21", long 118°56'59", unsurveyed, T.7 S., R.28 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 300 ft downstream from diversion dam, 0.7 mi upstream from mouth, 2.5 mi north of Florence Lake, and 17.6 mi northeast of town of Big Creek.

DRAINAGE AREA.--7.22 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Prior to October 1991, published as Hooper Creek at diversion dam near Florence Lake.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 7,440 ft above sea level, from topographic map.

REMARKS.--Flow regulated by diversion dam 300 ft upstream. Most of the water is diverted at the diversion dam to Florence Lake (station 11229600). See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 110 ft^3/s, June 25, 1993; minimum daily, 1.2 ft^3/s, Apr. 25, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 110 ft^3/s, June 25; minimum daily, 1.4 ft^3/s, Nov. 20, Dec. 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.6	2.0	1.8	1.8	2.0	6.3	2.3	4.4	e84	5.2	4.8
2	1.9	2.5	1.7	1.8	1.8	2.0	6.6	2.4	4.3	e80	5.2	4.7
3	1.9	2.4	1.9	1.8	1.8	2.1	7.2	2.6	4.1	e75	5.2	4.6
4	1.9	2.3	1.8	1.8	1.8	2.2	7.1	2.4	4.2	e74	5.2	4.6
5	1.8	2.3	1.9	1.8	1.8	2.5	6.3	2.7	5.0	e77	5.2	4.7
6	1.8	2.5	1.9	1.7	1.8	2.8	5.7	2.9	4.8	e75	5.2	4.7
7	1.9	2.3	1.4	2.2	1.9	3.1	6.1	2.8	4.7	e72	5.2	4.4
8	1.8	2.2	1.8	2.1	1.9	3.2	6.7	2.8	4.9	e68	5.3	4.1
9	1.8	1.8	1.8	1.9	1.9	3.0	7.2	3.1	5.0	e63	5.3	4.0
10	1.8	1.7	1.9	1.9	1.9	3.1	7.1	3.3	4.8	e59	5.3	3.9
11	1.8	2.1	1.9	2.0	1.9	3.4	6.8	3.1	3.7	e58	5.4	3.8
12	1.8	1.9	1.9	1.8	1.8	3.6	6.6	3.0	4.6	e56	5.4	3.8
13	1.8	1.8	1.9	1.9	1.8	3.7	6.3	3.2	4.7	e52	5.4	3.8
14	1.8	1.8	1.9	e2.7	1.8	4.2	6.8	2.9	3.9	e40	5.4	3.8
15	1.8	1.8	1.8	2.6	1.8	3.6	7.7	4.0	4.3	5.5	5.2	3.8
16	1.7	1.8	1.8	2.4	1.8	3.5	7.6	3.9	4.7	5.5	5.2	3.9
17	1.7	1.8	1.8	2.5	1.7	6.3	7.1	4.3	4.5	5.5	5.1	3.9
18	1.8	1.6	1.9	2.6	1.8	5.4	7.1	4.1	e30	5.4	5.1	3.8
19	1.7	1.6	1.8	2.4	2.2	5.0	4.6	3.9	e93	5.5	5.1	3.6
20	1.7	1.4	1.8	2.3	2.4	5.4	2.4	4.3	e102	5.4	5.1	3.5
21	2.1	1.9	1.7	2.2	2.3	6.0	2.6	3.3	e93	5.4	5.1	3.4
22	1.8	1.8	1.7	2.1	2.2	6.7	2.6	3.3	e91	5.3	5.0	3.4
23	1.8	1.7	1.7	2.0	2.3	7.1	2.6	3.2	e94	5.3	5.0	3.4
24	1.8	1.7	1.8	1.9	2.5	6.7	2.6	2.8	e102	5.3	5.0	3.3
25	1.8	1.8	1.7	1.9	2.3	5.8	2.6	3.4	e110	5.3	5.1	3.2
26	1.7	1.7	1.7	1.9	2.2	5.4	2.6	3.4	e108	5.3	5.0	3.1
27	1.8	1.7	1.7	1.9	2.2	5.0	2.7	3.7	e106	5.2	5.0	3.1
28	2.0	1.5	1.6	1.9	2.1	4.6	2.7	4.0	e98	5.2	5.0	3.0
29	2.5	2.0	1.9	1.9	---	4.8	2.7	3.6	e88	5.2	4.9	3.3
30	3.1	2.7	2.0	1.8	---	5.1	2.5	4.6	e83	5.2	4.9	3.3
31	2.6	---	2.0	1.8	---	5.7	---	4.5	---	5.2	4.9	---
TOTAL	59.0	58.7	56.1	63.3	55.5	133.0	155.5	103.8	1274.6	1023.7	159.6	114.7
MEAN	1.90	1.96	1.81	2.04	1.98	4.29	5.18	3.35	42.5	33.0	5.15	3.82
MAX	3.1	2.7	2.0	2.7	2.5	7.1	7.7	4.6	110	84	5.4	4.8
MIN	1.7	1.4	1.4	1.7	1.7	2.0	2.4	2.3	3.7	5.2	4.9	3.0
AC-FT	117	116	111	126	110	264	308	206	2530	2030	317	228

e Estimated.

11230200 HOOPER CREEK BELOW DIVERSION DAM, NEAR FLORENCE LAKE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.13	2.13	1.97	1.89	1.99	2.85	5.27	3.09	8.72	7.57	3.21	2.54
MAX	3.28	2.69	2.87	2.22	2.50	4.29	9.50	3.74	42.5	33.0	5.15	3.82
(WY)	1987	1987	1987	1987	1988	1993	1989	1992	1993	1993	1993	1993
MIN	1.68	1.82	1.59	1.55	1.55	2.10	3.23	2.50	2.46	2.66	2.32	1.91
(WY)	1991	1991	1989	1991	1991	1990	1991	1991	1989	1989	1989	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	1017.6		3257.5				
ANNUAL MEAN	2.78		8.92		3.61		
HIGHEST ANNUAL MEAN					8.92		1993
LOWEST ANNUAL MEAN					2.42		1991
HIGHEST DAILY MEAN	7.0	May 26	110	Jun 25	110	Jun 25	1993
LOWEST DAILY MEAN	1.4	Nov 20	1.4	Nov 20	1.2	Apr 25	1989
ANNUAL SEVEN-DAY MINIMUM	1.7	Nov 18	1.7	Nov 18	1.3	Oct 10	1990
ANNUAL RUNOFF (AC-FT)	2020		6460		2620		
10 PERCENT EXCEEDS	4.1		6.9		4.2		
50 PERCENT EXCEEDS	2.3		3.1		2.5		
90 PERCENT EXCEEDS	1.8		1.8		1.7		

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°18'35", long 118°57'40", unsurveyed, T.7 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.1 mi downstream from Hooper Creek, 3.5 mi downstream from Florence Lake Dam, and 17 mi northeast of town of Big Creek.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1978 to current year. October 1946 to September 1978, operated as a low-flow station only, in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Datum of gage is 6,949.41 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--Flow regulated by Florence Lake (station 11229600) 3.5 mi upstream, and Hooper Creek Diversion Dam (capacity less than 2 acre-ft) 0.7 mi upstream. Most of the water is diverted at Florence Lake to Ward Tunnel (station 11229500). See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft^3/s, Sept. 26, 1982, gage height, 11.42 ft, from rating curve extended above 1,300 ft^3/s on basis of spill flow at Florence Lake; minimum daily, 3.9 ft^3/s, Oct. 24, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,750 ft^3/s, June 26, gage height, 7.60 ft; minimum daily, 12 ft^3/s, several days in November and December.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	18	12	e14	16	18	56	41	37	784	e105	31
2	17	15	13	e14	17	18	56	38	36	823	e95	31
3	16	14	13	e14	17	19	58	37	42	862	e130	31
4	16	14	12	e14	17	20	55	34	42	867	e40	30
5	16	14	12	e14	17	22	47	32	50	847	38	30
6	16	14	12	e14	17	24	38	33	45	943	37	32
7	15	14	e13	e15	17	27	43	31	44	924	37	31
8	15	14	e13	e15	19	28	50	30	44	833	36	31
9	15	14	e13	16	19	28	52	31	42	776	36	31
10	16	13	e13	16	18	27	50	33	41	823	35	31
11	16	13	e13	e16	18	30	47	33	40	793	35	31
12	16	14	e13	16	18	33	42	33	41	738	35	30
13	16	14	e14	16	18	35	39	33	41	674	34	30
14	15	14	e14	16	18	44	43	32	42	518	34	30
15	15	14	e14	17	18	41	51	33	44	46	34	31
16	15	14	e14	17	18	38	50	34	45	43	34	30
17	14	14	e14	17	18	72	45	35	46	42	33	30
18	15	14	e14	16	18	59	43	36	64	41	33	30
19	15	13	e14	17	20	50	43	37	400	40	32	30
20	15	13	e14	17	19	51	47	40	1130	39	32	30
21	16	13	e14	17	18	56	47	40	837	39	32	30
22	16	13	e14	17	18	64	46	40	857	96	32	30
23	15	13	e14	17	18	66	41	41	990	489	31	30
24	15	13	e14	17	18	66	34	42	871	628	31	31
25	15	13	e14	17	18	52	38	43	951	628	31	31
26	15	13	e14	17	18	43	40	42	2120	667	31	30
27	15	14	e14	17	18	37	39	39	2240	e220	31	30
28	16	13	e14	17	18	35	39	38	1530	e120	31	29
29	17	12	e14	17	---	35	39	36	876	e130	32	29
30	22	e12	e14	17	---	40	41	36	715	e250	32	29
31	19	---	e14	16	---	47	---	38	---	e200	31	---
TOTAL	497	410	418	497	501	1225	1359	1121	14303	14923	1270	910
MEAN	16.0	13.7	13.5	16.0	17.9	39.5	45.3	36.2	477	481	41.0	30.3
MAX	22	18	14	17	20	72	58	43	2240	943	130	32
MIN	14	12	12	14	16	18	34	30	36	39	31	29
AC-FT	986	813	829	986	994	2430	2700	2220	28370	29600	2520	1800

e Estimated.

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.4	15.7	15.4	15.9	19.7	24.8	29.6	42.8	426	291	75.3	42.1
MAX	30.5	24.9	25.3	20.5	42.6	43.8	51.3	164	2429	1292	661	268
(WY)	1990	1984	1984	1984	1986	1986	1982	1983	1983	1983	1983	1982
MIN	7.87	11.8	8.93	11.9	12.2	17.8	18.4	20.9	20.5	21.4	13.1	7.19
(WY)	1980	1979	1979	1979	1991	1990	1990	1981	1981	1981	1979	1979

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1979 - 1993	
ANNUAL TOTAL	7022		37434			
ANNUAL MEAN	19.2		103		84.7	
HIGHEST ANNUAL MEAN					396	1983
LOWEST ANNUAL MEAN					18.5	1979
HIGHEST DAILY MEAN	27	May 14	2240	Jun 27	5200	Sep 26 1982
LOWEST DAILY MEAN	12	Nov 29	12	Nov 29	3.9	Oct 24 1979
ANNUAL SEVEN-DAY MINIMUM	12	Nov 29	12	Nov 29	4.4	Oct 13 1979
INSTANTANEOUS PEAK FLOW			2750	Jun 26	5950	Sep 26 1982
INSTANTANEOUS PEAK STAGE			7.60	Jun 26	11.42	Sep 26 1982
ANNUAL RUNOFF (AC-FT)	13930		74250		61380	
10 PERCENT EXCEEDS	25		111		46	
50 PERCENT EXCEEDS	20		31		22	
90 PERCENT EXCEEDS	13		14		14	

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'22", long 118°58'21", unsurveyed, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.2 mi upstream from diversion dam, 1.7 mi upstream from mouth, 2.1 mi south of Lake Thomas A. Edison, and 2.4 mi northeast of Mono Hot Springs.

DRAINAGE AREA.--52.5 mi^2.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

REVISED RECORDS.--WSP 611: 1922(M). WSP 1345: 1931-35. WSP 1515: 1922-30. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,366.94 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--No storage or diversion upstream from station. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft^3/s, Sept. 26, 1982, gage height, 8.35 ft, from rating curve extended above 570 ft^3/s; minimum daily, 1.2 ft^3/s, Sept. 29 to Oct. 5, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft^3/s, June 25, gage height, 6.01 ft; minimum daily, 5.0 ft^3/s, Oct. 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	29	e10	e28	e20	e28	70	294	318	610	200	57
2	5.8	28	11	e27	e19	e26	70	299	269	641	222	53
3	5.8	28	e8.1	e28	e19	e26	77	267	224	575	223	52
4	5.8	27	e7.9	e27	e19	e26	75	206	237	553	209	53
5	5.8	27	e7.7	e23	e22	29	62	187	227	617	193	54
6	5.4	23	e6.0	e22	e21	33	51	209	190	664	182	53
7	5.4	27	e5.9	e23	e22	37	52	171	209	635	170	51
8	5.4	25	e6.9	e35	e22	40	64	189	238	594	149	47
9	5.4	e16	e9.8	e33	e23	40	72	253	271	536	131	43
10	5.4	16	e11	e35	e24	36	69	337	361	502	117	40
11	5.4	e16	e15	e31	e24	39	65	350	417	493	113	38
12	5.4	16	e22	e28	23	42	61	319	449	479	101	37
13	5.4	16	e22	e28	e22	46	56	275	548	395	91	37
14	5.4	15	e27	e29	e21	54	56	271	634	355	88	34
15	5.4	15	e27	e29	e21	46	71	290	664	324	89	32
16	5.4	15	e24	e33	21	41	72	310	605	266	85	31
17	5.4	14	e23	e35	19	60	64	359	536	226	79	30
18	5.4	e11	e20	e33	19	57	57	449	554	228	75	28
19	5.4	10	e20	e31	e24	53	60	521	657	242	74	26
20	5.0	10	e21	e30	e34	59	90	539	659	248	70	24
21	5.8	14	e19	e30	e33	69	103	513	501	248	66	23
22	7.5	14	e18	e35	e32	78	97	500	524	232	62	22
23	7.7	11	e17	e30	e32	79	94	542	563	277	63	21
24	7.0	12	e16	e26	e34	70	80	565	648	315	69	20
25	6.4	12	e16	e24	e33	56	113	501	757	313	71	20
26	6.4	11	e16	e24	e33	52	142	359	793	310	69	19
27	6.4	12	e15	e23	e32	48	159	288	762	283	64	18
28	6.7	8.8	e14	e23	e30	45	182	251	717	285	61	18
29	9.2	e9.2	e14	e23	---	44	221	255	596	245	61	17
30	15	e7.6	e20	e21	---	50	260	346	559	235	60	17
31	23	---	e26	e20	---	59	---	408	---	207	59	---
TOTAL	210.7	495.6	496.3	867	698	1468	2765	10623	14687	12133	3366	1015
MEAN	6.80	16.5	16.0	28.0	24.9	47.4	92.2	343	490	391	109	33.8
MAX	23	29	27	35	34	79	260	565	793	664	223	57
MIN	5.0	7.6	5.9	20	19	26	51	171	190	207	59	17
AC-FT	418	983	984	1720	1380	2910	5480	21070	29130	24070	6680	2010

e Estimated.

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.4	15.2	19.6	21.4	23.3	32.2	86.2	253	345	196	63.5	27.6
MAX	62.2	56.1	71.2	82.5	61.0	79.8	172	586	740	637	349	260
(WY)	1983	1951	1956	1980	1986	1986	1926	1969	1983	1967	1983	1982
MIN	2.71	3.10	4.86	4.50	5.80	9.00	33.1	71.3	42.2	12.2	3.15	1.63
(WY)	1925	1930	1930	1924	1991	1924	1975	1977	1924	1924	1924	1924

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1922 - 1993	
ANNUAL TOTAL	18934.1		48824.6			
ANNUAL MEAN	51.7		134		91.6	
HIGHEST ANNUAL MEAN					201	1983
LOWEST ANNUAL MEAN					29.2	1924
HIGHEST DAILY MEAN	312	May 8	793	Jun 26	2610	Sep 26 1982
LOWEST DAILY MEAN	5.0	Oct 20	5.0	Oct 20	1.2	Sep 29 1924
ANNUAL SEVEN-DAY MINIMUM	5.3	Oct 14	5.3	Oct 14	1.2	Sep 29 1924
INSTANTANEOUS PEAK FLOW			1020	Jun 25	3660	Sep 26 1982
INSTANTANEOUS PEAK STAGE			6.01	Jun 25	8.35	Sep 26 1982
ANNUAL RUNOFF (AC-FT)	37560		96840		66380	
10 PERCENT EXCEEDS	180		485		289	
50 PERCENT EXCEEDS	21		40		29	
90 PERCENT EXCEEDS	7.0		9.0		6.9	

11230520 BEAR CREEK CONDUIT NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'10", long 118°58'28", unsurveyed, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank at diversion dam, 2.2 mi northeast of Mono Hot Springs, and 2.5 mi south of Lake Thomas A. Edison.

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

GAGE.--Discharge computed as difference between flows at Bear Creek near Lake Thomas A. Edison (station 11230500) and Bear Creek below diversion dam (station 11230530). Datum of conduit invert, 7,340 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--Conduit diverts at diversion dam on Bear Creek to Ward Tunnel and Huntington Lake (station 11236000) via Portal Powerplant (station 11235500) for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 462 ft^3/s, June 11, 12, 1991; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	28	8.3	27	18	e26	68	290	314	---	196	53
2	4.3	27	9.4	26	17	e24	68	295	265	---	---	49
3	4.3	27	e6.5	27	17	24	75	263	220	---	---	48
4	4.3	26	e6.3	26	17	24	73	202	233	---	205	49
5	4.5	26	e6.1	22	20	27	60	183	223	---	189	50
6	3.9	22	4.5	21	19	31	49	205	186	---	178	49
7	3.9	26	4.4	22	20	35	50	167	205	---	166	47
8	3.9	24	5.3	e34	20	38	62	185	234	---	145	43
9	4.0	e15	8.2	e32	21	38	70	249	267	---	127	39
10	4.1	15	9.4	e34	22	34	67	---	---	---	114	36
11	4.0	e15	13	e30	22	37	63	---	---	---	110	34
12	4.0	15	20	26	21	40	59	315	---	---	98	33
13	4.0	14	20	26	20	44	54	271	---	---	88	33
14	4.0	13	25	27	19	52	54	267	---	---	84	30
15	4.0	13	25	27	19	44	69	286	---	320	85	28
16	4.0	13	23	e31	19	39	70	306	---	262	81	27
17	3.9	12	22	e33	17	58	62	---	---	222	75	26
18	3.9	e9.4	19	e31	17	55	55	---	---	223	71	24
19	3.9	8.4	19	29	22	51	58	---	---	---	70	22
20	3.5	8.4	20	28	e32	57	88	---	---	244	66	20
21	4.3	12	18	28	e31	67	101	---	---	---	62	19
22	6.0	12	17	e33	e30	76	95	---	---	---	58	18
23	6.2	9.4	16	e28	e30	77	92	---	---	---	59	17
24	5.5	10	15	24	e32	68	78	---	---	---	66	16
25	4.9	10	15	22	e31	54	111	---	---	---	68	16
26	4.9	9.4	15	22	e31	50	140	---	---	---	66	15
27	4.9	10	14	21	e30	46	157	284	---	---	61	14
28	5.2	7.2	13	21	e28	43	180	247	---	---	58	14
29	8.0	7.6	13	21	---	42	219	251	---	---	58	13
30	14	6.0	19	19	---	48	257	342	---	---	56	13
31	22	---	25	18	---	57	---	---	---	---	55	---
TOTAL	166.2	450.8	454.4	816	642	1406	2704	---	---	---	---	895
MEAN	5.36	15.0	14.7	26.3	22.9	45.4	90.1	---	---	---	---	29.8
MAX	22	28	25	34	32	77	257	---	---	---	---	53
MIN	3.5	6.0	4.4	18	17	24	49	---	---	---	---	13
AC-FT	330	894	901	1620	1270	2790	5360	---	---	---	---	1780

e Estimated.

11230520 BEAR CREEK CONDUIT NEAR LAKE THOMAS A. EDISON, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.13	11.0	8.40	11.4	13.4	30.6	96.5	188	192	64.0	20.7	11.1
MAX	19.0	19.0	15.5	26.3	22.9	45.4	138	226	326	137	30.8	29.8
(WY)	1987	1988	1988	1993	1993	1993	1989	1992	1991	1991	1991	1993
MIN	3.23	3.68	3.23	3.46	4.12	17.4	43.2	150	102	41.8	10.6	4.53
(WY)	1989	1991	1991	1991	1991	1987	1991	1990	1992	1992	1989	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	18160.80			
ANNUAL MEAN	49.6		53.9	
HIGHEST ANNUAL MEAN			61.8	1991
LOWEST ANNUAL MEAN			49.2	1990
HIGHEST DAILY MEAN	309	May 8	462	Jun 11 1991
LOWEST DAILY MEAN	.00	Sep 20	.00	Oct 18 1988
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 15	.90	Oct 17 1988
ANNUAL RUNOFF (AC-FT)	36020		39030	
10 PERCENT EXCEEDS	177		178	
50 PERCENT EXCEEDS	19		19	
90 PERCENT EXCEEDS	4.9		3.7	

11230530 BEAR CREEK BELOW DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'08", long 118°58'29", unsurveyed, T.7 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 60 ft downstream from diversion dam, 2.5 mi south of Lake Thomas A. Edison, and 18.3 mi east of town of Big Creek.

DRAINAGE AREA.--52.8 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Prior to October 1991, published as "at Diversion Dam."

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Datum of gage is 7,338.30 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--No records computed above 5 ft^3/s for 1993 water year. Low and medium flow regulated at diversion dam. Most of the flow is diverted at the diversion dam to Bear Creek Conduit (station 11230520), then to Ward Tunnel and Huntington Lake (station 11236000) via Portal Powerplant (station 11235500) for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 156 ft^3/s, June 12, 1991; minimum daily, 0.94 ft^3/s, Oct. 15, 1987.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.1	1.7	1.3	2.2	2.2	2.4	3.5	4.0	---	3.7	3.5
2	1.5	1.1	1.6	1.3	2.2	2.2	2.4	3.5	3.9	---	---	3.7
3	1.5	1.0	1.6	1.3	2.2	2.2	2.4	3.5	3.7	---	---	3.6
4	1.5	1.1	1.6	1.3	2.2	2.2	2.4	3.5	3.8	---	3.8	3.6
5	1.3	1.0	1.6	1.3	2.2	2.2	2.4	3.5	3.8	---	3.7	3.7
6	1.5	1.0	1.5	1.2	2.2	2.2	2.4	3.6	3.8	---	3.6	3.6
7	1.5	1.0	1.5	1.4	2.3	2.2	2.4	3.7	3.7	---	3.6	3.6
8	1.5	1.0	1.6	1.2	2.3	2.2	2.4	3.7	3.8	---	3.5	3.6
9	1.4	1.0	1.6	1.2	2.3	2.2	2.4	3.8	3.8	---	3.5	3.6
10	1.3	1.0	1.6	1.2	2.3	2.2	2.4	---	---	---	3.4	3.6
11	1.4	1.0	1.6	1.2	2.4	2.2	2.4	---	---	---	3.3	3.7
12	1.4	1.3	1.6	1.8	2.2	2.2	2.4	3.7	---	---	3.3	3.7
13	1.4	1.6	1.6	2.3	2.2	2.2	2.4	3.6	---	---	3.3	3.7
14	1.4	1.6	1.5	2.3	2.2	2.4	2.4	3.6	---	---	3.5	3.8
15	1.4	1.6	1.5	2.2	2.2	2.4	2.4	3.7	---	3.8	3.6	3.8
16	1.4	1.6	1.4	2.2	2.2	2.4	2.4	3.8	---	3.8	3.6	3.8
17	1.5	1.6	1.4	2.2	2.2	2.4	2.4	---	---	3.8	3.6	3.9
18	1.5	1.6	1.4	2.3	2.2	2.4	2.4	---	---	4.6	3.6	3.8
19	1.5	1.6	1.4	2.3	2.2	2.4	2.4	---	---	---	3.5	3.8
20	1.5	1.6	1.3	2.2	2.2	2.4	2.4	---	---	3.6	3.5	3.7
21	1.5	1.6	1.3	2.3	2.2	2.4	2.4	---	---	---	3.5	3.7
22	1.5	1.6	1.2	2.3	2.2	2.4	2.4	---	---	---	3.5	3.7
23	1.5	1.6	1.3	2.3	2.2	2.4	2.4	---	---	---	3.5	3.7
24	1.5	1.6	1.3	2.3	2.2	2.4	2.4	---	---	---	3.4	3.7
25	1.5	1.6	1.3	2.4	2.2	2.4	2.4	---	---	---	3.4	3.7
26	1.5	1.6	1.1	2.4	2.2	2.4	2.4	---	---	---	3.4	3.6
27	1.5	1.6	1.1	2.3	2.2	2.4	2.4	3.7	---	---	3.4	3.5
28	1.5	1.6	e1.1	2.2	2.2	2.4	2.4	3.7	---	---	3.4	3.5
29	1.2	1.6	e1.1	2.2	---	2.4	2.4	3.7	---	---	3.3	3.5
30	1.1	1.6	e1.1	2.2	---	2.4	2.9	3.8	---	---	3.5	3.5
31	1.1	---	e1.2	2.2	---	2.4	---	---	---	---	3.5	---
TOTAL	44.7	41.4	43.7	58.8	62.2	71.8	72.5	---	---	---	---	109.9
MEAN	1.44	1.38	1.41	1.90	2.22	2.32	2.42	---	---	---	---	3.66
MAX	1.9	1.6	1.7	2.4	2.4	2.4	2.9	---	---	---	---	3.9
MIN	1.1	1.0	1.1	1.2	2.2	2.2	2.4	---	---	---	---	3.5
AC-FT	89	82	87	117	123	142	144	---	---	---	---	218

e Estimated.

11230530 BEAR CREEK BELOW DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.81	1.60	1.66	1.75	1.78	1.83	2.02	2.98	7.21	2.68	2.70	3.35
MAX	2.34	2.18	2.27	2.15	2.28	2.32	2.98	4.00	29.7	2.75	2.85	6.43
(WY)	1987	1987	1987	1987	1987	1987	1991	1987	1991	1989	1989	1989
MIN	1.33	1.38	1.41	1.49	1.46	1.48	1.42	2.57	2.47	2.50	2.52	2.46
(WY)	1988	1990	1993	1990	1988	1988	1990	1991	1992	1992	1992	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	705.4				
ANNUAL MEAN	1.93		2.60		
HIGHEST ANNUAL MEAN			4.44		1991
LOWEST ANNUAL MEAN			1.98		1990
HIGHEST DAILY MEAN	2.8	Aug 17	156	Jun 12	1991
LOWEST DAILY MEAN	1.0	Nov 3	.94	Oct 15	1987
ANNUAL SEVEN-DAY MINIMUM	1.0	Nov 5	1.0	Nov 5	1992
ANNUAL RUNOFF (AC-FT)	1400		1880		
10 PERCENT EXCEEDS	2.6		2.9		
50 PERCENT EXCEEDS	1.7		2.2		
90 PERCENT EXCEEDS	1.4		1.5		

11230560 CHINQUAPIN CREEK BELOW DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'26", long 119°01'08", unsurveyed, T.7 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, 30 ft downstream from diversion dam to Ward Tunnel, 0.7 mi upstream from mouth, 1.7 mi south of Mono Hot Springs, and 14.0 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.65 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Prior to October 1991 published as "at Diversion Dam."

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,260 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records of fishery release normally computed only during periods of diversion to Ward Tunnel. During the current year, diversion occurred from Apr. 29 to May 24, and July 15 to Aug. 8. See schematic diagram of upper San Joaquin River basin.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	1.1	---	---	1.2	---
2	---	---	---	---	---	---	---	1.1	---	---	1.2	---
3	---	---	---	---	---	---	---	1.1	---	---	1.2	---
4	---	---	---	---	---	---	---	1.2	---	---	1.2	---
5	---	---	---	---	---	---	---	1.1	---	---	1.2	---
6	---	---	---	---	---	---	---	1.1	---	---	1.2	---
7	---	---	---	---	---	---	---	1.1	---	---	1.1	---
8	---	---	---	---	---	---	---	1.0	---	---	1.0	---
9	---	---	---	---	---	---	---	1.0	---	---	---	---
10	---	---	---	---	---	---	---	1.1	---	---	---	---
11	---	---	---	---	---	---	---	1.1	---	---	---	---
12	---	---	---	---	---	---	---	1.2	---	---	---	---
13	---	---	---	---	---	---	---	1.2	---	---	---	---
14	---	---	---	---	---	---	---	1.2	---	---	---	---
15	---	---	---	---	---	---	---	1.1	---	---	---	---
16	---	---	---	---	---	---	---	1.2	---	1.3	---	---
17	---	---	---	---	---	---	---	1.1	---	1.2	---	---
18	---	---	---	---	---	---	---	1.1	---	1.2	---	---
19	---	---	---	---	---	---	---	1.0	---	1.2	---	---
20	---	---	---	---	---	---	---	1.2	---	1.2	---	---
21	---	---	---	---	---	---	---	1.2	---	1.2	---	---
22	---	---	---	---	---	---	---	1.3	---	1.1	---	---
23	---	---	---	---	---	---	---	1.3	---	1.1	---	---
24	---	---	---	---	---	---	---	1.0	---	1.1	---	---
25	---	---	---	---	---	---	---	---	---	1.2	---	---
26	---	---	---	---	---	---	---	---	---	1.2	---	---
27	---	---	---	---	---	---	---	---	---	1.2	---	---
28	---	---	---	---	---	---	---	---	---	1.2	---	---
29	---	---	---	---	---	---	---	---	---	1.2	---	---
30	---	---	---	---	---	---	1.2	---	---	1.2	---	---
31	---	---	---	---	---	---	---	---	---	1.2	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11230600 CAMP 62 CREEK BELOW DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'32", long 119°01'37", unsurveyed, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 30 ft downstream from diversion dam, 1.4 mi southwest of Mono Hot Springs, and 13.5 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.97 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Prior to October 1991 published as "at Diversion Dam."

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,320 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records of fishery release normally are computed only during periods of diversion to Ward Tunnel. Diversion during the current year occurred Apr. 28 to May 24 and July 15 to Sept. 6. Flow over the spillway bypasses this station. See schematic diagram of upper San Joaquin River basin.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.51	---	---	.46	.44
2	---	---	---	---	---	---	---	.38	---	---	.46	.44
3	---	---	---	---	---	---	---	.41	---	---	.46	.42
4	---	---	---	---	---	---	---	.50	---	---	.46	.42
5	---	---	---	---	---	---	---	.49	---	---	.46	.41
6	---	---	---	---	---	---	---	.50	---	---	.46	.40
7	---	---	---	---	---	---	---	.51	---	---	.46	---
8	---	---	---	---	---	---	---	.52	---	---	.46	---
9	---	---	---	---	---	---	---	.54	---	---	.46	---
10	---	---	---	---	---	---	---	.55	---	---	.45	---
11	---	---	---	---	---	---	---	.54	---	---	.44	---
12	---	---	---	---	---	---	---	.50	---	---	.44	---
13	---	---	---	---	---	---	---	.56	---	---	.44	---
14	---	---	---	---	---	---	---	.55	---	---	.44	---
15	---	---	---	---	---	---	---	.49	---	.25	.44	---
16	---	---	---	---	---	---	---	.50	---	.46	.44	---
17	---	---	---	---	---	---	---	.47	---	.46	.44	---
18	---	---	---	---	---	---	---	.51	---	.46	.44	---
19	---	---	---	---	---	---	---	.45	---	.46	.44	---
20	---	---	---	---	---	---	---	.40	---	.46	.43	---
21	---	---	---	---	---	---	---	.52	---	.46	.42	---
22	---	---	---	---	---	---	---	.54	---	.46	.44	---
23	---	---	---	---	---	---	---	.54	---	.46	.44	---
24	---	---	---	---	---	---	---	.46	---	.46	.44	---
25	---	---	---	---	---	---	---	---	---	.46	.44	---
26	---	---	---	---	---	---	---	---	---	.46	.45	---
27	---	---	---	---	---	---	---	---	---	.46	.46	---
28	---	---	---	---	---	---	.28	---	---	.47	.46	---
29	---	---	---	---	---	---	.50	---	---	.49	.46	---
30	---	---	---	---	---	---	.50	---	---	.48	.46	---
31	---	---	---	---	---	---	---	---	---	.46	.45	---
TOTAL	---	---	---	---	---	---	---	---	---	---	13.90	---
MEAN	---	---	---	---	---	---	---	---	---	---	.45	---
MAX	---	---	---	---	---	---	---	---	---	---	.46	---
MIN	---	---	---	---	---	---	---	---	---	---	.42	---
AC-FT	---	---	---	---	---	---	---	---	---	---	28	---

11230670 BOLSILLO CREEK BELOW DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'43", long 119°02'23", unsurveyed, T.7 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, 50 ft downstream from diversion dam, 1.5 mi upstream from mouth, 1.7 mi southwest of Mono Hot Springs, and 13.3 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.40 mi^2.

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

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,600 ft above sea level, from topographic map.

REMARKS.--Records of fishery release normally computed only during periods of diversion to Ward Tunnel. Diversion during the current water year occurred Apr. 28 to Aug. 22. See schematic diagram of upper San Joaquin River basin.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.54	1.5	.54	.51	---
2	---	---	---	---	---	---	---	.51	.81	.54	.51	---
3	---	---	---	---	---	---	---	.51	.76	.54	.51	---
4	---	---	---	---	---	---	---	.50	.67	.54	.51	---
5	---	---	---	---	---	---	---	.51	.56	.54	.51	---
6	---	---	---	---	---	---	---	.51	.56	.54	.51	---
7	---	---	---	---	---	---	---	.51	.56	.54	.51	---
8	---	---	---	---	---	---	---	.51	.56	.52	.51	---
9	---	---	---	---	---	---	---	.49	.56	.51	.51	---
10	---	---	---	---	---	---	---	.46	.74	.51	.51	---
11	---	---	---	---	---	---	---	.39	1.1	.51	.51	---
12	---	---	---	---	---	---	---	e7.1	1.1	.51	.51	---
13	---	---	---	---	---	---	---	e5.5	1.6	.51	.51	---
14	---	---	---	---	---	---	---	.58	1.9	.51	.51	---
15	---	---	---	---	---	---	---	.59	2.6	.51	.51	---
16	---	---	---	---	---	---	---	.59	1.8	.51	.51	---
17	---	---	---	---	---	---	---	1.0	1.6	.51	.51	---
18	---	---	---	---	---	---	---	4.1	1.9	.51	.51	---
19	---	---	---	---	---	---	---	6.3	2.8	.51	.51	---
20	---	---	---	---	---	---	---	4.5	3.1	.51	.51	---
21	---	---	---	---	---	---	---	1.6	1.2	.51	.49	---
22	---	---	---	---	---	---	---	1.2	.57	.51	.46	---
23	---	---	---	---	---	---	---	1.2	.64	.51	---	---
24	---	---	---	---	---	---	---	2.1	1.0	.51	---	---
25	---	---	---	---	---	---	---	1.4	1.4	.51	---	---
26	---	---	---	---	---	---	---	.95	1.5	.51	---	---
27	---	---	---	---	---	---	---	.64	1.1	.51	---	---
28	---	---	---	---	---	---	.54	.59	.56	.51	---	---
29	---	---	---	---	---	---	.54	.59	.54	.51	---	---
30	---	---	---	---	---	---	.54	.63	.54	.51	---	---
31	---	---	---	---	---	---	---	2.2	---	.51	---	---
TOTAL	---	---	---	---	---	---	---	48.80	35.83	16.03	---	---
MEAN	---	---	---	---	---	---	---	1.57	1.19	.52	---	---
MAX	---	---	---	---	---	---	---	7.1	3.1	.54	---	---
MIN	---	---	---	---	---	---	---	.39	.54	.51	---	---
AC-FT	---	---	---	---	---	---	---	97	71	32	---	---

e Estimated.

11231000 LAKE THOMAS A. EDISON NEAR BIG CREEK, CA

LOCATION.--Lat 37°22'09", long 118°59'17", unsurveyed, T.6 1/2 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in outlet works of Vermillion Valley Dam on Mono Creek 18.1 mi northeast of town of Big Creek.

DRAINAGE AREA.--90.0 mi^2.

PERIOD OF RECORD.--October 1954 to current year. Prior to 1960, maximum and minimum daily contents were published.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by earthfill dam; dam completed and storage began Oct. 12, 1954. Usable capacity, 125,035 acre-ft between elevations 7,508.9 ft, invert of outlet works, and 7,642.50 ft, top of gates in service spillway. Water is diverted at times into lake from Warm Creek (station 11231700). Water is released for diversion to Ward Tunnel via Mono Creek Conduit (station 11231550). See schematic diagram of upper San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
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, 125,983 acre-ft, Sept. 26, 1982, elevation, 7,643.55 ft; minimum since appreciable storage was attained, 4,553 acre-ft, Dec. 27, 1987, elevation, 7,552.07 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,739 acre-ft, July 25, 26, elevation, 7,642.34 ft; minimum, 6,268 acre-ft, Mar. 19-21, elevation, 7,555.20 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated July 22, 1955)

7,550	3,567	7,580	28,515	7,620	85,006
7,555	6,147	7,590	40,454	7,630	102,367
7,560	9,521	7,600	53,769	7,640	120,424
7,570	18,137	7,610	68,616	7,644	127,820

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29535	28105	27652	23880	20906	13879	6371	15968	58136	108149	123924	121325
2	29501	28072	27629	23650	20647	13565	6395	17018	59274	110001	123869	120939
3	29468	28017	27629	23450	20407	13258	6444	17996	60318	111696	123869	120314
4	29445	28028	27629	23293	20178	12958	6511	18810	61428	113307	123924	119654
5	29412	27995	27629	23053	19970	12652	6602	19774	62578	115014	124035	118921
6	29378	27962	27652	22856	19706	12368	6766	20567	63392	116800	124220	118244
7	29356	27917	27818	22763	19412	12092	6945	21340	64286	118207	124165	117750
8	29333	27873	27829	22557	19216	11810	7137	22113	65187	118994	124146	117421
9	29311	27795	27851	22350	19050	11411	7367	23011	66234	119636	124128	117129
10	29288	27718	27873	22330	18848	10657	7616	24122	67475	120204	124054	116982
11	29266	27707	27962	22237	18627	9930	7839	25421	68900	120755	123906	117019
12	29244	27674	28006	22062	18377	9209	8028	26731	70530	121178	123758	117055
13	29221	27685	27962	21909	18118	8523	8239	27807	72287	121822	123611	117092
14	29199	27696	27984	21970	17873	7900	8438	28919	74305	122540	123444	117074
15	29176	27707	27962	21990	17628	7214	8673	30250	76423	123315	123241	117074
16	29120	27718	27740	22001	17364	6565	8942	31501	78482	123961	123057	116781
17	29031	27718	27530	22092	17083	6292	9202	33161	80293	124535	122872	116271
18	28941	27707	27255	22072	16898	6292	9410	34882	82186	124461	122706	115779
19	28840	27718	27004	22051	16601	6268	9598	36729	84312	124146	122651	115269
20	28739	27685	26720	22021	16342	6268	9899	38447	86350	124442	122595	114741
21	28694	27696	26436	21980	16031	6268	10246	40543	88126	124553	122558	114233
22	28616	27718	26187	21940	15786	6299	10609	42484	89894	124498	122540	113615
23	28515	27707	25917	21889	15604	6353	10966	44493	91723	124461	122521	112890
24	28449	27707	25669	21828	15313	6414	11289	46481	93784	124665	122466	112311
25	28360	27707	25410	21787	15054	6468	11753	48524	95961	124739	122392	111732
26	28271	27707	25121	21828	14786	6492	12234	50040	98343	124739	122318	111154
27	28194	27718	24834	21868	14483	6468	12762	51354	100615	124720	122245	110541
28	28128	27685	24621	21879	14194	6438	13394	52541	102776	124628	122171	109820
29	28105	27663	24546	21635	---	6389	14142	53713	104626	124461	122061	109083
30	28194	27652	24291	21350	---	6353	15001	55095	106376	124294	121932	108436
31	28139	---	24048	21127	---	6347	---	56751	---	124054	121748	---
MAX	29535	28105	28006	23880	20906	13879	15001	56751	106376	124739	124220	121325
MIN	28105	27652	24048	21127	14194	6268	6371	15968	58136	108149	121748	108436
a	7579.66	7579.22	7575.88	7573.05	7565.69	7555.33	7566.60	7602.10	7632.25	7641.97	7640.72	7633.40
b	-1407	-487	-3604	-2921	-6933	-7847	+8654	+41750	+49625	+17678	-2306	-13312

CAL YR 1992 MAX 46732 MIN 11541 b +2200
WTR YR 1993 MAX 124739 MIN 6268 b +78890
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11231500 MONO CREEK BELOW LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°21'41", long 118°59'28", unsurveyed, T.6 1/2 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 0.5 mi upstream from diversion dam, 0.9 mi downstream from Vermilion Valley Dam, and 1.0 mi south of Lake Thomas A. Edison.

DRAINAGE AREA.--92.5 mi^2.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

REVISED RECORDS.--WSP 1011: 1943. WSP 1515: 1956. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 7,380 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Lake Thomas A. Edison (station 11231000) 1 mi upstream beginning Oct. 12, 1954. Water is diverted at times into the basin from Warm Creek (station 11231700) to Lake Thomas A. Edison. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft^3/s, Sept. 26, 1982, gage height, 8.87 ft; minimum daily, 0.3 ft^3/s, Nov. 11, 12, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 794 ft^3/s, July 18, gage height, 7.20 ft; minimum daily, 17 ft^3/s, many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	55	17	161	147	190	116	39	30	20	318	312
2	17	55	17	161	147	190	116	39	29	20	292	380
3	17	55	17	138	147	190	116	38	28	20	243	388
4	17	55	17	101	146	190	116	35	28	20	221	393
5	17	55	17	159	145	190	80	33	28	20	184	393
6	17	55	18	158	158	190	27	34	28	20	182	393
7	17	55	18	157	174	190	27	34	29	214	190	271
8	17	55	18	150	150	190	28	35	30	377	191	198
9	17	55	18	152	144	249	29	37	30	377	192	198
10	17	43	18	74	133	421	29	40	30	377	192	70
11	17	17	18	90	139	419	29	40	29	377	192	22
12	17	17	19	156	158	416	29	39	23	381	192	22
13	17	17	19	157	159	412	29	36	21	205	192	22
14	17	17	19	99	159	407	29	35	21	93	192	22
15	17	17	45	72	159	404	31	35	20	26	192	22
16	33	17	132	72	159	398	32	37	20	20	192	174
17	55	17	164	72	177	257	31	37	20	52	192	268
18	55	17	164	70	191	116	31	38	20	468	165	268
19	55	17	164	70	192	116	31	37	20	482	110	268
20	55	17	164	69	192	116	30	37	20	183	110	268
21	55	17	164	69	192	116	27	36	20	296	110	268
22	55	17	164	70	192	116	25	34	20	333	110	321
23	55	17	164	70	192	116	25	34	20	333	104	352
24	55	17	164	70	192	116	24	32	20	335	111	323
25	56	17	164	49	192	116	26	32	20	347	117	321
26	56	17	164	17	192	116	29	31	20	368	118	319
27	56	17	164	17	192	116	30	30	20	369	118	330
28	56	17	164	21	191	116	32	29	20	369	116	357
29	56	17	164	166	---	116	35	29	20	369	116	358
30	56	17	164	160	---	116	39	28	20	369	116	322
31	56	---	164	147	---	116	---	30	---	369	155	---
TOTAL	1120	878	2887	3194	4711	6527	1278	1080	704	7609	5225	7623
MEAN	36.1	29.3	93.1	103	168	211	42.6	34.8	23.5	245	169	254
MAX	56	55	164	166	192	421	116	40	30	482	318	393
MIN	17	17	17	17	133	116	24	28	20	20	104	22
AC-FT	2220	1740	5730	6340	9340	12950	2530	2140	1400	15090	10360	15120

11231500 MONO CREEK BELOW LAKE THOMAS A. EDISON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1954, BY WATER YEAR (WY)

MEAN	24.4	29.4	31.4	33.3	39.8	59.4	170	457	548	270	79.6	31.3
MAX	60.8	124	127	76.8	74.4	94.8	282	714	1135	672	233	86.6
(WY)	1946	1951	1951	1951	1951	1934	1926	1952	1938	1938	1938	1938
MIN	11.3	10.5	12.0	14.0	17.0	25.0	77.8	197	79.6	36.6	17.6	11.5
(WY)	1925	1930	1931	1949	1949	1924	1948	1933	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1922 - 1954		
ANNUAL MEAN	148		
HIGHEST ANNUAL MEAN	268		1938
LOWEST ANNUAL MEAN	52.8		1924
HIGHEST DAILY MEAN	1550	Jun 3	1938
LOWEST DAILY MEAN	8.0	Sep 29	1924
ANNUAL SEVEN-DAY MINIMUM	8.1	Sep 28	1924
INSTANTANEOUS PEAK FLOW	1760	Jun 2	1938
INSTANTANEOUS PEAK STAGE	8.62	Jun 2	1938
ANNUAL RUNOFF (AC-FT)	107300		
10 PERCENT EXCEEDS	470		
50 PERCENT EXCEEDS	48		
90 PERCENT EXCEEDS	18		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	87.2	154	207	228	216	172	116	62.4	72.8	194	217	158
MAX	240	349	437	467	472	479	647	515	577	635	414	392
(WY)	1986	1981	1968	1984	1973	1973	1983	1983	1969	1983	1983	1968
MIN	11.0	12.1	9.05	9.95	10.4	13.8	12.7	12.7	11.5	12.1	12.2	14.0
(WY)	1972	1982	1991	1991	1991	1990	1966	1966	1977	1977	1981	1966

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1956 - 1993		
ANNUAL TOTAL	27037		42836				
ANNUAL MEAN	73.9		117		157		
HIGHEST ANNUAL MEAN					366		1983
LOWEST ANNUAL MEAN					53.2		1977
HIGHEST DAILY MEAN	266	Jun 25	482	Jul 19	2080	Sep 26	1982
LOWEST DAILY MEAN	17	Sep 15	17	Oct 1	4.1	Dec 12	1990
ANNUAL SEVEN-DAY MINIMUM	17	Sep 24	17	Oct 1	4.2	Dec 12	1990
INSTANTANEOUS PEAK FLOW			794	Jul 18	2160	Sep 26	1982
INSTANTANEOUS PEAK STAGE			7.20	Jul 18	8.87	Sep 26	1982
ANNUAL RUNOFF (AC-FT)	53630		84970		113700		
10 PERCENT EXCEEDS	193		321		420		
50 PERCENT EXCEEDS	24		70		90		
90 PERCENT EXCEEDS	17		17		13		

11231550 MONO CREEK CONDUIT NEAR MONO HOT SPRINGS, CA

LOCATION.--Lat 37°21'36", long 118°59'51", unsurveyed, T.6 1/2 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 40 ft upstream from diversion dam, 1.0 mi southwest of Lake Thomas A. Edison, and 2.5 mi northeast of Mono Hot Springs.

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

GAGE.--Discharge computed as difference between flow at Mono Creek below Lake Thomas A. Edison (station 11231500) and Mono Creek below diversion dam (station 11231600). Datum of conduit invert is 7,338 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--Conduit diverts at diversion dam on Mono Creek to Ward Tunnel and Huntington Lake (station 11236000) via Portal Powerplant (station 11235500) for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 442 ft^3/s, Aug. 7, 9, 10, 1989; minimum daily, -18 ft^3/s, June 11, 1993 (reverse flow from Bear Creek Conduit).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	e49	11	155	141	184	110	26	16	4.0	e273	297
2	5.0	e49	11	155	141	184	110	26	15	4.0	278	365
3	5.0	e49	11	132	141	184	110	25	14	3.0	230	373
4	5.0	e49	11	95	140	184	110	21	14	3.0	208	378
5	6.0	49	11	153	139	184	74	19	14	5.0	171	378
6	10	49	12	152	152	184	21	20	14	6.0	169	378
7	10	49	12	151	168	184	21	20	15	e76	176	257
8	10	49	12	144	144	184	22	21	16	e120	177	184
9	10	49	12	146	138	243	23	23	16	e115	178	184
10	10	37	12	68	127	415	23	26	16	e117	178	56
11	10	11	12	84	133	413	23	26	e-18	e115	178	8.0
12	10	11	13	150	152	410	23	25	7.0	e115	178	8.0
13	10	11	13	151	153	406	23	22	7.0	e103	178	8.0
14	10	11	14	93	153	401	22	21	7.0	e54	178	8.0
15	e10	11	39	66	153	398	24	21	6.0	11	178	8.0
16	e26	11	126	66	153	392	26	23	6.0	6.0	178	158
17	e48	11	158	66	171	251	25	23	6.0	38	178	251
18	e48	11	158	64	185	110	25	24	6.0	e225	150	252
19	e48	11	158	64	186	110	25	23	6.0	e182	95	252
20	e48	11	158	63	186	110	24	23	6.0	e104	96	252
21	e48	11	158	63	186	110	21	22	6.0	e213	96	252
22	e48	11	158	64	186	110	19	20	6.0	e268	96	305
23	e48	11	158	64	186	110	19	20	6.0	e273	90	336
24	e48	11	158	64	186	110	18	18	6.0	e273	96	309
25	e49	11	158	43	186	110	20	18	6.0	e266	103	307
26	e49	11	158	11	186	110	23	17	6.0	e261	104	305
27	e49	11	158	12	186	110	24	16	6.0	e257	104	316
28	e49	11	158	16	185	110	26	15	6.0	e254	102	343
29	e49	11	158	160	---	110	29	15	5.0	e256	102	344
30	e49	11	158	154	---	110	31	14	4.0	e262	102	308
31	e49	---	158	141	---	110	---	16	---	e263	141	---
TOTAL	880.0	698	2702	3010	4543	6341	1094	649	246.0	4252.0	4761	7180.0
MEAN	28.4	23.3	87.2	97.1	162	205	36.5	20.9	8.20	137	154	239
MAX	49	49	158	160	186	415	110	26	16	273	278	378
MIN	5.0	11	11	11	127	110	18	14	-18	3.0	90	8.0
AC-FT	1750	1380	5360	5970	9010	12580	2170	1290	488	8430	9440	14240

e Estimated.

11231550 MONO CREEK CONDUIT NEAR MONO HOT SPRINGS, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	51.1	88.1	110	74.8	37.8	73.3	82.3	43.5	68.6	185	249	116
MAX	125	226	421	213	162	205	214	124	155	417	383	308
(WY)	1988	1992	1987	1987	1993	1993	1987	1988	1989	1989	1989	1987
MIN	13.8	12.6	1.39	4.08	3.72	8.00	14.8	6.07	8.20	9.30	134	11.8
(WY)	1990	1989	1991	1991	1991	1990	1992	1989	1993	1990	1992	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	24124.8		36356.0				
ANNUAL MEAN	65.9		99.6		98.9		
HIGHEST ANNUAL MEAN					204		1987
LOWEST ANNUAL MEAN					50.5		1990
HIGHEST DAILY MEAN	256	Jun 25	415	Mar 10	442	Aug 7	1989
LOWEST DAILY MEAN	5.0	Oct 2	-18	Jun 11	-18	Jun 11	1993
ANNUAL SEVEN-DAY MINIMUM	5.9	Sep 29	3.0	Jun 11	.00	Dec 5	1990
ANNUAL RUNOFF (AC-FT)	47850		72110		71620		
10 PERCENT EXCEEDS	186		252		338		
50 PERCENT EXCEEDS	16		63		25		
90 PERCENT EXCEEDS	11		8.0		6.8		

11231600 MONO CREEK BELOW DIVERSION DAM, NEAR MONO HOT SPRINGS, CA

LOCATION.--Lat 37°21'36", long 118°59'51", unsurveyed, T.6 1/2 S, R.27 E, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 20 ft downstream from diversion dam, 1.0 mi southwest of Lake Thomas A. Edison, and 2.5 mi northeast of Mono Hot Springs.

DRAINAGE AREA.--92.8 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Prior to October 1991, published as "at Diversion Dam."

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Elevation of gage is 7,340 ft above sea level, from topographic map. Prior to Oct. 1, 1991, at datum 10 ft higher.

REMARKS.--Flow regulated by diversion reservoir and Lake Thomas A. Edison (station 11231000). Most of the flow is diverted at the diversion dam to Mono Creek Conduit (station 11231550), then to Ward Tunnel and Huntington Lake (station 11236000) via Portal Powerplant (station 11235500) for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

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, 300 ft^3/s, July 19, 1993; minimum daily, 4.1 ft^3/s, Dec. 12-16, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 300 ft^3/s, July 19; minimum daily, 5.4 ft^3/s, Dec. 14, Jan. 27, 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e6.4	5.6	5.9	5.7	5.7	5.8	13	14	16	e45	15
2	12	e6.0	5.6	5.9	5.7	5.7	5.8	13	14	16	14	15
3	12	e5.9	5.6	5.8	5.7	5.6	5.8	13	14	17	13	15
4	12	e5.9	5.6	5.7	5.6	5.6	5.8	14	14	17	13	15
5	11	5.9	5.6	5.8	5.6	5.6	6.0	14	14	15	13	15
6	6.8	5.8	5.6	5.8	5.6	5.6	6.3	14	14	14	13	15
7	6.8	5.8	5.6	5.8	5.6	5.6	6.3	14	14	e138	14	14
8	6.8	5.8	5.6	5.7	5.6	5.6	6.3	14	14	e257	14	14
9	6.8	5.8	5.5	5.7	5.5	5.7	6.4	14	14	e262	14	14
10	6.8	5.9	5.5	5.5	5.5	6.0	6.4	14	14	e260	14	14
11	6.8	5.9	5.5	5.6	5.6	6.0	6.4	14	e47	e262	14	14
12	6.8	5.6	5.5	5.7	5.7	6.1	6.4	14	16	e266	14	14
13	6.9	5.6	5.5	5.8	5.7	6.0	6.4	14	14	e102	14	14
14	7.0	5.6	5.4	5.8	5.7	6.0	6.5	14	14	e39	14	14
15	e7.0	5.6	5.5	5.7	5.7	6.0	6.5	14	14	15	14	14
16	e7.0	5.6	5.9	5.6	5.7	5.9	6.4	14	14	14	14	16
17	e7.0	5.6	5.9	5.6	5.8	5.8	6.4	14	14	14	14	17
18	e7.0	5.6	5.9	5.6	5.8	5.9	6.4	14	14	e243	15	16
19	e7.0	5.6	5.9	5.6	5.8	6.0	6.4	14	14	e300	15	16
20	e7.0	5.6	5.8	5.6	5.8	6.0	6.4	14	14	e79	14	16
21	e7.0	5.7	5.8	5.6	5.8	6.0	6.3	14	14	e83	14	16
22	e7.0	5.7	5.7	5.6	5.8	6.0	6.2	14	14	e65	14	16
23	e7.0	5.7	5.7	5.6	5.7	5.9	6.1	14	14	e60	14	16
24	e7.0	5.6	5.8	5.6	5.7	5.9	6.0	14	14	e62	15	14
25	e7.0	5.6	5.8	5.5	5.7	5.8	6.0	14	14	e81	14	14
26	e7.0	5.6	5.8	5.5	5.7	5.9	6.0	14	14	e107	14	14
27	e7.0	5.6	5.8	5.4	5.7	5.9	6.0	14	14	e112	14	14
28	e7.0	5.6	5.8	5.4	5.7	5.8	6.0	14	14	e115	14	14
29	e7.0	5.6	5.9	5.7	---	5.8	6.0	14	15	e113	14	14
30	e7.0	5.6	5.9	5.7	---	5.8	8.1	14	16	e107	14	14
31	e7.0	---	5.9	5.7	---	5.8	---	14	---	e106	14	---
TOTAL	238.5	171.8	176.5	175.5	159.2	181.0	187.8	431	458	3357	464	443
MEAN	7.69	5.73	5.69	5.66	5.69	5.84	6.26	13.9	15.3	108	15.0	14.8
MAX	12	6.4	5.9	5.9	5.8	6.1	8.1	14	47	300	45	17
MIN	6.8	5.6	5.4	5.4	5.5	5.6	5.8	13	14	14	13	14
AC-FT	473	341	350	348	316	359	373	855	908	6660	920	879

e Estimated.

11231600 MONO CREEK BELOW DIVERSION DAM, NEAR MONO HOT SPRINGS, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.09	6.81	6.62	6.33	6.42	6.43	6.68	10.9	11.8	24.8	11.3	11.3
MAX	10.5	9.32	8.47	8.15	8.42	9.20	9.55	13.9	15.3	108	15.0	14.8
(WY)	1987	1991	1987	1987	1987	1987	1987	1993	1993	1993	1993	1993
MIN	6.96	5.62	5.69	5.66	5.69	5.84	5.88	9.94	9.98	9.91	10.0	10.1
(WY)	1990	1992	1993	1993	1993	1990	1992	1991	1990	1991	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	2868.3		6443.3			
ANNUAL MEAN	7.84		17.7		9.83	
HIGHEST ANNUAL MEAN					17.7	1993
LOWEST ANNUAL MEAN					7.83	1992
HIGHEST DAILY MEAN	12	Sep 21	300	Jul 19	300	Jul 19 1993
LOWEST DAILY MEAN	5.4	Dec 14	5.4	Dec 14	4.1	Dec 12 1990
ANNUAL SEVEN-DAY MINIMUM	5.5	Dec 9	5.5	Dec 9	4.2	Dec 12 1990
ANNUAL RUNOFF (AC-FT)	5690		12780		7120	
10 PERCENT EXCEEDS	10		16		12	
50 PERCENT EXCEEDS	6.8		6.8		8.5	
90 PERCENT EXCEEDS	5.7		5.6		5.8	

11231700 WARM CREEK BELOW DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°23'31", long 119°01'39", unsurveyed, T.6 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank, 40 ft downstream from diversion dam, 1.5 mi northwest of Lake Thomas A. Edison, and 17.4 mi northeast of town of Big Creek.

DRAINAGE AREA.--2.14 mi^2.

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

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 8,030 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records normally computed only in summer months or during periods of diversion to Lake Thomas A. Edison. Diversion occurred Apr. 28 to Sept. 30. See schematic diagram of upper San Joaquin River basin.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.18	---	---	---	---	---	.40	.45	.42	.42	.32
2	.13	.18	---	---	---	---	---	.40	.45	.42	.42	.31
3	.13	.18	---	---	---	---	---	.40	.44	.42	.42	.30
4	.13	---	---	---	---	---	---	.42	.44	.42	.42	.30
5	.13	---	---	---	---	---	---	.42	.46	.42	.42	.30
6	.13	---	---	---	---	---	---	.42	.46	.42	.42	.32
7	.13	---	---	---	---	---	---	.42	.46	.40	.42	.32
8	.12	---	---	---	---	---	---	.42	.46	.40	.42	.32
9	.12	---	---	---	---	---	---	.42	.46	.40	.42	.32
10	.12	---	---	---	---	---	---	.44	.46	.40	.42	.32
11	.12	---	---	---	---	---	---	.44	.44	.40	.42	.32
12	.12	---	---	---	---	---	---	.44	.46	.41	.42	.32
13	.12	---	---	---	---	---	---	.40	.46	.40	.43	.32
14	.12	---	---	---	---	---	---	.38	.46	.40	.44	.32
15	.12	---	---	---	---	---	---	.36	.46	.40	.44	.32
16	.13	---	---	---	---	---	---	.38	.44	.38	.44	.32
17	.13	---	---	---	---	---	---	.39	.44	.38	.44	.32
18	.12	---	---	---	---	---	---	.39	.42	.38	.42	.32
19	.12	---	---	---	---	---	---	.39	.42	.38	.34	.32
20	.12	---	---	---	---	---	---	.40	.42	.38	.34	.32
21	.16	---	---	---	---	---	---	.40	.42	.38	.33	.32
22	.13	---	---	---	---	---	---	.38	.42	.38	.32	.32
23	.13	---	---	---	---	---	---	.38	.42	.38	.32	.32
24	.13	---	---	---	---	---	---	.37	.42	.38	.32	.32
25	.13	---	---	---	---	---	---	.38	.42	.38	.32	.32
26	.13	---	---	---	---	---	---	.38	.42	.38	.31	.32
27	.13	---	---	---	---	---	---	.38	.42	.38	.32	.32
28	.15	---	---	---	---	---	2.6	.41	.42	.38	.34	.32
29	.15	---	---	---	---	---	2.7	.49	.42	.40	.34	.32
30	.22	---	---	---	---	---	2.0	.46	.42	.42	.34	.32
31	.18	---	---	---	---	---	---	.46	---	.42	.32	---
TOTAL	4.12	---	---	---	---	---	---	12.62	13.16	12.31	11.91	9.53
MEAN	.13	---	---	---	---	---	---	.41	.44	.40	.38	.32
MAX	.22	---	---	---	---	---	---	.49	.46	.42	.44	.32
MIN	.12	---	---	---	---	---	---	.36	.42	.38	.31	.30
AC-FT	8.2	---	---	---	---	---	---	25	26	24	24	19

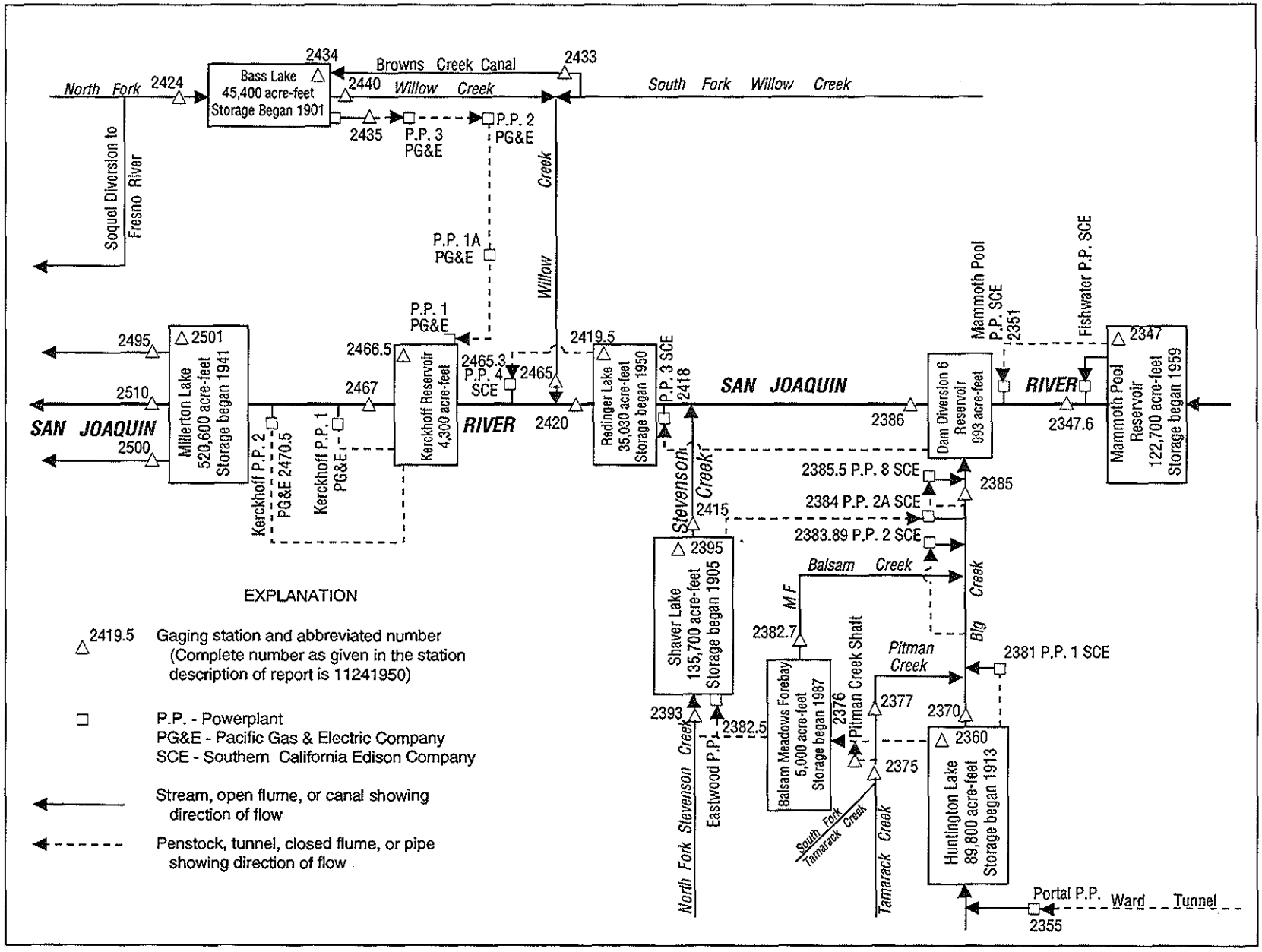

Figure 32. Diversions and storage in lower San Joaquin River basin.

11234700 MAMMOTH POOL RESERVOIR NEAR BIG CREEK, CA

LOCATION.--Lat 37°19'40", long 119°19'38", in SE 1/4 SE 1/4 sec.10, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of power tunnel intake 0.7 mi northwest of dam on San Joaquin River, 9.0 mi northwest of town of Big Creek.
DRAINAGE AREA.--995 mi^2.

PERIOD OF RECORD.--October 1959 to current year.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed by an earthfill dam; storage began Oct. 8, 1959. Usable capacity, 119,940 acre-ft between elevations 3,100.00 ft, invert of power tunnel, and 3,330.00 ft, crest of spillway. Additional storage of 2,780 acre-ft is not available for release. Water is diverted from basin through Ward Tunnel (stations 11229500 and 11235500). Water is diverted from Mammoth Pool through tunnel for power development and returned to river 8.5 mi downstream from dam. Records, including extremes, represent usable contents at 2400 hours. See schematic diagrams of upper and lower San Joaquin River basin.
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. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 126,503 acre-ft, June 2, 3, 1969; maximum elevation, 3,335.86 ft, June 3, 1969; minimum contents since appreciable storage was attained, 1,134 acre-ft, Sept. 25, 1992, elevation, 3,112.82 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 123,021 acre-ft, May 31, June 26, elevation, 3,332.77 ft; minimum, 2,107 acre-ft, Oct. 1, elevation, 3,121.84 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Nov. 6, 1959)

3,100	0	3,130	3,114	3,180	14,060	3,260	56,381
3,105	417	3,140	4,605	3,190	17,414	3,280	72,109
3,110	861	3,150	6,402	3,200	21,400	3,300	89,781
3,115	1,355	3,160	8,618	3,220	31,109	3,320	109,336
3,120	1,900	3,170	11,165	3,240	42,787	3,336	126,661

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2107	8783	17051	e29002	30889	5862	19668	73432	121570	120815	115019	105823
2	2265	9194	17240	e29515	29363	5943	20193	81463	121092	122049	114563	106481
3	2423	9607	17429	e29989	27506	6719	20909	88522	121092	120815	114331	107142
4	2580	10012	17614	e31380	25346	6719	22117	93769	121092	120815	114109	107806
5	2727	10380	17776	e31543	23373	7417	22878	97891	121092	120815	113644	108472
6	2874	10767	18020	e32033	21777	8250	22496	103009	120615	122049	113422	108914
7	3018	11184	18300	e32963	20555	8201	22021	106918	120615	122049	113191	109585
8	3156	11578	18723	e33874	19390	8504	22398	111835	120615	120815	112506	110249
9	3025	11947	19275	e35231	19390	9135	23364	117778	120848	121570	111835	110707
10	3057	12266	19898	e36599	19390	9347	24248	122049	121570	121325	110926	110477
11	3148	12547	20722	e37397	17985	8921	25051	122049	120815	121325	110031	109585
12	3250	12815	21264	e38779	17178	8504	25666	121815	121681	121092	109130	108688
13	3357	13072	21712	39694	16174	8402	25772	121570	122049	120615	108914	107806
14	3844	13327	22161	39956	14976	9027	25874	121570	122294	120372	110031	106704
15	3993	13597	22624	40084	13616	9562	26628	121570	122294	119427	110926	105611
16	4128	13872	23039	40206	12346	8402	27940	122049	122049	118480	110707	104523
17	4267	14136	23590	40206	10375	11019	28831	122529	120815	117553	109803	103219
18	4400	14362	e23953	40328	9280	13031	29505	122775	120815	116858	108914	101713
19	4535	14617	e24316	44061	8780	13546	29731	122529	122294	117082	108021	100216
20	4683	14824	e24679	45676	9337	13676	30536	122529	122529	116399	107142	98103
21	4849	15034	e25042	46144	9337	14277	32648	122529	120815	115474	107581	95201
22	5018	15248	e25292	49005	9204	15182	35299	122294	120815	114563	108246	92138
23	5186	15463	e25542	49005	9703	16002	37564	122529	122049	114563	108246	89114
24	5337	15666	e25826	49005	10446	18731	38593	122529	122294	115474	109130	86338
25	5485	15857	e26111	49495	9782	20730	40560	122529	122529	116399	109585	83788
26	5633	16073	e26110	48519	8821	22117	44087	121815	123021	117553	108914	81267
27	5790	16317	e26483	46555	7658	22021	48030	121570	122775	117553	108246	78047
28	5943	16509	e26483	44010	6495	21366	52639	121092	122529	117082	107581	75454
29	6263	16674	e26983	39960	---	20284	58601	121325	120815	116399	106918	72706
30	7602	16857	e27705	36506	---	19497	65783	121570	121570	115931	106267	69826
31	8358	---	e28500	32852	---	19069	---	123021	---	115474	105388	---
MAX	8358	16857	28500	49495	30889	22117	65783	123021	123021	122049	115019	110707
MIN	2107	8783	17051	29002	6495	5862	19668	73432	120615	114563	105388	69826
a	3158.90	3188.45		3223.19	3150.45	3194.30	3272.28	3332.77	3331.47	3325.85	3316.13	3277.25
b	+6404	+8499	+11643	+4352	-26357	+12574	+46714	+57238	-1451	-6096	-10086	-35562

CAL YR 1992 MAX 94423 MIN 1134 b +974
WTR YR 1993 MAX 123021 MIN 2107 b +67872
e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA

LOCATION (REVISED).--Lat 37°19'00", long 119°19'43", in NE 1/4 SE 1/4 sec.15, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft upstream from Shakeflat Creek, 4,900 ft downstream from Mammoth Pool Dam, and 9.0 mi northwest of town of Big Creek.

DRAINAGE AREA.--1,003 mi^2.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,865.50 ft above sea level (levels by Southern California Edison Co.). Since 1961, supplementary water-stage recorder and sharp-crested weir at different datum at outlet of dam 4,900 ft upstream, used at times for low flows.

REMARKS.--No estimated daily discharges. Flow regulated by Mammoth Pool Reservoir (station 11234700) 4,900 ft upstream. Diversions upstream through Ward Tunnel (see stations 11229500 and 11235500). Since March 1960, most of the water is diverted past this station to Mammoth Pool Powerplant (station 11235100). See schematic diagrams of upper and lower San Joaquin River basins.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s, June 3, 1969, gage height, 18.38 ft; minimum daily, 0.3 ft^3/s, Oct. 14, Dec. 5, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,480 ft^3/s, May 19, gage height, 13.35 ft; minimum daily, 7.0 ft^3/s, Oct. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	15	18	46	19	19	49	4720	3100	29	29
2	14	15	15	18	46	19	20	43	2920	3540	29	29
3	14	15	13	17	46	18	19	47	2130	3540	29	29
4	14	15	13	17	45	18	19	62	2040	3070	30	29
5	14	15	13	17	45	18	19	63	2170	3250	30	29
6	14	15	13	20	44	18	19	63	1430	3580	30	29
7	14	15	18	40	45	18	19	64	777	3530	30	29
8	14	15	14	21	49	18	19	64	980	3570	30	30
9	14	15	17	17	48	18	19	64	1300	2710	30	30
10	14	15	14	17	46	17	19	2140	2280	2160	30	30
11	14	15	17	14	45	17	19	4980	3570	1840	30	30
12	14	15	14	17	45	17	18	4830	3690	1820	30	30
13	14	15	14	27	45	17	27	4010	3560	1100	30	30
14	14	15	14	39	44	18	38	3530	4200	546	30	30
15	14	16	14	27	43	17	48	3520	4590	144	30	30
16	14	16	14	28	42	17	48	4020	4390	54	30	30
17	14	16	14	25	42	22	49	5330	3490	53	30	30
18	14	16	13	21	48	18	49	5960	3240	53	30	30
19	14	14	13	18	37	18	49	6330	3760	43	30	30
20	10	13	13	17	23	18	50	6090	5680	29	30	30
21	7.0	13	13	19	20	18	52	5890	4190	29	30	30
22	11	13	13	20	20	18	53	5260	3340	30	30	30
23	13	13	13	17	31	18	54	5190	4020	30	29	30
24	13	13	13	16	24	19	54	5810	4250	30	29	30
25	14	13	13	16	21	28	55	6090	4630	30	29	30
26	14	13	13	16	22	26	55	4760	5830	30	29	30
27	12	13	13	38	21	21	56	3590	6210	30	29	30
28	13	13	16	50	19	21	57	2770	5630	30	29	29
29	16	13	23	49	---	20	51	2290	4230	30	29	29
30	18	13	19	48	---	19	46	2920	2700	30	29	29
31	15	---	18	47	---	19	---	4750	---	29	29	---
TOTAL	422.0	431	452	771	1052	587	1119	100579	105947	38060	918	890
MEAN	13.6	14.4	14.6	24.9	37.6	18.9	37.3	3244	3532	1228	29.6	29.7
MAX	18	16	23	50	49	28	57	6330	6210	3580	30	30
MIN	7.0	13	13	14	19	17	18	43	777	29	29	29
AC-FT	837	855	897	1530	2090	1160	2220	199500	210100	75490	1820	1770
a	0	0	613	52220	69120	112500	144200	153600	147200	130800	49280	50030

a Diversion, in acre-feet, to Mammoth Pool Powerplant, provided by Southern California Edison Co.

11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.3	12.8	15.3	29.1	58.9	79.0	162	1332	2004	752	64.9	22.3
MAX	61.9	20.1	66.3	422	754	1032	1724	9681	12400	5992	1184	45.3
(WY)	1960	1974	1967	1967	1980	1986	1980	1969	1983	1983	1983	1978
MIN	12.6	.82	3.06	10.2	10.8	10.9	12.3	12.9	11.8	12.4	12.8	12.4
(WY)	1961	1960	1960	1986	1985	1960	1964	1961	1961	1961	1972	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993		
ANNUAL TOTAL	5393.0		251228.0				
ANNUAL MEAN	14.7		688		380		
HIGHEST ANNUAL MEAN					2022		1983
LOWEST ANNUAL MEAN					13.2		1961
HIGHEST DAILY MEAN	23	Feb 12	6330	May 19	16400	Jun 2	1969
LOWEST DAILY MEAN	7.0	Oct 21	7.0	Oct 21	.30	Oct 14	1959
ANNUAL SEVEN-DAY MINIMUM	12	Oct 18	12	Oct 18	.57	Dec 1	1959
INSTANTANEOUS PEAK FLOW			7480	May 19	18400	Jun 3	1969
INSTANTANEOUS PEAK STAGE			13.35	May 19	18.38	Jun 3	1969
ANNUAL RUNOFF (AC-FT)	10700		498300		275400		
TOTAL DIVERSION (AC-FT) a	403600		909600				
10 PERCENT EXCEEDS	18		3540		116		
50 PERCENT EXCEEDS	14		29		15		
90 PERCENT EXCEEDS	13		14		12		

a Diversion, in acre-feet, to Mammoth Pool Powerplant, provided by Southern California Edison Co.

11235500 PORTAL POWERPLANT AT HUNTINGTON LAKE, CA

LOCATION.--Lat 37°15'25", long 119°09'30", in SE 1/4 SW 1/4 sec.5, T.8 S., R.26 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in powerplant at tunnel outlet at east end of Huntington Lake, 0.9 mi east of Lakeshore Post Office, and 6 mi northeast of town of Big Creek.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1960, published as Ward Tunnel at Outlet. October 1960 to September 1991, published as Ward Tunnel Outlet at Huntington Lake.

GAGE.--Acoustic-velocity meter in tunnel since Dec. 1, 1987. Oct. 1, 1968, to Nov. 30, 1987, pressure-differential recorder recorded discharge through penstock. November 1927 to May 23, 1956, water-stage recorder at datum 6,999.00 ft above sea level (levels by Southern California Edison Co.). May 24, 1956, to Sept. 30, 1968, no recorder, see REMARKS below.

REMARKS.--No estimated daily discharges. Daily discharge for the period May 24, 1956, to Sept. 30, 1968, computed as the sum of Ward Tunnel at Intake, Mono-Bear Conduit, Camp Creek Conduit, and corrected for change in contents of Portal Forebay. Powerplant receives water from Florence Lake (station 11229600) via Ward Tunnel, receives diversions from Bear and Mono Creeks (stations 11230500 and 11231550), and at times from several other small tributaries to South Fork San Joaquin River. See schematic diagrams of upper and lower San Joaquin River basins.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,080 ft^3/s, June 21, 1935; no flow at times many years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	137	.00	262	247	341	509	1480	839	1300	1210	933
2	217	164	70	322	229	349	522	1550	800	1310	1210	1050
3	163	136	.00	232	240	344	532	1490	797	1020	1270	1020
4	261	143	.00	224	221	290	547	1370	937	1020	1340	1040
5	161	122	.00	234	205	323	455	1140	1180	1160	1240	1030
6	264	155	94	218	247	336	327	1180	1410	1190	1360	1040
7	125	167	.00	344	288	353	271	1050	1510	1280	1300	974
8	198	123	.00	297	276	410	326	1060	1530	1390	1260	873
9	435	93	58	305	268	441	486	1250	1560	1410	1190	908
10	741	101	89	241	302	627	366	1500	1590	1400	1130	857
11	739	.00	69	230	265	571	469	1430	230	1400	1130	899
12	741	152	71	278	269	620	295	1460	661	1400	1070	895
13	733	3.5	59	267	251	634	388	1540	956	1410	1080	882
14	746	104	81	151	261	673	260	1570	850	1440	959	717
15	744	3.5	97	282	244	665	441	1620	803	1390	1010	673
16	533	103	244	270	255	637	450	1670	813	1190	987	771
17	122	67	203	314	261	650	399	1700	820	1200	988	980
18	76	3.5	192	290	276	444	397	1710	1130	1370	1000	847
19	113	87	283	299	257	436	272	1710	1250	1200	1150	849
20	77	7.1	238	254	276	450	467	1730	1230	1160	1160	849
21	.00	.00	156	216	376	575	607	1710	1090	1180	1160	845
22	107	112	268	203	387	533	585	1700	1190	1240	1140	929
23	66	.00	244	205	355	579	553	1690	1330	1210	1090	1010
24	103	231	168	254	382	548	451	1700	1450	1190	905	925
25	.00	25	273	70	407	484	569	1750	1460	1220	773	915
26	113	24	196	3.5	358	455	710	1750	1260	1230	851	890
27	100	13	176	32	382	396	835	1760	1260	1410	1040	849
28	.00	.00	227	303	360	350	1010	1200	1190	1410	939	895
29	105	.00	252	466	---	343	1090	731	1350	1440	952	895
30	135	68	161	306	---	337	1250	843	1610	1180	933	706
31	136	---	255	257	---	394	---	1010	---	1210	777	---
TOTAL	8268.00	2344.60	4224.00	7629.5	8145	14588	15839	45054	34086	39560	33604	26946
MEAN	267	78.2	136	246	291	471	528	1453	1136	1276	1084	898
MAX	746	231	283	466	407	673	1250	1760	1610	1440	1360	1050
MIN	.00	.00	.00	3.5	205	290	260	731	230	1020	773	673
AC-FT	16400	4650	8380	15130	16160	28940	31420	89360	67610	78470	66650	53450

11235500 PORTAL POWERPLANT AT HUNTINGTON LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	321	264	275	259	255	276	511	841	908	821	627	478
MAX	734	908	1102	793	806	815	953	1459	1665	1321	1126	1104
(WY)	1970	1983	1946	1985	1985	1985	1936	1946	1974	1956	1982	1983
MIN	.82	.81	5.29	13.4	10.3	78.8	98.9	119	3.93	150	147	2.00
(WY)	1946	1946	1991	1991	1991	1976	1991	1983	1938	1931	1934	1949

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1928 - 1993		
ANNUAL TOTAL	110747.20		240288.10				
ANNUAL MEAN	303		658		488		
HIGHEST ANNUAL MEAN					742		1984
LOWEST ANNUAL MEAN					196		1977
HIGHEST DAILY MEAN	750	May 18	1760	May 27	2080	Jun 21	1935
LOWEST DAILY MEAN	.00	Aug 8	.00	Oct 21	.00	Sep 18	1961
ANNUAL SEVEN-DAY MINIMUM	17	Sep 12	19	Nov 25	.00	Dec 2	1969
ANNUAL RUNOFF (AC-FT)	219700		476600		353300		
10 PERCENT EXCEEDS	627		1400		1070		
50 PERCENT EXCEEDS	239		522		456		
90 PERCENT EXCEEDS	58		88		62		

11236000 HUNTINGTON LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°14'04", long 119°12'44", in SW 1/4 sec.14, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gate tower of dam 1 on Big Creek, 2.7 mi northeast of town of Big Creek.
DRAINAGE AREA.--80.5 mi^2.

PERIOD OF RECORD.--April 1913 to current year. Prior to October 1926, monthly contents only, published in WSP 1315-A; 1926-31, published in WSP 721. Maximum and minimum daily contents (water years 1913-39) were summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.). Prior to June 19, 1920, nonrecording gage at same site and datum.
REMARKS.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 89,166 acre-ft between elevations 6,819.90 ft, invert of Outlet Tunnel No. 1, and 6,950.00 ft, spillway crest at Dam 1. Additional storage of 600 acre-ft is not available for release. Lake receives water from South Fork San Joaquin River basin via Ward Tunnel through Portal Powerplant (station 11235500). Water is diverted from lake through Huntington-Shaver Conduit and Eastwood Powerplant (station 11238250) to Shaver Lake (station 11239500) since Apr. 21, 1928. Water is also diverted to Big Creek Powerplant No. 1 (station 11238100) on Big Creek. See schematic diagram of lower San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
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. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 90,491 acre-ft, May 31, 1926, elevation, 6,950.92 ft; minimum, 2,103 acre-ft, Nov. 6, 1937, elevation, 6,838.53 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 88,837 acre-ft, Aug. 6, elevation, 6,949.77 ft; minimum, 23,758 acre-ft, Mar. 16, elevation, 6,891.19 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Sept. 24, 1964)

6,835	1,552	6,870	11,293	6,920	50,812
6,840	2,354	6,880	16,370	6,930	62,555
6,845	3,324	6,890	22,882	6,940	75,344
6,850	4,480	6,900	30,861	6,950	89,166
6,860	7,427	6,910	40,216	6,951	90,606

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79654	70079	59458	46658	37592	27860	30585	30344	80501	88623	88208	87908
2	79300	69912	58655	46917	36967	e27650	31342	31701	80324	88794	88151	87850
3	79150	69630	57667	47025	36795	27443	32145	32779	79886	88408	88222	87865
4	79205	69502	56806	46283	36204	27475	33067	33592	79654	88065	88465	87936
5	78540	69296	55950	45261	35095	27266	33656	33922	79736	87993	88708	87993
6	78228	69129	55506	43562	34343	27040	33959	34297	79791	87893	88837	88022
7	77567	69116	54682	44020	33675	26936	34151	34352	80105	87908	88823	88036
8	76854	68949	53829	44270	32779	26354	34472	34584	80583	88136	88766	87979
9	76332	68706	53164	44344	32509	25507	35049	35355	81917	88308	88608	87850
10	76948	68528	52504	44208	32447	25180	35086	36929	85585	88380	88451	87552
11	77365	67929	51936	43728	31036	24806	35300	38928	86643	88422	88422	87324
12	77487	67143	51340	43562	30517	24440	35412	40960	86233	88194	88451	87097
13	77769	66612	50389	43854	30336	24207	35751	42796	86516	87865	88623	86899
14	78364	66524	49414	44291	29788	24110	36081	44354	86700	87552	88480	86658
15	78527	65971	49072	44093	28945	23997	36546	46123	86771	87580	88208	86601
16	78188	65470	48676	43749	28171	23758	36814	48381	86587	87580	88151	86431
17	77554	65119	48185	43697	27860	23915	36996	50981	86416	87580	87808	86658
18	77016	64608	47946	43343	27121	23863	37082	53875	86757	87950	87651	86643
19	76198	64310	48229	42724	27088	24110	36422	56794	87665	88294	87765	86572
20	74258	63900	48033	41751	27394	23997	34509	59722	88022	88365	87893	86317
21	72836	63541	46939	40639	27761	24471	32806	62543	87736	88465	88094	86374
22	71477	63430	46777	40276	28106	25336	31596	65219	87594	88537	88365	86544
23	70558	62950	46691	40246	28578	26465	30250	68069	87693	88522	88408	86658
24	70429	62567	46637	40307	28853	27663	28861	70907	88151	88394	88179	86615
25	70079	61613	46809	40057	29128	28653	27983	73861	88480	88308	87693	86530
26	70002	61271	46852	39153	28155	28811	27638	76145	88465	88265	87552	86416
27	69848	60968	46896	37999	28344	28878	27491	78337	88294	88279	87552	86615
28	69617	60568	46208	37834	28486	28878	28024	78825	87793	88065	87693	86785
29	69707	60265	46507	38408	---	29036	28303	78567	87523	88394	87879	86615
30	70079	59975	46443	38859	---	29382	29111	78771	88222	88251	88179	86374
31	70118	---	46336	38869	---	29898	---	80132	---	88236	88322	---
MAX	79654	70079	59458	47025	37592	29898	37082	80132	88480	88794	88837	88036
MIN	69617	59975	46208	37834	27088	23758	27491	30344	79654	87552	87552	86317
a	6936.01	6927.88	6915.91	6908.64	6897.20	6898.88	6897.95	6943.55	6949.34	6949.35	6949.41	6948.04
b	-10369	-10143	-13639	-7467	-10383	+1412	-787	+51021	+8090	+14	+86	-1948

CAL YR 1992 MAX 88036 MIN 41507 b -11319
WTR YR 1993 MAX 88837 MIN 23758 b +5887

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11237000 BIG CREEK BELOW HUNTINGTON LAKE, CA

LOCATION.--Lat 37°13'17", long 119°12'42", in SE 1/4 NW 1/4 sec.23, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 800 ft upstream from Grouse Creek, 1.0 mi south of main dam of Huntington Lake, and 2.1 mi northeast of town of Big Creek.

DRAINAGE AREA.--81.1 mi^2.

PERIOD OF RECORD.--June 1925 to September 1970, October 1986 to current year.
WATER TEMPERATURE: Water years 1961-70.

REVISED RECORDS.--WSP 1315-A: 1943(M). WSP 1635: 1925-29. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 6,630 ft above sea level, from topographic map. Prior to Oct. 1, 1942, at datum 1.00 ft lower and Oct. 1, 1942, to Sept. 30, 1948, at datum 1.00 ft higher.

REMARKS.--Flow regulated by Huntington Lake (station 11236000). Diversions to Big Creek Powerplant No. 1 (station 11238100) and Eastwood Powerplant (station 11238250) bypass this station. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,040 ft^3/s, June 23, 1925, gage height, 11.3 ft, present datum; minimum daily, 0.1 ft^3/s, many days in 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128 ft^3/s, June 20, gage height, 4.48 ft; minimum daily, 2.0 ft^3/s, Mar. 4-6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	4.0	3.7	e3.4	2.9	e2.3	4.0	10	53	5.5	4.7	4.9
2	4.1	4.0	3.7	e3.4	2.8	e2.2	4.1	10	70	5.5	4.6	4.8
3	4.1	3.9	3.7	e3.4	e2.7	e2.1	4.2	10	70	5.4	4.6	4.8
4	4.0	3.9	3.6	e3.4	2.6	2.0	4.7	9.5	70	5.2	4.6	4.8
5	4.1	3.9	3.6	e3.4	2.6	2.0	4.6	8.9	70	5.1	4.6	4.8
6	4.1	3.9	3.7	3.4	2.6	2.0	4.3	8.6	70	5.1	4.7	4.9
7	4.1	3.9	3.7	4.5	2.6	2.1	4.3	9.1	69	5.0	4.9	4.9
8	4.0	3.9	3.6	3.9	2.8	2.2	4.5	9.3	69	5.0	4.8	4.8
9	4.0	3.8	3.7	3.7	2.8	2.2	4.7	10	69	5.0	4.7	4.8
10	4.0	3.8	3.6	3.7	2.6	2.2	4.7	11	70	5.0	4.6	4.8
11	3.9	3.8	3.6	3.7	2.5	2.3	4.7	12	70	5.0	4.6	4.8
12	4.0	3.8	3.6	3.7	2.5	2.4	4.7	11	70	5.0	4.6	4.8
13	3.9	3.8	3.6	3.7	2.4	2.5	4.6	9.1	70	4.9	4.6	4.8
14	4.0	3.8	3.5	3.8	2.4	2.9	4.8	8.7	70	4.9	4.6	4.8
15	4.1	3.8	3.5	3.8	2.4	3.0	5.1	8.8	72	4.9	4.6	4.8
16	4.1	3.8	3.5	3.9	2.4	2.8	5.2	9.3	75	4.9	4.6	4.9
17	4.1	3.8	3.5	3.7	2.3	5.0	5.0	9.5	90	4.9	4.6	4.9
18	4.0	3.8	e3.5	3.7	2.3	4.2	5.7	9.6	110	4.9	4.7	4.9
19	4.0	3.8	e3.5	3.8	2.6	3.7	5.7	9.5	115	4.9	4.6	4.9
20	4.0	3.8	e3.5	3.7	e2.3	3.6	5.8	9.6	110	4.9	4.6	4.9
21	4.1	3.8	e3.5	3.6	e2.3	3.7	5.9	9.3	98	4.9	4.6	4.9
22	3.9	3.8	e3.5	3.7	e2.3	3.9	6.2	9.4	89	4.9	4.6	4.9
23	3.9	3.8	e3.5	3.7	e2.3	4.0	6.1	9.0	33	4.9	4.8	4.9
24	3.9	3.8	e3.5	3.6	e2.3	4.9	5.6	8.7	59	4.9	4.8	4.9
25	3.8	3.8	e3.5	3.5	e2.3	4.6	6.1	23	101	4.9	4.8	4.9
26	3.8	3.7	e3.4	3.4	e2.3	4.2	6.8	50	6.5	4.8	4.8	4.9
27	3.8	3.7	e3.4	3.1	e2.3	3.8	6.9	49	5.9	4.8	4.8	4.9
28	3.9	3.7	e3.4	2.9	e2.3	3.7	7.8	49	5.7	4.8	4.8	4.9
29	4.3	3.7	e3.5	2.9	---	3.6	8.5	49	5.6	4.8	4.9	4.9
30	5.2	3.7	e3.4	2.9	---	3.7	9.6	49	5.5	4.7	4.9	4.9
31	4.2	---	e3.4	2.9	---	3.8	---	51	---	4.7	4.8	---
TOTAL	125.6	114.5	109.9	109.9	69.5	97.6	164.9	549.9	1941.2	154.1	145.5	145.8
MEAN	4.05	3.82	3.55	3.55	2.48	3.15	5.50	17.7	64.7	4.97	4.69	4.86
MAX	5.2	4.0	3.7	4.5	2.9	5.0	9.6	51	115	5.5	4.9	4.9
MIN	3.8	3.7	3.4	2.9	2.3	2.0	4.0	8.6	5.5	4.7	4.6	4.8
AC-FT	249	227	218	218	138	194	327	1090	3850	306	289	289
a	13190	9760	12000	11660	17190	23280	28310	42190	41230	42680	34320	33100

e Estimated.
a Diversion, in acre-ft, to Big Creek Powerplant No. 1, provided by Southern California Edison Co.

11237000 BIG CREEK BELOW HUNTINGTON LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.23	1.26	1.29	1.09	1.17	1.52	2.54	9.38	9.44	10.8	1.81	1.33
MAX	4.05	3.82	4.70	3.55	3.34	4.21	5.50	297	242	293	8.34	4.86
(WY)	1993	1993	1956	1993	1992	1991	1993	1926	1926	1925	1969	1993
MIN	.16	.23	.18	.20	.30	.38	.47	.46	.43	.31	.16	.12
(WY)	1932	1932	1932	1932	1931	1948	1934	1934	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1925 - 1993	
ANNUAL TOTAL	1398.4		3728.4			
ANNUAL MEAN	3.82		10.2		3.12	
HIGHEST ANNUAL MEAN					45.9	1926
LOWEST ANNUAL MEAN					.35	1931
HIGHEST DAILY MEAN	5.2	Oct 30	115	Jun 19	1160	May 23 1926
LOWEST DAILY MEAN	3.1	Feb 2	2.0	Mar 4	.10	Jan 18 1931
ANNUAL SEVEN-DAY MINIMUM	3.1	Jan 31	2.1	Mar 2	.10	Aug 21 1931
INSTANTANEOUS PEAK FLOW			128	Jun 20	2040	Jun 23 1925
INSTANTANEOUS PEAK STAGE			4.48	Jun 20	11.30	Jun 23 1925
ANNUAL RUNOFF (AC-FT)	2770		7400		2260	
ANNUAL TOTAL, DIVERSION (AC-FT) a	169700		308900			
10 PERCENT EXCEEDS	4.2		10		3.5	
50 PERCENT EXCEEDS	3.9		4.5		1.2	
90 PERCENT EXCEEDS	3.3		2.7		.30	

a Diversion, in acre-ft, to Big Creek Powerplant No. 1, provided by Southern California Edison Co.

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA

LOCATION.--Lat 37°11'55", long 119°12'46", in NW 1/4 NW 1/4 sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 250 ft upstream from Huntington-Shaver Conduit Tunnel, 0.8 mi downstream from confluence of Tamarack and South Fork Tamarack Creeks, 1.4 mi upstream from mouth, and 1.9 mi east of town of Big Creek.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--October 1927 to current year. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WSP 931: 1940. WSP 1315-A: 1944. WSP 1395: 1928-29, 1938. WSP 1515: 1929. WSP 1930: Drainage area.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Elevation of gage is 7,020 ft above sea level, from topographic map. Prior to Sept. 29, 1940, at site 10 ft downstream at same datum.

REMARKS.--No diversion upstream from station; practically all flow is diverted downstream from station to Huntington-Shaver Conduit. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft^3/s, Dec. 23, 1955, gage height, 11.20 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement at gage height 10.77 ft; no flow, Oct. 15-18, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,090 ft^3/s, May 31, gage height, 8.09 ft; minimum daily, 0.15 ft^3/s, Oct. 12-15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	3.7	.83	2.2	7.6	e10	62	423	392	92	7.9	1.4
2	.17	2.8	.91	2.8	7.6	e10	64	411	320	86	7.4	1.3
3	.19	2.5	.89	3.1	7.5	e10	75	375	280	74	7.3	1.3
4	.20	2.4	.76	3.0	7.3	e11	87	349	267	68	7.2	1.2
5	.20	2.1	.69	2.8	7.3	e11	85	334	283	65	6.9	1.2
6	.19	1.8	.59	2.9	7.5	e12	72	326	192	60	6.5	1.2
7	.19	1.6	.58	11	7.6	e13	63	318	194	55	6.3	1.2
8	.19	1.5	.83	11	8.5	e14	72	382	224	48	6.1	1.1
9	.17	1.5	.99	9.4	9.3	e15	92	443	249	42	5.9	.94
10	.17	1.3	1.3	11	9.2	e15	101	515	295	37	5.7	.87
11	.17	1.2	1.2	12	8.9	15	109	533	305	34	5.1	.81
12	.15	1.2	1.2	9.6	8.9	17	105	503	293	30	4.5	.78
13	.15	1.2	1.3	7.7	8.9	19	95	446	299	27	4.6	.77
14	.15	1.2	1.4	7.5	8.9	21	102	440	297	25	4.1	.78
15	.15	1.2	1.5	7.5	8.9	23	119	470	290	23	4.0	.75
16	.17	1.1	1.6	8.9	8.9	29	125	563	256	22	4.1	.76
17	.17	1.1	1.7	9.4	8.9	34	114	584	231	20	3.8	.87
18	.17	1.1	1.5	8.8	9.0	e60	104	624	229	19	3.2	.97
19	.17	1.1	1.4	8.2	9.9	58	116	610	229	18	2.8	.97
20	.19	.92	1.4	7.7	11	61	142	539	204	17	2.8	.87
21	.60	.99	1.4	7.8	10	73	170	484	173	15	2.7	.79
22	.57	1.3	1.4	11	9.7	75	181	476	157	15	2.5	.77
23	.37	1.2	1.4	11	9.8	87	172	507	155	14	2.2	.76
24	.30	1.1	1.4	10	11	96	153	505	160	13	2.1	.76
25	.29	1.1	1.4	9.7	10	86	196	536	153	13	2.0	.74
26	.29	1.1	1.4	9.5	9.6	77	248	432	146	13	1.9	.70
27	.29	1.1	1.4	8.5	9.7	55	273	374	133	12	1.8	.65
28	.35	.93	1.5	8.3	9.1	50	301	330	120	10	1.7	.62
29	2.3	.90	1.2	8.1	---	47	344	334	103	9.5	1.6	.60
30	16	.74	1.3	8.1	---	49	398	364	93	9.0	1.5	.58
31	5.8	---	1.8	7.6	---	54	---	573	---	8.4	1.5	---
TOTAL	30.64	42.98	38.17	246.1	250.5	1207	4340	14103	6722	993.9	127.7	27.01
MEAN	.99	1.43	1.23	7.94	8.95	38.9	145	455	224	32.1	4.12	.90
MAX	16	3.7	1.8	12	11	96	398	624	392	92	7.9	1.4
MIN	.15	.74	.58	2.2	7.3	10	62	318	93	8.4	1.5	.58
AC-FT	61	85	76	488	497	2390	8610	27970	13330	1970	253	54

e Estimated.

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.84	5.46	10.9	9.57	13.6	26.1	90.5	199	113	17.4	2.24	1.41
MAX	42.0	110	135	91.1	91.1	136	264	550	648	170	21.4	18.9
(WY)	1983	1951	1951	1980	1986	1986	1982	1969	1983	1983	1983	1978
MIN	.13	.18	.20	.20	.20	.30	16.6	24.3	7.82	.67	.11	.10
(WY)	1989	1930	1932	1930	1949	1949	1975	1977	1976	1934	1931	1928

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1928 - 1993		
ANNUAL TOTAL	7491.76		28129.00				
ANNUAL MEAN	20.5		77.1		41.2		
HIGHEST ANNUAL MEAN					118		1983
LOWEST ANNUAL MEAN					6.16		1977
HIGHEST DAILY MEAN	200	Apr 30	624	May 18	1590	Dec 23	1955
LOWEST DAILY MEAN	.15	Oct 12	.15	Oct 12	.00	Oct 15	1931
ANNUAL SEVEN-DAY MINIMUM	.16	Oct 9	.16	Oct 9	.04	Oct 13	1931
INSTANTANEOUS PEAK FLOW			1090	May 31	3670	Dec 23	1955
INSTANTANEOUS PEAK STAGE			8.09	May 31	11.20	Dec 23	1955
ANNUAL RUNOFF (AC-FT)	14860		55790		29870		
10 PERCENT EXCEEDS	86		303		125		
50 PERCENT EXCEEDS	2.1		8.9		5.5		
90 PERCENT EXCEEDS	.22		.72		.30		

11237600 PITMAN CREEK SHAFT BELOW TAMARACK CREEK, CA

LOCATION.--Lat 37°11'54", long 119°12'48", in NW 1/4 NW 1/4 sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank at Huntington-Shaver Conduit Tunnel, 0.8 mi downstream from confluence of Tamarack and South Fork Tamarack Creeks, 1.4 mi upstream from mouth, and 1.9 mi east of town of Big Creek.

PERIOD OF RECORD.--October 1986 to February 1989, March 1989 to current year.

GAGE.--Discharge computed as difference between Pitman Creek below Tamarack Creek (station 11237500) and Pitman Creek near Tamarack Mountain (station 11237700). Elevation of diversion point is 7,010 ft above sea level, from topographic map.

REMARKS.--Flow is diversion from Pitman Creek into Huntington-Shaver Conduit for power development in Big Creek powerplants. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 560 ft^3/s, May 17, 1993; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.4	.00	e1.0	e6.4	e8.8	62	418	388	13	6.4	.10
2	.00	2.1	.00	e1.6	e6.4	e8.8	64	406	316	15	5.9	.10
3	.00	1.5	.00	e1.9	e6.3	e8.8	75	373	269	14	5.8	.10
4	.00	.60	.00	e1.8	e6.1	e9.8	87	348	264	16	5.8	.00
5	.00	.00	.00	e1.6	e6.1	e9.8	85	312	280	17	5.5	.00
6	.00	.00	.00	e1.7	e6.3	e11	71	301	190	16	5.1	.00
7	.00	.00	.00	e9.8	e6.4	e12	8.0	314	192	16	4.9	.00
8	.00	.00	.01	e9.8	e7.3	e13	7.0	375	222	15	4.7	.00
9	.00	.00	.06	e8.2	e8.1	e14	15	424	247	13	4.5	.00
10	.00	.00	.20	e9.8	e8.0	e14	22	495	143	11	4.3	.00
11	.00	.00	.10	e11	e7.7	14	25	525	182	9.0	3.7	.00
12	.00	.00	.10	e8.4	e7.7	16	23	487	290	7.0	3.1	.00
13	.00	.00	.20	e6.5	e7.7	18	20	430	296	6.0	3.2	.00
14	.00	.00	.20	e6.3	e7.7	20	21	427	294	7.0	2.6	.00
15	.00	.00	e.30	e6.3	e7.7	22	24	459	287	6.0	2.5	.00
16	.00	.00	e.40	e7.7	e7.7	28	20	557	254	7.0	2.6	.00
17	.00	.00	e.50	e8.2	e7.7	33	20	560	229	6.0	2.4	.02
18	.00	.16	e.30	e7.6	e7.8	e59	20	556	227	6.0	1.8	.09
19	.00	.17	e.20	e7.0	e8.7	57	24	545	227	6.0	1.4	.09
20	.00	.08	e.20	e6.5	e9.8	60	65	508	202	12	1.4	.00
21	.06	.05	e.20	e6.6	e8.8	73	100	474	171	14	1.3	.00
22	.00	.00	e.20	e9.8	e8.5	75	98	470	155	14	1.1	.00
23	.00	.00	e.20	e9.8	e8.6	87	95	498	153	13	.80	.00
24	.00	.00	e.20	e8.8	e9.8	96	102	493	158	12	.80	.00
25	.00	.00	e.20	e8.5	e8.8	86	105	531	151	12	.70	.00
26	.00	.00	e.20	e8.3	e8.4	77	169	427	144	12	.60	.00
27	.00	.00	e.20	e7.3	e8.5	55	272	369	131	11	.50	.00
28	.00	.10	e.30	e7.1	e7.9	50	300	325	118	8.6	.40	.00
29	1.7	.26	e.00	e6.9	---	47	343	329	101	8.1	.30	.00
30	15	.00	e.10	e6.9	---	49	396	359	45	7.6	.10	.00
31	5.5	---	e.60	e6.4	---	54	---	531	---	6.9	.10	---
TOTAL	22.26	8.42	5.17	209.1	216.9	1186.0	2738.0	13626	6326	337.2	84.30	0.50
MEAN	.72	.28	.17	6.75	7.75	38.3	91.3	440	211	10.9	2.72	.017
MAX	15	3.4	.60	11	9.8	96	396	560	388	17	6.4	.10
MIN	.00	.00	.00	1.0	6.1	8.8	7.0	301	45	6.0	.10	.00
AC-FT	44	17	10	415	430	2350	5430	27030	12550	669	167	1.0

e Estimated.

11237600 PITMAN CREEK SHAFT BELOW TAMARACK CREEK, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.39	.54	.35	1.65	3.08	17.4	91.8	133	50.8	4.20	.47	.024
MAX	1.03	2.76	2.25	6.75	9.95	38.3	124	440	211	10.9	2.72	.13
(WY)	1990	1988	1988	1993	1988	1993	1989	1993	1993	1993	1993	1989
MIN	.000	.000	.000	.000	.000	.000	47.4	57.4	9.14	.87	.000	.000
(WY)	1989	1989	1989	1987	1987	1992	1991	1987	1992	1989	1988	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	6323.51		24759.85				
ANNUAL MEAN	17.3		67.8		26.5		
HIGHEST ANNUAL MEAN					67.8		1993
LOWEST ANNUAL MEAN					13.5		1987
HIGHEST DAILY MEAN	198	Apr 30	560	May 17	560	May 17	1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Nov 12	1986
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Dec 5	1986
ANNUAL RUNOFF (AC-FT)	12540		49110		19220		
10 PERCENT EXCEEDS	84		298		86		
50 PERCENT EXCEEDS	.00		7.0		.30		
90 PERCENT EXCEEDS	.00		.00		.00		

11237700 PITMAN CREEK NEAR TAMARACK MOUNTAIN, CA

LOCATION.--Lat 37°11'57", long 119°12'51", in NW 1/4 NW 1/4 sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 400 ft downstream from Huntington-Shaver Conduit Tunnel, 0.9 mi downstream from confluence of Tamarack and South Fork Tamarack Creeks, 1.3 mi upstream from mouth, and 1.8 mi east of town of Big Creek.

DRAINAGE AREA.--23.0 mi^2.

PERIOD OF RECORD.--October 1986 to February 1989, March 1989 to current year. No record of release for fishery maintenance Feb. 19 to Mar. 24, 1989.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 7,000 ft above sea level, from topographic map.

REMARKS.--Most of the flow is diverted upstream from station at Pitman Creek Shaft below Tamarack Creek (station 11237600) to Huntington-Shaver Conduit. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 152 ft^3/s, June 10, 1993; no flow, Feb. 15 to Apr. 4, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 152 ft^3/s, June 10; minimum daily, 0.11 ft^3/s, Mar. 29, 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.32	.83	e1.2	e1.2	e1.2	.14	5.2	4.5	79	1.5	1.3
2	.18	.66	.91	e1.2	e1.2	e1.2	.14	5.0	3.7	71	1.5	1.2
3	.19	.99	.88	e1.2	e1.2	e1.2	.15	2.1	11	60	1.5	1.2
4	.22	1.8	.76	e1.2	e1.2	e1.2	.18	.67	2.6	52	1.4	1.2
5	.21	2.2	.72	e1.2	e1.2	e1.2	.14	22	2.8	48	1.4	1.2
6	.19	1.9	.59	e1.2	e1.2	e1.2	1.0	25	2.3	44	1.4	1.2
7	.20	1.7	.62	e1.2	e1.2	e1.2	e55	4.4	2.2	39	1.4	1.2
8	.19	1.6	.82	e1.2	e1.2	e1.2	e65	7.3	2.1	33	1.4	1.1
9	.19	1.6	.93	e1.2	e1.2	e1.2	77	19	2.0	29	1.4	.99
10	.18	1.3	1.1	e1.2	e1.2	1.2	79	20	152	26	1.4	.91
11	.17	1.2	1.1	e1.2	e1.2	1.2	84	8.1	123	25	1.4	.84
12	.18	1.2	1.1	e1.2	e1.2	1.1	82	16	2.8	23	1.4	.80
13	.18	1.2	1.1	e1.2	e1.2	1.1	75	16	2.8	21	1.4	.80
14	.17	1.2	1.2	e1.2	e1.2	1.2	81	13	2.6	18	1.5	.81
15	.18	1.2	e1.2	e1.2	e1.2	1.1	95	11	2.6	17	1.5	.78
16	.19	1.1	e1.2	e1.2	e1.2	1.1	105	5.6	2.5	15	1.5	.79
17	.19	1.1	e1.2	e1.2	e1.2	1.1	94	24	2.4	14	1.4	.85
18	.19	.94	e1.2	e1.2	e1.2	.98	84	68	2.4	13	1.4	.88
19	.19	.93	e1.2	e1.2	e1.2	.82	92	65	2.4	12	1.4	.88
20	.20	.84	e1.2	e1.2	e1.2	.70	77	31	2.3	4.7	1.4	.88
21	.54	.94	e1.2	e1.2	e1.2	.44	70	10	2.3	1.5	1.4	.82
22	.59	1.4	e1.2	e1.2	e1.2	.24	83	6.3	2.3	1.5	1.4	.80
23	.40	1.2	e1.2	e1.2	e1.2	.23	77	9.1	2.3	1.5	1.4	.78
24	.33	1.1	e1.2	e1.2	e1.2	.30	51	12	2.3	1.5	1.3	.78
25	.33	1.2	e1.2	e1.2	e1.2	.22	91	5.0	2.2	1.4	1.3	.76
26	.33	1.1	e1.2	e1.2	e1.2	.18	79	5.0	2.2	1.4	1.3	.72
27	.31	1.2	e1.2	e1.2	e1.2	.15	1.2	5.0	2.1	1.4	1.3	.68
28	.38	.83	e1.2	e1.2	e1.2	.13	1.3	5.0	2.1	1.4	1.3	.63
29	.64	.64	e1.2	e1.2	---	.11	1.2	5.0	2.1	1.4	1.3	.60
30	.56	.78	e1.2	e1.2	---	.11	2.1	5.0	48	1.4	1.4	.59
31	.34	---	e1.2	e1.2	---	.13	---	42	---	1.5	1.4	---
TOTAL	8.51	35.37	33.06	37.2	33.6	24.64	1603.55	477.77	398.9	659.6	43.4	26.97
MEAN	.27	1.18	1.07	1.20	1.20	.79	53.5	15.4	13.3	21.3	1.40	.90
MAX	.64	2.2	1.2	1.2	1.2	1.2	105	68	152	79	1.5	1.3
MIN	.17	.32	.59	1.2	1.2	.11	.14	.67	2.0	1.4	1.3	.59
AC-FT	17	70	66	74	67	49	3180	948	791	1310	86	53

e Estimated.

11237700 PITMAN CREEK NEAR TAMARACK MOUNTAIN, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	.89	1.04	1.40	2.15	7.08	10.7	4.08	2.76	3.79	.60	.40
MAX	1.40	1.74	1.50	2.17	5.19	24.8	53.5	15.4	13.3	21.3	1.40	.90
(WY)	1987	1990	1990	1990	1992	1990	1993	1993	1993	1993	1993	1993
MIN	.13	.31	.41	.56	.35	.000	1.31	1.22	.66	.52	.25	.13
(WY)	1989	1991	1991	1991	1991	1991	1988	1990	1990	1992	1987	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	1171.89		3382.57			
ANNUAL MEAN	3.20		9.27		3.14	
HIGHEST ANNUAL MEAN					9.27	1993
LOWEST ANNUAL MEAN					.79	1991
HIGHEST DAILY MEAN	76	Apr 4	152	Jun 10	152	Jun 10 1993
LOWEST DAILY MEAN	.17	Oct 1	.11	Mar 29	.00	Feb 15 1991
ANNUAL SEVEN-DAY MINIMUM	.18	Oct 9	.13	Mar 27	.00	Feb 15 1991
ANNUAL RUNOFF (AC-FT)	2320		6710		2270	
10 PERCENT EXCEEDS	9.4		27		2.4	
50 PERCENT EXCEEDS	1.1		1.2		1.1	
90 PERCENT EXCEEDS	.25		.32		.19	

11238250 EASTWOOD POWERPLANT ABOVE SHAVER LAKE, NEAR BIG CREEK, CA

LOCATION.--Lat 37°07'55", long 119°15'39", in NE 1/4 SW 1/4 sec.20, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, 0.25 mi upstream from Shaver Lake and 5.0 mi south of Big Creek.
PERIOD OF RECORD.--October 1987 to current year.
GAGE.--Acoustic flow meter in powerplant penstock. Elevation of gage is 5,400 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Flow is diverted from Huntington Lake (station 11236000) and Pitman Creek (station 11237600) to Balsam Meadows Forebay, then through a tunnel to the powerplant. Water is returned to Shaver Lake (station 11239500) 0.25 mi downstream for further power development in Big Creek powerplants. See schematic diagram of lower San Joaquin River basin.
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.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,910 ft^3/s, May 24, 1993; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	272	132	241	240	321	0	1447	1795	1301	896	539
2	0	0	195	0	230	13	0	1383	1867	1287	892	865
3	0	0	355	0	195	0	0	1542	1635	1297	901	820
4	181	0	178	436	467	185	0	1387	1693	868	925	492
5	322	162	269	694	384	263	0	1524	1584	913	998	580
6	407	124	310	567	302	369	0	1287	1542	871	1024	871
7	363	1	428	251	375	171	0	1490	1601	910	661	427
8	217	124	325	40	434	322	0	1281	1664	878	985	601
9	365	0	104	325	161	466	0	1591	1384	1115	692	766
10	288	190	245	274	172	504	0	1675	0	1007	841	725
11	347	16	246	125	587	679	0	1674	271	1015	872	405
12	285	0	312	214	0	250	0	1782	1724	1093	951	624
13	185	138	303	220	335	144	0	1589	1616	1143	755	617
14	0	198	139	195	146	275	0	1560	1561	1290	869	595
15	333	177	238	316	513	371	0	1522	1765	900	828	0
16	537	99	158	461	126	414	0	1651	1688	737	844	175
17	0	0	96	351	312	437	0	1698	1603	753	850	581
18	0	0	34	341	299	290	0	1762	1536	762	762	258
19	500	84	205	202	0	0	350	1708	1538	612	512	618
20	612	154	334	407	0	0	1167	1564	1644	959	634	459
21	433	103	281	222	0	0	1233	1888	1558	909	579	584
22	797	0	184	344	138	0	1181	1590	1686	955	901	589
23	188	0	0	0	0	0	785	1461	1660	775	814	620
24	0	472	0	182	53	0	1052	1910	1542	884	566	552
25	15	108	0	216	117	0	961	1875	1565	963	871	579
26	111	37	322	192	254	0	910	1800	1546	1048	697	647
27	107	177	331	236	275	0	924	1559	1536	1065	676	426
28	113	42	225	0	190	0	999	1789	1542	1266	434	368
29	133	0	64	0	---	0	1174	1629	1652	880	628	684
30	0	139	212	111	---	0	1207	1597	1075	709	507	612
31	0	---	0	378	---	0	---	1531	---	873	552	---
TOTAL	7185	2817	6225	7541	6305	5474	11943	49746	45073	30038	23917	16679
MEAN	232	93.9	201	243	225	177	398	1605	1502	969	772	556
MAX	797	472	428	694	587	679	1233	1910	1867	1301	1024	871
MIN	0	0	0	0	0	0	0	1281	0	612	434	0
AC-FT	14250	5590	12350	14960	12510	10860	23690	98670	89400	59580	47440	33080

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

MEAN	160	98.7	166	237	237	214	374	685	742	537	433	325
MAX	408	271	375	400	406	534	852	1605	1502	969	772	556
(WY)	1992	1989	1988	1989	1988	1989	1989	1993	1993	1993	1993	1993
MIN	.000	.000	21.4	6.19	85.4	19.5	29.3	159	270	156	181	81.7
(WY)	1988	1988	1991	1990	1992	1991	1991	1991	1990	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1988 - 1993	
ANNUAL TOTAL	66480		212943			
ANNUAL MEAN	182		583		351	
HIGHEST ANNUAL MEAN					583	1993
LOWEST ANNUAL MEAN					141	1990
HIGHEST DAILY MEAN	797	Oct 22	1910	May 24	1910	May 24 1993
LOWEST DAILY MEAN	0	Jan 21	0	Oct 2	0	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 9	.00	Mar 19	.00	Oct 1 1987
ANNUAL RUNOFF (AC-FT)	131900		422400		254400	
10 PERCENT EXCEEDS	445		1560		853	
50 PERCENT EXCEEDS	154		375		276	
90 PERCENT EXCEEDS	.00		.00		.00	

11238270 MIDDLE FORK BALSAM CREEK BELOW BALSAM MEADOWS FOREBAY, NEAR BIG CREEK, CA

LOCATION.--Lat 37°09'46", long 119°15'12", in NE 1/4 NW 1/4 sec.9, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 80 ft downstream from control house at base of Balsam Meadows Dam, 2.6 mi south of Big Creek.

DRAINAGE AREA.--Not determined.

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

GAGE.--Water-stage recorder, 90° V-notch weir and concrete control. Elevation of gage is 6,560 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow consists of fishery maintenance release and spill over Balsam Meadows Dam. No record of flow over spillway Apr. 15, 1989. Diversion from Balsam Meadows Dam through penstock to Eastwood Powerplant (station 11238250). See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Apr. 15, 1989, as there was no record of flow over spillway; minimum daily, 0.31 ft^3/s, Feb. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.6 ft^3/s, several days, gage height, 0.86 ft; minimum daily, 0.50 ft^3/s, Oct. 10, 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.60	.76	1.1	1.1	1.1	1.2	1.1	1.0	1.4	1.4	1.4
2	1.4	.65	.75	1.1	1.1	1.1	1.2	1.1	1.0	1.4	1.4	1.5
3	1.4	.70	.75	1.1	1.1	1.2	1.1	1.1	1.0	1.4	1.3	1.4
4	1.5	.69	.75	1.2	1.1	1.1	1.1	1.1	1.0	1.3	1.3	1.4
5	1.6	.67	.73	1.1	1.1	1.1	1.1	1.1	1.0	1.4	1.3	1.4
6	1.5	.67	.73	1.1	1.1	1.1	1.1	1.2	1.1	1.3	1.4	1.4
7	1.0	.68	.75	1.1	1.1	1.1	1.1	1.2	1.0	1.3	1.4	1.4
8	.61	.70	.75	1.1	1.1	1.1	1.1	1.2	1.1	1.3	1.4	1.4
9	.58	.69	.75	1.1	1.1	1.1	1.1	1.3	1.3	1.3	1.4	1.4
10	.50	.70	.73	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.4
11	.50	.68	.73	1.1	1.1	1.1	1.1	1.2	1.4	1.3	1.4	1.4
12	.52	.67	.73	1.1	1.1	1.1	1.1	1.2	1.4	1.3	1.4	1.4
13	.51	.64	.71	1.1	1.1	1.1	1.1	1.2	1.4	1.3	1.4	1.4
14	.55	.63	.71	1.1	1.1	1.1	1.1	1.2	1.4	1.3	1.4	1.4
15	.66	.60	.71	1.1	1.1	1.1	1.1	1.2	1.4	1.3	1.4	1.4
16	.70	.59	.71	1.1	1.1	1.1	1.1	1.2	1.4	1.4	1.4	1.4
17	.66	.59	.71	1.1	1.1	1.1	1.1	1.1	1.4	1.4	1.3	1.4
18	.63	.57	.73	1.1	1.1	1.1	1.1	1.1	1.4	1.4	1.3	1.4
19	.68	56	.71	1.1	1.1	1.1	1.2	1.1	1.4	1.4	1.3	1.4
20	.69	.59	.71	1.1	1.1	1.1	1.2	1.0	1.4	1.4	1.3	1.4
21	.69	.57	.71	1.1	1.1	1.1	1.2	.98	1.4	1.4	1.3	1.4
22	.70	.57	.71	1.1	1.1	1.1	1.2	.99	1.4	1.4	1.3	1.4
23	.72	.58	.85	1.1	1.1	1.2	1.2	1.0	1.5	1.4	1.3	1.4
24	.71	.62	.98	1.1	1.1	1.2	1.2	.99	1.5	1.4	1.3	1.5
25	.70	.71	.99	1.1	1.1	1.2	1.1	1.0	1.5	1.5	1.3	1.4
26	.70	.74	1.0	1.1	1.1	1.2	1.1	.99	1.5	1.5	1.3	1.4
27	.72	.74	1.1	1.1	1.1	1.2	1.1	.99	1.5	1.5	1.3	1.4
28	.62	.74	1.1	1.1	1.1	1.1	1.1	1.0	1.5	1.4	1.3	1.4
29	.63	.76	1.1	1.1	---	1.1	1.2	.98	1.4	1.3	1.3	1.4
30	.68	.77	1.1	1.1	---	1.2	1.2	1.0	1.4	1.4	1.4	1.4
31	.65	---	1.1	1.1	---	1.2	---	1.0	---	1.4	1.4	---
TOTAL	25.11	19.67	25.35	34.2	30.8	34.9	34.0	34.02	39.3	42.5	41.8	42.2
MEAN	.81	.66	.82	1.10	1.10	1.13	1.13	1.10	1.31	1.37	1.35	1.41
MAX	1.6	.77	1.1	1.2	1.1	1.2	1.2	1.3	1.5	1.5	1.4	1.5
MIN	.50	.56	.71	1.1	1.1	1.1	1.1	.98	1.0	1.3	1.3	1.4
AC-FT	50	39	50	68	61	69	67	67	78	84	83	84

11238270 MIDDLE FORK BALSAM CREEK BELOW BALSAM MEADOWS FOREBAY, NEAR BIG CREEK, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.86	.84	.96	.87	.87	1.14	1.39	.87	1.34	1.35	1.37	1.37
MAX	.93	1.15	1.44	1.10	1.10	2.20	2.75	1.10	1.43	1.38	1.48	1.50
(WY)	1992	1992	1992	1993	1993	1992	1992	1993	1990	1990	1992	1992
MIN	.81	.66	.78	.78	.80	.76	.81	.74	1.25	1.29	1.26	1.22
(WY)	1993	1993	1991	1991	1990	1991	1991	1992	1989	1991	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	468.33		403.85			
ANNUAL MEAN	1.28		1.11		1.11	
HIGHEST ANNUAL MEAN					1.38	1992
LOWEST ANNUAL MEAN					.96	1991
HIGHEST DAILY MEAN	3.4	Apr 2	1.6	Oct 5	3.4	Apr 2 1992
LOWEST DAILY MEAN	.50	Oct 10	.50	Oct 10	.31	Feb 4 1989
ANNUAL SEVEN-DAY MINIMUM	.54	Oct 8	.54	Oct 8	.54	Oct 8 1992
INSTANTANEOUS PEAK FLOW			1.6	Oct 5		
INSTANTANEOUS PEAK STAGE			.86	Oct 5		
ANNUAL RUNOFF (AC-FT)	929		801		807	
10 PERCENT EXCEEDS	2.9		1.4		1.4	
50 PERCENT EXCEEDS	1.0		1.1		.99	
90 PERCENT EXCEEDS	.67		.69		.75	

11238500 BIG CREEK NEAR MOUTH, NEAR BIG CREEK, CA

LOCATION.--Lat 37°12'28", long 119°19'13", in SE 1/4 NW 1/4 sec.26, T.8 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.6 mi upstream from mouth and 3.9 mi west of town of Big Creek.

DRAINAGE AREA.--131 mi^2.

PERIOD OF RECORD.--June 1923 to May 1932, October 1986 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Elevation of gage is 2,620 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Huntington Lake (station 11236000) and diversions for power development in Big Creek powerplants. Most of the water is diverted past this station to Big Creek Powerplant No. 8 (station 11238550). See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records collected by the 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, 2,600 ft^3/s, June 23, 1925, gage height, 6.25 ft, from rating curve extended above 1,200 ft^3/s; no flow several days in 1925 and 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft^3/s, Jan. 15, gage height, 5.37 ft; minimum daily, 2.4 ft^3/s, Nov. 4-6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	2.7	3.1	4.9	e5.9	9.5	8.1	5.5	25	5.7	5.5	5.7
2	3.8	2.5	3.4	5.9	5.9	9.0	7.6	6.2	34	6.5	5.5	5.6
3	3.8	2.5	3.4	4.3	5.9	8.7	7.3	4.9	28	5.5	5.5	5.5
4	3.8	2.4	3.3	4.0	5.9	8.2	10	4.6	29	5.4	5.5	5.5
5	3.7	2.4	3.2	3.9	6.1	7.7	11	11	70	5.4	5.5	5.5
6	3.6	2.4	3.5	4.4	6.1	7.4	11	13	41	6.7	5.5	5.5
7	3.8	2.5	5.5	13	6.3	7.2	10	5.0	34	7.2	5.4	5.5
8	3.7	2.9	3.7	8.3	8.7	7.0	10	5.7	35	5.3	5.4	5.5
9	3.7	3.1	4.0	6.5	10	6.7	18	17	35	597	5.4	5.7
10	3.6	3.4	3.7	6.5	8.2	6.3	6.2	35	142	886	5.4	5.8
11	3.5	3.4	6.6	5.4	7.7	23	6.2	14	183	27	5.3	6.1
12	3.5	3.2	4.2	6.5	7.2	212	5.5	24	19	6.9	5.4	6.1
13	3.5	3.2	3.6	e8.0	7.0	260	5.0	6.0	15	6.3	5.4	6.1
14	3.5	3.1	3.5	e322	7.0	267	4.8	14	13	7.7	5.4	6.1
15	3.6	3.1	3.5	e403	6.8	342	4.8	5.3	12	5.8	5.4	6.1
16	3.6	3.1	3.4	e303	6.8	244	7.2	5.1	15	6.6	5.5	6.1
17	3.5	3.0	3.6	e15	6.8	6.2	7.1	20	20	5.8	5.5	6.2
18	3.5	3.1	3.4	e6.0	11	4.9	7.0	71	62	5.7	5.5	6.3
19	3.5	3.1	3.4	e6.0	14	4.9	17	74	48	5.6	5.5	6.3
20	3.5	3.1	3.5	e6.0	13	4.7	40	38	39	5.5	5.5	6.3
21	3.7	3.0	3.3	e6.0	11	4.7	12	7.9	20	5.5	5.5	6.3
22	3.8	3.1	3.2	e6.0	11	7.0	32	4.6	18	5.6	5.5	6.3
23	3.8	3.1	3.2	e6.0	15	12	33	4.2	7.2	5.5	5.7	6.2
24	3.6	3.1	3.2	e6.0	16	11	7.8	4.4	5.8	5.5	5.7	6.1
25	3.6	3.1	3.2	e6.0	12	15	38	4.2	36	5.5	5.5	6.1
26	3.6	3.1	3.3	e6.0	12	17	59	27	7.3	5.5	5.5	6.1
27	3.7	3.1	3.3	e6.0	11	10	5.5	21	5.5	5.5	5.6	6.1
28	3.9	3.1	4.1	e6.0	10	9.8	5.4	16	5.4	5.5	5.7	6.1
29	4.4	3.1	7.8	e6.0	---	8.6	5.5	12	104	5.5	5.7	6.1
30	5.2	3.1	4.8	e6.0	---	8.1	5.5	8.6	5.6	5.5	5.7	6.1
31	2.9	---	4.1	e6.0	---	8.0	---	83	---	5.5	5.7	---
TOTAL	114.7	89.1	119.0	1208.6	254.3	1557.6	407.5	572.2	1113.8	1674.2	170.8	179.0
MEAN	3.70	2.97	3.84	39.0	9.08	50.2	13.6	18.5	37.1	54.0	5.51	5.97
MAX	5.2	3.4	7.8	403	16	342	59	83	183	886	5.7	6.3
MIN	2.9	2.4	3.1	3.9	5.9	4.7	4.8	4.2	5.4	5.3	5.3	5.5
AC-FT	228	177	236	2400	504	3090	808	1130	2210	3320	339	355
a	30150	14510	23180	28790	41770	54640	71630	84400	81160	79610	73230	67090

e Estimated.
a Diversion, in acre-feet, to Big Creek Powerplant No. 8, provided by Southern California Edison Co.

11238500 BIG CREEK NEAR MOUTH, NEAR BIG CREEK, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.97	2.61	2.14	7.34	3.03	9.31	5.72	5.43	7.80	10.1	3.15	3.22
MAX	3.70	2.97	3.84	39.0	9.08	50.2	13.6	18.5	37.1	54.0	5.51	5.97
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	2.44	1.97	1.61	1.61	1.69	2.03	2.35	2.23	2.23	2.20	2.27	2.33
(WY)	1988	1988	1992	1989	1988	1992	1989	1987	1987	1987	1988	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	1571.5		7460.8			
ANNUAL MEAN	4.29		20.4		5.26	
HIGHEST ANNUAL MEAN					20.4	1993
LOWEST ANNUAL MEAN					2.34	1988
HIGHEST DAILY MEAN	193	Apr 8	886	Jul 10	886	Jul 10 1993
LOWEST DAILY MEAN	1.4	Jan 27	2.4	Nov 4	1.3	Nov 17 1987
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 27	2.5	Nov 1	1.4	Jan 27 1992
INSTANTANEOUS PEAK FLOW			1500	Jan 15	1500	Jan 15 1993
INSTANTANEOUS PEAK STAGE			5.37	Jan 15	5.37	Jan 15 1993
ANNUAL RUNOFF (AC-FT)	3120		14800		3810	
ANNUAL DIVERSION (AC-FT) a	352500		650200			
10 PERCENT EXCEEDS	5.8		27		5.6	
50 PERCENT EXCEEDS	3.7		5.8		2.6	
90 PERCENT EXCEEDS	1.6		3.3		1.7	

a Diversion, in acre-feet, to Big Creek Powerplant No. 8, provided by Southern California Edison Co.

11238600 SAN JOAQUIN RIVER ABOVE STEVENSON CREEK, NEAR BIG CREEK, CA

LOCATION (REVISED).--Lat 37°12'28", long 119°19'44", unsurveyed, T.8 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in intake structure near left bank, 300 ft upstream from Dam 6, 3.5 mi upstream from Stevenson Creek, 4.4 mi west of town of Big Creek, and at mile 313.6.

DRAINAGE AREA.--1,197 mi^2.

PERIOD OF RECORD.--October 1986 to September 1987, October 1992 to September 1993. Records for water years 1951 to 1972 in files of Southern California Edison Co. Records for water years 1974 to 1986 in files of the U.S. Geological Survey.

GAGE.--Accoustic-velocity meter since Oct. 1, 1992. Water-stage recorders at various sites downstream prior to 1992. Elevation of gage is 2,200 ft above sea level, from topographic map.

REMARKS.--Record consists of computed flow over spillway at Dam 6 and flow through fish-water release valve. At times the sluice valve leaks and this flow bypasses the station. Flow regulated by Mammoth Pool Reservoir and Huntington Lake (stations 11234700 and 11236000) and diversions for power development in Big Creek powerplants. Most of the water is diverted past this station to Big Creek Powerplant No. 3 (station 11241800). See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records collected by the 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, 7,960 ft^3/s, May 25, 1993; minimum daily, 3.1 ft^3/s, many days in 1992 and 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,960 ft^3/s, May 25; minimum daily, 3.1 ft^3/s, many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.1	3.2	3.2	3.3	3.3	e3.3	222	887	5380	3500	3.3	3.3
2	3.1	3.2	3.2	3.3	3.3	e3.3	258	877	3550	3960	3.3	3.3
3	3.1	3.2	3.2	3.3	3.3	e3.3	258	842	e2940	3980	3.3	3.3
4	3.1	3.2	3.2	3.3	3.3	e3.3	318	833	e2850	3490	3.3	3.3
5	3.2	3.2	3.2	3.3	3.3	e3.3	312	792	e3050	3630	3.3	3.3
6	3.1	3.2	3.2	3.3	3.3	e3.3	244	819	e2290	3960	3.3	3.3
7	3.1	3.2	3.2	3.2	3.3	e3.3	245	753	1540	3910	3.3	3.3
8	3.1	3.2	3.2	3.2	3.3	e3.3	311	756	1710	3960	3.3	3.3
9	3.1	3.1	3.2	3.3	3.3	e3.3	388	774	1950	3140	3.3	3.3
10	3.1	3.2	3.2	3.3	3.3	3.3	586	2310	2800	2630	3.3	3.3
11	3.1	3.2	3.2	3.3	3.3	3.3	559	5260	4150	2360	3.3	3.3
12	3.1	3.2	3.2	3.3	e3.3	3.3	463	5220	4170	2340	3.4	3.4
13	3.1	3.2	3.2	3.2	e3.3	3.3	438	4350	4000	1530	3.4	3.4
14	3.1	3.2	3.2	3.2	e3.3	3.3	320	3970	4620	1120	3.4	3.3
15	3.1	3.2	3.2	3.2	e3.3	345	529	3920	5020	705	3.4	3.3
16	3.1	3.2	3.3	3.1	e3.3	473	699	4330	4870	298	3.4	3.3
17	3.1	3.2	3.3	3.1	e3.3	811	707	5660	3990	3.2	3.4	3.3
18	3.1	3.2	3.3	3.2	e3.3	719	761	6320	3770	3.2	3.4	3.4
19	3.2	3.2	3.3	3.3	e3.3	558	766	6700	4190	3.2	3.4	3.3
20	3.2	3.2	3.3	3.3	e3.3	552	820	6390	5980	3.2	3.4	3.3
21	3.2	3.2	3.3	3.3	e3.3	494	818	6190	4760	3.2	3.4	3.3
22	3.2	3.2	3.3	3.3	e3.3	140	863	5610	3710	3.2	3.4	3.3
23	3.2	3.2	3.3	3.3	e3.3	3.3	875	5440	4340	3.2	3.4	3.2
24	3.2	3.2	3.3	3.3	e3.3	3.3	824	6070	4780	3.2	3.3	3.2
25	3.2	3.2	3.3	3.3	e3.3	297	866	6400	4960	3.2	3.3	3.3
26	3.2	3.2	3.3	3.3	e3.3	808	768	5280	5960	3.2	3.3	3.2
27	3.2	3.2	3.3	3.3	e3.3	321	803	4130	6400	3.3	3.3	3.1
28	3.2	3.2	3.3	3.3	e3.3	223	761	3360	5890	3.3	3.3	3.2
29	3.1	3.2	3.3	3.2	---	45	858	2880	4630	3.3	3.4	3.2
30	3.1	3.2	3.3	3.2	---	3.3	868	3360	3180	3.3	3.4	3.3
31	3.2	---	3.3	3.2	---	238	---	5020	---	3.3	3.3	---
TOTAL	97.3	95.9	100.8	101.0	92.4	6080.1	17508	115503	121430	44561.5	103.7	98.6
MEAN	3.14	3.20	3.25	3.26	3.30	196	584	3726	4048	1437	3.35	3.29
MAX	3.2	3.2	3.3	3.3	3.3	811	875	6700	6400	3980	3.4	3.4
MIN	3.1	3.1	3.2	3.1	3.3	3.3	222	753	1540	3.2	3.3	3.1
AC-FT	193	190	200	200	183	12060	34730	229100	240900	88390	206	196
a	30910	15270	25550	99180	121500	170300	193400	209100	199200	203000	123200	117100

e Estimated.
a Diversion, in acre-feet, to Big Creek Powerplant No. 3, provided by Southern California Edison Co.

11238600 SAN JOAQUIN RIVER ABOVE STEVENSON CREEK, NEAR BIG CREEK, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.52	3.57	3.66	3.79	3.98	100	294	1865	2026	721	3.67	3.66
MAX	3.90	3.95	4.06	4.32	4.65	196	584	3726	4048	1437	4.00	4.04
(WY)	1987	1987	1987	1987	1987	1993	1993	1993	1993	1993	1987	1987
MIN	3.14	3.20	3.25	3.26	3.30	4.83	4.44	4.01	3.73	4.05	3.35	3.29
(WY)	1993	1993	1993	1993	1993	1987	1987	1987	1987	1987	1993	1993

SUMMARY STATISTICS	FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	305772.3			
ANNUAL MEAN	838		421	
HIGHEST ANNUAL MEAN			838	1993
LOWEST ANNUAL MEAN			4.16	1987
HIGHEST DAILY MEAN	6700	May 19	6700	May 19 1993
LOWEST DAILY MEAN	3.1	Oct 1	3.1	Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	3.1	Oct 6	3.1	Oct 6 1992
INSTANTANEOUS PEAK FLOW	7960	May 25	7960	May 25 1993
ANNUAL RUNOFF (AC-FT)	606500		305000	
ANNUAL DIVERSION (AC-FT) a	1508000			
10 PERCENT EXCEEDS	3960		856	
50 PERCENT EXCEEDS	3.3		4.0	
90 PERCENT EXCEEDS	3.2		3.2	

a Diversion, in acre-feet, to Big Creek Powerplant No. 3, provided by Southern California Edison Co.

11239300 NORTH FORK STEVENSON CREEK AT PERIMETER ROAD, NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'13", long 119°15'13", in SE 1/4 NW 1/4 sec.21, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 100 ft upstream from Perimeter Road and 4.8 mi south of town of Big Creek.

DRAINAGE AREA.--4.42 mi^2.

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

GAGE.--Water-stage recorder, modified Parshall flume, and concrete control. Elevation of gage is 5,740 ft above sea level, from topographic map.

REMARKS.--Releases for fishery maintenance from Balsam Meadows Forebay on Balsam Creek enter creek upstream from station. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 261 ft^3/s, Apr. 13, 1992, gage height, 4.62 ft; minimum daily, 1.6 ft^3/s, Feb. 14, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 155 ft^3/s, Mar. 24, gage height, 4.04 ft; minimum daily, 3.4 ft^3/s, several days in October.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	3.9	3.5	e4.8	e5.6	7.2	86	e48	43	12	6.2	7.2
2	3.5	3.8	3.8	e4.5	e5.6	7.5	e86	e49	38	11	6.1	7.6
3	3.5	3.8	3.9	e3.5	5.5	7.3	e93	e47	37	11	6.1	7.4
4	3.5	3.8	3.9	e3.5	5.9	7.3	e115	e46	34	e10	6.1	7.4
5	3.5	3.8	4.0	e3.5	6.8	7.9	e115	e47	44	e9.7	6.0	7.3
6	3.7	3.8	4.4	e4.5	6.9	8.9	e93	e48	35	e9.7	5.9	7.4
7	3.7	3.8	e4.8	e4.0	7.0	10	e65	e49	33	e9.6	5.8	7.3
8	3.7	3.8	e5.2	e5.5	13	11	e36	e50	33	e9.5	5.8	6.8
9	3.8	3.8	5.0	6.6	9.9	11	e39	e52	33	e9.4	5.7	6.9
10	3.6	3.8	4.5	5.6	8.4	12	e39	e54	33	e9.2	5.5	6.8
11	3.5	3.8	e4.4	6.1	8.3	13	e39	e56	30	e9.0	5.5	6.8
12	3.5	4.0	e4.3	6.1	7.7	14	e39	55	31	e8.8	e5.4	6.6
13	3.5	3.9	e4.3	12	7.0	17	e38	51	30	e8.7	e5.4	6.7
14	3.4	3.8	4.3	11	7.2	17	e38	50	29	e8.5	e5.4	6.4
15	3.6	3.8	3.7	11	7.3	16	e39	51	27	e8.3	e5.3	5.9
16	3.7	3.9	3.8	17	7.2	24	e39	53	26	e8.1	e5.2	6.0
17	3.6	3.8	e4.0	e8.6	6.5	28	e38	54	25	7.9	e5.2	6.3
18	3.4	3.7	e4.2	7.8	10	22	e34	55	24	7.8	e5.1	6.4
19	3.4	3.7	e3.5	6.8	18	22	e34	55	22	7.7	e5.0	6.5
20	3.7	3.7	e3.5	6.7	e10	23	e34	53	22	7.6	e5.0	6.8
21	4.2	3.7	e3.5	7.3	8.7	25	e39	49	21	7.6	e4.9	6.5
22	4.1	3.8	e3.5	11	8.5	26	e39	49	19	7.5	e4.9	6.3
23	3.9	3.8	e3.5	8.3	e7.9	30	e38	50	18	7.4	e4.8	6.3
24	3.5	3.9	e3.5	7.0	e7.4	116	e38	50	17	7.4	e4.7	6.4
25	3.5	4.2	e3.5	6.5	7.3	120	e36	53	16	7.3	e4.7	6.4
26	3.4	3.7	e3.5	6.6	8.0	97	e40	47	15	7.2	e4.7	6.4
27	3.4	3.7	e3.5	6.7	7.7	74	e44	44	15	7.1	e4.6	6.1
28	3.4	3.7	e3.5	6.4	6.9	68	e45	40	14	7.1	e4.6	6.3
29	4.9	3.6	e8.0	6.0	---	64	e46	39	13	6.7	e4.5	6.3
30	8.6	3.6	e8.0	5.8	---	68	e47	39	12	6.5	e5.3	6.3
31	4.6	---	e6.0	5.8	---	75	---	53	---	6.3	6.6	---
TOTAL	119.7	113.9	133.0	216.5	226.2	1049.1	1551	1536	789	261.6	166.0	199.8
MEAN	3.86	3.80	4.29	6.98	8.08	33.8	51.7	49.5	26.3	8.44	5.35	6.66
MAX	8.6	4.2	8.0	17	18	120	115	56	44	12	6.6	7.6
MIN	3.4	3.6	3.5	3.5	5.5	7.2	34	39	12	6.3	4.5	5.9
AC-FT	237	226	264	429	449	2080	3080	3050	1560	519	329	396

e Estimated.

11239300 NORTH FORK STEVENSON CREEK AT PERIMETER ROAD, NEAR BIG CREEK, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.08	5.77	7.21	5.53	5.85	13.7	28.5	18.4	10.6	5.75	4.76	4.93
MAX	4.53	9.75	14.1	6.98	8.08	33.8	53.9	49.5	26.3	8.44	5.60	6.66
(WY)	1992	1992	1992	1993	1993	1993	1992	1993	1993	1993	1992	1993
MIN	3.65	3.80	4.29	4.59	3.89	7.15	11.4	5.80	4.66	4.00	4.08	4.14
(WY)	1991	1993	1993	1992	1991	1991	1990	1990	1989	1989	1989	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	3507.0		6361.8			
ANNUAL MEAN	9.58		17.4		10.4	
HIGHEST ANNUAL MEAN					17.4	1993
LOWEST ANNUAL MEAN					5.57	1990
HIGHEST DAILY MEAN	209	Apr 13	120	Mar 25	209	Apr 13 1992
LOWEST DAILY MEAN	3.4	Oct 14	3.4	Oct 14	1.6	Feb 14 1991
ANNUAL SEVEN-DAY MINIMUM	3.5	Dec 19	3.5	Dec 19	2.0	Feb 14 1991
INSTANTANEOUS PEAK FLOW			155	Mar 24	261	Apr 13 1992
INSTANTANEOUS PEAK STAGE			4.04	Mar 24	4.62	Apr 13 1992
ANNUAL RUNOFF (AC-FT)	6960		12620		7520	
10 PERCENT EXCEEDS	12		48		19	
50 PERCENT EXCEEDS	5.3		7.2		5.3	
90 PERCENT EXCEEDS	3.7		3.7		4.0	

11239500 SHAVER LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'41", long 119°18'06", in SW 1/4 SE 1/4 sec.13, T.9 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, near center of dam on Stevenson Creek, 5.2 mi southwest of town of Big Creek.

DRAINAGE AREA.--29.1 mi^2.

PERIOD OF RECORD.--November 1909 to current year. Prior to January 1927, monthly contents only, published in WSP 1315-A; January 1927 to September 1931, published in WSP 721. Maximum and minimum daily contents (water years 1928-39) summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.

REVISED RECORDS.--WSP 1565: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rockfill dam a short distance upstream at different datum.

REMARKS.--Storage began prior to 1905. Original lake formed by rockfill dam, usable capacity, 5,500 acre-ft. Water diverted by Fresno Flume and Lumber Co.'s Flumes Nos. 1 and 2 beginning prior to 1907 and discontinued July 7, 1920. Present lake formed by concrete-arch dam; dam completed Nov. 18, 1927. Usable capacity of present lake, 135,568 acre-ft between elevations 5,225 ft, trash-rack foundation, and 5,370.13 ft, crest of spillway. Additional storage of 92 acre-ft is not available for release. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) via Huntington-Shaver Conduit and Eastwood Powerplant (station 11238250). Water is released for power development in Big Creek powerplants. See schematic diagram of lower San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.

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, 135,897 acre-ft, July 5, 1946, Aug. 4, 1978; maximum elevation, 5,370.28 ft, Aug. 4, 1978; minimum contents, 652 acre-ft, Mar. 7, 1942, elevation, 5,249.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 135,044 acre-ft, July 28, elevation, 5,369.89 ft; minimum, 27,653 acre-ft, Apr. 19, elevation, 5,303.71 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Oct. 1, 1967)

5,245	379	5,270	4,748	5,320	46,797
5,250	700	5,280	9,189	5,330	60,942
5,255	1,254	5,290	15,598	5,340	76,741
5,260	2,070	5,300	24,004	5,350	94,568
5,265	3,206	5,310	34,455	5,371	137,476

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40097	38489	39264	43278	51354	48144	41024	40937	99234	133956	134870	131081
2	39925	38344	39301	43073	50792	47309	40330	42326	100971	133934	134783	131211
3	39435	38212	39582	42806	50043	46482	39644	43957	102427	134000	134609	131254
4	39301	37970	39423	43189	49880	45983	39142	45043	104186	133695	134500	131124
5	39533	38200	39668	44123	49771	45720	38514	46390	105844	133500	134565	130866
6	39889	38308	40170	44836	49581	45615	37767	47551	107253	133217	134674	131211
7	40134	38175	40664	46219	49662	45186	36969	49472	108709	133022	134631	130866
8	40060	38296	40825	46337	50574	45043	36133	51121	110093	132763	134652	130374
9	40268	38175	40552	46945	50710	45212	35330	53199	110980	132979	134696	130289
10	40244	38429	40515	47444	50561	45510	34513	55188	109391	133195	134652	130032
11	40244	38357	40664	47403	51162	46075	33686	57211	108288	133434	134522	129690
12	40244	38175	40999	47457	50683	45668	32822	59378	109712	133782	134544	129305
13	39987	38320	41297	48388	51025	45017	31935	61182	111101	134370	134326	128941
14	39178	38622	41024	49649	51437	44797	31069	62776	112210	134804	134304	128494
15	38985	38816	41086	50915	52415	44576	30240	64552	113875	134348	134174	127432
16	39252	38828	40925	52373	52123	44395	29393	66224	115262	134478	134130	126604
17	38779	38634	40838	53563	52164	44719	28589	68124	116695	134609	134217	126033
18	38369	38489	40589	54160	52695	44459	27806	70056	118218	134761	134174	125400
19	38804	38538	40788	54075	52457	43585	27653	71972	120019	134652	133978	124914
20	39484	38646	41173	54445	52041	42756	29045	73506	121601	134739	134022	124682
21	39680	38755	41335	54531	51450	41961	30585	76007	122645	134718	133956	124114
22	40490	38610	41434	54930	51121	41733	32023	78005	124177	134804	134065	123568
23	40232	38453	41185	54745	50615	41595	32655	79739	125590	134848	134087	123191
24	39705	39106	41061	54431	50003	41847	33765	82309	126837	134826	133978	122771
25	39337	39154	40987	54118	49445	42465	34720	84804	128133	134761	134109	122227
26	38900	39190	41459	53776	49187	42768	35606	87055	129369	134935	133935	121893
27	38550	39423	41897	53325	48835	42756	36380	88743	130610	134892	133521	121601
28	38200	39484	42390	52625	48347	42680	37088	90854	131793	135044	132741	121101
29	38139	39288	42705	51986	---	42541	38139	92831	133239	134935	132138	120580
30	38127	39411	42997	51656	---	42390	39301	94949	133587	135000	131448	120185
31	38079	---	42857	51780	---	41645	---	96894	---	134892	131124	---
MAX	40490	39484	42997	54930	52695	48144	41024	96894	133587	135044	134870	131254
MIN	38079	37970	39264	42806	48347	41595	27653	40937	99234	132763	131124	120185
a	5313.09	5314.19	5316.96	5323.67	5321.15	5316.00	5314.10	5351.22	5369.22	5369.82	5368.08	5362.90
b	-1111	+1332	+3446	+8923	-3433	-6702	-2344	+57593	+36693	+1305	-3768	-10939

CAL YR 1992 MAX 81562 MIN 37970 b -35384
WTR YR 1993 MAX 135044 MIN 27653 b +80995

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11241500 STEVENSON CREEK AT SHAVER LAKE, CA

LOCATION.--Lat 37°08'41", long 119°18'27", in NE 1/4 SW 1/4 sec.13, T.9 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 400 ft downstream from Hwy 168, 1,600 ft downstream from Shaver Lake Dam, 2.6 mi north of town of Shaver Lake, and 5.1 mi southwest of town of Big Creek.

DRAINAGE AREA.--29.4 mi^2.

PERIOD OF RECORD.--October 1916 to August 1919, October 1919 to September 1920, May 1922 to September 1928, and October 1986 to current year. Prior to October 1986, published as "at Shaver."

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Elevation of gage is 5,200 ft above sea level, from topographic map. See WSP 1315-A for history of changes prior to October 1986.

REMARKS.--Flow regulated by Shaver Lake (station 11239500). Flow diverted into basin through Eastwood Powerplant (station 11238250). Diversion to Big Creek Powerplant No. 2A (station 11238400) bypasses station and returns to Big Creek. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, Nov. 27, 1926, gage height, 3.65 ft, site and datum then in use; maximum gage height, 7.64 ft, Apr. 26, 1993; no flow at times in 1924, 1925, 1927.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 547 ft^3/s, June 21, gage height, 6.28 ft; maximum gage height, 7.64 ft, Apr. 26; minimum daily, 1.7 ft^3/s, Dec. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.2	2.5	1.9	2.6	2.8	3.3	212	68	339	5.9	4.0
2	3.4	3.2	2.5	1.9	2.6	2.9	3.1	218	266	449	5.8	4.0
3	3.4	3.3	2.5	1.9	2.6	2.9	3.1	258	263	441	5.7	4.0
4	3.4	3.3	2.5	1.9	2.6	3.0	3.8	329	261	422	5.4	4.0
5	3.4	3.3	2.5	1.9	2.6	3.1	3.2	333	257	427	4.7	4.0
6	3.3	3.3	2.6	3.0	2.6	3.1	3.1	216	257	432	4.7	3.9
7	3.3	3.3	2.8	5.7	2.6	3.1	3.2	7.9	269	425	4.6	4.0
8	3.3	3.3	2.7	3.5	3.9	3.1	3.9	7.8	283	394	4.6	4.0
9	3.3	3.3	3.0	2.5	3.4	3.0	3.8	7.8	274	378	4.7	4.0
10	3.3	3.5	2.8	2.4	3.1	3.0	3.8	70	265	276	4.9	3.9
11	3.3	3.5	3.0	e2.3	2.9	3.0	3.7	147	263	200	4.4	4.0
12	3.3	3.5	2.8	e2.6	2.8	3.0	3.7	149	263	271	3.9	3.9
13	3.3	3.5	2.7	4.4	2.8	3.1	3.7	151	265	361	3.9	4.0
14	3.3	3.5	2.7	6.7	2.7	3.5	3.7	153	267	365	3.9	4.0
15	3.3	3.1	2.6	5.0	2.7	3.2	3.6	154	269	272	3.9	3.9
16	3.3	2.5	2.6	4.9	2.7	3.1	3.6	155	264	5.1	3.9	3.9
17	3.3	2.5	2.6	4.3	2.7	3.9	3.7	155	267	4.8	3.9	4.0
18	3.3	2.5	2.6	3.8	4.0	3.4	3.7	212	107	4.8	3.9	4.0
19	3.3	2.5	2.6	3.5	4.6	3.3	3.6	270	6.8	6.2	3.8	3.9
20	3.3	2.5	2.6	3.4	3.4	3.2	3.6	184	234	7.4	3.8	3.9
21	3.3	2.5	2.6	3.3	3.1	3.2	3.6	8.9	516	7.4	3.8	3.9
22	3.1	2.5	2.6	3.7	3.0	3.1	4.3	8.6	363	5.7	3.8	3.9
23	3.1	2.5	2.6	3.0	3.1	3.1	5.2	8.4	289	3.4	3.9	3.9
24	3.1	2.5	2.6	2.9	3.0	3.5	5.2	8.2	282	3.4	3.9	3.9
25	3.1	2.5	2.4	2.8	2.9	4.5	5.1	8.4	268	3.4	4.0	3.8
26	3.1	2.5	2.1	2.8	2.9	5.0	79	8.6	268	3.4	4.0	3.9
27	3.1	2.5	1.7	2.7	2.8	3.7	71	8.6	266	163	4.0	3.8
28	3.1	2.5	1.8	2.7	2.8	3.5	199	8.6	267	190	4.0	3.8
29	3.5	2.5	2.2	2.7	---	3.4	203	8.6	275	44	3.9	3.8
30	4.2	2.5	2.0	2.6	---	3.3	206	8.6	265	6.0	4.0	3.9
31	3.4	---	2.0	2.6	---	3.2	---	8.9	---	5.8	3.9	---
TOTAL	102.6	87.6	77.8	99.3	83.5	102.2	852.3	3483.9	7727.8	5915.8	133.5	117.9
MEAN	3.31	2.92	2.51	3.20	2.98	3.30	28.4	112	258	191	4.31	3.93
MAX	4.2	3.5	3.0	6.7	4.6	5.0	206	333	516	449	5.9	4.0
MIN	3.1	2.5	1.7	1.9	2.6	2.8	3.1	7.8	6.8	3.4	3.8	3.8
AC-FT	204	174	154	197	166	203	1690	6910	15330	11730	265	234
a	16570	4330	10370	14170	21980	30340	38410	40140	38910	40130	38540	33760

e Estimated.
a Diversion, in acre-feet, to Big Creek Powerplant No. 2A, provided by Southern California Edison Co.

11241500 STEVENSON CREEK AT SHAVER LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1928, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.54	8.14	7.53	5.13	12.9	38.7	66.8	59.8	20.3	5.73	4.76	3.51
MAX	9.76	45.5	33.5	15.1	40.7	147	245	203	61.3	16.5	12.7	10.9
(WY)	1917	1927	1927	1920	1927	1917	1917	1922	1922	1920	1927	1927
MIN	.48	.30	.13	.15	.25	.37	.46	.27	.070	.000	.000	.000
(WY)	1926	1928	1928	1928	1928	1924	1928	1928	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1917 - 1928		
ANNUAL TOTAL			
ANNUAL MEAN	19.6		
HIGHEST ANNUAL MEAN	61.9		1917
LOWEST ANNUAL MEAN	.76		1928
HIGHEST DAILY MEAN	854	Nov 27	1926
LOWEST DAILY MEAN	.00	Jun 11	1924
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 20	1924
ANNUAL RUNOFF (AC-FT)	14170		
10 PERCENT EXCEEDS	46		
50 PERCENT EXCEEDS	4.5		
90 PERCENT EXCEEDS	.20		

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.56	3.21	2.59	2.75	2.84	3.10	7.12	19.1	39.8	30.2	3.52	3.51
MAX	3.80	3.84	3.00	3.20	3.34	3.68	28.4	112	258	191	4.31	3.93
(WY)	1987	1988	1991	1993	1991	1991	1993	1993	1993	1993	1993	1993
MIN	3.31	2.92	2.22	2.40	2.39	2.58	3.43	3.45	3.42	3.33	3.26	3.37
(WY)	1993	1993	1990	1992	1990	1990	1989	1992	1990	1987	1988	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	1137.5		18784.2			
ANNUAL MEAN	3.11		51.5		10.1	
HIGHEST ANNUAL MEAN					51.5	1993
LOWEST ANNUAL MEAN					3.06	1990
HIGHEST DAILY MEAN	4.2	Mar 30	516	Jun 21	516	Jun 21 1993
LOWEST DAILY MEAN	1.7	Dec 27	1.7	Dec 27	1.2	Dec 1 1991
ANNUAL SEVEN-DAY MINIMUM	2.0	Dec 25	1.9	Dec 27	1.9	Nov 26 1991
INSTANTANEOUS PEAK FLOW			547	Jun 21	590	Nov 10 1987
INSTANTANEOUS PEAK STAGE			7.64	Apr 26	7.64	Apr 26 1993
ANNUAL RUNOFF (AC-FT)	2260		37260		7340	
TOTAL DIVERSION (AC-FT) a	175300		327700			
10 PERCENT EXCEEDS	3.5		264		3.8	
50 PERCENT EXCEEDS	3.3		3.7		3.4	
90 PERCENT EXCEEDS	2.4		2.6		2.6	

a Diversion, in acre-feet, to Big Creek Powerplant No. 2A, provided by Southern California Edison Co.

11241950 REDINGER LAKE NEAR AUBERRY, CA

LOCATION.--Lat 37°08'42", long 119°26'58", in NE 1/4 SW 1/4 sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, at intake structure on Dam No. 7 on San Joaquin River, 4.2 mi northeast of Auberry.

DRAINAGE AREA.--1,295 mi^2.
PERIOD OF RECORD.--November 1950 to current year. Prior to October 1965, monthend contents only, published in WSP 1930.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,120 acre-ft between elevations 1,320.00 ft, invert of tunnel, and 1,403.00 ft, top of radial gates. Additional storage of 8,914 acre-ft not available for release. Water is used for power development in Big Creek Powerplant No. 4 (station 11246530). See schematic diagram of lower San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
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, 26,586 acre-ft, Aug. 5, 1978, elevation, 1,404.00 ft; minimum since appreciable storage was attained, 5,985 acre-ft, Nov. 22, 1981, elevation, 1,346.85 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,371 acre-ft, Apr. 4, elevation, 1,403.54 ft; minimum, 7,757 acre-ft, Sept. 16, elevation, 1,353.44 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Oct. 27, 1950)

1,340	4,284	1,380	16,455
1,350	6,809	1,390	20,427
1,360	9,651	1,400	24,748
1,370	12,858	1,405	27,058

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21655	9556	21655	24699	24847	23954	25319	25456	24730	25001	24793	24654
2	22026	10224	22048	24960	24658	24394	25851	25552	25383	25042	24947	24524
3	21975	10856	22460	25060	24385	24551	26133	25611	25087	24475	25069	24345
4	22009	11448	23289	23447	24412	24847	26371	25782	24920	25146	25105	23971
5	22022	11956	23451	22719	24789	24145	25934	25264	24717	25259	24784	23803
6	21868	12465	23535	21834	25123	24185	25470	24798	25006	25438	24726	23614
7	21941	12961	24475	23342	25105	24838	25028	24452	25114	25051	24560	21346
8	22211	13396	24600	22771	24893	24730	24703	24645	25155	24843	24685	18488
9	22211	13878	24915	23163	24997	24470	24902	24856	24345	23649	24434	16844
10	22310	14267	25078	23010	24762	24685	25620	25078	25051	24220	24466	16116
11	22741	14776	24363	22417	23989	25342	25953	24694	25060	25282	24717	15029
12	22866	15366	24443	22853	23914	25524	25502	25033	24960	25442	24658	13745
13	23158	15951	24605	23843	24367	24793	25387	24233	25273	24528	24551	12462
14	23394	16244	24699	24663	23715	24748	25415	24304	24802	25763	24618	10853
15	23654	16626	24546	21920	23438	24726	26022	24381	25024	25392	24802	8917
16	23923	17129	24861	21231	23852	25406	25570	26128	24902	24717	25218	7757
17	22806	17676	24820	23045	24349	25828	25433	25119	24533	24282	24983	7906
18	21894	18266	24775	22814	24560	25241	25768	25119	25301	25064	25223	7990
19	20823	18783	24861	24065	23759	24600	25800	24153	25520	25442	25438	8324
20	19470	19037	24676	23892	23412	24825	25616	24672	25069	25146	25028	9363
21	18274	19154	24739	23049	23618	25438	25442	25355	23940	24798	24906	10714
22	17052	19393	24618	22801	23579	25241	25699	24870	24430	24546	24493	11306
23	15974	19576	24524	22585	23702	24988	25607	24457	25273	24979	24694	12499
24	14769	19797	24551	22451	23909	24753	25796	25378	25141	25378	24578	12065
25	13068	19768	24461	22232	23821	25566	25387	25828	25132	24829	23830	10482
26	12019	20068	24511	22426	24038	25087	24997	23407	24632	25355	24336	8874
27	10664	20394	24394	23176	24229	24802	25218	23583	24318	25392	24685	7990
28	9393	20585	24287	23887	24051	24555	25643	25620	24091	25397	25119	7911
29	9464	20996	24793	24145	---	24600	25925	25015	23720	25186	25511	8027
30	9381	21261	25006	24318	---	24609	25652	24663	24546	25323	25218	8284
31	9266	---	24717	24399	---	24924	---	25625	---	25287	24924	---
MAX	23923	21261	25078	25060	25123	25828	26371	26128	25520	25763	25511	24654
MIN	9266	9556	21655	21231	23412	23954	24703	23407	23720	23649	23830	7757
a	1358.70	1391.99	1399.93	1399.22	1398.44	1400.39	1401.99	1401.93	1399.55	1401.19	1400.39	1355.31
b	-12130	+11995	+3456	-318	-348	+873	+728	-27	-1079	+741	-363	-16640

CAL YR 1992 MAX 25809 MIN 9266 b +1046
WTR YR 1993 MAX 26371 MIN 7757 b -13112
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11242000 SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CA

LOCATION.--Lat 37°08'40", long 119°27'13", in SW 1/4 SW 1/4 sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,000 ft downstream from Redinger Lake Dam, 0.4 mi upstream from Willow Creek, and 4.2 mi northeast of Auberry.

DRAINAGE AREA.--1,295 mi^2.

PERIOD OF RECORD.--March 1951 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,175.54 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--Flow regulated by Redinger Lake (station 11241950). Most of the flow, since June 1951, is diverted at Redinger Lake to Big Creek No. 4 Powerplant (station 11246530). See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,200 ft^3/s, Dec. 23, 1955, gage height, 54.2 ft, from floodmarks, from rating curve extended above 7,000 ft^3/s on basis of computed flow over dam; no flow Sept. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,900 ft^3/s, Jan. 14, gage height, 24.48 ft; minimum daily, 5.1 ft^3/s, Feb. 11-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	25	22	21	6.4	5.9	26	904	5860	3320	24	24
2	22	25	22	21	6.1	5.9	26	772	3300	4150	24	24
3	22	25	28	21	5.9	81	26	770	3040	4600	24	24
4	22	25	24	21	5.5	5.5	181	777	2810	3310	24	24
5	22	25	24	21	5.5	5.5	489	1070	3130	3750	24	24
6	22	26	24	21	5.5	5.4	445	1010	2140	4080	24	24
7	22	26	21	22	5.5	5.4	415	710	1480	4380	24	24
8	22	26	21	22	5.9	5.4	387	444	1620	4330	24	23
9	22	26	21	22	37	5.4	202	442	2420	4050	24	23
10	22	26	21	22	5.2	5.4	85	1890	2460	2300	24	23
11	22	24	22	22	5.1	5.5	260	5480	4370	1630	24	24
12	22	22	21	21	5.1	5.5	545	5160	4530	2100	24	27
13	22	22	21	22	5.1	5.5	371	4920	4060	2040	24	26
14	22	22	21	1320	5.1	5.6	175	3970	5140	594	24	26
15	22	22	21	23	5.1	5.5	30	3940	5190	840	24	25
16	22	22	21	23	5.1	5.5	699	3400	5220	487	24	25
17	22	23	21	23	5.1	473	617	6150	4480	24	24	25
18	22	23	21	23	5.4	877	415	6290	3390	24	24	24
19	21	22	21	23	13	702	550	7340	3930	24	24	22
20	21	23	21	23	6.2	294	718	6200	6190	24	24	17
21	21	23	21	23	5.9	26	692	5760	5690	24	24	16
22	21	23	21	e39	5.9	26	510	5770	3710	24	24	17
23	21	22	21	e23	6.5	25	676	5640	3950	24	24	17
24	22	22	21	e23	6.3	25	491	5510	4900	24	24	17
25	23	22	21	e23	6.2	65	807	6040	5170	24	24	17
26	24	21	21	e23	6.2	1510	794	6410	6290	24	24	19
27	23	21	21	22	6.2	537	505	4110	6560	24	24	18
28	23	21	21	22	6.0	413	499	1970	6130	24	24	18
29	25	21	21	22	---	28	616	2980	5060	24	24	18
30	25	21	21	22	---	25	915	3400	2730	24	24	15
31	25	---	21	12	---	26	---	4540	---	24	24	---
TOTAL	691	697	670	1991	198.0	5215.9	13167	113769	124950	46321	744	650
MEAN	22.3	23.2	21.6	64.2	7.07	168	439	3670	4165	1494	24.0	21.7
MAX	25	26	28	1320	37	1510	915	7340	6560	4600	24	27
MIN	21	21	21	12	5.1	5.4	26	442	1480	24	24	15
AC-FT	1370	1380	1330	3950	393	10350	26120	225700	247800	91880	1480	1290
a	43020	3740	22900	116400	131500	184000	213100	220800	215400	211100	123700	133900

e Estimated.
a Diversion, in acre-feet, to Big Creek No. 4 Powerplant, provided by Southern California Edison Co.

11242000 SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	19.8	117	70.4	104	131	405	1622	2117	729	64.9	21.1
MAX	25.9	76.2	3501	679	1255	1456	2739	10410	12700	6141	1343	33.9
(WY)	1990	1983	1956	1980	1986	1983	1951	1969	1983	1983	1983	1952
MIN	8.15	8.55	5.66	3.83	3.37	2.86	3.27	4.76	8.59	13.3	16.5	2.79
(WY)	1983	1985	1966	1965	1966	1968	1955	1971	1971	1979	1984	1951

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1951 - 1993	
ANNUAL TOTAL	7569.3		309063.9			
ANNUAL MEAN	20.7		847		445	
HIGHEST ANNUAL MEAN					2409	1983
LOWEST ANNUAL MEAN					11.4	1966
HIGHEST DAILY MEAN	47	Aug 14	7340	May 19	47700	Dec 23 1955
LOWEST DAILY MEAN	6.4	Mar 25	5.1	Feb 11	.00	Sep 25 1951
ANNUAL SEVEN-DAY MINIMUM	6.9	Apr 1	5.1	Feb 11	.38	Oct 17 1982
INSTANTANEOUS PEAK FLOW			15900	Jan 14	73200	Dec 23 1955
INSTANTANEOUS PEAK STAGE			24.48	Jan 14	54.20	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	15010		613000		322300	
ANNUAL TOTAL, DIVERSION (AC-FT) a	781300		1619000			
10 PERCENT EXCEEDS	24		4050		1030	
50 PERCENT EXCEEDS	22		24		20	
90 PERCENT EXCEEDS	13		6.2		4.7	

a Diversion, in acre-feet, to Big Creek No. 4 Powerplant, provided by Southern California Edison Co.

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA

LOCATION.--Lat 37°23'52", long 119°33'55", in SW 1/4 NE 1/4 sec.21, T.6 S., R.22 E., Madera County, Hydrologic Unit 18040006, on right bank at road bridge 0.6 mi downstream from Soquel Campground, 3.0 mi upstream from Chilkoot Creek, and 4.7 mi southeast of Sugar Pine.
DRAINAGE AREA.--16.9 mi^2.
PERIOD OF RECORD.--August 1985 to current year.
REVISED RECORDS.--WDR CA-72-2: 1970, 1971. WDR CA-85-3: 1983, 1984(P).
GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,200 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Records fair. No storage upstream from station. Madera Irrigation District has water rights to divert up to 50 ft^3/s from North Fork Willow Creek through Soquel Ditch into Nelder Creek (Fresno River basin) from October through July each year. See schematic diagram of lower San Joaquin River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft^3/s, Jan. 13, 1980, gage height, 7.41 ft, from rating curve extended above 1,100 ft^3/s on basis of a step-backwater survey; minimum daily, 0.27 ft^3/s, Oct. 4, 1987
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 30	1100	120	3.74	Feb. 19	0100	120	3.75
Jan. 7	0915	*644	*4.86	Mar. 17	1145	323	4.29
Jan. 14	0530	240	4.09	Mar. 25	2215	236	4.11
Feb. 8	1845	117	3.75	May 31	1545	462	4.64

Minimum daily, 0.96 ft^3/s, Oct. 1.
REVISIONS.--Revised daily discharges, in cubic feet per second, for Feb. 23, 1992 to Apr. 7, 1992, are given below. These figures supercede those published in the report for 1992.

February	23..... 12	March	6..... 14	March	18..... 14	March	30..... 22
	24..... 12		7..... 12		19..... 14		31..... 23
	25..... 13		8..... 11		20..... 14	April	1..... 24
	26..... 14		9..... 11		21..... 13		2..... 25
	27..... 14		10..... 11		22..... 13		3..... 25
	28..... 15		11..... 12		23..... 13		4..... 26
	29..... 16		12..... 12		24..... 14		5..... 32
March	1..... 17		13..... 13		25..... 17		6..... 38
	2..... 16		14..... 14		26..... 19		7..... 41
	3..... 16		15..... 14		27..... 20		
	4..... 15		16..... 14		28..... 21		
	5..... 15		17..... 14		29..... 22		

MONTH	TOTAL	MEAN	MAX	MIN	AC-FT
February 1992	324	11.2	24	3.8	643
March 1992	470	15.2	23	11	932
April 1992	1455	485	72	24	2890
WTR YR 1992	3991.52	10.9	72	.63	7920

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	9.7	3.0	12	18	21	97	164	200	39	14	7.7
2	1.3	8.0	2.8	9.4	18	23	77	173	159	36	14	7.9
3	1.8	7.0	2.9	12	17	25	65	162	136	35	13	7.7
4	2.0	6.5	3.1	9.0	18	25	75	136	125	33	13	7.4
5	1.5	5.8	3.2	9.8	21	27	75	123	140	31	12	7.5
6	1.8	5.8	4.7	13	22	30	65	120	109	30	12	7.4
7	1.9	5.1	9.4	236	23	35	56	116	108	29	11	7.3
8	1.8	5.1	8.2	93	69	37	69	128	103	27	11	7.2
9	1.8	4.9	27	34	53	38	89	151	109	25	12	6.8
10	1.8	4.9	18	23	34	39	70	224	126	25	9.2	6.8
11	1.6	4.8	23	18	33	43	72	233	139	26	9.4	5.9
12	1.6	4.6	10	18	28	45	65	243	136	24	9.0	5.9
13	1.6	4.6	8.1	78	27	52	59	175	142	23	8.8	5.8
14	1.7	4.6	6.9	134	26	87	62	162	155	22	8.9	5.8
15	2.0	4.6	8.1	77	25	79	68	166	147	20	8.9	5.8
16	2.1	4.5	6.3	143	24	64	68	192	131	20	8.8	5.9
17	2.0	4.0	5.9	64	23	171	75	214	122	21	9.1	6.2
18	2.0	3.1	6.9	40	46	98	85	229	138	20	8.8	6.5
19	1.9	3.3	6.5	33	86	67	75	222	125	19	8.6	6.1
20	2.0	3.3	6.2	30	41	64	82	210	105	18	8.3	5.8
21	2.3	3.3	6.0	61	34	72	94	191	103	18	8.1	5.7
22	2.6	3.6	6.0	184	28	85	121	189	93	17	8.3	5.6
23	2.2	3.4	5.8	66	28	77	133	198	74	17	8.1	5.4
24	2.1	3.2	5.8	40	29	128	173	194	78	17	7.8	5.2
25	2.3	3.2	5.7	31	27	144	166	256	69	17	7.9	5.2
26	2.4	3.0	5.7	29	26	136	137	206	47	17	8.0	5.0
27	2.6	3.0	5.7	27	23	74	154	179	44	16	7.7	5.0
28	4.7	3.0	6.1	25	22	55	171	147	49	16	7.8	5.0
29	24	2.9	9.8	25	---	50	159	148	37	15	7.6	4.8
30	72	2.8	10	23	---	55	158	166	40	14	7.0	4.7
31	17	---	11	21	---	64	---	273	---	14	7.6	---
TOTAL	169.36	135.6	247.8	1618.2	869	2010	2915	5690	3289	701	295.7	185.0
MEAN	5.46	4.52	7.99	52.2	31.0	64.8	97.2	184	110	22.6	9.54	6.17
MAX	72	9.7	27	236	86	171	173	273	200	39	14	7.9
MIN	.96	2.8	2.8	9.0	17	21	56	116	37	14	7.0	4.7
AC-FT	336	269	492	3210	1720	3990	5780	11290	6520	1390	587	367

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.58	9.22	13.9	24.5	27.7	37.6	47.6	72.1	47.4	14.7	5.52	4.32
MAX	17.8	43.0	69.2	147	178	151	176	207	214	109	26.9	14.3
(WY)	1983	1984	1984	1980	1986	1986	1982	1969	1983	1983	1983	1978
MIN	.41	1.63	1.20	1.84	2.07	2.04	1.78	2.40	1.84	.99	.66	.38
(WY)	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1965 - 1993		
ANNUAL TOTAL	4196.08		18125.66				
ANNUAL MEAN	11.5		49.7		25.7		
HIGHEST ANNUAL MEAN					82.7		1983
LOWEST ANNUAL MEAN					1.57		1977
HIGHEST DAILY MEAN	72	Apr 28	273	May 31	1360	Jan 13	1980
LOWEST DAILY MEAN	.63	Sep 28	.96	Oct 1	.27	Oct 4	1987
ANNUAL SEVEN-DAY MINIMUM	.82	Sep 24	1.6	Oct 1	.29	Oct 11	1977
INSTANTANEOUS PEAK FLOW			644	Jan 7	2750	Jan 13	1980
INSTANTANEOUS PEAK STAGE			4.86	Jan 7	7.41	Jan 13	1980
ANNUAL RUNOFF (AC-FT)	8320		35950		18640		
10 PERCENT EXCEEDS	33		149		70		
50 PERCENT EXCEEDS	5.7		22		7.4		
90 PERCENT EXCEEDS	1.5		3.1		1.7		

11243300 BROWNS CREEK CANAL AT BASS LAKE, CA

LOCATION.--Lat 37°17'19", long 119°31'09", in SE 1/4 SW 1/4 sec.25, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 900 ft upstream from Bass Lake, and 3.0 mi southeast of town of Bass Lake.

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

GAGE.--Water-stage recorder and concrete canal. Elevation of gage is 3,440 ft above sea level, from topographic map.

REMARKS.--Canal diverts from South Fork Willow Creek at diversion dam 1.5 mi upstream from gage, in NW 1/4 NE 1/4 sec.30, T.7 S., R.23 E. Flow enters Bass Lake for power development in San Joaquin River powerplants. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 86 ft^3/s, Mar. 8, 1989; no flow at times in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	9.4	1.1	15	50	49	77	79	60	28	11	4.1
2	.00	6.6	1.4	13	49	50	76	79	58	27	10	3.9
3	.00	6.2	1.5	11	49	56	76	77	57	26	9.7	3.9
4	.00	4.8	1.6	11	48	61	78	75	57	25	9.6	3.6
5	.00	3.4	1.6	11	56	65	77	75	62	24	9.2	3.6
6	.00	3.1	2.7	15	55	74	77	76	62	24	9.2	3.6
7	.00	2.8	17	67	56	80	77	76	61	23	8.7	3.5
8	.00	2.2	7.7	70	77	80	77	76	60	23	8.3	2.9
9	.00	1.2	34	65	72	80	77	76	60	22	8.1	2.7
10	.00	1.1	21	51	66	79	77	77	67	21	8.0	2.4
11	.00	1.0	37	38	70	80	77	77	74	20	8.0	2.3
12	.00	1.0	17	36	62	80	77	77	72	20	8.0	2.2
13	.00	1.0	12	65	58	80	77	76	70	19	8.0	1.8
14	.00	1.0	11	63	56	79	77	75	67	19	8.0	1.8
15	.00	.97	10	63	54	77	78	76	64	18	8.0	1.6
16	.00	.89	9.9	72	51	79	78	76	61	18	8.0	1.6
17	.00	.89	9.4	68	47	79	78	77	63	18	8.2	1.8
18	.00	.98	8.6	65	52	78	77	77	53	18	e7.8	2.3
19	.00	1.0	7.6	64	56	79	77	77	50	18	e7.4	2.4
20	.00	1.1	7.7	58	53	78	77	78	48	18	7.0	2.4
21	.00	1.1	7.9	52	52	79	77	78	46	17	7.0	2.4
22	.00	1.4	7.9	80	54	79	77	77	43	16	7.0	2.3
23	.00	2.0	8.3	77	58	79	77	77	41	15	6.5	2.3
24	.00	2.3	9.1	75	63	79	77	77	38	15	6.3	2.2
25	.00	2.2	9.5	74	61	77	77	76	36	14	5.9	1.9
26	.00	1.9	9.7	70	58	78	77	75	34	14	5.5	1.8
27	.15	1.6	9.3	67	54	77	77	76	32	14	5.2	1.7
28	.57	1.2	11	67	51	75	78	75	29	13	5.0	1.6
29	9.2	1.1	27	62	---	62	78	74	29	13	5.0	1.6
30	58	1.0	14	59	---	51	79	76	28	12	4.9	1.5
31	25	---	14	54	---	56	---	72	---	12	4.7	---
TOTAL	92.92	66.43	347.5	1658	1588	2255	2316	2365	1582	584	233.2	73.7
MEAN	3.00	2.21	11.2	53.5	56.7	72.7	77.2	76.3	52.7	18.8	7.52	2.46
MAX	58	9.4	37	80	77	80	79	79	74	28	11	4.1
MIN	.00	.89	1.1	11	47	49	76	72	28	12	4.7	1.5
AC-FT	184	132	689	3290	3150	4470	4590	4690	3140	1160	463	146

e Estimated.

11243300 BROWNS CREEK CANAL AT BASS LAKE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.57	3.92	5.45	15.9	24.1	46.4	54.5	35.5	16.0	4.41	1.11	.76
MAX	6.53	5.89	11.2	53.5	56.7	72.7	77.2	76.3	52.7	18.8	7.52	2.87
(WY)	1990	1989	1993	1993	1993	1993	1993	1993	1993	1993	1993	1989
MIN	.000	1.74	1.07	3.01	2.87	25.3	31.4	14.1	3.80	.032	.000	.000
(WY)	1989	1991	1991	1991	1991	1991	1988	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	6051.20		13161.75			
ANNUAL MEAN	16.5		36.1		17.5	
HIGHEST ANNUAL MEAN					36.1	1993
LOWEST ANNUAL MEAN					10.5	1987
HIGHEST DAILY MEAN	83	Mar 30	80	Jan 22	86	Mar 8 1989
LOWEST DAILY MEAN	.00	Jul 29	.00	Oct 1	.00	Jul 3 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 29	.00	Oct 1	.00	Jul 3 1987
ANNUAL RUNOFF (AC-FT)	12000		26110		12670	
10 PERCENT EXCEEDS	56		77		61	
50 PERCENT EXCEEDS	6.5		25		6.1	
90 PERCENT EXCEEDS	.00		1.0		.00	

11243400 BASS LAKE NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'33", long 119°31'43", in SE 1/4 NE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, at outlet tower at dam on North Fork Willow Creek, 2.2 mi southeast of town of Bass Lake, and 5 mi north of North Fork.
DRAINAGE AREA.--50.4 mi^2.

PERIOD OF RECORD.--January 1911 to September 1982 (monthend contents only), October 1982 to current year. Bass Lake was formerly called Crane Valley Reservoir.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir formed by earthfill and rockfill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft between elevations 3,280.22 ft, invert of outlet conduit No. 3, and 3,376.40 ft, top of spillway gates. Additional storage of 300 acre-ft not available for release. Water is released through Crane Valley Powerplant below dam for use in three small powerplants before being discharged into Kerckhoff Reservoir station 11246650) at Wishon Powerplant. Water is diverted from South Fork Willow Creek via Browns Creek ditch into Bass Lake near left end of dam. Madera Irrigation District has water rights to divert up to 50 ft^3/s from North Fork Willow Creek through Soquel Ditch into Nelder Creek (Fresno River basin) from October through July each year. See schematic diagram of lower San Joaquin River basin.
COOPERATION.--Records were provided by Pacific Gas & Electric 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, 45,960 acre-ft, June 17, 1923, elevation, 3,376.8 ft; minimum, 35 acre-ft, Nov. 19, 1953, elevation, 3,270.2 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,332 acre-ft, July 6, elevation, 3,376.33 ft; minimum, 23,501 acre-ft, Oct. 29, Nov. 1, elevation, 3,354.80 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated March 1937)

3,280	290	3,310	3,404	3,340	13,227	3,370	38,218
3,290	890	3,320	5,584	3,350	19,663	3,376.4	45,410
3,300	1,896	3,330	8,717	3,360	28,121		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27499	23501	23875	27096	33387	33775	34227	39624	44438	44822	39886	32083
2	27489	23535	23884	27205	33295	33744	34227	39897	44330	44959	39657	31836
3	27471	23561	23892	27278	33193	33744	34207	40060	44242	45083	39406	31591
4	27462	23586	23901	27333	33102	33734	34227	40093	44151	45196	39177	31346
5	27453	23620	23909	27260	33041	33754	34279	40093	44222	45320	38948	31122
6	27453	23637	24080	27187	32991	33785	34392	40093	44198	45332	38698	30879
7	27416	23654	24398	29023	32930	33836	34443	40071	44163	45151	38447	30638
8	27416	23671	24475	29455	33326	33846	34526	40038	44091	44970	38196	30417
9	27397	23680	24761	29626	33611	33856	34672	40049	44032	44786	37935	30168
10	27397	23680	24874	29778	33673	33856	34756	40071	43972	44570	37684	29930
11	27379	23688	25294	29749	33703	33846	34839	40180	44008	44378	37411	29692
12	29678	23705	25356	29911	33703	33856	34934	40300	44091	44163	37172	29597
13	27370	23714	25418	30879	33662	33856	34997	40420	44198	43937	36912	29588
14	27187	23722	25480	33082	33632	33949	35039	40572	44318	43711	36653	29588
15	26878	23705	25525	33683	33571	33970	35081	40747	44474	43475	36404	29578
16	26626	23714	25587	34134	33520	33939	35217	40943	44606	43251	36145	29578
17	26365	23722	25676	34361	33479	34207	35408	41161	44666	43018	35898	29578
18	26122	23731	25703	34217	33713	34217	35641	41423	44726	42798	35652	29582
19	25863	23748	25738	34021	34073	34155	35834	41751	44798	42547	35408	29578
20	25649	23748	25756	33898	34114	34104	36253	42093	44834	42296	35144	29578
21	25268	23765	25792	33928	34011	34104	36761	42422	44846	42081	34881	29578
22	25057	23799	25823	34227	33970	34104	37281	42729	44834	41805	34641	29578
23	24796	23816	25863	34124	34371	34104	37684	43052	44834	41745	34402	29578
24	24536	23833	25898	33990	34237	34207	37847	43369	44834	41532	34145	29578
25	24252	23833	25916	33898	34073	34724	38022	43794	44834	41360	33887	29559
26	23994	23841	25961	33898	34042	34734	38240	44151	44798	41161	33632	29559
27	23773	23850	25987	33724	33918	34495	38491	44342	44738	40965	33356	29559
28	23527	23850	26239	33683	33846	34361	38763	44342	44654	40758	33102	29550
29	23501	23855	26653	33622	---	34227	39090	44282	44584	40551	32850	29550
30	23669	23867	26761	33550	---	34124	39363	44246	44642	40333	32570	29540
31	23544	---	26869	33479	---	34093	---	44474	---	40115	32330	---
MAX	29678	23867	26869	34361	34371	34734	39363	44474	44846	45332	39886	32083
MIN	23501	23501	23875	27096	32930	33734	34207	39624	43972	40115	32330	29540
a	3354.85	3355.23	3358.64	3365.54	3365.90	3366.14	3371.05	3375.59	3375.73	3371.74	3364.40	3361.52
b	-3964	+323	+3002	+6610	+367	+247	+5270	+5111	+168	-4527	-7785	-2790

CAL YR 1992 b +5538
WTR YR 1993 b +2032

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11243500 PACIFIC GAS & ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'21", long 119°31'44", in NE 1/4 SE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 1,000 ft downstream from Crane Valley Powerplant and Dam and 2.5 mi southeast of town of Bass Lake.

PERIOD OF RECORD.--October 1940 to current year. Prior to October 1954, published as "near Crane Valley Reservoir."

GAGE.--Water-stage recorder and concrete flume. Elevation of gage is 3,300 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passes through Crane Valley Powerplant, then to Powerplant No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverts to Powerplants No. 2 and No. 1A before it enters San Joaquin River at Kerckhoff Reservoir through San Joaquin Powerplant No. 1. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 167 ft^3/s, June 23, 24, 1965; no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	46	.24	.69	156	137	152	157	117	1.7	137	154
2	.00	1.0	.25	.69	156	137	152	158	118	.39	139	158
3	.00	.70	.30	.69	156	137	152	159	72	.22	141	156
4	.00	.26	.29	.69	156	137	152	159	145	.23	138	154
5	.00	.27	.31	61	156	137	152	159	144	.16	138	157
6	.00	.24	1.6	138	156	136	152	160	143	74	137	160
7	10	.24	1.8	121	156	137	151	161	141	150	137	161
8	.56	.25	.21	108	156	142	151	160	139	149	138	160
9	.58	.30	.21	112	156	148	150	161	137	149	137	156
10	.60	.33	.21	112	157	148	144	161	135	149	138	151
11	.92	.37	.38	135	157	148	148	162	133	148	138	146
12	4.0	.39	.69	150	154	151	147	162	132	148	137	49
13	1.5	.37	.69	152	156	153	147	162	133	147	136	.24
14	82	.36	.78	151	156	153	147	158	133	147	136	.24
15	138	.39	.80	145	156	151	147	157	133	147	135	.24
16	132	.34	.80	147	155	150	147	157	134	148	135	.24
17	127	.27	2.7	147	148	153	147	158	133	148	135	.22
18	127	.31	4.4	147	141	153	147	159	131	147	134	.21
19	127	.36	4.4	147	141	153	147	159	131	148	133	.22
20	126	.36	4.4	147	141	153	48	159	131	148	134	.21
21	126	.42	4.4	148	140	153	.70	159	131	142	134	.21
22	126	.51	4.4	148	140	153	.78	158	131	136	133	.21
23	126	.66	4.4	149	140	152	61	159	131	136	133	.10
24	125	2.5	4.4	149	139	152	155	158	131	136	134	.00
25	125	3.6	4.4	149	138	152	155	153	131	136	135	.00
26	125	3.0	2.2	150	138	152	155	151	131	136	136	.00
27	125	3.0	.69	150	138	152	155	152	131	136	139	.13
28	125	3.0	.69	150	138	152	155	150	132	136	141	.22
29	124	3.0	.69	151	---	152	156	139	132	137	143	.23
30	124	1.5	.69	151	---	152	157	136	41	137	146	.32
31	125	---	.69	154	---	152	---	128	---	136	150	---
TOTAL	2253.16	74.30	53.11	3771.76	4177	4588	4030.48	4831	3837	3653.70	4257	1765.24
MEAN	72.7	2.48	1.71	122	149	148	134	156	128	118	137	58.8
MAX	138	46	4.4	154	157	153	157	162	145	150	150	161
MIN	.00	.24	.21	.69	138	136	.70	128	41	.16	133	.00
AC-FT	4470	147	105	7480	8290	9100	7990	9580	7610	7250	8440	3500

11243500 PACIFIC GAS & ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.4	41.8	57.3	62.7	69.5	74.2	63.4	59.0	59.3	82.1	106	89.9
MAX	152	148	157	157	161	162	158	157	160	153	155	154
(WY)	1951	1984	1983	1956	1956	1956	1956	1958	1952	1983	1958	1980
MIN	.000	.000	.042	.19	.079	.12	.12	.090	.060	.52	9.43	.47
(WY)	1988	1968	1954	1954	1977	1947	1947	1977	1942	1977	1977	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	13048.90		37291.75			
ANNUAL MEAN	35.7		102		69.0	
HIGHEST ANNUAL MEAN					128	1983
LOWEST ANNUAL MEAN					14.4	1977
HIGHEST DAILY MEAN	145	Jul 18	162	May 11	167	Jun 23 1965
LOWEST DAILY MEAN	.00	Sep 23	.00	Oct 1	.00	Nov 6 1940
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 23	.09	Sep 21	.00	Feb 8 1941
ANNUAL RUNOFF (AC-FT)	25880		73970		49960	
10 PERCENT EXCEEDS	140		156		152	
50 PERCENT EXCEEDS	.91		137		64	
90 PERCENT EXCEEDS	.35		.27		.03	

11244000 NORTH FORK WILLOW CREEK NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'20", long 119°31'45", in SE 1/4 SE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft downstream from Bass Lake Spillway and 2.5 mi southeast of town of Bass Lake.

DRAINAGE AREA.--50.8 mi^2.

PERIOD OF RECORD.--May 1940 to current year. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

GAGE.--Water-stage recorder. Broad-crested weir with V-notch Dec. 21, 1961, to Jan. 16, 1969, and since Mar. 26, 1971. Elevation of gage is 3,200 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Bass Lake (station 11243400) 1,500 ft upstream and by diversion into Pacific Gas & Electric Co. Conduit No. 3 near Bass Lake (station 11243500). Soquel ditch diverts up to 50 ft^3/s from North Fork Willow Creek into Nelder Creek in Fresno River basin. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 2,100 ft^3/s, Feb. 19, 1986; minimum daily, 0.01 ft^3/s, Dec. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 544 ft^3/s, Mar. 26, gage height, 3.95 ft; minimum daily, 0.21 ft^3/s, Oct. 8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	4.9	.27	1.0	.87	33	146	55	210	3.8	4.4	4.4
2	.45	.33	.27	1.3	.80	23	159	57	195	4.3	4.4	4.4
3	.45	.31	.27	.62	.76	21	154	103	227	4.4	4.4	4.4
4	.45	.29	.27	.49	.72	21	155	150	148	4.4	4.4	4.4
5	.45	.28	.27	.52	.72	21	102	150	140	4.4	4.4	4.4
6	.43	.28	.32	.82	.69	26	49	150	130	4.3	4.4	4.4
7	.30	.28	1.2	8.1	.68	33	74	150	119	4.4	4.4	4.4
8	.21	.28	.49	2.6	1.4	40	58	150	122	4.8	4.4	4.4
9	.22	.28	.75	1.6	2.0	42	50	150	124	4.7	4.4	4.4
10	.22	.27	.47	1.5	1.8	42	53	150	127	4.7	4.4	4.4
11	.22	.27	1.4	1.1	3.0	42	58	150	99	4.6	4.4	4.4
12	.22	.27	.67	1.3	6.4	45	62	151	67	4.5	4.4	4.4
13	.22	.27	.49	4.7	2.4	46	64	109	61	4.5	4.4	4.4
14	.22	.27	.42	13	1.6	61	66	72	44	4.4	4.4	4.4
15	.23	.27	.39	3.9	1.0	75	68	74	28	4.4	4.4	4.4
16	.23	.27	.36	115	.90	72	47	75	28	4.4	4.4	4.4
17	.23	.27	.37	198	.85	121	14	77	29	4.4	4.4	4.4
18	.23	.27	.36	223	1.5	178	12	61	31	4.4	4.4	4.4
19	.23	.27	.33	155	53	161	13	27	31	4.4	4.4	4.4
20	.23	.27	.32	90	149	142	11	23	31	4.4	4.4	4.4
21	.25	.27	.30	79	116	134	6.5	20	31	4.4	4.4	4.4
22	.24	.28	.30	176	77	135	7.4	19	31	4.4	4.4	4.4
23	.23	.28	.29	175	185	137	9.4	18	16	4.4	4.4	4.6
24	.23	.27	.29	129	222	162	9.4	17	5.6	4.4	4.3	4.8
25	.23	.27	.28	80	150	267	9.0	22	5.6	4.4	4.1	4.8
26	.24	.27	.28	54	116	493	8.8	25	5.6	4.4	4.3	4.8
27	.29	.27	.27	36	83	351	8.4	80	5.6	4.4	4.1	4.6
28	.29	.27	.42	25	52	246	8.1	162	5.6	4.4	4.4	4.4
29	.50	.27	1.2	17	---	195	8.1	168	4.9	4.4	4.4	4.2
30	.90	.27	.82	12	---	160	41	170	4.1	4.4	4.4	4.4
31	.43	---	.59	4.2	---	138	---	186	---	4.4	4.4	---
TOTAL	9.71	12.92	14.73	1610.75	1231.09	3663	1531.1	2971	2106.0	137.0	135.6	133.4
MEAN	.31	.43	.48	52.0	44.0	118	51.0	95.8	70.2	4.42	4.37	4.45
MAX	.90	4.9	1.4	223	222	493	159	186	227	4.8	4.4	4.8
MIN	.21	.27	.27	.49	.68	21	6.5	17	4.1	3.8	4.1	4.2
AC-FT	19	26	29	3190	2440	7270	3040	5890	4180	272	269	265

11244000 NORTH FORK WILLOW CREEK NEAR BASS LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.76	4.02	6.89	17.1	27.8	29.8	20.3	26.1	18.3	3.89	2.95	3.31
MAX	77.8	54.6	106	194	380	297	272	234	189	73.6	66.4	103
(WY)	1949	1958	1947	1956	1986	1983	1982	1967	1983	1983	1963	1963
MIN	.18	.26	.21	.22	.18	.24	.30	.23	.24	.21	.24	.26
(WY)	1991	1992	1987	1991	1991	1977	1977	1977	1977	1977	1977	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	247.73		13556.30			
ANNUAL MEAN	.68		37.1		13.5	
HIGHEST ANNUAL MEAN					80.8	1983
LOWEST ANNUAL MEAN					.26	1977
HIGHEST DAILY MEAN	4.9	Nov 1	493	Mar 26	2100	Feb 19 1986
LOWEST DAILY MEAN	.18	Feb 5	.21	Oct 8	.01	Dec 4 1989
ANNUAL SEVEN-DAY MINIMUM	.19	Jan 31	.22	Oct 8	.11	Oct 1 1990
INSTANTANEOUS PEAK FLOW			544	Mar 26		
INSTANTANEOUS PEAK STAGE			3.95	Mar 26		
ANNUAL RUNOFF (AC-FT)	491		26890		9790	
10 PERCENT EXCEEDS	1.3		149		11	
50 PERCENT EXCEEDS	.46		4.4		.70	
90 PERCENT EXCEEDS	.23		.27		.30	

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA

LOCATION.--Lat 37°09'03", long 119°27'34", in SE 1/4 NE 1/4 sec.16, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 40 ft upstream from bridge, 0.4 mi upstream from mouth, 1.3 mi downstream from Whiskey Creek, and 4.3 mi northeast of Auberry.

DRAINAGE AREA.--130 mi^2.

PERIOD OF RECORD.--January 1952 to September 1988, October 1989 to current year.
WATER TEMPERATURE: Water years 1961-72.

GAGE.--Water-stage recorder. Concrete control since Oct. 22, 1964. Datum of gage is 1,174.69 ft above sea level (levels by Southern California Edison Co.).

REMARKS.--No estimated daily discharges. Flow regulated by Bass Lake (station 11243400) 10 mi upstream. Soquel ditch diverts up to 50 ft^3/s from North Fork Willow Creek into Nelder Creek in Fresno River basin. Flow diverted out of basin by Pacific Gas & Electric Co. Conduit No. 3. See schematic diagram of lower San Joaquin River basin.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s, Dec. 23, 1955, gage height, 28.5 ft, from floodmarks, from rating curve extended above 4,700 ft^3/s; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,690 ft^3/s, Jan. 14, gage height, 13.94 ft; no flow Oct. 12-20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	11	1.1	9.8	49	113	486	349	293	13	7.1	1.8
2	.06	4.5	1.1	53	45	98	480	341	229	12	6.5	1.8
3	.07	2.4	1.1	13	42	94	426	342	184	13	5.8	1.7
4	.06	1.9	1.2	9.4	48	82	429	383	171	13	5.6	1.6
5	.06	2.1	1.2	7.9	40	74	414	338	222	12	5.2	1.6
6	.05	2.0	1.3	9.7	41	77	254	329	206	12	4.7	1.6
7	.05	1.7	12	749	40	91	256	309	179	11	4.5	1.6
8	.01	1.4	8.3	471	110	110	259	304	159	11	4.3	1.5
9	.01	1.3	8.5	108	281	119	264	310	143	11	5.0	1.4
10	.01	1.2	12	75	143	108	266	322	130	10	5.1	1.3
11	.01	1.2	24	54	96	113	255	337	107	10	4.7	1.2
12	.00	1.2	16	38	109	121	251	346	63	9.9	5.0	1.1
13	.00	1.1	9.3	325	73	131	231	293	48	9.7	4.9	1.2
14	.00	1.1	6.7	1540	63	209	232	204	42	9.5	4.5	2.2
15	.00	1.1	5.2	407	59	247	246	196	28	9.2	5.6	3.5
16	.00	1.0	4.3	659	59	187	258	197	23	9.0	6.6	7.6
17	.00	.97	4.9	607	54	469	192	210	22	8.6	6.4	8.3
18	.00	.92	6.5	530	64	560	271	205	20	8.4	5.2	9.5
19	.00	.98	4.8	319	348	385	211	155	19	8.0	4.0	9.8
20	.00	1.0	3.9	211	483	328	187	142	19	11	3.2	8.6
21	.04	1.0	3.6	242	294	337	155	125	18	10	3.1	8.0
22	.06	1.0	3.4	651	205	353	166	110	18	8.8	3.2	8.2
23	.06	1.3	3.3	417	536	358	169	104	17	8.1	2.8	8.1
24	.05	1.6	3.3	262	644	488	170	99	17	7.8	2.8	8.1
25	.03	1.4	3.2	183	328	871	184	106	16	7.4	2.6	7.9
26	.03	1.2	3.3	139	251	1360	235	106	15	7.1	2.6	7.9
27	.04	1.2	3.1	116	205	875	237	91	17	6.7	3.7	7.9
28	.06	1.2	3.4	99	147	668	248	180	17	6.2	6.4	9.1
29	2.8	1.1	16	88	---	531	277	174	15	7.3	4.2	7.4
30	27	1.1	17	69	---	463	320	162	14	8.4	2.2	7.2
31	15	---	11	58	---	418	---	244	---	7.8	1.9	---
TOTAL	45.61	52.17	204.0	8519.8	4857	10438	8029	7113	2471	296.9	139.4	148.7
MEAN	1.47	1.74	6.58	275	173	337	268	229	82.4	9.58	4.50	4.96
MAX	27	11	24	1540	644	1360	486	383	293	13	7.1	9.8
MIN	.00	.92	1.1	7.9	40	74	155	91	14	6.2	1.9	1.1
AC-FT	90	103	405	16900	9630	20700	15930	14110	4900	589	276	295

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.37	14.8	57.6	108	129	132	143	146	50.3	8.32	2.20	2.76
MAX	24.6	138	652	837	1255	1033	995	747	504	88.8	12.6	28.3
(WY)	1983	1984	1956	1969	1986	1983	1982	1967	1983	1983	1983	1982
MIN	.000	.54	1.13	2.13	1.89	2.63	2.36	3.61	1.93	.000	.000	.000
(WY)	1956	1978	1991	1991	1991	1977	1977	1977	1961	1961	1959	1960

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1952 - 1993		
ANNUAL TOTAL	3381.03		42314.58				
ANNUAL MEAN	9.24		116		64.3		
HIGHEST ANNUAL MEAN					344		1983
LOWEST ANNUAL MEAN					1.71		1977
HIGHEST DAILY MEAN	166	Feb 13	1540	Jan 14	7500	Dec 23	1955
LOWEST DAILY MEAN	.00	Aug 30	.00	Oct 12	.00	Sep 4	1955
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 9	.00	Oct 12	.00	Sep 4	1955
INSTANTANEOUS PEAK FLOW			3690	Jan 14	15700	Dec 23	1955
INSTANTANEOUS PEAK STAGE			13.94	Jan 14	28.50	Dec 23	1955
ANNUAL RUNOFF (AC-FT)	6710		83930		46550		
10 PERCENT EXCEEDS	29		339		152		
50 PERCENT EXCEEDS	2.7		13		8.1		
90 PERCENT EXCEEDS	.03		1.1		.29		

11246650 KERCKHOFF RESERVOIR NEAR AUBERRY, CA

LOCATION.--Lat 37°07'40", long 119°31'25", in SE 1/4 SW 1/4 sec.24, R.9 S., T.22 E., Fresno County, Hydrologic Unit 18040006, near center of Kerckhoff Dam on San Joaquin River, 2.0 mi downstream from A.G. Wishon Powerplant, and 7.9 mi northwest of Auberry.

DRAINAGE AREA.--1,460 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete arch dam with spillway completed in 1920. Usable contents, 4,247 acre-ft between elevations 900.14 ft, invert of sluice gates, and 985.68 ft, top of spillway gates. Water is released for use in Kerckhoff Powerplants No. 1 and No. 2 before being discharged into the San Joaquin River above Millerton Lake. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 4,188 acre-ft, Nov. 16, 1992, elevation, 985.3 ft; minimum, 2,104 acre-ft, Nov. 14-17, 1988, elevation, 970.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,172 acre-ft, many days May-July, elevation, 985.2 ft; minimum, 2,115 acre-ft, Nov. 18, elevation, 970.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas and Electric Co., dated July 16, 1919)

960	1,090	970	2,092	980	3,387	990	4,964
965	1,549	975	2,703	985	4,140		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4030	2280	3815	3784	3680	3680	3546	3650	4172	4156	3694	3770
2	3968	2376	3694	3876	3576	3472	3546	3664	4077	4172	3800	3517
3	3845	2426	3694	3644	3532	3754	3532	3644	4156	4172	3724	3517
4	3937	2450	3532	3891	3800	3724	3517	3800	4093	4093	3679	3724
5	3937	2475	3800	4062	3709	3706	3830	3679	4156	4160	3620	3473
6	3800	2450	3815	3815	3754	3922	3784	3620	3387	4165	3709	3664
7	3830	2426	3695	3950	3891	3984	3488	3694	3648	4172	3679	3830
8	3865	2407	3815	3910	3709	3444	3401	3502	3590	4172	3845	3754
9	3882	2370	3532	3605	3576	3511	3459	3664	3920	4172	3679	3605
10	3564	2352	3532	3625	3860	3906	3968	4156	3605	3590	3590	3754
11	3891	2330	3754	3754	3754	3953	3830	4148	4172	3387	3724	3488
12	3784	2330	3739	3876	3443	3769	3561	4156	4172	3546	3739	3488
13	3473	2292	3739	3937	3709	3517	3605	4152	4172	3401	3754	3650
14	3664	2244	3590	3922	3430	3815	3561	4140	4172	3401	3517	3984
15	3874	2197	3845	3784	3605	3984	3546	4140	4172	3830	3769	3830
16	3876	2197	3739	3860	3724	3906	3754	4140	4172	3401	3712	3984
17	3876	2138	3650	3709	3330	3705	3605	4156	4172	3444	3910	3546
18	3953	2115	3845	3910	3800	3632	3644	4156	4172	3679	3740	3905
19	3800	2127	3694	3830	3473	3532	3416	4156	4156	3517	3546	3724
20	4015	2588	3724	3680	3724	3679	3724	4156	4172	3358	3739	3561
21	3891	2887	3915	3906	3710	3891	3754	4156	4156	3465	3444	3561
22	3709	3118	3845	3830	3517	3473	3473	4140	4172	3488	3644	3815
23	3891	3459	3960	3830	3459	3430	3605	4148	4156	3576	3784	3860
24	3891	3488	3784	3953	3459	3784	3590	4140	4172	3546	3815	3561
25	3984	3754	3739	3968	3430	3546	3576	4140	4172	3430	3679	3561
26	3905	3739	3830	3784	3416	4156	3784	4140	4172	3532	3709	3532
27	3685	3739	3845	3739	3387	3906	3664	4015	4172	3532	3605	3830
28	3875	3724	3709	3605	3430	3546	3502	3387	4172	3430	3891	4040
29	3968	3709	3679	4030	---	3387	3679	4062	4172	3488	3937	3860
30	3679	3650	3968	3532	---	3561	3679	4172	3815	3459	3754	3590
31	3845	---	3620	3937	---	3517	---	4172	---	3694	3937	---
MAX	4030	3754	3968	4062	3891	4156	3968	4172	4172	4172	3937	4040
MIN	3473	2115	3532	3532	3330	3387	3401	3387	3387	3358	3444	3473
a	983.1	981.8	981.6	983.7	980.3	980.9	982	985.2	982.9	982.1	983.7	981.4
b	+181	-195	-30	+317	-507	+87	+162	+493	-357	-121	+243	-347

CAL YR 1992 b -111
WTR YR 1993 b -74

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11246700 SAN JOAQUIN RIVER NEAR AUBERRY, CA

LOCATION.--Lat 37°07'56", long 119°31'50", in NW 1/4 SW 1/4 sec.24, T.9 S., R.22 E., Fresno County, Hydrologic Unit 18040006, on left bank 2,300 ft downstream from Kerckhoff Dam, 2.8 mi northwest of Auberry, and 6.7 mi south of town of North Fork.

DRAINAGE AREA.--1,461 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 870.11 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow regulated by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric 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, 15,800 ft^3/s, Jan. 14, 1993, gage height, 17.74 ft; minimum daily, 16 ft^3/s, May 9-18, 1987, Sept. 29, 30, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,800 ft^3/s, Jan. 14, gage height, 17.74 ft; minimum daily, 27 ft^3/s, several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	31	31	30	30	31	29	28	3310	71	34	28
2	30	33	31	31	30	31	29	28	557	921	34	28
3	29	33	30	30	30	31	29	27	209	1460	32	28
4	29	33	30	30	30	31	29	28	161	373	30	28
5	29	33	30	30	30	31	29	55	255	536	29	29
6	29	33	31	31	30	31	30	37	83	966	30	28
7	29	33	32	32	30	31	29	33	27	1300	31	28
8	29	33	31	31	31	31	29	33	27	1310	31	29
9	29	33	31	31	31	31	29	32	27	1080	31	28
10	29	33	30	31	30	31	29	145	33	114	31	29
11	29	33	31	30	30	31	29	4070	1010	30	31	29
12	29	33	31	30	30	31	29	3880	1540	29	32	29
13	29	33	30	32	30	31	29	3600	1200	29	32	29
14	29	33	30	6170	30	31	29	2600	1990	30	32	28
15	29	33	30	7190	30	31	29	2400	2030	30	32	28
16	30	33	30	4430	31	31	29	1180	7020	30	32	28
17	30	33	30	31	30	31	29	3120	1930	30	32	28
18	30	33	30	30	31	31	29	3490	977	30	32	28
19	30	32	30	30	31	30	29	4480	1340	30	32	28
20	30	33	30	29	32	30	29	3420	3480	30	31	28
21	30	35	30	29	32	30	29	2840	3370	30	28	28
22	30	36	30	29	31	30	29	2840	1350	30	28	28
23	29	36	30	88	33	30	29	2670	1320	31	28	556
24	30	34	30	31	33	31	142	2490	2570	31	28	27
25	30	31	30	30	32	32	30	3230	2540	31	28	27
26	30	31	30	37	32	1090	30	3760	3790	31	28	27
27	30	31	30	30	32	210	29	1440	3890	32	28	27
28	30	31	30	30	32	30	37	31	3270	32	28	27
29	31	31	31	30	---	30	27	396	2010	32	28	28
30	31	31	30	30	---	30	27	394	246	32	28	27
31	30	---	31	30	---	30	---	1360	---	33	28	---
TOTAL	917	984	941	18703	864	2191	990	54137	51562	8774	939	1368
MEAN	29.6	32.8	30.4	603	30.9	70.7	33.0	1746	1719	283	30.3	45.6
MAX	31	36	32	7190	33	1090	142	4480	7020	1460	34	556
MIN	29	31	30	29	30	30	27	27	27	29	28	27
AC-FT	1820	1950	1870	37100	1710	4350	1960	107400	102300	17400	1860	2710

11246700 SAN JOAQUIN RIVER NEAR AUBERRY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.7	27.6	29.0	108	25.3	32.0	27.2	271	266	63.4	28.8	28.5
MAX	35.7	37.4	43.1	603	33.0	70.7	33.0	1746	1719	283	38.0	45.6
(WY)	1990	1990	1991	1993	1990	1993	1993	1993	1993	1993	1990	1993
MIN	17.5	17.4	18.2	18.0	18.0	17.8	19.1	18.7	17.3	17.2	17.3	17.1
(WY)	1988	1988	1988	1989	1988	1988	1988	1988	1987	1987	1988	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	11208		142370				
ANNUAL MEAN	30.6		390		78.0		
HIGHEST ANNUAL MEAN					390		1993
LOWEST ANNUAL MEAN					18.2		1988
HIGHEST DAILY MEAN	84	Mar 31	7190	Jan 15	7190	Jan 15	1993
LOWEST DAILY MEAN	28	Jan 14	27	Apr 29	16	May 9	1987
ANNUAL SEVEN-DAY MINIMUM	29	Apr 19	27	Sep 24	16	May 9	1987
INSTANTANEOUS PEAK FLOW			15800	Jan 14	15800	Jan 14	1993
INSTANTANEOUS PEAK STAGE			17.74	Jan 14	17.74	Jan 14	1993
ANNUAL RUNOFF (AC-FT)	22230		282400		56480		
10 PERCENT EXCEEDS	31		1340		35		
50 PERCENT EXCEEDS	30		31		28		
90 PERCENT EXCEEDS	29		28		18		

11249500 MADERA CANAL AT FRIANT, CA

LOCATION.--Lat 37°00'10", long 119°42'21", in NW 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Madera County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi northeast of Friant.

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for October 1943 to September 1948 published in WSP 1315-A. October 1954 to September 1966 published as Friant-Madera Canal at Friant.

REVISED RECORDS.--WSP 1151: 1944-48.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to Oct. 1, 1948, water-stage recorder at several sites at various datums. Oct. 1, 1948, to Sept. 30, 1949, water-stage recorder at site 8.8 mi downstream.

REMARKS.--No estimated daily discharges. Canal diverts from Millerton Lake (station 11250100) at right end of Friant Dam for irrigation between San Joaquin and Chowchilla Rivers. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,330 ft^3/s, July 2, 1983; no flow for many days in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	75	489	1140	884	1250	1180	958
2	.00	.00	.00	.00	.00	200	585	1130	827	1250	1170	939
3	.00	.00	.00	.00	.00	297	572	1130	761	1200	1170	928
4	.00	.00	.00	.00	.00	444	565	1140	708	1170	1160	931
5	.00	.00	.00	.00	.00	617	565	1130	690	1170	1130	913
6	.00	.00	.00	.00	.00	825	565	1120	706	1200	1120	869
7	.00	.00	.00	.00	.00	558	591	1140	715	1210	1060	830
8	.00	.00	.00	.00	.00	540	631	1140	783	1210	1010	798
9	.00	.00	.00	.00	.00	508	677	1070	872	1210	1000	800
10	.00	.00	.00	.00	.00	490	708	1030	932	1200	1000	802
11	.00	.00	.00	.00	.00	500	728	1050	969	1200	984	806
12	.00	.00	.00	.00	.00	506	776	1050	999	1210	959	777
13	.00	.00	.00	.00	.00	510	815	1070	1090	1210	895	744
14	.00	.00	.00	.00	.00	555	851	1130	1180	1210	817	734
15	.00	.00	.00	.00	.00	612	948	1130	1230	1210	790	720
16	.00	.00	.00	.00	.00	669	1040	1120	1250	1210	809	698
17	.00	.00	.00	.00	.00	706	1070	1150	1250	1210	839	672
18	.00	.00	.00	.00	.00	715	1070	1160	1250	1180	837	618
19	.00	.00	.00	.00	.00	715	1050	1120	1250	1190	830	592
20	.00	.00	.00	.00	.00	715	1040	1110	1230	1180	830	591
21	.00	.00	.00	.00	.00	747	1010	1090	1220	1170	830	630
22	.00	.00	.00	.00	.00	791	1030	1080	1220	1170	830	652
23	.00	.00	.00	.00	.00	850	1060	1060	1230	1190	849	677
24	.00	.00	.00	.00	.00	875	1050	1040	1240	1200	881	745
25	.00	.00	.00	.00	.00	694	1040	1010	1240	1200	850	763
26	.00	.00	.00	.00	.00	432	1070	948	1250	1200	830	736
27	.00	.00	.00	.00	.00	290	1080	888	1220	1180	830	721
28	.00	.00	.00	.00	.00	250	1080	854	1250	1170	912	717
29	.00	.00	.00	.00	---	276	1100	845	1250	1200	1010	722
30	.00	.00	.00	.00	---	306	1150	864	1250	1200	1040	736
31	.00	---	.00	.00	---	360	---	861	---	1180	991	---
TOTAL	0.00	0.00	0.00	0.00	0.00	16628	26006	32800	31946	37140	29443	22819
MEAN	.000	.000	.000	.000	.000	536	867	1058	1065	1198	950	761
MAX	.00	.00	.00	.00	.00	875	1150	1160	1250	1250	1180	958
MIN	.00	.00	.00	.00	.00	75	489	845	690	1170	790	591
AC-FT	.00	.00	.00	.00	.00	32980	51580	65060	63360	73670	58400	45260

11249500 MADERA CANAL AT FRIANT, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	95.2	12.2	1.13	20.9	111	297	332	475	783	981	728	338
MAX	599	143	49.0	473	659	1094	1258	1261	1277	1293	1233	1153
(WY)	1984	1987	1970	1974	1986	1980	1980	1982	1978	1973	1967	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	13.8	356	76.7	.000
(WY)	1950	1949	1949	1949	1949	1952	1964	1961	1977	1981	1977	1959

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1949 - 1993		
ANNUAL TOTAL	63907.00		196782.00				
ANNUAL MEAN	175		539		349		
HIGHEST ANNUAL MEAN					736		1983
LOWEST ANNUAL MEAN					43.8		1977
HIGHEST DAILY MEAN	1140	Jun 20	1250	Jun 16	1330	Jul 2	1973
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 3	1948
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 3	1948
INSTANTANEOUS PEAK FLOW					1330	Jul 2	1983
ANNUAL RUNOFF (AC-FT)	126800		390300		253200		
10 PERCENT EXCEEDS	762		1190		1070		
50 PERCENT EXCEEDS	.00		631		87		
90 PERCENT EXCEEDS	.00		.00		.00		

11250000 FRIANT-KERN CANAL AT FRIANT, CA

LOCATION.--Lat 36°59'53", long 119°42'11", in SE 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi northeast of Friant.

PERIOD OF RECORD.--March 1949 to current year.

GAGE.--Discharge computed on basis of megawatt meter reading, efficiency of generator coefficient, and net head on turbines. Prior to January 1986, discharge computed on basis of valve openings and head on valves. Prior to July 8, 1949, nonrecording gages at various sites and datums. July 8 to Sept. 30, 1949, water-stage recorder at site 0.2 mi downstream.

REMARKS.--No estimated daily discharges. Canal diverts from Millerton Lake (station 11250100) at left end of Friant Dam for irrigation in upper San Joaquin Valley. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,330 ft^3/s, June 25, 1982; no flow for many days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	818	42	.00	.00	547	1750	2050	4390	4550	5290	4620	2590
2	732	100	.00	.00	535	1910	1690	4220	4550	5080	4850	2370
3	634	58	.00	.00	506	2170	1660	4180	4550	4490	5100	2060
4	617	58	.00	.00	525	2320	1660	4230	4550	4410	5030	1830
5	630	67	.00	.00	603	2350	1760	4270	3930	4590	5000	1860
6	724	71	.00	.00	583	2330	2260	4040	3840	4690	4600	1860
7	812	52	.00	.00	570	2390	2770	3820	4050	4680	4050	1770
8	754	65	.00	.00	582	2560	3100	3770	4050	4660	4080	1740
9	685	89	.00	.00	590	2890	3520	3860	4050	5170	4130	1800
10	629	67	.00	.00	640	3220	3700	3950	4140	5320	4050	1790
11	610	.00	.00	.00	723	3430	3880	4210	4290	5290	4040	1700
12	667	87	.00	.00	750	3560	4230	4490	4290	5290	3910	1700
13	736	130	.00	.00	912	3640	4500	4550	4280	5300	3670	1720
14	747	129	.00	.00	1220	3680	4520	4410	4440	5270	3360	1800
15	708	129	.00	.00	1300	3820	4350	4300	4330	5080	3450	1890
16	612	128	.00	.00	1210	4000	4270	4260	4450	4830	3550	1830
17	502	127	.00	.00	1180	4130	4350	4220	4380	4490	3700	1520
18	497	127	.00	.00	1700	4130	4520	4020	4500	4420	3860	1420
19	518	126	.00	.00	2010	3680	4850	3750	4640	4450	3960	1470
20	536	125	.00	.00	1850	3320	5230	3650	4730	4500	3920	1570
21	502	125	.00	.00	1500	3360	5300	3760	4850	4720	3760	1670
22	443	54	.00	.00	1640	3590	5300	4250	4900	5040	3810	1690
23	382	.00	.00	.00	1900	3720	4920	4510	4920	5120	4040	1630
24	322	.00	.00	.00	1810	3220	4540	4550	4910	4830	4250	1560
25	381	.00	.00	.00	1800	2600	4360	4550	4890	4890	4330	1420
26	417	.00	.00	.00	1790	2280	4480	4550	4860	5090	4080	1510
27	453	.00	.00	875	1700	2120	4670	4480	4870	5210	3630	1620
28	434	.00	.00	1500	1750	2070	4830	4500	4910	5250	3220	1680
29	371	.00	.00	1500	---	1980	4920	4550	4950	5190	3120	1740
30	223	.00	.00	1470	---	1970	4770	4540	5230	4890	3130	1760
31	58	---	.00	646	---	2030	---	4550	---	4520	2890	---
TOTAL	17154	1956.00	0.00	5991.00	32426	90220	116960	131380	135880	152050	123190	52570
MEAN	553	65.2	.000	193	1158	2910	3899	4238	4529	4905	3974	1752
MAX	818	130	.00	1500	2010	4130	5300	4550	5230	5320	5100	2590
MIN	58	.00	.00	.00	506	1750	1660	3650	3840	4410	2890	1420
AC-FT	34020	3880	.00	11880	64320	179000	232000	260600	269500	301600	244300	104300

11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	811	307	63.1	197	1292	1247	1368	1626	2580	2858	2544	1494
MAX	3084	1364	629	1348	4505	3551	4475	4238	4529	4905	4339	4033
(WY)	1979	1979	1970	1966	1965	1965	1962	1993	1993	1993	1967	1967
MIN	.000	.000	.000	.000	.000	5.13	141	87.5	598	262	384	1.33
(WY)	1950	1950	1950	1950	1950	1991	1977	1977	1977	1949	1949	1950

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1949 - 1993		
ANNUAL TOTAL	303305.00		859777.00				
ANNUAL MEAN	829		2356		1377		
HIGHEST ANNUAL MEAN					2356		1993
LOWEST ANNUAL MEAN					270		1950
HIGHEST DAILY MEAN	3490	Jun 9	5320	Jul 10	5330	Jun 25	1982
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 11	.00	Jul 5	1949
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 23	.00	Sep 11	1949
INSTANTANEOUS PEAK FLOW					5330	Jun 25	1982
ANNUAL RUNOFF (AC-FT)	601600		1705000		997700		
10 PERCENT EXCEEDS	2120		4850		3490		
50 PERCENT EXCEEDS	643		1910		955		
90 PERCENT EXCEEDS	.00		.00		.00		

11250100 MILLERTON LAKE AT FRIANT, CA

LOCATION.--Lat 37°00'00", long 119°42'13", in SW 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, near center of Friant Dam on San Joaquin River just upstream from Cottonwood Creek, 0.9 mi northeast of Friant.

DRAINAGE AREA.--1,638 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Monthend contents only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to May 29, 1944, nonrecording gage on left bank at same datum.

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944, and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 ft, invert of river outlet, and 578.0 ft, top of drum-type spillway gates. Not available for release, 17,400 acre-ft. Millerton Lake is one of the storage units in the Central Valley Project. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 528,700 acre-ft, June 12, 1973, elevation, 579.66 ft; minimum since lake first filled, 133,600 acre-ft, Apr. 11, 1969, elevation, 467.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 520,000 acre-ft, July 5, elevation, 577.90 ft; minimum, 150,500 acre-ft, Oct. 16, elevation, 475.31 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated 1921)

400	36,400	440	83,300	480	161,700	520	279,400	560	436,500
420	57,000	460	117,500	500	215,000	540	353,000	580	530,400

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162700	167300	159400	179900	347900	450400	454000	363700	450000	512600	394200	202700
2	161200	166900	159700	181300	352400	450900	455200	362200	451500	513800	386900	198100
3	160600	166700	159800	182500	356900	449900	455500	360800	452700	517700	379400	194600
4	159700	166400	159800	184500	360900	449100	455700	359300	454000	519700	371900	191200
5	158900	166100	159800	186200	365200	448200	456200	358700	456300	520000	365300	188000
6	158100	165800	160400	189500	369000	444900	455400	358200	458900	519200	358300	184500
7	156700	165500	161200	196300	372300	442000	454100	357300	458400	518900	352600	183300
8	155600	165200	161900	203700	378000	439200	450800	356400	458100	518600	346800	182800
9	154400	164900	162900	207500	383600	435200	446300	355000	458400	517000	341500	181600
10	154100	164600	163900	211400	387700	429800	440300	355200	459300	513200	335800	179800
11	152900	164400	166000	215300	392500	425000	435100	361500	461400	507300	329500	179400
12	152500	164000	166800	218700	395800	421700	430800	367200	464800	503300	324000	179200
13	152000	163600	167200	224900	398000	419500	425800	372400	467200	501600	317700	178500
14	151200	163200	168200	249400	400200	416800	420600	375600	470900	496900	311300	177900
15	150700	162800	169000	259900	402000	414700	415100	379100	475100	492300	304500	178000
16	150500	162400	170000	268400	403800	413300	410200	381700	479500	488800	298600	177300
17	151400	161900	171000	275100	406800	413100	405600	388800	481800	484200	293400	177200
18	152100	161500	171500	282500	408700	413900	400000	397000	483600	478100	287900	176600
19	153400	161100	171900	287500	412900	415100	395700	407800	485900	472400	282000	176200
20	154300	160700	172500	293300	417100	415600	392000	415500	492100	467900	276400	175400
21	155800	160300	172800	299000	419900	415500	388500	420700	498300	462800	269800	174600
22	157300	160000	173500	306200	422700	415400	384700	424900	500500	457200	262800	174400
23	158300	159900	174000	311000	428100	413900	381600	428300	502200	449900	255400	173200
24	159400	160000	174600	316400	434700	413600	379100	431300	505400	443300	247100	174600
25	160800	160000	174900	321500	438300	417200	377400	435400	509300	437400	239500	176400
26	161800	159800	175100	326300	442300	425900	375600	440400	513700	430500	232600	178500
27	163300	159700	175500	329100	445800	432800	373100	442800	517700	424300	226800	179900
28	164100	159500	176300	331200	448700	438900	370300	441800	517100	418100	221000	179300
29	164300	159300	177400	334600	---	443600	367200	440800	515800	412100	215900	179400
30	165600	159400	178000	338900	---	447300	365100	440900	513800	405700	211400	179300
31	165900	---	179200	343700	---	451300	---	443000	---	399600	207200	---
MAX	165900	167300	179200	343700	448700	451300	456200	443000	517700	520000	394200	202700
MIN	150500	159300	159400	179900	347900	413100	365100	355000	450000	399600	207200	173200
a	481.70	479.05	486.88	537.64	562.73	563.30	543.08	561.47	576.62	551.46	497.11	486.92
b	+1300	-6500	+19800	+164500	+105000	+2600	-86200	+77900	+70800	-114200	-192400	-27900
c	899	289	271	609	632	872	1384	2387	3156	3720	2526	1444

CAL YR 1992 b -21000
WTR YR 1993 b +14700
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, published as provided, not reviewed by U.S. Geological Survey.

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA

LOCATION.--Lat 36°59'04", long 119°43'24", in SW 1/4 SW 1/4 sec.7, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040001, on left bank 0.5 mi west of Friant, 1.5 mi downstream from Cottonwood Creek, 2 mi downstream from Friant Dam, and at mile 268.1.

DRAINAGE AREA.--1,676 mi^2.

PERIOD OF RECORD.--October 1907 to current year. Published as "near Pollasky" October 1907 to December 1908, and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

REVISED RECORDS.--WSP 843: 1914(M).

GAGE.--Water-stage recorder. Datum of gage is 294.00 ft above sea level (levels by U.S. Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 mi upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, water-stage recorder at site 2.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. Diversion for irrigation to Madera and Friant-Kern Canals (stations 11249500 and 11250000) began in 1943 and 1949, respectively. See schematic diagram of lower San Joaquin River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft^3/s, Dec. 11, 1937, gage height, 23.8 ft, site and datum then in use; minimum, 38 ft^3/s, regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 15,500 ft^3/s, Feb. 18, 1986, gage height, 13.41 ft; minimum, 5.5 ft^3/s, Oct. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,070 ft^3/s, June 28, gage height, 7.81 ft; minimum daily, 24 ft^3/s, Jan. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	125	114	65	56	94	532	185	1160	560	281	253
2	221	125	114	64	55	88	1360	188	1000	283	274	252
3	217	122	113	64	54	85	1990	191	1010	280	267	250
4	216	116	112	64	51	82	1960	193	1010	283	270	250
5	216	116	112	68	50	223	1960	193	1010	907	274	252
6	216	116	111	73	49	744	1960	195	1010	2010	272	253
7	215	116	114	64	48	1220	1960	196	1010	2040	270	251
8	214	116	111	38	89	1510	2300	196	1010	2040	270	252
9	213	116	109	27	162	1500	2500	196	1010	2040	270	253
10	213	116	109	31	94	1500	2490	196	1010	2040	273	253
11	213	116	113	29	75	1350	2300	328	1010	2040	274	253
12	213	116	111	24	70	1050	1890	583	1010	1180	267	253
13	213	116	110	57	64	1050	1460	584	1020	287	267	253
14	213	118	110	689	63	1050	1350	587	1020	285	267	249
15	212	118	109	307	60	631	1480	589	1020	284	267	241
16	212	118	108	204	59	150	1550	589	1020	283	267	243
17	213	118	96	193	53	159	1550	592	1030	282	264	244
18	213	116	85	217	75	160	1540	590	580	291	258	244
19	213	113	83	128	102	154	1020	592	284	289	257	242
20	213	115	82	111	123	151	142	1290	284	288	258	240
21	215	114	82	107	97	151	146	1910	286	288	260	241
22	216	114	80	146	80	150	144	1930	288	288	258	232
23	196	115	80	101	172	148	146	1930	290	288	257	225
24	161	117	80	89	133	151	147	1940	293	288	255	219
25	161	117	79	84	118	139	149	1950	689	288	254	207
26	160	116	78	79	122	104	149	1950	1220	291	253	207
27	157	116	78	75	123	62	149	1620	1800	293	253	207
28	156	114	78	69	102	79	149	1320	3960	292	251	201
29	148	114	70	66	---	69	149	1320	3080	289	253	182
30	128	113	62	64	---	62	161	1320	1580	291	253	185
31	126	---	62	60	---	58	---	1330	---	287	253	---
TOTAL	6116	3498	2955	3457	2399	14124	34783	26773	32004	21175	8167	7087
MEAN	197	117	95.3	112	85.7	456	1159	864	1067	683	263	236
MAX	223	125	114	689	172	1510	2500	1950	3960	2040	281	253
MIN	126	113	62	24	48	58	142	185	284	280	251	182
AC-FT	12130	6940	5860	6860	4760	28010	68990	53100	63480	42000	16200	14060

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1940, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	628	609	868	1276	1704	2246	3805	5876	6085	2765	1166	772
MAX	1678	1317	3589	4507	4391	6854	8010	11170	15870	9635	2312	1361
(WY)	1919	1928	1910	1909	1937	1938	1916	1938	1911	1911	1914	1938
MIN	164	196	301	333	393	419	1262	1703	635	335	264	156
(WY)	1932	1932	1909	1918	1924	1924	1912	1934	1924	1924	1924	1931

SUMMARY STATISTICS	WATER YEARS 1908 - 1940		
ANNUALTOTAL			
ANNUAL MEAN	2343		
HIGHEST ANNUAL MEAN	4961		1938
LOWEST ANNUAL MEAN	698		1924
HIGHEST DAILY MEAN	38800	Jan 31	1911
LOWEST DAILY MEAN	54	Sep 15	1924
ANNUAL SEVEN-DAY MINIMUM	105	Sep 16	1931
INSTANTANEOUS PEAK FLOW	77200	Dec 11	1937
INSTANTANEOUS PEAK STAGE	23.80	Dec 11	1937
ANNUAL RUNOFF (AC-FT)	1698000		
10 PERCENT EXCEEDS	6100		
50 PERCENT EXCEEDS	1190		
90 PERCENT EXCEEDS	394		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	376	276	417	664	1015	1190	1738	1885	1728	974	626	493
MAX	1663	1623	3798	5376	7100	7705	7701	9107	9438	5164	2807	2392
(WY)	1946	1983	1983	1956	1969	1969	1983	1941	1941	1941	1945	1948
MIN	47.2	37.3	32.5	30.0	33.9	33.0	43.2	43.9	78.6	101	91.1	67.2
(WY)	1970	1972	1971	1966	1966	1968	1971	1971	1970	1970	1970	1969

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993		
ANNUAL TOTAL	63031		162538				
ANNUAL MEAN	172		445		947		
ADJUSTED MEAN a	1169		3385				
HIGHEST ANNUAL MEAN					4385		1983
LOWEST ANNUAL MEAN					66.9		1971
HIGHEST DAILY MEAN	313	Jun 27	3960	Jun 28	14900	Feb 19	1986
LOWEST DAILY MEAN	40	Jan 9	24	Jan 12	11	Jan 8	1977
ANNUAL SEVEN-DAY MINIMUM	44	Jan 8	39	Jan 7	20	Jan 22	1990
INSTANTANEOUS PEAK FLOW			4070	Jun 28	77200	Dec 11	1937
INSTANTANEOUS PEAK STAGE			7.81	Jun 28	23.80	Dec 11	1937
ANNUAL RUNOFF (AC-FT)	125000		322400		685900		
ADJUSTED MEAN RUNNOFF (AC-FT) a	848600		2450700				
10 PERCENT EXCEEDS	271		1350		2840		
50 PERCENT EXCEEDS	155		213		144		
90 PERCENT EXCEEDS	90		72		50		

a Adjusted for change in contents and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern Canals.

NOTE: Records of evaporation provided by U.S. Bureau of Reclamation, not reviewed by U.S. Geological Survey.

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA

LOCATION.--Lat 36°24'08", long 120°25'57", in SE 1/4 SE 1/4 sec.34, T.17 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 9.2 mi southwest of town of Cantua Creek and 19 mi north of Coalinga.

DRAINAGE AREA.--46.4 mi^2.

PERIOD OF RECORD.--Water years 1958-65 (annual maximum), October 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above sea level, from topographic map. Prior to October 1966, crest-stage gage at datum 2.00 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Some small dams for stock use upstream from station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft^3/s, Mar. 1, 1983, gage height, 5.72 ft; maximum gage height, 6.60 ft, Feb. 24, 1969; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*), from floodmarks:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0415	105	2.54	Feb. 11	1930	58	2.36
Jan. 10	0630	77	2.45	Feb. 18	1100	198	2.77
Jan. 14	0130	*2,020	*4.76	Feb. 23	0745	118	2.58
Jan. 17	1515	162	2.81	Mar. 25	1900	338	3.02
Feb. 8	unknown	80	unknown				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	2.1	9.4	32	18	7.7	4.8	1.4	.63	.07
2	.00	.00	.00	2.3	9.2	29	17	7.7	4.4	1.3	.57	.07
3	.00	.00	.00	1.2	8.8	28	17	7.7	4.0	1.3	.54	.06
4	.00	.00	.00	.61	8.4	25	16	7.7	4.1	1.3	.57	.05
5	.00	.00	.00	.46	9.1	21	16	7.4	4.7	1.2	.52	.06
6	.00	.00	.00	.44	8.7	20	15	7.2	4.5	1.2	.49	.06
7	.00	.00	1.9	36	8.4	19	14	7.2	4.4	1.2	.48	.07
8	.00	.00	.39	13	e60	18	14	7.2	4.0	1.1	.48	.07
9	.00	.00	.06	3.3	29	18	13	7.1	3.5	1.1	.49	.06
10	.00	.00	.05	28	25	17	13	6.5	3.0	1.1	.51	.05
11	.00	.00	.06	4.6	24	16	e13	6.4	2.9	1.0	.52	.03
12	.00	.00	.15	15	26	15	e13	6.6	2.9	.98	.53	.02
13	.00	.00	.04	162	18	16	e12	6.6	2.6	.95	.53	.02
14	.00	.00	.04	501	15	16	e12	6.4	2.3	.92	.53	.02
15	.00	.00	.04	87	14	15	e12	6.2	2.2	.87	.55	.02
16	.00	.00	.04	87	13	15	12	6.0	2.1	.88	.65	.02
17	.00	.00	.04	72	13	17	12	5.8	2.0	.89	.64	.03
18	.00	.00	.03	92	113	16	13	5.8	1.9	.85	.59	.05
19	.00	.00	.03	39	120	16	12	5.5	1.8	.82	.48	.07
20	.00	.00	.03	38	50	15	12	5.6	1.7	.80	.43	.08
21	.00	.00	.03	31	42	15	11	5.5	1.7	.79	.47	.10
22	.00	.00	.03	21	37	15	11	5.4	1.7	.76	.41	.10
23	.00	.00	.02	17	71	14	11	5.1	1.7	.75	.31	.08
24	.00	.00	.02	15	37	20	11	4.8	1.6	.74	.23	.06
25	.00	.00	.02	14	33	91	10	5.7	1.6	.71	.17	.05
26	.00	.00	.02	12	46	67	9.4	5.2	1.6	.72	.14	.04
27	.00	.00	.02	11	38	36	9.4	5.0	1.5	.73	.13	.04
28	.00	.00	.02	11	34	28	9.2	5.0	1.4	.73	.08	.03
29	.00	.00	4.6	10	---	24	8.9	4.6	1.4	.72	.05	.02
30	.00	.00	1.6	10	---	21	8.0	4.3	1.4	.73	.05	.02
31	.00	---	.50	9.5	---	19	---	4.6	---	.71	.05	---
TOTAL	0.00	0.00	9.78	1346.51	920.0	734	374.9	189.5	79.4	29.25	12.82	1.52
MEAN	.000	.000	.32	43.4	32.9	23.7	12.5	6.11	2.65	.94	.41	.051
MAX	.00	.00	4.6	501	120	91	18	7.7	4.8	1.4	.65	.10
MIN	.00	.00	.00	.44	8.4	14	8.0	4.3	1.4	.71	.05	.02
AC-FT	.00	.00	19	2670	1820	1460	744	376	157	58	25	3.0

e Estimated.

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.089	.38	1.41	6.39	10.1	11.4	4.56	2.36	.98	.35	.092	.15
MAX	1.40	2.82	11.2	44.0	53.9	87.0	23.2	17.4	7.64	3.83	1.83	1.41
(WY)	1984	1973	1984	1969	1969	1983	1983	1983	1983	1983	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1967	1967	1969	1975	1976	1989	1972	1972	1968	1968	1968	1968

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1967 - 1993		
ANNUAL TOTAL	622.61		3697.68				
ANNUAL MEAN	1.70		10.1		3.15		
HIGHEST ANNUAL MEAN					18.9		1983
LOWEST ANNUAL MEAN					.003		1989
HIGHEST DAILY MEAN	115	Feb 12	501	Jan 14	671	Mar 1	1983
LOWEST DAILY MEAN	.00	Jan 2	.00	Oct 1	.00	Oct 1	1966
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 2	.00	Oct 1	.00	Oct 1	1966
INSTANTANEOUS PEAK FLOW			2020	Jan 14	3420	Mar 1	1983
INSTANTANEOUS PEAK STAGE			4.76	Jan 14	5.72	Mar 1	1983
ANNUAL RUNOFF (AC-FT)	1230		7330		2280		
10 PERCENT EXCEEDS	2.8		22		5.8		
50 PERCENT EXCEEDS	.00		1.3		.03		
90 PERCENT EXCEEDS	.00		.00		.00		

11253500 JAMES BYPASS NEAR SAN JOAQUIN, CA

LOCATION.--Lat 36°39'09", long 120°10'49", in NE 1/4 SW 1/4 sec.1, T.15 S., R.16 E., Fresno County, Hydrologic Unit 18030012, on right bank 3.2 mi north of San Joaquin.

PERIOD OF RECORD.--October 1947 to current year. Published as "Fresno Slough bypass" in WSP 1315-A and 1735. Daily discharge data for period October 1954 to September 1972 are in files of U.S. Bureau of Reclamation. Monthly totals published in WDR CA-72-2.

GAGE.--Water-stage recorder. Elevation of gage is 160 ft above sea level, from topographic map.

REMARKS.--Diversion upstream from station for irrigation. James Bypass carries overflow from Kings River to San Joaquin River.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation; rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,570 ft^3/s, June 7, 1969; no flow for all or most of each year.

EXTREMES FOR CURRENT YEAR.--No flow for 1993 water year.

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.9	175	262	326	266	586	666	738	475	168	43.1	32.5
MAX	1723	2364	3648	3551	4688	5192	5066	4932	4913	2985	1077	811
(WY)	1984	1984	1983	1983	1983	1983	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1948	1948	1948	1948	1948	1948	1948	1954	1953	1948	1948	1949

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1948 - 1993 a
ANNUAL MEAN			317
HIGHEST ANNUAL MEAN			3189 1983
LOWEST ANNUAL MEAN			.000 1954
HIGHEST DAILY MEAN			5360 Mar 3 1983
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1947
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1947
INSTANTANEOUS PEAK FLOW			5570 Jun 7 1969
ANNUAL RUNOFF (AC-FT)			229900
10 PERCENT EXCEEDS	.00	.00	672
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

a Does not include water years 1955 to 1972, (see Period of Record).

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA

LOCATION.--Lat 37°12'56", long 119°59'25", in SE 1/4 SW 1/4 sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on left bank 1,800 ft downstream from Buchanan Dam and 4.6 mi west of Raymond.

DRAINAGE AREA.--236 mi^2.

PERIOD OF RECORD.--Water years 1958-65, 1976 to current year.
WATER-DISCHARGE RECORDS: Water years 1922-23, 1931-72, 1976-90.
CHEMICAL DATA: Water years 1958-65. Published as "at Buchanan Damsite."
WATER TEMPERATURE: Water years 1976 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 1975.

REMARKS.--Water temperatures since October 1985 for periods when discharge was less than 1 ft^3/s are not reliable and are not published. Water temperature is affected by regulation from Buchanan Dam.

EXTREMES FOR PERIOD OF DAILY RECORD (Water years 1976-85).--
WATER TEMPERATURE: Maximum recorded, 33.5°C, June 7, 1977; minimum recorded, 0.0°C, Jan. 2, 4, 1976.

EXTREMES FOR PERIOD OF DAILY RECORD (Water years 1986-93).--
WATER TEMPERATURE: Maximum recorded, 29.0°C, May 15, 1987; minimum recorded, 0.5°C, Dec. 25-27, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum recorded, 25.0°C, June 16; minimum recorded, 10.5°C, many days during year.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5
2	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0
3	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0
4	---	---	---	---	---	---	11.5	10.5	12.0	10.5	12.5	11.0
5	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0
6	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5
7	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5
8	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0
9	---	---	---	---	---	---	11.5	10.5	12.0	10.5	12.5	11.0
10	---	---	---	---	---	---	11.5	10.5	12.0	10.5	12.0	11.0
11	---	---	---	---	---	---	11.5	10.5	11.5	10.5	12.0	10.5
12	---	---	---	---	---	---	11.5	10.5	12.0	10.5	12.0	10.5
13	---	---	---	---	---	---	11.5	10.5	12.0	10.5	12.0	10.5
14	---	---	---	---	---	---	11.5	10.5	12.5	10.5	12.0	10.5
15	---	---	---	---	---	---	11.5	10.5	12.5	10.5	12.0	10.5
16	---	---	---	---	25.0	10.5	11.5	10.5	12.5	10.5	12.0	10.5
17	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	11.5	10.5
18	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0	12.0	10.5
19	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	12.0	10.5
20	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	12.0	10.5
21	---	---	---	---	11.0	10.5	11.5	10.5	12.5	10.5	---	---
22	---	---	---	---	11.0	10.5	11.5	10.5	12.5	11.0	---	---
23	---	---	---	---	11.0	10.5	11.5	10.5	12.5	11.0	---	---
24	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0	---	---
25	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	---	---
26	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	---	---
27	---	---	---	---	11.5	10.5	11.5	10.5	12.5	10.5	18.5	10.5
28	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0	11.5	10.5
29	---	---	---	---	11.5	10.5	11.5	10.5	12.5	11.0	11.0	10.5
30	---	---	---	---	13.5	10.5	11.5	10.5	12.0	10.5	11.0	10.5
31	---	---	---	---	---	---	11.5	10.5	12.5	10.5	---	---
MONTH	---	---	---	---	---	---	11.5	10.5	12.5	10.5	---	---

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 37°14'52", long 120°51'00", in NE 1/4 SE 1/4 sec.27, T.7 S., R.10 E., Merced County, Hydrologic Unit 18040001, on left bank at bridge on Highway 165 and 2.0 mi south of Stevinson.

DRAINAGE AREA.--7,388 mi^2, approximately.

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period June 1985 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
SPECIFIC CONDUCTANCE: Water year 1989 to current year.
WATER TEMPERATURE: Water year 1989 to current year.
CHEMICAL DATA: October 1992 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Maximum and minimum values are affected by upstream regulation of flow.

COOPERATION.--Discharge provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 4,040 microsiemens, Sept. 30, 1992; minimum recorded, 61 microsiemens, Nov. 1, 2, 1991.
WATER TEMPERATURE: Maximum recorded, 31.5°C, July 9, 1993; minimum recorded, 3.0°C, Dec. 26, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 4,030 microsiemens, Oct. 1; minimum recorded, 110 microsiemens, Jan. 9, 10, 16-18.
WATER TEMPERATURE: Maximum recorded, 31.5°C, July 9; minimum recorded, 5.0°C, Jan. 6.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	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
OCT											
16...	1000	0.46	3590	8.7	18.5	--	--	--	556	12	476
MAR											
31...	1300	1395	259	7.3	19.0	763	8.0	87	--	--	--
AUG											
26...	1345	22	1160	8.8	27.0	763	18.5	232	221	--	181

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)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
16...	--	--	--	--	--	--	--	--	--	--
MAR										
31...	0.060	0.550	0.110	0.80	1.0	0.160	0.160	0.170	19	1.1
AUG										
26...	<0.010	<0.050	0.030	0.70	0.60	0.080	0.040	<0.010	--	--

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4030	3980	---	---	---	---	3800	2190	330	300	240	200
2	---	---	---	---	---	---	2240	1440	320	290	250	240
3	---	---	---	---	---	---	1470	470	370	300	300	250
4	---	---	---	---	---	---	510	200	420	370	360	300
5	---	---	---	---	---	---	200	180	490	380	400	360
6	---	---	---	---	---	---	210	190	530	490	430	400
7	---	---	---	---	---	---	250	210	530	420	490	420
8	---	---	---	---	---	---	310	140	420	380	500	470
9	---	---	---	---	---	---	140	110	390	230	540	490
10	---	---	---	---	3930	3880	130	110	230	150	560	520
11	---	---	---	---	3900	3860	140	130	190	160	620	560
12	---	---	---	---	3910	3860	140	140	250	190	640	620
13	---	---	---	---	3900	3860	150	140	280	250	670	630
14	---	---	---	---	3900	3880	150	130	320	280	690	640
15	---	---	---	---	3910	3860	140	120	360	290	720	680
16	---	---	---	---	3890	3870	120	110	390	330	740	700
17	---	---	---	---	3900	3860	110	110	460	370	790	740
18	---	---	---	---	3930	3860	290	110	480	450	830	770
19	---	---	---	---	3900	3870	290	130	480	440	840	810
20	---	---	---	---	3900	3850	140	130	440	330	850	820
21	---	---	---	---	3890	3840	150	140	330	200	940	850
22	---	---	---	---	3860	3820	150	150	250	190	980	940
23	---	---	---	---	3870	3850	160	150	270	250	1000	900
24	---	---	---	---	3900	3860	170	150	280	190	990	870
25	---	---	---	---	3910	3890	180	170	190	170	940	590
26	---	---	---	---	3920	3900	200	180	190	170	660	270
27	---	---	---	---	3940	3890	220	200	190	180	270	190
28	---	---	---	---	---	---	250	220	200	190	210	200
29	---	---	---	---	---	---	260	230	---	---	240	210
30	---	---	---	---	---	---	290	250	---	---	270	230
31	---	---	---	---	3830	3790	310	270	---	---	260	250
MONTH	---	---	---	---	---	---	3800	110	530	150	1000	190

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	280	260	1200	1130	880	840	1620	1600	---	---	1070	1020
2	290	280	1280	1190	860	820	1610	1560	---	---	1100	1040
3	310	280	1370	1260	830	810	1580	1540	---	---	1120	1080
4	350	310	1440	1370	890	820	1560	1480	---	---	1200	1100
5	390	350	1480	1440	940	880	1490	1390	1260	1170	1240	1190
6	390	380	1460	1400	990	940	1400	1300	1310	1200	1250	1150
7	480	380	1440	1380	960	710	1300	1180	1310	1250	1190	1000
8	580	460	1430	1390	720	660	1230	1170	1330	1220	1130	900
9	580	260	1470	1400	690	680	1270	1220	1280	1180	960	870
10	270	190	1460	1410	750	690	1280	1240	1220	1100	970	850
11	200	180	1580	1450	840	750	1240	1220	1170	1070	1050	910
12	180	150	1600	1570	890	820	1240	1190	1140	1070	1180	1050
13	180	150	1650	1600	970	890	1230	1190	1130	1060	1340	1120
14	180	160	1680	1630	1070	950	1240	1190	1160	1080	1480	1340
15	230	180	1680	1630	1150	1070	1260	1210	1150	1040	1570	1430
16	280	220	1630	1520	1190	1150	1290	1220	1100	1020	1770	1540
17	590	280	1560	1450	1250	1190	1340	1260	1100	1020	1860	1740
18	720	520	1520	1480	1310	1240	1440	1340	1100	1000	2050	1810
19	910	720	1480	1420	1400	1310	1460	1420	1050	970	2010	1920
20	840	700	1510	1470	1430	1390	1470	1410	1030	960	2120	1970
21	770	720	1520	1480	1460	1420	1420	1310	1050	970	2160	2050
22	750	680	1500	1470	1490	1460	1310	1190	1090	1040	2050	1450
23	700	660	1510	1480	1500	1470	---	---	1120	1080	1580	1360
24	720	670	1520	1490	1520	1480	---	---	1130	1040	1440	1340
25	780	720	1530	1370	1510	1480	---	---	1140	1060	1410	1280
26	870	780	1530	1470	1520	1480	---	---	1160	1100	1390	1290
27	940	870	1510	1410	1550	1510	---	---	1150	1080	1430	1360
28	990	910	1410	1190	1580	1550	---	---	1130	1030	1600	1420
29	1070	990	1200	1040	1600	1560	---	---	1070	1020	1630	1550
30	1140	1070	1040	930	1630	1580	---	---	1100	1000	1640	1560
31	---	---	940	830	---	---	---	---	1070	1030	---	---
MONTH	1140	150	1680	830	1630	660	---	---	---	---	2160	850

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	25.0	21.5	---	---	---	---	8.0	7.5	9.5	8.5	12.0	10.5
2	22.0	16.0	---	---	---	---	7.5	6.5	10.0	8.0	13.5	12.0
3	22.0	16.0	---	---	---	---	7.0	6.0	10.0	9.0	14.5	13.0
4	22.0	20.0	---	---	11.5	10.5	6.5	5.5	10.5	9.0	15.5	14.0
5	23.0	20.0	---	---	11.0	10.0	6.0	5.5	11.5	10.0	16.0	14.0
6	---	---	---	---	10.5	9.5	5.5	5.0	12.5	11.0	16.5	15.5
7	---	---	---	---	10.0	9.5	6.5	5.5	13.0	11.5	18.0	16.0
8	---	---	---	---	10.5	10.0	10.5	6.5	13.5	12.5	18.5	17.0
9	---	---	---	---	10.5	10.0	10.5	9.5	13.0	12.5	19.0	18.0
10	---	---	---	---	11.5	10.5	10.0	9.5	13.0	12.0	19.5	17.5
11	---	---	---	---	12.0	11.0	9.5	8.5	13.5	12.5	19.5	17.0
12	---	---	---	---	11.0	10.5	8.5	7.0	13.0	12.0	19.0	16.5
13	---	---	---	---	11.0	9.5	10.0	7.0	12.5	12.0	20.5	18.0
14	---	---	---	---	10.0	9.5	11.5	10.0	12.5	11.5	20.5	18.0
15	---	---	---	---	9.5	9.0	11.5	10.5	12.5	11.0	20.0	18.0
16	---	---	---	---	9.0	9.0	11.0	10.5	12.0	11.0	19.0	18.0
17	---	---	---	---	9.0	9.0	11.5	10.5	11.5	11.0	20.5	18.5
18	---	---	---	---	9.0	8.0	11.0	10.5	12.0	11.0	20.5	17.5
19	---	---	---	---	8.5	8.0	11.0	10.5	13.0	11.5	20.5	17.5
20	---	---	---	---	9.0	7.5	11.0	10.5	13.0	12.0	20.5	17.5
21	---	---	---	---	9.0	7.5	12.0	11.0	12.5	11.5	20.5	17.5
22	---	---	---	---	9.0	7.5	12.5	11.5	12.0	11.5	20.5	17.5
23	---	---	---	---	8.0	7.5	11.5	10.0	12.0	11.0	20.0	18.0
24	---	---	---	---	7.5	7.5	10.5	9.5	12.5	11.5	18.5	17.5
25	---	---	---	---	7.5	7.5	9.5	9.0	12.0	11.0	18.0	17.0
26	---	---	---	---	7.5	7.0	9.0	8.0	12.0	9.5	17.0	15.0
27	---	---	---	---	7.0	7.0	8.5	8.0	10.5	9.0	15.0	13.5
28	---	---	---	---	---	---	8.5	8.0	11.0	10.5	14.0	13.5
29	---	---	---	---	---	---	9.0	8.0	---	---	15.0	13.5
30	---	---	---	---	---	---	9.5	8.0	---	---	17.0	15.0
31	---	---	---	---	8.5	8.0	9.0	8.5	---	---	19.0	17.0
MONTH	---	---	---	---	---	---	12.5	5.0	13.5	8.0	20.5	10.5

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

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA

LOCATION.--Lat 37°14'52", long 120°51'04", in SE 1/4 SE 1/4, sec.10, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, on right bank at bridge on Highway 165 and 5.5 mi south of Stevinson.
DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level.
REMARKS.--No estimated daily discharges. Records good except for periods of backwater, Jan. 14-26 and Feb. 10 to Apr. 14, which are fair. During major storm events record can be affected by backwater from the San Joaquin River. Discharge is affected by irrigation return and drainage from Kesterson Wildlife Refuge.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 810 ft^3/s, Feb. 20, 1986; minimum daily, 24 ft^3/s, Sept. 6, 1992.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 434 ft^3/s, Mar. 29, elevation, 68.49 ft; maximum gage height, 68.51 ft, Mar.28, (backwater from San Joaquin River); minimum daily, 29 ft^3/s, Dec. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	55	42	56	151	216	367	203	163	232	255	285
2	49	91	44	64	142	198	328	177	172	246	238	260
3	49	99	45	65	135	189	333	233	201	231	253	198
4	48	88	50	63	122	177	342	266	221	221	226	169
5	45	86	52	62	133	176	338	255	230	225	228	180
6	45	92	48	63	146	192	317	211	248	233	239	209
7	42	94	52	76	152	192	301	176	273	240	263	239
8	45	90	56	91	170	176	299	157	282	214	314	238
9	41	82	77	124	210	168	302	177	252	186	368	199
10	33	80	100	185	237	157	309	197	206	181	414	183
11	33	76	105	155	276	143	298	197	195	194	379	173
12	35	73	112	147	267	162	274	185	175	227	272	176
13	32	73	125	153	243	196	255	180	169	248	238	188
14	34	73	119	160	219	190	233	169	197	246	243	161
15	32	61	99	146	198	181	267	194	195	240	257	128
16	34	52	99	215	196	202	285	207	171	238	275	108
17	36	54	95	257	204	210	232	215	152	228	309	104
18	36	56	87	249	214	187	219	208	149	218	318	137
19	36	52	81	233	222	196	230	186	152	227	278	134
20	43	41	73	255	239	211	246	183	182	222	254	119
21	45	50	68	259	226	216	266	192	188	208	244	108
22	48	60	58	263	212	232	285	226	201	209	254	104
23	47	61	47	262	194	255	276	230	190	212	319	102
24	49	56	36	259	170	277	258	234	196	223	355	111
25	44	55	34	243	153	327	252	260	217	224	308	123
26	42	38	33	218	164	381	240	287	230	221	241	132
27	42	37	31	194	177	396	265	309	232	252	245	133
28	43	42	30	166	206	418	246	291	225	269	294	115
29	42	44	31	172	---	426	209	219	227	260	322	97
30	43	44	30	160	---	411	195	168	230	250	355	90
31	45	---	29	157	---	392	---	159	---	260	333	---
TOTAL	1281	1955	1988	5172	5378	7450	8267	6551	6121	7085	8891	4703
MEAN	41.3	65.2	64.1	167	192	240	276	211	204	229	287	157
MAX	49	99	125	263	276	426	367	309	282	269	414	285
MIN	32	37	29	56	122	143	195	157	149	181	226	90
AC-FT	2540	3880	3940	10260	10670	14780	16400	12990	12140	14050	17640	9330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

MEAN	161	167	116	129	211	327	275	229	231	249	270	187
MAX	255	273	194	176	291	466	419	355	339	376	411	289
(WY)	1990	1990	1990	1990	1986	1987	1986	1987	1987	1986	1986	1986
MIN	41.3	65.2	63.4	60.6	83.4	231	165	75.2	72.0	61.7	57.1	39.4
(WY)	1993	1993	1991	1991	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1986 - 1993	
ANNUAL TOTAL	33311		64842			
ANNUAL MEAN	91.0		178		213	
HIGHEST ANNUAL MEAN					273	1986
LOWEST ANNUAL MEAN					96.6	1992
HIGHEST DAILY MEAN	419	Mar 25	426	Mar 29	810	Feb 20 1986
LOWEST DAILY MEAN	24	Sep 6	29	Dec 31	24	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	31	Dec 25	31	Dec 25	31	Dec 25 1992
INSTANTANEOUS PEAK FLOW			434	Mar 29	unknown	Feb 20 1986
INSTANTANEOUS PEAK STAGE			68.51	Mar 28	unknown	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	66070		128600		154000	
10 PERCENT EXCEEDS	177		285		365	
50 PERCENT EXCEEDS	73		192		206	
90 PERCENT EXCEEDS	38		45		66	

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open File Report 91-74.
CHEMICAL DATA: October 1992 to September 1993.
SPECIFIC CONDUCTANCE: Water year 1989 to current year.
WATER TEMPERATURE: Water year 1989 to current year.
SEDIMENT DATA: January 1993 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 4,330 microsiemens, Jan. 16, 1991; minimum recorded, 911 microsiemens, June 1, 1993.
WATER TEMPERATURE: Maximum recorded, 32.5°C, July 15, 1992; minimum recorded, 0.5°C, Dec. 23, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 3,710 microsiemens, Feb. 4; minimum recorded, 911 microsiemens, June 1.
WATER TEMPERATURE: Maximum recorded, 31.5°C, July 7; minimum recorded, 5.0°C, Jan. 3-4.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
15...	1000	33	2040	7.9	17.5	760	9.2	97	--	--	--
JAN											
20...	1310	254	2360	7.9	11.5	770	7.8	71	520	120	53
29...	0945	192	3300	7.6	9.0	770	9.3	81	700	160	72
FEB											
04...	1000	122	3660	8.1	10.0	765	9.4	84	850	200	86
11...	0945	277	2650	8.0	13.0	765	6.6	63	560	130	56
26...	0915	164	3240	7.8	11.0	760	8.5	78	710	170	70
MAR											
05...	1100	174	3330	7.7	15.5	775	7.9	79	760	180	76
12...	1000	158	3190	7.5	17.0	765	7.0	73	700	170	66
18...	0945	189	2850	7.7	17.5	768	7.0	73	590	140	59
26...	1000	383	2140	8.0	16.0	758	5.8	59	500	120	48
APR											
01...	0845	374	2060	8.0	17.5	765	6.4	67	520	120	53
08...	0945	318	2860	8.0	16.5	764	6.6	68	640	150	65
14...	1015	229	3040	7.7	16.0	763	7.6	78	630	150	61
20...	1000	243	1760	7.8	16.5	765	--	--	340	76	37
27...	0915	266	2560	7.9	18.0	764	6.3	67	610	150	56
MAY											
04...	1010	269	2050	8.0	18.0	765	6.4	68	430	100	43
21...	1030	190	2660	8.0	21.5	765	6.4	73	--	--	--
JUN											
01...	0945	164	981	7.7	21.5	765	5.5	62	240	53	25
14...	0945	200	2350	8.0	23.0	763	6.2	72	550	140	49
29...	0945	229	2500	7.9	23.0	760	6.1	72	550	140	49
JUL											
15...	0940	245	1920	7.5	22.5	765	5.9	68	440	110	40
AUG											
03...	1020	258	1800	7.9	26.5	759	4.9	62	400	99	37
25...	1105	310	1540	[1]7.6	23.0	761	5.8	68	360	91	33
SEP											
07...	1045	241	1580	7.9	22.5	766	6.2	72	340	85	32
29...	0945	98	1150	7.9	19.5	759	7.1	78	250	56	26

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

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

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
15...	--	--	--	--	244	0	200	--	--	--
JAN										
20...	340	58	7	8.7	246	0	201	590	340	0.30
29...	460	--	8	--	278	0	228	690	400	0.30
FEB										
04...	570	--	8	--	293	0	240	930	490	1.6
11...	370	--	7	--	234	0	192	550	350	0.30
26...	460	--	7	--	300	0	246	870	470	0.20
MAR										
05...	470	57	7	5.7	283	0	232	810	490	0.30
12...	430	57	7	5.6	264	0	217	740	410	0.20
18...	360	57	6	4.8	249	0	204	610	390	0.20
26...	280	55	5	5.4	217	0	178	480	300	0.30
APR										
01...	310	56	6	5.4	292	0	239	500	310	0.30
06...	380	56	7	5.8	329	0	270	630	410	0.30
14...	380	57	7	4.3	222	0	182	330	390	0.30
20...	220	58	5	4.8	180	0	148	360	240	0.30
27...	330	54	6	4.7	186	0	153	650	340	0.40
MAY										
04...	250	56	5	4.6	183	0	150	480	270	0.30
21...	--	--	--	--	232	0	190	610	50	0.40
JUN										
01...	140	56	4	3.5	174	0	142	170	180	0.30
14...	330	56	6	4.2	181	0	148	620	320	0.30
29...	320	56	6	5.1	209	0	172	630	320	0.40
JUL										
15...	260	56	5	4.0	181	0	149	500	240	0.40
AUG										
03...	240	56	5	4.2	154	0	126	470	210	0.30
25...	200	54	5	3.8	215	0	176	380	190	0.20
SEP										
07...	190	54	4	3.6	164	0	134	360	190	0.20
29...	140	55	4	2.9	210	0	172	170	160	0.20

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

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

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
15...	--	--	--	--	--	--	--	--	--
JAN									
20...	14	1720	1590	2.34	0.020	1.30	0.040	3.0	0.20
29...	14	2070	--	--	0.070	5.20	0.120	1.0	0.80
FEB									
04...	17	--	--	--	0.060	11.0	0.110	1.1	0.60
11...	15	--	--	--	0.170	7.70	0.430	1.8	1.2
26...	14	2380	--	--	0.070	8.70	0.110	1.2	1.1
MAR									
05...	15	2460	2230	3.35	0.080	9.30	0.090	1.1	0.70
12...	18	2140	2010	2.91	0.140	8.40	0.120	1.2	0.80
18...	18	1860	1700	2.53	--	--	--	--	--
26...	19	1410	1390	1.92	0.100	6.30	0.100	1.1	0.90
APR									
01...	19	1560	1480	2.12	0.090	5.10	0.080	0.90	1.0
06...	18	1940	1820	2.64	--	--	--	--	--
14...	17	1940	1440	2.64	--	--	--	--	--
20...	15	1130	1050	1.54	0.090	2.80	0.190	1.1	0.90
27...	16	1800	1670	2.45	0.100	7.00	0.110	0.90	0.80
MAY									
04...	17	1380	1280	1.88	0.110	5.60	0.140	1.0	0.80
21...	--	--	--	--	0.060	4.60	0.060	1.1	0.90
JUN									
01...	19	688	682	0.94	0.060	1.00	0.130	1.2	0.50
14...	16	1710	1610	2.33	0.100	8.50	0.080	0.60	0.50
29...	17	1730	1630	2.35	0.130	8.80	0.080	0.90	0.80
JUL									
15...	17	1330	1290	1.81	0.110	6.60	0.050	1.1	0.60
AUG									
03...	16	1240	1180	1.69	0.110	5.40	0.080	1.1	0.70
25...	18	1060	1020	1.44	--	--	--	--	--
SEP									
07...	18	992	959	1.35	--	--	--	--	--
29...	19	668	680	0.91	<0.010	0.510	0.070	0.60	0.30

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

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

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
15...	--	--	--	--	--	--	--	--	--	--
JAN										
20...	0.360	0.030	0.030	--	90	200	--	--	10	--
29...	0.230	0.080	0.080	--	10	270	--	--	28	2.0
FEB										
04...	0.210	0.040	0.040	--	13	500	--	--	11	0.8
11...	0.360	0.150	0.130	--	17	270	--	--	120	2.5
26...	0.200	0.100	0.130	--	28	330	--	--	--	--
MAR										
05...	0.210	0.060	0.060	--	19	330	--	--	14	1.6
12...	0.300	0.080	0.080	--	9	350	--	--	19	2.5
18...	--	--	--	--	7	330	--	--	20	1.8
26...	0.260	0.210	0.210	--	12	120	--	--	82	1.3
APR										
01...	0.230	0.120	0.130	--	12	150	--	--	8.1	0.8
06...	--	--	--	--	14	230	--	--	--	--
14...	--	--	--	--	<3	230	--	--	8.8	1.5
20...	0.270	0.130	0.120	--	9	340	--	--	25	2.0
27...	0.290	0.150	0.150	--	<3	320	--	--	18	2.3
MAY										
04...	0.230	0.160	0.140	--	33	240	--	--	15	1.8
21...	0.300	0.150	0.080	--	--	--	--	--	12	1.9
JUN										
01...	0.460	0.140	0.140	--	13	390	--	--	6.1	2.8
14...	0.130	0.100	0.090	--	<9	130	--	--	--	--
29...	0.260	0.110	0.110	3200	35	130	11	25	--	--
JUL										
15...	0.330	0.120	0.090	--	12	68	--	--	6.1	1.9
AUG										
03...	0.380	0.190	0.170	2400	17	42	8	18	5.5	1.5
25...	--	--	--	--	12	42	--	--	5.5	0.8
SEP										
07...	0.370	--	--	--	24	27	--	--	27	1.8
29...	0.260	0.120	0.110	--	8	140	--	--	--	1.7

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN					
20...	1310	254	11.5	53	36
29...	0945	192	9.0	102	53
FEB					
04...	1000	122	10.0	204	67
11...	0945	277	13.0	208	156
26...	0915	164	11.0	56	25
MAR					
05...	1100	174	15.5	89	42
12...	1000	158	17.0	146	62
18...	0945	189	17.5	84	43
26...	1000	383	16.0	40	41
APR					
01...	0845	374	17.5	32	32
06...	0945	318	16.5	56	48
14...	1015	229	16.0	74	46
20...	1000	243	16.5	85	56
27...	0915	266	18.0	103	74
MAY					
04...	1010	269	18.0	106	77
21...	1030	190	21.5	207	106
JUN					
01...	0945	164	21.5	208	92
14...	0945	200	23.0	247	133
29...	0945	229	23.0	217	134
JUL					
15...	0940	245	22.5	222	147
AUG					
03...	1020	258	26.5	174	121
25...	1105	310	23.0	186	156
SEP					
07...	1045	241	22.5	206	134
29...	0945	98	19.5	172	46

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1610	1560	2050	1800	2280	2180	3420	2830	3400	3320	3260	3140
2	1570	1470	2280	2040	2220	2180	3300	3190	3480	3400	3310	2980
3	1540	1450	2240	2000	2210	1980	3190	2880	3630	3460	3160	2850
4	1590	1540	2390	2240	2100	1950	3420	2910	3710	3620	3330	3030
5	1600	1520	2440	2260	2240	2100	3490	3420	3690	3410	3420	3320
6	1580	1530	2440	2260	2140	2050	3500	3410	3510	3400	3370	3080
7	1650	1570	2600	2260	2120	2040	3410	3130	3600	3400	3340	3120
8	1650	1580	2600	2520	2540	2110	3140	2930	3560	3300	3360	3260
9	1690	1590	2600	2530	2560	2470	3070	2920	3300	2930	3300	3040
10	1680	1600	2660	2510	2580	2520	3090	2970	3010	2610	3470	3050
11	1830	1650	2740	2630	2860	2440	3040	2980	2730	2620	3580	3260
12	1890	1830	2950	2740	2950	2440	3020	2950	3010	2730	3260	2900
13	1970	1880	2940	2840	2990	2900	2990	2700	3220	2980	2910	2700
14	2020	1960	2860	2390	3010	2920	2840	2670	3300	3220	3030	2690
15	2090	1980	2400	2340	2990	2920	2940	2690	3500	3290	3040	2810
16	2080	2010	2340	2240	2980	2810	2740	2510	3480	3310	2850	2510
17	2010	1940	2280	2100	2920	2790	2660	2480	3320	3200	2640	2310
18	1940	1890	2230	2070	3140	2920	2480	2270	3240	3020	2850	2640
19	1970	1900	2250	2220	3170	3070	2530	2400	3120	2990	2840	2460
20	1930	1770	2260	2220	3230	3070	2500	2340	2990	2880	2520	2400
21	1800	1760	2220	1890	3320	3230	2550	2450	2990	2890	2510	2460
22	1820	1770	2030	1840	3360	3050	2590	2510	3030	2900	2500	2400
23	1780	1710	2200	2030	3050	2970	2610	2530	2970	2870	2500	2380
24	1710	1640	2090	2040	3010	2900	2650	2590	3180	2910	2490	2360
25	1690	1640	2350	2080	2910	2810	2780	2650	3340	2880	2370	2150
26	1780	1690	2350	2320	2820	2790	3070	2770	3280	3170	2170	2060
27	1810	1760	2360	2170	2840	2790	3200	3010	3340	3120	2060	1830
28	1840	1810	2170	2120	2950	2830	3360	3190	3200	3120	2130	1830
29	1840	1810	2210	2150	2910	2870	3330	3250	---	---	2270	2130
30	1830	1780	2280	2200	2890	2860	3390	3250	---	---	2320	2270
31	1810	1770	---	---	2900	2860	3410	3360	---	---	2350	2180
MONTH	2090	1450	2950	1800	3360	1950	3500	2270	3710	2610	3580	1830

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2200	2060	2490	1680	1080	911	2500	2280	2070	1960	1370	1210
2	2340	2200	1740	1640	1580	917	2370	2160	2070	1830	1410	1280
3	2460	2290	2280	1620	1970	1580	2360	2260	1940	1770	1690	1330
4	2620	2450	2200	1980	1960	1650	2450	2260	2170	1940	1850	1610
5	2790	2620	2420	2180	2120	1960	2390	2260	2220	1950	1870	1510
6	2960	2780	2590	2420	2020	1900	2270	2190	2010	1880	1640	1510
7	2960	2800	2610	2450	1980	1810	2290	2160	1940	1720	1650	1470
8	2990	2810	2690	2540	1930	1770	2330	2200	1740	1640	1470	1410
9	3010	2900	2700	2460	2180	1920	2440	2300	1640	1500	1560	1390
10	3110	2860	2630	2360	2400	2170	2580	2440	1510	1400	1720	1560
11	3100	2900	2490	2340	2340	2160	2460	2130	1760	1490	1900	1580
12	2970	2880	3000	2420	2560	2300	2210	1950	1820	1760	1730	1390
13	3080	2890	3170	2930	2720	2430	1990	1920	1840	1800	1720	1550
14	3140	2950	2940	2450	2510	2300	2000	1870	1870	1760	1690	1520
15	3010	2570	2790	2470	2590	2370	1960	1890	1850	1770	1530	1390
16	2760	2210	2580	2440	2750	2500	1960	1790	1770	1530	1600	1390
17	2210	1800	2550	2440	2750	2480	2020	1860	1570	1450	1710	1600
18	2040	1860	2700	2540	2650	2530	2020	1370	1540	1400	1750	1710
19	1860	1710	2700	1900	2670	2380	1940	1890	1690	1540	1750	1670
20	1790	1680	2610	2050	2380	1950	2250	1920	1790	1610	1830	1710
21	1700	1530	2660	2560	2450	2270	2330	1890	1790	1650	2000	1820
22	1540	1440	2600	2340	2320	2230	1970	1800	1730	1500	2040	1970
23	1850	1510	2400	2260	2360	2260	1890	1790	1500	1420	2040	1890
24	2110	1850	2290	2200	2270	2170	1870	1790	1470	1390	1930	1860
25	2190	2090	2210	2100	2290	2120	1920	1780	1720	1470	1860	1660
26	2260	2170	2120	1940	2280	2140	1950	1820	1820	1700	1770	1190
27	2620	2230	1970	1780	2440	2190	1830	1650	1830	1580	1190	1020
28	2910	2590	1780	1350	2510	2400	1810	1730	1600	1390	1110	1050
29	2910	2350	1350	1130	2530	2410	1860	1770	1390	1150	1170	1110
30	2730	2430	1220	1140	2530	2260	1930	1690	1350	1250	1150	1090
31	---	---	1180	1040	---	---	1960	1650	1520	1210	---	---
MONTH	3140	1440	3170	1040	2750	911	2580	1370	2220	1150	2040	1020

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	26.5	20.5	18.5	15.5	11.5	8.0	9.5	7.5	11.0	8.5	14.5	11.5
2	24.0	18.5	19.5	16.5	10.0	8.0	8.5	6.0	11.5	9.0	15.5	12.5
3	22.5	17.5	18.5	16.0	11.5	8.5	7.5	5.0	11.5	10.5	16.5	14.0
4	22.5	16.5	17.5	14.5	10.5	8.0	7.0	5.0	12.5	10.0	17.0	14.5
5	23.5	17.0	17.5	15.0	10.0	7.0	6.5	5.5	14.5	12.0	17.5	14.5
6	23.5	17.5	17.5	15.0	10.5	8.5	7.5	6.0	15.0	12.5	18.5	15.5
7	24.0	17.5	17.0	15.0	11.5	10.0	10.0	7.5	14.5	13.0	19.5	16.0
8	23.5	18.0	16.0	14.5	11.5	9.5	11.0	9.0	14.5	14.0	20.5	17.5
9	23.0	17.5	14.5	12.5	11.0	10.5	10.5	9.0	14.0	13.0	20.0	18.0
10	24.5	17.0	13.0	10.5	13.5	11.0	11.0	9.5	14.5	12.5	19.5	17.0
11	24.5	18.0	12.5	9.5	13.0	11.5	10.5	8.5	14.5	13.0	19.5	16.5
12	24.5	18.0	13.0	9.5	11.5	9.5	9.0	7.5	14.0	12.5	19.5	16.5
13	24.0	17.5	13.5	10.0	10.0	8.5	11.0	7.5	14.0	12.0	20.5	17.5
14	23.0	17.0	13.5	10.0	9.0	8.0	11.5	10.0	13.0	11.0	21.0	18.5
15	21.5	15.5	14.0	11.0	9.0	7.5	11.5	10.5	13.0	10.5	20.0	17.5
16	21.5	16.0	14.5	12.0	8.5	7.5	11.5	10.0	12.0	11.0	19.0	17.5
17	21.5	16.0	15.5	12.5	9.0	7.5	11.0	10.5	12.0	11.5	20.0	17.5
18	22.0	16.5	14.5	12.0	8.5	6.5	12.0	10.5	13.0	12.0	20.0	17.0
19	22.0	16.0	12.5	11.0	7.5	5.5	11.5	11.0	14.0	12.0	19.5	17.0
20	22.5	17.0	12.0	9.5	8.5	6.0	12.0	11.0	13.5	12.0	20.0	17.5
21	23.0	19.0	10.5	8.5	8.5	6.0	13.0	11.5	14.0	11.5	20.0	17.5
22	21.0	16.5	12.0	10.0	9.5	6.5	13.0	12.0	13.0	12.0	21.0	17.5
23	21.0	16.0	11.5	8.5	8.5	7.5	12.0	10.5	13.5	12.0	20.0	18.5
24	20.0	16.5	10.5	9.0	8.0	7.5	11.0	9.5	13.5	11.5	19.0	17.5
25	21.5	17.0	13.0	9.5	8.5	7.0	10.0	9.0	13.0	12.0	17.5	16.5
26	21.5	17.5	13.0	9.5	8.0	7.0	9.5	8.5	12.5	10.5	16.5	15.5
27	20.5	17.5	14.0	11.0	8.0	6.5	9.5	9.0	12.5	10.0	15.5	14.5
28	20.0	17.5	12.5	10.0	10.0	6.5	9.5	9.0	13.0	10.5	15.0	14.0
29	18.0	16.5	12.0	8.5	11.5	9.0	10.0	8.5	---	---	16.0	14.0
30	17.5	16.0	11.5	8.0	12.0	8.0	10.5	8.0	---	---	18.0	15.5
31	18.5	14.0	---	---	10.0	8.0	10.5	8.5	---	---	19.5	17.0
MONTH	26.5	14.0	19.5	8.0	13.5	5.5	13.0	5.0	15.0	8.5	21.0	11.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	19.0	17.5	22.5	18.5	24.5	20.5	29.0	24.5	29.5	25.5	25.5	22.5
2	18.0	16.0	23.0	20.0	24.5	20.5	29.5	26.0	30.0	26.5	26.5	23.0
3	18.5	16.5	22.0	20.0	23.5	20.5	28.0	24.5	28.5	26.5	27.0	23.5
4	19.0	17.5	20.0	18.0	21.5	20.0	28.5	24.5	28.5	24.5	27.0	23.5
5	19.0	17.0	21.0	17.0	21.5	19.0	29.0	25.0	28.0	24.0	26.0	22.5
6	19.0	16.0	22.0	19.0	20.0	18.5	30.0	26.0	27.5	24.0	25.0	21.5
7	20.0	17.0	21.5	18.5	20.5	17.5	31.5	27.0	27.5	24.0	25.0	21.5
8	21.0	18.0	20.5	17.5	22.5	18.5	30.5	27.0	27.0	23.5	26.0	22.5
9	20.0	18.5	22.5	17.5	24.0	20.5	30.5	26.0	27.0	23.5	26.5	22.5
10	19.0	17.5	24.0	20.0	25.5	22.0	30.0	26.0	26.5	24.0	26.5	23.0
11	18.0	16.0	22.0	19.0	24.5	21.5	30.5	26.0	25.5	22.5	26.0	22.5
12	16.5	14.0	21.0	17.0	23.5	20.0	30.0	26.5	25.5	22.0	24.5	21.5
13	17.5	14.0	21.0	16.5	25.0	20.5	29.5	26.0	26.0	22.0	23.5	20.5
14	19.0	15.5	22.0	17.5	25.5	22.0	28.0	24.5	25.0	21.5	24.0	20.0
15	20.0	17.5	21.5	19.0	26.0	22.5	27.0	24.0	23.5	20.5	23.0	19.5
16	19.0	17.0	23.5	19.0	25.0	22.0	27.0	23.5	24.5	20.5	23.0	19.5
17	18.0	16.0	23.5	21.0	26.0	20.5	27.5	23.5	24.5	21.5	21.5	19.0
18	18.5	15.0	24.0	20.5	28.5	23.5	29.0	24.5	26.0	22.5	21.5	17.5
19	19.0	15.5	25.0	21.0	30.0	25.5	28.5	24.5	26.0	22.5	23.0	18.5
20	20.0	16.5	25.5	22.0	29.5	25.5	27.5	23.5	25.0	21.5	23.0	20.0
21	21.0	18.0	24.0	20.5	27.0	24.0	26.5	23.0	25.5	22.0	23.0	19.5
22	20.5	18.0	24.5	20.5	24.0	21.5	27.0	23.0	27.0	22.5	23.0	19.0
23	19.0	17.5	25.0	21.5	23.5	20.5	29.0	24.5	27.0	24.0	22.5	18.5
24	19.5	16.0	23.5	21.0	25.0	20.0	29.5	25.5	26.5	24.0	22.0	18.5
25	21.0	17.5	23.0	21.0	28.0	23.0	29.0	25.5	25.5	22.5	22.5	18.5
26	20.5	18.5	23.5	20.5	30.0	25.5	28.5	25.0	26.0	22.0	23.0	19.0
27	20.0	17.0	22.5	20.5	29.0	25.5	28.5	24.5	26.0	22.5	23.5	19.5
28	21.5	17.5	23.0	20.0	27.0	24.0	27.5	24.0	26.5	23.5	23.5	19.5
29	22.0	19.0	24.5	20.0	26.5	23.0	26.5	23.5	26.5	23.5	24.0	20.0
30	22.0	19.5	23.0	21.5	27.0	23.5	27.0	23.0	25.5	23.0	24.5	20.5
31	---	---	24.5	21.0	---	---	28.0	24.0	25.0	22.0	---	---
MONTH	22.0	14.0	25.5	16.5	30.0	17.5	31.5	23.0	30.0	20.5	27.0	17.5

11262900 MUD SLOUGH NEAR GUSTINE, CA

LOCATION.--Lat 37°15'45", long 120°54'20", in SE 1/4 SE 1/4 sec.6, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, Kesterson National Wildlife Refuge, on right bank at footbridge 400 ft northwest of terminus of San Luis Drain and 5.2 mi east of Gustine.
DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 70 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated discharge and those less than 1.0 ft^3/s, which are poor.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 570 ft^3/s, Mar. 16, 1986; minimum daily, 0.01 ft^3/s, Sept. 24, 1991.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 482 ft^3/s, Jan. 20, gage height, 9.24 ft; minimum daily, 0.67 ft^3/s, Oct. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	11	3.4	26	101	390	185	11	66	15	12	12
2	4.5	24	3.4	12	90	398	187	16	50	15	8.8	7.4
3	2.4	14	2.6	9.2	79	376	164	19	30	15	13	6.5
4	.83	9.6	5.1	7.3	56	289	125	11	23	e14	26	7.8
5	.70	7.6	4.4	5.6	40	221	111	9.3	26	e13	13	9.1
6	.67	7.1	20	6.8	25	188	121	8.7	26	e12	4.7	9.1
7	1.7	6.3	28	17	19	132	164	8.1	36	e11	7.0	6.9
8	4.2	6.1	38	22	69	102	129	7.1	41	12	5.0	5.9
9	2.5	6.0	34	28	118	76	73	6.5	31	14	3.6	4.5
10	2.1	6.1	27	46	189	51	64	5.7	30	17	1.3	3.6
11	2.2	5.6	32	58	274	44	63	4.9	21	17	1.4	3.8
12	2.5	5.0	34	71	297	40	51	4.5	13	21	1.8	4.9
13	2.6	4.8	41	121	300	37	47	3.8	15	24	6.0	7.7
14	2.6	4.5	34	201	290	37	46	3.1	38	21	4.1	15
15	2.4	7.4	22	305	237	34	53	6.1	40	30	24	14
16	2.4	21	16	370	154	28	48	4.0	23	31	18	9.9
17	2.2	25	14	372	116	33	51	4.0	8.7	16	15	8.1
18	1.9	26	9.8	431	114	48	42	5.2	4.3	10	13	8.1
19	2.0	22	9.8	466	117	45	31	4.8	6.6	8.7	14	8.1
20	2.1	14	8.9	475	123	36	27	5.5	7.7	7.8	11	7.7
21	4.7	17	7.6	458	130	13	26	6.4	8.6	5.0	12	3.9
22	11	13	6.7	447	197	8.4	25	5.9	10	3.9	12	3.4
23	5.8	7.3	15	434	274	6.1	24	4.1	16	2.7	14	6.0
24	3.0	3.7	32	417	288	12	28	3.0	20	1.7	16	6.8
25	2.9	3.1	32	401	279	25	25	5.5	32	1.7	3.1	5.0
26	3.9	3.0	33	343	288	38	24	13	34	1.8	2.1	4.8
27	4.1	3.5	34	271	315	64	22	22	25	2.1	4.2	4.5
28	3.3	4.0	34	222	378	102	19	41	17	2.6	7.0	4.6
29	4.5	4.2	38	196	---	114	17	57	e15	4.6	4.4	4.2
30	4.0	3.9	39	147	---	97	14	71	e17	6.9	8.3	5.7
31	5.6	---	39	117	---	138	---	65	---	11	11	---
TOTAL	104.00	295.8	697.7	6502.9	4957	3222.5	2006	442.2	730.9	368.5	296.8	209.0
MEAN	3.35	9.86	22.5	210	177	104	66.9	14.3	24.4	11.9	9.57	6.97
MAX	11	26	41	475	378	398	187	71	66	31	26	15
MIN	.67	3.0	2.6	5.6	19	6.1	14	3.0	4.3	1.7	1.3	3.4
AC-FT	206	587	1380	12900	9830	6390	3980	877	1450	731	589	415

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

MEAN	23.0	29.8	41.2	70.6	90.4	106	69.5	29.7	38.1	34.8	33.7	10.8
MAX	57.1	68.5	111	210	177	335	229	109	130	92.7	100	21.6
(WY)	1990	1988	1986	1993	1993	1986	1986	1986	1986	1986	1987	1991
MIN	3.35	7.53	5.86	6.17	6.96	28.0	19.2	1.76	7.78	10.9	6.02	2.67
(WY)	1993	1991	1991	1991	1991	1990	1992	1992	1989	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1986 - 1993	
ANNUAL TOTAL	8149.08		19833.30			
ANNUAL MEAN	22.3		54.3		47.9	
HIGHEST ANNUAL MEAN					120	1986
LOWEST ANNUAL MEAN					17.6	1991
HIGHEST DAILY MEAN	177	Feb 17	475	Jan 20	570	Mar 16 1986
LOWEST DAILY MEAN	.06	Sep 24	.67	Oct 6	.01	Sep 24 1991
ANNUAL SEVEN-DAY MINIMUM	.12	Sep 23	1.8	Oct 4	.12	Sep 23 1992
INSTANTANEOUS PEAK FLOW			482	Jan 20	unknown	Mar 16 1986
INSTANTANEOUS PEAK STAGE			9.24	Jan 20	unknown	Mar 16 1986
ANNUAL RUNOFF (AC-FT)	16160		39340		34730	
10 PERCENT EXCEEDS	57		186		119	
50 PERCENT EXCEEDS	10		15		25	
90 PERCENT EXCEEDS	1.4		3.4		4.0	

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
CHEMICAL DATA: October 1992 to September 1993.
SPECIFIC CONDUCTANCE: Water year 1989 to current year.
WATER TEMPERATURE: Water year 1989 to current year.
SEDIMENT DATA: Water year 1988 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Maximum and minimum values are affected by the drainage of holding ponds located immediately upstream from the station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 15,900 microsiemens, Feb. 25, 1991; minimum recorded, 560 microsiemens, Oct. 5, 6, 1990.
WATER TEMPERATURE: Maximum recorded, 34.5°C, Aug. 6, 1990; minimum recorded, 2.5°C, Dec. 24, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 7,330 microsiemens, May 11; minimum recorded, 780 microsiemens, Sept. 14.
WATER TEMPERATURE: Maximum recorded, 33.0°C, June 19, 26; minimum recorded, 6.0°C, Jan. 3, 4.

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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)	SODIUM, DIS-SOLVED (MG/L AS NA)
JAN , 1993												
21...	0845	458	1130	7.1	11.0	769	8.3	75	240	43	33	140
FEB												
26...	0815	286	1280	7.4	10.0	760	9.2	82	250	47	33	160
MAR												
30...	0845	97	2730	7.5	16.0	767	8.0	81	550	120	61	390
APR												
29...	0845	18	4110	8.1	18.5	764	6.1	66	650	100	97	640
MAY												
26...	0945	13	1830	8.0	22.0	760	8.5	98	450	81	59	350
JUN												
22...	1015	9.2	2550	8.3	24.0	764	9.9	118	440	73	62	380
JUL												
27...	1015	2.1	3810	8.0	24.0	761	7.0	84	660	100	99	610
AUG												
26...	1130	2.1	4670	7.8	22.0	763	9.6	111	950	150	140	820
SEP												
30...	1515	6.6	1750	8.1	25.5	762	18.0	220	320	58	42	240

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

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

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
JAN											
21...	--	4	--	261	0	214	170	130	0.30	14	620
FEB											
26...	--	4	--	264	0	216	220	150	0.20	16	758
MAR											
30...	60	7	5.9	305	0	250	570	340	0.30	13	1660
APR											
29...	68	11	6.0	517	0	424	860	560	1.0	11	2720
MAY											
26...	63	7	4.5	236	0	193	540	320	0.30	20	1510
JUN											
22...	65	8	5.1	246	2	206	530	400	0.30	17	1670
JUL											
27...	67	10	3.6	310	0	254	890	590	0.70	16	2580
AUG											
26...	65	12	3.6	476	0	390	1300	740	0.40	22	3680
SEP											
30...	62	6	2.7	217	0	178	380	230	0.20	15	1070

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
JAN										
21...	--	--	0.040	0.770	0.270	1.4	1.0	0.410	0.220	0.200
FEB										
26...	--	--	0.040	1.10	0.480	1.5	1.2	0.380	0.210	0.240
MAR										
30...	1650	2.26	0.090	<0.050	0.110	1.3	1.3	0.370	0.280	0.270
APR										
29...	2540	3.70	0.020	0.130	0.090	1.4	1.2	0.470	0.310	0.290
MAY										
26...	1500	2.05	0.080	1.60	0.100	0.80	0.50	0.220	0.130	0.130
JUN										
22...	1590	2.27	0.010	0.200	0.030	1.0	0.80	0.310	0.210	0.190
JUL										
27...	2470	3.51	<0.010	<0.050	0.040	0.70	0.40	0.130	0.050	0.030
AUG										
26...	3420	5.00	<0.010	<0.050	0.180	0.60	0.40	0.080	0.050	0.050
SEP										
30...	1070	1.46	<0.010	0.096	0.030	0.80	0.30	0.200	0.050	0.030

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

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

DATE	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
JAN							
21...	1000	55	18	4	2	--	--
FEB							
26...	1200	31	38	3	2	--	--
MAR							
30...	3000	19	190	8	18	11	2.2
APR							
29...	3900	10	720	--	--	14	1.6
MAY							
26...	2000	18	660	9	5	6.7	2.7
JUN							
22...	2200	12	540	9	2	10	4.5
JUL							
27...	3100	14	1400	12	<1	6.2	1.3
AUG							
26...	4100	<3	1300	11	<1	--	--
SEP							
30...	1200	--	220	4	2	9.4	1.8

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
FEB					
26...	0815	286	10.0	157	121
MAR					
30...	0845	97	16.0	41	11
APR					
29...	0845	18	18.5	43	2.1
MAY					
26...	0945	13	22.0	64	2.2
JUN					
22...	1015	9.2	24.0	111	2.8
JUL					
27...	1015	2.1	24.0	45	0.26
SEP					
30...	1515	6.6	25.5	160	2.9

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	870	790	2680	2220	5040	4370	4350	3980	2100	1940	1100	930
2	840	790	2600	2340	4860	4140	4110	3950	2120	2030	1010	960
3	880	830	2930	2600	4360	3240	4140	4050	2410	2040	1200	1010
4	890	870	3080	2910	4420	3290	4190	4030	2440	2320	1400	1200
5	920	870	3240	3080	4200	2010	4320	4090	3400	2320	1470	1400
6	930	880	3350	3200	2290	1960	4260	3110	3370	2870	1750	1460
7	930	870	3580	3340	2570	2070	3420	2660	3290	3090	2030	1750
8	1020	840	3760	3550	3130	2540	3150	2670	3320	1910	2310	2030
9	950	860	3910	3670	3490	3020	2750	2050	1990	1650	2740	2310
10	970	860	3960	3580	3580	3040	2500	1990	1920	1160	2900	2720
11	970	900	4150	3390	3140	2160	2140	1710	1440	1260	3070	2890
12	1010	940	4320	4080	2170	1980	1920	1450	1450	1380	3100	2940
13	1070	980	4310	4060	2490	2010	1670	1290	1430	1380	3040	2790
14	1150	1050	4320	2980	2860	2150	1400	1220	1390	1300	3090	2680
15	1230	1080	4040	2620	2900	2530	1350	1120	1880	1300	2950	2690
16	1230	1180	4140	3780	3400	2570	1390	1240	2180	1880	2960	2660
17	1400	1180	4240	3900	3630	3210	1440	1220	2240	2120	3040	2670
18	1490	1380	4380	4000	3680	3400	1250	1060	2210	2130	3010	2770
19	1620	1450	4370	3940	4240	3390	1230	1120	2290	2170	3080	2690
20	1670	1600	4220	4070	4290	3740	1230	1130	2380	2170	3530	2940
21	1980	1190	4090	3540	4540	4140	1140	1120	2360	2200	3910	3210
22	1430	1190	4440	3380	4610	3120	1140	1120	2200	1210	4190	3260
23	2170	1430	5150	4420	4360	3260	1140	1110	1350	1260	4350	3400
24	2780	2170	4940	4580	4200	3910	1110	1080	1390	1290	3920	2810
25	3010	2740	5060	4530	4450	3920	1090	1060	1340	1280	3530	2760
26	3030	2800	4960	4370	4580	4090	1350	1080	1320	1260	3640	2940
27	3280	2950	4860	4260	4570	4020	1460	1350	1260	1030	3320	2490
28	3200	3020	4840	4130	4660	4000	1500	1450	1210	1100	2780	2350
29	3460	2830	4780	4260	4870	4470	1730	1440	---	---	2740	2370
30	3340	2840	4750	4160	4660	4410	1900	1710	---	---	2890	2550
31	2860	2230	---	---	4510	4270	1950	1900	---	---	2870	1830
MONTH	3460	790	5150	2220	5040	1960	4350	1060	3400	1030	4350	930

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1970	1760	5470	5130	1920	1650	1850	1760	1860	1680	1330	890
2	2050	1730	5460	4160	2450	1920	1820	1750	1750	1680	1420	1330
3	2330	1960	5320	4850	2470	1800	1790	1710	1750	1140	1570	1110
4	2420	2190	5840	5250	2500	2330	---	---	1150	850	1400	1040
5	2490	2170	5850	5600	2840	2500	---	---	2180	1060	1320	1020
6	2460	2220	5920	5550	2800	2020	---	---	2540	2180	1620	1230
7	2400	1460	6330	5060	2020	1870	---	---	2210	1930	1720	1300
8	2550	1690	6410	5540	2160	1820	2090	1730	2840	2120	1850	1710
9	2750	2550	6800	5870	2280	2060	2150	1840	2990	2470	2420	1840
10	3010	2750	7300	5600	2180	2020	1990	1840	5460	2990	2790	2320
11	3170	3010	7330	6450	2660	2180	2000	1890	5450	3550	2500	2150
12	3220	3090	7010	6460	2960	2650	1950	1860	5700	3980	2880	1970
13	3190	3080	6840	6330	2970	2190	2070	1750	3980	1740	2160	960
14	3330	2620	6970	5940	2190	1390	2320	1770	3200	2370	960	780
15	2650	2580	6810	5000	1660	1370	2890	2310	3200	820	1260	820
16	2770	2590	6270	5390	2530	1660	2750	2620	1290	1050	1500	1220
17	3480	2760	6290	4640	3340	2530	3020	2640	1820	1180	1800	1490
18	3050	2820	4640	4090	3930	3340	3250	3020	1490	1200	1850	1740
19	3120	2880	4610	4290	3920	2700	3290	3130	1390	1130	1780	1470
20	3340	2900	4430	3560	3460	2760	3480	3070	1320	1100	1500	1410
21	3600	3260	3810	3350	2780	2560	3930	3480	1300	970	2750	1470
22	3550	3360	3840	3290	2620	2520	4190	3930	1200	1040	3060	2690
23	3440	3140	4660	3630	2630	2310	4610	4170	1130	680	2790	900
24	3360	3130	4860	4240	2570	2080	5660	4610	1000	730	1620	1190
25	3480	3100	4840	3090	2080	1740	5880	4770	3240	1000	2180	1620
26	3570	3110	3660	1800	1920	1750	5470	3740	5240	2530	2120	1930
27	3750	3330	1840	1200	2070	1820	3880	3430	3450	1420	2380	2080
28	4080	3600	1800	870	1880	1790	3430	3070	1650	1170	2560	2180
29	4610	3880	2050	1520	---	---	3070	2550	2000	1200	3280	2260
30	5130	4580	1800	1550	---	---	2550	2180	1760	890	2880	1710
31	---	---	1700	1530	---	---	2180	1850	1740	870	---	---
MONTH	5130	1460	7330	870	---	---	---	---	5700	680	3280	780

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	26.5	21.0	20.5	15.5	13.5	9.0	9.5	8.5	12.0	8.0	13.5	10.5
2	24.5	18.5	21.0	16.0	11.5	8.5	10.0	7.0	12.5	9.0	14.0	11.5
3	23.5	17.5	18.0	15.0	14.0	10.0	9.5	6.0	12.0	10.5	15.5	12.5
4	23.0	17.0	18.5	13.5	12.5	9.0	9.5	6.0	13.5	10.0	16.5	13.0
5	24.0	17.0	19.0	14.5	11.0	7.0	9.0	7.5	16.0	12.0	18.0	14.0
6	24.0	17.5	19.0	14.0	10.5	8.5	9.0	8.0	16.5	13.0	19.5	14.5
7	24.0	17.5	18.0	14.0	11.0	9.5	10.5	8.5	15.5	13.0	21.5	16.5
8	24.0	17.5	16.5	13.5	11.0	9.0	12.0	9.5	14.5	13.5	22.5	17.5
9	23.5	17.0	14.5	11.0	11.5	10.0	11.0	8.5	14.5	12.5	21.0	17.5
10	24.0	17.5	13.5	9.5	14.0	11.0	11.5	9.5	13.5	12.0	22.0	16.5
11	24.0	18.5	14.0	8.5	13.5	11.0	10.5	8.0	14.0	12.5	21.5	16.0
12	24.5	18.5	14.5	9.0	11.5	9.0	8.5	7.0	13.5	11.5	22.0	16.5
13	24.0	17.5	15.0	9.5	10.0	7.5	11.0	7.0	13.0	11.0	23.5	17.5
14	23.0	17.0	15.5	9.5	10.0	7.5	12.0	11.0	12.5	11.0	22.0	18.0
15	22.0	16.0	14.0	10.0	10.5	7.5	11.0	10.0	13.0	10.5	22.0	17.0
16	22.0	16.0	14.5	11.5	10.0	8.0	11.5	10.0	12.5	10.5	20.5	17.0
17	22.0	15.5	15.5	11.5	11.0	8.5	11.0	10.0	12.0	11.0	22.0	17.5
18	22.0	16.0	14.5	11.0	10.5	7.0	11.0	10.0	13.5	11.5	22.0	15.5
19	22.0	15.5	13.0	11.0	10.5	6.5	11.0	10.0	14.5	12.0	22.0	16.0
20	23.0	17.0	12.0	9.5	12.0	7.5	11.5	10.5	14.0	11.5	22.0	16.5
21	23.5	19.0	11.5	8.5	11.5	7.5	12.5	11.0	14.5	11.0	22.5	15.5
22	22.5	17.0	13.0	10.0	10.0	7.5	12.5	11.0	13.0	11.5	24.0	16.0
23	22.0	15.5	12.5	8.5	8.0	7.0	11.0	9.0	12.5	11.0	20.5	17.0
24	21.5	16.0	12.0	9.0	8.0	7.0	10.0	8.5	13.0	10.5	19.5	16.0
25	22.0	17.0	14.5	10.5	8.0	7.0	9.5	8.5	12.5	11.0	17.5	15.5
26	22.0	17.0	14.0	10.0	7.5	7.0	9.0	7.5	11.5	9.5	16.5	15.0
27	20.5	17.5	15.5	12.0	7.5	6.5	9.5	8.5	11.5	9.0	16.0	14.5
28	20.5	17.0	13.5	10.5	9.0	6.5	9.0	8.5	12.5	10.0	15.0	13.5
29	18.0	16.0	13.5	9.0	10.0	8.0	10.5	8.0	---	---	17.0	14.0
30	18.0	16.0	13.0	8.5	10.5	7.5	11.0	8.0	---	---	19.5	16.0
31	20.0	14.0	---	---	9.5	7.5	11.0	8.0	---	---	21.0	17.5
MONTH	26.5	14.0	21.0	8.5	14.0	6.5	12.5	6.0	16.5	8.0	24.0	10.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	19.0	16.5	25.0	16.5	25.0	21.0	31.5	21.0	32.0	22.0	29.0	22.0
2	19.0	15.5	25.0	18.0	25.5	20.0	32.0	22.0	32.0	23.5	30.0	21.0
3	19.5	16.5	24.5	18.5	26.0	20.5	30.0	20.5	28.0	22.5	29.5	22.0
4	20.0	17.0	22.5	15.5	22.5	19.5	---	21.0	28.5	21.5	30.0	22.0
5	19.0	16.5	25.0	15.0	24.0	18.5	---	---	30.5	22.5	29.5	22.0
6	20.0	15.0	25.5	18.0	20.0	17.5	---	---	30.0	20.0	28.5	20.5
7	20.0	17.0	24.5	16.0	23.5	17.5	32.0	---	30.5	20.0	30.0	20.5
8	22.0	17.5	22.5	15.5	25.5	18.0	32.0	21.0	30.0	20.0	29.5	19.5
9	20.5	18.0	27.5	15.0	27.0	19.5	32.0	21.0	30.0	20.0	29.0	19.5
10	20.0	17.0	27.0	17.5	28.0	21.5	31.5	22.0	29.0	20.0	28.5	19.5
11	18.5	15.5	22.5	16.5	27.0	19.0	31.5	22.0	28.0	18.5	28.5	19.5
12	18.0	13.5	24.5	14.0	26.5	17.5	30.0	22.5	28.5	19.0	26.5	17.5
13	20.0	13.5	25.5	13.5	28.0	18.0	29.5	22.0	30.0	20.0	25.5	18.0
14	22.0	15.5	26.0	15.0	28.0	22.0	29.0	21.0	29.0	18.5	26.0	19.0
15	23.0	17.5	25.0	16.5	28.0	22.5	27.0	19.5	25.0	18.5	25.5	18.5
16	20.5	17.0	28.0	16.5	27.5	21.5	27.5	21.0	26.5	19.5	25.5	17.5
17	18.5	16.5	26.5	17.5	30.0	18.5	29.0	20.0	27.0	19.5	22.5	16.5
18	20.0	14.5	28.0	18.0	32.5	20.5	30.0	19.5	28.5	20.5	25.0	15.5
19	21.5	14.5	29.5	18.5	33.0	22.0	30.0	20.0	28.0	21.5	25.5	17.0
20	23.5	16.0	28.0	20.0	32.5	22.5	29.5	19.0	26.5	19.5	25.0	17.5
21	23.5	18.0	27.5	18.0	29.0	22.5	28.5	18.0	27.5	20.5	25.0	16.5
22	23.0	17.5	27.5	17.5	27.5	19.5	29.5	19.0	29.0	22.0	24.5	15.5
23	20.0	16.5	28.5	18.5	26.0	18.5	31.5	21.0	30.0	23.0	25.0	15.5
24	22.0	16.0	27.0	17.5	28.5	18.5	30.5	21.0	28.0	22.0	25.5	16.0
25	24.5	17.0	24.5	19.0	31.5	21.0	31.5	21.0	26.5	19.0	25.5	15.5
26	22.5	18.0	26.5	18.5	33.0	23.0	30.0	20.0	28.0	18.5	26.5	16.0
27	23.0	16.0	23.0	19.0	32.5	23.0	31.5	20.0	27.5	20.0	26.0	16.5
28	24.5	16.5	25.0	19.0	30.5	21.5	30.5	20.0	29.0	20.0	26.0	16.5
29	25.0	18.0	25.0	19.5	---	21.0	30.0	19.5	30.0	20.5	26.0	17.0
30	24.0	17.5	24.0	21.5	29.0	---	30.0	19.0	29.5	21.5	26.5	18.0
31	---	---	24.5	21.0	---	---	31.5	21.0	28.5	20.5	---	---
MONTH	25.0	13.5	29.5	13.5	---	---	---	---	32.0	18.5	30.0	15.5

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA
(Hydrologic Benchmark Station)

LOCATION.--Lat 37°43'54", long 119°33'28", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on right bank 10 ft downstream from footbridge at Happy Isles, 0.4 mi downstream from Illilouette Creek, and 2.0 mi southeast of Yosemite National Park Headquarters.

DRAINAGE AREA.--181 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1915 to current year.

REVISED RECORDS.--WSP 1215: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 4,016.58 ft above sea level. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft lower.

REMARKS.--Records good except for discharges below 10 ft^3/s, which are fair. Up to 5 ft^3/s can be diverted upstream from station for Yosemite Valley water supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft^3/s, Dec. 23, 1955, gage height, 12.73 ft, from rating curve extended above 4,000 ft^3/s on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum daily, 1.5 ft^3/s, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 31	1430	*3,140	*7.05				

Minimum daily, 6.3 ft^3/s, Oct. 11, 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	48	21	e60	e126	100	494	1760	1930	1580	366	83
2	7.8	58	19	e57	e124	103	476	1850	1520	1670	378	79
3	7.8	70	18	e53	e126	118	517	1710	1320	1550	402	76
4	7.8	76	17	e52	e122	122	556	1380	1370	1390	380	76
5	7.7	81	16	e57	e137	130	500	1210	1280	1480	364	82
6	7.7	80	18	e66	e136	156	415	1370	1010	1600	336	84
7	7.7	83	20	e117	e136	188	403	1200	890	1510	309	79
8	7.5	80	24	126	e166	213	465	1250	961	1390	270	72
9	7.5	67	35	113	e180	226	525	1490	1160	1270	230	65
10	7.4	53	36	103	e157	212	531	1910	1730	1130	206	60
11	6.3	46	40	91	e152	229	531	2140	2080	1070	203	57
12	6.3	42	41	92	e139	254	521	2060	1980	1110	192	55
13	6.7	39	44	106	e133	e352	478	1660	2130	918	165	53
14	7.2	37	45	119	e130	e410	463	1600	2400	787	153	50
15	7.2	35	47	e162	e127	e388	539	1600	2530	682	151	46
16	7.0	36	47	e189	e126	e294	586	1750	2380	564	148	43
17	7.2	35	47	e176	e124	e935	538	2270	2090	480	131	41
18	7.2	33	43	e170	107	e955	485	2590	2060	472	121	40
19	7.2	30	45	e175	136	e745	460	2690	2280	486	116	37
20	7.2	28	46	e170	127	e685	573	2660	2490	482	115	34
21	7.2	27	45	e218	129	e735	734	2580	2130	483	109	30
22	7.2	30	44	e334	121	e825	839	2380	1680	454	101	28
23	7.2	30	45	e259	123	e915	770	2500	1720	496	99	26
24	7.2	27	46	e209	124	e975	650	2700	1950	566	109	24
25	7.2	27	47	e183	113	e805	725	2730	2170	553	116	22
26	7.2	25	47	e167	113	e675	904	2100	2260	572	111	21
27	7.6	26	46	e160	106	e503	1030	1730	2260	508	101	20
28	8.1	25	47	e161	102	e417	1160	1490	2090	507	91	18
29	20	20	e59	e151	---	e341	1390	1400	1700	429	88	16
30	e74	18	e48	e142	---	e387	1610	1710	1510	390	86	16
31	54	---	e51	e135	---	e489	---	2440	---	363	84	---
TOTAL	352.9	1312	1194	4373	3642	13882	19868	59910	55061	26942	5831	1433
MEAN	11.4	43.7	38.5	141	130	448	662	1933	1835	869	188	47.8
MAX	74	83	59	334	180	975	1610	2730	2530	1670	402	84
MIN	6.3	18	16	52	102	100	403	1200	890	363	84	16
AC-FT	700	2600	2370	8670	7220	27530	39410	118800	109200	53440	11570	2840

e Estimated.

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.3	61.8	84.9	78.8	104	182	535	1253	1213	451	108	42.6
MAX	267	818	736	366	401	575	1007	2675	3317	2101	775	360
(WY)	1919	1951	1965	1980	1986	1986	1926	1969	1983	1983	1983	1978
MIN	2.58	4.89	4.48	6.56	8.89	25.2	173	231	120	28.6	7.79	3.18
(WY)	1956	1933	1977	1991	1991	1977	1975	1977	1924	1931	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1916 - 1993	
ANNUAL TOTAL	72685.9		193800.9			
ANNUAL MEAN	199		531		347	
HIGHEST ANNUAL MEAN					802	1983
LOWEST ANNUAL MEAN					84.9	1977
HIGHEST DAILY MEAN	1260	Apr 29	2730	May 25	7480	Dec 23 1955
LOWEST DAILY MEAN	6.3	Oct 11	6.3	Oct 11	1.5	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	6.8	Oct 11	6.8	Oct 11	1.9	Oct 14 1964
INSTANTANEOUS PEAK FLOW			3140	May 31	9860	Dec 23 1955
INSTANTANEOUS PEAK STAGE			7.05	May 31	12.73	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	144200		384400		251100	
10 PERCENT EXCEEDS	667		1720		1120	
50 PERCENT EXCEEDS	59		148		97	
90 PERCENT EXCEEDS	7.8		19		11	

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.
CHEMICAL DATA: Water years 1968 to current year.
BIOLOGICAL DATA: Water years 1973-81.
WATER TEMPERATURE: Water years 1966-77, 1979 to current year (discontinued).
SEDIMENT DATA: Water years 1970-71, 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to September 1977, October 1978 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1977 and since October 1978.

REMARKS.--Water-quality samples were obtained 1.0 mi downstream of the gage at or below Clarks Bridge. Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 20.0°C, July 15, 1979, July 13, 1990; minimum recorded, 0.0°C, on many days during winter period most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 18.5°C, Aug. 1; minimum recorded, 0.5°C, on many days during winter.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
18...	1210	31	36	7.1	4.5	0.30	658	11.2	100	K2	K2
JAN											
13...	1100	106	29	6.9	1.5	1.1	653	11.9	99	K17	K7
MAY											
26...	1200	2010	8	--	7.0	0.50	655	--	--	K1	<1
JUL											
14...	1215	829	9	6.7	11.5	0.20	658	9.8	105	<1	K4

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3
NOV										
18...	9	1	3.0	0.32	2.9	40	0.4	0.50	10	8
JAN										
13...	7	1	2.5	0.25	2.5	41	0.4	0.40	8	6
MAY										
26...	3	--	0.85	0.12	0.80	38	0.2	0.20	--	--
JUL										
14...	2	0	0.74	0.09	0.60	--	0.2	<0.10	3	3

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV										
18...	0.80	4.9	<0.10	7.1	19	25	0.03	<0.010	0.020	<0.050
JAN										
13...	0.70	4.4	<0.10	6.8	23	22	0.03	--	0.020	--
MAY										
26...	0.50	0.30	<0.10	4.6	7	12	0.01	--	<0.010	--
JUL										
14...	0.60	0.30	<0.10	3.1	9	--	--	--	<0.010	--

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

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

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)
NOV										
18...	<0.050	0.020	0.010	<0.20	0.020	<0.010	<0.010	<0.010	<10	3
JAN										
13...	0.081	--	0.010	<0.20	<0.010	<0.010	--	<0.010	20	3
MAY										
26...	<0.050	--	0.050	<0.20	<0.010	<0.010	--	<0.010	70	<2
JUL										
14...	<0.050	--	0.010	<0.20	<0.010	<0.010	--	<0.010	10	<2

DATE	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)
NOV										
18...	<3	110	9	1	<10	<1	<1	<1.0	53	<6
JAN										
13...	<3	58	8	1	<10	<1	<1	<1.0	46	<6
MAY										
26...	<3	24	<4	2	<10	<1	<1	<1.0	10	<6
JUL										
14...	<3	20	<4	2	<10	<1	<1	<1.0	8	<6

DATE	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	ALPHA RADIO. WATER DISS AS TH-230 (PCI/L)	ALPHA SED SUSP DRY WGH AS TH-230 (PCI/L)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
NOV										
18...	--	--	--	--	--	--	--	--	--	--
JAN										
13...	2.0	0.9	1.3	<0.6	1.7	0.6	1.7	0.6	0.66	1.3
MAY										
26...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	1.0	<0.6	<0.6	<0.6	0.6	<0.6	0.7	<0.6	<0.02	0.44

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

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
18...*	1155	1.10	9.00	36	7.1	4.5	658	11.2	100	2	--
18...*	1200	1.30	16.0	36	7.2	4.5	658	11.2	100	5	--
18...*	1205	1.20	20.0	36	7.1	4.5	658	11.2	100	4	--
18...*	1209	1.10	26.0	36	7.0	4.5	658	11.2	100	4	--
18...*	1215	0.80	34.0	36	7.0	4.5	658	11.2	100	6	--
MAY											
26...*	1130	5.50	18.0	8	--	7.0	655	--	--	2	--
26...*	1145	6.00	33.0	7	--	7.0	655	--	--	2	--
26...*	1201	5.90	45.0	7	--	7.0	655	--	--	10	20
26...*	1215	6.20	57.0	7	--	7.0	655	--	--	15	29
26...*	1230	4.90	72.0	7	--	7.0	655	--	--	12	20

* Instantaneous streamflow at the time of cross-sectional measurements: Nov. 18, 31 ft^3/s; May 26, 2,010 ft^3/s.

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
18...	1030	34	4.5	4	0.37	82
JAN						
13...	1100	106	1.5	4	1.1	54
MAY						
26...	1100	2070	7.0	8	43	24
JUL						
14...	1040	840	11.5	2	4.5	50

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	10.5	8.0	6.0	3.0	2.0	1.0	.5	1.0	.5	1.5	.5
2	12.0	10.0	9.0	7.0	3.0	2.5	1.0	.5	1.5	1.0	3.5	1.5
3	11.0	9.0	9.0	7.0	2.5	2.0	.5	.5	2.5	1.5	4.5	3.0
4	11.0	9.0	9.0	6.5	2.5	2.0	.5	.5	3.5	2.0	4.5	2.0
5	11.5	9.0	8.5	6.5	2.5	2.0	.5	.5	4.0	3.0	5.5	3.0
6	11.5	9.0	8.0	6.0	2.5	1.5	1.0	.5	4.0	2.0	5.5	3.0
7	11.5	9.0	8.0	6.0	2.0	1.0	1.0	.5	4.5	2.5	5.5	3.0
8	11.0	9.0	7.5	6.0	2.0	1.0	1.0	1.0	4.5	2.5	5.0	2.5
9	11.0	9.0	6.5	3.5	2.0	1.5	1.5	1.0	3.0	2.0	5.5	3.0
10	11.0	9.0	4.5	2.5	2.5	2.0	1.5	.5	3.0	1.0	6.0	3.0
11	11.5	9.5	3.5	2.5	2.0	1.0	.5	.5	3.5	2.0	5.5	2.5
12	11.0	9.5	4.5	3.0	1.5	1.0	.5	.5	2.0	.5	6.0	3.0
13	11.0	9.0	5.5	4.5	1.0	1.0	2.0	.5	1.5	.5	6.5	4.0
14	10.5	8.5	6.0	5.0	1.5	1.0	2.0	.5	1.5	.5	5.5	4.0
15	10.5	8.5	6.0	5.0	1.0	1.0	2.5	1.0	1.5	1.0	6.0	2.5
16	10.0	8.5	6.0	4.5	1.5	1.0	2.5	2.0	1.5	1.0	7.0	4.5
17	10.5	9.0	6.0	5.0	1.5	.5	2.5	1.5	3.0	1.5	6.0	3.5
18	10.5	9.0	5.0	4.0	1.0	.5	2.0	1.0	3.5	3.0	6.0	2.5
19	10.5	8.5	4.5	3.5	.5	.5	1.5	1.0	3.5	1.5	6.5	2.5
20	10.0	8.5	4.0	2.5	.5	.5	3.0	1.5	1.5	.5	7.0	3.0
21	10.0	9.0	3.0	2.5	.5	.5	3.5	2.5	1.5	.5	7.0	3.5
22	10.0	8.5	5.0	3.0	1.0	.5	3.5	1.5	1.5	.5	7.0	3.5
23	9.5	8.0	5.0	3.0	1.0	1.0	2.5	1.0	1.5	.5	7.0	4.0
24	9.5	8.5	3.0	2.5	1.0	1.0	2.5	1.5	1.0	.5	6.0	4.0
25	10.0	9.0	4.0	3.0	1.0	1.0	3.0	1.5	.5	.5	4.5	3.0
26	10.0	9.0	4.0	3.5	1.0	1.0	3.0	1.5	1.0	.5	4.5	3.0
27	10.0	9.0	5.5	4.0	1.0	.5	3.0	1.5	1.0	.5	5.0	3.0
28	10.0	9.0	5.5	3.0	1.5	1.0	2.5	1.5	1.0	.5	4.5	3.0
29	9.5	8.0	3.0	2.0	1.0	.5	2.0	1.0	---	---	7.0	3.0
30	8.0	6.0	2.5	2.0	1.0	.5	1.5	1.0	---	---	7.0	4.0
31	6.5	5.0	---	---	1.0	.5	1.5	1.0	---	---	8.0	4.0
MONTH	12.5	5.0	9.0	2.0	3.0	.5	3.5	.5	4.5	.5	8.0	.5

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.0	4.0	9.0	4.0	10.0	5.5	14.0	10.0	18.5	14.0	---	---
2	7.5	3.0	9.0	5.0	9.0	6.0	13.0	10.0	18.0	15.0	---	---
3	7.5	4.0	7.5	5.0	10.0	5.0	13.0	9.0	17.5	15.0	---	---
4	6.5	4.5	7.5	3.5	8.5	6.5	14.0	10.0	---	---	---	---
5	4.5	3.5	9.0	4.0	6.5	5.0	15.0	11.0	---	---	---	---
6	6.0	2.0	7.5	5.5	6.0	4.5	15.0	11.5	---	---	---	---
7	7.5	3.0	8.5	3.5	10.0	5.5	15.0	11.5	---	---	---	---
8	7.5	3.0	9.5	3.5	11.5	6.0	15.0	11.0	---	---	---	---
9	7.0	4.0	10.0	5.0	12.5	7.0	14.5	11.0	---	---	---	---
10	7.0	3.5	9.5	5.5	12.0	8.0	15.0	10.5	---	---	---	---
11	6.5	2.5	9.0	5.5	11.5	7.0	15.5	12.5	---	---	---	---
12	6.0	2.0	8.0	5.0	11.5	6.5	15.0	11.5	---	---	---	---
13	6.0	2.0	9.0	4.0	12.5	7.5	14.5	10.5	---	---	---	---
14	7.5	2.5	9.5	4.5	12.5	8.0	14.5	10.5	---	---	---	---
15	7.5	4.5	9.5	5.5	12.0	8.0	13.0	10.0	---	---	---	---
16	6.0	2.5	10.0	6.5	11.5	7.0	13.0	8.5	---	---	---	---
17	5.0	4.0	10.0	6.0	12.0	7.5	14.0	8.5	---	---	---	---
18	7.0	3.5	10.0	6.5	12.5	7.5	15.0	10.5	---	---	---	---
19	8.0	3.0	10.5	5.5	12.5	8.5	14.5	10.5	---	---	---	---
20	8.0	4.0	10.0	6.0	11.0	9.0	14.5	10.0	---	---	---	---
21	8.5	4.0	10.0	6.0	10.5	8.5	14.5	10.0	---	---	---	---
22	7.0	5.0	10.5	5.0	11.5	7.0	15.5	11.5	---	---	---	---
23	5.5	3.0	10.5	6.0	12.5	7.5	17.0	12.5	---	---	---	---
24	8.0	3.0	10.0	6.5	13.0	8.5	17.0	13.0	---	---	---	---
25	8.5	4.5	8.5	6.5	13.0	9.5	17.5	14.0	---	---	---	---
26	8.5	4.5	9.5	6.0	13.5	10.0	17.5	13.5	---	---	---	---
27	9.0	3.5	9.0	5.5	13.0	9.5	18.0	14.0	---	---	---	---
28	9.0	4.0	8.5	5.5	12.0	9.5	17.5	13.0	---	---	---	---
29	9.5	4.5	10.5	5.0	12.5	8.0	17.5	13.0	---	---	---	---
30	9.0	4.5	11.0	6.5	13.5	9.0	17.5	12.5	---	---	---	---
31	---	---	8.5	7.0	---	---	17.5	13.0	---	---	---	---
MONTH	9.5	2.0	11.0	3.5	13.5	4.5	18.0	8.5	---	---	---	---

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA

LOCATION.--Lat 37°43'01", long 119°39'55", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on left bank 150 ft upstream from Pohono Bridge, 0.4 mi upstream from Artist Creek, and 4.8 mi southwest of Yosemite National Park Headquarters.

DRAINAGE AREA.--321 mi^2.

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3,861.66 ft above sea level. Prior to Sept. 5, 1918, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. No diversions between stations at Happy Isles Bridge and Pohono Bridge.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,400 ft^3/s, Dec. 23, 1955, gage height, 21.52 ft, from floodmarks in well, from rating curve extended above 17,000 ft^3/s on basis of computation of flow over diversion dam for Yosemite Powerplant 1 mi downstream at gage heights 20.1 and 21.98 ft, present datum; minimum daily 5.4 ft^3/s, Oct. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 31	1830	*6,210	*9.86				

Minimum daily, 13 ft^3/s, Oct. 1, 6-27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	68	39	101	201	223	1030	3530	3950	2080	423	101
2	14	72	39	97	198	236	973	3690	2960	2160	431	98
3	14	89	38	92	201	269	1050	3490	2550	2030	448	93
4	14	98	37	91	196	279	1120	2840	2550	1830	433	92
5	14	101	37	90	217	299	1060	2560	2540	1880	405	96
6	13	100	39	101	217	360	871	2820	2060	1980	383	99
7	13	100	62	227	217	415	840	2520	1890	1880	352	96
8	13	100	53	268	264	452	968	2680	2000	1750	319	91
9	13	91	79	232	287	465	1120	3060	2160	1610	277	84
10	13	79	74	205	251	431	1130	3790	2870	1460	247	78
11	13	73	81	167	243	455	1160	4270	3370	1370	236	75
12	13	70	75	161	221	492	1150	4220	3230	1390	230	73
13	13	65	75	234	212	553	1060	3450	3370	1190	201	72
14	13	61	80	305	207	749	1020	3290	3740	1040	183	70
15	13	59	82	259	202	727	1180	3300	3920	918	179	67
16	13	58	81	302	201	637	1290	3490	3650	780	179	64
17	13	57	85	280	198	1270	1180	4310	3220	670	161	62
18	13	56	77	272	223	1280	1100	4830	3130	636	147	60
19	13	53	75	280	300	1080	1020	5010	3350	643	139	57
20	13	51	77	272	272	1020	1220	4910	3630	628	137	53
21	13	48	76	349	263	1060	1570	4730	3480	619	132	49
22	13	52	74	541	250	1160	1850	4330	2620	580	125	47
23	13	52	75	415	271	1240	1680	4470	2540	602	120	44
24	13	50	76	335	261	1300	1390	4770	2760	671	124	42
25	13	50	77	293	239	1140	1530	5010	3030	662	131	41
26	13	48	78	267	246	1000	1840	4040	3110	676	128	39
27	13	48	77	256	227	839	2150	3370	3080	612	120	37
28	15	48	80	257	224	756	2420	2890	2840	603	111	35
29	25	43	99	240	---	683	2860	2650	2330	524	106	34
30	98	39	85	225	---	726	3310	3070	2030	470	104	33
31	87	---	88	214	---	826	---	4560	---	432	103	---
TOTAL	580	1980	2170	7428	6509	22422	42142	115950	87960	34376	6814	1982
MEAN	18.7	66.0	70.0	240	232	723	1405	3740	2932	1109	220	66.1
MAX	98	101	99	541	300	1300	3310	5010	3950	2160	448	101
MIN	13	39	37	90	196	223	840	2520	1890	432	103	33
AC-FT	1150	3930	4300	14730	12910	44470	83590	230000	174500	68180	13520	3930

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.6	123	186	175	237	401	1087	2311	1893	608	143	63.7
MAX	436	1587	1666	967	1035	1459	2136	5305	6279	3460	1045	426
(WY)	1983	1951	1951	1980	1986	1986	1982	1969	1983	1983	1983	1978
MIN	5.89	13.9	15.1	17.3	21.0	51.5	343	379	148	47.2	14.7	7.38
(WY)	1978	1930	1977	1977	1991	1977	1977	1977	1924	1931	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1917 - 1993	
ANNUAL TOTAL	116174		330313			
ANNUAL MEAN	317		905		609	
HIGHEST ANNUAL MEAN					1466	1983
LOWEST ANNUAL MEAN					127	1977
HIGHEST DAILY MEAN	2270	Apr 29	5010	May 19	18000	Dec 23 1955
LOWEST DAILY MEAN	13	Oct 1	13	Oct 1	5.4	Oct 26 1977
ANNUAL SEVEN-DAY MINIMUM	13	Oct 6	13	Oct 6	5.6	Oct 20 1977
INSTANTANEOUS PEAK FLOW			6210	May 31	23400	Dec 23 1955
INSTANTANEOUS PEAK STAGE			9.86	May 31	21.52	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	230400		655200		440800	
10 PERCENT EXCEEDS	968		3090		1870	
50 PERCENT EXCEEDS	87		256		177	
90 PERCENT EXCEEDS	16		39		25	

11267350 BIG CREEK DIVERSION NEAR FISH CAMP, CA

LOCATION.--Lat 37°28'10", long 119°36'51", in SE 1/4 NE 1/4 sec.25, T.5 S., R.21 E., Mariposa County, Hydrologic Unit 18040008, Sierra National Forest, on right bank 0.5 mi downstream from diversion weir, 0.5 mi upstream from Rainier Creek, and 1.2 mi southeast of Fish Camp.
PERIOD OF RECORD.--October 1969 to June 1977, April 1987 to current year.
GAGE.--Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 5,400 ft above sea level, from topographic map.
REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow is diverted from the left bank of Big Creek, a tributary to South Fork of the Merced River, to Lewis Fork of the Fresno River. Flow is used for domestic and irrigation purposes.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 66 ft^3/s, June 1, 2, 1975; no flow for several days in summer months of most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	2.8	1.8	1.9	14	16	43	45	47	30	.94	.41
2	.34	2.2	1.1	1.4	14	17	43	44	46	29	.93	.43
3	.35	1.9	1.1	1.4	e14	18	43	42	46	27	.86	.43
4	.35	1.7	1.9	1.4	e15	18	43	42	46	26	.84	.43
5	.29	1.5	1.0	1.4	e15	19	42	44	47	26	.94	.42
6	.25	1.4	2.0	11	e16	21	42	47	46	25	.94	.41
7	.25	1.5	1.3	25	e16	23	42	47	47	24	.83	.41
8	.26	1.4	1.7	41	e17	25	42	47	47	23	.83	.40
9	.26	1.4	5.8	27	e17	26	43	48	47	22	.94	.35
10	.26	1.4	4.7	21	e18	27	43	49	48	21	.93	.36
11	.24	1.4	5.2	20	e18	29	43	53	48	20	.74	.36
12	.22	1.4	5.0	21	e19	31	43	54	48	20	.82	.35
13	.22	1.4	6.2	40	19	32	43	54	48	18	.87	.34
14	.18	1.4	4.9	36	19	38	43	54	48	15	.97	.34
15	.17	1.3	5.0	26	18	40	44	54	48	6.6	.88	.33
16	.18	1.3	5.3	37	18	39	44	54	47	1.0	.89	.32
17	.24	1.3	5.1	24	18	45	44	55	47	1.0	.66	.30
18	.21	1.2	6.8	17	26	44	43	55	46	1.1	.43	.30
19	.21	.85	9.4	13	39	42	43	55	46	1.2	.43	.31
20	.23	.83	7.7	14	27	42	44	54	46	1.0	.41	.32
21	.21	1.3	7.0	30	25	44	44	54	45	.98	.41	.30
22	.25	1.0	7.0	45	23	44	43	54	45	1.1	.45	.30
23	.24	1.0	6.8	36	21	44	42	54	44	1.1	.47	.30
24	.27	.85	6.6	27	21	45	42	54	43	.93	.46	.31
25	.32	.87	5.9	22	20	45	43	54	42	.90	.44	.30
26	.34	.89	4.7	20	21	44	44	47	40	.96	.42	.30
27	.39	.91	3.5	18	21	43	45	47	38	.93	.43	.31
28	.67	.85	2.1	17	17	42	46	46	35	.88	.43	.31
29	9.1	1.0	1.7	16	---	42	45	46	33	.82	.42	.31
30	17	2.5	2.2	16	---	42	46	47	31	.83	.41	.32
31	5.2	---	2.1	15	---	42	---	49	---	.85	.41	---
TOTAL	39.04	40.75	132.6	642.5	546	1069	1300	1549	1335	348.18	20.83	10.38
MEAN	1.26	1.36	4.28	20.7	19.5	34.5	43.3	50.0	44.5	11.2	.67	.35
MAX	17	2.8	9.4	45	39	45	46	55	48	30	.97	.43
MIN	.17	.83	1.0	1.4	14	16	42	42	31	.82	.41	.30
AC-FT	77	81	263	1270	1080	2120	2580	3070	2650	691	41	21

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1993, BY WATER YEAR (WY)

MEAN	1.82	3.45	5.18	8.22	9.61	18.0	22.8	27.4	16.8	3.70	1.15	.85
MAX	7.61	7.65	13.1	35.8	32.7	37.3	43.3	56.2	46.1	11.2	3.14	2.08
(WY)	1970	1970	1970	1970	1970	1972	1993	1975	1975	1993	1973	1971
MIN	.026	1.10	.75	.82	.71	.38	3.44	6.07	1.96	.90	.025	.000
(WY)	1989	1991	1991	1974	1974	1974	1974	1977	1987	1987	1988	1987

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1970 - 1993	
ANNUAL TOTAL	2986.73		7033.28			
ANNUAL MEAN	8.16		19.3		10.7	
HIGHEST ANNUAL MEAN					19.3	1993
LOWEST ANNUAL MEAN					5.34	1976
HIGHEST DAILY MEAN	42	Apr 3	55	May 17	66	Jun 1 1975
LOWEST DAILY MEAN	.17	Oct 15	.17	Oct 15	.00	Jul 1 1973
ANNUAL SEVEN-DAY MINIMUM	.20	Oct 13	.20	Oct 13	.00	Aug 1 1987
ANNUAL RUNOFF (AC-FT)	5920		13950		7780	
10 PERCENT EXCEEDS	30		47		33	
50 PERCENT EXCEEDS	3.9		15		4.1	
90 PERCENT EXCEEDS	.37		.33		.32	

11269500 LAKE MCCLURE AT EXCHEQUER, CA

LOCATION.--Lat 37°35'02", long 120°16'09", in NW 1/4 SE 1/4 sec.13, T.4 S., R.15 E., Mariposa County, Hydrologic Unit 18040008, on left end of New Exchequer Dam on Merced River, 0.9 mi east of Exchequer, and 5.5 mi northeast of Merced Falls.
DRAINAGE AREA.--1,037 mi^2.

PERIOD OF RECORD.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to current year.
REVISED RECORDS.--WSP 881: 1926-32 (yearly summaries only). WSP 1345: 1951(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerplant at same datum. Oct. 1, 1964, to July 31, 1966, nonrecording gage at center of upstream face of dam at same datum.
REMARKS.--Reservoir is formed by a rockfill dam with a reinforced concrete face completed in March 1967. Dam is downstream from and connected to the original concrete arch and gravity-type dam which was completed in April 1926. Usable capacity, 1,024,000 acre-ft between elevations 440.0 ft, invert entrance to outlet tunnel, and 867.0 ft, top of spillway gates. Dead storage, 300 acre-ft. Water is released through a series of powerplants down the Merced River to a diversion dam for Merced Irrigation District's main canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,026,000 acre-ft, July 14, 15, 1969, elevation, 867.2 ft; practically no storage at times in 1926, 1930-31, 1964-65 when reservoir was drained for inspection or construction. Minimum since construction of New Exchequer Dam in 1966 and since lake first filled, 66,100 acre-ft, Feb. 28, 1991, elevation, 588.4 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 997,500 acre-ft, July 9, elevation, 863.15 ft; minimum, 105,500 acre-ft, Dec. 6, elevation, 619.12 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Merced Irrigation District, dated June 1966)

590	67,900	640	137,800	720	317,800	840	845,800
600	79,900	660	173,500	750	415,900	860	975,700
610	92,800	680	215,200	780	534,500	870	1,046,000
620	106,700	700	263,000	820	729,600		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135200	118100	108300	118200	291900	381000	516900	591800	844100	989900	944100	831400
2	135100	118000	107900	120300	293100	383500	522400	599500	852100	991500	940900	828100
3	135000	117600	107500	121200	294100	386000	527500	606600	857100	992500	937300	824900
4	134900	117200	107200	122000	295200	388500	532600	611700	862100	993300	933900	821600
5	134200	117300	e106800	122500	296400	390800	535600	615600	867800	994200	930300	818300
6	134100	116600	e105500	122900	297600	393200	536700	620400	e869500	995300	926700	814600
7	134100	116300	e106800	135100	298700	395800	538300	623900	e873200	996000	922900	811600
8	133900	115900	e107100	144800	300800	398700	539100	627500	e876300	996600	919400	808300
9	133300	115600	107900	149200	306400	401600	540200	632200	e880100	996800	915300	804800
10	133300	115500	108800	154600	309600	404400	541900	638700	e884600	996300	911300	801500
11	132500	114800	110200	157700	312400	407100	543200	646900	e887100	995800	907900	798200
12	132400	114100	111200	159900	315000	410000	544700	655600	e896100	995500	903900	795100
13	132400	113700	111500	170700	317000	412800	546200	661900	e902900	994700	900100	792000
14	132100	113500	111600	204500	318800	416000	546400	667200	e909400	993300	896200	789000
15	131900	112800	111600	213800	320400	419600	548000	672600	e916800	991600	892400	786000
16	131400	112800	111600	222900	320600	422500	549300	678200	e924200	990100	888600	782800
17	131200	112700	111700	231500	321800	426700	550400	688100	e930000	987600	885100	779700
18	131100	112500	111700	240900	323400	431300	551400	699200	e934300	985600	881500	776900
19	131000	112200	111700	246100	327600	434300	552100	711900	e940600	983200	877600	773900
20	129500	111800	111700	250000	336000	437600	553000	724200	e946500	980100	874000	771200
21	127500	111500	111600	256100	341100	441100	554700	735700	e953200	978100	870500	768100
22	125500	111200	111500	266700	344900	444400	557600	746500	e957900	975300	867000	765600
23	123700	110800	111400	272900	351700	448300	560000	757200	e961900	972700	863500	763400
24	122400	110500	111200	276900	360000	453500	561800	768900	e965400	970000	860100	761100
25	121700	110200	111200	279900	365100	466000	563400	782500	e969200	967000	856300	758900
26	121000	109900	111100	282400	370200	481700	565300	793000	e974100	963800	853100	756800
27	120200	109600	110900	284500	374600	490000	568700	801300	e978800	961100	849200	754200
28	119400	109200	110900	286200	378100	496000	572800	808300	e982900	957900	845800	752000
29	119000	108900	113600	287900	---	501500	578300	814200	e985600	954500	841800	749600
30	118800	108600	115400	289400	---	506100	584800	821400	988600	950700	838300	747300
31	118700	---	116200	290700	---	510600	---	832800	---	947500	834900	---
MAX	135200	118100	116200	290700	378100	510600	584800	832800	988600	996800	944100	831400
MIN	118700	108600	105500	118200	291900	381000	516900	591800	844100	947500	834900	747300
a	627.98	621.26	626.34	710.48	739.14	774.39	791.25	837.87	861.86	855.83	838.21	823.19
b	-16700	-10100	+7600	+174500	+87400	+132500	+74200	+248000	+155800	-41100	-112600	-87600

CAL YR 1992 b -37700
WTR YR 1993 b +611900

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11270800 NORTHSIDE CANAL AT MERCED FALLS, CA

LOCATION.--Lat 37°31'22", long 120°20'00", in SE 1/4 SW 1/4 sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on left bank 1,200 ft downstream from Merced Falls Dam, 0.2 mi west of Merced Falls, and 5.8 mi east of Snelling.
PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and sharp-crested rectangular weir. Elevation of gage is 340 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Flow diverted at Merced Falls Dam for irrigation of 4,100 acres below gage. Flow regulated by three powerplants and Lake McClure (station 11269500) and McSwain Reservoir, combined capacity, 1,035,000 acre-ft.

COOPERATION.--Records were provided by Merced Irrigation District 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, 72 ft^3/s, July 21, 1987; no flow for many days in 1988 and several days in February 1992.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	4.9	4.2	6.0	.00	.00	6.1	43	44	59	57	42
2	9.9	4.3	4.1	6.1	.00	.00	6.4	43	45	60	58	42
3	10	4.0	4.1	6.1	.00	.00	6.5	43	41	60	58	44
4	9.9	3.8	4.3	4.7	.00	.00	6.5	43	40	61	58	47
5	12	3.8	4.4	.00	.00	.00	6.2	50	37	61	57	45
6	12	4.2	4.8	.00	.00	.00	6.1	52	35	61	56	44
7	9.3	4.4	5.0	.00	.00	.00	6.3	49	28	60	56	42
8	9.3	4.6	4.3	.00	.00	.00	6.5	48	28	60	56	45
9	9.8	4.7	3.8	.00	.00	.00	6.1	50	33	61	56	42
10	9.8	4.5	3.8	.00	.00	.00	6.1	49	37	61	54	41
11	9.8	4.6	3.8	.00	.00	.00	9.5	49	40	61	52	41
12	9.7	4.7	3.8	.00	.00	.00	11	49	40	61	52	43
13	9.3	4.5	3.8	.00	.00	.00	11	49	39	61	52	41
14	9.1	4.0	3.8	.00	.00	.00	16	52	40	61	52	41
15	9.2	3.7	5.8	.00	.00	.00	22	57	47	62	52	43
16	9.2	3.5	7.3	.00	.00	.00	23	57	49	61	47	42
17	9.1	4.0	7.3	.00	.00	.00	23	56	48	62	43	34
18	8.9	4.6	7.3	.00	.00	.00	23	56	45	57	43	27
19	9.0	5.0	7.3	.00	.00	.00	24	57	45	55	43	27
20	9.1	5.0	7.0	.00	.00	.00	29	58	45	55	44	30
21	8.6	5.0	6.9	.00	.00	.00	32	54	48	58	45	30
22	8.5	5.3	6.9	.00	.00	.00	36	49	52	59	46	28
23	7.0	5.2	6.9	.00	.00	4.7	30	49	54	59	44	24
24	5.1	5.2	6.8	.00	.00	9.7	29	49	61	59	43	26
25	4.6	5.3	6.5	.00	.00	4.8	29	44	64	59	42	32
26	4.4	5.3	6.5	.00	.00	3.7	29	40	64	58	39	33
27	4.9	5.0	6.3	.00	.00	3.0	33	37	67	56	39	33
28	4.5	4.9	6.1	.00	.00	2.9	35	36	69	56	39	33
29	5.1	5.0	6.1	.00	---	2.9	40	34	66	56	38	33
30	5.3	4.5	6.1	.00	---	3.7	43	32	59	55	40	33
31	5.1	---	6.1	.00	---	5.6	---	37	---	55	42	---
TOTAL	257.5	137.5	171.2	22.90	0.00	41.00	590.3	1471	1410	1830	1503	1108
MEAN	8.31	4.58	5.52	.74	.000	1.32	19.7	47.5	47.0	59.0	48.5	36.9
MAX	12	5.3	7.3	6.1	.00	9.7	43	58	69	62	58	47
MIN	4.4	3.5	3.8	.00	.00	.00	6.1	32	28	55	38	24
AC-FT	511	273	340	45	.00	81	1170	2920	2800	3630	2980	2200

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

MEAN	10.8	4.42	3.79	2.53	2.14	7.38	33.6	53.1	55.4	60.9	53.7	30.2
MAX	22.2	8.16	5.52	4.84	4.66	31.4	48.5	67.0	67.7	70.1	64.0	48.9
(WY)	1992	1989	1993	1991	1990	1988	1987	1987	1987	1987	1987	1987
MIN	4.93	.98	1.32	.000	.000	.53	12.0	45.5	47.0	50.6	43.7	12.6
(WY)	1990	1992	1989	1988	1993	1992	1991	1991	1993	1992	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	8196.75		8542.40			
ANNUAL MEAN	22.4		23.4		26.6	
HIGHEST ANNUAL MEAN					33.6	1987
LOWEST ANNUAL MEAN					23.2	1992
HIGHEST DAILY MEAN	60	Jun 18	69	Jun 28	72	Jul 21 1987
LOWEST DAILY MEAN	.00	Feb 9	.00	Jan 5	.00	Nov 2 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 9	.00	Jan 5	.00	Nov 2 1987
ANNUAL RUNOFF (AC-FT)	16260		16940		19290	
10 PERCENT EXCEEDS	52		57		64	
50 PERCENT EXCEEDS	9.1		9.7		11	
90 PERCENT EXCEEDS	.50		.00		1.0	

11270900 MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CA

LOCATION.--Lat 37°31'18", long 120°19'53", in SE 1/4 SW 1/4 sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on right bank 0.1 mi south of Merced Falls, 0.2 mi downstream from Merced Falls Dam, and 5.8 mi east of Snelling.
DRAINAGE AREA.--1,061 mi^2.

PERIOD OF RECORD.--April 1901 to current year. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315-A. Published as "near Merced Falls" 1901-13; as "at Exchequer" 1916-64. Records at present site are about equivalent when adjusted for diversion to Northside Canal (station 11270800) and change in contents in Lake McClure (station 11269500) and McSwain Reservoir.
REVISED RECORDS.--WSP 1315-A: 1901-9, 1911(M). WSP 1515: 1918-20, 1942-43 (published as station 11270000). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 310.55 ft above sea level. See WSP 1930 for history of changes prior to Oct. 1, 1964.

REMARKS.--No estimated daily discharges. Records good. Merced Falls Dam diverts water to Northside Canal for irrigation downstream from station. Flow regulated by Exchequer, McSwain, and Merced Falls powerplants, Lake McClure since 1926, enlarged 1967, and McSwain Reservoir since 1966, capacity, 9,200 acre-ft.

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-93).--Maximum discharge observed, 47,700 ft^3/s, Jan. 31, 1911, gage height, 23.3 ft, site and datum then in use; no flow for part of Nov. 21, 1901. Maximum discharge since construction of Exchequer Dam in 1926, 46,200 ft^3/s, Dec. 4, 1950, gage height, 22.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft^3/s on basis of computation of peak flow over dam; minimum daily, 3.4 ft^3/s, Mar. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,920 ft^3/s, May 9, gage height, 8.08 ft; minimum daily, 113 ft^3/s, Oct. 4, 5, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	322	215	260	225	227	429	2500	1390	2180	2230	1800
2	114	322	215	219	226	230	425	2500	1430	2180	2230	1750
3	114	310	215	216	224	228	431	2500	1520	2120	2260	1740
4	113	308	216	235	221	228	490	2540	1560	2110	2290	1770
5	113	301	220	227	222	228	1210	2560	1620	2120	2270	1820
6	114	308	222	234	224	229	1800	2620	1590	2000	2260	1830
7	113	329	219	407	224	229	1820	2680	1510	1980	2250	1770
8	115	322	215	251	225	230	1820	2710	1470	2000	2250	1730
9	117	322	215	227	232	229	1820	2780	1720	1990	2190	1750
10	117	322	215	281	222	238	1830	2760	1960	1990	2150	1740
11	117	320	221	217	223	228	1760	2760	2030	1990	2150	1730
12	117	272	215	261	222	227	1720	2780	2070	1970	2150	1680
13	117	224	215	301	239	228	1800	2770	2180	1930	2160	1640
14	131	224	213	434	222	224	1870	2770	2230	1950	2150	1620
15	141	223	214	267	221	223	1870	2700	2310	1970	2160	1590
16	146	222	215	225	222	236	1880	2440	2370	1970	2090	1560
17	148	221	215	275	222	269	1900	2140	2510	1990	2020	1560
18	148	221	214	243	223	267	1950	1840	2320	2000	2000	1560
19	148	221	214	216	233	285	1960	1600	2180	1980	1960	1560
20	474	220	215	215	242	553	1960	1560	2170	1990	1960	1520
21	893	220	213	228	218	772	1970	1590	2180	2010	1960	1500
22	909	221	214	223	217	778	1970	1610	2180	2020	1950	1300
23	841	221	215	203	238	781	1980	1610	2180	2090	1930	1200
24	659	221	217	208	221	784	2000	1610	2180	2280	1900	1190
25	496	220	217	227	221	631	2140	1540	2180	2310	1910	1180
26	345	219	218	235	222	477	2330	1500	2180	2320	1960	1180
27	325	219	216	231	221	427	2290	1460	2170	2320	1960	1180
28	309	219	216	224	221	427	2300	1410	2180	2320	1940	1180
29	323	217	231	224	---	426	2330	1410	2190	2320	1950	1180
30	330	217	217	224	---	425	2440	1420	2180	2320	1890	1180
31	321	---	217	224	---	425	---	1360	---	2280	1820	---
TOTAL	8582	7728	6709	7662	6293	11389	52495	66030	59940	65000	64350	45990
MEAN	277	258	216	247	225	367	1750	2130	1998	2097	2076	1533
MAX	909	329	231	434	242	784	2440	2780	2510	2320	2290	1830
MIN	113	217	213	203	217	223	425	1360	1390	1930	1820	1180
AC-FT	17020	15330	13310	15200	12480	22590	104100	131000	118900	128900	127600	91220

11270900 MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 1925, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	224	222	396	1095	1290	2102	2644	4362	3719	1261	306	144
MAX	1522	531	1676	4409	3232	6995	5749	6768	8225	5867	958	302
(WY)	1905	1910	1910	1911	1909	1907	1907	1922	1906	1906	1906	1904
MIN	49.4	58.5	83.7	100	208	314	774	1478	212	61.3	29.9	20.5
(WY)	1914	1922	1906	1918	1913	1924	1912	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1901 - 1925	
ANNUAL MEAN	1443	
HIGHEST ANNUAL MEAN	2937	1907
LOWEST ANNUAL MEAN	348	1924
HIGHEST DAILY MEAN	37200	Jan 30 1911
LOWEST DAILY MEAN	1.0	Nov 21 1901
ANNUAL SEVEN-DAY MINIMUM	20	Sep 4 1924
INSTANTANEOUS PEAK FLOW	47700	Jan 31 1911
INSTANTANEOUS PEAK STAGE	23.30	Jan 31 1911
ANNUAL RUNOFF (AC-FT)	1045000	
10 PERCENT EXCEEDS	4340	
50 PERCENT EXCEEDS	488	
90 PERCENT EXCEEDS	80	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	223	57.8	267	402	694	1059	1892	3143	2737	1739	1400	884
MAX	638	385	4698	3869	3155	5375	3876	7249	7426	2384	1713	1313
(WY)	1945	1951	1951	1956	1938	1938	1958	1952	1938	1938	1963	1952
MIN	20.8	25.2	26.0	20.7	35.1	33.3	275	1049	1090	210	171	17.2
(WY)	1932	1932	1934	1940	1960	1948	1948	1955	1934	1931	1961	1931

SUMMARY STATISTICS	WATER YEARS 1927 - 1964	
ANNUAL MEAN	1210	
HIGHEST ANNUAL MEAN	2738	1938
LOWEST ANNUAL MEAN	360	1931
HIGHEST DAILY MEAN	24000	Dec 4 1950
LOWEST DAILY MEAN	4.5	Feb 11 1960
ANNUAL SEVEN-DAY MINIMUM	8.7	Jan 12 1940
INSTANTANEOUS PEAK FLOW	46200	Dec 4 1950
INSTANTANEOUS PEAK STAGE	22.60	Dec 4 1950
ANNUAL RUNOFF (AC-FT)	876500	
10 PERCENT EXCEEDS	2510	
50 PERCENT EXCEEDS	1150	
90 PERCENT EXCEEDS	38	

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	768	405	550	631	829	1192	1747	2197	2255	1996	1719	1367
MAX	3143	1396	2451	2936	4247	4680	5278	5701	6975	5177	2761	3049
(WY)	1984	1970	1983	1984	1983	1983	1983	1982	1983	1983	1983	1983
MIN	76.4	118	120	133	113	139	394	528	813	922	636	83.1
(WY)	1978	1969	1969	1977	1977	1977	1991	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1968 - 1993	
ANNUAL TOTAL	234990		402168			
ANNUAL MEAN	642		1102		1307	
ANNUAL MEAN a	613		1971		1330	
HIGHEST ANNUAL MEAN					3779	1983
LOWEST ANNUAL MEAN					363	1977
HIGHEST DAILY MEAN	1380	Jul 31	2780	May 9	7860	Jun 6 1969
LOWEST DAILY MEAN	113	Oct 4	113	Oct 4	46	Oct 3 1968
ANNUAL SEVEN-DAY MINIMUM	114	Oct 1	114	Oct 1	74	Oct 12 1977
INSTANTANEOUS PEAK FLOW			2920	May 9	9360	Jun 1 1969
INSTANTANEOUS PEAK STAGE			8.08	May 9	12.40	Jun 1 1969
INSTANTANEOUS LOW FLOW			113	Oct 4		
ANNUAL RUNOFF (AC-FT)	466100		797700		946600	
ANNUAL RUNOFF (AC-FT) a	445300		1427000		963600	
10 PERCENT EXCEEDS	1260		2260		2680	
50 PERCENT EXCEEDS	320		784		1120	
90 PERCENT EXCEEDS	214		215		174	

a Adjusted for diversion to Northside Canal and change in contents in Lake McClure and McSwain Reservoir.

11270900 MERCED RIVER BELOW MERCED FALLS, NEAR SNELLING, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to September 1993.
CHEMICAL DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
MAR										
30...	0910	424	82	7.5	11.0	760	11.6	105	36	0
AUG										
24...	1030	1910	32	6.5	13.5	754	9.2	89	16	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR									
30...	30	<0.010	0.240	0.030	0.30	0.20	0.040	0.020	<0.010
AUG									
24...	13	<0.010	0.068	0.010	<0.20	<0.20	<0.010	0.010	<0.010

11271290 MERCED RIVER AT SHAFFER BRIDGE, NEAR CRESSEY, CA

LOCATION.--Lat 37°27'15", long 120°36'28", in NW 1/4 SW 1/4 sec.36, T.5 S., R.12 E., Merced County, Hydrologic Unit 18040002, near center of span on downstream side of county road bridge, 0.6 mi upstream from Dry Creek, and 4.0 mi northeast of Cressey.

DRAINAGE AREA.--1,117 mi^2.

PERIOD OF RECORD.--October 1965 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 116.79 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Most water released from Lake McClure (station 11269500) is diverted upstream into the main canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	---	---	---	---	---	---	---	---	---	---	---
2	41	---	---	---	---	---	---	---	---	---	---	---
3	44	---	---	---	---	---	---	---	---	---	---	---
4	43	---	198	---	---	---	---	---	---	---	---	---
5	44	---	191	---	---	---	---	---	---	---	---	---
6	41	---	---	---	---	---	---	---	---	---	---	---
7	37	---	---	---	---	---	---	---	---	---	---	---
8	45	---	---	---	---	---	---	---	---	---	---	---
9	46	---	---	---	---	---	---	---	---	---	---	---
10	40	---	---	---	---	---	---	---	---	---	---	---
11	63	---	---	---	---	---	---	---	---	---	---	---
12	62	---	---	---	---	---	---	---	---	---	---	---
13	56	---	---	---	---	---	---	---	---	---	---	---
14	50	---	---	---	---	---	---	---	---	---	---	---
15	49	---	---	---	---	---	---	---	---	---	---	---
16	79	---	---	---	---	---	---	---	---	---	---	---
17	114	---	---	---	---	---	---	---	---	---	---	---
18	119	---	---	---	---	---	---	---	---	---	---	---
19	122	---	---	---	---	---	---	---	---	---	---	---
20	122	---	---	---	---	---	---	---	---	---	---	---
21	---	198	---	---	---	---	---	---	---	---	---	---
22	---	---	197	---	---	---	---	---	---	---	---	---
23	---	---	191	---	---	---	---	---	---	---	---	---
24	---	---	192	---	---	---	---	---	---	---	---	---
25	---	---	195	---	---	---	---	---	---	---	---	---
26	---	---	196	---	---	---	---	---	---	---	---	---
27	---	---	198	---	---	---	---	---	---	---	---	---
28	---	---	197	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11272500 MERCED RIVER NEAR STEVINSON, CA

LOCATION.--Lat 37°22'15", long 120°55'46", in SW 1/4 NE 1/4 sec.36, T.6 S., R.9 E., Merced County, Hydrologic Unit 18040002, on right bank 4.4 mi upstream from mouth and 5.3 mi northwest of Stevinson.

DRAINAGE AREA.--1,273 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. October 1940 to Aug. 15, 1955, at datum 55.74 ft higher; Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

REMARKS.--Records good. No estimated daily discharges. Practically entire flow is diverted upstream from station for irrigation of 120,000 acres during low runoff years. Some return flow enters upstream from station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft, the largest of which is Lake McClure (station 11269500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s, Dec. 5, 1950, elevation, 73.79 ft, present datum; no flow July 19 to Aug. 21, 1961, result of temporary dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft^3/s, Jan. 15, elevation, 63.49 ft; minimum daily, 9.7 ft^3/s, Oct. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	323	202	211	293	375	374	1230	410	376	602	609
2	16	317	200	207	289	339	391	1240	372	375	622	586
3	13	304	199	379	283	322	402	1280	386	364	576	597
4	14	302	198	310	278	312	359	1280	394	378	525	571
5	13	297	197	255	276	300	344	1270	384	419	527	588
6	9.7	289	194	239	273	293	372	1270	463	436	554	646
7	13	284	205	240	284	289	954	1290	623	409	546	669
8	14	289	219	779	312	282	1210	1300	646	339	567	650
9	11	300	225	1090	492	278	1270	1290	636	334	597	631
10	12	299	213	687	871	273	1270	1360	691	301	588	624
11	14	300	208	869	546	273	1280	1350	812	282	567	634
12	29	299	212	600	437	273	1270	1310	845	290	588	668
13	32	300	228	518	402	264	1230	1290	863	281	602	694
14	23	276	222	1070	354	256	1220	1290	881	275	605	674
15	24	242	211	1560	331	253	1230	1280	799	272	624	649
16	26	228	205	1000	310	252	1210	1280	774	299	692	616
17	17	218	202	754	299	249	1180	1190	759	284	666	632
18	48	212	204	921	297	245	1200	969	800	295	609	608
19	82	209	207	1050	314	255	1200	787	829	325	613	631
20	95	209	208	630	403	267	1170	593	653	306	575	685
21	108	207	207	529	511	269	1080	466	618	263	622	651
22	192	199	203	683	436	274	1030	400	560	250	689	653
23	612	193	203	623	362	300	1030	340	540	278	690	642
24	773	200	196	464	376	314	1040	346	518	277	644	515
25	704	205	196	385	431	355	1030	330	483	324	575	488
26	609	205	197	349	367	598	1080	357	437	494	571	486
27	477	201	197	337	368	1040	1230	409	415	513	546	486
28	386	197	200	327	476	634	1250	380	420	525	555	461
29	341	200	201	318	---	497	1250	358	413	540	588	450
30	314	202	207	308	---	446	1230	340	381	541	623	437
31	311	---	222	301	---	405	---	364	---	595	614	---
TOTAL	5361.7	7506	6388	17993	10671	10782	30386	28239	17805	11240	18562	17931
MEAN	173	250	206	580	381	348	1013	911	593	363	599	598
MAX	773	323	228	1560	871	1040	1280	1360	881	595	692	694
MIN	9.7	193	194	207	273	245	344	330	372	250	525	437
AC-FT	10630	14890	12670	35690	21170	21390	60270	56010	35320	22290	36820	35570

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	351	299	526	724	858	1022	1012	1270	1059	356	223	303
MAX	2739	1314	4718	4568	4695	5478	4949	5792	4545	3593	1192	1716
(WY)	1984	1970	1951	1956	1983	1983	1983	1952	1983	1983	1983	1983
MIN	11.4	69.9	105	109	69.2	94.4	59.7	65.1	19.2	6.18	8.91	11.3
(WY)	1978	1962	1962	1962	1991	1977	1961	1977	1977	1991	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	56789.7		182864.7			
ANNUAL MEAN	155		501		666	
HIGHEST ANNUAL MEAN					3155	1983
LOWEST ANNUAL MEAN					78.8	1961
HIGHEST DAILY MEAN	773	Oct 24	1560	Jan 15	12000	Dec 10 1950
LOWEST DAILY MEAN	9.7	Oct 6	9.7	Oct 6	.00	Jul 19 1961
ANNUAL SEVEN-DAY MINIMUM	12	Oct 4	12	Oct 4	.00	Jul 19 1961
INSTANTANEOUS PEAK FLOW			1920	Jan 15	13600	Dec 5 1950
INSTANTANEOUS PEAK STAGE			63.49	Jan 15	73.79	Dec 5 1950
INSTANTANEOUS LOW FLOW			9.7	Oct 6		
ANNUAL RUNOFF (AC-FT)	112600		362700		482200	
10 PERCENT EXCEEDS	291		1080		1760	
50 PERCENT EXCEEDS	137		391		229	
90 PERCENT EXCEEDS	27		200		100	

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
SPECIFIC CONDUCTANCE: Water year 1989 to current year.
WATER TEMPERATURE: Water year 1989 to current year.
CHEMICAL DATA: October 1992 to September 1993.
SEDIMENT DATA: October 1992 to September 1993.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURES: October 1988 to current year.
INSTRUMENTATION.--Water-quality monitor since October 1985.
REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Specific-conductance and water-temperature values are affected by irrigation return flow. The specific-conductance and water-temperature gage was relocated 3 mi downstream to an old bridge near George J. Hatfield State Park and operation began Apr. 15, 1992.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,270 microsiemens, July 19, 1991; minimum recorded, 46 microsiemens, Sept. 12, 1993.
WATER TEMPERATURE: Maximum recorded, 34.0°C, July 17, 1991; minimum recorded, 3.0°C, several days in December 1990.
EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,000 microsiemens, Oct. 10; minimum recorded, 46 microsiemens, Sept. 12.
WATER TEMPERATURE: Maximum recorded, 28.5°C, July 25; minimum recorded, 6.0°C, Jan. 4, 5.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	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...	1400	26	324	8.3	--	760	10.9	129	--	--	--
JAN											
22...	1115	742	[1]136	7.9	12.0	770	9.0	83	40	9.2	4.1
26...	1300	346	[1]151	7.4	9.5	765	9.0	78	48	11	4.9
29...	1100	321	158	6.4	9.0	770	9.5	81	51	12	5.1
FEB											
01...	1100	294	159	7.1	9.0	770	8.9	76	47	11	4.8
04...	1015	280	163	7.4	9.5	760	9.3	82	51	12	5.1
08...	1100	312	159	7.2	12.5	750	8.9	85	--	--	--
08...	1300	310	150	7.3	12.5	750	8.5	81	--	--	--
08...	1345	308	149	7.1	12.5	750	8.8	84	--	--	--
09...	1100	408	240	7.5	12.0	760	8.0	74	--	--	--
11...	1100	542	137	7.4	13.0	765	7.7	73	40	9.0	4.2
16...	1400	310	[1]170	7.4	12.5	760	8.8	83	52	12	5.3
23...	1010	364	149	8.0	12.0	760	8.7	81	49	11	5.3
25...	1200	364	147	7.6	11.0	760	8.4	76	48	11	4.9
MAR											
02...	1130	340	[1]169	7.5	12.5	765	11.0	103	53	12	5.5
05...	1200	301	175	7.3	15.0	775	8.7	85	52	12	5.3
09...	1100	280	200	8.1	17.0	765	8.7	90	58	14	5.6
12...	1115	274	199	7.3	17.5	765	9.1	95	61	15	5.7
15...	1025	253	212	7.6	17.5	765	8.6	90	65	16	6.2
18...	1100	246	200	7.2	18.0	769	8.6	90	61	15	5.8
22...	1040	276	170	7.9	18.5	763	8.2	87	54	13	5.3
26...	1145	555	127	7.1	17.0	758	8.2	85	42	10	4.1
29...	1245	491	118	7.6	15.0	765	7.6	75	40	9.3	4.1
APR											
01...	0945	376	163	7.7	16.5	766	8.5	87	51	12	5.0
06...	1100	342	186	7.8	16.5	765	8.2	87	51	12	5.2
14...	1130	1230	83	7.2	15.0	763	10.4	103	33	8.0	3.1
20...	1130	1170	87	7.5	--	765	--	--	32	7.9	2.9
27...	1145	1250	86	7.4	15.0	763	9.0	90	33	8.3	3.1
MAY											
04...	1130	1300	84	7.4	15.5	765	10.0	99	36	8.9	3.3
21...	1215	454	114	7.4	20.0	764	7.7	84	44	11	4.0
JUN											
01...	1115	408	112	7.4	22.0	765	7.7	87	41	10	3.8
14...	1130	885	84	7.4	20.5	763	8.8	97	--	--	--
29...	1130	420	97	7.5	23.0	760	7.0	82	33	8.3	2.9
JUL											
15...	1145	274	148	7.0	24.5	765	7.5	90	44	11	3.9
AUG											
03...	1245	569	[1]76	7.4	24.0	760	7.4	88	21	5.5	1.8
25...	1515	565	77	7.3	23.0	763	8.3	97	23	6.1	2.0
SEP											
07...	1250	669	54	7.3	21.0	768	8.6	96	18	4.7	1.5
29...	1110	450	119	7.3	20.0	759	9.0	99	31	8.1	2.6

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

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

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
13...	--	--	--	--	--	--	--	--	--	--
JAN										
22...	7.2	25	0.5	5.8	44	0	36	6.8	7.2	<0.10
26...	9.9	29	0.6	3.1	52	0	43	9.1	8.3	0.10
29...	11	--	0.7	--	57	0	47	9.2	9.0	<0.10
FEB										
01...	11	--	0.7	--	65	0	53	9.6	9.8	<0.10
04...	11	--	0.7	--	57	0	47	10	9.8	<0.10
08...	--	--	--	--	58	0	48	--	--	--
08...	--	--	--	--	57	0	46	--	--	--
08...	--	--	--	--	58	0	47	--	--	--
09...	--	--	--	--	85	0	69	--	--	--
11...	7.1	--	0.5	--	58	0	47	5.2	6.7	<0.10
16...	12	--	0.7	--	46	0	37	9.8	10	<0.10
23...	9.2	--	0.6	--	68	0	55	7.2	8.0	<0.10
25...	9.1	--	0.6	--	66	0	54	8.1	8.3	<0.10
MAR										
02...	11	--	0.7	--	52	0	43	8.9	9.8	0.10
05...	12	32	0.7	2.2	67	0	55	9.6	10	<0.10
09...	16	37	0.9	1.9	77	0	63	12	15	0.10
12...	15	34	0.8	2.0	75	0	61	12	14	<0.10
15...	18	36	1	2.1	67	0	55	13	16	<0.10
18...	15	34	0.8	1.6	83	0	68	11	14	<0.10
22...	12	32	0.7	1.6	73	0	60	11	12	0.10
26...	9.0	31	0.6	1.3	56	0	46	8.0	8.6	0.10
29...	8.2	29	0.6	2.5	46	0	38	5.2	6.4	0.10
APR										
01...	13	35	0.8	2.4	45	0	37	9.1	13	0.20
06...	13	35	0.8	1.8	72	0	59	10	16	<0.10
14...	4.0	20	0.3	1.1	36	0	30	6.2	2.5	<0.10
20...	3.9	20	0.3	1.1	37	0	30	5.7	2.8	<0.10
27...	4.1	20	0.3	1.0	37	0	31	6.1	3.4	<0.10
MAY										
04...	6.2	27	0.5	1.0	29	0	24	6.0	3.4	<0.10
21...	6.8	24	0.4	1.4	83	0	68	6.2	5.8	0.10
JUN										
01...	8.8	31	0.6	1.3	60	0	49	7.1	8.7	0.10
14...	--	--	--	--	42	0	34	--	--	--
29...	7.6	33	0.6	1.0	45	0	37	5.5	6.1	<0.10
JUL										
15...	13	38	0.9	1.4	64	0	53	7.2	11	<0.10
AUG										
03...	5.9	37	0.6	0.90	17	0	14	3.6	5.6	<0.10
25...	5.7	34	0.5	0.90	29	0	23	3.6	4.7	0.10
SEP										
07...	4.3	33	0.4	0.70	42	0	34	2.6	3.5	<0.10
29...	9.7	40	0.8	1.0	--	--	[1]37	6.1	9.2	0.10

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

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

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
13...	--	--	--	--	--	--	--	--	--
JAN									
22...	16	114	84	0.16	0.040	1.00	0.540	1.8	1.2
26...	17	109	95	0.15	0.050	1.10	0.260	1.0	0.80
29...	17	95	--	--	0.050	1.20	0.200	0.70	0.50
FEB									
01...	14	103	--	--	0.050	1.30	0.180	0.60	0.40
04...	16	--	--	--	0.060	1.30	<0.010	0.40	0.30
08...	--	--	--	--	0.080	1.30	0.250	0.70	0.50
08...	--	--	--	--	0.070	1.10	0.240	0.70	0.60
08...	--	--	--	--	0.080	1.20	0.260	0.70	0.50
09...	--	--	--	--	0.090	1.40	1.80	3.5	2.5
11...	14	--	--	--	0.060	0.680	0.410	2.0	1.3
16...	16	--	--	--	0.050	1.00	0.130	0.80	0.60
23...	14	--	--	--	0.070	0.960	0.210	1.0	0.80
25...	14	100	--	--	0.060	1.10	0.160	0.70	0.60
MAR									
02...	15	--	--	--	--	--	--	--	--
05...	14	117	103	0.16	0.030	1.10	0.050	0.40	0.30
09...	12	112	119	0.15	0.040	1.00	0.030	0.40	0.20
12...	9.8	106	115	0.14	0.020	0.990	0.030	0.40	0.30
15...	11	127	120	0.17	0.020	1.10	0.030	0.40	<0.20
18...	13	128	116	0.17	--	--	--	--	--
22...	13	100	107	0.14	0.010	0.680	0.050	0.50	<0.20
26...	13	94	85	0.13	0.020	0.580	0.060	0.40	<0.20
29...	15	87	77	0.12	0.030	0.730	0.120	0.80	0.60
APR									
01...	15	112	96	0.15	0.040	0.810	0.110	0.50	0.50
06...	14	116	108	0.16	--	--	--	--	--
14...	14	55	57	0.08	--	--	--	--	--
20...	12	68	56	0.09	<0.010	0.250	0.030	0.30	0.20
27...	12	68	58	0.09	<0.010	0.300	0.020	0.30	0.30
MAY									
04...	13	66	58	0.09	<0.010	0.290	0.010	0.20	<0.20
21...	14	86	93	0.12	0.010	0.430	0.090	0.50	0.50
JUN									
01...	12	77	84	0.10	0.010	0.540	0.050	0.30	<0.20
14...	--	--	--	--	<0.010	0.270	0.040	0.20	0.30
29...	10	69	66	0.09	0.010	0.400	0.040	0.20	<0.20
JUL									
15...	11	91	93	0.12	0.010	0.680	0.050	0.30	0.20
AUG									
03...	9.2	47	42	0.06	<0.010	0.290	0.050	0.30	<0.20
25...	9.5	48	49	0.06	<0.010	0.330	0.010	<0.20	<0.20
SEP									
07...	8.7	41	48	0.06	<0.010	0.240	0.020	<0.20	<0.20
29...	9.5	75	72	0.10	<0.010	0.670	0.040	0.20	<0.20

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

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

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
13...	--	--	--	--	--	--	--	--	--	--
JAN										
22...	0.430	0.270	0.260	--	300	25	--	--	--	1.8
26...	0.170	0.120	0.100	--	270	120	--	--	11	1.2
29...	0.150	0.080	0.070	--	230	100	--	--	12	1.4
FEB										
01...	0.130	0.060	0.060	--	150	76	--	--	6.2	1.7
04...	0.090	0.030	0.010	--	140	97	--	--	11	1.2
08...	0.180	0.080	0.090	--	--	--	--	--	9.7	1.4
08...	0.190	0.080	0.080	--	--	--	--	--	--	--
08...	0.210	0.090	0.090	--	--	--	--	--	--	--
09...	0.830	0.480	0.460	--	--	--	--	--	--	--
11...	0.560	0.330	0.300	--	370	41	--	--	15	2.3
16...	0.180	0.100	0.100	--	280	110	--	--	5.6	1.9
23...	0.220	0.160	0.140	--	190	63	--	--	--	--
25...	0.240	0.160	0.160	--	210	55	--	--	--	--
MAR										
02...	--	--	--	--	210	74	--	--	--	--
05...	0.150	0.070	0.080	--	170	90	--	--	11	--
09...	0.110	0.050	0.050	--	140	99	--	--	9.0	1.2
12...	0.120	0.050	0.050	--	110	81	--	--	5.3	1.7
15...	0.110	0.050	0.040	--	100	92	--	--	7.2	1.0
18...	--	--	--	--	130	89	--	--	4.6	1.2
22...	0.120	0.040	0.040	--	130	88	--	--	5.0	1.5
26...	0.090	0.040	0.040	--	92	29	--	--	17	1.2
29...	0.120	0.080	0.070	--	210	32	--	--	14	1.3
APR										
01...	0.150	0.110	0.070	--	220	52	--	--	17	1.5
06...	--	--	--	--	170	67	--	--	--	--
14...	--	--	--	--	--	17	--	--	19	1.3
20...	0.060	0.020	0.010	--	72	19	--	--	31	1.4
27...	0.080	0.030	0.030	--	76	15	--	--	--	1.0
MAY										
04...	0.040	0.030	0.010	--	100	19	--	--	6.0	1.0
21...	0.110	0.080	0.040	--	180	78	--	--	8.7	0.9
JUN										
01...	0.090	0.050	0.040	--	110	45	--	--	4.7	1.1
14...	0.060	0.040	0.020	--	--	--	--	--	9.0	1.1
29...	0.080	0.030	0.040	30	130	39	<1	<1	--	--
JUL										
15...	0.090	0.070	0.050	--	190	71	--	--	10	0.6
AUG										
03...	0.100	0.030	0.030	--	110	22	--	--	2.5	1.2
25...	0.030	0.030	0.020	--	120	24	--	--	2.7	1.3
SEP										
07...	0.030	0.040	0.020	--	130	17	--	--	4.2	0.9
29...	0.050	0.030	0.020	--	120	37	--	--	7.2	0.4

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN					
22...	1115	742	12.0	41	82
26...	1300	346	9.5	42	39
29...	1100	321	9.0	32	28
FEB					
01...	1100	294	9.0	14	11
04...	1015	280	9.5	28	21
08...	1100	312	12.5	36	30
08...	1300	310	12.5	41	34
08...	1345	308	12.5	39	32
09...	1100	408	12.0	91	100
11...	1100	542	13.0	113	165
16...	1400	310	12.5	42	35
23...	1010	364	12.0	49	48
25...	1200	364	11.0	40	39
MAR					
02...	1130	340	12.5	26	24
05...	1200	301	15.0	29	24
09...	1100	280	17.0	23	17
12...	1115	274	17.5	49	36
15...	1025	253	17.5	24	16
18...	1100	246	18.0	27	18
22...	1040	276	18.5	59	44
26...	1145	555	17.0	43	64
29...	1245	491	15.0	29	38
APR					
01...	0945	376	16.5	28	28
06...	1100	342	16.5	35	32
14...	1130	1230	15.0	38	126
20...	1130	1170	--	38	120
27...	1145	1250	15.0	40	135
MAY					
04...	1130	1300	15.5	38	133
21...	1215	454	20.0	29	36
JUN					
01...	1115	408	22.0	30	33
14...	1130	885	20.5	69	165
29...	1130	420	23.0	30	34
JUL					
15...	1145	274	24.5	20	15
AUG					
03...	1245	569	24.0	54	83
25...	1515	565	23.0	19	29
SEP					
07...	1250	669	21.0	42	76
29...	1110	450	20.0	18	22

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	106	103	107	97	162	156	164	144
2	517	403	---	---	107	105	108	103	160	155	173	164
3	617	496	---	---	115	106	103	71	163	160	178	172
4	604	556	---	---	113	106	107	81	171	162	173	168
5	581	544	---	---	111	105	118	107	177	160	179	168
6	568	493	---	---	136	111	119	115	162	157	182	177
7	745	552	---	---	136	103	119	114	160	139	181	177
8	677	461	---	---	103	92	116	96	171	124	193	176
9	802	529	---	---	98	92	107	92	240	123	213	182
10	1000	797	---	---	105	98	98	88	164	142	211	200
11	963	676	---	---	107	104	109	98	142	135	208	188
12	690	285	---	---	104	97	108	103	148	135	206	195
13	397	306	---	---	97	94	202	104	147	136	210	186
14	491	326	---	---	102	96	169	117	158	147	230	200
15	449	325	---	---	106	102	117	91	166	157	218	210
16	---	---	---	---	107	105	101	91	171	166	219	212
17	---	---	---	---	107	106	113	101	172	169	227	191
18	---	---	---	---	106	102	142	113	175	167	235	169
19	---	---	---	---	103	100	126	110	167	148	185	159
20	---	---	---	---	103	100	124	111	157	132	203	156
21	---	---	113	98	104	102	136	124	151	136	198	159
22	---	---	104	98	106	103	149	135	151	147	195	157
23	---	---	107	104	104	102	147	123	158	149	247	141
24	---	---	104	99	109	103	143	126	164	155	179	139
25	---	---	100	98	112	108	148	143	155	128	176	139
26	---	---	100	99	108	107	154	148	160	139	145	111
27	---	---	104	100	107	106	158	154	171	156	142	101
28	---	---	106	104	107	105	159	157	156	126	110	101
29	---	---	105	102	107	105	162	157	---	---	122	110
30	---	---	103	102	106	96	160	156	---	---	139	116
31	---	---	---	---	97	89	159	156	---	---	161	138
MONTH	---	---	---	---	136	89	202	71	240	123	247	101

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	170	161	100	80	164	114	135	117	61	49	74	57
2	172	147	82	79	160	125	125	106	64	50	68	59
3	169	143	86	79	185	135	117	101	81	53	82	68
4	185	169	88	79	188	133	122	98	86	66	82	62
5	192	179	85	78	160	123	100	83	87	62	76	56
6	186	150	84	77	164	116	89	75	76	59	76	52
7	150	97	89	77	116	86	96	74	87	59	59	49
8	109	95	95	79	94	84	149	92	80	57	62	54
9	113	90	91	77	94	85	232	121	68	53	61	53
10	115	90	88	77	93	82	174	122	84	53	68	50
11	90	86	87	77	89	78	184	144	68	57	66	47
12	99	84	86	76	88	77	163	122	70	55	59	46
13	98	83	77	75	85	77	145	123	64	53	61	48
14	90	84	82	76	89	77	146	134	66	54	77	58
15	86	83	77	75	86	78	165	136	68	56	71	53
16	85	83	79	75	85	79	165	102	66	52	75	59
17	90	84	86	78	95	79	138	106	69	58	82	59
18	89	83	86	83	86	75	138	123	76	61	84	57
19	96	82	98	86	---	---	137	100	68	62	68	53
20	---	---	113	96	---	---	139	106	88	63	76	49
21	---	---	125	113	---	---	176	138	92	64	66	48
22	---	---	143	120	---	---	171	134	77	64	71	52
23	---	---	182	73	---	---	142	106	73	56	90	52
24	121	89	183	157	---	---	138	106	74	60	103	58
25	103	83	157	64	---	---	154	74	80	67	103	86
26	94	84	180	69	---	---	74	59	83	68	109	89
27	87	82	163	129	---	---	74	59	77	69	105	81
28	87	81	149	127	---	---	78	60	87	73	100	82
29	85	80	195	145	---	---	78	56	86	61	119	88
30	91	80	178	146	---	---	64	57	95	55	126	103
31	---	---	186	140	---	---	64	54	66	58	---	---
MONTH	---	---	195	64	---	---	232	54	95	49	126	46

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	11.0	9.0	8.5	8.0	11.0	8.5	13.5	11.0
2	23.0	17.0	---	---	10.0	9.0	8.5	7.0	11.0	8.5	14.0	12.0
3	23.0	16.0	---	---	11.5	9.5	8.0	6.5	10.5	9.5	15.5	12.5
4	22.5	14.5	---	---	11.0	9.5	7.0	6.0	10.5	9.0	16.0	13.0
5	23.0	15.5	---	---	10.0	8.5	6.5	6.0	12.5	10.5	16.5	13.5
6	23.5	16.0	---	---	10.0	9.0	7.5	6.5	12.0	10.0	17.5	14.0
7	23.0	15.0	---	---	11.0	10.0	9.0	7.5	11.5	10.0	18.0	14.5
8	23.0	17.0	---	---	11.0	9.5	9.5	8.5	12.0	11.0	19.0	16.0
9	23.0	16.0	---	---	11.0	10.0	10.5	9.5	13.0	10.5	18.0	16.5
10	23.0	15.5	---	---	12.5	11.0	10.5	10.0	13.0	12.0	19.0	15.5
11	23.0	16.0	---	---	12.5	11.5	10.0	9.0	13.5	12.5	19.5	16.0
12	22.5	17.5	---	---	11.5	9.5	9.0	8.0	13.5	12.0	19.5	16.5
13	21.5	17.0	---	---	10.0	8.5	10.5	8.0	13.0	11.5	20.5	17.0
14	21.5	16.0	---	---	10.0	8.5	10.5	9.5	13.0	11.0	20.5	18.0
15	20.5	15.0	---	---	10.0	8.5	11.5	10.0	13.0	11.0	19.5	17.0
16	---	---	---	---	9.5	8.0	11.5	11.0	12.5	11.5	18.5	17.0
17	---	---	---	---	9.5	8.5	11.0	11.0	12.5	11.5	20.5	17.5
18	---	---	---	---	8.5	7.5	11.5	11.0	12.5	11.5	20.0	17.0
19	---	---	---	---	8.0	6.5	11.5	11.0	13.5	12.0	19.5	17.0
20	---	---	---	---	8.0	6.5	11.5	11.0	13.5	12.0	20.0	17.0
21	---	---	12.0	10.0	8.0	6.5	12.5	11.5	13.0	11.5	20.5	17.0
22	---	---	12.5	11.0	8.5	7.0	12.5	11.5	12.5	11.5	21.0	17.0
23	---	---	12.0	10.5	8.0	7.5	12.0	11.0	13.5	11.5	19.0	18.0
24	---	---	11.0	10.0	7.5	7.0	11.5	10.5	13.5	11.5	19.0	17.0
25	---	---	12.0	10.5	7.5	7.0	11.0	10.0	12.5	11.5	17.5	16.5
26	---	---	12.0	10.5	7.0	7.0	10.0	9.5	12.0	11.0	17.0	15.5
27	---	---	13.0	11.0	7.0	6.5	10.0	9.5	13.0	10.5	15.5	14.5
28	---	---	12.5	11.0	8.0	6.5	9.5	9.0	13.0	11.5	15.0	14.0
29	---	---	11.5	9.5	9.0	8.0	10.5	9.0	---	---	16.5	14.0
30	---	---	11.0	9.0	9.5	7.5	10.5	8.5	---	---	17.5	15.0
31	---	---	---	---	8.5	7.5	10.5	8.5	---	---	18.5	15.5
MONTH	---	---	---	---	12.5	6.5	12.5	6.0	13.5	8.5	21.0	11.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.5	16.0	17.5	16.0	24.0	20.5	26.0	21.5	25.0	22.5	23.0	20.5
2	18.5	15.5	17.0	16.0	24.5	20.5	26.5	22.5	25.5	23.0	23.5	20.5
3	18.5	16.5	17.0	16.0	23.5	20.5	25.5	21.5	24.5	23.5	23.5	21.0
4	19.5	17.0	16.5	15.0	21.5	20.0	25.5	22.0	25.5	22.0	24.0	21.5
5	19.5	16.5	16.5	14.5	21.5	19.0	25.5	22.0	25.5	22.5	23.5	21.0
6	19.5	16.0	16.5	15.0	20.0	18.5	26.0	22.5	25.0	22.0	22.5	20.5
7	17.5	16.0	17.0	15.0	20.0	18.0	26.5	22.5	24.5	21.5	22.5	20.0
8	16.0	15.0	16.5	15.0	20.0	17.5	26.5	22.5	24.5	21.5	22.0	20.0
9	16.0	15.0	17.0	15.0	20.5	18.0	27.0	22.5	24.0	21.5	22.0	20.0
10	15.5	14.5	17.5	15.5	22.0	19.0	27.0	22.5	24.0	21.5	22.0	20.0
11	14.5	13.5	17.0	16.0	21.0	19.0	27.5	23.0	23.5	21.0	22.0	20.0
12	14.0	12.5	17.0	15.5	20.0	18.5	27.5	23.5	23.5	20.5	21.5	19.0
13	14.0	12.5	16.5	15.0	20.5	18.5	27.5	23.0	23.5	21.0	21.0	19.0
14	14.5	12.5	17.0	15.0	21.0	19.0	27.0	22.5	23.5	20.5	20.5	18.5
15	15.0	13.5	17.0	15.5	21.5	19.5	26.5	22.0	23.5	20.5	20.0	18.5
16	14.5	13.5	17.0	15.5	21.5	19.5	26.5	22.0	23.0	20.5	20.0	18.0
17	14.0	13.0	17.5	16.0	22.0	19.5	26.5	21.5	22.5	20.5	19.0	17.5
18	14.0	12.0	18.5	16.5	22.5	20.5	27.0	22.0	23.5	20.5	19.0	16.5
19	14.0	12.5	20.0	17.5	---	---	27.0	22.5	23.0	21.0	19.0	17.5
20	---	---	21.0	18.5	---	---	26.5	22.5	23.0	20.5	19.5	17.0
21	---	---	21.5	18.0	---	---	26.0	22.0	23.5	20.5	19.5	17.0
22	---	---	23.0	19.0	---	---	27.0	22.0	24.0	21.0	19.0	17.0
23	---	---	24.0	20.0	---	---	28.0	23.5	24.0	21.5	19.0	17.0
24	16.0	14.0	23.5	20.0	---	---	28.0	23.5	23.5	21.0	19.5	16.5
25	16.0	14.5	22.5	20.0	---	---	28.5	24.0	23.5	21.0	20.0	17.0
26	16.5	15.0	23.5	20.0	---	---	26.5	24.0	23.5	20.5	20.5	17.5
27	16.5	15.0	22.5	20.5	---	---	26.0	23.0	24.0	21.0	20.5	18.0
28	16.5	15.0	23.5	20.0	---	---	25.5	22.5	24.0	21.0	21.0	18.0
29	17.0	15.0	24.5	20.0	---	---	25.0	22.0	24.0	21.0	21.0	18.5
30	17.5	16.0	23.0	21.0	---	---	24.5	21.5	23.0	20.5	21.5	19.0
31	---	---	23.5	20.5	---	---	25.0	22.0	23.0	20.0	---	---
MONTH	---	---	24.5	14.5	---	---	28.5	21.5	25.5	20.0	24.0	16.5

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.--Lat 37°21'02", long 120°58'34", in NW 1/4 SW 1/4 sec.3, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft downstream from bridge on Hills Ferry Road, 650 ft downstream from Merced River, and 3.5 mi northeast of Newman.

DRAINAGE AREA.--9,520 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1912 to current year. Water years 1938 to 1943 include flows through Merced River Slough.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Mar. 3, 1931, gage at various sites within 240 ft of bridge. Mar. 3, 1931, to Sept. 30, 1959, water-stage recorder within 300 ft of bridge, at datum 47.31 ft higher. Oct. 1, 1959, to Aug. 9, 1960, water-stage recorder at site 70 ft upstream, at present datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water; low flows consist mainly of return water from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river only), 30,700 ft^3/s, Mar. 4, 1983, elevation, 65.78 ft; minimum daily, 15 ft^3/s, Aug. 9, 10, 1924. Maximum discharge (including flow in Merced River Slough in water years 1938-43), 33,000 ft^3/s, Mar. 7, 1938.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 2, 1868, reached a stage of 69.0 ft from floodmarks; flood of February 1886 reached a stage of 67.1 ft from floodmarks; and flood of 1911 reached a stage of 66.3 ft from floodmarks. All stages referred to current datum. Discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,880 ft^3/s, Jan. 19, elevation, 57.47 ft; minimum daily, 72 ft^3/s, Oct. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	353	282	332	1000	2990	2160	1560	768	700	922	1050
2	89	391	281	364	920	2720	1950	1550	754	702	942	1000
3	86	398	280	474	851	2390	1800	1560	749	698	905	967
4	85	379	280	585	791	2030	1610	1600	745	698	861	926
5	85	379	291	572	745	1650	1430	1600	759	714	844	899
6	82	375	290	510	717	1400	1310	1600	814	759	885	943
7	78	373	291	507	727	1230	1610	1590	982	754	889	994
8	80	376	308	863	867	1080	1860	1590	1100	706	907	1010
9	79	384	331	1890	1160	981	1940	1560	1130	687	952	992
10	74	385	359	2210	1920	910	2120	1610	1130	642	970	959
11	72	379	373	2440	2250	867	2240	1630	1170	586	965	932
12	83	376	390	2250	2210	846	2260	1600	1170	604	974	933
13	89	376	418	2110	1890	838	2270	1570	1140	618	952	962
14	93	370	443	2550	1620	838	2290	1570	1160	614	942	972
15	90	336	435	3380	1440	816	2270	1550	1120	615	945	926
16	88	320	396	3850	1270	796	2170	1570	1100	620	1020	881
17	80	316	376	4200	1140	791	1930	1530	1070	637	1030	848
18	95	317	367	4530	1090	792	1720	1340	1060	612	1010	839
19	108	312	353	4790	1080	809	1680	1150	1110	620	1010	862
20	118	303	352	4530	1180	831	1650	947	961	599	977	915
21	134	297	343	4240	1460	831	1550	815	923	556	961	892
22	142	301	331	3970	1750	814	1490	762	860	535	1030	875
23	335	300	316	3630	1770	822	1470	719	844	556	1050	887
24	548	295	312	3270	1720	841	1460	715	815	577	1040	783
25	608	296	306	2880	1990	882	1450	700	796	568	1000	735
26	560	287	306	2420	2460	1100	1460	735	772	733	963	740
27	481	278	301	2020	2720	1980	1570	826	756	789	908	736
28	396	275	299	1700	3000	2410	1640	833	744	810	900	715
29	362	278	308	1500	---	2580	1610	806	732	844	951	682
30	343	281	318	1290	---	2560	1570	734	706	825	1030	648
31	340	---	328	1110	---	2380	---	738	---	878	1070	---
TOTAL	5993	10086	10364	70967	41738	42805	53540	38660	27940	20856	29805	26503
MEAN	193	336	334	2289	1491	1381	1785	1247	931	673	961	883
MAX	608	398	443	4790	3000	2990	2290	1630	1170	878	1070	1050
MIN	72	275	280	332	717	791	1310	700	706	535	844	648
AC-FT	11890	20010	20560	140800	82790	84900	106200	76680	55420	41370	59120	52570

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1937, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	290	362	796	1857	3623	3223	3395	5010	5490	1888	328	209
MAX	1422	1233	2907	8356	11840	13000	11780	14210	15700	8803	1370	442
(WY)	1919	1928	1923	1914	1916	1916	1916	1916	1922	1914	1914	1936
MIN	55.0	85.5	136	228	278	233	122	115	92.5	29.1	21.3	26.7
(WY)	1914	1932	1913	1918	1913	1913	1931	1931	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1912 - 1937	
ANNUAL MEAN		2208
HIGHEST ANNUAL MEAN	6585	1916
LOWEST ANNUAL MEAN	196	1931
HIGHEST DAILY MEAN	20700	Jan 27 1914
LOWEST DAILY MEAN	15	Aug 9 1924
ANNUAL SEVEN-DAY MINIMUM	17	Aug 4 1924
INSTANTANEOUS PEAK FLOW	20700	Jan 27 1914
INSTANTANEOUS PEAK STAGE	65.30	Jan 27 1914
ANNUAL RUNOFF (AC-FT)	1599000	
10 PERCENT EXCEEDS	7040	
50 PERCENT EXCEEDS	590	
90 PERCENT EXCEEDS	112	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	447	494	1558	3378	7512	10070	7308	8025	9334	3383	686	482
MAX	708	1065	2832	5111	14350	23500	11480	15310	21010	8625	1745	768
(WY)	1939	1939	1938	1942	1938	1938	1938	1938	1938	1938	1938	1938
MIN	226	190	423	1967	2442	679	959	627	333	234	225	278
(WY)	1940	1940	1940	1939	1939	1939	1939	1939	1939	1939	1939	1939

SUMMARY STATISTICS	WATER YEARS 1938 - 1943	
ANNUAL MEAN		4366
HIGHEST ANNUAL MEAN	8643	1938
LOWEST ANNUAL MEAN	904	1939
HIGHEST DAILY MEAN	33000	Mar 7 1938
LOWEST DAILY MEAN	170	Nov 9 1939
ANNUAL SEVEN-DAY MINIMUM	171	Nov 8 1939
INSTANTANEOUS PEAK FLOW	33000	Mar 7 1938
INSTANTANEOUS PEAK STAGE	65.81	Mar 7 1938
ANNUAL RUNOFF (AC-FT)	3163000	
10 PERCENT EXCEEDS	11900	
50 PERCENT EXCEEDS	1580	
90 PERCENT EXCEEDS	291	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	648	649	1201	2054	2776	2881	2779	2611	2092	827	484	607
MAX	5831	4039	10880	12490	21100	24170	18860	14050	15280	11320	2683	3786
(WY)	1984	1984	1983	1983	1983	1983	1983	1983	1983	1983	1983	1983
MIN	25.2	122	202	230	180	212	159	141	48.7	45.9	80.4	41.2
(WY)	1978	1978	1950	1991	1991	1948	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1944 - 1993	
ANNUAL TOTAL	122040		379257			
ANNUAL MEAN	333		1039		1627	
HIGHEST ANNUAL MEAN					11620	1983
LOWEST ANNUAL MEAN					200	1961
HIGHEST DAILY MEAN	2310	Feb 18	4790	Jan 19	30300	Mar 4 1983
LOWEST DAILY MEAN	72	Oct 11	72	Oct 11	20	Oct 26 1977
ANNUAL SEVEN-DAY MINIMUM	78	Oct 6	78	Oct 6	23	Oct 7 1977
INSTANTANEOUS PEAK FLOW			4880	Jan 19	30700	Mar 4 1983
INSTANTANEOUS PEAK STAGE			57.47	Jan 19	65.78	Mar 4 1983
INSTANTANEOUS LOW FLOW			72	Oct 11		
ANNUAL RUNOFF (AC-FT)	242100		752300		1179000	
10 PERCENT EXCEEDS	701		2110		3650	
50 PERCENT EXCEEDS	279		860		558	
90 PERCENT EXCEEDS	102		297		209	

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989, July 1992 to current year. Data for the period March 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
CHEMICAL DATA: October 1992 to September 1993.
SPECIFIC CONDUCTANCE: Water year 1989, 1992 to current year.
TEMPERATURE: Water year 1989, 1992 to current year.
SEDIMENT DATA: October 1992 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Water year 1989, July 1992 to current year.
WATER TEMPERATURE: Water year 1989, July 1992 to current year.

INSTRUMENTATION.--Water-quality monitor October 1988 to September 1989 and since July 1992.

REMARKS.--The water-quality monitor for this site is located 1.2 mi downstream from the gage. Specific-conductance and water-temperature values are affected by an irrigation-return-flow canal upstream or by a pump located by monitor electrodes.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 2,900 microsiemens, July 13, 1992; minimum recorded, 136 microsiemens, Jan. 10, 1993.
WATER TEMPERATURE: Maximum recorded, 32.0°C, July 14, 1992; minimum recorded, 4.5°C, January 3, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 2,180 microsiemens, Mar. 15; minimum recorded, 136 microsiemens, Jan. 10.
WATER TEMPERATURE: Maximum recorded, 29.0°C, July 7, 8, 25; minimum recorded, 4.5°C, Jan. 3.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR										
31...	1300	2390	0.060	0.550	0.110	0.80	1.0	0.240	0.160	0.170

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAR				
31...	1300	2390	35	226

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1700	1450	778	641	952	931	1450	1370	1300	1240	826	721
2	1800	1620	778	693	976	947	1530	1450	1340	1300	944	826
3	1850	1710	782	690	962	924	1550	1070	1410	1340	1050	944
4	1820	1660	785	743	1000	925	1300	949	1460	1410	1230	1050
5	1830	1680	833	753	1010	946	949	812	1520	1460	1410	1230
6	1870	1740	894	830	1100	946	951	863	1600	1520	1550	1410
7	1930	1800	895	837	1040	981	1030	933	1610	1540	1620	1540
8	1990	1700	898	803	998	969	1060	473	1540	1450	1760	1620
9	1890	1780	894	848	1130	977	473	160	1450	1230	1830	1760
10	1890	1780	905	861	1280	1130	208	136	1230	934	1850	1780
11	2040	1820	917	885	1350	1280	425	208	936	475	1920	1800
12	2020	1570	922	887	1420	1350	427	384	744	541	1990	1870
13	1810	1520	940	904	1400	1280	535	426	903	744	1980	1910
14	1700	1490	1030	932	1440	1390	541	445	1060	903	1990	1920
15	1720	1540	1030	1010	1470	1420	445	232	1130	1060	2180	1930
16	1710	1540	1050	990	1520	1450	272	239	1320	1130	2030	1980
17	1900	1710	1050	987	1480	1420	277	253	1400	1320	2030	1950
18	1960	1410	1060	1040	1470	1340	354	277	1430	1380	1970	1930
19	1410	1190	1070	1010	1400	1340	367	344	1430	1400	1950	1920
20	1220	1200	1060	1010	1410	1400	370	324	1400	1350	1930	1860
21	1220	1140	1080	1060	1410	1380	452	370	1350	1290	1870	1850
22	1140	898	1090	1060	1420	1390	488	452	1290	1210	1870	1840
23	898	493	1070	967	1480	1400	510	488	1220	1030	1850	1620
24	493	333	978	953	1480	1420	517	499	1120	1040	1620	1440
25	346	311	984	927	1470	1440	622	517	1070	611	1440	1400
26	387	341	946	906	1470	1440	705	622	723	637	1490	1400
27	518	387	992	945	1440	1400	840	705	696	677	1510	1400
28	621	518	1000	990	1400	1350	967	840	721	672	1400	1300
29	718	549	1000	963	1400	1390	1030	967	---	---	1300	1230
30	718	650	970	938	1430	1400	1140	1030	---	---	1270	1230
31	689	653	---	---	1400	1370	1240	1140	---	---	1320	1270
MONTH	2040	311	1090	641	1520	924	1550	136	1610	475	2180	721

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1390	1320	880	857	1130	1000	1390	1280	849	743	779	631
2	1440	1390	857	788	1030	981	1390	1290	915	806	717	628
3	1480	1440	788	729	1180	992	1330	1190	964	844	767	655
4	1530	1480	747	713	1310	1180	1310	1180	952	870	830	662
5	1550	1520	748	686	1310	1170	1270	1190	950	916	855	764
6	1600	1550	749	741	1320	1180	1240	1160	947	837	835	647
7	1560	1220	766	745	1180	1010	1240	1180	890	844	710	629
8	1250	1160	762	734	1100	992	1350	1240	867	806	702	614
9	1170	1080	756	731	1040	976	1340	1230	843	743	636	594
10	1080	898	761	724	1040	981	1380	1310	767	721	637	597
11	915	860	773	731	1030	926	1500	1360	765	727	739	631
12	913	821	773	722	951	877	1460	1310	846	733	761	654
13	821	787	819	722	958	925	1380	1290	853	800	736	586
14	787	758	867	813	1040	901	1300	1250	834	786	689	598
15	823	772	857	784	1060	938	1320	1230	831	786	950	642
16	831	804	851	823	1010	929	1330	1180	815	769	1250	597
17	924	831	896	823	1050	936	1270	1170	777	703	622	569
18	910	827	1000	878	1040	902	1280	1200	738	673	703	622
19	880	847	1150	986	961	871	1270	970	738	672	730	607
20	877	849	1180	1020	1110	961	1260	1200	834	720	620	567
21	905	867	1310	1040	1080	986	1480	1260	826	759	712	570
22	911	878	1520	1310	1190	1050	1530	1300	802	715	700	622
23	889	852	1570	1470	1180	1050	1300	1170	742	676	714	628
24	929	866	1540	1440	1130	943	1280	1160	734	668	795	689
25	982	929	1550	1440	1190	910	1290	1020	814	702	809	759
26	975	924	1580	1410	1200	1140	1020	881	881	799	789	730
27	929	877	1410	1310	1220	1170	957	921	902	856	779	616
28	911	869	1330	1280	1290	1180	944	883	903	786	618	554
29	912	883	1290	1160	1300	1220	938	878	826	703	646	556
30	919	862	1180	1130	1360	1260	955	886	703	643	702	646
31	---	---	1150	1110	---	---	895	766	710	638	---	---
MONTH	1600	758	1580	686	1360	871	1530	766	964	638	1250	554

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	27.0	23.0	19.0	16.5	11.0	9.0	8.5	8.0	10.5	8.5	12.5	11.0
2	24.5	20.5	19.5	16.0	10.5	9.0	8.0	6.5	10.5	9.0	14.0	12.0
3	23.0	19.0	18.0	15.5	11.5	9.5	7.5	4.5	11.0	10.0	15.0	13.5
4	23.5	19.0	17.0	14.5	10.5	9.5	7.0	5.5	11.5	10.0	16.0	14.0
5	24.0	18.5	17.5	15.0	10.0	8.0	6.0	5.5	13.5	11.5	16.5	14.5
6	23.5	19.0	17.5	15.0	10.5	9.5	7.0	6.0	13.5	12.0	17.5	15.5
7	24.0	19.5	17.0	15.0	11.5	10.5	9.0	7.0	13.5	12.0	18.5	16.0
8	23.5	19.5	16.0	14.5	11.0	9.5	9.5	8.5	13.5	13.0	19.5	17.0
9	23.0	19.0	14.5	12.5	11.0	10.5	10.5	9.0	13.5	12.5	19.0	18.0
10	23.5	19.0	13.0	11.0	13.0	11.0	10.5	9.5	13.5	12.5	19.5	17.0
11	23.5	19.5	13.0	10.0	12.5	11.0	10.0	9.0	14.0	13.0	19.5	17.0
12	24.0	20.0	13.0	10.0	11.0	9.0	9.5	8.0	13.5	13.0	19.5	17.0
13	23.5	19.5	13.0	10.5	9.5	7.5	9.5	8.0	13.5	12.0	20.5	18.0
14	22.5	19.0	13.0	10.5	9.0	7.0	10.5	9.5	13.0	12.0	20.5	19.0
15	22.0	18.0	13.5	11.5	9.0	6.5	11.5	10.5	13.0	11.5	19.5	18.0
16	21.5	18.0	14.0	12.5	8.5	7.0	11.5	10.5	12.5	11.5	19.0	17.5
17	21.5	18.0	14.5	12.5	9.0	8.0	11.0	10.5	12.0	11.5	20.5	18.0
18	22.0	18.0	14.0	12.0	8.5	7.0	11.5	10.5	12.5	11.5	20.0	17.5
19	21.5	17.5	12.5	11.5	7.5	6.0	11.5	11.0	13.5	12.0	20.0	17.5
20	22.0	18.5	11.5	10.5	8.0	6.5	11.5	11.0	13.5	12.0	20.0	17.5
21	23.0	20.0	11.5	9.5	8.0	6.5	12.5	11.5	13.5	12.0	20.5	17.5
22	21.5	18.0	12.0	11.0	8.5	7.0	12.5	12.0	12.5	12.0	21.0	18.0
23	21.0	18.5	11.5	10.0	8.0	7.5	12.0	11.0	13.0	11.5	20.0	18.5
24	20.5	18.5	11.0	10.0	7.5	7.5	11.0	10.0	13.0	11.5	19.0	17.5
25	20.5	19.0	12.5	10.5	7.5	7.0	10.5	9.5	12.5	12.0	18.5	16.5
26	21.0	19.0	12.0	10.5	7.5	7.0	9.5	9.0	12.5	11.0	17.0	16.0
27	20.5	19.0	13.0	11.5	7.0	6.5	9.5	9.0	11.5	10.0	16.5	15.0
28	19.5	18.5	12.5	11.0	8.5	6.5	9.0	8.5	12.0	10.5	15.0	14.0
29	19.0	17.5	11.5	9.5	9.5	8.0	9.5	8.5	---	---	16.0	14.5
30	18.0	17.0	10.5	9.0	9.5	7.5	10.0	8.5	---	---	17.5	15.5
31	18.0	15.5	---	---	9.0	7.5	10.0	8.5	---	---	19.0	17.0
MONTH	27.0	15.5	19.5	9.0	13.0	6.0	12.5	4.5	14.0	8.5	21.0	11.0

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

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA

LOCATION.--Lat 37°18'56", long 121°07'27", in NE 1/4 NE 1/4 sec.19, T.7 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 20 ft downstream from bridge at California Aqueduct Siphon, 3 mi downstream from Oso Creek, and 5.5 mi west of Newman.

DRAINAGE AREA.--134 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1932 to current year.

REVISED RECORDS.--WSP 1445: 1932(M), 1938(P), 1940-41(M), 1945, 1951(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 216.01 ft above sea level. Prior to Oct. 1, 1958, at site 1,080 ft downstream at datum 24.14 ft lower. Oct. 1, 1958, to Aug. 13, 1969, at site 960 ft downstream at datum 27.14 ft lower. Aug. 13, 1969, to Feb. 6, 1984, at site 240 ft upstream, present datum.

REMARKS.--No estimated daily discharges. Records good except for discharges below 1 ft^3/s, which are fair. No storage or diversion upstream from station except for minor stock ponds.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Apr. 2, 1958, gage height, 6.57 ft, site and datum then in use, from rating curve extended above 5,000 ft^3/s; no flow for all or parts of each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0900	464	4.96	Feb. 18	2400	2,580	6.67
Jan. 13	1430	*4,190	*7.96	Mar. 26	1500	523	4.31
Feb. 8	1945	1,440	5.74				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	19	187	64	6.7	2.2	.00	.00	.00
2	.00	.00	.00	.00	17	151	55	6.3	1.7	.00	.00	.00
3	.00	.00	.00	.00	16	125	50	5.8	1.3	.00	.00	.00
4	.00	.00	.00	.00	15	101	46	5.8	1.2	.00	.00	.00
5	.00	.00	.00	.00	15	86	41	6.2	1.6	.00	.00	.00
6	.00	.00	.00	.00	13	73	38	6.2	2.0	.00	.00	.00
7	.00	.00	.00	180	14	65	36	6.2	1.5	.00	.00	.00
8	.00	.00	.00	105	583	58	33	6.1	1.4	.00	.00	.00
9	.00	.00	.00	37	417	51	29	6.5	1.2	.00	.00	.00
10	.00	.00	.00	70	198	46	26	6.6	.92	.00	.00	.00
11	.00	.00	.00	46	148	42	24	5.4	.69	.00	.00	.00
12	.00	.00	.00	28	111	40	22	5.6	.56	.00	.00	.00
13	.00	.00	.00	1990	80	39	20	5.8	.45	.00	.00	.00
14	.00	.00	.00	1020	63	38	18	5.7	.36	.00	.00	.00
15	.00	.00	.00	298	52	35	17	4.9	.26	.00	.00	.00
16	.00	.00	.00	214	44	32	15	4.6	.20	.00	.00	.00
17	.00	.00	.00	659	41	34	14	3.9	.13	.00	.00	.00
18	.00	.00	.00	539	341	32	16	3.3	.10	.00	.00	.00
19	.00	.00	.00	240	1570	29	14	3.0	.08	.00	.00	.00
20	.00	.00	.00	153	757	28	13	2.9	.03	.00	.00	.00
21	.00	.00	.00	184	328	26	11	2.4	.01	.00	.00	.00
22	.00	.00	.00	224	224	26	10	2.3	.00	.00	.00	.00
23	.00	.00	.00	165	211	24	9.7	2.2	.00	.00	.00	.00
24	.00	.00	.00	107	229	31	9.5	2.2	.00	.00	.00	.00
25	.00	.00	.00	70	181	35	9.2	2.9	.00	.00	.00	.00
26	.00	.00	.00	52	490	350	8.5	3.9	.00	.00	.00	.00
27	.00	.00	.00	42	312	237	7.7	2.7	.00	.00	.00	.00
28	.00	.00	.00	34	232	188	7.3	2.1	.00	.00	.00	.00
29	.00	.00	.00	29	---	131	7.2	1.8	.00	.00	.00	.00
30	.00	.00	.00	24	---	98	7.0	1.6	.00	.00	.00	.00
31	.00	---	.00	20	---	78	---	2.1	---	.00	.00	---
TOTAL	0.00	0.00	0.00	6530.00	6721	2516	678.1	133.7	17.89	0.00	0.00	0.00
MEAN	.000	.000	.000	211	240	81.2	22.6	4.31	.60	.000	.000	.000
MAX	.00	.00	.00	1990	1570	350	64	6.7	2.2	.00	.00	.00
MIN	.00	.00	.00	.00	13	24	7.0	1.6	.00	.00	.00	.00
AC-FT	.00	.00	.00	12950	13330	4990	1350	265	35	.00	.00	.00

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	1.03	11.3	40.4	76.9	45.2	22.7	3.08	.64	.11	.001	.000
MAX	.000	31.0	181	264	482	335	362	46.9	15.1	5.32	.045	.000
(WY)	1933	1951	1956	1983	1980	1983	1958	1983	1941	1941	1958	1932
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1933	1933	1933	1936	1935	1933	1933	1933	1932	1932	1932	1932

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1932 - 1993		
ANNUAL TOTAL	1224.66		16596.69				
ANNUAL MEAN	3.35		45.5		16.5		
HIGHEST ANNUAL MEAN					89.4		1983
LOWEST ANNUAL MEAN					.000		1947
HIGHEST DAILY MEAN	368	Feb 15	1990	Jan 13	3170	Dec 23	1955
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	May 9	1932
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	May 9	1932
INSTANTANEOUS PEAK FLOW			4190	Jan 13	10200	Apr 2	1958
INSTANTANEOUS PEAK STAGE			7.96	Jan 13	7.96	Jan 13	1993
ANNUAL RUNOFF (AC-FT)	2430		32920		11940		
10 PERCENT EXCEEDS	3.9		106		18		
50 PERCENT EXCEEDS	.00		.00		.00		
90 PERCENT EXCEEDS	.00		.00		.00		

11274500 ORESTIMBA CREEK AT NEAR NEWMAN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1992 to September 1993.
CHEMICAL DATA: February 1992 to September 1993.
SEDIMENT DATA: February 1992 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
FEB										
17...	1215	40	640	8.8	11.0	760	11.2	102	238	5
18...	0930	64	620	8.3	11.0	750	--	--	260	0
19...	1000	1790	225	8.0	11.0	755	11.0	101	177	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
FEB									
17...	202	<0.010	0.540	0.020	<0.20	<0.20	0.010	0.020	0.010
18...	213	<0.010	0.450	0.020	<0.20	<0.20	0.010	0.020	<0.010
19...	145	0.010	0.290	0.020	1.2	0.30	0.440	0.050	0.030

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
FEB					
17...	1215	40	11.0	1	0.11
18...	0930	64	11.0	2	0.35
19...	1000	1790	11.0	1750	8460

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA

LOCATION.--Lat 37°24'49", long 121°00'54", in Orestimba Grant, Stanislaus County, Hydrologic Unit 18040002, on right bank at downstream side of River Road Bridge, 0.8 mi upstream of mouth, and 3.4 mi northeast of Crows Landing.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 65 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flows during summer and fall consist mainly of return water from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, Jan. 13, 1993, gage height 11.37 ft, from rating curve extended above 1,600 ft^3/s; no flow for many days during winter months.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,300 ft^3/s, Jan. 13, gage height, 11.37 ft; no flow for several days during winter months.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	1.7	10	.72	.07	192	66	31	6.3	12	26	6.6
2	4.0	2.4	3.7	.45	.00	157	57	43	12	13	28	30
3	8.3	29	19	.09	.00	e132	50	28	16	19	28	4.8
4	1.9	11	13	.16	.00	e110	93	7.6	72	28	23	.74
5	.67	2.9	17	.00	.00	e95	119	30	58	35	24	35
6	6.7	2.5	28	.25	.00	e80	47	24	18	36	48	40
7	2.6	27	25	11	7.7	e75	74	3.0	52	16	30	11
8	1.0	43	22	77	305	e70	65	23	19	47	74	2.2
9	3.1	50	20	32	582	e60	43	33	1.4	65	93	2.4
10	1.7	40	22	13	239	e55	57	62	.94	20	81	27
11	2.2	34	21	37	169	e50	47	13	.97	45	52	36
12	e15	15	16	20	144	e48	30	37	8.7	48	44	15
13	e5.0	2.0	e11	980	114	e46	21	16	15	15	47	53
14	.55	1.0	e5.6	1420	97	e44	22	8.7	3.2	31	75	20
15	.27	23	.46	388	84	e42	26	9.6	1.4	23	95	.12
16	.37	21	.34	246	69	40	16	32	5.0	28	88	37
17	2.3	11	.09	408	60	35	10	28	4.6	27	47	28
18	4.0	11	.00	740	78	64	22	12	13	44	71	.48
19	3.6	4.2	.00	252	1250	41	20	37	11	49	69	20
20	20	1.6	.00	128	788	39	3.5	20	7.9	23	36	16
21	4.1	2.7	.00	123	e350	27	2.3	5.8	14	23	45	7.6
22	.42	17	.00	e130	e250	18	6.3	6.1	28	24	50	.04
23	.65	13	.00	e100	205	17	3.7	6.0	24	21	42	.40
24	.61	16	.00	e80	235	43	5.7	5.4	20	15	33	17
25	.49	32	.00	e65	186	85	4.9	15	76	24	12	34
26	.49	20	.00	52	426	279	29	7.5	50	53	7.4	34
27	.12	19	3.5	39	354	284	13	43	32	43	8.6	52
28	7.8	33	2.9	29	251	220	6.3	30	14	24	35	55
29	6.1	28	1.6	20	---	154	7.9	65	16	17	59	24
30	7.9	21	.80	13	---	116	27	23	27	47	34	24
31	8.7	---	.17	4.9	---	85	---	13	---	19	24	---
TOTAL	147.64	535.0	243.16	5409.57	6243.77	2803	994.6	717.7	627.41	934	1429.0	633.38
MEAN	4.76	17.8	7.84	175	223	90.4	33.2	23.2	20.9	30.1	46.1	21.1
MAX	27	50	28	1420	1250	284	119	65	76	65	95	55
MIN	.12	1.0	.00	.00	.00	17	2.3	3.0	.94	12	7.4	.04
AC-FT	293	1060	482	10730	12380	5560	1970	1420	1240	1850	2830	1260

e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.76	17.8	7.84	175	223	90.4	33.2	17.7	14.1	22.1	28.6	12.6
MAX	4.76	17.8	7.84	175	223	90.4	33.2	23.2	20.9	30.1	46.1	21.1
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	4.76	17.8	7.84	175	223	90.4	33.2	12.3	7.38	14.1	11.2	4.04
(WY)	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 WATER YEAR		WATER YEARS 1992 - 1993		
ANNUAL TOTAL	20718.23				
ANNUAL MEAN	56.8		56.8		
HIGHEST ANNUAL MEAN			56.8		1993
LOWEST ANNUAL MEAN			56.8		1993
HIGHEST DAILY MEAN	1420	Jan 14	1420	Jan 14	1993
LOWEST DAILY MEAN	.00	Dec 18	.00	Dec 18	1992
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 18	.00	Dec 18	1992
INSTANTANEOUS PEAK FLOW	2300	Jan 13	2300	Jan 13	1993
INSTANTANEOUS PEAK STAGE	11.37	Jan 13	11.37	Jan 13	1993
ANNUAL RUNOFF (AC-FT)	41090		41120		
10 PERCENT EXCEEDS	104		75		
50 PERCENT EXCEEDS	23		14		
90 PERCENT EXCEEDS	.63		1.1		

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1992 to current year.
CHEMICAL DATA: April 1992 to current year.
SPECIFIC CONDUCTANCE: April 1992 to current year.
WATER TEMPERATURE: April 1992 to current year.
SEDIMENT DATA: April 1992 to current year.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1992 to current year.
WATER TEMPERATURE: April 1992 to current year.
INSTRUMENTATION.--Water-quality monitor since April 1992.
REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Specific-conductance, water-temperature, and chemical values are affected by irrigation-return flow from a drainage pipe located 30 ft upstream from gage.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,890 microsiemens, Sept. 13, 1992; minimum recorded, 103 microsiemens, Jan. 7, 1993.
WATER TEMPERATURE: Maximum recorded, 30.0°C, June 3, July 27, 1992, July 29, Aug. 1, 2, 1993; minimum recorded, 4.0°C, Dec. 28, 1992.
EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,520 microsiemens, Oct. 28; minimum recorded, 103 microsiemens, Jan. 7.
WATER TEMPERATURE: Maximum recorded, 30.0°C, July 29, Aug. 1, 2; minimum recorded, 4.0°C, Dec. 28.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	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 16...	1500	0.25	1250	8.0	19.0	760	--	--	--	--	--
DEC 15...	1030	0.46	980	7.7	6.0	763	11.1	89	190	40	23
JAN 08...	1330	70	392	8.0	9.0	754	10.1	88	110	24	13
13...	1030	464	332	7.8	7.0	756	11.2	93	120	25	15
20...	1040	128	417	7.9	10.5	768	10.9	97	140	31	16
22...	1010	193	426	8.3	12.0	770	10.4	96	150	33	17
26...	1045	54	601	8.6	7.0	766	11.6	95	180	39	21
29...	0950	20	598	[1]8.2	8.0	765	11.5	97	240	48	28
FEB 08...	1000	145	251	7.4	13.0	748	10.3	100	80	18	8.4
08...	1200	220	288	7.5	13.0	748	10.3	100	--	--	--
08...	1445	235	404	7.7	13.0	748	10.5	102	--	--	--
08...	1700	371	481	7.5	13.0	748	10.4	101	--	--	--
08...	1900	430	448	7.6	13.0	750	10.3	99	--	--	--
09...	1315	408	279	7.6	12.5	760	10.3	97	--	--	--
11...	1200	162	474	8.3	11.5	767	10.2	93	180	37	21
16...	1045	69	673	8.3	9.0	762	11.1	96	--	--	--
18...	1430	86	566	8.3	11.0	752	12.7	117	--	--	--
18...	1815	94	373	8.5	11.0	752	12.8	118	--	--	--
18...	2315	105	592	8.3	12.0	752	10.7	101	--	--	--
19...	0430	1340	329	7.9	11.0	755	10.8	99	--	--	--
19...	0630	1630	245	8.0	11.0	750	10.9	100	--	--	--
19...	1100	1380	236	8.2	11.0	753	10.2	94	--	--	--
20...	1200	820	266	8.4	9.5	759	11.1	98	--	--	--
23...	1210	195	494	8.4	11.0	755	10.4	95	200	42	23
26...	1130	488	511	8.1	8.0	760	11.7	99	210	46	24
MAR 02...	1410	154	586	8.1	12.5	767	10.5	98	240	51	28
05...	1040	86	666	8.3	14.0	770	9.8	94	260	54	31
09...	1200	47	715	8.6	18.0	765	10.0	105	290	57	36
12...	1030	50	739	8.4	17.0	767	8.6	89	280	57	34
15...	1245	126	793	8.4	18.0	767	9.6	101	250	52	30
18...	1045	87	906	8.4	17.0	768	9.2	95	260	51	33
22...	1220	18	926	8.4	18.5	766	10.7	114	300	59	38
26...	1345	376	743	7.9	14.0	758	9.5	93	280	56	33
29...	1545	150	619	8.4	15.5	765	9.8	98	250	53	29
APR 01...	0950	67	709	8.1	16.5	765	9.0	92	300	59	36
06...	1400	39	869	8.4	17.5	765	9.2	96	290	55	37
14...	1100	24	[1]579	8.3	18.0	763	8.8	93	130	28	14
20...	1115	2.7	952	8.2	17.5	765	9.5	99	300	58	37
27...	1130	8.9	574	7.8	18.0	763	8.8	93	150	32	17
MAY 04...	1130	3.4	740	8.1	18.5	765	8.2	88	220	48	24
21...	1130	11	873	8.1	19.0	763	8.0	87	240	50	28
JUN 01...	1110	6.7	713	8.0	22.5	762	8.0	93	290	63	33
14...	1220	1.8	870	8.1	21.0	763	7.2	81	--	--	--
29...	1220	13	760	8.0	22.0	760	8.0	92	240	56	25
JUL 15...	1300	20	571	7.3	22.0	763	8.1	93	170	37	19
AUG 03...	1400	26	710	8.0	26.0	760	7.2	89	210	46	23
25...	1115	16	460	8.0	21.0	761	8.0	90	150	34	15
SEP 07...	1405	17	452	7.9	22.5	763	8.2	95	130	28	14
29...	0900	29	492	8.0	24.0	759	8.4	100	140	30	15

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

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

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
16...	--	--	--	--	251	0	206	--	--	--
DEC										
15...	120	--	4	--	121	0	99	110	150	0.20
JAN										
08...	20	--	0.8	--	143	0	117	39	19	0.20
13...	21	--	0.8	--	203	0	166	56	12	<0.10
20...	21	24	0.8	2.2	148	0	121	57	10	0.20
22...	23	24	0.8	2.2	161	2	135	61	11	0.20
26...	28	25	0.9	2.1	174	2	145	82	14	0.20
29...	37	--	1	--	141	0	147	110	18	0.20
FEB										
08...	13	--	0.6	--	94	0	77	23	19	0.10
08...	--	--	--	--	91	0	74	--	--	--
08...	--	--	--	--	136	0	111	--	--	--
08...	--	--	--	--	135	0	111	--	--	--
08...	--	--	--	--	150	0	123	--	--	--
09...	--	--	--	--	127	0	104	--	--	--
11...	27	--	0.9	--	189	0	155	80	11	0.20
16...	--	--	--	--	185	2	155	--	--	--
18...	--	--	--	--	221	0	181	--	--	--
18...	--	--	--	--	218	8	192	--	--	--
18...	--	--	--	--	207	2	172	--	--	--
19...	--	--	--	--	181	0	148	--	--	--
19...	--	--	--	--	189	0	155	--	--	--
19...	--	--	--	--	124	0	101	--	--	--
20...	--	--	--	--	116	2	97	--	--	--
23...	27	--	0.8	--	185	5	160	85	10	0.20
26...	31	--	0.9	--	205	0	168	81	15	0.10
MAR										
02...	34	--	0.9	--	208	0	171	130	13	0.20
05...	36	23	1	2.4	242	0	199	140	16	0.20
09...	44	25	1	2.6	288	2	240	160	18	0.20
12...	44	25	1	3.9	354	2	294	150	22	0.10
15...	76	39	2	4.1	193	2	162	170	81	0.20
18...	70	36	2	3.9	246	2	206	160	73	0.20
22...	79	36	2	5.1	200	2	168	210	62	0.20
26...	50	28	1	4.1	244	0	200	180	24	0.20
29...	39	25	1	3.2	215	2	180	130	17	0.20
APR										
01...	44	24	1	2.8	246	0	202	170	16	0.20
06...	61	31	2	3.5	275	2	228	190	46	0.20
14...	62	51	2	2.2	275	--	226	93	70	0.10
20...	71	34	2	4.1	252	0	207	200	62	0.20
27...	54	43	2	4.3	112	0	91	81	66	0.20
MAY										
04...	63	38	2	3.9	173	0	141	100	88	0.20
21...	73	39	2	3.8	181	0	148	170	77	0.20
JUN										
01...	76	36	2	3.9	202	0	165	180	90	0.20
14...	--	--	--	--	207	0	170	--	--	--
29...	61	35	2	4.2	167	0	137	110	79	0.20
JUL										
15...	50	38	2	2.8	144	0	118	83	58	0.20
AUG										
03...	54	35	2	3.6	171	0	140	100	68	0.20
25...	40	37	1	3.5	124	0	102	66	51	0.10
SEP										
07...	41	41	2	2.6	70	0	57	59	39	0.10
29...	44	41	2	2.3	153	0	126	56	53	0.20

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

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

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
16...	--	--	--	--	--	--	--	--	--
DEC									
15...	6.5	1060	--	--	0.020	0.630	0.090	0.40	0.30
JAN									
08...	10	214	--	--	0.050	1.10	1.90	3.9	2.7
13...	12	215	--	--	0.040	1.00	0.140	4.8	0.60
20...	14	233	249	0.32	0.130	5.00	1.40	0.40	--
22...	14	251	247	0.34	0.010	1.00	0.030	0.30	0.20
26...	14	313	293	0.43	0.020	1.10	0.020	0.30	0.20
29...	15	361	--	--	0.020	1.30	<0.010	0.20	0.20
FEB									
08...	4.6	--	--	--	0.050	1.80	0.240	4.8	0.70
08...	--	--	--	--	0.060	1.40	0.270	4.0	1.3
08...	--	--	--	--	0.040	1.00	0.180	2.3	0.70
08...	--	--	--	--	0.030	0.800	0.110	1.5	0.60
08...	--	--	--	--	0.020	0.450	0.060	1.7	0.30
09...	--	--	--	--	0.030	0.430	0.040	1.0	0.40
11...	14	--	--	--	0.010	0.700	0.030	0.40	0.30
16...	--	--	--	--	<0.010	0.670	0.020	0.20	<0.20
18...	--	--	--	--	<0.010	0.700	0.020	1.0	<0.20
18...	--	--	--	--	0.010	0.660	0.030	0.50	0.40
18...	--	--	--	--	0.040	0.800	0.110	0.70	0.40
19...	--	--	--	--	<0.010	0.240	0.020	3.4	0.40
19...	--	--	--	--	0.010	0.260	0.030	2.9	0.50
19...	--	--	--	--	0.010	0.290	0.030	0.90	0.50
20...	--	--	--	--	<0.010	0.300	0.020	0.90	0.30
23...	15	--	--	--	0.020	0.730	0.020	<0.20	<0.20
26...	18	296	--	--	0.020	0.620	0.030	1.8	0.30
MAR									
02...	15	--	--	--	--	--	--	--	--
05...	14	423	415	0.58	0.010	0.640	0.010	0.20	<0.20
09...	9.0	464	472	0.63	0.020	0.340	0.010	0.20	<0.20
12...	7.5	432	500	0.59	0.020	1.10	0.100	0.60	0.30
15...	7.4	533	521	0.72	0.020	0.740	0.040	0.50	0.30
18...	6.7	528	521	0.72	--	--	--	--	--
22...	6.1	592	566	0.81	0.040	1.40	0.070	0.60	0.40
26...	11	474	481	0.64	0.040	0.570	0.210	0.80	0.50
29...	14	381	396	0.52	0.020	0.490	0.070	0.50	0.40
APR									
01...	11	480	462	0.65	0.020	0.330	0.020	0.20	<0.20
06...	11	549	541	0.75	--	--	--	--	--
14...	14	335	419	0.46	--	--	--	--	--
20...	9.4	560	570	0.76	0.020	0.900	0.030	0.50	0.30
27...	14	353	333	0.48	0.060	1.70	0.400	1.1	0.90
MAY									
04...	17	452	447	0.61	0.040	3.80	0.040	0.50	0.50
21...	15	521	525	0.71	0.020	4.00	0.020	0.70	0.50
JUN									
01...	14	592	585	0.81	0.060	5.70	0.090	0.70	0.40
14...	--	--	--	--	0.070	8.50	1.20	1.4	1.4
29...	13	513	498	0.70	0.060	13.8	3.90	5.7	4.9
JUL									
15...	11	349	342	0.47	0.020	2.30	0.040	0.80	0.30
AUG									
03...	14	423	414	0.58	0.070	4.60	0.110	1.3	0.70
25...	15	300	297	0.41	0.020	2.50	0.020	0.60	0.40
SEP									
07...	15	269	241	0.37	0.010	1.60	0.020	<0.20	0.30
29...	15	277	297	0.38	0.010	1.40	0.030	0.50	0.20

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

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

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
16...	--	--	--	--	--	--	--	--	--	--
DEC										
15...	0.070	0.060	0.070	--	16	12	--	--	7.7	0.5
JAN										
08...	0.820	0.470	0.400	--	160	47	--	--	--	--
13...	2.00	0.120	0.100	--	540	180	--	--	15	>25
20...	0.10	--	0.220	--	32	18	--	--	14	--
22...	0.080	0.030	0.030	--	23	8	--	--	12	3.0
26...	0.040	0.040	0.020	--	15	12	--	--	9.6	0.7
29...	0.050	0.030	0.030	--	8	9	--	--	7.0	0.8
FEB										
08...	2.70	0.190	0.190	--	260	16	--	--	--	--
08...	1.60	0.230	0.190	--	--	--	--	--	--	--
08...	0.870	0.140	0.140	--	--	--	--	--	--	--
08...	0.640	0.120	0.120	--	--	--	--	--	--	--
08...	0.720	0.070	0.090	--	--	--	--	--	--	--
09...	0.320	0.060	0.060	--	--	--	--	--	--	--
11...	0.070	0.040	0.030	--	33	9	--	--	6.3	1.1
16...	0.030	0.020	0.020	--	--	--	--	--	3.6	0.7
18...	0.420	0.060	0.060	--	--	--	--	--	--	--
18...	0.140	0.030	0.020	--	--	--	--	--	--	--
18...	0.200	0.050	0.040	--	--	--	--	--	--	--
19...	0.540	0.050	0.040	--	--	--	--	--	--	--
19...	0.810	0.060	0.050	--	--	--	--	--	--	--
19...	0.300	0.050	0.040	--	--	--	--	--	--	--
20...	0.420	0.050	0.040	--	--	--	--	--	--	--
23...	0.040	0.030	0.030	--	13	7	--	--	--	--
26...	0.420	0.040	0.050	--	95	13	--	--	--	--
MAR										
02...	--	--	--	--	14	6	--	--	--	--
05...	0.040	<0.010	0.010	--	9	5	--	--	24	1.0
09...	0.030	<0.010	0.020	--	5	6	--	--	8.6	0.7
12...	0.090	0.020	0.010	--	12	7	--	--	7.4	1.5
15...	0.100	0.050	0.040	--	10	8	--	--	15	1.1
18...	--	--	--	--	8	7	--	--	28	1.5
22...	0.140	0.090	0.090	--	9	9	--	--	9.1	0.9
26...	0.200	0.100	0.090	--	100	18	--	--	9.8	13
29...	0.110	0.080	0.070	--	19	11	--	--	14	1.2
APR										
01...	0.020	0.040	0.020	--	<3	5	--	--	14	0.7
06...	--	--	--	--	5	7	--	--	--	--
14...	--	--	--	--	34	--	--	--	5.5	0.4
20...	0.150	0.070	0.050	--	12	7	--	--	13	1.7
27...	0.460	0.310	0.320	--	29	5	--	--	5.9	1.6
MAY										
04...	0.220	0.160	0.150	--	23	16	--	--	5.1	1.7
21...	0.300	0.210	0.160	360	13	12	<1	2	40	2.3
JUN										
01...	0.280	0.180	0.150	--	11	15	--	--	3.4	1.2
14...	0.120	0.100	0.110	--	--	--	--	--	3.1	1.0
29...	0.250	0.140	0.130	340	28	11	1	1	--	--
JUL										
15...	0.350	0.150	0.120	--	32	16	--	--	16	2.6
AUG										
03...	0.570	0.200	0.170	--	9	10	--	--	4.1	4.4
25...	0.260	0.200	0.180	--	68	8	--	--	5.0	3.4
SEP										
07...	--	0.160	0.140	--	19	6	--	--	11	2.0
29...	0.160	0.080	0.070	--	8	6	--	--	21	1.8

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
DEC					
15...	1030	0.46	6.0	26	0.03
JAN					
08...	1330	70	9.0	317	60
13...	1030	464	7.0	5050	6330
20...	1040	128	10.5	90	31
22...	1010	193	12.0	68	35
26...	1045	54	7.0	31	4.5
29...	0950	20	8.0	17	0.92
FEB					
08...	1000	145	13.0	2450	960
08...	1200	220	13.0	1750	1040
08...	1445	235	13.0	1550	980
08...	1700	371	13.0	1380	1380
08...	1900	430	13.0	1000	1160
09...	1315	408	12.5	617	680
11...	1200	162	11.5	62	27
16...	1045	69	9.0	20	3.7
18...	1430	86	11.0	537	125
18...	1815	94	11.0	141	36
18...	2315	105	12.0	175	50
19...	0430	1340	11.0	2130	7710
19...	0630	1630	11.0	2400	10600
19...	1100	1380	11.0	1500	5590
20...	1200	820	9.5	628	1390
23...	1210	195	11.0	77	41
26...	1130	488	8.0	757	1000
MAR					
02...	1410	154	12.5	78	32
05...	1040	86	14.0	35	8.1
09...	1200	47	18.0	46	5.8
12...	1030	50	17.0	61	8.2
15...	1245	126	18.0	48	16
18...	1045	87	17.0	141	33
22...	1220	18	18.5	18	0.87
26...	1345	376	14.0	1660	1680
29...	1545	150	15.5	103	42
APR					
01...	0950	67	16.5	97	5.6
06...	1400	39	17.5	24	2.5
14...	1100	24	18.0	61	4.0
20...	1115	2.7	17.5	164	1.2
27...	1130	8.9	18.0	125	3.0
MAY					
04...	1130	3.4	18.5	148	1.4
21...	1130	11	19.0	202	6.0
JUN					
01...	1110	6.7	22.5	123	2.2
14...	1220	1.8	21.0	51	0.25
29...	1220	13	22.0	320	11
JUL					
15...	1300	20	22.0	338	18
AUG					
03...	1400	26	26.0	755	53
25...	1115	16	21.0	537	23
SEP					
07...	1405	17	22.5	226	10
29...	0900	29	24.0	102	8.0

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1200	944	891	880	1160	1150	837	213	---	---	583	540
2	1030	976	904	867	1160	1140	726	457	---	---	721	583
3	1090	936	872	823	1160	1130	714	688	---	---	---	---
4	1150	1000	894	863	1160	1140	705	681	---	---	---	---
5	1160	1000	887	872	1150	1120	---	---	---	---	---	---
6	1130	1010	901	858	1120	966	654	128	---	---	---	---
7	1040	953	955	848	985	966	475	103	---	---	---	---
8	1130	952	894	829	983	967	475	287	526	167	---	---
9	1220	1090	909	856	998	979	420	376	333	177	---	---
10	1290	1190	931	898	1000	683	476	351	431	333	---	---
11	1300	1230	957	929	950	712	518	474	486	431	---	---
12	---	---	958	937	985	909	499	303	487	479	---	---
13	---	---	1100	947	---	---	490	287	498	485	---	---
14	---	---	978	947	---	---	329	268	508	496	---	---
15	1250	1220	979	904	992	979	335	266	508	202	---	---
16	1230	1190	918	871	990	978	346	236	760	172	824	786
17	1370	1220	916	872	993	985	362	311	728	661	854	807
18	1310	1250	917	886	---	---	324	306	661	378	951	854
19	1390	1270	911	870	---	---	399	323	669	211	924	888
20	1350	1060	941	897	---	---	423	385	382	238	982	924
21	1060	917	961	899	---	---	424	397	---	---	954	926
22	---	---	983	928	---	---	---	---	---	---	935	906
23	1050	906	1030	972	---	---	---	---	529	482	918	834
24	923	900	1100	1030	---	---	---	---	529	481	909	806
25	1070	922	1080	1030	---	---	---	---	530	492	841	749
26	1390	1070	1030	993	---	---	---	---	623	372	798	430
27	1400	1370	996	983	---	---	652	641	494	426	519	460
28	1520	985	1030	989	1010	782	643	612	540	494	602	510
29	1020	970	1120	1030	866	463	612	596	---	---	661	602
30	995	887	1160	1120	840	725	615	602	---	---	646	605
31	898	870	---	---	836	818	621	614	---	---	675	627
MONTH	---	---	1160	823	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	715	675	740	695	898	652	964	617	680	648	481	282
2	717	696	719	686	991	886	1030	629	703	676	486	280
3	724	711	702	677	983	786	1010	645	715	499	474	270
4	728	667	777	702	949	842	952	550	710	564	428	262
5	717	684	770	708	848	493	852	494	679	496	492	262
6	889	708	717	699	661	627	658	427	663	455	486	385
7	954	815	726	710	712	417	721	425	658	628	463	392
8	824	797	734	696	583	406	746	387	632	535	592	428
9	855	824	701	684	600	444	473	314	597	396	594	465
10	909	855	686	669	869	593	537	358	576	488	575	446
11	979	909	685	668	1130	869	604	357	532	513	469	414
12	1020	979	717	675	1030	772	548	339	514	351	517	449
13	1040	1020	701	677	978	712	553	390	515	505	517	406
14	1070	1040	763	698	877	752	558	529	510	505	510	418
15	1050	1010	762	736	1020	854	578	558	506	501	566	445
16	1010	980	736	680	984	875	573	437	503	330	622	416
17	981	960	680	648	1020	923	573	562	497	486	455	373
18	960	943	676	639	960	678	588	571	496	488	458	413
19	966	950	711	676	932	866	601	571	493	487	598	415
20	962	913	682	659	975	644	616	597	490	485	589	471
21	913	825	906	665	978	652	616	574	488	477	651	467
22	825	708	938	760	658	616	577	505	481	308	521	490
23	708	531	999	887	868	594	661	511	477	295	653	489
24	546	505	1120	955	893	604	693	659	465	288	768	457
25	583	530	1100	575	789	592	718	693	463	350	484	423
26	598	551	842	595	790	590	729	686	469	460	499	420
27	600	551	911	551	821	596	692	681	472	292	543	386
28	634	578	901	539	853	625	688	626	477	290	489	407
29	821	634	782	706	794	645	635	625	484	289	507	378
30	807	735	818	667	953	624	652	632	484	288	446	385
31	---	---	918	713	---	---	660	504	484	283	---	---
MONTH	1070	505	1120	539	1130	406	1030	314	715	283	768	262

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.0	21.0	17.5	15.5	10.0	8.0	---	---	10.0	6.5	13.0	10.0
2	21.5	18.0	18.0	15.5	9.0	7.0	---	---	---	---	13.0	11.0
3	20.0	17.5	18.0	16.0	10.5	9.0	---	---	---	---	---	---
4	19.5	16.5	16.0	14.0	10.0	8.5	---	---	---	---	---	---
5	19.5	17.0	15.5	14.0	9.0	7.0	---	---	---	---	---	---
6	20.5	16.5	15.5	13.0	10.0	8.5	---	---	---	---	---	---
7	21.0	17.5	17.0	13.5	10.5	9.5	9.5	6.5	---	---	---	---
8	21.0	18.0	16.5	14.5	10.5	8.5	9.5	8.5	13.0	12.5	---	---
9	22.0	16.5	14.5	12.5	10.5	10.0	9.5	8.0	13.5	12.0	---	---
10	22.0	17.5	12.5	10.5	12.5	10.5	9.5	8.0	13.5	11.0	---	---
11	21.0	18.5	12.0	10.0	12.0	11.0	8.5	7.0	12.5	11.0	---	---
12	---	---	11.5	10.0	11.0	9.0	7.5	5.5	12.5	11.0	---	---
13	---	---	11.5	9.5	---	---	11.5	6.0	12.0	10.0	---	---
14	---	---	10.5	9.0	---	---	12.0	11.0	11.5	9.0	---	---
15	19.0	18.0	13.0	8.5	7.0	5.5	11.0	9.5	11.0	7.0	---	---
16	19.0	17.5	13.5	12.0	7.0	5.0	10.5	9.0	11.5	7.5	19.0	16.5
17	19.5	17.0	13.5	11.5	6.5	6.0	11.0	9.5	11.5	9.5	20.0	17.0
18	20.0	18.0	13.0	10.5	---	---	12.0	10.0	12.0	10.5	20.0	16.0
19	20.0	17.0	12.0	9.0	---	---	11.0	10.0	12.5	11.0	19.0	16.5
20	21.5	19.0	11.5	6.0	---	---	11.5	10.0	11.5	9.5	20.0	17.0
21	22.0	20.5	14.0	5.5	---	---	13.0	11.5	---	---	20.0	16.5
22	20.5	16.5	10.5	8.5	---	---	---	---	---	---	21.0	16.5
23	17.0	15.0	10.0	8.0	---	---	---	---	12.0	10.0	19.0	17.5
24	17.0	15.0	10.0	8.0	---	---	---	---	12.0	9.5	18.5	16.5
25	17.0	16.0	11.0	9.5	---	---	---	---	11.0	9.0	18.0	16.0
26	17.5	16.5	11.0	9.0	---	---	---	---	10.0	8.0	16.0	13.5
27	17.5	16.5	12.0	10.5	---	---	9.0	7.5	11.5	8.0	13.5	13.0
28	18.5	16.5	11.5	10.5	7.0	4.0	9.0	8.0	12.0	9.0	14.5	12.0
29	18.0	16.5	10.5	9.0	7.5	6.5	9.5	8.0	---	---	16.0	13.0
30	17.0	16.0	10.0	8.5	7.0	5.5	9.0	7.0	---	---	18.5	15.0
31	16.5	14.5	---	---	7.0	5.5	8.5	7.0	---	---	19.5	16.5
MONTH	---	---	18.0	5.5	---	---	---	---	---	---	---	---

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

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA

LOCATION.--Lat 37°26'09", long 121°01'57", in NW 1/4 NW 1/4 sec.19, T.6 S, R. 9 E, Stanislaus County, Hydrologic Unit 18040002, on right bank 3.0 mi northeast of Crows Landing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft above sea level, from topographic map.

REMARKS.--Records fair except flows above 50 ft^3/s, which are poor. Flows during summer and fall consist mainly of irrigation-return water. The drain overflows its banks at about 9.35 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft^3/s, July 24, gage height, 9.35 ft, from rating curve extended above 29.6 ft^3/s; minimum daily, 1.30 ft^3/s, April 10, 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	28	22	15	21	11
2	---	---	---	---	---	---	---	31	18	14	19	14
3	---	---	---	---	---	---	1.9	33	17	14	19	11
4	---	---	---	---	---	---	2.1	33	20	18	12	9.9
5	---	---	---	---	---	---	1.8	32	19	17	12	8.4
6	---	---	---	---	---	---	1.7	33	16	17	15	10
7	---	---	---	---	---	---	1.6	31	19	21	16	12
8	---	---	---	---	---	---	1.5	36	20	16	13	10
9	---	---	---	---	---	---	1.5	37	13	17	14	10
10	---	---	---	---	---	---	1.3	35	15	16	12	11
11	---	---	---	---	---	---	1.3	32	13	18	13	11
12	---	---	---	---	---	---	1.5	25	19	16	14	8.7
13	---	---	---	---	---	---	2.3	22	13	15	15	8.8
14	---	---	---	---	---	---	2.5	24	15	13	13	7.9
15	---	---	---	---	---	---	3.3	26	22	14	12	8.2
16	---	---	---	---	---	---	3.6	21	18	13	12	5.9
17	---	---	---	---	---	---	4.0	18	26	14	12	5.5
18	---	---	---	---	---	---	4.4	26	27	17	14	6.2
19	---	---	---	---	---	---	5.6	22	28	14	11	7.5
20	---	---	---	---	---	---	4.2	24	30	13	12	6.9
21	---	---	---	---	---	---	6.6	25	24	14	12	6.0
22	---	---	---	---	---	---	10	25	15	16	13	3.3
23	---	---	---	---	---	---	13	24	17	22	12	2.7
24	---	---	---	---	---	---	19	22	28	25	13	7.5
25	---	---	---	---	---	---	20	25	24	15	12	8.1
26	---	---	---	---	---	---	22	24	24	12	12	7.7
27	---	---	---	---	---	---	26	24	18	12	11	5.9
28	---	---	---	---	---	---	27	23	15	13	13	3.9
29	---	---	---	---	---	---	24	19	14	14	11	5.9
30	---	---	---	---	---	---	25	21	16	15	8.7	7.5
31	---	---	---	---	---	---	---	26	---	17	12	---
TOTAL	---	---	---	---	---	---	---	827	585	487	410.7	242.4
MEAN	---	---	---	---	---	---	---	26.7	19.5	15.7	13.2	8.08
MAX	---	---	---	---	---	---	---	37	30	25	21	14
MIN	---	---	---	---	---	---	---	18	13	12	8.7	2.7
AC-FT	---	---	---	---	---	---	---	1640	1160	966	815	481

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1992 to September 1993.
CHEMICAL DATA: October 1992 to September 1993.
SPECIFIC CONDUCTANCE: April to September 1993.
WATER TEMPERATURE: April to September 1993.
SEDIMENT DATA: October 1992 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April to September 1993.
WATER TEMPERATURE: April to September 1993.

INSTRUMENTATION.--Water-quality monitor since April 1983.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Flow consists of return water from irrigation areas.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,230 microsiemens, May 26, minimum recorded, 456 microsiemens, July 25.
WATER TEMPERATURE: Maximum recorded, 32.0°C, July 7; minimum recorded, 13.5°C, Apr. 27.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
15...	1000	--	1260	8.0	16.0	765	9.4	95	--	--	--
JAN											
20...	1450	2.2	2770	7.1	14.5	768	10.0	98	840	200	83
FEB											
26...	1310	--	488	7.0	--	--	--	--	140	36	13
MAR											
30...	1200	7.8	2740	7.6	16.0	768	9.4	95	830	200	81
APR											
29...	1255	20	1080	7.6	18.5	765	8.4	90	270	59	30
MAY											
26...	1215	23	1140	8.0	20.5	760	8.6	96	260	56	29
JUN											
22...	1315	26	823	7.9	22.5	765	7.1	82	220	48	24
JUL											
27...	1150	20	546	7.6	24.0	760	7.4	88	140	31	15
AUG											
25...	1235	28	794	7.6	22.5	760	7.9	92	220	49	23
SEP											
30...	1215	20	529	7.7	21.0	764	7.7	86	130	29	15

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
15...	--	--	--	--	--	--	--	--	--	--
JAN										
20...	300	--	5	--	381	0	312	540	310	0.30
FEB										
26...	37	--	1	--	106	0	87	110	33	<0.10
MAR										
30...	300	44	5	1.3	415	0	340	620	290	0.30
APR										
29...	100	44	3	4.4	207	0	170	210	110	0.30
MAY										
26...	91	43	2	3.4	137	0	112	210	100	0.20
JUN										
22...	72	41	2	7.3	173	0	142	120	84	0.20
JUL										
27...	52	44	2	3.9	105	0	86	83	56	0.20
AUG										
25...	75	42	2	3.8	344	0	282	140	85	0.20
SEP										
30...	51	45	2	3.2	88	0	73	68	58	0.10

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA--Continued

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

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
15...	--	--	--	--	--	--	--	--	--
JAN									
20...	27	1850	--	--	0.020	11.0	0.090	0.90	0.50
FEB									
26...	12	352	--	--	0.080	2.10	0.410	2.8	1.7
MAR									
30...	29	1890	1810	2.57	<0.010	18.0	0.030	0.40	0.50
APR									
29...	18	678	659	0.92	0.110	5.30	0.450	1.6	1.4
MAY									
26...	14	614	599	0.84	0.120	5.90	0.320	1.8	1.6
JUN									
22...	14	467	474	0.64	0.110	4.10	0.110	1.0	0.80
JUL									
27...	12	326	320	0.44	0.100	3.10	0.240	1.2	0.70
AUG									
25...	17	481	579	0.65	0.050	3.70	0.090	0.70	0.60
SEP									
30...	14	296	289	0.40	0.040	1.50	0.070	0.90	0.50

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
15...	--	--	--	--	--	--	--	--	--	--
JAN										
20...	0.240	0.100	0.100	1400	42	13	<1	2	--	--
FEB										
26...	0.950	0.380	0.380	170	440	50	<1	1	--	--
MAR										
30...	0.070	0.060	0.070	1500	15	4	<1	3	4.9	0.9
APR										
29...	0.480	0.340	0.340	620	36	15	--	--	9.0	2.6
MAY										
26...	0.230	0.180	0.170	460	10	13	2	3	4.7	2.0
JUN										
22...	0.380	0.320	0.290	410	22	29	2	2	9.2	3.0
JUL										
27...	0.340	0.210	0.170	310	37	30	1	<1	7.0	2.0
AUG										
25...	0.260	0.220	0.230	--	13	16	<1	2	--	--
SEP										
30...	0.300	0.180	0.190	250	21	16	<1	<1	7.6	1.6

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
FEB					
26...	1310	--	--	544	--
MAR					
30...	1200	7.8	16.0	75	1.6
APR					
29...	1255	20	18.5	242	13
MAY					
26...	1215	23	20.5	197	12
JUN					
22...	1315	26	22.5	242	17
JUL					
27...	1150	20	24.0	229	12
SEP					
30...	1215	20	21.0	299	16

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	1160	1090	886	738	765	731	649	585	838	810
2	---	---	1150	1120	993	870	807	759	590	564	813	782
3	---	---	1130	1090	967	930	855	801	599	565	786	753
4	---	---	1100	1060	950	889	856	800	658	595	755	731
5	---	---	1070	1040	901	844	805	702	746	652	734	695
6	---	---	1060	1020	849	742	778	694	766	737	698	662
7	---	---	1020	997	829	727	876	635	771	755	662	643
8	---	---	1010	912	872	775	871	718	774	754	649	624
9	---	---	955	907	954	829	766	650	774	760	631	600
10	---	---	970	921	1090	954	726	668	771	692	628	612
11	---	---	949	909	1020	958	778	709	697	658	622	597
12	---	---	968	937	1050	991	745	717	670	656	603	590
13	---	---	984	938	1050	1000	725	709	706	660	597	581
14	---	---	1050	961	1020	882	734	692	710	675	584	571
15	---	---	1060	1010	882	845	695	649	698	673	571	557
16	---	---	1050	991	859	837	693	634	709	682	564	550
17	---	---	1070	1030	842	788	644	565	743	703	562	548
18	---	---	1030	972	824	780	706	603	768	738	552	531
19	---	---	1040	982	820	809	705	647	783	764	545	524
20	---	---	1050	1010	829	807	753	650	786	764	527	513
21	---	---	1060	980	831	816	715	672	802	781	515	495
22	---	---	1040	986	832	820	749	692	811	796	509	484
23	1000	669	1100	985	835	819	707	581	809	798	524	501
24	1020	732	1140	1060	830	814	665	578	806	781	528	506
25	989	751	1170	1120	833	809	659	456	814	791	521	493
26	947	761	1230	1120	823	799	581	478	830	802	493	480
27	1010	872	1130	1060	799	753	571	459	840	814	489	470
28	1060	984	1080	935	757	717	548	457	907	837	478	459
29	1120	1060	938	839	730	705	645	540	878	859	538	465
30	1160	1110	871	820	744	720	700	635	871	848	679	494
31	---	---	824	758	---	---	699	643	851	830	---	---
MONTH	---	---	1230	758	1090	705	876	456	907	564	838	459

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	23.5	15.0	24.5	21.0	28.0	24.5	29.5	23.5	25.5	22.5
2	---	---	24.0	17.0	23.5	20.5	28.5	25.0	28.5	25.0	26.5	23.0
3	15.5	14.5	23.5	17.5	23.5	20.5	27.5	24.0	27.5	24.5	26.5	23.5
4	16.0	15.0	22.0	15.5	21.5	20.5	29.0	24.0	27.0	24.0	26.5	23.0
5	15.5	15.0	24.5	14.5	22.0	19.5	29.0	24.5	27.0	24.0	25.5	23.0
6	15.5	14.5	24.5	17.5	21.0	19.5	30.0	24.5	27.0	23.5	25.0	22.5
7	15.5	14.5	23.5	15.5	23.0	19.5	32.0	25.0	26.5	23.0	25.5	22.0
8	16.0	15.0	22.5	14.5	24.0	20.0	29.5	25.5	26.0	23.0	26.0	22.5
9	16.0	15.5	26.5	15.5	24.5	20.5	30.0	25.0	26.0	23.0	26.0	22.5
10	16.0	15.5	25.5	17.5	24.0	21.5	29.5	25.0	25.0	22.5	25.5	22.5
11	16.0	15.0	23.0	17.0	24.0	20.5	30.0	25.5	25.5	22.0	25.5	22.5
12	15.5	14.5	24.0	15.5	23.5	20.5	29.0	25.5	25.5	22.0	24.0	22.0
13	18.0	14.5	24.0	14.5	25.5	20.5	29.0	24.5	26.0	22.0	23.0	21.5
14	16.0	15.0	24.5	15.5	26.0	21.5	27.5	24.0	26.0	22.5	23.0	20.5
15	18.5	15.5	23.0	16.5	26.0	22.0	27.0	23.5	25.0	22.0	23.5	20.5
16	17.0	15.5	25.0	17.0	25.5	22.5	27.5	23.0	25.0	22.0	23.0	20.5
17	16.5	15.5	24.5	18.0	26.5	21.5	27.0	23.0	25.0	22.0	22.0	20.0
18	18.5	15.0	26.5	18.0	27.5	23.0	28.0	23.0	26.0	22.0	22.5	19.5
19	18.0	15.0	26.0	19.0	28.0	24.5	27.5	23.5	25.0	22.5	23.0	20.0
20	19.5	15.5	24.5	19.5	28.5	24.5	27.0	23.0	24.5	22.0	23.0	20.5
21	20.0	16.5	24.0	18.0	27.0	24.5	26.5	22.5	25.0	22.0	22.5	20.0
22	21.0	15.5	26.0	17.5	25.5	22.0	27.5	22.5	26.0	22.5	22.0	19.5
23	19.5	15.0	25.5	19.0	24.5	22.0	28.5	23.5	26.0	23.5	21.5	19.5
24	21.5	15.0	24.5	19.0	26.5	21.5	27.5	24.0	25.5	23.0	21.5	19.0
25	22.5	15.0	25.0	19.5	29.0	23.0	28.5	24.0	24.0	22.0	21.5	19.0
26	21.0	15.5	22.0	18.5	30.0	24.5	27.0	24.0	25.0	22.0	22.5	19.0
27	22.0	13.5	22.0	20.0	29.0	25.0	27.0	24.0	25.0	22.0	22.5	19.5
28	22.5	15.0	24.0	20.0	27.5	24.0	26.5	23.5	26.0	22.5	23.5	20.0
29	22.5	16.0	24.0	20.0	26.5	23.5	26.5	23.0	26.0	23.0	23.5	20.0
30	22.0	16.5	22.5	21.0	27.5	24.0	26.5	22.5	25.5	22.5	22.5	20.5
31	---	---	23.5	21.0	---	---	27.5	23.0	25.5	22.0	---	---
MONTH	---	---	26.5	14.5	30.0	19.5	32.0	22.5	29.5	22.0	26.5	19.0

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA

LOCATION.--Lat 37°27'52", long 121°01'52", in SE 1/4 SE 1/4 sec.25, T.5 S, R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank at upstream side of abandoned bridge upstream of bridge crossing on Carpenter Road, and 7.2 mi east of Patterson.
DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1992 to current year.
GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 50 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Records good. Flows consist mainly of return water from irrigation areas.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197 ft^3/s, Jan. 18, 1993, gage height, 2.99 ft; minimum daily, 11 ft^3/s, Dec. 25, 1992.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 197 ft^3/s, Jan. 18, gage height, 2.99 ft; minimum daily, 11 ft^3/s, Dec. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	22	15	14	33	61	87	63	37	47	79	53
2	29	19	18	15	24	63	85	41	30	43	61	62
3	32	17	18	12	24	60	79	63	40	45	66	47
4	30	16	17	14	24	65	75	52	56	51	65	47
5	30	18	19	15	27	73	72	50	75	76	61	68
6	19	20	15	15	25	72	73	45	95	55	63	73
7	38	16	12	25	21	66	73	51	73	52	77	69
8	34	14	21	28	74	68	65	50	64	49	61	37
9	38	13	15	19	83	61	45	44	58	50	75	63
10	43	15	17	28	69	59	46	50	59	40	76	72
11	23	17	16	26	58	61	49	29	62	61	62	76
12	28	21	22	23	50	69	67	47	64	58	80	65
13	34	20	19	46	40	65	47	46	80	61	88	86
14	37	20	13	42	32	72	66	60	81	48	87	70
15	36	19	15	37	30	63	47	50	49	35	75	52
16	48	15	16	35	30	62	37	46	57	70	99	88
17	40	15	15	50	34	58	39	50	80	81	64	79
18	33	19	16	146	47	47	58	50	69	71	81	65
19	56	17	15	115	72	47	70	54	61	105	81	66
20	36	17	12	60	71	51	54	50	68	64	75	73
21	30	18	14	60	58	51	44	73	59	51	83	85
22	27	17	16	39	57	44	52	60	43	49	64	78
23	20	17	15	36	68	59	56	42	58	65	75	82
24	19	18	13	29	67	85	63	52	70	41	56	75
25	19	19	11	29	67	94	62	82	73	50	43	78
26	17	18	12	30	69	117	68	79	59	78	51	85
27	18	17	12	32	66	100	45	76	51	75	63	90
28	18	15	15	32	64	94	51	67	67	61	65	68
29	19	15	21	34	---	90	49	59	51	66	68	73
30	21	13	17	37	---	90	52	44	60	69	86	58
31	24	---	15	35	---	83	---	58	---	77	54	---
TOTAL	927	517	487	1158	1384	2150	1776	1683	1849	1844	2184	2083
MEAN	29.9	17.2	15.7	37.4	49.4	69.4	59.2	54.3	61.6	59.5	70.5	69.4
MAX	56	22	22	146	83	117	87	82	95	105	99	90
MIN	17	13	11	12	21	44	37	29	30	35	43	37
AC-FT	1840	1030	966	2300	2750	4260	3520	3340	3670	3660	4330	4130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

MEAN	29.9	17.2	15.7	37.4	49.4	69.4	59.2	54.3	52.6	51.1	58.6	54.4
MAX	29.9	17.2	15.7	37.4	49.4	69.4	59.2	54.3	61.6	59.5	70.5	69.4
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	29.9	17.2	15.7	37.4	49.4	69.4	59.2	54.3	43.6	42.7	46.8	39.4
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 WATER YEAR		WATER YEARS 1992 - 1993	
ANNUAL TOTAL	18042			
ANNUAL MEAN	49.4		49.4	
HIGHEST ANNUAL MEAN			49.4	1993
LOWEST ANNUAL MEAN			49.4	1993
HIGHEST DAILY MEAN	146	Jan 18	146	Jan 18 1993
LOWEST DAILY MEAN	11	Dec 25	11	Dec 25 1992
ANNUAL SEVEN-DAY MINIMUM	13	Dec 20	13	Dec 20 1992
INSTANTANEOUS PEAK FLOW	197	Jan 18	197	Jan 18 1993
INSTANTANEOUS PEAK STAGE	2.99	Jan 18	2.99	Jan 18 1993
ANNUAL RUNOFF (AC-FT)	35790		35810	
10 PERCENT EXCEEDS	79		75	
50 PERCENT EXCEEDS	51		47	
90 PERCENT EXCEEDS	16		18	

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1992 to current year.
CHEMICAL DATA: April 1992 to current year.
SPECIFIC CONDUCTANCE: April 1992 to current year.
WATER TEMPERATURE: April 1992 to current year.
SEDIMENT DATA: April 1992 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1992 to current year.
WATER TEMPERATURE: May 1992 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1992.

REMARKS.--Flows consist mainly of return water from irrigation areas.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,900 microsiemens, Jan. 2, 1993; minimum recorded, 240 microsiemens, Oct. 19, 1992.
WATER TEMPERATURE: Maximum recorded, 30.5°C, May 31, July 13, 1992; minimum recorded, 7.0°C, Jan. 3, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,900 microsiemens, Jan. 2; minimum recorded, 240 microsiemens, Oct. 19.
WATER TEMPERATURE: Maximum recorded, 30.0°C, June 26; minimum recorded, 7.0°C, Jan. 3.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
15...	1325	40	--	7.4	19.0	765	9.2	99	--	--	--
DEC											
15...	1430	12	1060	7.8	12.0	763	5.6	52	150	40	11
22...	0930	13	955	7.7	10.0	770	5.2	46	140	38	11
JAN											
06...	1030	13	[1]1060	7.8	10.0	755	4.5	40	160	41	13
13...	1230	48	1180	7.8	9.5	760	--	--	150	39	13
16...	1207	36	1340	7.8	14.0	762	4.0	39	--	--	--
20...	1110	55	1210	7.7	13.0	770	6.6	62	--	--	--
MAY											
26...	1400	90	393	7.6	22.0	760	7.2	83	90	24	7.3
JUN											
22...	1545	39	595	8.0	24.5	760	8.6	104	110	30	8.0
JUL											
27...	1330	59	477	7.8	25.0	762	7.0	85	95	26	7.2
AUG											
26...	1905	54	864	7.7	26.0	760	5.6	69	--	--	--
SEP											
30...	1020	68	549	7.2	20.0	764	6.8	75	120	34	9.4

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA--Continued

WATER-QUALITY DATA, OCTOBER 1992 TO SEPTEMBER 1993

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
15...	--	--	--	--	144	0	118	--	--	--
DEC										
15...	120	--	4	--	405	0	332	38	110	0.20
22...	110	--	4	--	329	0	270	34	110	0.20
JAN										
06...	140	--	5	--	452	0	370	37	140	0.20
13...	110	--	4	--	381	0	312	33	170	<0.10
16...	--	--	--	--	--	0	410	--	--	--
20...	--	--	--	--	413	0	339	--	--	--
MAY										
26...	37	46	2	3.7	129	0	106	17	28	0.20
JUN										
22...	65	55	3	5.0	134	0	110	21	82	0.10
JUL										
27...	52	53	2	3.4	131	0	107	19	50	0.10
AUG										
26...	--	--	--	--	242	0	199	--	--	--
SEP										
30...	58	49	2	4.4	203	0	166	21	46	0.10

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
15...	--	--	--	--	--	--	--	--	--
DEC									
15...	51	520	--	--	0.610	1.90	20.0	23	23
22...	52	560	--	--	0.650	2.50	20.0	25	23
JAN									
06...	53	638	--	--	0.640	1.90	25.0	32	30
13...	26	706	--	--	0.340	2.00	14.0	33	20
16...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	0.780	2.70	13.0	25	17
MAY									
26...	24	228	206	0.31	<0.010	0.230	0.030	2.1	<0.20
JUN									
22...	22	321	319	0.44	0.290	3.60	1.60	2.5	2.1
JUL									
27...	21	273	262	0.37	0.240	3.40	2.10	3.5	3.0
AUG									
26...	--	--	--	--	0.330	4.60	2.60	3.9	3.4
SEP									
30...	29	309	333	0.42	0.410	5.80	1.70	2.4	2.1

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA--Continued

WATER-QUALITY DATA, OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
15...	--	--	--	--	--	--	--	--	--	--
DEC										
15...	9.20	9.10	8.90	--	41	130	--	--	21	1.4
22...	8.50	7.90	7.20	--	45	89	--	--	12	2.1
JAN										
06...	13.0	11.0	9.80	--	53	130	--	--	--	--
13...	10.0	6.00	5.30	--	280	130	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
20...	6.70	4.80	4.10	--	--	--	--	--	27	--
MAY										
26...	0.890	<0.010	0.020	50	23	22	1	<1	6.8	0.8
JUN										
22...	0.750	0.650	0.620	90	19	42	2	<1	4.6	--
JUL										
27...	0.570	0.490	0.440	80	24	26	2	<1	13	1.0
AUG										
26...	1.00	0.840	0.860	--	--	--	--	--	--	--
SEP										
30...	1.20	1.10	1.10	80	19	30	1	<1	22	1.0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
DEC					
15...	1430	12	12.0	21	0.68
22...	0930	13	10.0	16	0.56
JAN					
06...	1030	13	10.0	27	0.95
13...	1230	48	9.5	252	33
20...	1110	55	13.0	63	9.4
MAY					
26...	1400	90	22.0	34	8.3
JUN					
22...	1545	39	24.5	15	1.6
JUL					
27...	1330	59	25.0	18	2.9
SEP					
30...	1020	68	20.0	6	1.1

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	947	572	1120	971	1080	859	1070	972	1490	1470	1280	1220
2	807	517	1170	1060	979	858	1900	972	1500	1470	1220	1210
3	1140	671	1250	1050	1060	912	1220	1070	1480	1430	1210	1180
4	880	538	1270	1090	1130	966	1210	1170	1440	1410	1200	1180
5	880	509	1350	1090	1150	1040	1250	1170	1430	1410	1210	1180
6	1150	662	1280	976	1160	1010	1430	1250	1440	1420	1200	1180
7	996	605	1050	940	1120	1000	1530	1290	1450	1430	1210	1180
8	1040	650	1050	926	1120	757	1390	1180	1450	894	1210	1150
9	828	602	1110	986	976	747	1290	1160	1000	825	1170	1130
10	774	532	1060	900	995	878	1250	1060	979	944	1190	1110
11	917	703	1130	892	1070	955	1230	1180	998	973	1220	1180
12	900	402	1280	1020	1030	791	1280	1230	1030	995	1210	1110
13	903	666	1230	1010	1390	842	1230	1160	1060	1030	1110	1080
14	998	681	1230	1060	1160	993	1250	1190	1100	1060	1120	1090
15	835	471	1250	1020	1080	979	1300	1250	1140	1100	1120	1060
16	762	376	1270	1020	1030	955	1340	1290	1190	1140	1190	1050
17	562	377	1070	935	1080	932	1380	1180	1210	1170	1080	991
18	660	379	1170	936	1020	864	1200	1160	1290	1170	1070	1010
19	629	240	1030	911	1080	863	1180	1160	1300	1290	1370	835
20	800	294	1270	988	1050	956	1230	1180	1300	1240	1060	924
21	870	326	1180	1010	1050	888	1260	1230	1260	1200	1030	902
22	826	598	1190	1050	1010	938	1300	1260	1200	1150	1080	910
23	895	714	1210	1050	1060	970	1330	1300	1170	1130	938	686
24	961	843	1150	974	1030	951	1360	1330	1190	1170	953	664
25	1080	913	1070	947	1050	948	1400	1360	1170	1160	912	582
26	1470	1070	1150	1010	989	891	1420	1390	1170	1140	753	687
27	1320	953	1180	1020	977	879	1440	1420	1230	1150	871	674
28	1110	958	1100	939	934	864	1450	1440	1280	1230	986	861
29	1210	1020	1000	921	878	724	1460	1450	---	---	1100	907
30	1330	1060	1120	959	889	760	1470	1450	---	---	975	890
31	1180	913	---	---	1040	881	1470	1460	---	---	1030	916
MONTH	1470	240	1350	892	1390	724	1900	972	1500	825	1370	582

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1060	994	589	442	600	499	435	377	550	288	741	452
2	1050	916	632	588	614	546	451	397	409	328	684	554
3	1110	946	634	611	645	614	511	410	428	287	778	684
4	1040	967	626	597	647	630	489	436	408	319	794	706
5	1030	913	616	596	630	537	463	334	784	333	717	543
6	993	913	631	604	537	470	518	381	592	414	594	509
7	1040	935	622	524	501	473	485	365	695	373	574	522
8	1040	915	530	420	513	501	474	286	999	410	598	532
9	1170	920	483	425	536	513	765	373	820	347	600	469
10	1040	907	495	428	544	536	759	480	792	426	505	459
11	1350	893	488	419	551	540	567	266	794	533	485	418
12	1120	801	432	318	547	537	715	381	695	416	564	432
13	1130	672	373	328	541	520	779	486	558	367	584	431
14	728	451	411	347	520	477	781	467	548	332	512	435
15	860	547	374	336	529	494	953	408	667	440	559	283
16	1000	656	808	374	545	527	563	369	575	268	323	244
17	890	565	813	739	556	538	386	249	930	329	550	270
18	886	408	741	533	552	539	569	306	588	375	550	407
19	832	576	706	542	566	538	505	254	537	338	439	377
20	925	648	752	599	583	556	740	301	752	312	458	401
21	1110	850	599	405	594	573	805	517	800	415	478	396
22	897	612	567	369	606	445	729	324	746	570	464	414
23	928	487	597	440	454	426	581	307	741	377	508	464
24	915	442	579	467	436	394	622	302	670	390	512	422
25	777	340	497	421	413	388	559	351	732	375	658	479
26	652	443	430	371	406	363	558	393	864	443	658	439
27	685	635	454	396	414	388	629	402	842	438	529	410
28	692	600	475	427	555	339	612	422	704	394	626	464
29	629	489	450	401	555	400	630	368	725	454	609	533
30	674	566	538	435	514	381	635	418	680	408	573	544
31	---	---	571	492	---	---	628	314	773	397	---	---
MONTH	1350	340	813	318	647	339	953	249	999	268	794	244

11274560 TURLOCK IRRIGATION DISTRICT LATERAL NO. 5 NEAR PATTERSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	21.0	19.0	16.0	13.5	8.5	12.0	10.5	15.5	10.0	19.0	14.0
2	23.5	19.0	20.0	17.0	14.0	10.5	10.5	9.0	15.5	11.5	19.5	14.5
3	22.5	18.0	20.5	17.0	13.0	10.5	9.0	7.0	15.0	13.5	20.0	15.5
4	22.0	18.0	18.5	15.5	14.5	12.0	10.0	7.5	16.0	12.5	20.0	15.0
5	23.0	18.0	18.5	14.5	13.0	10.0	10.0	8.5	18.0	14.5	20.5	15.0
6	23.0	16.5	19.0	15.5	12.0	9.0	11.5	10.0	16.5	14.5	21.5	15.5
7	23.5	18.5	19.0	15.5	12.0	11.0	12.5	11.0	16.5	14.0	22.0	16.0
8	23.0	18.5	19.0	15.0	14.5	11.5	13.5	11.0	15.5	14.0	21.5	16.5
9	22.5	18.0	18.0	15.0	13.5	11.0	12.5	11.0	15.0	13.0	20.0	17.0
10	22.5	19.0	15.0	11.0	15.0	13.0	12.0	10.0	15.5	13.0	21.0	16.0
11	23.5	18.5	14.0	11.0	17.0	14.5	11.0	8.0	16.5	14.0	21.0	16.0
12	23.0	18.5	14.5	10.5	16.0	14.5	9.5	8.0	16.0	13.0	21.5	16.5
13	22.5	18.5	15.0	11.0	14.5	11.5	11.5	8.0	16.0	12.5	21.5	17.5
14	21.5	17.5	15.5	11.5	12.0	9.5	13.0	10.5	16.0	12.0	21.0	17.5
15	21.0	17.0	16.5	12.5	13.0	10.0	13.0	10.0	16.0	11.5	20.5	16.0
16	20.0	17.5	16.5	12.5	13.5	11.0	12.5	10.0	15.0	12.5	19.5	17.0
17	19.5	17.0	16.5	13.5	14.0	11.0	12.5	11.0	14.5	13.5	21.5	17.5
18	21.5	17.0	17.5	14.0	13.5	10.5	12.5	11.5	15.5	14.0	21.5	16.5
19	19.5	16.5	15.5	13.0	12.5	10.0	13.0	11.0	16.5	14.0	21.0	16.0
20	21.5	15.5	14.5	12.5	12.5	10.0	14.0	12.5	16.5	14.0	21.0	17.0
21	21.5	17.5	14.0	11.5	13.0	10.0	15.0	13.5	17.5	14.0	21.5	16.0
22	22.5	19.5	13.0	10.5	12.5	10.0	15.0	12.0	15.5	14.0	22.0	15.5
23	21.5	17.5	14.0	12.0	11.5	10.5	13.0	10.5	16.5	14.0	19.5	18.0
24	21.5	17.0	12.5	10.0	11.5	10.5	13.0	10.5	17.5	13.5	19.0	17.0
25	20.5	17.5	13.5	10.5	10.5	9.0	13.0	10.0	17.0	14.5	18.0	16.5
26	21.0	17.5	14.5	12.0	9.5	9.0	13.0	9.5	15.5	13.5	18.0	16.0
27	21.0	17.5	14.5	11.5	9.5	8.5	12.5	11.0	17.5	13.5	17.5	16.0
28	20.5	18.5	15.5	13.0	11.5	8.5	12.5	11.5	18.0	14.0	18.0	15.5
29	21.0	18.5	13.5	12.0	12.5	10.5	14.5	11.5	---	---	19.5	15.5
30	19.5	17.5	13.0	10.0	12.5	9.0	14.0	10.5	---	---	21.0	16.5
31	18.5	17.0	---	---	12.0	9.5	14.0	10.0	---	---	21.5	16.5
MONTH	24.5	15.5	20.5	10.0	17.0	8.5	15.0	7.0	18.0	10.0	22.0	14.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	20.5	16.5	23.0	16.0	26.0	20.0	29.0	21.0	27.5	22.5	25.0	18.5
2	20.0	15.5	24.5	18.0	25.5	18.5	28.0	21.5	29.0	23.0	25.0	19.0
3	20.5	16.0	22.5	18.0	24.0	18.5	27.0	20.5	27.0	23.0	25.0	19.5
4	20.5	17.0	21.5	16.0	21.0	19.0	27.5	21.0	28.0	21.0	25.0	19.5
5	20.0	15.5	23.0	16.0	21.0	18.5	27.0	20.5	28.5	20.5	23.0	18.5
6	21.0	15.0	23.5	18.0	20.0	18.0	28.0	21.0	26.5	20.5	23.5	17.5
7	22.0	16.0	22.5	16.5	24.0	18.0	26.5	21.5	26.5	20.5	22.5	18.0
8	22.5	16.5	21.0	16.0	25.0	19.0	26.5	21.0	28.5	20.5	24.5	18.5
9	21.0	17.0	25.0	16.5	26.0	20.0	29.0	20.5	27.0	20.5	24.5	18.0
10	21.0	16.0	24.5	19.0	26.0	20.5	29.5	20.5	25.5	20.5	23.5	18.0
11	19.5	14.5	22.0	18.0	25.0	19.0	29.0	20.5	25.5	19.0	23.0	18.0
12	18.5	13.5	22.5	16.0	23.5	18.5	28.5	21.5	25.5	19.5	21.5	17.0
13	22.0	14.5	24.5	16.0	25.5	19.0	27.0	21.0	25.5	20.0	23.0	17.0
14	21.5	15.5	24.0	17.0	26.5	20.0	27.0	20.0	25.5	20.0	23.5	19.0
15	22.5	16.5	23.0	17.5	27.0	20.5	27.5	19.5	25.5	20.0	23.5	19.0
16	20.5	15.0	25.5	18.0	26.5	20.5	26.0	20.5	24.5	20.0	23.0	19.5
17	17.5	16.0	24.0	19.5	26.0	20.0	26.0	20.0	26.5	20.0	21.5	18.5
18	20.5	14.5	25.0	19.5	27.5	21.5	27.5	20.5	26.5	20.5	22.5	18.0
19	21.0	15.0	26.0	20.0	29.5	22.0	26.5	21.0	25.5	20.5	23.5	19.0
20	23.0	15.0	26.0	20.0	27.0	22.5	27.5	20.5	24.5	19.5	23.0	19.0
21	23.0	16.0	24.0	18.0	25.5	21.0	27.0	20.0	25.5	20.0	22.5	18.5
22	21.5	15.0	25.0	18.5	25.0	19.5	28.0	21.0	26.5	21.0	22.0	18.5
23	18.0	15.0	27.0	19.5	23.5	19.0	27.0	21.5	27.0	21.0	22.0	18.0
24	21.5	15.0	23.0	19.0	25.5	19.0	29.5	21.5	26.5	20.0	22.5	17.5
25	22.5	15.5	22.5	19.5	28.0	21.0	28.0	22.5	26.0	19.5	22.0	18.0
26	20.0	16.0	22.5	19.5	30.0	22.0	28.5	21.5	26.0	19.5	23.0	18.5
27	22.0	15.5	22.5	19.5	28.5	22.0	28.0	21.5	26.5	20.0	23.5	19.0
28	22.5	16.5	24.0	19.0	26.0	20.0	27.5	21.5	27.5	20.5	23.5	19.0
29	23.5	17.0	25.0	19.5	28.0	20.0	27.0	21.0	26.5	21.0	23.5	19.0
30	23.0	17.0	23.5	20.5	27.0	20.5	27.0	21.0	24.0	18.0	24.0	19.5
31	---	---	24.0	20.5	---	---	28.5	21.5	25.0	18.0	---	---
MONTH	23.5	13.5	27.0	16.0	30.0	18.0	29.5	19.5	29.0	18.0	25.0	17.0

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 37°29'54", long 121°04'54", in SW 1/4 SW 1/4 sec.15, T.5 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.2 mi below bridge on Palm Avenue, 2.3 mi northeast of Patterson.

DRAINAGE AREA.--9,760 mi^2, approximately.

PERIOD OF RECORD.--October 1988 to September 1989, January 1990 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
SPECIFIC CONDUCTANCE: October 1988 to September 1989, January 1990 to current year.
WATER TEMPERATURE: October 1988 to September 1989, January 1990 to current year.
CHEMICAL DATA: October 1992 to September 1993.
SEDIMENT DATA: October 1992 to september 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to September 1989, January 1990 to current year.
WATER TEMPERATURE: October 1988 to September 1989, January 1990 to current year.

INSTRUMENTATION.--Water-quality monitor October 1985 to September 1989 and since January 1990.

REMARKS.--Operation of pumping station and canal outlet located just downstream from the gage may affect specific conductance and water temperature during low-flow periods.

COOPERATION.--Discharge provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 2,660 microsiemens, Apr. 15, 1991; minimum recorded, 240 microsiemens, Jan. 10, 11, 1993.
WATER TEMPERATURE: Maximum recorded, 36.0°C, July 18, 1992; minimum recorded, 2.0°C, Dec. 23, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,860 microsiemens, Mar. 16; minimum recorded, 240 microsiemens, Jan. 10, 11.
WATER TEMPERATURE: Maximum recorded, 27.5°C, several days during June to August; minimum recorded, 5.5°C, Jan. 5.

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

DATE	TIME	DIS CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
14...	1000	190	1640	7.6	18.5	760	10.2	110	--	--	--
JAN											
21...	1115	4910	466	6.7	11.0	768	7.6	69	110	24	12
FEB											
25...	1300	2050	982	7.5	12.5	763	8.9	84	210	47	23
MAR											
29...	1545	2870	707	7.3	15.5	765	7.5	75	150	34	17
APR											
28...	1430	1880	764	7.8	19.0	767	8.2	88	150	34	17
MAY											
25...	0930	909	1400	8.0	21.0	761	6.5	73	270	61	29
JUN											
23...	1000	1010	1070	8.0	17.5	760	9.3	98	210	49	22
JUL											
26...	1030	816	1040	8.0	24.5	762	7.3	76	220	51	22
AUG											
24...	1015	1280	694	8.0	24.0	755	--	--	150	34	15
SEP											
28...	1010	977	774	7.8	20.0	762	7.0	77	160	38	17

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA--Continued

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

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
14...	--	--	--	--	261	0	214	--	--	--
JAN										
21...	51	--	2	--	98	0	80	65	47	0.10
FEB										
25...	110	--	3	--	166	0	136	170	120	<0.10
MAR										
29...	76	51	3	4.2	130	0	107	110	84	0.10
APR										
28...	92	56	3	2.3	113	0	93	130	98	0.20
MAY										
25...	160	56	4	4.0	173	0	142	250	190	0.20
JUN										
23...	120	55	4	3.4	142	0	117	190	130	0.10
JUL										
26...	120	54	4	3.3	156	0	128	190	140	0.20
AUG										
24...	75	52	3	2.4	102	0	83	120	74	0.10
SEP										
28...	90	54	3	2.5	121	0	99	110	100	0.20

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
14...	--	--	--	--	--	--	--	--	--
JAN									
21...	17	274	--	--	0.040	0.980	0.330	1.6	1.0
FEB									
25...	16	568	--	--	0.080	2.30	0.280	1.2	0.90
MAR									
29...	17	442	415	0.60	0.060	1.60	0.200	1.4	0.90
APR									
28...	14	447	450	0.61	0.030	1.30	0.110	0.70	0.40
MAY									
25...	17	846	811	1.15	0.090	2.70	0.410	0.90	0.80
JUN									
23...	14	638	610	0.87	0.070	2.40	0.100	3.8	0.40
JUL									
26...	15	636	632	0.86	0.110	2.70	0.500	1.6	1.0
AUG									
24...	14	405	393	0.55	0.030	1.70	0.090	0.30	0.30
SEP									
28...	16	442	443	0.60	0.080	1.80	0.520	1.0	0.70

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA--Continued

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

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
14...	--	--	--	--	--	--	--	--	--	--
JAN										
21...	0.460	0.250	0.240	310	250	68	2	1	--	--
FEB										
25...	0.360	0.200	0.220	80	46	34	2	3	--	--
MAR										
29...	0.400	0.210	0.210	470	94	30	1	2	9.3	2.3
APR										
28...	0.270	0.130	0.130	500	24	44	--	--	63	1.6
MAY										
25...	0.310	0.260	0.240	1000	8	140	5	5	6.0	2.3
JUN										
23...	0.180	0.120	0.120	780	14	53	4	4	4.7	2.2
JUL										
26...	0.350	0.180	0.150	890	16	54	4	4	5.8	2.3
AUG										
24...	0.150	0.130	0.130	--	18	19	1	3	4.9	2.1
SEP										
28...	0.280	0.170	0.170	450	20	53	2	1	4.8	1.0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN					
21...	1115	4910	11.0	113	1500
FEB					
25...	1300	2050	12.5	125	692
MAR					
29...	1545	2870	15.5	104	806
APR					
28...	1430	1880	19.0	74	376
MAY					
25...	0930	909	21.0	81	199
JUN					
23...	1000	1010	17.5	70	191
JUL					
26...	1030	816	24.5	157	346
AUG					
24...	1015	1280	24.0	136	470
SEP					
28...	1010	977	20.0	64	169

11274570 SAN JAOQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1540	1440	880	830	1130	1080	1530	1450	1310	1230	690	620
2	1460	1370	880	830	1140	1090	1570	1440	1380	1310	810	690
3	1610	1430	890	850	1130	1100	1650	1570	1450	1360	890	810
4	1670	1520	940	870	1140	1090	1620	1190	1520	1380	1000	890
5	1690	1460	950	900	1130	1090	1360	1060	1590	1500	1150	1000
6	1810	1640	1000	910	1160	1080	1060	930	1660	1590	1290	1150
7	1720	1490	1030	970	1150	1080	1030	960	1740	1660	1390	1290
8	1620	1530	1030	990	1150	1090	1030	960	1710	1280	1510	1380
9	1690	1560	1040	980	1100	1040	1040	380	1300	850	1640	1510
10	1640	1470	1040	1000	1120	1040	380	240	1220	790	1690	1640
11	1670	1520	1070	1030	1270	1120	390	240	790	600	1720	1680
12	1780	1580	1070	1040	1350	1270	490	390	800	630	1790	1720
13	1800	1400	1100	1050	1430	1350	500	430	1000	800	1820	1770
14	1660	1560	1120	1080	1430	1320	480	400	1140	1000	1780	1750
15	1630	1470	1210	1120	1470	1390	450	340	1250	1140	1760	1720
16	1670	1160	1220	1180	1500	1460	340	300	1370	1250	1860	1740
17	1660	1160	1220	1190	1490	1460	340	320	1510	1370	1850	1810
18	1640	1190	1240	1190	1500	1470	380	340	1560	1510	1830	1680
19	1740	1440	1270	1230	1490	1420	430	380	1560	810	1760	1680
20	1590	1370	1270	1150	1480	1430	450	420	1060	860	1810	1750
21	1430	1380	1190	1160	1520	1480	530	430	1130	1060	1770	1670
22	1490	1390	1220	1180	1520	1470	550	520	1090	850	1760	1680
23	1510	1350	1200	1180	1550	1500	590	550	960	840	1740	1620
24	1350	590	1200	1130	1590	1520	620	590	980	960	1680	1490
25	600	490	1130	1080	1590	1530	680	610	1010	760	1580	1430
26	510	480	1120	1090	1610	1570	770	680	760	610	1430	1160
27	560	500	1100	1070	1600	1580	850	770	660	620	1160	820
28	710	560	1150	1100	1600	1510	960	850	650	620	820	600
29	780	700	1170	1120	1510	1480	1060	960	---	---	750	650
30	820	760	1170	1120	1520	1480	1140	1010	---	---	810	750
31	870	820	---	---	1550	1510	1230	1140	---	---	860	790
MONTH	1810	480	1270	830	1610	1040	1650	240	1740	600	1860	600

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	980	860	790	740	1140	1110	1280	1190	790	710	730	640
2	1030	980	790	720	1110	1030	1300	1230	790	710	720	640
3	1050	1030	720	620	1090	1050	1300	1190	830	760	690	670
4	1140	1050	670	610	1130	1050	1200	1120	860	830	720	680
5	1250	1140	680	660	1180	1110	1120	1020	880	830	790	720
6	1370	1250	690	660	1140	1070	1150	1090	880	810	770	680
7	1400	1130	710	660	1190	1010	1100	1050	810	760	750	630
8	1130	1000	700	680	1010	930	1120	1060	800	760	710	650
9	1000	960	680	650	940	890	1170	1070	760	680	690	650
10	970	820	680	660	930	890	1240	1130	700	670	670	630
11	820	730	670	630	920	880	1300	1190	710	670	670	610
12	780	740	660	640	900	810	1320	1260	720	680	680	640
13	740	680	660	630	830	790	1270	1200	770	710	670	600
14	690	630	710	640	850	790	1280	1230	750	710	640	600
15	660	640	730	710	930	790	1280	1230	750	720	710	640
16	700	660	710	670	930	870	1230	1150	720	660	680	620
17	780	670	720	700	910	860	1190	1060	690	670	660	620
18	800	750	790	720	900	860	1140	1070	700	650	700	630
19	760	730	910	790	870	820	1130	970	660	620	740	690
20	770	740	1070	910	940	840	1150	940	720	650	720	630
21	800	740	1100	980	1010	940	1190	1130	780	720	670	610
22	820	800	1300	1100	970	930	1410	1190	770	710	700	620
23	810	780	1490	1290	1090	970	1420	1150	710	660	700	670
24	780	750	1500	1390	1070	990	1180	1120	700	670	810	680
25	850	780	1430	1320	1050	1000	1160	1120	740	690	850	810
26	860	810	1390	1300	1080	1000	1150	860	780	740	840	770
27	820	780	1400	1190	1140	1050	870	790	840	770	800	710
28	780	740	1230	1180	1170	1080	850	800	860	810	800	680
29	810	780	1210	1130	1190	1100	840	790	850	770	800	680
30	830	790	1180	1120	1220	1150	830	790	780	640	780	700
31	---	---	1170	1090	---	---	840	770	660	620	---	---
MONTH	1400	630	1500	610	1220	790	1420	770	880	620	850	600

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	25.5	21.0	19.0	17.0	11.0	9.5	9.0	8.5	10.5	9.0	12.5	11.0
2	23.0	19.5	19.5	17.5	10.5	9.5	8.5	7.5	10.5	9.0	13.0	12.0
3	22.0	18.0	18.5	16.5	11.5	10.0	7.5	6.5	10.5	10.0	14.5	13.0
4	22.0	18.0	17.0	15.5	10.5	9.5	7.0	6.0	11.5	10.0	15.5	14.0
5	23.0	18.0	17.5	16.0	10.5	9.0	6.0	5.5	13.0	11.0	16.0	14.5
6	22.5	18.0	17.5	16.0	10.0	9.5	6.5	6.0	13.0	12.0	17.0	15.0
7	23.0	18.5	17.0	16.0	11.5	10.0	8.5	6.5	13.0	12.0	18.0	16.0
8	23.0	18.5	16.5	14.5	11.0	10.0	9.5	8.5	13.5	13.0	19.0	17.0
9	22.0	18.0	14.5	13.0	11.5	10.5	9.5	8.5	13.0	12.0	18.5	17.5
10	23.0	18.5	13.0	11.5	13.0	11.0	10.5	9.5	13.0	12.0	19.0	17.0
11	23.5	18.5	12.5	11.0	12.5	12.0	9.5	9.0	13.5	13.0	19.0	17.0
12	23.5	19.0	12.5	11.0	12.0	10.0	9.0	8.0	13.5	12.5	19.5	17.0
13	22.5	18.5	13.0	11.5	10.0	9.0	9.0	8.0	13.0	12.5	20.0	18.0
14	22.0	18.0	13.5	12.0	9.0	8.5	10.5	9.0	12.5	11.5	20.5	18.5
15	21.0	17.5	13.5	12.0	9.0	8.0	10.5	10.0	12.5	11.5	19.5	18.0
16	21.0	17.5	14.0	12.5	9.0	8.0	11.0	10.5	12.0	11.5	18.5	18.0
17	21.0	17.0	14.5	13.0	9.0	8.0	11.0	10.5	12.0	11.5	20.0	17.5
18	21.0	17.5	14.0	13.0	8.5	7.5	11.0	10.5	12.0	11.5	20.0	17.5
19	21.0	17.0	13.0	12.0	8.0	7.0	11.0	11.0	12.5	12.0	19.5	17.5
20	21.5	18.0	12.0	10.5	8.5	7.0	11.5	11.0	12.5	12.0	19.5	17.5
21	22.0	19.0	11.5	10.0	8.5	7.5	12.0	11.0	12.5	12.0	20.0	17.5
22	21.0	18.0	12.0	11.0	9.0	8.0	12.0	11.5	12.5	12.0	20.5	18.0
23	20.5	17.0	11.5	10.5	8.0	8.0	11.5	10.5	12.5	11.5	19.5	18.0
24	19.5	18.0	11.0	10.0	8.0	7.5	10.5	10.0	12.5	12.0	18.5	17.5
25	20.0	18.5	12.0	10.5	7.5	7.5	10.0	9.5	12.5	12.0	18.0	16.5
26	20.0	18.5	12.5	11.0	7.5	7.5	9.5	9.0	12.0	10.0	16.5	15.5
27	19.5	19.0	13.5	12.0	7.5	7.0	9.0	9.0	11.0	10.0	16.0	15.5
28	19.5	18.5	12.5	11.5	8.0	7.0	9.0	9.0	11.5	10.5	15.5	14.5
29	19.0	17.5	11.5	10.5	9.5	8.0	9.5	8.5	---	---	15.5	14.5
30	17.5	17.0	11.0	10.0	10.0	8.5	9.5	8.5	---	---	17.0	15.5
31	18.0	16.0	---	---	9.5	8.5	10.0	8.5	---	---	18.5	16.5
MONTH	25.5	16.0	19.5	10.0	13.0	7.0	12.0	5.5	13.5	9.0	20.5	11.0

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

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA

LOCATION.--Lat 37°29'12", long 121°12'29", in SE 1/4 NW 1/4 sec.21, T.5 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 1.0 mi upstream from California Aqueduct crossing and 4.4 mi west of Patterson.

DRAINAGE AREA.--72.6 mi^2.

PERIOD OF RECORD.--October 1958 to May 1965 (maximums only), June 1965 to current year.

REVISED RECORDS.--WSP 1930: 1959-60(M), drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 200 ft above sea level, from topographic map. Prior to June 1965, crest-stage gage at site 1.0 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those below 1 ft^3/s, which are fair and those below 0.1 ft^3/s, which are poor. Some stock ponds and small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s, Feb. 16, 1959, gage height, 14.68 ft, site and datum then in use, from rating curve extended above 690 ft^3/s; no flow for several months in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 1	1830	107	2.72	Feb. 19	0130	730	5.33
Jan. 13	1600	*913	*5.93	Mar. 26	1545	195	3.28
Feb. 8	1900	262	3.64				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	27	10	61	37	10	6.4	.74	.08	.00
2	.00	.00	.00	33	11	51	33	10	5.9	.86	.04	.00
3	.00	.00	.00	9.9	11	43	31	10	5.5	1.1	.03	.00
4	.00	.00	.00	5.0	10	39	30	11	5.6	.99	.03	.00
5	.00	.00	.00	3.3	9.8	37	29	10	6.9	.90	.03	.00
6	.00	.00	.00	3.0	9.8	36	27	9.7	6.9	.85	.05	.00
7	.00	.00	.00	38	10	36	25	9.5	6.1	.76	.06	.00
8	.00	.00	.00	40	129	35	24	8.9	5.2	.77	.08	.00
9	.00	.00	.00	21	120	34	23	8.5	4.8	.74	.13	.00
10	.00	.00	.00	21	66	34	22	7.7	4.2	.74	.06	.00
11	.00	.00	.00	15	55	33	21	8.0	3.8	.77	.03	.00
12	.00	.00	.00	16	44	31	21	8.3	3.6	.63	.06	.00
13	.00	.00	.00	590	36	30	20	8.3	3.2	.60	.06	.00
14	.00	.00	.00	320	32	29	19	8.0	2.9	.66	.03	.00
15	.00	.00	.00	91	28	27	19	8.0	2.6	.59	.03	.00
16	.00	.00	.00	77	26	25	18	7.7	2.5	.60	.03	.00
17	.00	.00	.00	210	27	24	20	7.3	2.3	.54	.03	.00
18	.00	.00	.00	172	157	24	20	7.1	2.2	.48	.01	.00
19	.00	.00	.00	79	464	23	18	7.0	2.1	.43	.00	.00
20	.00	.00	.00	49	268	21	17	7.1	1.9	.40	.00	.00
21	.00	.00	.00	38	120	20	16	6.8	1.9	.33	.00	.00
22	.00	.00	.00	38	74	19	16	6.5	1.5	.32	.00	.00
23	.00	.00	.00	31	64	23	15	6.3	1.4	.30	.00	.00
24	.00	.00	.00	23	61	33	15	6.3	1.2	.23	.00	.00
25	.00	.00	.00	20	49	38	14	9.5	1.1	.24	.00	.00
26	.00	.00	.00	18	152	155	14	8.0	1.1	.33	.00	.00
27	.00	.00	.00	16	105	102	13	6.9	1.0	.33	.00	.00
28	.00	.00	.00	14	83	80	12	6.5	.93	.37	.00	.00
29	.00	.00	16	13	---	57	12	6.1	.78	.37	.00	.00
30	.00	.00	16	12	---	46	11	6.1	.76	.36	.00	.00
31	.00	---	6.2	11	---	40	---	7.1	---	.26	.00	---
TOTAL	0.00	0.00	38.20	2054.2	2231.6	1286	612	248.2	96.27	17.59	0.87	0.00
MEAN	.000	.000	1.23	66.3	79.7	41.5	20.4	8.01	3.21	.57	.028	.000
MAX	.00	.00	16	590	464	155	37	11	6.9	1.1	.13	.00
MIN	.00	.00	.00	3.0	9.8	19	11	6.1	.76	.23	.00	.00
AC-FT	.00	.00	76	4070	4430	2550	1210	492	191	35	1.7	.00

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	1.00	3.19	15.1	26.6	22.4	8.81	3.65	1.83	.27	.073	.20
MAX	2.15	9.38	31.8	99.6	122	218	54.1	31.5	31.3	5.56	2.06	4.48
(WY)	1984	1983	1984	1983	1986	1983	1983	1983	1983	1983	1983	1990
MIN	.000	.000	.000	.000	.000	.062	.002	.000	.000	.000	.000	.000
(WY)	1966	1967	1969	1977	1977	1977	1990	1992	1966	1965	1965	1965

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1965 - 1993		
ANNUAL TOTAL	1001.62		6584.93				
ANNUAL MEAN	2.74		18.0		6.83		
HIGHEST ANNUAL MEAN					47.7		1983
LOWEST ANNUAL MEAN					.030		1977
HIGHEST DAILY MEAN	262	Feb 12	590	Jan 13	973	Mar 1	1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jul 1	1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Jul 1	1965
INSTANTANEOUS PEAK FLOW			913	Jan 13	1800	Feb 16	1959
INSTANTANEOUS PEAK STAGE			5.93	Jan 13	14.68	Feb 16	1959
ANNUAL RUNOFF (AC-FT)	1990		13060		4950		
10 PERCENT EXCEEDS	4.3		38		11		
50 PERCENT EXCEEDS	.00		.99		.04		
90 PERCENT EXCEEDS	.00		.00		.00		

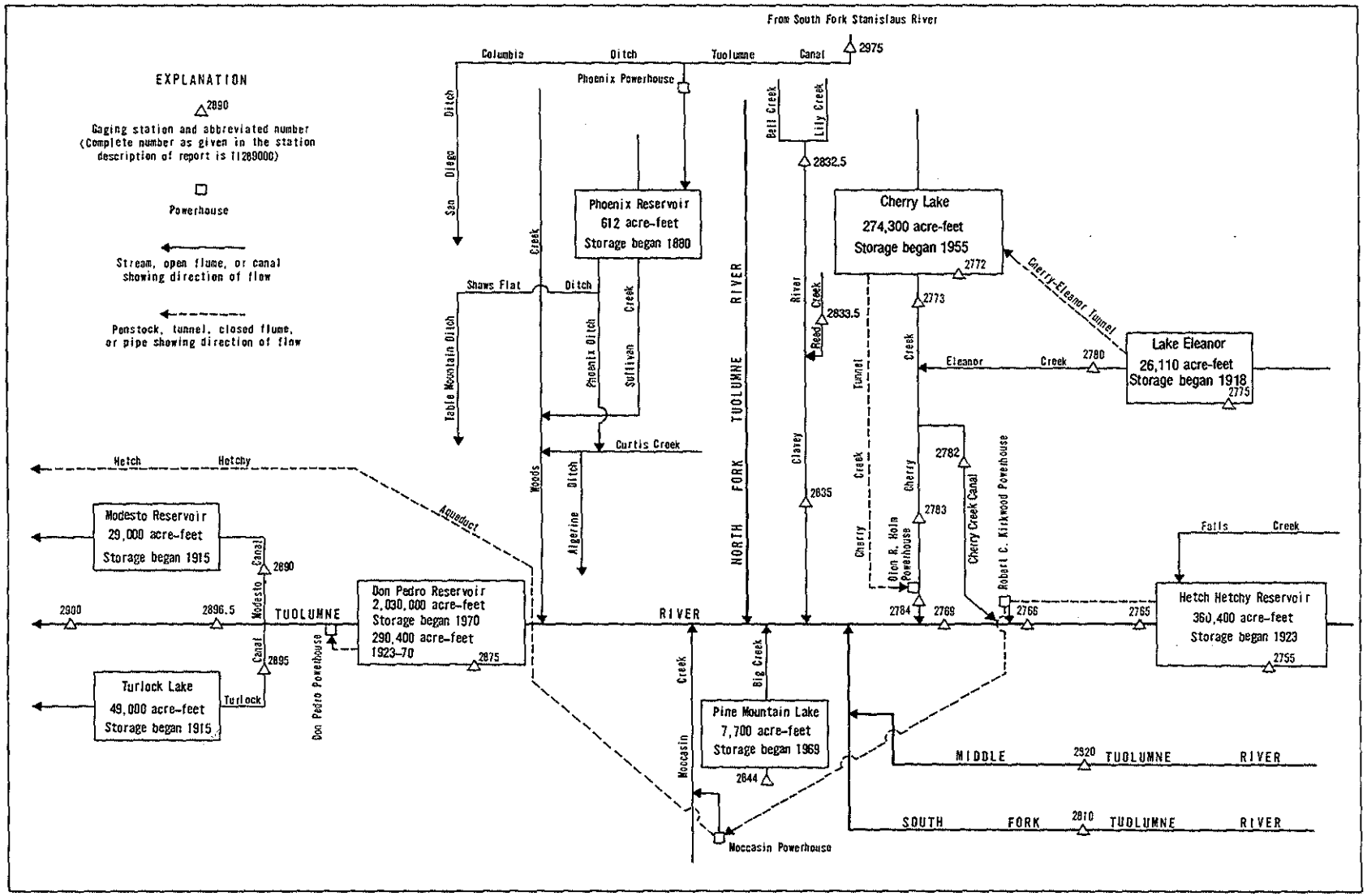

Figure 33. Diversions and storage in Tuolumne River basin.

11275500 HETCH HETCHY RESERVOIR AT HETCH HETCHY, CA

LOCATION.--Lat 37°56'52", long 119°47'13", in NW 1/4 NW 1/4 sec.16, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy, 1.5 mi downstream from Falls Creek.
DRAINAGE AREA.--455 mi^2.
PERIOD OF RECORD.--May 1923 to current year. Prior to October 1930 monthend contents published in WSP 1315-A.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Nonrecording gage. Datum of gage is 1.84 ft above sea level. Prior to Oct. 1, 1927, nonrecording gage at same site and datum. Oct. 1, 1927, to July 9, 1972, water-stage recorder at same site and datum. Prior to October 1974, datum published as at mean sea level.
REMARKS.--Reservoir is formed by concrete gravity-type dam, completed to crest gage height 3,726.5 ft in 1923 and raised to 3,812.0 ft in 1937. Storage began Apr. 6, 1923. Ten-foot drum gates were installed on spillway in 1949. Capacity, 360,400 acre-ft between gage heights 3,512.0 ft, bottom outlet, and 3,806.0 ft, top of drum-type spillway gates. Water is diverted from reservoir through tunnel to Robert C. Kirkwood Powerplant 15 mi downstream. Flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy Aqueduct to Moccasin Powerplant with flows in excess of aqueduct capacity being spilled to the river. At Moccasin Creek Diversion Dam, water re-enters Hetch Hetchy Aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir (station 11287500) at Red Mountain Bar. Flow downriver is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is the main storage unit of Hetch Hetchy water-supply system for San Francisco. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 0800 hours.
COOPERATION.--Records were provided by city and county of San Francisco.
EXTREMES (AT 0800) FOR PERIOD OF RECORD.--Maximum contents, 369,100 acre-ft, Dec. 3, 1950, gage height, 3,810.4 ft; no contents at times in 1929-31.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 362,300 acre-ft, July 12, gage height, 3,807.0 ft; minimum, 72,100 acre-ft, Mar. 14, gage height, 3,615.4 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 20, 1971)

3,512	0	3,530	3,300	3,600	57,400	3,680	146,200	3,760	273,700
3,513	51	3,540	8,700	3,620	76,500	3,700	175,000	3,780	310,400
3,515	154	3,560	22,900	3,640	97,000	3,720	206,000	3,800	348,600
3,520	410	3,580	39,500	3,660	119,900	3,740	238,900	3,810.4	369,100

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189900	167500	146900	e117300	103700	77400	81100	104100	268200	357200	356800	338500
2	188800	166600	146100	116300	102500	76200	81600	109600	268400	359200	356200	337700
3	187800	166100	145000	115500	101500	75500	81700	115600	267000	359200	355600	337000
4	187300	165400	143900	114400	100200	74900	81800	120700	267000	357600	355600	336200
5	186400	164800	142800	113300	99200	74100	82300	123700	268200	357200	355800	335400
6	185600	164300	141900	112300	98100	73600	82000	126600	268700	357400	355800	334700
7	184700	163500	141100	112100	97100	73300	81500	129500	267500	357600	355200	333900
8	184100	163000	140100	112800	96200	73100	80900	132700	266600	358000	354900	333100
9	183200	162900	139300	112400	95700	73100	80900	135800	264100	359600	354500	332400
10	182800	162100	138800	112400	94900	72900	81000	140700	263100	359600	353900	331600
11	181700	e161800	138100	111100	94100	72700	81200	148300	265000	361200	353300	330600
12	181200	161500	137300	110500	93100	72700	81200	156000	267300	362300	352900	329800
13	180200	160800	136200	110100	92000	72200	81100	162300	269300	361700	352700	329100
14	179400	160200	135400	110900	91000	72100	80900	167700	272600	361400	352100	328200
15	178800	159400	134000	110900	90000	72900	80700	173400	280000	361200	351300	327400
16	178300	158800	133000	111000	88800	72700	80900	178600	288900	361000	350700	326600
17	177400	157800	132200	110900	87600	73200	81000	185500	296100	359800	350000	325900
18	176800	156800	131000	110500	86300	73700	81300	195300	301800	359200	349200	324900
19	176400	156100	130100	109700	85800	78400	81000	206600	307800	359000	348600	324000
20	175300	155300	129100	108900	85400	78800	80900	216300	316000	358400	347600	323000
21	174600	154600	128000	108900	84700	79200	81300	227200	323000	358600	346800	322200
22	173800	153900	126700	110300	83800	79600	82600	236200	328200	358800	346300	321500
23	172900	153300	125500	110900	83000	80400	84000	243500	332000	359400	345300	320500
24	172200	152500	124400	110700	83000	81300	85000	251200	336000	360000	344500	319800
25	171600	151600	e123600	109800	81400	82200	85600	258200	341200	360800	343500	318800
26	171000	e151000	122700	109300	80300	82900	86500	263300	346300	361200	342800	318100
27	170300	150400	121600	108300	79500	82900	88600	264500	351300	360600	342000	317300
28	170000	149400	120400	107500	78500	82500	91400	264500	356600	359600	341200	316400
29	168900	148900	120000	106600	---	82100	94600	263600	357600	358600	340600	315400
30	168000	148000	119100	105600	---	81600	98800	262600	357000	357600	339900	314100
31	168000	---	118300	104600	---	81000	---	263400	---	357200	339300	---
MAX	189900	167500	146900	118300	103700	82900	98800	264500	357600	362300	356800	338500
MIN	168000	148000	118300	104600	78500	72100	80700	104100	263100	357200	339300	314100
a	3695.3	3681.3	3658.6	3648.8	3622.0	3624.5	3637.7	3754.2	3804.3	3804.4	3795.2	3782.0
b	-22700	-20000	-29700	-13700	-26100	+2500	+17800	+164600	+93600	+200	-17900	-25200

CAL YR 1992 b -37000
WTR YR 1993 b +123400

e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°56'15", long 119°47'50", in SW 1/4 SE 1/4 sec.17, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on left bank 0.9 mi downstream from O'Shaughnessy Dam at Hetch Hetchy and 2.5 mi downstream from Falls Creek.

DRAINAGE AREA.--457 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Hetch Hetchy damsite, near Sequoia" 1910-14 and as "below Hetch Hetchy damsite, near Sequoia" 1915-18.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage with concrete control since May 5, 1970. Elevation of gage is 3,480 ft above sea level, from topographic map. Prior to Jan. 1, 1915, water-stage recorder at site 1 mi upstream, at damsite, at different datum. Jan. 1, 1915, to Sept. 30, 1968, water-stage recorder, at same site and datum. Oct. 1, 1968, to May 4, 1970, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 0.9 mi upstream beginning in April 1923. Flow diverted upstream from station through tunnel to Robert C. Kirkwood Powerplant and Hetch Hetchy Aqueduct beginning Apr. 26, 1967. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft^3/s, June 1, 1943, gage height, 13.90 ft; no flow at times in 1968-70.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,160 ft^3/s, July 1, gage height, 10.69 ft; minimum daily, 36 ft^3/s, Oct. 2, 3.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	37	37	44	50	64	155	178	e3080	1910	149	94
2	36	37	37	44	54	67	160	200	e2980	2730	145	88
3	36	37	37	44	53	65	157	182	e2740	3380	143	85
4	39	37	38	43	53	61	157	168	e1680	2700	143	85
5	39	39	37	42	53	60	157	186	e1830	2380	143	86
6	37	40	37	42	52	60	156	182	1820	2310	143	86
7	37	39	39	63	51	59	155	179	1810	2290	143	84
8	37	39	38	49	54	58	160	183	2290	1470	145	83
9	37	40	39	46	57	63	160	188	2850	1700	142	85
10	37	40	42	45	55	64	156	179	2840	643	143	82
11	37	39	39	53	55	63	156	175	2860	571	144	79
12	37	39	42	62	54	124	155	181	2880	1150	144	79
13	37	39	40	58	52	133	155	186	2900	1060	146	82
14	37	39	38	70	52	133	155	e183	2100	623	148	82
15	37	39	38	53	52	134	155	e172	965	423	147	72
16	37	39	38	58	52	134	155	e176	986	327	146	62
17	37	39	38	61	52	142	155	e178	1010	270	145	62
18	37	37	38	55	52	143	155	e182	983	231	145	62
19	37	37	38	50	54	143	155	e186	968	276	147	61
20	37	37	38	52	56	143	152	e191	988	231	151	63
21	37	37	37	58	54	139	160	e252	1000	148	149	65
22	37	37	37	64	50	139	169	e700	1020	147	147	64
23	37	37	37	52	63	139	172	e1380	1010	146	149	62
24	37	37	37	49	65	143	168	e1800	1010	148	150	62
25	37	37	37	47	61	149	162	e2320	1540	177	130	62
26	37	37	37	46	62	155	156	e2870	2090	268	103	63
27	37	37	37	45	61	150	157	e3090	2130	193	105	63
28	38	37	37	45	60	148	159	e3100	2830	225	105	63
29	38	37	39	45	---	146	162	e3090	3430	223	104	63
30	39	37	48	44	---	144	166	e3080	2800	181	104	63
31	38	---	45	44	---	144	---	e3110	---	153	103	---
TOTAL	1158	1139	1196	1573	1539	3509	4752	28427	59420	28684	4251	2192
MEAN	37.4	38.0	38.6	50.7	55.0	113	158	917	1981	925	137	73.1
MAX	41	40	48	70	65	155	172	3110	3430	3380	151	94
MIN	36	37	37	42	50	58	152	168	965	146	103	61
AC-FT	2300	2260	2370	3120	3050	6960	9430	56380	117900	56890	8430	4350

e Estimated.

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1966, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	534	516	544	528	519	620	971	2005	3149	1396	636	548
MAX	813	780	2281	1221	1556	1078	2803	5336	7859	4624	1320	1143
(WY)	1949	1939	1951	1965	1965	1916	1952	1919	1911	1911	1939	1939
MIN	13.8	1.52	1.83	2.51	34.2	11.2	507	493	480	279	27.1	5.83
(WY)	1925	1924	1924	1924	1924	1925	1937	1961	1924	1919	1924	1923

SUMMARY STATISTICS	WATER YEARS 1911 - 1966		
ANNUAL MEAN	997		
HIGHEST ANNUAL MEAN	1724		1911
LOWEST ANNUAL MEAN	516		1924
HIGHEST DAILY MEAN	11400	Jun 18	1911
LOWEST DAILY MEAN	1.3	Nov 2	1923
ANNUAL SEVEN-DAY MINIMUM	1.4	Nov 1	1923
INSTANTANEOUS PEAK FLOW	12900	Jun 1	1943
INSTANTANEOUS PEAK STAGE	13.90	Jun 1	1943
ANNUAL RUNOFF (AC-FT)	722600		
10 PERCENT EXCEEDS	2230		
50 PERCENT EXCEEDS	721		
90 PERCENT EXCEEDS	115		

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.3	64.4	64.1	61.7	65.1	69.8	250	1003	1774	758	160	72.9
MAX	164	561	555	319	305	489	1371	3327	5885	5149	1263	125
(WY)	1987	1987	1983	1974	1974	1983	1986	1969	1983	1983	1983	1989
MIN	31.1	33.6	34.1	33.5	31.7	29.9	33.6	49.0	71.2	68.2	66.7	31.6
(WY)	1969	1991	1991	1977	1971	1974	1981	1990	1977	1968	1974	1970

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1968 - 1993		
ANNUAL TOTAL	22150		137840				
ANNUAL MEAN	60.5		378		366		
HIGHEST ANNUAL MEAN					1433		1983
LOWEST ANNUAL MEAN					49.5		1977
HIGHEST DAILY MEAN	130	Jul 23	3430	Jun 29	10100	Jul 7	1983
LOWEST DAILY MEAN	36	Oct 2	36	Oct 2	.00	Oct 3	1968
ANNUAL SEVEN-DAY MINIMUM	37	Oct 6	37	Oct 6	.00	Feb 20	1970
INSTANTANEOUS PEAK FLOW			5160	Jul 1	10700	Jul 7	1983
INSTANTANEOUS PEAK STAGE			10.69	Jul 1	13.09	Jul 7	1983
ANNUAL RUNOFF (AC-FT)	43930		273400		265400		
10 PERCENT EXCEEDS	115		1500		960		
50 PERCENT EXCEEDS	50		82		60		
90 PERCENT EXCEEDS	37		37		35		

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.--Temperature recorder since August 1987.

REMARKS.--Temperature recorder installed Aug. 13, 1987, located 0.6 mi upstream from gaging station on left bank at road bridge. Water temperature is affected by releases from O'Shaughnessy Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 16.0°C, July 26, 1993; minimum recorded, 4.0°C, Mar. 25, 1991.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 16.0°C, July 26; minimum recorded, 4.5°C, several days in February and March.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.0	11.0	13.0	11.0	12.5	11.0	9.0	8.0	6.5	5.0	6.0	4.5
2	13.0	11.0	13.5	11.0	12.0	11.0	8.5	7.5	6.5	5.0	6.0	5.0
3	12.5	10.5	13.0	11.0	12.5	11.0	8.5	7.5	6.5	5.5	6.0	5.0
4	12.5	10.5	13.0	11.0	12.5	11.0	8.5	7.0	7.0	5.5	6.0	4.5
5	13.0	11.0	13.0	10.5	12.0	10.5	8.5	7.0	6.5	5.5	6.5	4.5
6	13.0	11.0	13.0	10.5	12.0	11.0	8.5	8.0	6.5	5.5	6.0	5.0
7	13.0	11.0	13.0	11.0	12.0	10.5	8.5	7.5	7.0	5.5	7.0	5.0
8	13.0	11.0	12.5	10.5	12.0	11.0	8.5	7.0	6.5	5.5	6.5	5.0
9	13.0	11.0	12.5	10.5	11.5	10.5	8.0	6.5	6.5	5.5	7.0	5.5
10	12.5	11.0	12.0	10.5	11.5	10.5	7.5	7.0	6.5	5.0	7.0	5.5
11	12.5	11.0	12.5	10.0	11.0	10.0	7.5	6.5	6.5	5.0	7.0	5.5
12	13.0	11.0	13.0	10.5	11.0	10.0	7.5	6.5	6.5	5.0	7.0	5.5
13	13.0	11.0	13.0	11.0	11.0	10.0	8.0	6.5	6.5	5.0	7.5	6.0
14	13.0	10.5	13.0	11.0	11.0	9.5	7.5	6.5	6.5	5.0	7.5	6.5
15	13.5	11.0	13.0	11.5	11.0	10.0	7.5	6.5	6.0	5.0	7.5	6.0
16	13.0	11.0	13.0	11.0	11.0	9.5	7.5	6.5	6.0	5.0	7.5	6.0
17	13.0	11.0	13.0	11.5	10.5	9.0	7.0	6.5	6.0	5.0	7.5	7.0
18	13.0	11.0	13.0	11.0	10.0	9.0	7.5	6.5	6.0	5.0	7.5	6.5
19	13.0	11.5	12.5	10.5	10.0	9.0	7.5	6.0	6.0	5.0	7.5	6.0
20	12.5	11.0	12.5	10.5	10.5	9.0	7.5	6.5	5.5	4.5	7.5	6.5
21	13.5	11.5	12.5	10.5	10.5	9.0	7.5	6.5	6.0	5.0	7.5	6.5
22	13.0	11.0	13.0	11.0	10.0	8.5	7.5	6.0	6.0	4.5	8.0	7.0
23	13.0	11.0	12.5	10.5	10.0	9.0	7.5	6.0	6.0	5.0	8.0	6.5
24	13.0	11.0	12.5	11.0	10.0	9.0	7.5	6.0	6.0	5.0	8.0	7.0
25	13.0	11.0	13.0	11.5	10.0	8.5	7.5	6.0	6.0	4.5	8.0	7.0
26	13.5	11.0	12.5	11.0	10.0	8.5	7.5	6.0	6.0	5.0	8.0	7.0
27	13.0	11.5	13.0	11.5	10.0	8.5	7.0	6.5	6.0	4.5	7.5	7.0
28	13.0	12.0	12.5	11.0	9.5	8.5	7.0	6.0	6.0	4.5	7.5	7.0
29	12.5	11.0	12.5	11.0	9.0	8.0	7.0	6.0	---	---	8.0	7.0
30	12.5	11.0	12.5	11.0	9.0	8.5	7.0	6.0	---	---	8.0	7.0
31	12.5	11.5	---	---	9.5	8.5	7.0	5.5	---	---	9.0	7.0
MONTH	13.5	10.5	13.5	10.0	12.5	8.0	9.0	5.5	7.0	4.5	9.0	4.5

11276500 TUOLUMNE RIVER NEAR HETCH-HETCHY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.0	10.0	8.5	9.0	8.0	10.0	9.0	12.5	11.5	11.0	10.5
2	8.5	7.5	10.0	8.5	9.0	8.0	10.0	9.0	12.5	11.5	11.5	10.5
3	8.5	7.0	9.5	8.5	9.0	8.0	10.0	9.0	12.5	11.0	11.5	10.5
4	8.5	7.5	9.5	8.5	9.0	8.0	10.0	9.0	12.5	11.0	12.0	10.5
5	8.5	7.5	9.5	8.5	8.5	8.0	10.0	9.5	12.5	11.0	11.5	10.0
6	9.0	7.5	9.5	8.5	8.5	8.0	10.5	9.5	12.5	11.5	11.5	10.0
7	8.5	7.5	9.5	8.5	9.0	8.0	10.5	9.5	12.0	11.0	11.0	10.0
8	8.5	7.5	9.5	8.0	9.5	8.0	11.0	9.5	12.5	11.0	11.0	10.0
9	8.5	7.5	9.5	8.0	9.0	8.0	10.5	10.0	12.5	11.0	11.0	10.0
10	9.0	7.5	9.5	8.0	9.5	8.0	12.0	10.0	12.0	11.0	11.5	10.0
11	9.0	7.5	9.5	8.0	9.0	8.0	15.0	11.5	12.0	11.0	11.0	9.5
12	9.5	8.0	9.0	8.0	9.0	8.0	15.0	13.0	12.0	10.5	11.0	10.0
13	9.0	8.5	9.5	8.0	9.0	8.0	13.5	11.5	12.0	11.0	11.5	10.0
14	9.0	7.5	10.0	8.5	9.5	8.5	14.0	11.5	12.0	11.0	11.5	10.0
15	9.0	8.5	9.5	8.0	9.5	8.5	13.0	11.5	12.0	11.0	11.5	10.0
16	9.5	8.0	9.0	8.5	9.5	8.0	11.5	10.5	12.0	11.0	11.5	10.0
17	9.0	8.0	9.5	8.0	9.0	8.5	12.0	10.5	12.0	11.0	11.5	10.0
18	9.0	8.0	9.5	8.5	9.5	8.5	12.0	10.5	12.0	10.5	11.5	10.0
19	9.5	8.0	9.5	8.0	9.5	8.5	12.0	10.5	11.5	11.0	11.5	10.0
20	9.0	8.0	9.0	8.0	9.5	8.5	11.5	10.5	11.5	10.5	11.0	10.0
21	9.0	8.5	9.0	8.0	9.5	8.5	11.5	10.5	11.5	10.5	11.0	9.5
22	9.5	8.0	9.0	8.0	9.5	8.5	12.0	10.5	11.5	11.0	11.0	9.5
23	9.0	8.0	9.0	8.0	9.5	8.5	12.0	11.0	11.5	10.5	11.0	9.5
24	9.5	8.5	9.0	8.0	9.5	8.5	12.0	11.0	11.5	10.5	11.0	10.0
25	9.0	8.5	9.0	8.0	9.5	8.5	14.0	11.0	11.5	10.5	11.0	10.0
26	9.5	8.5	9.0	8.0	9.5	9.0	16.0	13.5	11.5	10.5	11.5	10.0
27	9.5	8.5	9.0	8.0	9.5	9.0	15.5	12.0	11.5	10.5	11.5	10.0
28	10.0	8.0	9.0	8.0	9.5	8.5	13.0	12.0	11.5	10.5	11.5	10.0
29	10.0	8.5	9.0	8.0	10.0	8.5	13.5	11.5	11.5	10.5	11.5	10.5
30	10.0	8.5	9.0	8.0	10.0	9.0	12.5	11.0	11.5	10.5	11.5	10.5
31	---	---	9.0	8.0	---	---	12.5	11.0	11.0	10.0	---	---
MONTH	10.0	7.0	10.0	8.0	10.0	8.0	16.0	9.0	12.5	10.0	12.0	9.5

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'46", long 119°56'46", in SE 1/4 SW 1/4 sec.1, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.5 mi upstream from Early Intake, 2.4 mi upstream from Cherry Creek, and 5.0 mi west of Mather.

DRAINAGE AREA.--484 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,420 ft above sea level, from topographic map.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 12 mi upstream. Flow diverted upstream from station through tunnel to Robert C. Kirkwood Powerplant and Hetch Hetchy Aqueduct. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s, July 7, 1983, gage height, 21.38 ft; minimum daily, 25 ft^3/s, Oct. 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943, reached a stage of 22.1 ft, discharge, 12,900 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,660 ft^3/s, July 3, gage height, 18.06 ft; minimum daily, 35 ft^3/s, Oct. 3, 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	39	38	e75	90	149	331	181	3130	1890	163	106
2	39	38	38	e82	95	159	280	214	3030	2570	160	96
3	35	37	37	e66	94	182	246	205	2790	3490	155	88
4	35	37	38	e69	93	171	252	173	1710	2850	155	88
5	38	37	39	e65	95	160	242	195	1860	2400	155	91
6	37	37	41	66	101	160	227	195	1860	2340	155	91
7	36	37	58	266	96	155	215	189	1840	2320	154	91
8	36	37	48	206	110	148	211	192	2170	1780	154	87
9	36	39	111	138	150	143	213	194	2940	1580	153	90
10	36	40	70	123	126	142	203	192	2920	877	154	86
11	36	40	78	107	121	135	199	180	2940	464	158	83
12	36	40	68	115	119	154	196	187	2960	1050	158	83
13	36	40	54	292	108	190	192	191	2980	1090	157	86
14	36	39	49	498	102	202	189	189	2440	739	157	87
15	36	39	47	227	100	198	187	178	968	461	161	86
16	36	39	45	331	97	188	186	182	978	368	159	71
17	36	39	46	270	96	293	189	184	997	317	157	65
18	36	39	47	246	109	257	197	188	983	251	155	62
19	36	38	45	161	190	219	189	191	957	261	156	62
20	36	38	44	158	220	206	185	198	974	308	162	61
21	37	38	43	260	173	196	186	269	991	168	160	67
22	37	38	43	353	153	191	195	728	1000	163	159	68
23	36	38	42	187	214	188	196	1410	1000	160	158	63
24	36	38	42	148	249	280	195	1830	995	162	161	62
25	36	38	42	129	172	350	188	2350	1360	171	158	62
26	37	38	41	118	162	453	180	2920	2090	282	113	64
27	37	38	41	111	153	317	180	3140	2120	195	113	64
28	39	38	44	104	147	282	177	3150	2670	239	112	64
29	47	38	e122	100	---	252	179	3140	3460	237	111	64
30	51	38	e113	97	---	232	181	3130	3060	219	110	64
31	48	---	e75	93	---	218	---	3160	---	172	109	---
TOTAL	1177	1149	1689	5261	3735	6570	6186	29025	60173	29574	4602	2302
MEAN	38.0	38.3	54.5	170	133	212	206	936	2006	954	148	76.7
MAX	51	40	122	498	249	453	331	3160	3460	3490	163	106
MIN	35	37	37	65	90	135	177	173	957	160	109	61
AC-FT	2330	2280	3350	10440	7410	13030	12270	57570	119400	58660	9130	4570

e Estimated.

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	51.5	78.6	94.3	108	131	146	303	978	1749	756	173	81.4
MAX	142	552	708	376	341	814	1564	3339	6142	5282	1319	132
(WY)	1987	1987	1983	1974	1974	1983	1983	1982	1983	1983	1983	1989
MIN	33.3	36.6	38.7	39.7	38.5	38.5	39.7	55.8	78.0	74.3	73.7	56.7
(WY)	1989	1991	1991	1977	1977	1977	1977	1992	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	25632		151443			
ANNUAL MEAN	70.0		415		387	
HIGHEST ANNUAL MEAN					1584	1983
LOWEST ANNUAL MEAN					53.5	1977
HIGHEST DAILY MEAN	141	Jul 23	3490	Jul 3	9810	Jul 7 1983
LOWEST DAILY MEAN	35	Oct 3	35	Oct 3	25	Oct 11 1988
ANNUAL SEVEN-DAY MINIMUM	36	Oct 7	36	Oct 7	27	Oct 11 1988
INSTANTANEOUS PEAK FLOW			3660	Jul 3	10700	Jul 7 1983
INSTANTANEOUS PEAK STAGE			18.06	Jul 3	21.38	Jul 7 1983
ANNUAL RUNOFF (AC-FT)	50840		300400		280700	
10 PERCENT EXCEEDS	122		1480		960	
50 PERCENT EXCEEDS	68		155		81	
90 PERCENT EXCEEDS	38		38		40	

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.--Temperature recorder since Aug. 12, 1987.

REMARKS.--Temperature recorder located 600 ft upstream from gaging station on right bank. Water temperature is affected by regulation from O'Shaughnessy Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 25.5°C, June 1, 1992; minimum recorded, 0.0°C, Dec. 24, 25, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 20.5°C, several days during July to September; minimum recorded, 2.5°C, Dec. 22, 23, 25, Jan. 4, 5.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	16.0	13.0	11.5	6.5	5.5	5.5	3.5	6.5	5.5	9.0	7.0
2	18.0	15.5	13.0	11.5	7.0	5.5	4.5	4.0	7.0	5.5	9.0	7.0
3	17.0	14.0	12.5	11.0	6.5	5.5	4.0	3.0	7.5	6.5	10.0	8.0
4	17.0	14.0	12.5	11.0	6.0	5.5	3.5	2.5	8.0	6.5	10.0	8.0
5	17.0	14.5	12.5	11.0	6.0	5.0	4.0	2.5	8.0	7.5	10.5	8.0
6	17.5	14.5	12.0	10.5	6.5	5.5	4.5	4.0	9.0	7.5	10.5	8.0
7	17.0	14.5	11.5	10.5	6.5	5.5	6.0	4.5	9.0	8.0	11.0	8.5
8	17.0	14.5	12.0	10.0	6.5	5.5	6.0	5.5	9.0	8.5	11.0	8.5
9	17.0	14.5	10.5	9.5	7.5	6.5	6.0	5.5	9.0	8.0	10.5	9.0
10	17.0	14.0	10.0	8.5	7.5	7.0	6.0	5.0	8.5	7.5	11.5	9.0
11	17.0	14.5	9.0	7.5	7.5	7.0	5.5	4.5	8.5	7.5	11.5	9.0
12	17.0	14.5	8.5	7.5	7.0	6.0	5.0	4.0	8.0	7.0	11.5	9.0
13	16.5	14.0	8.5	7.5	6.0	5.0	6.0	5.0	8.0	6.5	11.5	9.5
14	16.0	14.0	8.5	7.0	5.5	5.0	6.5	6.0	8.0	6.5	11.0	10.0
15	16.0	13.5	9.0	7.5	5.0	4.5	6.5	6.0	7.5	6.5	10.5	9.5
16	15.5	13.5	9.0	7.5	5.5	4.5	7.0	6.5	8.0	7.0	10.5	9.5
17	15.5	13.5	9.0	8.0	5.5	5.0	7.0	7.0	8.0	7.5	10.5	10.0
18	15.5	13.5	8.5	7.5	5.0	4.0	7.0	6.5	8.0	7.0	11.0	9.5
19	15.0	13.0	8.5	7.5	4.0	3.5	7.0	6.0	8.0	7.0	11.5	9.5
20	14.5	12.5	8.0	7.0	4.5	3.5	7.5	7.0	7.0	5.0	11.5	9.5
21	14.5	13.5	8.0	6.5	3.5	3.0	8.0	7.5	6.5	5.5	11.5	9.5
22	14.5	12.5	8.5	7.5	3.5	2.5	8.0	7.0	6.5	5.5	12.0	10.0
23	14.5	12.5	8.5	7.5	3.5	2.5	7.0	6.5	7.0	6.5	11.5	10.0
24	14.5	12.0	8.5	7.5	3.5	3.0	7.0	6.0	7.0	6.0	10.5	10.0
25	14.5	13.0	8.5	7.5	3.5	2.5	7.0	6.0	7.0	6.0	10.0	8.5
26	15.0	13.0	8.0	7.0	3.5	3.0	7.0	6.0	7.5	6.5	9.0	8.5
27	14.5	13.0	8.5	7.0	4.0	3.0	7.5	6.0	8.0	6.5	9.0	8.5
28	14.5	13.5	8.0	7.0	5.0	3.5	7.5	6.5	8.0	6.5	9.0	8.0
29	14.0	13.0	7.0	6.0	5.0	4.5	7.5	6.5	---	---	10.0	8.0
30	13.0	12.0	6.5	5.5	5.0	4.5	7.0	6.5	---	---	11.5	9.5
31	13.0	11.5	---	---	5.5	4.5	7.0	6.0	---	---	12.0	10.0
MONTH	18.5	11.5	13.0	5.5	7.5	2.5	8.0	2.5	9.0	5.0	12.0	7.0

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	10.0	15.0	12.5	11.0	9.5	12.5	10.5	20.0	16.5	19.0	15.5
2	11.0	9.5	14.0	12.5	11.0	9.5	12.0	11.0	20.5	16.5	19.5	16.5
3	11.0	9.5	13.0	12.0	11.0	9.0	12.0	10.5	19.5	17.0	20.0	16.5
4	11.5	10.0	14.0	11.0	10.0	9.5	13.0	10.5	20.0	16.5	20.5	17.0
5	11.0	9.5	14.0	11.0	10.0	9.5	13.0	11.0	20.5	16.5	20.5	17.0
6	10.5	8.5	14.0	12.0	9.5	9.0	13.0	11.0	20.5	16.5	20.0	17.0
7	12.0	9.0	14.5	11.5	11.0	9.5	12.5	11.0	20.0	16.0	20.0	16.5
8	12.0	10.0	14.0	11.5	11.5	9.5	13.5	11.0	19.5	16.5	20.0	17.0
9	12.0	10.5	15.0	12.0	11.0	9.0	13.5	11.5	19.0	15.5	20.0	16.5
10	12.5	10.5	15.5	12.5	11.0	9.5	14.0	11.5	19.5	15.5	19.5	16.5
11	12.0	10.0	15.0	12.5	11.5	9.5	16.0	13.5	19.5	16.0	20.0	16.5
12	12.0	10.0	14.0	12.0	11.0	9.5	17.5	15.5	19.0	15.5	19.0	16.5
13	12.0	9.5	12.5	11.0	11.0	9.5	16.0	14.5	18.5	15.5	18.5	16.0
14	12.5	9.5	13.5	12.0	11.5	9.5	16.0	13.5	19.0	15.5	18.5	16.0
15	13.5	10.5	14.0	12.5	12.5	10.0	16.5	15.0	18.0	15.5	18.0	15.5
16	12.5	11.0	15.0	12.0	12.0	10.0	16.5	14.5	18.0	15.0	17.5	15.0
17	11.0	10.0	15.0	12.5	12.0	10.0	16.0	14.0	18.0	15.0	16.5	14.5
18	12.5	9.5	15.5	13.5	12.5	10.0	17.0	14.0	18.5	15.5	17.0	14.0
19	13.0	10.0	15.0	14.0	12.5	10.5	17.5	14.5	18.5	15.5	17.0	14.0
20	13.0	10.5	15.0	13.0	12.0	10.5	16.5	14.5	18.0	15.0	17.5	14.5
21	13.5	11.5	14.5	12.5	11.5	10.5	17.5	14.0	18.0	14.5	17.0	14.5
22	13.5	11.5	13.5	11.0	12.0	10.0	18.5	15.0	18.5	15.0	17.0	14.0
23	12.0	10.5	11.5	10.0	12.0	10.0	19.0	15.5	19.0	15.5	16.5	14.0
24	12.5	10.0	11.0	10.0	12.5	10.5	20.0	16.0	19.0	16.0	17.0	13.5
25	13.5	10.5	11.0	9.5	12.5	10.5	20.0	16.5	18.5	15.5	17.0	14.0
26	14.0	11.5	10.5	9.5	12.5	10.5	18.5	16.5	19.0	15.5	17.0	14.0
27	14.5	11.5	10.0	9.5	12.5	10.5	20.5	16.5	19.0	16.0	17.0	14.0
28	14.0	11.5	10.5	9.5	12.0	10.5	20.5	18.0	19.5	16.0	17.5	14.5
29	15.0	12.0	11.0	9.0	12.0	10.5	19.0	16.5	19.5	16.5	17.5	14.5
30	15.5	12.5	10.5	9.5	11.5	10.5	19.0	16.0	19.0	16.0	17.5	15.0
31	---	---	10.0	9.5	---	---	20.0	16.0	19.0	16.0	---	---
MONTH	15.5	8.5	15.5	9.0	12.5	9.0	20.5	10.5	20.5	14.5	20.5	13.5

11276900 TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'54", long 119°58'09", in NW 1/4 SW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.6 mi upstream from Cherry Creek, 0.7 mi downstream from Robert C. Kirkwood Powerplant and Hetch Hetchy Aqueduct, and 6.3 mi west of Mather.

DRAINAGE AREA.--487 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,200 ft above sea level, from topographic map.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 13 mi upstream and Robert C. Kirkwood Powerplant beginning Apr. 26, 1967. Water is diverted to Hetch Hetchy Aqueduct from the tailrace of the powerplant through a closed conduit. Flow in excess of aqueduct capacity is diverted to river. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s, June 4, 1969, gage height, 9.82 ft; minimum daily, 12 ft^3/s, Nov. 28-30, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,980 ft^3/s, June 29, gage height, 7.87 ft; minimum daily, 38 ft^3/s, Oct. 10-28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	48	41	e92	260	416	784	683	3580	2450	375	106
2	49	42	41	e90	262	407	731	747	3430	3030	378	94
3	44	40	41	e68	269	406	705	745	3180	3890	192	87
4	e41	39	40	e68	270	385	717	711	2300	3240	161	85
5	e41	39	40	e64	278	348	716	743	2430	2810	159	87
6	e40	39	40	64	278	361	700	744	2410	2770	157	88
7	40	39	47	290	267	380	696	743	2400	2600	157	88
8	39	39	52	242	291	403	687	743	2650	2260	156	84
9	39	39	110	149	348	364	694	758	3260	2110	155	86
10	38	39	78	135	328	340	684	749	3250	1530	153	84
11	38	40	e63	115	326	314	625	748	3250	1090	156	81
12	38	40	e68	124	306	440	684	752	3270	1680	155	80
13	38	40	e63	327	292	467	667	795	3290	1750	156	82
14	38	40	e68	577	290	512	663	823	2870	1410	156	83
15	38	40	e55	284	275	602	650	830	1610	1130	159	e77
16	38	40	e51	397	273	641	643	830	1640	1040	159	e65
17	38	e40	e49	506	278	733	657	830	1660	816	157	e59
18	38	e40	e49	485	305	673	681	861	1650	722	157	62
19	38	e40	e48	378	470	641	681	906	1610	687	156	62
20	38	e40	e47	363	516	638	676	941	1630	531	161	62
21	38	40	e45	501	476	673	667	984	1650	300	162	66
22	38	40	e45	691	431	682	676	1440	1670	171	161	69
23	38	40	e45	469	507	662	659	2100	1650	166	159	64
24	38	40	e45	334	548	739	664	2480	1650	240	161	63
25	38	39	e44	308	472	747	666	2920	1950	300	161	62
26	38	39	e43	304	447	884	675	3430	2580	709	115	63
27	38	39	e43	294	413	750	694	3610	2600	861	111	64
28	38	39	48	290	419	716	688	3610	3080	898	112	64
29	41	39	91	275	---	694	703	3590	3890	899	111	64
30	48	39	120	271	---	682	673	3580	3470	453	109	64
31	49	---	83	254	---	676	---	3570	---	379	109	---
TOTAL	1242	1197	1743	8809	9895	17376	20506	46996	75560	42922	5086	2245
MEAN	40.1	39.9	56.2	284	353	561	684	1516	2519	1385	164	74.8
MAX	49	48	120	691	548	884	784	3610	3890	3890	378	106
MIN	38	39	40	64	260	314	625	683	1610	166	109	59
AC-FT	2460	2370	3460	17470	19630	34470	40670	93220	149900	85140	10090	4450

e Estimated.

11276900 TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	89.4	115	141	174	208	264	428	1167	1938	874	231	128
MAX	247	313	876	462	616	964	1694	3727	6260	5530	1726	370
(WY)	1984	1984	1983	1969	1969	1983	1983	1986	1983	1983	1983	1983
MIN	30.0	34.8	29.4	31.1	34.8	37.5	33.7	52.0	36.9	29.9	31.1	28.7
(WY)	1989	1988	1977	1977	1977	1977	1977	1992	1976	1976	1976	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1968 - 1993	
ANNUAL TOTAL	24556		233577			
ANNUAL MEAN	67.1		640		480	
HIGHEST ANNUAL MEAN					1778	1983
LOWEST ANNUAL MEAN					49.2	1977
HIGHEST DAILY MEAN	137	Aug 3	3890	Jun 29	10600	Jun 5 1969
LOWEST DAILY MEAN	38	Oct 10	38	Oct 10	12	Nov 28 1976
ANNUAL SEVEN-DAY MINIMUM	38	Oct 10	38	Oct 10	13	Nov 24 1976
INSTANTANEOUS PEAK FLOW			3890	Jun 29	11300	Jun 4 1969
INSTANTANEOUS PEAK STAGE			7.87	Jun 29	9.82	Jun 4 1969
ANNUAL RUNOFF (AC-FT)	48710		463300		347700	
10 PERCENT EXCEEDS	115		2100		1180	
50 PERCENT EXCEEDS	64		291		135	
90 PERCENT EXCEEDS	40		40		43	

11277200 CHERRY LAKE NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'33", long 119°54'47", in SE 1/4 NW 1/4 sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 mi upstream from Eleanor Creek, 7 mi north of Early Intake, and 7.3 mi northwest of Hetch Hetchy.
DRAINAGE AREA.--117 mi^2.

PERIOD OF RECORD.--August 1956 to current year. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.
GAGE.--Water-stage recorder. Datum of gage is 2.42 ft above sea level. Prior to October 1974, datum published as at mean sea level.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1956. Storage began in December 1955. Capacity, 274,300 acre-ft between gage heights 4,430 ft, bottom of sluice gates, and 4,703 ft, top of flashboard gates on concrete spillway. No dead storage. Installation of flashboard gates on top of concrete spillway completed in 1979. Water is released down Cherry Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Unmeasured diversion from Lake Eleanor (station 11277500) into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Dion R. Holm Powerplant near mouth of Cherry Creek began Aug. 1, 1960. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 274,300 acre-ft, June 25-28, 1986, gage height, 4,703.0 ft; minimum since reservoir first filled, 7,660 acre-ft, Jan. 24, 1960, gage height, 4,502.1 ft. Reservoir drained for inspection in 1961, 1964, and 1989.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 273,100 acre-ft, July 8, 9, gage height, 4,702.36 ft; minimum, 71,000 acre-ft, Jan. 6, gage height, 4,568.55 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 15, 1971)

4,440	0	4,490	3,020	4,560	60,800	4,660	201,100
4,450	75	4,500	6,030	4,580	85,100	4,680	234,100
4,460	250	4,510	11,700	4,600	111,800	4,700	268,800
4,470	675	4,520	19,700	4,620	139,900	4,705	277,900
4,480	1,530	4,540	38,900	4,640	169,700		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86000	82400	77100	72300	95500	91300	110100	144100	231900	270900	271600	263500
2	85700	82700	76500	72400	95300	90500	110800	147100	232700	271500	271600	263200
3	85400	83100	75700	72100	95000	89800	111600	149800	232700	272000	271400	262900
4	85200	83300	75100	71600	95000	88800	112700	151400	235300	272200	271300	262800
5	84800	83600	74700	71200	95000	88000	113300	152800	237200	272300	271100	263000
6	84300	83800	74300	71000	95400	87300	113600	154700	237700	272500	270900	262900
7	83800	84100	73800	73600	95400	86700	113900	156400	238200	272900	270800	262600
8	83400	84300	73500	75000	95300	86300	114500	158200	238500	273100	270800	262300
9	83100	84200	73600	76100	94800	86000	115500	160400	238700	273100	270500	262100
10	82900	83700	73400	76600	93800	86400	116300	163700	239800	272900	270100	261800
11	82600	83200	73500	76800	92900	86500	117200	167400	241600	272500	269700	261700
12	82000	82700	73700	76900	92400	86800	117800	170500	242900	272100	269200	261800
13	81500	82200	73800	77700	92400	87100	118300	172200	244600	271700	268800	261600
14	81400	82200	73800	78600	91400	88200	118800	174400	246800	271900	268400	261300
15	81300	82200	73700	79200	90200	89000	119600	177000	249300	272300	268400	261000
16	81100	81800	73500	80100	89400	89500	120400	179800	251100	272200	267900	260700
17	81000	81300	73400	80800	89300	92800	121300	183500	252700	271700	267400	260500
18	81000	80900	73100	81100	89300	94700	121900	187600	254400	271600	266900	260300
19	81000	80800	73000	81200	89900	96000	122300	191800	256500	271200	266500	260300
20	80400	80600	73000	82300	90600	97100	123100	195900	258800	271100	266000	260100
21	80400	80200	72700	84500	91400	98200	124500	199900	260900	271100	265500	259800
22	80300	80200	72400	87600	91700	99600	126400	203300	261900	271100	265500	259200
23	79900	79900	72100	89300	92000	101100	128000	206800	262600	271200	265100	258700
24	79600	79600	71800	90500	92200	103500	128700	210300	263800	271500	264900	258300
25	79500	78900	71800	91500	91800	105200	129800	215500	265300	272200	264600	257700
26	79300	78800	72000	92600	91600	106100	131400	218300	266800	272400	264400	257700
27	79300	78200	72200	93500	91900	106600	133400	220200	268300	272500	264200	257300
28	79300	78200	72000	94100	92300	107000	135500	221700	269500	272200	264100	256800
29	80500	78200	72000	94800	---	107300	138200	223200	270100	272000	264100	256300
30	81700	77600	72000	95300	---	107800	141200	225200	270400	271900	264000	255600
31	82100	---	72000	95500	---	108600	---	229600	---	271500	263700	---
MAX	86000	84300	77100	95500	95500	108600	141200	229600	270400	273100	271600	263500
MIN	79300	77600	71800	71000	89300	86000	110100	144100	231900	270900	263700	255600
a	4517.52	4573.95	4659.42	4587.98	4585.52	4597.66	4620.85	4677.29	4700.86	4701.49	4697.11	4692.50
b	-4400	-4500	-5600	+23500	-3200	+16300	+32600	+88400	+40800	+1100	-7800	-8100

CAL YR 1992 b -28700
WTR YR 1993 b +169100

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11277300 CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'04", long 119°54'59", in SE 1/4 SW 1/4 sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.7 mi downstream from Cherry Valley Dam, 3.5 mi upstream from Eleanor Creek, 6.7 mi north of Early Intake, and 7.2 mi west of Hetch Hetchy.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--November 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,337.08 ft above sea level (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 0.7 mi upstream. Diversion between Lake Eleanor (station 11277500) and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Dion R. Holm Powerplant began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,210 ft^3/s, July 10, 1974, gage height, 10.53 ft; minimum daily, 0.77 ft^3/s, Dec. 1-4, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 73 ft^3/s, Jan. 22, gage height, 4.24 ft; minimum daily, 4.8 ft^3/s, Mar. 22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.1	6.1	6.6	13	8.8	13	5.4	5.8	10	15	17
2	5.6	6.1	6.1	6.4	12	8.9	10	5.9	5.9	14	16	17
3	5.1	6.1	6.1	6.4	11	9.4	9.5	6.0	6.1	13	16	17
4	4.9	6.1	6.1	6.4	8.7	9.3	9.7	6.0	6.5	14	16	17
5	4.9	6.1	6.1	6.4	9.1	8.4	8.9	6.0	7.1	13	16	17
6	4.9	6.1	6.6	6.6	8.8	7.9	8.5	6.1	6.6	13	16	17
7	4.9	6.1	6.7	11	8.5	7.4	8.1	e6.1	6.4	13	16	17
8	4.9	6.1	6.7	8.5	10	7.0	7.8	e6.0	6.2	13	16	17
9	4.9	6.1	13	8.0	11	6.8	7.5	e6.0	6.1	13	16	17
10	4.9	6.1	7.2	8.0	9.7	6.8	7.3	e6.0	5.9	13	16	17
11	4.9	6.1	7.3	7.6	10	6.6	6.9	e6.0	5.8	13	16	17
12	4.9	6.1	6.6	8.0	9.4	6.4	6.4	5.8	5.7	12	16	17
13	5.6	6.1	6.4	12	8.8	6.4	6.3	5.8	5.7	12	16	17
14	6.1	6.1	6.4	15	8.5	7.2	6.1	5.8	5.6	12	16	17
15	5.8	6.1	6.4	14	8.3	6.6	6.0	5.9	5.3	12	16	17
16	5.5	6.1	6.4	17	8.0	6.3	6.7	6.0	5.3	12	16	17
17	5.5	6.1	6.5	16	8.4	13	5.9	5.8	5.2	12	16	17
18	5.5	6.1	6.4	14	9.5	8.3	6.1	5.8	5.2	12	16	17
19	5.5	6.1	6.3	13	11	6.3	5.6	5.8	5.0	12	17	17
20	5.5	6.1	6.4	23	10	5.4	5.4	5.8	10	11	17	17
21	5.7	6.1	6.4	31	9.4	5.1	5.2	5.8	12	11	17	17
22	5.7	6.1	6.4	35	9.1	4.8	5.2	6.4	5.8	11	17	16
23	5.5	6.1	6.4	20	10	5.7	5.2	16	5.7	11	17	16
24	5.6	6.1	6.4	18	9.7	12	5.1	20	5.5	11	17	16
25	5.8	6.1	6.4	16	9.1	16	4.9	14	5.5	11	17	16
26	5.8	6.1	6.4	15	8.9	17	4.9	5.5	5.8	11	17	16
27	6.0	6.1	6.4	15	8.8	13	4.9	5.5	6.1	11	17	16
28	6.1	6.1	6.8	14	8.8	13	4.9	5.5	5.8	11	17	16
29	7.4	6.1	7.1	14	---	11	4.9	9.5	5.8	12	17	16
30	7.0	6.1	6.5	14	---	11	4.9	11	5.8	15	17	16
31	6.2	---	6.4	13	---	10	---	6.1	---	15	17	---
TOTAL	177.6	183.0	207.4	418.9	267.5	271.8	201.8	223.3	185.2	379	508	501
MEAN	5.73	6.10	6.69	13.5	9.55	8.77	6.73	7.20	6.17	12.2	16.4	16.7
MAX	11	6.1	13	35	13	17	13	20	12	15	17	17
MIN	4.9	6.1	6.1	6.4	8.0	4.8	4.9	5.4	5.0	10	15	16
AC-FT	352	363	411	831	531	539	400	443	367	752	1010	994

e Estimated.

11277300 CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.8	13.5	12.3	12.3	12.1	16.6	15.1	36.2	132	84.7	30.5	23.1
MAX	166	135	155	155	134	171	167	359	1198	993	176	139
(WY)	1978	1977	1977	1977	1977	1969	1969	1978	1983	1983	1977	1977
MIN	4.61	3.99	4.82	4.71	4.51	4.45	4.58	4.40	4.46	10.9	12.0	10.6
(WY)	1973	1970	1970	1961	1961	1972	1990	1973	1973	1978	1961	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	3415.6		3524.5				
ANNUAL MEAN	9.33		9.66		33.3		
HIGHEST ANNUAL MEAN					195		1983
LOWEST ANNUAL MEAN					7.08		1961
HIGHEST DAILY MEAN	25	Aug 6	35	Jan 22	2640	Jul 5	1983
LOWEST DAILY MEAN	4.9	Oct 4	4.8	Mar 22	.77	Dec 1	1988
ANNUAL SEVEN-DAY MINIMUM	4.9	Oct 4	4.9	Oct 4	.79	Nov 28	1988
INSTANTANEOUS PEAK FLOW			73	Jan 22	4210	Jul 10	1974
INSTANTANEOUS PEAK STAGE			4.24	Jan 22	10.53	Jul 10	1974
ANNUAL RUNOFF (AC-FT)	6770		6990		24120		
10 PERCENT EXCEEDS	17		17		17		
50 PERCENT EXCEEDS	7.2		7.3		7.3		
90 PERCENT EXCEEDS	6.1		5.5		5.0		

11277500 LAKE ELEANOR NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'27", long 119°52'48", in SE 1/4 NW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, 710 ft from left bank on upstream side of dam on Eleanor Creek, 1.7 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.
DRAINAGE AREA.--78.1 mi^2.
PERIOD OF RECORD.--June 1918 to current year. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.
REVISED RECORDS.--WSP 1445: 1938(M). WSP 1930: Drainage area.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.39 ft above sea level. Prior to Oct. 1, 1927, nonrecording gage on upstream side of dam at same site and datum.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Capacity, 26,110 acre-ft between gage heights 4,620.9 ft, natural outlet of old lake, and 4,660.0 ft, top of 5-ft flashboards. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of Tuolumne River basin.

COOPERATION.--Periodic observations of gage height were provided by city and county of San Francisco.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,000 acre-ft, Dec. 11, 1937, from capacity table then in use, gage height, 4,663.4 ft; no usable contents at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,100 acre-ft, July 8, gage height, 4,660.94 ft; minimum, 118 acre-ft, Oct. 28, gage height, 4,624.43 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 1941)

4,608	0	4,620	36	4,628	1,480	4,646	13,500
4,610	6	4,622	49	4,630	2,450	4,650	17,000
4,612	12	4,624	92	4,632	3,580	4,655	21,500
4,614	18	4,625	211	4,635	5,270	4,660	26,100
4,616	24	4,626	550	4,638	7,330	4,663	29,100
4,618	27	4,627	996	4,642	10,300		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	607	1310	922	1890	3050	4640	7700	13400	25500	26800	26400	e23500
2	583	1460	900	1890	3110	4590	7550	14600	25200	26900	26300	e23200
3	574	1590	896	1870	3230	4630	7350	15700	24800	26900	26300	e23000
4	564	1660	869	1850	3380	4710	7310	16200	24900	26800	26300	e22800
5	536	1680	852	1830	3600	4820	7150	16700	25600	26700	26300	e22400
6	525	1670	893	1910	3800	5030	6700	17500	25600	26800	26300	e22100
7	493	1640	943	3250	3970	5310	6300	18300	25400	27000	26300	e21900
8	483	1600	1000	3520	4350	5670	6230	19200	25300	27100	26300	e21700
9	463	1550	1330	3320	4610	5530	6440	20100	25200	26900	26300	e21400
10	449	1490	1490	3080	4690	5020	6600	21400	25100	26800	26300	e21000
11	430	1440	1620	2810	4750	4690	6680	22900	25200	26900	26200	e20800
12	412	1380	1660	2680	4760	4470	6690	24200	25200	27000	26200	e20500
13	394	1330	1680	2990	4710	4430	6510	24800	25200	27000	26200	e20200
14	371	1280	1680	3110	4660	4840	6390	25300	25200	27000	26200	e20100
15	356	1240	1690	3020	4590	4980	6440	25600	25500	26900	26100	e19900
16	334	1190	1690	3100	4540	4910	6620	25700	25600	26800	26100	e19600
17	313	1150	1690	3040	4520	7470	6700	26000	25600	26700	26100	e19200
18	297	1110	1690	2850	4660	8460	6720	26000	25700	26700	26100	e19000
19	281	1080	1680	2660	5050	8640	6480	25900	26000	26700	26000	e18800
20	266	1050	1670	3090	5180	8620	6400	25900	26200	26600	26000	e18500
21	261	1030	1650	4340	5200	8580	6770	25700	26500	26600	26000	e18200
22	243	1020	1640	6030	5160	8620	7390	25600	26500	26600	26000	e18200
23	e220	1010	1640	5930	5170	8790	7810	25500	26500	26600	25800	e18200
24	e196	1010	1640	5240	5120	9600	7790	25500	26500	26600	25500	e18200
25	e172	996	1640	4520	5040	9930	7870	26000	26700	26600	25200	e18200
26	145	987	1650	3910	4960	9890	8320	25600	26900	26600	25000	e18200
27	127	976	1650	3420	4840	9410	8990	25300	27000	26600	24700	e18200
28	118	957	1690	3090	4740	8840	9800	25000	26900	26600	24400	e18100
29	379	933	1770	3000	---	8250	10800	24700	26800	26500	24200	e18100
30	875	928	1810	3010	---	7810	12100	24600	26700	26500	23900	e18100
31	1160	---	1830	3040	---	7520	---	25500	---	26400	23600	---
MAX	1160	1680	1830	6030	5200	9930	12100	26000	27000	27100	26400	23500
MIN	118	928	852	1830	3050	4430	6230	13400	24800	26400	23600	18100
a	4627.34	4626.86	4628.73	4631.04	4634.05	4638.27	4644.26	4659.27	4660.59	4660.29	4657.27	4651.20
b	+561	-232	+902	+1210	+1700	+2780	+4580	+13400	+1200	-300	-2800	-5500

CAL YR 1992 b +620
WTR YR 1993 b +17501

e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'09", long 119°52'52", in NW 1/4 SW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on right bank 0.5 mi downstream from Lake Eleanor Dam, 1.1 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 mi^2.

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Sequoia" 1910-18.

REVISED RECORDS.--WSP 1315-A: 1923(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,500 ft above sea level, from topographic map. November 1909 to November 1915, nonrecording gage and water-stage recorder at site 1 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Lake Eleanor (station 11277500) 0.5 mi upstream beginning in 1918. Diversion from Lake Eleanor to Cherry Lake (station 11277200) began in March 1960. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft^3/s, Nov. 19, 1950, gage height, 14.95 ft, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurements at gage heights 9.94 and 12.24 ft; no flow at times in 1910, 1930-31, 1933, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 956 ft^3/s, May 25, gage height, 5.21 ft; minimum daily, 3.6 ft^3/s, May 8, 9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.2	5.9	7.2	7.6	6.5	8.6	5.6	681	e377	25	21
2	7.3	7.2	5.9	7.2	7.6	7.3	7.3	7.6	552	e205	25	21
3	6.7	7.2	5.9	7.2	6.5	8.0	6.9	6.3	437	e381	25	22
4	6.5	6.6	5.9	7.2	5.6	7.0	6.8	5.2	386	e377	25	22
5	6.3	5.9	6.1	7.2	6.0	6.7	6.7	5.2	434	e340	25	23
6	6.3	6.2	6.9	7.2	6.3	6.7	6.7	5.2	467	e340	25	23
7	6.3	6.3	7.2	14	6.1	6.7	6.4	4.3	438	e296	25	22
8	6.3	6.3	7.7	9.1	6.2	6.7	6.3	3.6	522	e253	25	22
9	6.3	6.3	21	8.4	7.5	6.7	6.3	3.6	609	274	25	22
10	6.3	6.3	8.3	8.1	6.7	6.5	6.3	3.9	611	273	25	22
11	6.3	6.3	10	7.6	6.5	6.3	6.3	4.3	611	28	25	22
12	6.3	6.3	7.7	8.1	6.5	6.3	6.3	30	612	28	25	22
13	6.3	6.3	7.3	13	6.3	6.3	6.3	74	e617	28	25	22
14	6.3	6.1	7.2	12	6.3	6.3	6.3	160	e617	29	25	22
15	6.3	6.2	7.2	10	6.0	6.3	6.3	341	e631	28	25	22
16	6.3	6.3	7.2	11	5.9	6.3	6.3	420	e572	25	25	18
17	6.3	6.3	7.2	10	5.9	9.6	6.5	592	e585	24	25	9.7
18	6.3	6.3	7.2	9.0	6.6	7.4	6.9	720	e568	24	24	11
19	6.3	6.3	7.2	8.3	8.4	7.2	6.7	759	e469	24	22	11
20	6.3	6.3	6.6	15	7.4	6.8	6.7	729	e473	25	22	11
21	6.0	6.3	6.3	14	6.7	6.7	6.7	750	e473	25	21	11
22	5.9	6.3	6.3	15	6.7	6.7	6.7	686	e473	25	21	10
23	5.7	6.3	6.3	9.4	6.7	6.8	6.1	611	e457	25	21	10
24	5.6	6.3	6.3	9.0	6.7	9.0	5.6	623	e445	25	21	11
25	6.0	6.3	6.3	8.6	6.5	12	5.6	771	e457	25	20	11
26	6.3	6.3	6.3	8.3	6.3	10	5.6	825	e346	25	21	11
27	6.5	6.3	6.3	8.1	6.3	8.0	5.6	587	e433	25	24	10
28	6.5	6.1	6.5	8.1	6.3	7.6	5.6	458	e469	25	23	10
29	7.9	5.9	7.8	7.8	---	7.4	5.6	399	e465	25	23	10
30	8.0	5.9	7.3	7.6	---	7.2	5.9	387	e429	25	22	10
31	7.4	---	7.2	7.6	---	6.9	---	430	---	24	22	---
TOTAL	206.1	190.2	228.5	290.3	184.1	225.9	191.9	10406.8	15339	3653	732	494.7
MEAN	6.65	6.34	7.37	9.36	6.57	7.29	6.40	336	511	118	23.6	16.5
MAX	13	7.2	21	15	8.4	12	8.6	825	681	381	25	23
MIN	5.6	5.9	5.9	7.2	5.6	6.3	5.6	3.6	346	24	20	9.7
AC-FT	409	377	453	576	365	448	381	20640	30420	7250	1450	981

e Estimated.

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1917, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.2	62.5	97.2	208	175	320	610	742	640	190	25.7	8.81
MAX	157	287	358	485	307	516	806	945	1207	484	65.4	25.8
(WY)	1917	1910	1910	1914	1911	1916	1916	1914	1911	1911	1911	1913
MIN	.081	.19	12.4	33.6	66.6	116	264	536	230	36.5	6.06	2.10
(WY)	1916	1916	1912	1913	1912	1912	1912	1913	1910	1910	1910	1915

SUMMARY STATISTICS	WATER YEARS 1910 - 1917		
ANNUAL MEAN	259		
HIGHEST ANNUAL MEAN	386		1911
LOWEST ANNUAL MEAN	144		1913
HIGHEST DAILY MEAN	5000	Jan 30	1911
LOWEST DAILY MEAN	.00	Sep 8	1910
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 8	1910
ANNUAL RUNOFF (AC-FT)	187300		
10 PERCENT EXCEEDS	770		
50 PERCENT EXCEEDS	109		
90 PERCENT EXCEEDS	5.0		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1959, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	76.0	75.5	105	94.5	134	224	460	696	409	144	98.9	103
MAX	145	931	826	490	454	708	794	1330	981	471	204	179
(WY)	1929	1951	1951	1956	1945	1928	1936	1952	1922	1958	1958	1933
MIN	3.68	1.65	1.74	2.50	6.64	1.70	44.5	138	46.0	20.7	16.4	4.16
(WY)	1932	1928	1932	1957	1930	1920	1924	1931	1924	1959	1959	1931

SUMMARY STATISTICS	WATER YEARS 1920 - 1959		
ANNUAL MEAN	218		
HIGHEST ANNUAL MEAN	356		1938
LOWEST ANNUAL MEAN	86.2		1924
HIGHEST DAILY MEAN	8270	Nov 19	1950
LOWEST DAILY MEAN	.00	Oct 15	1930
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 15	1930
INSTANTANEOUS PEAK FLOW	11700	Nov 19	1950
INSTANTANEOUS PEAK STAGE	14.95	Nov 19	1950
ANNUAL RUNOFF (AC-FT)	158200		
10 PERCENT EXCEEDS	584		
50 PERCENT EXCEEDS	113		
90 PERCENT EXCEEDS	8.5		

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.2	38.4	30.4	40.0	46.9	18.0	57.7	233	319	106	25.5	26.9
MAX	333	565	314	459	586	198	916	968	1605	677	176	137
(WY)	1983	1984	1984	1970	1986	1986	1982	1982	1983	1983	1983	1982
MIN	.15	2.54	4.30	4.27	3.76	4.15	4.44	4.81	4.72	12.0	2.43	.40
(WY)	1967	1978	1964	1978	1974	1972	1973	1972	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	3375.3		32142.5				
ANNUAL MEAN	9.22		88.1		80.0		
HIGHEST ANNUAL MEAN					320		1983
LOWEST ANNUAL MEAN					4.73		1977
HIGHEST DAILY MEAN	21	Dec 9	825	May 26	5610	Apr 11	1982
LOWEST DAILY MEAN	5.2	Apr 27	3.6	May 8	.10	Oct 8	1966
ANNUAL SEVEN-DAY MINIMUM	5.5	Jun 2	4.3	May 5	.10	Oct 24	1966
INSTANTANEOUS PEAK FLOW			956	May 25	10400	Feb 1	1963
INSTANTANEOUS PEAK STAGE			5.21	May 25	12.24	Feb 1	1963
ANNUAL RUNOFF (AC-FT)	6690		63750		57960		
10 PERCENT EXCEEDS	17		437		223		
50 PERCENT EXCEEDS	6.9		7.6		7.2		
90 PERCENT EXCEEDS	5.9		6.1		4.4		

11278200 CHERRY CREEK CANAL NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'36", long 119°57'17", in SW 1/4 SW 1/4 sec.36, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1.3 mi northeast of Early Intake and 10 mi southwest of Hetch Hetchy Reservoir.
PERIOD OF RECORD.--April 1956 to May 1971, July 1987 to current year.
GAGE.--Water-stage recorder and concrete canal. Elevation of gage is 2,700 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Records good. Canal diverts from left bank of Cherry Creek in NW 1/4 SW 1/4 sec.31, T.1 N., R.19 E., to supplement Tuolumne River flows exported to city of San Francisco via the Hetch Hetchy Aqueduct. No diversions for export have been made since September 1988. Canal was originally constructed in 1915 to provide flow for domestic use and power development at Early Intake Powerplant during initial construction of Hetch Hetchy project facilities.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 194 ft^3/s, July 30, 1959; no flow at times in 1964, 1969, 1971, 1988-93.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.01	.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	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.03	.07	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.16	.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	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.05	.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	.03	.00	.01	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.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	.02	.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	.01	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.06	.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	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.01	.00	.04	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.03	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.01	---	.00	.00	---
TOTAL	0.04	0.00	0.30	0.22	0.02	0.08	0.01	0.01	0.00	0.00	0.00	0.00
MEAN	.001	.000	.010	.007	.001	.003	.000	.000	.000	.000	.000	.000
MAX	.03	.00	.16	.07	.02	.06	.01	.01	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.08	.00	.6	.4	.04	.2	.02	.02	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

MEAN	35.8	37.0	31.9	31.4	37.0	38.0	45.9	52.9	55.9	60.5	48.7	44.7
MAX	182	189	186	177	180	181	183	184	189	190	182	182
(WY)	1959	1959	1959	1958	1959	1959	1959	1959	1959	1959	1958	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1991	1990	1991	1988	1990	1989	1989	1989	1989	1989	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1956 - 1993	
ANNUAL TOTAL	2.79		0.68			
ANNUAL MEAN	.008		.002		41.0	
HIGHEST ANNUAL MEAN					179	1958
LOWEST ANNUAL MEAN					.001	1990
HIGHEST DAILY MEAN	1.9	Feb 27	.16	Dec 9	194	Jul 30 1959
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jun 19 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 6	.00	Oct 1	.00	May 25 1971
ANNUAL RUNOFF (AC-FT)	5.5		1.3		29690	
10 PERCENT EXCEEDS	.00		.00		178	
50 PERCENT EXCEEDS	.00		.00		8.0	
90 PERCENT EXCEEDS	.00		.00		.00	

11278300 CHERRY CREEK NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'40", long 119°57'42", in NW 1/4 SE 1/4 sec.35, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 1.2 mi upstream from mouth, 1.3 mi north of Early Intake, and 10.3 mi southwest of Hetch Hetchy.

DRAINAGE AREA.--226 mi^2.

PERIOD OF RECORD.--May 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,272.00 ft above sea level (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 10 mi upstream and Lake Eleanor (station 11277500) 9.8 mi upstream. Diversion from Cherry Lake to Dion R. Holm Powerplant began Aug. 1, 1960. Water is returned to creek 1.2 mi below station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft^3/s, Feb. 1, 1963, gage height, 14.50 ft, from rating curve extended above 4,600 ft^3/s; minimum daily, 0.30 ft^3/s, Apr. 5, 6, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft^3/s, May 25, gage height, 6.92 ft; minimum daily, 9.6 ft^3/s, Oct. 7-13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	14	12	22	75	87	225	42	756	342	39	e36
2	16	13	12	22	72	92	179	42	617	321	39	e36
3	11	13	12	19	70	112	145	43	504	425	39	e37
4	10	13	12	21	64	130	142	41	440	409	39	e37
5	9.9	12	12	18	72	129	134	40	497	385	38	e38
6	9.8	12	14	20	87	141	119	39	543	342	38	e38
7	9.6	12	29	91	81	148	110	38	513	286	38	e37
8	9.6	12	18	76	105	147	103	35	572	286	38	e37
9	9.6	12	68	53	154	142	97	35	682	314	39	e37
10	9.6	12	32	49	114	139	92	34	683	274	39	e37
11	9.6	12	35	41	103	135	87	32	680	43	39	e37
12	9.6	12	25	37	100	129	82	38	680	41	39	e37
13	9.6	12	20	123	85	133	77	96	676	40	39	e37
14	10	12	18	204	78	167	74	160	673	40	39	e37
15	11	12	17	155	73	164	71	366	650	40	38	e37
16	11	12	17	209	69	135	67	464	614	37	38	e33
17	11	12	17	186	67	330	68	648	612	36	38	23
18	11	12	17	151	84	234	95	788	559	35	38	23
19	11	12	16	111	167	169	78	848	504	35	36	23
20	11	12	16	125	149	145	68	810	507	36	35	23
21	11	12	16	334	115	133	63	837	506	36	35	23
22	12	12	16	398	100	123	60	767	505	36	35	23
23	11	13	16	199	114	118	58	675	502	37	35	23
24	11	13	15	145	115	245	56	683	500	37	34	23
25	11	13	15	123	96	289	53	844	446	36	33	23
26	11	12	15	112	93	371	51	939	413	36	33	22
27	12	12	15	105	86	238	49	659	491	36	36	22
28	14	12	17	99	85	202	47	507	508	36	36	22
29	20	12	41	93	---	176	45	441	491	36	35	22
30	25	12	26	86	---	157	43	426	444	38	35	22
31	20	---	21	80	---	145	---	458	---	39	35	---
TOTAL	388.9	368	632	3507	2673	5205	2638	11875	16768	4170	1147	905
MEAN	12.5	12.3	20.4	113	95.5	168	87.9	383	559	135	37.0	30.2
MAX	31	14	68	398	167	371	225	939	756	425	39	38
MIN	9.6	12	12	18	64	87	43	32	413	35	33	22
AC-FT	771	730	1250	6960	5300	10320	5230	23550	33260	8270	2280	1800

e Estimated.

11278300 CHERRY CREEK NEAR EARLY INTAKE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.0	53.0	57.8	92.8	120	103	129	288	449	180	40.4	38.6
MAX	341	610	390	591	922	399	1298	1342	2845	1699	229	164
(WY)	1983	1984	1965	1970	1986	1983	1982	1982	1983	1983	1983	1978
MIN	2.95	4.85	3.07	3.27	2.70	2.71	2.12	2.16	2.88	9.55	10.3	11.0
(WY)	1961	1961	1977	1977	1977	1977	1977	1977	1977	1977	1963	1962

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	8632.9		50276.9				
ANNUAL MEAN	23.6		138		131		
HIGHEST ANNUAL MEAN					634		1983
LOWEST ANNUAL MEAN					8.08		1977
HIGHEST DAILY MEAN	77	Feb 21	939	May 26	9350	Apr 11	1982
LOWEST DAILY MEAN	9.6	Oct 7	9.6	Oct 7	.30	Apr 5	1964
ANNUAL SEVEN-DAY MINIMUM	9.6	Oct 7	9.6	Oct 7	1.4	Oct 6	1970
INSTANTANEOUS PEAK FLOW			1080	May 25	16500	Feb 1	1963
INSTANTANEOUS PEAK STAGE			6.92	May 25	14.50	Feb 1	1963
ANNUAL RUNOFF (AC-FT)	17120		99720		94900		
10 PERCENT EXCEEDS	37		493		325		
50 PERCENT EXCEEDS	18		40		30		
90 PERCENT EXCEEDS	12		12		8.8		

11278400 CHERRY CREEK BELOW DION R. HOLM POWERPLANT, NEAR MATHER, CA

LOCATION.--Lat 37°53'24", long 119°58'08", in NE 1/4 NW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 600 ft upstream from mouth, 0.5 mi downstream from powerplant, 0.8 mi northwest of Early Intake, and 6.2 mi west of Mather.

DRAINAGE AREA.--234 mi^2.

PERIOD OF RECORD.--March 1963 to current year. Prior to October 1965, published as "below Cherry Powerhouse, near Mather."

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,133.50 ft above sea level (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 11 mi upstream and Lake Eleanor (station 11277500) 10 mi upstream. Flow diverted, at times, into Cherry Creek Canal (station 11278200) 2 mi upstream from station for domestic use and to supplement flow to Hetch Hetchy Aqueduct. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft^3/s, Apr. 11, 1982, gage height, 15.36 ft, from rating curve extended above 4,400 ft^3/s on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm Powerplant; minimum daily, 1.6 ft^3/s, June 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,100 ft^3/s, May 26, gage height, 9.66 ft; minimum daily, 14 ft^3/s, Oct. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	92	312	227	381	962	1140	996	1750	1310	e417	e276
2	190	258	363	155	430	830	1100	994	1610	1280	e333	e266
3	127	90	372	292	435	871	1060	995	1490	1400	243	e288
4	106	197	348	268	383	1010	1060	996	1420	1380	232	e189
5	190	63	247	302	367	960	1050	996	1480	1350	202	e42
6	267	89	320	397	256	1020	1040	996	1530	1300	214	e245
7	251	62	395	495	524	1020	1030	994	1490	1100	139	e270
8	201	17	316	348	603	1020	1030	990	1550	1240	52	e257
9	165	294	417	272	970	1020	1020	990	1670	1280	191	e270
10	115	355	361	486	935	1020	1020	983	1670	1240	271	e269
11	162	e333	357	402	951	1010	1020	990	1670	1010	e264	e197
12	290	e335	134	373	630	1010	1010	994	1670	1010	e273	e41
13	264	e314	135	581	407	1020	1010	1040	1670	1010	e268	e269
14	44	e58	264	619	836	994	1010	1110	1670	509	e237	e268
15	46	e105	241	590	845	906	1010	1340	1640	493	e46	e269
16	77	e253	286	510	808	1030	1000	1460	1610	626	e272	e263
17	15	e340	305	542	421	1240	1000	1650	1600	725	e310	e248
18	14	e217	297	539	568	1110	1030	1780	1560	637	e244	e235
19	35	e130	232	562	562	1050	1020	1840	1480	640	e263	e27
20	233	e146	197	425	261	1030	1010	1780	1490	616	e268	e256
21	17	187	294	737	136	1020	1000	1810	1490	620	e229	e250
22	92	27	262	820	420	1020	1000	1750	1490	280	e39	e255
23	224	335	276	570	430	1030	997	1660	1490	286	e264	e258
24	160	200	303	529	510	1160	996	1670	1490	232	e265	e259
25	28	400	117	535	564	1210	996	1810	1430	43	e265	e223
26	86	91	191	376	605	1310	992	1920	1380	266	e266	e26
27	17	403	111	365	199	1140	994	1650	1480	434	e266	e254
28	19	16	289	378	228	1120	993	1500	1510	388	e216	e258
29	103	16	321	303	---	1080	998	1430	1480	384	e38	e248
30	31	355	298	125	---	1060	998	1410	1430	e380	e269	e264
31	97	---	255	379	---	1050	---	1440	---	e376	e269	---
TOTAL	3914	5778	8616	13502	14665	32333	30634	41964	46390	23845	7125	6740
MEAN	126	193	278	436	524	1043	1021	1354	1546	769	230	225
MAX	290	403	417	820	970	1310	1140	1920	1750	1400	417	288
MIN	14	16	111	125	136	830	992	983	1380	43	38	26
AC-FT	7760	11460	17090	26780	29090	64130	60760	83240	92010	47300	14130	13370

e Estimated.

11278400 CHERRY CREEK BELOW DION R. HOLM POWERPLANT, NEAR MATHER, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	444	472	466	603	605	642	730	951	1119	714	522	484
MAX	962	1445	1394	1335	1528	1303	2199	2209	3728	2643	1161	753
(WY)	1983	1984	1984	1970	1986	1983	1982	1982	1983	1983	1983	1968
MIN	18.4	18.4	5.56	4.22	3.84	3.71	2.63	2.67	4.08	11.3	25.8	20.4
(WY)	1965	1988	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1963 - 1993		
ANNUAL TOTAL	131625		235506				
ANNUAL MEAN	360		645		645		
HIGHEST ANNUAL MEAN					1437		1983
LOWEST ANNUAL MEAN					47.9		1977
HIGHEST DAILY MEAN	911	Apr 9	1920	May 26	9790	Apr 11	1982
LOWEST DAILY MEAN	14	Oct 18	14	Oct 18	1.6	Jun 4	1977
ANNUAL SEVEN-DAY MINIMUM	54	Oct 25	54	Oct 25	2.1	Apr 21	1977
INSTANTANEOUS PEAK FLOW			2100	May 26	16300	Apr 11	1982
INSTANTANEOUS PEAK STAGE			9.66	May 26	15.36	Apr 11	1982
ANNUAL RUNOFF (AC-FT)	261100		467100		467200		
10 PERCENT EXCEEDS	732		1480		1130		
50 PERCENT EXCEEDS	299		402		614		
90 PERCENT EXCEEDS	69		106		88		

11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'18", long 120°00'43", in SE 1/4 SE 1/4 sec.29, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mi southwest of Oakland Recreation Camp, and 0.6 mi upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 mi^2.

PERIOD OF RECORD.--March 1923 to current year.

REVISED RECORDS.--WSP 1445: 1923, 1925(M), 1926-28, 1929-30(M), 1932(M), 1935-36(M), 1937-38, 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map. Prior to Nov. 22, 1931, at site 50 ft upstream at same datum. Nov. 22, 1931, to July 19, 1977, at present site, datum 1.00 ft higher.

REMARKS.--Records good except for periods of estimated daily discharges which are fair. No diversion upstream from station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi upstream. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft^3/s, Dec. 23, 1955, gage height, 11.9 ft, from floodmarks, present datum, from rating curve extended above 3,300 ft^3/s on basis of slope-area measurements at gage heights 9.08 and 11.9 ft; minimum daily, 0.4 ft^3/s, Aug. 22, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 14	0730	*1,650	*7.50				

Minimum daily, 1.4 ft^3/s, Oct. 1, 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	e11	7.1	31	e58	133	439	446	390	90	26	15
2	1.4	e8.4	7.3	28	e56	136	361	452	302	86	25	15
3	1.5	e7.3	7.2	21	e55	158	330	441	262	79	24	15
4	1.5	e7.3	7.2	20	e60	165	342	385	257	73	24	14
5	1.6	7.3	7.1	19	e70	166	328	362	346	70	24	14
6	1.6	7.2	7.2	23	e84	180	289	369	275	67	21	14
7	2.2	7.1	e16	371	e77	192	269	349	251	64	22	14
8	3.2	7.1	e9.4	207	e100	196	272	369	266	60	22	14
9	3.2	7.0	e31	108	e110	194	287	388	262	56	21	14
10	3.3	7.0	e16	82	e108	188	286	440	284	53	21	13
11	3.2	7.0	e41	57	e100	185	284	472	278	50	21	13
12	3.3	7.0	e23	55	e95	183	275	473	267	48	21	13
13	3.3	7.0	21	474	e90	190	261	392	263	45	21	13
14	3.2	6.9	19	790	e84	228	250	376	269	43	20	13
15	3.3	6.8	16	332	e78	224	257	386	260	42	20	13
16	3.5	6.8	15	442	e86	200	272	397	237	41	20	13
17	3.6	6.7	16	377	92	379	271	430	213	40	20	14
18	3.6	6.8	14	315	141	361	300	449	209	39	20	14
19	3.7	6.8	12	e170	308	288	265	444	204	37	19	14
20	3.8	7.0	14	e150	250	265	265	442	193	36	18	14
21	4.4	7.0	13	e200	180	264	299	412	195	36	18	13
22	4.7	7.2	12	e640	156	272	327	373	161	35	18	13
23	4.5	7.2	12	e250	263	281	328	401	149	35	18	13
24	4.4	7.2	12	e180	246	406	282	404	146	34	17	12
25	4.4	7.2	12	e125	176	547	278	521	144	34	17	12
26	4.4	7.2	12	e100	162	665	311	423	135	33	16	12
27	4.6	7.2	12	e95	145	431	347	363	124	32	16	11
28	4.7	7.2	18	e90	135	368	369	310	113	31	16	11
29	e9.0	7.2	119	e80	---	322	403	273	101	30	15	11
30	e13	7.2	43	e70	---	302	441	298	93	29	15	11
31	e15	---	30	e68	---	291	---	459	---	28	15	---
TOTAL	128.5	217.3	601.5	5970	3565	8360	9288	12499	6649	1476	611	395
MEAN	4.15	7.24	19.4	193	127	270	310	403	222	47.6	19.7	13.2
MAX	15	11	119	790	308	665	441	521	390	90	26	15
MIN	1.4	6.7	7.1	19	55	133	250	273	93	28	15	11
AC-FT	255	431	1190	11840	7070	16580	18420	24790	13190	2930	1210	783

e Estimated.

11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.5	31.7	64.0	89.2	133	158	223	251	126	32.3	12.7	9.62
MAX	50.6	229	516	652	725	750	730	760	656	242	57.9	32.9
(WY)	1983	1951	1956	1969	1986	1983	1982	1969	1983	1983	1983	1983
MIN	1.53	3.66	6.04	8.05	8.74	11.1	15.7	26.0	12.7	2.56	.48	.75
(WY)	1978	1930	1991	1977	1991	1977	1977	1977	1976	1931	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1923 - 1993	
ANNUAL TOTAL	11323.2		49760.3			
ANNUAL MEAN	30.9		136		94.6	
HIGHEST ANNUAL MEAN					330	1983
LOWEST ANNUAL MEAN					9.25	1977
HIGHEST DAILY MEAN	189	Feb 12	790	Jan 14	6960	Dec 23 1955
LOWEST DAILY MEAN	1.3	Sep 25	1.4	Oct 1	.40	Aug 22 1934
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 25	1.6	Oct 1	.45	Aug 12 1977
INSTANTANEOUS PEAK FLOW			1650	Jan 14	11900	Dec 23 1955
INSTANTANEOUS PEAK STAGE			7.50	Jan 14	11.90	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	22460		98700		68540	
10 PERCENT EXCEEDS	95		374		252	
50 PERCENT EXCEEDS	14		56		30	
90 PERCENT EXCEEDS	3.8		7.0		6.0	

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'42", long 120°00'38", in SW 1/4 NW 1/4 sec.28, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.8 mi upstream from South Fork Tuolumne River, and 2.7 mi east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 mi^2.

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A. Published as Middle Fork of Tuolumne River near Buck Meadows 1917-32 and as "near Buck Meadows" 1933-40.

REVISED RECORDS.--WSP 1395: 1919(M), 1938(M), 1951(P). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges and those below 1 ft^3/s, which are fair. No regulation but small diversion upstream from station for irrigation. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft^3/s, Dec. 23, 1955, gage height, 11.75 ft from flood profile, 11.05 ft from floodmarks inside gage well, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1924, 1931, 1934, 1961, 1977, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 14	0715	680	5.24	May 31	2000	*1,150	*6.46
Mar. 26	0100	453	4.40				

Minimum daily, 0.01 ft^3/s, several days in October.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	7.6	1.9	15	29	53	222	441	629	139	19	4.7
2	.01	4.9	2.0	11	27	55	176	461	467	132	17	4.5
3	.01	3.6	2.2	7.6	27	65	160	461	409	120	15	4.3
4	.01	3.1	2.4	7.5	25	68	171	405	405	109	15	4.3
5	.01	2.8	2.2	7.3	29	67	172	372	435	101	14	4.1
6	.01	2.5	3.5	8.0	33	69	148	395	351	96	13	4.0
7	.01	2.4	13	148	31	72	136	368	321	88	12	3.9
8	.01	2.5	5.9	70	39	72	140	397	365	80	12	3.8
9	.01	2.4	24	34	e72	71	152	425	353	72	11	3.5
10	.02	2.3	13	40	e46	68	157	503	410	66	10	3.3
11	.02	2.3	31	26	e45	66	162	557	432	61	9.9	3.0
12	.01	2.2	12	38	41	66	163	593	412	56	9.6	2.8
13	.01	2.0	7.4	208	37	68	154	500	411	52	9.4	2.7
14	.02	2.0	7.3	308	35	87	149	478	435	48	9.3	2.7
15	.02	2.0	6.0	108	33	94	158	492	430	45	9.2	2.7
16	.02	2.0	5.3	161	32	82	172	498	397	42	9.1	2.7
17	.02	2.0	6.5	153	31	146	170	569	353	40	9.2	2.8
18	.05	2.0	5.1	108	45	188	180	624	347	38	8.7	3.2
19	.15	2.0	3.9	58	111	129	170	640	349	36	8.0	3.6
20	.15	2.1	5.7	52	121	118	175	636	327	34	7.6	3.6
21	.17	2.0	5.3	87	74	119	207	628	368	33	7.3	3.4
22	.25	2.1	4.5	211	60	121	239	568	270	32	7.1	4.1
23	.70	2.1	4.9	104	123	127	242	604	250	31	6.7	2.9
24	1.1	2.4	4.9	82	107	201	210	631	246	30	6.1	2.8
25	1.2	2.4	4.8	64	70	318	210	734	247	29	5.6	2.7
26	1.3	2.2	4.9	51	65	311	241	646	232	28	5.3	2.6
27	1.4	2.4	4.8	44	58	185	280	548	212	26	5.0	2.5
28	1.7	2.2	11	39	54	158	309	462	188	24	4.9	2.4
29	4.6	2.2	85	36	---	135	355	422	161	23	5.0	2.3
30	8.6	2.2	18	33	---	129	406	465	146	21	4.9	2.2
31	12	---	11	31	---	129	---	669	---	20	4.8	---
TOTAL	33.60	76.9	319.4	2350.4	1500	3637	5986	16192	10358	1752	290.7	98.1
MEAN	1.08	2.56	10.3	75.8	53.6	117	200	522	345	56.5	9.38	3.27
MAX	12	7.6	85	308	123	318	406	734	629	139	19	4.7
MIN	.01	2.0	1.9	7.3	25	53	136	368	146	20	4.8	2.2
AC-FT	67	153	634	4660	2980	7210	11870	32120	20550	3480	577	195

e Estimated.

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.26	15.6	32.9	42.5	65.5	83.0	153	290	183	33.8	6.42	3.27
MAX	36.9	181	318	248	345	341	476	747	875	361	60.7	23.5
(WY)	1983	1951	1951	1956	1986	1983	1982	1969	1983	1983	1983	1983
MIN	.083	.80	1.71	2.49	3.51	4.87	16.9	24.0	10.7	.85	.011	.000
(WY)	1978	1930	1991	1991	1991	1977	1977	1977	1992	1924	1977	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1917 - 1993		
ANNUAL TOTAL	7979.16		42594.10				
ANNUAL MEAN	21.8		117		76.2		
HIGHEST ANNUAL MEAN					246		1983
LOWEST ANNUAL MEAN					6.49		1977
HIGHEST DAILY MEAN	175	Apr 25	734	May 25	4000	Dec 23	1955
LOWEST DAILY MEAN	.01	Sep 22	.01	Oct 1	.00	Sep 4	1924
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 26	.01	Oct 1	.00	Sep 4	1924
INSTANTANEOUS PEAK FLOW			1150	May 31	4920	Dec 23	1955
INSTANTANEOUS PEAK STAGE			6.46	May 31	11.75	Dec 23	1955
ANNUAL RUNOFF (AC-FT)	15830		84490		55180		
10 PERCENT EXCEEDS	72		407		231		
50 PERCENT EXCEEDS	6.3		34		18		
90 PERCENT EXCEEDS	.13		2.0		1.6		

11283250 CLAVEY RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°04'36", long 120°00'37", in NW 1/4 NW 1/4 sec.33, T.3 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 10 ft upstream from Forest Service Road Bridge, 0.4 mi downstream from Trout Creek, and 7.0 mi east of town of Long Barn.

DRAINAGE AREA.--48.9 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,160 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,150 ft^3/s, Jan. 22, 1993, gage height, 7.03 ft; minimum daily, 0.07 ft^3/s, Sept. 9, 15-19, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0245	*2,150	*7.03	Mar. 17	1530	1,750	6.42

Minimum daily, 0.44 ft^3/s, Oct. 12, 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	23	e5.4	e24	e62	e78	e500	e560	e340	e130	13	2.1
2	.47	41	e5.0	e21	e58	e80	e420	e540	e270	e130	12	1.9
3	.48	48	5.1	e24	e56	e84	e420	e490	e220	e130	11	1.9
4	.53	30	4.5	e24	e58	e74	e420	e390	e280	e120	10	1.9
5	.61	24	4.4	e25	e65	e90	e370	e410	e320	e110	9.2	1.8
6	.56	20	7.4	e50	e74	e100	e320	e400	e250	e110	8.2	1.8
7	.53	19	8.4	e55	e90	e115	e310	e400	e220	e100	7.6	1.7
8	.50	16	6.1	e170	e130	e125	e380	e420	e230	e100	7.0	1.6
9	.47	13	37	e100	e120	e130	e390	e450	e220	e90	6.6	1.6
10	.46	10	22	e80	e100	e135	e380	e500	e250	e84	6.4	1.4
11	.45	8.3	21	e60	e96	e140	e350	e540	e240	e78	5.9	1.3
12	.44	7.1	18	e100	e90	e145	e330	e450	e230	e70	5.5	1.2
13	.44	6.1	17	e320	e86	e165	e320	e320	e220	e62	5.2	1.2
14	.45	5.4	20	e180	e78	e200	e300	e340	e240	e58	5.0	1.2
15	.47	5.2	18	e230	e75	e190	e320	e360	e230	e52	4.9	1.2
16	.48	5.1	e17	e200	e72	e300	e380	e400	e210	e46	4.8	1.3
17	.48	4.9	e15	e170	e72	e750	e340	e450	e190	e42	4.8	1.3
18	.50	4.9	e13	e140	e170	e540	e350	e480	e190	e39	4.5	1.4
19	.51	4.8	e14	e120	e150	e480	e350	e460	e190	e36	4.1	1.5
20	.50	e4.7	e13	e200	e120	e420	e370	e440	e180	e35	3.9	1.4
21	1.1	4.6	e12	e450	e120	e420	e400	e430	e180	e34	3.7	1.3
22	1.1	5.9	e12	e330	e110	e420	e450	e370	e180	e33	3.6	1.3
23	1.1	9.9	e13	e250	e110	e600	e400	e370	e180	e30	3.3	1.2
24	.83	8.5	e13	e170	e100	e720	e340	e460	e180	28	2.9	1.2
25	.74	7.0	e13	e130	e92	e680	e360	e540	e190	26	2.8	1.1
26	.74	6.3	e13	e110	e88	e600	e400	e360	e190	25	2.7	1.1
27	.80	6.3	e18	e90	e84	e500	e450	e300	e190	23	2.6	1.1
28	1.2	6.7	e25	e80	e78	e360	e500	e240	e170	20	2.5	.99
29	13	6.5	e38	e76	---	e340	e560	e260	e150	18	2.3	.92
30	35	5.7	e25	e72	---	e350	e580	e300	e140	17	2.2	.90
31	30	---	e24	e64	---	e380	---	e390	---	15	2.2	---
TOTAL	95.40	367.9	477.3	4115	2604	9711	11760	12820	6470	1891	170.4	41.81
MEAN	3.08	12.3	15.4	133	93.0	313	392	414	216	61.0	5.50	1.39
MAX	35	48	38	450	170	750	580	560	340	130	13	2.1
MIN	.44	4.6	4.4	21	56	74	300	240	140	15	2.2	.90
AC-FT	189	730	947	8160	5170	19260	23330	25430	12830	3750	338	83

e Estimated.

11283250 CLAVEY RIVER NEAR LONG BARN, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.18	10.2	13.1	34.1	46.6	165	252	204	77.2	17.8	2.12	1.70
MAX	44.9	21.8	25.7	133	93.0	331	392	414	216	61.0	5.50	7.70
(WY)	1990	1990	1988	1993	1993	1989	1993	1993	1993	1993	1993	1989
MIN	.11	1.04	1.47	2.68	4.95	67.7	151	97.4	15.0	2.12	.30	.11
(WY)	1989	1991	1987	1991	1991	1987	1988	1992	1992	1987	1987	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993		
ANNUAL TOTAL	20075.23		50523.81				
ANNUAL MEAN	54.9		138		69.3		
HIGHEST ANNUAL MEAN					138		1993
LOWEST ANNUAL MEAN					33.6		1987
HIGHEST DAILY MEAN	478	Apr 13	750	Mar 17	1470	Mar 8	1989
LOWEST DAILY MEAN	.43	Sep 30	.44	Oct 12	.07	Sep 9	1988
ANNUAL SEVEN-DAY MINIMUM	.45	Oct 9	.45	Oct 9	.07	Sep 13	1988
INSTANTANEOUS PEAK FLOW			2150	Jan 22	2150	Jan 22	1993
INSTANTANEOUS PEAK STAGE			7.03	Jan 22	7.03	Jan 22	1993
ANNUAL RUNOFF (AC-FT)	39820		100200		50210		
10 PERCENT EXCEEDS	183		414		212		
50 PERCENT EXCEEDS	17		62		16		
90 PERCENT EXCEEDS	.86		1.2		.47		

11283350 REED CREEK NEAR LONG BARN, CA

LOCATION.--Lat 38°00'17", long 120°01'16", in NW 1/4 NE 1/4 sec.29, T.2 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1.0 mi upstream from Niagara Creek and 8.7 mi southeast of town of Long Barn.

DRAINAGE AREA.--27.2 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,575 ft above sea level, from topographic map. Prior to Oct. 1, 1987, at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 410 ft^3/s, Mar. 17, 1993, gage height, 4.38 ft; minimum daily, 0.25 ft^3/s, Sept. 9, 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 175 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0615	325	4.07	May 25	1115	395	4.32
Mar. 17	0945	*410	*4.38				

Minimum daily, 0.32 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	e5.0	2.2	5.6	43	47	304	325	239	45	9.6	3.8
2	.36	e5.4	2.1	5.6	42	47	280	338	210	42	9.1	3.7
3	.40	e6.8	2.1	5.3	42	50	274	322	190	39	8.8	3.6
4	.44	e5.8	1.9	5.4	41	51	290	311	213	36	8.7	3.5
5	.44	e4.5	1.8	5.8	52	55	279	304	268	34	8.4	3.4
6	.42	e4.0	4.7	6.3	63	64	242	308	219	32	8.2	3.5
7	.42	e3.7	5.7	54	60	74	227	301	217	30	8.1	3.3
8	.42	e3.2	4.4	77	85	81	249	303	206	27	7.9	3.2
9	.41	e2.9	20	45	80	86	267	308	184	25	7.7	3.0
10	.41	e2.6	14	22	65	90	269	328	179	23	7.6	2.9
11	.41	e2.4	11	14	68	93	266	322	173	21	7.0	2.8
12	.39	e2.2	8.0	13	63	99	259	307	164	20	6.5	2.8
13	.41	e2.1	6.5	67	60	120	247	295	156	19	6.2	2.8
14	.41	2.1	6.2	80	56	173	243	292	151	19	6.2	2.8
15	.41	2.0	6.0	60	54	162	261	286	135	18	5.7	2.7
16	e.45	2.0	5.6	93	53	144	267	275	116	17	6.0	2.8
17	e.47	1.9	5.6	71	53	342	258	317	109	17	5.8	3.0
18	e.47	1.9	5.2	54	69	310	273	333	106	16	5.6	3.3
19	e.47	2.0	5.0	39	107	265	259	331	100	15	5.3	3.1
20	e.49	2.1	5.1	54	78	255	276	324	104	15	5.3	3.0
21	e.52	2.0	4.8	155	69	260	300	313	94	14	5.2	2.8
22	e.70	2.7	4.8	254	58	274	313	303	84	14	4.9	2.8
23	e.82	2.7	4.8	107	62	282	296	294	77	13	4.8	2.7
24	e.76	2.3	4.9	77	58	355	281	285	75	13	4.6	2.6
25	e.71	2.4	4.9	66	49	320	320	345	70	13	4.7	2.5
26	e.67	2.2	4.9	60	50	295	341	308	68	12	4.5	2.4
27	e.65	2.3	4.9	55	49	274	352	268	62	12	4.4	2.3
28	e.66	2.3	5.3	55	48	247	338	234	56	11	4.2	2.3
29	e1.5	2.0	6.0	52	---	234	357	230	52	11	4.1	2.2
30	e9.2	1.8	5.2	49	---	242	340	225	49	11	4.0	2.2
31	e9.0	---	5.6	46	---	254	---	271	---	10	3.9	---
TOTAL	33.61	87.3	179.2	1753.0	1677	5645	8528	9306	4126	644	193.0	87.8
MEAN	1.08	2.91	5.78	56.5	59.9	182	284	300	138	20.8	6.23	2.93
MAX	9.2	6.8	20	254	107	355	357	345	268	45	9.6	3.8
MIN	.32	1.8	1.8	5.3	41	47	227	225	49	10	3.9	2.2
AC-FT	67	173	355	3480	3330	11200	16920	18460	8180	1280	383	174

e Estimated.

11283350 REED CREEK NEAR LONG BARN, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.03	4.05	4.95	14.8	22.2	78.0	112	87.9	34.5	7.31	1.97	1.23
MAX	12.5	9.15	9.38	56.5	59.9	182	284	300	138	20.8	6.23	2.93
(WY)	1990	1990	1990	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	.49	1.35	1.48	2.34	3.94	34.0	44.0	20.2	5.03	1.51	.56	.36
(WY)	1989	1991	1991	1991	1991	1987	1988	1987	1987	1987	1988	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	6940.07		32259.91			
ANNUAL MEAN	19.0		88.4		31.0	
HIGHEST ANNUAL MEAN					88.4	1993
LOWEST ANNUAL MEAN					11.6	1987
HIGHEST DAILY MEAN	140	Apr 13	357	Apr 29	357	Apr 29 1993
LOWEST DAILY MEAN	.32	Sep 30	.32	Oct 1	.25	Sep 9 1988
ANNUAL SEVEN-DAY MINIMUM	.35	Sep 26	.40	Oct 1	.26	Sep 8 1988
INSTANTANEOUS PEAK FLOW			410	Mar 17	410	Mar 17 1993
INSTANTANEOUS PEAK STAGE			4.38	Mar 17	4.38	Mar 17 1993
ANNUAL RUNOFF (AC-FT)	13770		63990		22420	
10 PERCENT EXCEEDS	62		294		87	
50 PERCENT EXCEEDS	5.7		22		6.6	
90 PERCENT EXCEEDS	.47		2.0		.63	

11283500 CLAVEY RIVER NEAR BUCK MEADOWS, CA

LOCATION.--Lat 37°54'02", long 120°04'15", in SW 1/4 NE 1/4 sec.35, T.1 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 300 ft upstream from Forest Service Road Bridge, 1.7 mi downstream from Quilty Creek, and 6 mi north of Buck Meadows Post Office.

DRAINAGE AREA.--144 mi^2.

PERIOD OF RECORD.--October 1959 to September 1983, October 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,374.08 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft^3/s, Jan. 13, 1980, gage height, 21.47 ft, from rating curve extended above 2,000 ft^3/s on basis of slope-area measurement at gage height 21.40 ft; minimum daily, 1.2 ft^3/s Sept. 11, 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0315	2,730	11.54	May 25	1400	1,980	10.39
Mar. 17	1500	*2,760	*11.58				

Minimum daily, 3.2 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	40	13	68	253	305	1320	1490	860	262	38	15
2	3.3	48	14	66	240	303	1090	1460	670	262	36	14
3	3.3	57	13	54	235	320	1030	1370	582	252	34	14
4	3.5	47	13	53	224	337	1100	1050	635	214	33	14
5	3.6	36	12	53	267	352	1040	989	873	213	31	14
6	3.7	32	15	58	313	393	843	1090	600	212	29	14
7	3.7	29	92	527	303	443	791	1040	560	208	27	14
8	3.7	28	35	527	443	490	882	1050	615	194	26	13
9	3.7	24	302	349	551	523	997	1120	569	175	25	13
10	3.6	21	120	254	449	528	1020	1310	624	158	25	12
11	3.6	18	185	184	421	538	966	1420	656	146	24	12
12	3.6	17	91	164	385	564	909	1330	614	136	24	12
13	3.6	15	60	724	351	619	819	842	594	125	23	12
14	3.6	15	54	963	328	828	772	897	639	116	23	12
15	3.6	14	48	535	305	850	848	977	638	105	23	12
16	3.7	14	42	704	286	699	933	990	572	94	22	12
17	3.8	13	46	566	284	2000	846	1170	500	83	22	12
18	3.9	13	39	490	356	1770	940	1230	507	78	21	13
19	4.0	13	35	367	707	1260	804	1230	507	74	20	14
20	4.0	13	41	436	594	1090	851	1220	510	71	20	13
21	4.6	13	37	1170	487	1090	1060	1130	456	68	20	13
22	6.7	13	35	1870	430	1160	1210	964	379	64	19	13
23	7.0	15	35	887	458	1220	1170	986	366	61	18	12
24	6.2	18	36	602	459	1910	843	1050	372	61	18	12
25	5.7	17	36	471	390	1800	890	1490	386	58	17	12
26	5.6	16	38	404	365	1650	997	1060	380	55	17	12
27	5.3	15	37	369	336	1250	1150	846	357	53	16	12
28	5.3	15	50	343	318	1020	1230	692	335	50	16	11
29	25	15	146	320	---	872	1390	617	284	47	15	11
30	77	14	89	299	---	881	1530	693	258	44	15	11
31	77	---	68	274	---	908	---	1040	---	41	15	---
TOTAL	298.1	658	1877	14151	10538	27973	30271	33843	15898	3780	712	380
MEAN	9.62	21.9	60.5	456	376	902	1009	1092	530	122	23.0	12.7
MAX	77	57	302	1870	707	2000	1530	1490	873	262	38	15
MIN	3.2	13	12	53	224	303	772	617	258	41	15	11
AC-FT	591	1310	3720	28070	20900	55480	60040	67130	31530	7500	1410	754

11283500 CLAVEY RIVER NEAR BUCK MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.5	74.7	152	274	322	433	615	700	340	86.6	23.5	17.5
MAX	226	339	999	1331	1426	1482	2057	1754	1746	566	101	69.4
(WY)	1983	1983	1965	1980	1982	1983	1982	1983	1983	1983	1983	1982
MIN	2.89	7.65	8.67	10.8	15.4	39.0	84.4	117	27.0	5.06	1.66	2.28
(WY)	1978	1991	1991	1991	1991	1977	1977	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1960 - 1993		
ANNUAL TOTAL	37162.1		140379.1				
ANNUAL MEAN	102		385		255		
HIGHEST ANNUAL MEAN					771		1983
LOWEST ANNUAL MEAN					31.0		1977
HIGHEST DAILY MEAN	575	Apr 13	2000	Mar 17	12000	Feb 16	1982
LOWEST DAILY MEAN	3.2	Oct 1	3.2	Oct 1	1.2	Sep 10	1977
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 27	3.5	Oct 1	1.3	Sep 7	1977
INSTANTANEOUS PEAK FLOW			2760	Mar 17	19400	Jan 13	1980
INSTANTANEOUS PEAK STAGE			11.58	Mar 17	21.47	Jan 13	1980
ANNUAL RUNOFF (AC-FT)	73710		278400		184600		
10 PERCENT EXCEEDS	326		1070		672		
50 PERCENT EXCEEDS	35		185		71		
90 PERCENT EXCEEDS	4.3		12		8.8		

11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA

LOCATION.--Lat 37°50'31", long 120°11'02", in SW 1/4 NE 1/4 sec.23, T.1 S., R.16 E., Tuolumne County, Hydrologic Unit 18040009, on right bank 500 ft upstream from Whites Gulch and 2.5 mi east of Groveland.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--May 1969 to current year.

REVISED RECORDS.--WDR CA-85-3: 1980-84(P).

GAGE.--Water-stage recorder. Datum of gage is 2,561.79 ft above sea level (levels by Boise-Cascade Corp.).

REMARKS.--No estimated daily discharges. Records good. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft^3/s, Feb. 17, 1986, gage height, 7.03 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement at gage height 6.51 ft; no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1964 reached a stage of 6.4 ft from floodmarks, discharge, 1,850 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0730	640	4.89	Feb. 20	0145	379	4.35
Jan. 14	0800	*1,620	*6.20	Mar. 25	1130	364	4.31
Jan. 22	0330	451	4.50				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	17	5.4	22	67	3.6	2.5	.48	.01	.00
2	.00	.00	.00	20	5.0	19	34	3.4	1.9	.44	.00	.00
3	.00	.00	.00	8.7	4.7	16	25	3.4	1.7	.41	.00	.00
4	.00	.00	.00	5.0	4.3	13	21	3.2	2.1	.33	.00	.00
5	.00	.00	.00	3.8	6.2	12	18	3.1	3.8	.31	.00	.00
6	.00	.00	.00	4.7	6.5	10	15	3.1	2.9	.29	.00	.00
7	.00	.00	.19	293	5.0	9.5	13	3.0	3.3	.26	.00	.00
8	.00	.00	.09	129	17	8.5	12	2.9	2.7	.24	.00	.00
9	.00	.00	5.1	59	51	7.7	11	2.8	2.2	.20	.00	.00
10	.00	.00	3.4	95	23	7.0	9.5	2.4	1.9	.17	.00	.00
11	.00	.00	26	46	22	6.4	8.7	2.4	1.7	.14	.00	.00
12	.00	.00	7.3	34	16	5.9	7.9	2.4	1.5	.12	.00	.00
13	.00	.00	2.5	350	12	5.5	7.4	2.4	1.4	.12	.00	.00
14	.00	.00	1.4	560	11	5.5	6.9	2.4	1.3	.11	.00	.00
15	.00	.00	.96	110	9.1	5.5	6.4	2.3	1.3	.10	.00	.00
16	.00	.00	.70	123	7.9	5.1	6.0	2.3	1.2	.09	.00	.00
17	.00	.00	.73	137	8.2	15	6.6	2.2	1.1	.08	.00	.00
18	.00	.00	.92	105	16	9.9	10	1.9	1.1	.07	.00	.00
19	.00	.00	.82	46	80	6.8	6.6	1.6	1.0	.06	.00	.00
20	.00	.00	.75	33	184	5.8	5.9	1.6	1.0	.05	.00	.00
21	.00	.00	.68	61	90	5.5	5.3	1.7	1.0	.05	.00	.00
22	.00	.00	.62	198	59	5.0	5.0	1.7	.91	.05	.00	.00
23	.00	.00	.57	58	89	4.9	4.8	1.7	.75	.05	.00	.00
24	.00	.00	.53	31	103	33	4.8	1.7	.75	.05	.00	.00
25	.00	.00	.50	21	52	180	4.6	3.0	.71	.04	.00	.00
26	.00	.00	.47	16	50	185	4.4	2.5	.68	.04	.00	.00
27	.00	.00	.45	12	41	84	4.2	2.0	.74	.03	.00	.00
28	.00	.00	1.1	9.8	29	55	4.0	1.9	.60	.03	.00	.00
29	.00	.00	86	8.1	---	36	3.8	1.8	.67	.03	.00	.00
30	.00	.00	36	6.8	---	27	3.7	1.6	.54	.02	.00	.00
31	.00	---	12	6.1	---	21	---	2.3	---	.01	.00	---
TOTAL	0.00	0.00	189.78	2607.0	1007.3	832.5	342.5	74.3	44.95	4.47	0.01	0.00
MEAN	.000	.000	6.12	84.1	36.0	26.9	11.4	2.40	1.50	.14	.000	.000
MAX	.00	.00	86	560	184	185	67	3.6	3.8	.48	.01	.00
MIN	.00	.00	.00	3.8	4.3	4.9	3.7	1.6	.54	.01	.00	.00
AC-FT	.00	.00	376	5170	2000	1650	679	147	89	8.9	.02	.00

11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	3.96	8.82	21.9	31.0	23.6	10.9	3.10	.89	.20	.036	.020
MAX	1.05	43.2	80.3	84.8	173	126	74.1	26.2	6.41	2.42	.82	.42
(WY)	1983	1983	1984	1980	1986	1983	1982	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.038	.014	.018	.000	.000	.000	.000
(WY)	1971	1977	1977	1991	1991	1977	1977	1977	1977	1972	1971	1969

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1969 - 1993		
ANNUAL TOTAL	1197.19		5102.81				
ANNUAL MEAN	3.27		14.0		8.58		
HIGHEST ANNUAL MEAN					38.2		1983
LOWEST ANNUAL MEAN					.011		1977
HIGHEST DAILY MEAN	161	Feb 15	560	Jan 14	1340	Feb 17	1986
LOWEST DAILY MEAN	.00	Jun 6	.00	Oct 1	.00	Aug 27	1969
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 6	.00	Oct 1	.00	Aug 27	1969
INSTANTANEOUS PEAK FLOW			1620	Jan 14	2620	Feb 17	1986
INSTANTANEOUS PEAK STAGE			6.20	Jan 14	7.03	Feb 17	1986
ANNUAL RUNOFF (AC-FT)	2370		10120		6220		
10 PERCENT EXCEEDS	4.3		33		13		
50 PERCENT EXCEEDS	.00		.96		.27		
90 PERCENT EXCEEDS	.00		.00		.00		

11287500 DON PEDRO RESERVOIR NEAR LA GRANGE, CA

LOCATION.--Lat 37°42'06", long 120°25'16", in NE 1/4 SW 1/4 sec.3, T.3 S., R.14 E., Tuolumne County, Hydrologic Unit 18040009, on left end of New Don Pedro Dam on Tuolumne River, 500 ft downstream from Mexican Gulch, and 3.4 mi northeast of La Grange.
DRAINAGE AREA.--1,533 mi^2.
PERIOD OF RECORD.--September 1923 to current year. Year-end contents only 1923-24 and October 1924 to September 1930 monthend contents, published in WSP 1315-A.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, nonrecording gage at site 1.5 mi upstream at same datum. Feb. 2, 1941, to Nov. 3, 1970, water-stage recorder at site 1.5 mi upstream at same datum. Nov. 4, 1970, to Apr. 26, 1972, nonrecording gage at same site and datum.
REMARKS.--Reservoir is formed by earthfill dam completed June 23, 1971. Storage began Nov. 3, 1970. Total capacity, 2,030,000 acre-ft at elevation 830.0 ft, top of uncontrolled spillway, of which 309,000 acre-ft below elevation 600.0 ft, mutually agreed-upon minimum, is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 2.5 mi downstream, where it is diverted into Turlock and Modesto Canals (stations 11289500 and 11289000) for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Prior to June 1971, reservoir was formed by a concrete gravity-type dam completed Jan. 1, 1923, capacity, 290,400 acre-ft. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Tuolumne River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,025,000 acre-ft, Aug. 4-6, 13, 1983, elevation, 829.6 ft; minimum, 29,200 acre-ft, Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft, Sept. 1, 2, 1934. Minimum since reservoir first filled, 302,600 acre-ft, Oct. 14, 15, 1977, elevation, 598.2 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,003,000 acre-ft, July 13, 14, elevation, 827.90 ft; minimum, 747,600 acre-ft, Oct. 26, 27, 29, elevation, 691.38 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Modesto and Turlock Irrigation Districts, dated August 1970)

550	158,700	650	517,400	770	1,359,000
570	212,900	680	679,000	800	1,669,000
590	274,800	710	869,700	830	2,030,000
620	384,100	740	1,095,000		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e777100	749000	759200	820600	1067000	e1234000	e1479000	1597000	1788000	1969000	1949000	1804000
2	776900	749200	759700	823700	1070000	e1240000	1487000	1600000	1799000	1973000	1944000	1797000
3	776900	749600	760900	826600	1073000	e1246000	1495000	1603000	1807000	1980000	1939000	1791000
4	777000	750000	761700	828400	1076000	e1251000	1503000	1605000	1810000	1985000	1935000	1786000
5	775900	750100	762300	831100	1079000	e1257000	1510000	1606000	1821000	1989000	1929000	1780000
6	775100	750000	763300	833700	1083000	e1263000	1516000	1608000	1833000	1993000	1924000	1776000
7	774200	750100	765300	850500	1087000	e1268000	1523000	1610000	1842000	1995000	1918000	1772000
8	773300	750200	766900	860600	1093000	e1274000	1529000	1613000	1851000	1998000	1913000	1767000
9	770800	750000	771500	866700	1106000	e1280000	1536000	1616000	1862000	1999000	1907000	1763000
10	767500	750000	774700	876100	e1115000	e1285000	1542000	1619000	1872000	2001000	1904000	1758000
11	764700	750300	779100	881100	e1121000	e1289000	1548000	1625000	1884000	e2002000	1900000	1755000
12	761700	750800	781800	885700	e1127000	e1294000	1553000	1630000	1895000	e2002000	1896000	1751000
13	759200	751500	783000	902400	e1131000	e1299000	1557000	1633000	1904000	2003000	1891000	1746000
14	754700	751900	784700	930300	e1136000	e1305000	1563000	1636000	1912000	2003000	1887000	1742000
15	751500	751900	786400	940600	e1142000	e1311000	1565000	1640000	1917000	2002000	1884000	1738000
16	751200	752200	788100	951000	e1146000	e1317000	1568000	1645000	1921000	2000000	1880000	1733000
17	750800	753000	789700	963800	e1150000	e1328000	1570000	1649000	1923000	1998000	1875000	1729000
18	750300	754000	791400	974600	e1155000	e1337000	1573000	1654000	1925000	1996000	1870000	1725000
19	750000	754700	793400	981500	e1164000	e1346000	1576000	1660000	1926000	1993000	1865000	1722000
20	749700	755400	794600	987900	e1175000	e1353000	1578000	1665000	1927000	1991000	1861000	1717000
21	749900	756000	796100	999800	e1182000	e1358000	1580000	1673000	1928000	1988000	1857000	1713000
22	749700	756500	797700	1019000	e1188000	e1365000	1582000	1681000	1931000	1983000	1851000	1710000
23	749000	756500	799100	1028000	e1196000	e1373000	1585000	1689000	1934000	1978000	1845000	1708000
24	748300	756700	800600	1035000	e1205000	e1383000	1586000	1699000	1937000	1974000	1839000	1706000
25	747800	757100	801700	1041000	e1211000	e1401000	1587000	1711000	1940000	1970000	1835000	1704000
26	747600	757500	802900	1045000	e1219000	e1418000	1588000	1721000	1944000	1967000	1831000	1702000
27	747600	757700	804300	1050000	e1224000	e1431000	1589000	1731000	194900	1964000	1823000	1699000
28	747700	758400	806000	1054000	e1234000	e1442000	1590000	1740000	1954000	1963000	1815000	1696000
29	747600	758400	810600	1058000	---	e1452000	1593000	1751000	1961000	1962000	1811000	1693000
30	748000	758400	813600	1061000	---	e1460000	1595000	1762000	1966000	1957000	1809000	1690000
31	748700	---	815900	1064000	---	e1476000	---	1776000	---	1954000	1808000	---
MAX	777100	758400	815900	1064000	1234000	1476000	1595000	1776000	1966000	2003000	1949000	1804000
MIN	747600	749000	759200	820600	1067000	1234000	1479000	1597000	194900	1954000	1808000	1690000
a	691.55	693.10	702.04	736.14	756.20	781.83	793.03	808.21	825.03	824.04	812.15	801.90
b	-28000	+9700	+57500	+248100	+170000	+242000	+119000	+181000	+190000	-12000	-146000	-118000

CAL YR 1992 b -161100
WTR YR 1993 b +913300

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11289000 MODESTO CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°40'21", long 120°28'26", in NE 1/4 SW 1/4 sec.18, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.9 mi northwest of La Grange and 1.7 mi downstream from intake at La Grange Dam.
PERIOD OF RECORD.--April 1903 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1904-9 (monthly figures only).
GAGE.--Water-stage recorder and concrete control. Datum of gage is 267.47 ft above sea level (levels by Modesto Irrigation District). See WSP 1930 for history of changes prior to March 1932. March 1932 to Apr. 27, 1988, at site 1.1 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts. See schematic diagram of Tuolumne River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,820 ft^3/s, July 1, 1935; no flow at times most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	1.1	2.1	.06	106	45	380	417	559	1210	895	348
2	400	1.1	81	.03	188	16	423	371	432	900	1280	324
3	109	1.0	.27	.01	88	23	414	346	440	980	1040	349
4	387	1.0	.25	.00	154	17	356	386	479	1020	851	346
5	458	1.0	.26	.00	.61	41	398	391	453	923	1090	195
6	436	1.0	.29	.01	.49	45	338	464	546	1020	861	82
7	438	.99	.31	.08	.48	23	446	224	459	1050	983	157
8	256	1.0	67	.05	61	110	478	521	465	860	961	273
9	514	1.0	12	.04	82	44	82	932	524	931	944	258
10	491	.95	12	.06	.35	17	290	1090	426	659	840	352
11	615	1.0	12	.03	9.3	116	319	695	383	907	786	553
12	441	1.0	12	.04	.31	230	414	686	558	775	909	802
13	468	1.0	12	.01	.30	155	404	882	724	649	755	663
14	314	1.0	13	.05	.30	79	401	987	755	711	684	482
15	261	1.0	37	30	.30	307	468	732	857	655	746	397
16	136	25	21	.27	.31	340	414	701	1230	948	930	334
17	129	8.9	7.0	.36	.31	285	626	791	1200	973	1060	445
18	128	8.7	7.0	27	.36	212	742	730	1240	1010	1020	523
19	126	8.7	7.0	103	.29	226	207	1010	1070	591	737	522
20	127	8.7	7.0	.45	.30	284	330	640	991	488	857	908
21	130	8.7	6.9	.42	.27	300	368	528	940	577	1020	768
22	355	8.8	6.8	176	142	343	664	730	905	1000	1430	573
23	484	8.7	28	.60	.64	498	374	544	854	1060	1140	640
24	482	8.7	1.7	12	77	512	412	521	986	633	1150	569
25	289	13	1.7	286	.27	429	145	796	1310	651	932	636
26	126	2.1	1.7	58	.31	277	151	786	803	763	938	713
27	87	2.1	1.6	44	.25	268	191	837	871	891	609	799
28	87	2.1	1.6	53	.25	250	226	515	999	631	242	842
29	87	2.1	5.9	.34	---	176	388	435	826	774	234	893
30	60	2.1	1.9	41	---	196	334	485	1200	921	197	991
31	1.1	---	2.3	67	---	481	---	579	---	1190	217	---
TOTAL	8822.1	133.54	370.58	899.91	914.00	6345	11183	19752	23485	26351	26338	15737
MEAN	285	4.45	12.0	29.0	32.6	205	373	637	783	850	850	525
MAX	615	25	81	286	188	512	742	1090	1310	1210	1430	991
MIN	1.1	.95	.25	.00	.25	16	82	224	383	488	197	82
AC-FT	17500	265	735	1780	1810	12590	22180	39180	46580	52270	52240	31210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1993, BY WATER YEAR (WY)

MEAN	233	107	79.4	51.9	87.5	299	667	841	896	782	627	423
MAX	633	579	416	465	407	799	1198	1349	1244	1194	977	901
(WY)	1968	1983	1980	1976	1976	1932	1949	1946	1943	1956	1983	1980
MIN	.000	.000	.000	.000	.000	.000	220	224	450	186	12.1	.000
(WY)	1913	1910	1910	1910	1920	1938	1991	1977	1926	1919	1918	1917

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1909 - 1993	
ANNUAL TOTAL	122990.43		140331.13			
ANNUAL MEAN	336		384		427	
HIGHEST ANNUAL MEAN					570	1980
LOWEST ANNUAL MEAN					198	1910
HIGHEST DAILY MEAN	1100	May 10	1430	Aug 22	1820	Jul 1 1935
LOWEST DAILY MEAN	.02	Mar 15	.00	Jan 4	.00	Feb 8 1909
ANNUAL SEVEN-DAY MINIMUM	.99	Nov 4	.03	Jan 2	.00	Feb 8 1909
ANNUAL RUNOFF (AC-FT)	244000		278300		309500	
10 PERCENT EXCEEDS	801		942		1010	
50 PERCENT EXCEEDS	295		334		377	
90 PERCENT EXCEEDS	2.1		.36		.00	

11289500 TURLOCK CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'49", long 120°26'23", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 0.7 mi downstream from intake at La Grange Dam and 1.2 mi east of La Grange.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1899-1908 (monthly figures only). WSP 1445: 1917-20, 1922.

GAGE.--Electromagnetic flow meter and concrete control. Datum of gage is 274.98 ft above sea level (levels by Turlock Irrigation District). See WSP 1930 for history of changes prior to Apr. 17, 1924. Prior to May 17, 1984, water-stage recorder at site 0.2 mi upstream at datum 2.72 ft higher.

REMARKS.--Records good. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. Capacity of canal increased in March 1980 and in March 1984. During autumn and winter, some unmeasured flow is diverted from canal at tunnel 0.3 mi upstream from gage, passed through La Grange Powerplant, and returned to river. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,400 ft^3/s several days in May 1984; no diversion for irrigation during some periods in some years; prior to 1939, unmeasured small discharge during winter called zero. No flow Jan. 27, 1984, to Mar. 14, 1984, when canal was drained for construction and installation of electromagnetic flow meter and many days during 1989-91.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	47	230	202	63	92	362	1410	1540	2250	e2480	1650
2	15	118	314	28	69	149	250	1190	868	1790	2010	2060
3	16	176	228	56	87	101	24	1350	761	2010	2020	1600
4	11	19	169	289	14	98	23	1430	488	1850	1850	976
5	252	395	238	53	13	120	20	1530	698	2040	2110	898
6	415	152	239	34	11	150	47	1370	783	2090	2420	876
7	408	19	237	29	11	152	36	1350	720	2110	2250	1540
8	524	57	147	47	11	128	16	882	695	2300	2130	1060
9	1160	79	14	49	69	255	.03	1220	809	2110	2200	993
10	1520	8.6	12	115	19	633	163	1790	945	1870	1150	1050
11	1070	37	54	25	16	515	280	1090	537	2010	993	688
12	1420	12	14	21	18	251	275	1280	372	2080	1190	867
13	1060	116	142	21	20	244	693	1640	672	1780	e1980	1010
14	2340	9.7	155	46	20	341	579	1690	1190	2240	1500	1090
15	1710	88	71	49	18	339	1450	1520	1210	1980	1030	1010
16	27	83	18	50	15	200	1630	1610	1240	1970	1470	900
17	7.1	55	75	45	77	208	1440	1890	2040	2150	1770	1160
18	22	6.1	92	48	23	391	1190	1730	2470	1820	1950	1240
19	20	23	25	48	35	505	1620	1760	2370	2170	1870	1090
20	5.8	5.8	129	105	63	450	2160	1430	2430	2080	1740	1470
21	7.1	11	19	29	54	406	2110	1440	2150	2020	1930	763
22	4.1	8.6	15	81	21	430	1760	906	2250	e2220	1980	539
23	3.4	238	18	15	18	573	1740	1090	1500	2360	e2160	372
24	3.0	342	12	27	20	675	1960	1300	1600	2460	1620	336
25	.00	295	100	72	18	776	1630	1100	1920	1910	1150	285
26	.00	233	169	63	12	810	1800	1750	2090	1510	1040	224
27	.00	191	99	24	14	198	1910	1780	1880	1930	1030	456
28	.12	154	34	141	15	26	1570	1570	1730	1650	891	793
29	1.8	220	40	181	---	30	1670	923	1860	1470	530	378
30	.00	290	70	22	---	24	1570	547	2060	1890	623	357
31	.00	---	30	18	---	27	---	661	---	e2370	945	---
TOTAL	12285.42	3488.8	3209	2033	844	9297	29978.03	42229	41878	62490	50012	27731
MEAN	396	116	104	65.6	30.1	300	999	1362	1396	2016	1613	924
MAX	2340	395	314	289	87	810	2160	1890	2470	2460	2480	2060
MIN	.00	5.8	12	15	11	24	.03	547	372	1470	530	224
AC-FT	24370	6920	6370	4030	1670	18440	59460	83760	83060	123900	99200	55000

e Estimated.

11289500 TURLOCK CANAL NEAR LA GRANGE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	283	153	136	68.3	115	452	1015	1256	1335	1245	1036	682
MAX	867	1008	1210	467	855	1350	1874	1829	1883	2098	1991	1604
(WY)	1987	1976	1984	1971	1976	1972	1949	1984	1981	1980	1983	1967
MIN	.000	.000	.000	.000	.000	2.72	90.3	27.4	71.0	.000	25.4	.000
(WY)	1901	1901	1900	1900	1905	1973	1900	1977	1900	1914	1901	1901

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1899 - 1993		
ANNUAL TOTAL	263820.32		285475.25				
ANNUAL MEAN	721		782		653		
HIGHEST ANNUAL MEAN					1082		1984
LOWEST ANNUAL MEAN					54.3		1900
HIGHEST DAILY MEAN	2650	Jun 17	2480	Aug 1	3400	May 24	1984
LOWEST DAILY MEAN	.00	Oct 25	.00	Oct 25	.00	Nov 14	1899
ANNUAL SEVEN-DAY MINIMUM	.27	Oct 25	.27	Oct 25	.00	Nov 14	1899
ANNUAL RUNOFF (AC-FT)	523300		566200		473100		
10 PERCENT EXCEEDS	1810		2010		1650		
50 PERCENT EXCEEDS	424		408		434		
90 PERCENT EXCEEDS	14		15		.00		

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'59", long 120°26'28", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi downstream from La Grange Dam and 1.1 mi east of La Grange.

DRAINAGE AREA.--1,538 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 170.19 ft above sea level (levels by Turlock Irrigation District).

REMARKS.--No estimated daily discharges. Records good. Flow diverted into Modesto Canal (station 11289000) and Turlock Canal (station 11289500) at La Grange Dam. Flow regulated by Don Pedro Powerplant, Don Pedro Reservoir (station 11287500), 4.5 mi upstream, Hetch Hetchy Reservoir (station 11275500), Cherry Lake (station 11277200), and Lake Eleanor (station 11277500). Tuolumne Canal (station 11297500) diverts water from the Stanislaus River basin into the Tuolumne River basin for power, irrigation, and domestic supply in the vicinity of Sonora, upstream from station. Diversion through Hetch Hetchy Aqueduct to San Francisco began Oct. 19, 1934; an average of 268 ft^3/s was diverted during the current year. See schematic diagram of Tuolumne River basin. For records of combined discharge of river and Modesto and Turlock Canals, see following page.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 10,400 ft^3/s, Apr. 24, 1983, gage height, 15.09 ft; no flow for several days during September and October 1977.
Combined flow, maximum daily discharge, 13,800 ft^3/s, May 26, 1983; minimum daily, 0.45 ft^3/s, Nov. 2, 1970.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 2,600 ft^3/s, Aug. 27, gage height, 8.40 ft; minimum daily, 21 ft^3/s, Oct. 1, 2, 7, 9, 10.
Combined flow, maximum daily discharge, 4,280 ft^3/s, June 18; minimum daily, 130 ft^3/s, Feb. 6, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	165	154	119	119	119	194	1600	92	211	175	1460
2	21	162	154	120	119	119	307	1630	150	180	177	1390
3	22	161	155	130	119	126	642	1550	194	179	178	1740
4	22	151	165	124	119	130	641	1540	195	179	179	1240
5	22	150	160	120	119	128	639	1520	195	179	481	1230
6	22	152	158	120	119	125	647	1560	195	180	183	1050
7	21	152	157	122	119	124	618	1600	195	181	183	1470
8	22	154	158	123	119	124	627	1260	194	181	183	1450
9	21	155	159	123	122	124	626	376	194	181	183	1270
10	21	161	159	123	122	124	636	191	192	181	482	1210
11	22	163	159	123	122	125	633	190	198	181	490	771
12	27	158	158	124	120	124	635	147	300	181	466	733
13	26	154	124	126	120	124	637	91	629	180	181	922
14	25	157	123	129	120	124	637	91	625	179	180	1100
15	35	158	126	125	120	124	638	88	628	179	180	1160
16	156	160	125	122	120	124	633	88	637	179	182	1200
17	152	158	126	126	120	124	633	88	636	179	180	811
18	155	155	126	125	120	124	649	88	567	180	181	531
19	155	152	125	124	120	124	646	88	674	181	181	304
20	153	159	126	123	120	124	772	88	651	181	181	591
21	153	156	126	123	119	124	638	89	553	181	181	558
22	154	156	126	128	119	124	644	91	202	181	179	480
23	152	157	126	122	119	124	643	91	198	181	315	479
24	153	159	126	118	119	124	769	91	199	181	497	479
25	151	158	125	119	119	124	1630	91	197	181	535	479
26	154	157	124	119	119	125	1710	91	195	181	662	480
27	157	153	124	119	119	126	1700	91	196	180	1210	479
28	155	150	124	119	119	127	1610	91	197	180	1570	475
29	155	155	125	119	---	293	1560	91	199	172	1620	478
30	157	155	120	119	---	271	1560	91	203	175	1660	477
31	164	---	119	119	---	385	---	91	---	175	1520	---
TOTAL	2826	4693	4262	3795	3350	4431	24554	14873	9680	5600	14755	26497
MEAN	91.2	156	137	122	120	143	818	480	323	181	476	883
MAX	164	165	165	130	122	385	1710	1630	674	211	1660	1740
MIN	21	150	119	118	119	119	194	88	92	172	175	304
AC-FT	5610	9310	8450	7530	6640	8790	48700	29500	19200	11110	29270	52560

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	737	401	915	1337	1374	1472	1273	1096	502	296	171	480
MAX	4187	905	4327	5563	5265	6636	8900	9744	5161	3808	1747	3491
(WY)	1984	1984	1983	1984	1983	1983	1983	1983	1983	1983	1983	1983
MIN	1.02	8.16	10.2	9.78	21.6	93.9	40.9	8.73	8.43	7.46	5.63	4.42
(WY)	1978	1978	1978	1978	1978	1989	1977	1972	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	42179.3		119316			
ANNUAL MEAN	115		327		836	
HIGHEST ANNUAL MEAN					4786	1983
LOWEST ANNUAL MEAN					84.3	1989
HIGHEST DAILY MEAN	1150	May 2	1740	Sep 3	10400	Apr 25 1983
LOWEST DAILY MEAN	8.1	May 21	21	Oct 1	.00	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	8.6	May 17	22	Oct 1	.00	Oct 12 1977
INSTANTANEOUS PEAK FLOW			2600	Aug 27	10400	Apr 24 1983
INSTANTANEOUS PEAK STAGE			8.40	Aug 27	15.09	Apr 24 1983
ANNUAL RUNOFF (AC-FT)	83660		236700		605500	
10 PERCENT EXCEEDS	158		770		2670	
50 PERCENT EXCEEDS	117		158		186	
90 PERCENT EXCEEDS	16		119		11	

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruption in record was due to malfunction of the recording instrument. Water temperature can be affected by releases from La Grange Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 29.0°C, Sept. 27, Oct. 15, 1977; minimum recorded, 6.0°C, Feb. 6-8, 10, 1971.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 16.5°C, Oct. 1; minimum recorded, 9.0°C, Apr. 3, 6, 7.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.5	9.5	---	---	---	---	11.5	10.0	12.0	10.5	12.0	11.0
2	10.5	9.5	---	---	---	---	12.0	10.0	12.0	10.5	12.0	11.0
3	10.0	9.0	---	---	---	---	11.5	9.5	11.5	10.5	12.0	11.0
4	10.0	9.5	---	---	---	---	12.0	10.0	12.5	10.5	12.0	11.0
5	10.0	9.5	---	---	10.5	9.5	11.5	10.0	11.5	10.5	12.0	11.0
6	10.0	9.0	---	---	10.0	9.5	12.0	10.0	12.5	10.5	12.0	11.0
7	10.0	9.0	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
8	---	---	---	---	11.0	9.5	12.0	10.0	12.5	10.5	12.0	11.0
9	---	---	---	---	11.0	9.5	12.0	10.0	12.0	10.5	12.0	11.0
10	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.0	11.0
11	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.0	11.0
12	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.0	11.0
13	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
14	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
15	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
16	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
17	---	---	---	---	10.5	9.5	12.0	10.0	12.0	10.5	12.0	11.0
18	---	---	---	---	11.0	9.5	12.0	10.0	12.5	10.5	12.0	11.0
19	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
20	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
21	---	---	---	---	10.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
22	---	---	---	---	11.5	9.5	12.0	10.0	12.5	10.5	12.0	11.0
23	---	---	---	---	11.5	9.5	12.0	10.0	12.5	11.0	12.0	11.0
24	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.0	11.0
25	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.0	11.0
26	---	---	---	---	11.5	10.0	12.0	10.0	11.5	10.5	12.0	11.0
27	---	---	---	---	11.5	10.0	12.0	10.0	12.5	10.5	12.0	11.0
28	---	---	---	---	11.5	9.5	12.0	10.0	11.5	10.5	12.5	11.5
29	---	---	---	---	11.5	9.5	12.5	10.0	12.0	11.0	12.5	11.5
30	---	---	---	---	11.5	9.5	12.0	10.0	11.5	11.0	12.5	11.5
31	---	---	---	---	---	---	12.5	10.5	11.5	11.0	---	---
MONTH	---	---	---	---	---	---	12.5	9.5	12.5	10.5	12.5	11.0

11289651 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

TUOLUMNE RIVER, MODESTO CANAL NEAR LA GRANGE, AND TURLOCK CANAL NEAR LA GRANGE, COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	684	213	386	321	288	256	936	3430	2190	3670	3540	3460
2	436	281	549	148	376	284	980	3190	1450	2870	3470	3770
3	147	338	383	186	294	250	1080	3250	1390	3170	3240	3690
4	420	171	334	413	287	245	1020	3360	1160	3050	2880	2560
5	732	546	398	173	133	289	1060	3440	1340	3140	3680	2320
6	873	305	397	154	130	320	1030	3390	1520	3290	3460	2010
7	867	172	394	151	130	299	1100	3170	1370	3340	3410	3170
8	802	212	372	170	191	362	1120	2660	1350	3340	3270	2780
9	1690	235	185	172	273	423	708	2530	1520	3220	3320	2520
10	2030	170	183	238	141	774	1090	3070	1560	2710	2470	2610
11	1700	201	225	148	147	756	1230	1970	1120	3100	2270	2010
12	1890	171	184	145	138	605	1320	2120	1230	3030	2570	2400
13	1560	271	278	147	140	523	1740	2610	2030	2610	2910	2590
14	2670	168	291	175	140	544	1620	2770	2560	3130	2360	2670
15	2000	247	234	204	138	770	2560	2340	2700	2810	1960	2570
16	319	268	164	172	135	664	2670	2400	3110	3100	2580	2430
17	288	222	208	171	197	617	2700	2770	3880	3300	3010	2410
18	305	170	225	200	143	727	2580	2550	4280	3010	3150	2290
19	301	184	157	275	155	855	2480	2860	4110	2940	2790	1910
20	286	173	262	228	183	858	3260	2160	4070	2750	2780	2970
21	290	176	152	152	173	830	3120	2060	3640	2780	3130	2090
22	513	173	148	385	282	897	3060	1730	3350	3400	3590	1590
23	639	404	172	138	138	1190	2750	1720	2550	3600	3610	1490
24	638	510	140	157	216	1310	3140	1910	2790	3270	3270	1380
25	440	466	227	477	137	1320	3400	1990	3430	2740	2610	1400
26	280	392	295	240	131	1210	3660	2630	3080	2450	2640	1420
27	244	346	225	187	133	592	3800	2710	2950	3000	2850	1730
28	242	306	160	313	134	403	3410	2170	2930	2460	2700	2100
29	244	377	171	300	---	499	3620	1450	2890	2410	2380	1750
30	217	447	192	182	---	491	3460	1120	3460	2980	2480	1830
31	165	---	151	204	---	893	---	1330	---	3730	2680	---
TOTAL	23912	8315	7842	6726	5103	20056	65704	76860	75010	94400	91060	69920
MEAN	771	277	253	217	182	647	2190	2479	2500	3045	2937	2331
MAX	2670	546	549	477	376	1320	3800	3440	4280	3730	3680	3770
MIN	147	168	140	138	130	245	708	1120	1120	2410	1960	1380
AC-FT	47430	16490	15550	13340	10120	39780	130300	152500	148800	187200	180600	138700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY)

MEAN	1322	937	1387	1489	1525	2232	2913	2991	2706	2857	2413	1741
MAX	4693	2383	5327	5968	5292	6677	9873	11840	7644	6670	4715	5429
(WY)	1984	1983	1983	1984	1983	1983	1983	1983	1983	1983	1983	1983
MIN	107	35.9	115	76.8	97.8	230	921	262	595	664	606	305
(WY)	1978	1978	1989	1978	1989	1992	1992	1977	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1971 - 1993	
ANNUAL TOTAL	184110		544908			
ANNUAL MEAN	503		1493		2052	
HIGHEST ANNUAL MEAN					6186	1983
LOWEST ANNUAL MEAN					442	1992
HIGHEST DAILY MEAN	2670	Oct 14	4280	Jun 18	13800	May 26 1983
LOWEST DAILY MEAN	119	Feb 1	130	Feb 6	.45	Nov 2 1970
ANNUAL SEVEN-DAY MINIMUM	119	Feb 22	140	Feb 10	.61	Oct 29 1970
ANNUAL RUNOFF (AC-FT)	365200		1081000		1487000	
10 PERCENT EXCEEDS	954		3290		4400	
50 PERCENT EXCEEDS	400		1120		1760	
90 PERCENT EXCEEDS	125		169		216	

11290000 TUOLUMNE RIVER AT MODESTO, CA

LOCATION.--Lat 37°37'38", long 120°59'11", in SE 1/4 SW 1/4 sec.33, T.3 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank at bridge on Ninth Street in Modesto and 0.2 mi downstream from Dry Creek.

DRAINAGE AREA.--1,884 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is sea level (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 1,700 ft downstream at same datum; July 11, 1947, to Nov. 16, 1953, at site 1,000 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by reservoirs and powerplants upstream from station. Several major diversions for power, irrigation, and municipal supply upstream of station, including Modesto and Turlock Canals (stations 11289000 and 11289500). See REMARKS for Tuolumne River below La Grange Dam (station 11289650) and schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD (water years 1896, 1941-93).--Maximum discharge observed, 57,000 ft^3/s, Dec. 9, 1950, elevation, 69.19 ft; minimum daily, 56 ft^3/s, Aug. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,080 ft^3/s, Jan. 18, elevation, 49.27 ft; minimum daily, 99 ft^3/s, Oct. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	223	201	212	295	350	425	1660	334	348	294	1540
2	117	224	201	196	281	310	406	1680	313	332	319	1470
3	111	223	204	304	270	287	391	1760	309	329	293	1440
4	103	223	206	251	263	271	569	1680	365	346	297	1640
5	101	219	209	225	264	262	622	1630	422	375	291	1380
6	99	213	224	219	258	254	631	1610	450	331	376	1320
7	109	209	238	262	276	244	708	1620	467	339	401	1180
8	114	209	225	973	405	239	759	1650	479	359	311	1380
9	105	210	215	903	1440	236	701	1390	e395	345	313	1470
10	110	204	232	654	e1650	231	633	772	e405	362	291	1320
11	118	204	251	1200	e598	227	641	521	e415	380	393	1270
12	114	208	227	489	e410	224	651	481	e430	443	473	978
13	108	210	218	587	409	222	668	461	e520	e332	490	810
14	100	206	207	1800	353	219	674	392	e680	299	431	916
15	105	202	187	2020	325	216	670	359	e685	311	349	1070
16	109	203	187	765	305	216	685	342	e690	307	337	1180
17	111	206	197	665	292	238	698	328	e685	289	320	1250
18	164	207	192	2980	307	218	698	314	e650	308	319	1010
19	193	206	190	2620	370	230	718	305	e600	324	305	704
20	213	205	185	738	509	224	723	300	e710	309	306	587
21	230	204	183	735	539	216	775	303	e680	310	319	624
22	223	204	188	938	437	216	749	285	e670	291	314	676
23	217	204	187	707	356	237	725	285	474	286	313	603
24	236	205	184	484	391	265	725	315	393	296	339	586
25	240	206	187	418	409	278	826	348	377	303	461	600
26	228	209	186	379	352	494	1480	372	372	300	527	592
27	283	209	185	351	386	761	1700	325	350	295	612	588
28	228	209	213	333	440	466	1740	319	349	284	865	588
29	230	202	207	318	---	421	1700	312	367	282	1410	582
30	221	199	200	308	---	423	1640	302	351	290	1650	568
31	223	---	194	300	---	431	---	331	---	275	1620	---
TOTAL	4986	6265	6310	23334	12590	9126	24731	22752	14387	9980	15339	29922
MEAN	161	209	204	753	450	294	824	734	480	322	495	997
MAX	283	224	251	2980	1650	761	1740	1760	710	443	1650	1640
MIN	99	199	183	196	258	216	391	285	309	275	291	568
AC-FT	9890	12430	12520	46280	24970	18100	49050	45130	28540	19800	30420	59350

e Estimated.

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	878	1070	1612	1787	1861	1881	1791	1819	1570	585	335	526
MAX	4760	4124	8677	8054	7606	7658	9268	10420	7665	4244	2225	4041
(WY)	1984	1951	1951	1956	1969	1983	1983	1983	1942	1983	1983	1983
MIN	78.2	93.1	110	154	166	199	169	138	94.5	78.8	67.5	72.6
(WY)	1978	1978	1978	1991	1991	1961	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993		
ANNUAL TOTAL	78371		179722				
ANNUAL MEAN	214		492		1298		
HIGHEST ANNUAL MEAN					5518		1983
LOWEST ANNUAL MEAN					185		1989
HIGHEST DAILY MEAN	2100	Feb 16	2980	Jan 18	43800	Dec 9	1950
LOWEST DAILY MEAN	72	Aug 5	99	Oct 6	56	Aug 6	1977
ANNUAL SEVEN-DAY MINIMUM	84	Jul 30	106	Oct 4	62	Aug 2	1977
INSTANTANEOUS PEAK FLOW			5080	Jan 18	57000	Dec 9	1950
INSTANTANEOUS PEAK STAGE			49.27	Jan 18	69.19	Dec 9	1950
ANNUAL RUNOFF (AC-FT)	155400		356500		940300		
10 PERCENT EXCEEDS	297		1180		3340		
50 PERCENT EXCEEDS	187		325		615		
90 PERCENT EXCEEDS	98		201		179		

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.
CHEMICAL DATA: October 1992 to September 1993.
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURE: October 1988 to current year.
SEDIMENT DATA: October 1992 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Water year 1989 to current year.
WATER TEMPERATURE: Water year 1989 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Large variations between daily maximums and minimums may be caused by irrigation-return flow or urban runoff.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 587 microsiemens, Mar. 12, 1993; minimum recorded, 35 microsiemens, Apr. 29, 1989.
WATER TEMPERATURE: Maximum recorded, 34.5°C, July 3-5, 1991; minimum recorded, 3.5°C, several days during December 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 587 microsiemens, Mar. 12 minimum recorded, 45 microsiemens, May 1.
WATER TEMPERATURE: Maximum recorded, 30.0°C, July 1; minimum recorded, 8.0°C, Dec. 19, 20.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
14...	1030	102	320	7.8	19.5	760	8.5	93	--	--	--
JAN											
21...	1315	634	186	6.7	12.0	766	8.2	76	54	12	5.9
FEB											
25...	1130	410	201	7.1	13.5	764	11.4	109	61	13	7.0
MAR											
29...	1330	442	195	7.2	16.5	765	8.7	89	59	13	6.4
APR											
28...	1215	1740	63	7.1	13.0	765	10.2	97	23	5.0	2.5
MAY											
25...	1230	342	245	7.8	24.0	761	9.2	109	66	15	7.0
JUN											
23...	1215	463	96	7.6	--	761	10.6	--	32	7.2	3.3
JUL											
26...	1315	299	151	8.4	27.0	762	8.6	108	48	11	4.9
AUG											
24...	1320	329	139	8.1	27.0	755	8.8	111	--	--	--
SEP											
28...	1245	589	93	7.4	17.5	763	10.0	104	30	7.0	3.1

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

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

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
14...	--	--	--	--	117	0	96	--	--	--
JAN										
21...	11	--	0.6	--	62	0	51	8.3	13	0.10
FEB										
25...	30	--	2	--	96	0	79	8.0	16	0.10
MAR										
29...	11	27	0.6	3.7	77	0	63	6.3	15	0.10
APR										
28...	2.8	20	0.3	1.0	30	0	25	2.9	2.4	<0.10
MAY										
25...	15	32	0.8	2.8	87	0	72	7.5	16	0.10
JUN										
23...	5.5	26	0.4	1.4	--	--	[1]33	3.5	5.4	<0.10
JUL										
26...	10	31	0.6	1.1	57	--	47	4.6	11	<0.10
AUG										
24...	--	--	--	--	55	0	45	--	--	--
SEP										
28...	6.0	29	0.5	1.1	40	0	33	3.3	5.4	0.10

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
14...	--	--	--	--	--	--	--	--	--
JAN									
21...	22	135	--	--	0.040	1.40	0.310	1.2	0.90
FEB									
25...	13	--	--	--	0.040	0.970	0.080	0.60	0.40
MAR									
29...	19	120	117	0.16	0.030	0.700	0.320	0.90	0.80
APR									
28...	10	48	42	0.06	<0.010	0.190	0.020	<0.20	0.20
MAY									
25...	20	137	131	0.19	0.030	0.920	0.060	0.30	0.20
JUN									
23...	12	63	59	0.09	<0.010	0.250	0.020	<0.20	<0.20
JUL									
26...	16	94	89	0.13	0.010	0.410	0.040	0.20	<0.20
AUG									
24...	--	--	--	--	<0.010	0.310	0.030	0.60	<0.20
SEP									
28...	12	65	59	0.09	<0.010	0.310	0.040	0.20	<0.20

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

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

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
14...	--	--	--	--	--	--	--	--	--	--
JAN										
21...	0.350	0.240	0.230	40	200	28	--	--	--	--
FEB										
25...	0.130	0.080	0.090	40	45	8	<1	<1	--	--
MAR										
29...	0.220	0.160	0.160	30	110	21	<1	<1	48	1.0
APR										
28...	0.040	0.020	<0.010	20	46	8	--	--	4.4	0.8
MAY										
25...	0.180	0.150	0.150	40	57	24	1	<1	9.2	1.1
JUN										
23...	0.070	0.050	0.050	10	88	19	<1	<1	2.9	0.4
JUL										
26...	0.070	0.050	0.030	40	81	12	<1	<1	17	0.3
AUG										
24...	0.080	0.060	0.060	--	--	--	--	--	4.4	0.3
SEP										
28...	0.050	0.030	0.030	20	81	16	<1	<1	6.8	0.4

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN					
21...	1315	634	12.0	44	75
FEB					
25...	1130	410	13.5	28	31
MAR					
29...	1330	442	16.5	15	18
APR					
28...	1215	1740	13.0	13	61
MAY					
25...	1230	342	24.0	13	12
JUN					
23...	1215	463	--	7	8.8
JUL					
26...	1315	299	27.0	7	5.7
AUG					
24...	1320	329	27.0	20	18
SEP					
28...	1245	589	17.5	7	11

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	291	263	156	145	---	---	---	---	---	---	243	228
2	300	279	159	148	---	---	---	---	---	---	259	232
3	302	274	161	152	---	---	---	---	---	---	263	230
4	330	295	203	155	---	---	---	---	---	---	261	237
5	339	313	257	183	---	---	---	---	---	---	272	241
6	334	317	183	157	---	---	---	---	---	---	257	228
7	345	313	165	159	---	---	---	---	---	---	273	231
8	332	286	172	162	---	---	---	---	---	---	272	232
9	326	286	174	166	---	---	---	---	---	---	267	225
10	324	275	173	167	---	---	---	---	---	---	280	239
11	297	270	172	167	---	---	---	---	---	---	498	280
12	308	278	169	166	---	---	---	---	---	---	587	203
13	310	278	170	166	---	---	---	---	---	---	248	182
14	322	293	172	167	---	---	---	---	---	---	273	195
15	337	313	173	169	---	---	---	---	---	---	226	184
16	337	323	186	171	225	198	---	---	---	---	205	181
17	326	313	206	182	295	205	---	---	---	---	204	173
18	335	312	234	203	205	194	---	---	---	---	181	172
19	321	287	260	230	219	195	---	---	---	---	184	173
20	290	283	---	---	298	219	---	---	---	---	187	175
21	287	268	---	---	---	---	---	---	---	---	180	171
22	272	238	---	---	---	---	---	---	---	---	174	167
23	240	211	---	---	---	---	---	---	---	---	193	167
24	213	192	---	---	---	---	---	---	247	238	187	153
25	192	167	---	---	---	---	---	---	249	238	295	148
26	175	160	---	---	---	---	---	---	248	235	336	148
27	192	135	---	---	---	---	---	---	278	248	237	143
28	153	132	---	---	---	---	---	---	261	235	159	121
29	158	147	---	---	---	---	---	---	---	---	202	158
30	157	151	---	---	---	---	---	---	---	---	174	155
31	161	141	---	---	---	---	---	---	---	---	195	142
MONTH	345	132	---	---	---	---	---	---	---	---	587	121

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	186	142	74	45	128	96	---	---	---	---	---	---
2	184	148	104	74	130	103	---	---	---	---	---	---
3	211	169	125	104	135	113	---	---	---	---	---	---
4	169	135	140	125	136	132	---	---	---	---	---	---
5	145	100	151	136	133	111	---	---	---	---	---	---
6	102	69	159	149	111	103	---	---	---	---	---	---
7	89	70	159	155	107	95	---	---	---	---	---	---
8	70	54	157	148	97	88	---	---	---	---	---	---
9	59	53	148	62	119	82	---	---	---	---	---	---
10	65	55	65	58	---	---	---	---	---	---	---	---
11	66	60	66	59	---	---	---	---	---	---	---	---
12	64	59	76	62	---	---	---	---	---	---	---	---
13	68	59	157	65	---	---	---	---	---	---	---	---
14	68	64	156	64	---	---	---	---	---	---	---	---
15	74	64	189	118	---	---	---	---	---	---	---	---
16	75	69	193	76	---	---	---	---	---	---	---	---
17	97	75	212	90	---	---	---	---	---	---	---	---
18	88	73	211	163	---	---	---	---	---	---	---	---
19	81	73	217	178	---	---	---	---	---	---	---	---
20	78	75	213	198	---	---	---	---	---	---	---	---
21	78	73	202	161	---	---	---	---	---	---	---	---
22	74	70	177	142	---	---	---	---	---	---	---	---
23	83	74	211	157	---	---	---	---	---	---	---	---
24	82	74	316	210	---	---	---	---	---	---	---	---
25	79	74	307	221	---	---	---	---	---	---	---	---
26	76	64	298	187	---	---	---	---	---	---	---	---
27	71	61	187	152	---	---	---	---	---	---	---	---
28	65	57	172	99	---	---	---	---	---	---	---	---
29	72	63	140	95	---	---	---	---	---	---	---	---
30	80	52	164	118	---	---	---	---	---	---	---	---
31	---	---	169	100	---	---	---	---	---	---	---	---
MONTH	211	52	316	45	---	---	---	---	---	---	---	---

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	25.0	21.5	19.0	16.5	12.5	10.5	---	---	---	---	15.0	12.0
2	24.0	20.0	19.0	16.5	11.0	10.5	---	---	---	---	16.0	12.5
3	23.5	19.0	18.5	16.5	12.5	11.0	---	---	---	---	17.5	13.5
4	23.5	18.5	18.0	15.5	11.5	10.5	---	---	---	---	18.0	14.0
5	24.0	18.5	18.5	16.0	11.0	10.0	---	---	---	---	18.5	14.0
6	24.0	19.0	18.5	15.5	11.5	10.5	---	---	---	---	19.5	15.0
7	24.0	19.0	18.0	15.5	12.0	11.5	---	---	---	---	20.5	15.5
8	24.5	19.0	17.0	15.0	11.5	11.0	---	---	---	---	21.5	17.0
9	24.0	19.0	16.0	14.0	12.0	11.0	---	---	---	---	20.5	17.5
10	24.5	19.0	15.0	13.0	13.0	12.0	---	---	---	---	21.5	16.5
11	24.5	19.5	14.5	12.0	13.0	11.5	---	---	---	---	21.5	17.0
12	24.5	19.5	14.5	12.0	12.0	11.0	---	---	---	---	21.5	17.5
13	24.0	19.0	14.0	11.5	11.5	10.5	---	---	---	---	22.5	18.0
14	23.0	18.5	14.0	11.5	11.5	10.5	---	---	---	---	21.0	18.0
15	22.0	17.5	14.0	11.5	11.0	10.0	---	---	---	---	20.5	17.0
16	22.0	18.0	14.0	12.0	10.5	9.5	---	---	---	---	19.5	17.5
17	22.0	17.5	15.0	12.5	10.5	9.5	---	---	---	---	21.0	17.5
18	21.5	18.0	14.5	12.5	10.0	8.5	---	---	---	---	22.0	17.5
19	22.0	18.0	13.0	12.5	9.5	8.0	---	---	---	---	21.0	17.0
20	22.0	18.5	13.5	12.0	9.5	8.0	---	---	---	---	22.0	17.0
21	21.5	19.5	13.0	11.5	---	---	---	---	---	---	22.5	17.0
22	21.0	18.5	13.0	12.0	---	---	---	---	---	---	23.0	17.5
23	20.5	17.5	12.5	11.0	---	---	---	---	---	---	19.5	17.5
24	20.0	18.0	12.0	10.5	---	---	---	---	14.0	12.0	19.0	17.0
25	20.5	18.0	13.0	11.0	---	---	---	---	14.0	12.5	17.5	17.0
26	20.5	18.0	12.5	11.0	---	---	---	---	13.0	12.0	17.0	15.5
27	19.0	18.0	13.5	11.5	---	---	---	---	14.5	11.5	16.0	15.0
28	18.5	18.0	13.0	11.5	---	---	---	---	14.0	12.0	16.0	15.0
29	18.0	17.0	12.5	10.5	---	---	---	---	---	---	16.5	15.0
30	18.0	17.0	12.5	10.5	---	---	---	---	---	---	18.5	15.0
31	18.5	16.0	---	---	---	---	---	---	---	---	18.5	16.0
MONTH	25.0	16.0	19.0	10.5	---	---	---	---	---	---	23.0	12.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.5	16.5	15.5	14.0	26.5	21.0	30.0	24.5	---	---	---	---
2	18.5	15.5	15.0	14.0	26.0	20.5	---	---	---	---	---	---
3	18.5	16.0	14.5	13.5	25.5	20.5	---	---	---	---	---	---
4	18.0	16.5	14.5	13.0	22.0	20.5	---	---	---	---	---	---
5	16.5	15.0	14.5	12.5	22.5	19.5	---	---	---	---	---	---
6	16.0	14.0	15.0	13.5	20.5	18.5	---	---	---	---	---	---
7	17.0	14.5	15.0	13.5	22.0	18.5	---	---	---	---	---	---
8	17.0	15.5	14.5	13.0	23.5	19.0	---	---	---	---	---	---
9	17.0	15.5	15.5	13.0	23.5	20.5	---	---	---	---	---	---
10	16.5	14.5	18.0	14.5	22.5	21.0	---	---	---	---	---	---
11	16.0	14.0	18.0	16.5	22.5	20.5	---	---	---	---	---	---
12	16.0	13.5	19.5	16.0	23.5	21.0	---	---	---	---	---	---
13	15.5	13.5	21.0	17.5	24.0	21.0	---	---	---	---	---	---
14	16.0	14.0	23.0	18.0	24.0	22.0	---	---	---	---	---	---
15	17.0	14.5	22.0	18.5	23.5	21.5	---	---	---	---	---	---
16	15.5	14.5	24.5	18.5	22.5	20.0	---	---	---	---	---	---
17	15.0	14.0	24.5	20.0	22.5	20.0	---	---	---	---	---	---
18	15.5	13.5	25.0	19.5	23.0	20.5	---	---	---	---	---	---
19	15.5	13.0	27.0	20.5	23.5	20.5	---	---	---	---	---	---
20	16.5	14.0	25.5	22.0	23.5	20.5	---	---	---	---	---	---
21	17.0	15.0	26.0	20.5	22.0	20.0	---	---	---	---	---	---
22	17.0	14.5	27.0	20.5	20.5	18.5	---	---	---	---	---	---
23	16.0	15.0	27.5	21.5	22.5	19.0	---	---	---	---	---	---
24	17.0	14.5	25.0	21.5	24.5	19.5	---	---	---	---	18.0	16.5
25	17.0	15.0	24.0	21.0	26.5	21.5	---	---	---	---	18.0	16.5
26	16.0	14.0	24.5	21.0	28.0	23.0	---	---	---	---	18.5	16.5
27	14.5	13.0	24.0	21.0	29.0	24.0	---	---	---	---	18.5	17.0
28	14.5	13.0	25.5	20.5	28.0	23.5	---	---	---	---	18.5	17.0
29	15.0	13.5	26.5	20.5	28.0	23.0	---	---	---	---	18.5	17.0
30	15.5	14.0	24.5	22.0	29.0	24.0	---	---	---	---	19.0	17.5
31	---	---	25.0	21.5	---	---	---	---	---	---	---	---
MONTH	18.5	13.0	27.5	12.5	29.0	18.5	---	---	---	---	---	---

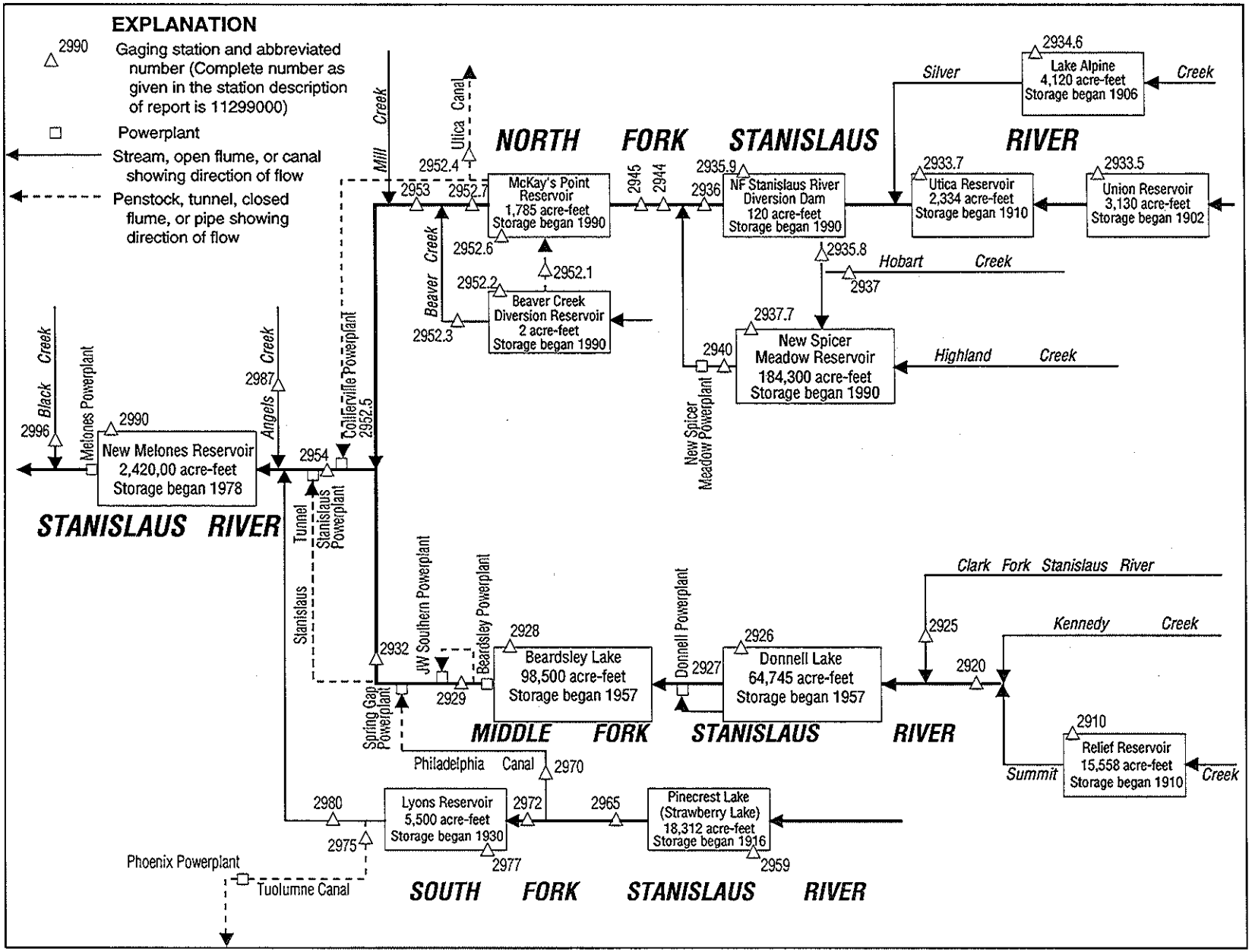

Figure 34. Diversions and storage in Stanislaus River basin.

11291000 RELIEF RESERVOIR NEAR BAKER STATION, CA

LOCATION.--Lat 38°16'52", long 119°43'57", in NW 1/4 SW 1/4 sec.13, T.5 N., R.20 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on dam near spillway, 2.2 mi south of Kennedy Meadows, 3.6 mi southeast of Baker Station, and 7.0 mi southeast of Dardanelle.

DRAINAGE AREA.--24.4 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Prior to Dec. 9, 1991, nonrecording gage observed approximately weekly. Datum of gage is 7,200 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam completed in 1910. Usable capacity, 12,348 acre-ft between gage height -1.37 ft, invert of outlet, and 123 ft, spillway crest. Flashboards are added in the summer months, increasing gage height to 138 ft and usable capacity to 15,550 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric 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, 15,622 acre-ft, July 25, 1993, gage height, 138.31 ft; minimum observed, 33 acre-ft, Jan. 12, 1987, gage height, 6.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,622 acre-ft, July 25, gage height, 138.31 ft; minimum, 1,122 acre-ft, Apr. 19, gage height, 44.17 ft.

Capacity table (gage height, in feet, and contents, in acre-ft)
(Based on survey by Pacific Gas & Electric Co. in 1942)

10	53	50	1605	90	6579
20	105	60	2632	100	8105
30	308	70	3763	120	11895
40	842	80	5105	140	16012

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2066	1869	2057	1594	1600	1410	1664	3075	14435	15488	15559	11767
2	2055	1898	2035	1583	1588	1397	1615	3478	14639	15518	15592	11588
3	2041	e1918	2006	1571	1576	1391	1574	3802	14802	15438	15583	11396
4	2027	e1954	1983	1556	1564	1380	1535	3921	15024	15450	15566	11191
5	2014	e1989	1957	1539	1556	1375	1482	4025	15082	15497	15587	10977
6	2003	e2028	1948	1534	1544	1374	1416	4201	15035	15516	15557	10656
7	1987	e2067	1929	1587	1535	1380	1356	4332	15006	15516	15520	10395
8	1972	e2106	1917	1604	1531	1393	1321	4478	15016	15512	15503	10098
9	1959	e2147	1912	1608	1525	1405	1304	4721	15121	15509	15501	9829
10	1947	2165	1902	1614	1514	1416	1284	5155	15261	15509	15514	9595
11	1933	2166	1896	1609	1508	1431	1264	5681	15278	15512	15495	9361
12	1919	2166	1878	1610	1495	1454	1239	6142	15264	15501	15442	9127
13	1906	2165	1859	1615	1486	1487	1205	6454	15312	15474	15301	8882
14	1890	2165	1844	1619	1477	1548	1178	6738	15482	15437	15145	8643
15	1878	2165	1824	1625	1465	1584	1178	7034	15473	15455	14988	8403
16	1865	2165	1806	1624	1454	1637	1187	7434	15448	15418	14818	8168
17	1850	2162	1795	1625	1447	1849	1178	7999	15419	15398	14641	7950
18	1837	2157	1775	1622	1448	1969	1148	8761	15423	15455	14468	7748
19	1822	2153	1757	1614	1453	2050	1122	9448	15397	15493	14285	7553
20	1810	2148	1741	1617	1459	2119	1141	10230	15393	15550	14098	7349
21	1801	2143	1722	1640	1462	2193	1248	10915	15307	15537	13918	7152
22	1788	2140	1704	1664	1460	2223	1379	11375	15264	15557	13750	6954
23	1775	2135	1685	1669	1464	2205	1462	11841	15276	15601	13582	6765
24	1765	2129	1666	1668	1459	2186	1498	12451	15318	15601	13421	6559
25	1754	2123	1650	1664	1454	2135	1554	12809	15366	15622	13219	6351
26	1742	2118	1630	1656	1444	2065	1669	12773	15391	15566	13051	6142
27	1734	2113	1615	1650	1434	1985	1824	12823	15474	15557	12852	5939
28	1733	2107	1609	1640	1422	1900	2036	12957	15404	15552	12651	5732
29	1769	2097	1608	1634	---	1813	2333	13145	15358	15557	12443	5535
30	1800	2080	1603	1622	---	1745	2706	13506	15421	15535	12220	5336
31	1821	---	1592	1611	---	1690	---	14119	---	15533	11962	---
MAX	2066	2166	2057	1669	1600	2223	2706	14119	15482	15622	15592	11767
MIN	1733	1869	1592	1534	1422	1374	1122	3075	14435	15398	11962	5336
a	52.38	55.01	49.86	50.07	47.95	50.96	60.72	130.81	137.32	137.91	120.29	81.66
b	-259	+259	-488	+19	-189	+268	+1016	+11413	+1302	+112	-3571	-6626

CAL YR 1992 MAX 12887 MIN 1010 b +148
WTR YR 1993 MAX 15622 MIN 1122 b +3256

e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11292000 MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CA

LOCATION.--Lat 38°17'51", long 119°44'25", in SW 1/4 NE 1/4 sec.11, T.5 N., R.20 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at upper end of Kennedy Meadows, 1.3 mi upstream from Deadman Creek, 1.6 mi downstream from Relief Reservoir, and 5.8 mi southwest of Dardanelle.

DRAINAGE AREA.--47.5 mi^2.

PERIOD OF RECORD.--October 1938 to current year. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1960, published as "at Kennedy Meadows."

REVISED RECORDS.--WSP 1315-A: 1939(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,326.3 ft above sea level.

REMARKS.--No estimated daily discharges. Low and medium flow regulated by Relief Reservoir (station 11291000) 1.6 mi upstream. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 1,700 ft^3/s, Nov. 20, 1950, gage height, 6.66 ft; maximum gage height, 6.67 ft, May 29, 1983; minimum daily, 7.1 ft^3/s, Jan. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 802 ft^3/s, June 20, gage height, 5.34 ft; minimum daily, 18 ft^3/s, many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	25	27	34	33	32	143	282	365	510	201	159
2	19	26	27	35	33	32	141	289	331	580	203	157
3	20	27	27	36	33	33	142	308	309	560	215	157
4	20	26	27	32	33	35	144	288	315	488	203	160
5	19	26	25	30	35	36	141	271	321	498	191	166
6	19	25	26	30	36	39	133	283	292	528	181	165
7	19	25	28	44	37	42	129	280	281	548	164	162
8	18	25	28	44	38	44	134	279	285	520	140	159
9	18	24	34	40	38	46	140	295	301	471	119	157
10	18	23	33	38	38	47	144	341	422	431	116	156
11	18	22	30	36	37	48	146	381	550	402	126	154
12	18	22	29	33	35	50	146	383	536	400	156	153
13	18	22	25	35	34	53	142	346	541	381	170	151
14	18	22	23	37	34	59	139	334	637	348	177	149
15	18	21	27	36	33	61	139	337	699	301	177	144
16	18	21	32	36	33	59	144	347	634	256	171	142
17	18	21	30	36	33	113	145	413	564	213	168	141
18	18	21	30	35	34	121	144	486	597	195	167	140
19	18	20	29	34	40	101	139	492	652	214	167	138
20	18	19	28	33	37	90	140	483	717	241	165	136
21	18	19	28	42	34	87	157	475	677	242	163	135
22	18	21	28	55	33	105	178	462	551	216	161	133
23	18	20	28	45	33	162	185	460	508	236	162	133
24	18	19	28	39	35	172	175	505	548	273	162	132
25	18	20	28	37	35	155	171	579	617	293	161	131
26	18	19	28	36	34	146	178	595	631	311	158	129
27	18	20	28	35	33	137	197	484	651	264	155	128
28	20	19	28	35	32	132	219	373	635	259	153	127
29	28	18	25	35	---	128	244	338	524	246	153	126
30	30	21	25	34	---	129	270	327	464	241	153	126
31	28	---	26	34	---	132	---	395	---	217	160	---
TOTAL	601	659	865	1141	973	2626	4789	11911	15155	10883	5118	4346
MEAN	19.4	22.0	27.9	36.8	34.7	84.7	160	384	505	351	165	145
MAX	30	27	34	55	40	172	270	595	717	580	215	166
MIN	18	18	23	30	32	32	129	271	281	195	116	126
AC-FT	1190	1310	1720	2260	1930	5210	9500	23630	30060	21590	10150	8620

11292000 MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	78.9	47.7	40.2	30.2	28.7	42.6	92.7	311	436	234	119	126
MAX	226	372	266	85.0	89.0	155	247	626	949	669	328	272
(WY)	1983	1951	1951	1951	1982	1980	1943	1969	1983	1983	1983	1983
MIN	10.4	9.85	10.0	9.23	8.81	12.6	23.7	28.0	68.1	43.1	24.9	12.2
(WY)	1967	1978	1960	1960	1991	1948	1975	1977	1977	1939	1961	1981

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1939 - 1993	
ANNUAL TOTAL	25883		59067			
ANNUAL MEAN	70.7		162		133	
HIGHEST ANNUAL MEAN					256	1983
LOWEST ANNUAL MEAN					36.4	1977
HIGHEST DAILY MEAN	391	May 9	717	Jun 20	1360	May 29 1983
LOWEST DAILY MEAN	16	Feb 3	18	Oct 8	7.1	Jan 14 1977
ANNUAL SEVEN-DAY MINIMUM	17	Jan 29	18	Oct 8	7.5	Feb 21 1991
INSTANTANEOUS PEAK FLOW			802	Jun 20	1700	Nov 20 1950
INSTANTANEOUS PEAK STAGE			5.34	Jun 20	6.67	May 29 1983
ANNUAL RUNOFF (AC-FT)	51340		117200		96020	
10 PERCENT EXCEEDS	150		467		356	
50 PERCENT EXCEEDS	36		129		57	
90 PERCENT EXCEEDS	18		20		15	

11292500 CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CA

LOCATION.--Lat 38°21'50", long 119°52'13", in NE 1/4 NE 1/4 sec.22, T.6 N., R.19 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi upstream from mouth and 2.6 mi northwest of Dardanelle.

DRAINAGE AREA.--67.5 mi^2.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,507.3 ft above sea level (river-profile survey).

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft^3/s, Nov. 20, 1950, gage height, 11.88 ft, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 9.8 ft^3/s, Sept. 11-15, 26-30, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 23	2200	*1,090	*6.45				

Minimum daily, 15 ft^3/s, several days in October.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	27	28	e32	29	30	176	577	707	592	107	47
2	17	32	20	e31	29	31	153	608	655	611	106	46
3	17	31	18	e28	29	34	158	601	610	555	104	45
4	16	25	20	e28	29	34	174	487	636	519	99	44
5	16	26	29	e32	32	37	159	461	566	501	96	44
6	16	25	25	e42	31	44	143	509	473	501	92	43
7	16	27	23	e39	32	52	144	480	443	495	89	43
8	16	25	e36	e35	34	57	166	507	456	462	84	42
9	16	21	e39	e32	34	60	186	561	491	425	79	40
10	15	19	e40	e31	32	59	189	693	598	388	78	39
11	15	21	e39	e28	32	65	195	776	676	359	76	39
12	15	21	e30	e38	31	71	193	774	681	337	74	39
13	15	20	e35	e39	32	82	184	700	729	313	71	38
14	15	20	e38	e35	31	107	183	683	825	283	69	38
15	15	20	e40	e40	31	97	203	693	873	250	67	37
16	15	20	e39	e39	31	92	215	738	816	216	67	37
17	15	20	e30	e37	31	226	200	844	764	198	65	37
18	15	19	e32	e35	32	196	190	924	783	191	62	37
19	16	19	e33	e37	37	161	181	940	841	186	60	37
20	15	19	e35	e39	35	153	206	955	816	178	59	37
21	18	33	e36	e43	41	161	262	925	732	170	57	37
22	18	23	e40	e40	37	180	315	870	673	160	56	37
23	16	20	e45	e44	32	191	298	910	659	166	55	36
24	16	30	e45	e50	33	193	257	947	668	163	54	36
25	17	20	e45	e55	32	168	266	906	704	160	53	35
26	17	19	e45	e56	30	150	301	816	750	155	52	34
27	17	20	e44	e52	31	134	356	760	757	139	51	33
28	22	20	e36	e50	30	127	407	676	702	135	49	33
29	38	19	e30	e45	---	123	510	641	607	127	48	32
30	37	33	e28	44	---	136	552	690	575	121	47	32
31	27	---	e32	30	---	152	---	782	---	112	47	---
TOTAL	554	694	1055	1206	900	3403	7122	22434	20266	9168	2173	1154
MEAN	17.9	23.1	34.0	38.9	32.1	110	237	724	676	296	70.1	38.5
MAX	38	33	45	56	41	226	552	955	873	611	107	47
MIN	15	19	18	28	29	30	143	461	443	112	47	32
AC-FT	1100	1380	2090	2390	1790	6750	14130	44500	40200	18180	4310	2290

e Estimated.

11292500 CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.1	50.2	62.0	55.7	63.5	87.9	199	467	484	194	58.5	35.5
MAX	127	440	447	208	196	289	378	1018	1330	862	298	106
(WY)	1983	1951	1951	1980	1982	1986	1989	1969	1983	1983	1983	1983
MIN	12.1	19.6	16.7	19.0	16.7	25.9	71.3	78.6	73.3	23.0	12.7	10.2
(WY)	1978	1991	1977	1977	1991	1977	1977	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1951 - 1993	
ANNUAL TOTAL	23561		70129			
ANNUAL MEAN	64.4		192		149	
HIGHEST ANNUAL MEAN					335	1983
LOWEST ANNUAL MEAN					36.5	1977
HIGHEST DAILY MEAN	354	May 7	955	May 20	2600	Nov 20 1950
LOWEST DAILY MEAN	15	Sep 22	15	Oct 1	9.8	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	15	Oct 10	15	Oct 10	9.8	Sep 24 1977
INSTANTANEOUS PEAK FLOW			1090	May 23	4350	Nov 20 1950
INSTANTANEOUS PEAK STAGE			6.45	May 23	11.88	Nov 20 1950
ANNUAL RUNOFF (AC-FT)	46730		139100		108200	
10 PERCENT EXCEEDS	175		676		425	
50 PERCENT EXCEEDS	32		47		53	
90 PERCENT EXCEEDS	16		20		22	

11292600 DONNELL LAKE NEAR DARDANELLE, CA

LOCATION.--Lat 38°19'46", long 119°57'37", unsurveyed, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 mi downstream from Niagara Creek, and 6.9 mi west of Dardanelle.
DRAINAGE AREA.--230 mi^2.

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1960, published as Donnells Reservoir near Dardanelle.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 4.84 ft above sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 64,745 acre-ft, between gage heights 4,720.0 ft, minimum operating head, and 4,917.0 ft, top of spillway gates. Lake is for power and conservation storage. Water passes through a 7.2-mi tunnel to a powerplant and down the Middle Fork Stanislaus River to Beardsley Lake (station 11292800). Records, including extremes, represent total contents at 2400 hours, of which 2,150 acre-ft is below minimum operating head. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,900 acre-ft, May 8, 1963, gage height, 4,917.3 ft; minimum since reservoir first filled, 2,220 acre-ft, Apr. 15, 1983, gage height, 4,720.6 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,000 acre-ft, on several days in May through July, maximum gage height, 4,915.21 ft, May 31; minimum, 2,690 acre-ft, Mar. 16, gage height, 4,723.96 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Oct. 1, 1956)

4,720	2,150	4,740	5,830	4,780	16,200	4,850	38,700
4,725	2,850	4,750	8,220	4,790	19,100	4,880	49,800
4,730	3,730	4,760	10,800	4,800	22,100	4,917.3	64,900
4,735	4,730	4,770	13,400	4,820	28,400		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12000	10100	9520	8830	7760	7220	7800	28100	63700	63100	61000	50300
2	11600	10300	9600	8920	7520	6980	7800	31200	63500	63500	60800	49700
3	11600	10400	9690	8870	7290	6730	7850	34000	63400	63400	60700	49100
4	11700	10500	9760	8080	7000	6440	8080	36100	63800	63300	60600	48500
5	11300	10600	9820	7480	7060	5980	8160	38000	63900	63400	60300	48900
6	10800	10800	9940	7140	7350	6320	8020	40300	63700	63800	60000	48400
7	10400	10900	10000	7490	7650	6890	7860	42500	63600	63800	59600	48100
8	10000	11000	10200	7820	7540	6570	7920	44700	63800	63600	59300	47600
9	9530	10900	10300	8050	7610	6180	8200	47300	64000	63400	58800	46900
10	9540	10500	10500	8270	7030	5810	8490	50600	63900	63400	58300	46300
11	9600	10100	10600	8220	7070	5450	8820	54800	63800	63500	57900	45700
12	9340	9850	10700	8290	7360	4650	9080	58900	63400	63700	57400	45900
13	9370	9640	10800	7800	7630	3960	9210	61000	63400	63900	57000	45400
14	9420	9500	10900	7410	7890	3730	9290	61000	63600	64000	56600	44800
15	9470	9590	11000	7640	7920	3300	9600	61000	63300	64000	56300	44100
16	9500	9420	11100	7900	7800	2690	10200	61200	62800	63900	55800	43400
17	9550	9250	10900	8140	7540	4750	10600	61800	62700	63700	55300	42800
18	9600	9090	10100	8130	7280	5750	10800	62700	63200	63500	54800	42100
19	9650	8940	10200	7760	6970	6050	10900	63400	63700	63300	54300	42100
20	9230	8730	10300	7550	7220	6140	11200	63600	63500	63200	53800	41500
21	9270	8770	9800	7820	7530	6300	12000	63200	63100	63000	54200	40800
22	9330	8870	9080	8480	7090	6630	13200	62700	63000	62800	54700	40400
23	9380	8950	8430	9150	6620	7150	14500	62800	62900	62600	54300	39700
24	9430	9010	8490	9630	6340	7920	15000	63300	63000	62500	53800	39000
25	9480	9090	8600	9090	6610	8290	16000	63800	63200	62500	53300	38200
26	9340	9160	8700	8290	6870	8370	17200	63700	63100	62600	52700	38500
27	9370	9240	8770	8020	7110	8240	18500	63300	62900	62400	52200	37800
28	9450	9320	8520	7910	7360	8000	20300	63200	62800	62200	51700	37000
29	9650	9380	8620	7510	---	7720	22500	63000	62900	62200	52100	36300
30	9890	9420	8670	7760	---	7560	25200	63100	62800	61900	51500	35500
31	10000	---	8720	8020	---	7520	---	64000	---	61500	50900	---
MAX	12000	11000	11100	9630	7920	8370	25200	64000	64000	64000	61000	50300
MIN	9230	8730	8430	7140	6340	2690	7800	28100	62700	61500	50900	35500
a	4757.10	4754.77	4752.00	4749.21	4746.49	4747.16	4810.04	4915.21	4912.35	4909.14	4882.85	4841.04
b	-2700	-580	-700	-700	-660	+160	+17700	+38800	-1200	-1300	-10600	-15400

CAL YR 1992 b -2780
WTR YR 1993 b +22800

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA

LOCATION.--Lat 38°14'50", long 120°02'01", in NW 1/4 NE 1/4 sec.31, T.5 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 200 ft upstream from Donnell Powerplant, 800 ft downstream from Hells Half Acre bridge, 1.1 mi upstream from Cow Creek, and 4.7 mi northwest of Pinecrest.

DRAINAGE AREA.--287 mi^2.

PERIOD OF RECORD.--February 1956 to current year. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre bridge.
WATER TEMPERATURE: Water years 1966-71 and 1973-78.

GAGE.--Water-stage recorder. Datum of gage is 3,418.31 ft above sea level (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Relief Reservoir (station 11291000), Donnell Lake (station 11292600) since April 1957, and diversion around station through Donnell Powerplant. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Dec. 24, 1964, gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurement at gage height 12.20 ft; minimum daily, 3.3 ft^3/s, Nov. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, 23 ft, Dec. 23, 1955, from floodmarks, at present site, discharge, 26,600 ft^3/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,960 ft^3/s, May 20, gage height, 8.87 ft; minimum daily, 20 ft^3/s, for several days during October and December.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	28	20	33	111	125	577	701	1900	812	33	39
2	21	26	20	31	109	128	496	706	1560	799	32	39
3	20	25	20	30	108	142	476	666	1280	1080	32	39
4	20	24	20	30	106	147	548	583	1250	956	35	39
5	20	24	20	29	116	153	519	538	1460	686	35	39
6	20	24	24	33	121	183	433	549	1230	612	34	39
7	20	23	34	103	124	214	418	523	994	780	34	39
8	20	23	27	126	157	238	454	511	905	887	33	38
9	20	23	68	85	185	252	507	539	994	679	33	38
10	22	23	53	68	154	262	511	622	1370	495	33	38
11	22	23	55	56	151	273	497	650	1750	380	33	38
12	22	23	39	54	138	287	467	593	1850	270	36	38
13	22	23	34	95	132	321	422	981	1740	194	36	37
14	22	22	33	127	126	486	407	2020	1910	175	36	38
15	22	22	32	98	122	449	455	2080	2310	149	36	40
16	22	22	31	119	119	389	470	2070	2240	71	36	41
17	22	22	32	109	118	1460	456	2220	1710	39	36	41
18	22	22	31	95	137	1040	510	2430	1410	37	36	41
19	22	22	29	83	263	703	440	2590	1590	35	35	41
20	22	21	29	141	205	615	456	2800	2010	34	34	40
21	24	21	29	413	169	611	523	2860	1870	33	34	41
22	23	22	28	645	152	632	568	2730	1400	33	34	40
23	23	22	28	287	155	642	533	2470	1220	39	34	40
24	23	22	28	199	147	1000	448	2390	1210	39	34	40
25	22	22	28	164	135	813	459	2590	1340	38	34	39
26	22	21	28	147	131	712	504	2530	1570	37	35	39
27	22	21	28	139	127	558	546	2230	1650	37	39	39
28	22	21	31	132	125	484	580	1680	1510	36	39	39
29	31	21	40	127	---	447	657	1470	1140	35	39	39
30	40	21	34	121	---	452	711	1460	929	35	39	39
31	37	---	32	115	---	479	---	1650	---	34	39	---
TOTAL	713	679	985	4034	3943	14697	15048	48432	45302	9566	1088	1177
MEAN	23.0	22.6	31.8	130	141	474	502	1562	1510	309	35.1	39.2
MAX	40	28	68	645	263	1460	711	2860	2310	1080	39	41
MIN	20	21	20	29	106	125	407	511	905	33	32	37
AC-FT	1410	1350	1950	8000	7820	29150	29850	96060	89860	18970	2160	2330

11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.7	47.1	84.8	122	153	195	283	822	935	236	44.2	34.5
MAX	184	305	814	630	986	738	808	3144	4512	1885	320	72.8
(WY)	1983	1984	1965	1980	1986	1986	1986	1969	1983	1983	1983	1983
MIN	12.6	7.09	8.69	13.9	12.4	13.0	19.9	29.9	16.7	12.5	11.5	12.1
(WY)	1978	1958	1959	1961	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1958 - 1993	
ANNUAL TOTAL	18994		145664			
ANNUAL MEAN	51.9		399		249	
HIGHEST ANNUAL MEAN					868	1983
LOWEST ANNUAL MEAN					18.4	1977
HIGHEST DAILY MEAN	234	Apr 13	2860	May 21	7410	Dec 24 1964
LOWEST DAILY MEAN	20	Sep 19	20	Oct 3	3.3	Nov 9 1957
ANNUAL SEVEN-DAY MINIMUM	20	Oct 3	20	Oct 3	3.7	Nov 7 1957
INSTANTANEOUS PEAK FLOW			2960	May 20	10200	Dec 24 1964
INSTANTANEOUS PEAK STAGE			8.87	May 20	13.64	Dec 24 1964
ANNUAL RUNOFF (AC-FT)	37670		288900		180700	
10 PERCENT EXCEEDS	123		1400		577	
50 PERCENT EXCEEDS	30		98		47	
90 PERCENT EXCEEDS	21		22		19	

11292800 BEARDSLEY LAKE NEAR STRAWBERRY, CA

LOCATION.--Lat 38°12'17", long 120°04'31", in SE 1/4 NW 1/4 sec.14, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 mi upstream from Spring Gap Powerplant, 3.9 mi west of Strawberry, and 4.7 mi west of Pinecrest.
DRAINAGE AREA.--309 mi^2.

PERIOD OF RECORD.--June 1957 to current year. Prior to October 1960, published as Lake Hartley near Strawberry.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Reservoir is formed by rockfill, earth-core dam completed in 1957. Capacity, 98,500 acre-ft between gage heights 3,145.0 ft, tunnel invert, and 3,398.0 ft, top of spillway gates. No dead storage. Reservoir is used for power and conservation storage. Water passes through Beardsley Powerplant, is diverted at Beardsley Afterbay to J.W. Southern Powerplant at Sand Bar Flat on the Middle Fork Stanislaus River, and diverted again at Spring Gap Powerplant to Stanislaus Powerplant at the head of New Melones Reservoir (station 11299000). Records, including extremes, represent contents at 2400 hours. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,700 acre-ft, June 27, 1957, gage height, 3,398.2 ft; minimum since reservoir first filled, 3 acre-ft, Sept. 23, 1976, gage height, 3,154.4 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 97,600 acre-ft, July 29 to Aug. 1, gage height, 3,396.77 ft; minimum, 20,200 acre-ft, Feb. 14, gage height, 3,261.78 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Oct. 3, 1956)

3,154	2	3,200	2,370	3,290	33,100
3,160	41	3,210	3,790	3,320	48,800
3,170	267	3,220	5,720	3,350	66,400
3,180	693	3,240	11,600	3,370	79,200
3,190	1,370	3,260	19,500	3,398	98,500

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31200	28700	29100	24200	22800	20900	64200	97100	97100	96400	97600	91800
2	31300	28700	28500	24100	22700	21000	65700	97100	96900	96500	97500	91800
3	31200	28600	28000	23800	22600	21200	67400	96900	96800	96600	97300	91700
4	31100	28500	27700	24200	22600	21300	68900	96800	96900	96700	97100	91700
5	31200	28400	27600	24500	22300	21800	70300	96700	97200	96800	97000	90700
6	31200	28400	27600	24700	21800	21500	71600	96700	97300	97000	96800	90700
7	31100	28300	27400	24300	21200	21100	72800	96600	97200	97100	96700	90400
8	31000	28300	26900	24000	21300	21900	74100	96600	97200	97200	96500	90400
9	31200	28400	26700	23800	21400	22600	75500	96600	97100	97200	96300	90400
10	31100	28800	26400	23500	21900	23400	76800	96800	97100	97200	96100	90500
11	31000	29200	26300	23200	21700	24200	78200	97000	97100	97100	95900	90500
12	31200	29500	26300	22500	21200	25600	79300	97100	97000	97000	95800	89500
13	31100	29700	26200	22700	20700	26900	80500	96800	96900	97100	95600	89500
14	31100	29800	25900	22800	20200	28700	81700	97000	97000	97400	95500	89600
15	31000	29800	25200	22200	20300	30400	82900	97000	97000	97500	95200	89600
16	30900	30000	24700	21600	20600	31900	84000	97000	96800	97500	95100	89700
17	30800	30300	24600	21000	20900	35600	85200	97300	96800	97400	95100	89700
18	30700	30600	24900	20700	21200	38400	86400	97400	96800	97500	95100	89800
19	30600	30800	24700	20500	22000	40500	87600	97400	97200	97500	95100	89200
20	30800	31000	24400	20600	21900	42300	88800	97400	97200	97500	95000	89200
21	30100	31000	24600	21300	21600	44200	90200	97100	96600	97500	94100	89300
22	29400	30800	24800	22600	22100	46100	91700	96700	96300	97500	93100	89000
23	29000	30700	25000	22600	22500	48000	92700	96100	96200	97500	92900	89100
24	28900	30600	24600	22400	22700	50800	93600	96000	96100	97500	92900	89200
25	28800	30500	24300	23000	22400	53200	94400	96400	96100	97500	92900	89200
26	29000	30200	24000	23700	21900	55200	95400	96600	96200	97200	92900	88300
27	28900	30100	23800	23700	21500	56800	96400	96500	96200	97200	92900	88300
28	28800	30100	24000	23700	21000	58300	96900	96400	96300	97200	92800	88400
29	28800	30000	24100	23900	---	59700	97100	96500	96300	97600	91800	88400
30	28800	29600	24100	23400	---	61000	97100	96500	96300	97600	91800	88500
31	28800	---	24100	22800	---	62500	---	96900	---	97600	91800	---
MAX	31300	31000	29100	24700	22800	62500	97100	97400	97300	97600	97600	91800
MIN	28800	28300	23800	20500	20200	20900	64200	96000	96100	96400	91800	88300
a	3280.95	3282.69	3270.69	3267.75	3263.57	3343.64	3396.01	3395.75	3394.93	3396.75	3388.55	3383.87
b	-2200	+800	-5500	-1300	-1800	+41500	+34600	-200	-600	+1300	-5800	-3300

CAL YR 1992 b -1500
WTR YR 1993 b +57500

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11292900 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA

LOCATION.--Lat 38°11'36", long 120°05'53", in NW 1/4 NW 1/4 sec.22, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi downstream from Beardsley Afterbay Dam, 1.5 mi downstream from Beardsley Dam, and 5.7 mi west of Pinecrest.

DRAINAGE AREA.--316 mi^2.

PERIOD OF RECORD.--December 1956 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,044.7 ft above sea level (river-profile survey).

REMARKS.--Records good. Diversion from Beardsley Afterbay Dam, 0.5 mi upstream, to J.W. Southern Powerplant, at Sand Bar Flat 3 mi downstream, began May 31, 1986. Flow regulated by Relief Reservoir (station 11291000) since 1909, Donnell Lake (station 11292600) since April 1957, and by Beardsley Lake (station 11292800) since January 1957. See schematic diagram of Stanislaus River basin. For records of combined discharge for river and powerplant, see following page.

COOPERATION.--Records of diversion to J.W. Southern Powerplant provided by Oakdale-South San Joaquin Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft^3/s, May 30, 1983, gage height, 12.30 ft; minimum daily, 3.0 ft^3/s, Oct. 10, 11, 1958.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 3,270 ft^3/s, May 20, gage height, 8.90 ft; minimum daily, 54 ft^3/s, Feb. 6, 7.
Combined flow, maximum daily discharge, 3,690 ft^3/s, May 21, 22, minimum daily, 56 ft^3/s, on several days during November and December.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	57	58	58	56	145	155	923	1890	866	148	151
2	57	57	58	58	56	145	154	932	1710	839	146	150
3	57	58	58	58	56	144	154	929	1440	1010	148	149
4	57	57	58	57	56	145	155	851	1330	893	e148	148
5	58	57	58	56	55	146	157	750	1390	716	e148	146
6	58	58	58	55	54	146	158	725	1330	629	e148	148
7	57	57	57	56	54	145	161	708	1130	791	e148	147
8	58	57	57	56	83	145	160	679	1040	893	e148	147
9	57	57	56	56	117	146	160	660	1140	752	e148	146
10	59	57	56	55	122	147	160	659	1430	607	e148	145
11	58	56	56	55	122	148	160	662	1800	515	e150	146
12	57	56	56	58	122	148	161	667	1960	404	e151	146
13	58	56	56	61	122	149	162	1140	1820	234	e152	146
14	58	56	56	57	122	148	162	2010	1930	169	e153	146
15	58	56	57	57	123	147	162	2150	2330	208	e154	148
16	58	56	56	58	123	149	164	2180	2380	229	e155	146
17	58	57	56	58	122	149	164	2190	1810	195	e156	148
18	57	56	57	56	123	146	161	2450	1460	157	e157	147
19	57	58	57	57	123	147	156	2700	1570	156	157	146
20	58	59	57	58	122	150	150	2950	2040	159	157	146
21	57	59	56	58	123	151	149	3110	2140	159	158	146
22	58	57	55	59	125	150	148	3110	1620	153	157	147
23	58	56	57	58	123	150	153	2870	1340	147	157	147
24	58	57	57	56	126	148	160	2550	1310	146	156	148
25	57	58	56	55	129	148	150	2500	1400	147	153	148
26	58	58	57	56	144	150	150	2520	1590	145	150	148
27	58	57	57	56	142	151	246	2370	1680	145	149	147
28	57	57	57	56	145	155	571	1810	1520	146	150	148
29	58	57	57	56	---	153	838	1550	1200	150	149	152
30	57	58	57	56	---	153	904	1550	1000	146	149	149
31	57	---	57	56	---	157	---	1560	---	149	149	---
TOTAL	1787	1712	1761	1762	2990	4601	6645	52415	47730	12055	4697	4422
MEAN	57.6	57.1	56.8	56.8	107	148	221	1691	1591	389	152	147
MAX	59	59	58	61	145	157	904	3110	2380	1010	158	152
MIN	57	56	55	55	54	144	148	659	1000	145	146	145
AC-FT	3540	3400	3490	3490	5930	9130	13180	104000	94670	23910	9320	8770

e Estimated.

11292900 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1985, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	396	410	449	432	478	494	588	1271	1607	819	523	488
MAX	651	1064	1322	1035	1322	1307	1378	3754	5325	2420	958	690
(WY)	1984	1983	1984	1984	1980	1983	1982	1969	1983	1983	1983	1983
MIN	23.3	19.9	18.8	18.9	21.0	22.4	180	168	348	77.5	44.5	38.5
(WY)	1977	1977	1977	1977	1977	1977	1957	1960	1976	1977	1977	1977

SUMMARY STATISTICS	WATER YEARS 1957 - 1985	
ANNUAL MEAN	671	
HIGHEST ANNUAL MEAN	1507	1983
LOWEST ANNUAL MEAN	111	1977
HIGHEST DAILY MEAN	8630	May 30 1983
LOWEST DAILY MEAN	3.0	Oct 10 1958
ANNUAL SEVEN-DAY MINIMUM	5.0	Jan 16 1957
INSTANTANEOUS PEAK FLOW	9080	May 30 1983
INSTANTANEOUS PEAK STAGE	12.30	May 30 1983
ANNUAL RUNOFF (AC-FT)	485800	
10 PERCENT EXCEEDS	1270	
50 PERCENT EXCEEDS	500	
90 PERCENT EXCEEDS	110	

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	91.4	95.1	95.2	95.8	113	135	157	352	352	134	98.4	95.0
MAX	144	152	154	154	158	157	221	1691	1591	389	154	148
(WY)	1992	1987	1990	1990	1990	1990	1993	1993	1993	1993	1989	1991
MIN	54.8	54.4	55.8	55.3	55.1	58.7	135	65.2	59.2	58.6	55.8	56.8
(WY)	1991	1991	1989	1989	1991	1991	1991	1987	1992	1990	1988	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1987 - 1993	
ANNUAL TOTAL	33470		142577			
ANNUAL MEAN	91.4		391		151	
HIGHEST ANNUAL MEAN					391	1993
LOWEST ANNUAL MEAN					76.6	1988
HIGHEST DAILY MEAN	155	Mar 25	3110	May 21	3110	May 21 1993
LOWEST DAILY MEAN	29	Sep 30	54	Feb 6	25	Oct 23 1986
ANNUAL SEVEN-DAY MINIMUM	54	Sep 28	55	Feb 1	53	Oct 15 1988
INSTANTANEOUS PEAK FLOW			3270	May 20	3270	May 20 1993
INSTANTANEOUS PEAK STAGE			8.90	May 20	8.90	May 20 1993
ANNUAL RUNOFF (AC-FT)	66390		282800		109600	
10 PERCENT EXCEEDS	149		1430		158	
50 PERCENT EXCEEDS	60		147		136	
90 PERCENT EXCEEDS	57		56		57	

11292901 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA--Continued

MIDDLE FORK STANISLAUS RIVER AND J.W. SOUTHERN POWERPLANT BELOW BEARDSLEY DAM,
COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	301	57	298	58	443	410	675	1500	2470	1450	689	550
2	186	57	307	93	443	421	624	1510	2300	1420	648	569
3	57	58	306	285	443	426	479	1510	2020	1590	599	561
4	57	57	181	284	443	418	665	1440	1910	1470	e601	559
5	218	57	58	230	444	419	674	1340	1970	1300	e606	558
6	300	58	58	190	442	429	675	1310	1910	1220	e610	560
7	299	57	209	377	442	475	674	1290	1710	1380	e591	555
8	300	57	270	295	424	473	682	1260	1620	1480	e607	539
9	197	57	239	234	423	475	678	1240	1720	1340	e624	540
10	59	57	240	250	427	477	680	1240	2010	1200	e611	538
11	58	56	148	405	426	801	682	1250	2390	1110	e611	539
12	57	56	56	489	426	478	684	1250	2550	1000	e621	539
13	58	56	56	492	427	478	685	1720	2410	833	e595	539
14	58	56	230	488	426	478	687	2600	2520	764	e602	524
15	58	56	335	485	244	477	697	2730	2920	805	e621	538
16	58	56	336	489	201	524	657	2760	2970	826	e617	530
17	58	57	336	499	251	556	694	2780	2400	754	e561	532
18	57	56	253	497	367	562	698	3030	2050	661	e552	532
19	57	58	164	483	389	565	686	3280	2160	710	552	531
20	202	59	165	436	389	569	682	3530	2630	686	555	531
21	347	59	271	404	388	570	672	3690	2730	675	522	531
22	366	57	377	409	390	569	657	3690	2210	697	544	532
23	211	56	330	403	388	573	769	3450	1930	690	575	532
24	58	57	233	397	391	592	744	3140	1900	665	547	532
25	57	58	175	427	394	611	731	3090	1990	692	544	533
26	58	58	175	444	409	665	731	3100	2180	715	520	533
27	58	57	175	449	407	657	825	2950	2270	689	545	532
28	57	57	209	454	410	656	1150	2390	2110	690	523	533
29	58	57	57	443	---	657	1420	2130	1690	338	548	536
30	57	210	57	445	---	657	1490	2130	1580	686	572	534
31	57	---	57	445	---	658	---	2140	---	672	545	---
TOTAL	4079	1864	6361	11779	11097	16776	22547	70470	65230	29208	18058	16192
MEAN	132	62.1	205	380	396	541	752	2273	2174	942	583	540
MAX	366	210	377	499	444	801	1490	3690	2970	1590	689	569
MIN	57	56	56	58	201	410	479	1240	1580	338	520	524
AC-FT	8090	3700	12620	23360	22010	33280	44720	139800	129400	57930	35820	32120

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

MEAN	261	201	311	187	272	412	504	797	929	605	534	436
MAX	484	538	500	461	939	1560	1448	2273	2174	942	583	611
(WY)	1986	1987	1986	1986	1986	1986	1986	1993	1993	1993	1993	1986
MIN	57.6	58.1	55.8	55.3	55.1	58.7	146	72.7	208	498	480	124
(WY)	1989	1989	1989	1989	1991	1991	1988	1990	1987	1987	1992	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1986 - 1993	
ANNUAL TOTAL	102200		273661			
ANNUAL MEAN	279		750		455	
HIGHEST ANNUAL MEAN					973	1986
LOWEST ANNUAL MEAN					221	1988
HIGHEST DAILY MEAN	571	Aug 17	3690	May 21	4890	Mar 8 1986
LOWEST DAILY MEAN	56	Nov 11	56	Nov 11	25	Oct 23 1986
ANNUAL SEVEN-DAY MINIMUM	56	Nov 10	56	Nov 10	27	Nov 12 1985
ANNUAL RUNOFF (AC-FT)	202700		542800		329500	
10 PERCENT EXCEEDS	549		2010		686	
50 PERCENT EXCEEDS	246		533		439	
90 PERCENT EXCEEDS	57		58		58	

11293200 MIDDLE FORK STANISLAUS RIVER BELOW SAND BAR DIVERSION DAM, CA

LOCATION.--Lat 38°10'59", long 120°09'28", in NW 1/4 SE 1/4 sec.24, T.4 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 100 ft downstream from Sand Bar Diversion Dam and 8.5 mi west of Strawberry.

DRAINAGE AREA.--332 mi^2.

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1970, 1971, and 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir since February 1986. Elevation of gage is 2,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 70 ft^3/s. Flow regulated by Relief Reservoir and Donnell and Beardsley Lakes (stations 11291000, 11292600, and 11292800). Most of the water is diverted at Sand Bar Diversion Dam for use at Stanislaus Powerplant. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	37	29	28	28	28	---	---	---	---	---	60
2	54	28	28	29	28	29	---	---	---	---	---	61
3	54	28	28	33	28	30	---	---	---	---	---	56
4	54	28	28	33	28	29	---	---	---	---	---	55
5	53	28	28	31	28	29	---	---	---	---	---	55
6	52	30	28	28	28	29	---	---	---	---	---	55
7	53	32	28	32	28	29	---	---	---	---	---	55
8	53	31	28	28	29	28	---	---	---	---	---	55
9	54	30	29	27	42	28	---	---	---	---	---	57
10	53	31	28	27	32	28	---	---	---	---	---	57
11	53	29	29	29	33	28	---	---	---	---	---	57
12	53	29	28	30	30	27	---	---	---	---	---	56
13	53	29	28	---	29	27	---	---	---	---	---	56
14	52	28	28	---	28	29	---	---	---	---	---	58
15	52	29	27	33	28	28	---	---	---	---	---	61
16	53	29	27	44	30	---	---	---	---	---	---	57
17	53	29	28	49	29	---	---	---	---	---	---	58
18	53	29	29	40	---	---	---	---	---	---	---	58
19	53	29	28	29	38	---	---	---	---	---	---	58
20	54	30	27	---	32	---	---	---	---	---	---	58
21	55	30	28	---	31	---	---	---	---	---	56	57
22	55	29	28	---	31	---	---	---	---	---	57	56
23	53	29	28	33	31	---	---	---	---	---	---	56
24	53	29	27	29	32	---	---	---	---	---	---	57
25	52	29	27	32	30	---	---	---	---	---	---	57
26	53	29	27	29	30	---	---	---	---	---	---	57
27	53	29	27	29	29	---	---	---	---	---	---	57
28	52	29	28	28	28	---	---	---	---	---	57	57
29	53	29	27	28	---	---	---	---	---	---	59	58
30	53	30	28	29	---	---	---	---	---	---	---	57
31	52	---	28	28	---	---	---	---	---	---	---	---
TOTAL	1647	885	864	---	---	---	---	---	---	---	---	1712
MEAN	53.1	29.5	27.9	---	---	---	---	---	---	---	---	57.1
MAX	55	37	29	---	---	---	---	---	---	---	---	61
MIN	52	28	27	---	---	---	---	---	---	---	---	55
AC-FT	3270	1760	1710	---	---	---	---	---	---	---	---	3400

11293350 UNION RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°25'50", long 119°59'47", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Union Dam on North Fork Stanislaus River and 6.4 mi east of Big Meadows.

DRAINAGE AREA.--13.8 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Nonrecording gage, observed approximately weekly in the summer months. Datum of gage is 6,823.4 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete and rock dam completed in 1902. Usable capacity, 3,130 acre-ft between gage heights -1.9 ft, invert of outlet, and 26.9 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric 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.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1954)

0	4	20	1,756
5	81	25	2,754
10	359	27.6	3,283
15	938		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e938	---	---	---	---	---	---	---
2	---	502	---	---	---	---	---	---	3130	---	---	---
3	---	---	---	---	---	---	---	3130	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	800	---	---	---	---	---	3130	---	---	---	---	---
6	---	523	---	---	---	---	---	---	---	---	---	2087
7	---	---	---	---	---	---	---	---	---	3130	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	461	---	---	---	e2319	---	---	---	---	2999	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	481	---	---	---	---	---	---	---	---	3130	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	18	---	---	---	---	---	3130	---	---	1510
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	4	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	3130	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	451	---	---	---	---	---	3130	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	3130	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	451	---	---	---	---	---	---	---	---	3108	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	3130	---	---	---
29	---	4	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated.

11293370 UTICA RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'26", long 120°00'08", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Utica Dam on North Fork Stanislaus River, 1.2 mi upstream from Silver Creek, 2.6 mi southeast of Bear Valley, and 6.2 mi west of Big Meadows.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Nonrecording gage, observed approximately weekly except during winter months. Datum of gage is 6,776.75 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete and rock dam completed in 1910. Usable capacity, 2,334 acre-ft between gage heights 0.7 ft, invert of outlet, and 42.5 ft, crest of spillway. Figures given represent usable contents. Reservoir observed to be spilling on Apr. 5, 19, May 3, 17, June 2, 14, 28, and July 12. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric 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.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas and Electric Co. in 1954)

0.7	0	30	356
10	19	35	858
20	65	40	1,763
25	127	43	2,456

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	51	---	---	---	---	---	---	---
2	---	1	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	482	---	---	---	---	---	---	---	---	---	---	---
6	---	0	---	---	---	---	---	---	---	---	---	858
7	---	---	---	---	---	---	---	---	---	2481	---	---
8	638	---	---	---	---	---	---	---	---	---	---	---
9	617	94	---	---	---	57	---	---	---	---	1594	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	638	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	729	---	---	---	---	---	---	---	---	930
15	527	---	---	---	---	---	---	---	---	---	---	---
16	---	500	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	248	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	51	---	---	---	---	2334	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	1	---	---	---	---	---	---	---	---	2334	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	518	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11293460 LAKE ALPINE NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°28'17", long 120°00'10", in NE 1/4 SW 1/4 sec.9, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Lake Alpine Dam on Silver Creek and 7.2 mi northeast of Big Meadows.

DRAINAGE AREA.--5.34 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Nonrecording gage, observed approximately weekly in the summer months. Elevation of gage is 7,260.07 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed on natural lake by concrete and rock dam completed in 1906. Usable capacity, 4,117 acre-ft between gage heights 0.0 ft, invert of outlet, and 42.07 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric 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.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas and Electric Co. in 1948)

0	0	25	1,564
5	41	30	2,229
10	208	35	2,962
15	533	40	3,765
20	990	43	4,279

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e1954	---	---	---	---	---	---	---
2	---	2705	---	---	---	---	---	---	4122	---	---	---
3	---	---	---	---	---	---	---	4122	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	2514	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	3532
7	2931	---	---	---	---	---	---	---	---	4157	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	2870	2631	---	---	---	e1564	---	---	---	---	3849	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	4122	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	2441	---	---	---	---	---	4122	---	---	3403
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	2572	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	4122	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	2810	---	---	---	---	---	2962	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	e2229	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	2720	---	---	---	---	---	---	---	---	4036	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	4122	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	2369	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated.

11293580 NORTH FORK STANISLAUS RIVER DIVERSION TUNNEL AT DIVERSION DAM, NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'17", long 120°00'59", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 50 ft upstream from diversion dam, at diversion tunnel entrance, and 5.6 mi southeast of Big Meadows.

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

GAGE.--Water-stage recorder and artificial control. Datum of tunnel invert is 6,684 ft above sea level (levels by Calaveras County Water District).

REMARKS.--Records good except for estimated daily discharges which are fair. Flow diverted from North Fork Stanislaus River Diversion Dam to New Spicer Meadow Reservoir (station 11293770) beginning Oct. 21, 1987. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 777 ft^3/s, May 25, 1993; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	2.4	.10	1.1	5.0	.00	165	e537	e528	e89	17	12
2	.06	1.4	.07	.78	4.9	1.2	108	e624	e363	e90	17	12
3	.06	.16	.04	.55	5.1	7.7	116	e593	e281	e79	17	12
4	.07	.15	.04	.25	4.6	8.7	139	e378	e401	e59	17	12
5	.07	.15	.03	.16	7.5	9.5	109	e359	e421	e53	17	12
6	.06	.14	.04	1.5	5.8	18	83	e459	e236	54	16	13
7	.07	.16	.04	23	6.4	23	90	e438	e203	52	16	14
8	.19	.13	.01	18	7.1	23	146	e477	e232	44	15	14
9	5.7	.08	.00	12	7.3	21	192	e538	e254	34	16	14
10	.66	.11	.00	10	4.8	20	189	e735	e322	27	16	14
11	.06	.10	.00	5.9	3.9	22	162	e747	e360	27	15	14
12	.11	.12	.00	4.4	2.8	24	149	e635	e322	28	16	14
13	3.5	.11	.00	5.3	2.2	32	133	454	e312	22	16	14
14	10	.11	.00	5.4	1.8	61	142	500	e364	20	16	14
15	19	.13	.00	3.6	1.2	45	199	e546	e368	12	14	14
16	34	.11	.00	3.5	.56	33	199	e579	e304	6.8	12	14
17	33	.10	.00	3.0	.43	121	147	e703	e262	3.9	14	14
18	32	.11	.00	2.5	.53	84	115	e743	e281	2.3	13	14
19	32	.10	.00	1.9	2.0	52	99	e707	e292	1.3	13	14
20	33	.08	.00	2.0	1.0	50	155	744	e276	.57	13	12
21	32	.07	.00	10	.75	60	e263	693	e192	.08	13	6.5
22	32	.12	.00	45	.35	73	e343	593	e160	.00	13	6.3
23	25	.11	.14	35	.46	182	e300	605	e148	.00	13	6.3
24	6.3	.15	10	24	.35	223	e183	648	e155	.00	13	6.3
25	.07	.15	.93	15	.00	137	e195	e777	e161	.00	12	6.4
26	.07	.12	.86	10	.00	96	e246	e551	e174	1.1	12	6.6
27	.06	.10	.74	9.7	.03	67	e349	e433	e155	18	12	6.5
28	.06	.10	.85	8.9	.01	59	e402	e307	e139	17	12	6.4
29	.05	.10	.44	7.8	---	71	e461	e276	e103	16	12	6.3
30	2.3	.10	1.2	6.7	---	98	e529	e356	e88	17	12	6.4
31	1.7	---	1.1	5.6	---	122	---	e651	---	17	12	---
TOTAL	303.29	7.07	16.63	282.54	76.87	1844.10	6108	17386	7857	791.05	442	331.0
MEAN	9.78	.24	.54	9.11	2.75	59.5	204	561	262	25.5	14.3	11.0
MAX	34	2.4	10	45	7.5	223	529	777	528	90	17	14
MIN	.05	.07	.00	.16	.00	.00	83	276	88	.00	12	6.3
AC-FT	602	14	33	560	152	3660	12120	34490	15580	1570	877	657

e Estimated.

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

MEAN	7.95	2.07	1.21	7.35	2.98	47.5	171	210	81.0	7.83	5.04	10.2
MAX	14.2	6.51	4.22	27.5	10.8	130	301	561	262	25.5	14.3	18.5
(WY)	1992	1992	1990	1990	1992	1989	1989	1993	1993	1993	1993	1990
MIN	.33	.14	.010	.010	.039	7.28	39.3	33.0	.021	.10	.027	.013
(WY)	1990	1991	1991	1991	1991	1991	1991	1992	1992	1990	1990	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	7757.57		35445.55			
ANNUAL MEAN	21.2		97.1		43.6	
HIGHEST ANNUAL MEAN					97.1	1993
LOWEST ANNUAL MEAN					22.0	1992
HIGHEST DAILY MEAN	304	Apr 17	777	May 25	777	May 25 1993
LOWEST DAILY MEAN	.00	Jun 12	.00	Dec 9	.00	Dec 15 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 9	.00	Dec 9	.00	Dec 15 1988
ANNUAL RUNOFF (AC-FT)	15390		70310		31560	
10 PERCENT EXCEEDS	66		361		156	
50 PERCENT EXCEEDS	2.8		13		4.9	
90 PERCENT EXCEEDS	.02		.07		.01	

11293590 NORTH FORK STANISLAUS RIVER DIVERSION RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'18", long 120°01'00", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank of diversion dam on North Fork Stanislaus River, 5.6 mi southeast of Big Meadows.

PERIOD OF RECORD.--February 1990 to current year. Contents less than 12 acre-feet and end of month elevations for November 1990 to March 1991 published in WDR CA-91-3 are unreliable and should not be used.

REVISED RECORD.--WDR CA-92-3: 1991.

GAGE.--Water-stage recorder. Prior to Sept. 14, 1990, contents estimated on basis of periodic observations of nonrecording gage. Datum of gage is sea level (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1987. Capacity, 120 acre-ft between elevations 6,672.0 ft, sill of emergency release gate, and 6,695.0 ft, crest of spillway. Reservoir is used for power development and fishery enhancement. Flow is diverted through tunnel to New Spicer Meadow Reservoir (station 11293770). Records, including extremes, represent total contents at 2400 hours. Elevations below 6,678.9 ft are not recorded. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 133 acre-ft, May 11, 1993, elevation, 6,695.7 ft; minimum observed, 5 acre-ft, Feb. 1, 28, Mar. 1, 1990, elevation, 6,676.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 133 acre-ft, May 11, elevation, 6,695.7 ft; minimum, not recorded.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

6,680	13	6,690	65	6,696	140
6,685	32	6,695	120		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	29	15	28	29	27	48	110	86	44	32	31
2	16	24	16	28	29	29	47	121	71	43	31	31
3	16	17	16	28	29	30	48	90	69	40	31	31
4	16	12	16	28	30	30	48	77	104	40	31	31
5	16	---	16	28	30	31	44	92	67	39	31	31
6	18	---	17	30	30	33	42	93	59	39	31	31
7	22	---	17	33	30	33	48	94	65	38	31	31
8	29	---	18	31	30	33	55	95	61	37	31	31
9	29	---	18	31	29	32	59	117	68	36	31	31
10	28	---	20	30	29	33	56	128	84	34	31	31
11	28	---	22	29	29	34	55	133	80	33	31	31
12	28	---	22	29	28	35	51	96	74	32	31	31
13	30	---	23	29	28	39	49	94	83	32	31	31
14	30	---	24	29	28	41	54	106	91	31	31	31
15	35	---	24	29	28	35	60	104	81	31	31	31
16	35	12	25	29	28	40	52	129	72	30	31	31
17	35	12	26	28	28	48	51	126	73	29	31	31
18	35	12	26	28	28	41	45	129	76	29	31	31
19	35	12	28	28	28	38	48	126	77	28	31	31
20	35	12	28	28	28	40	62	126	59	28	31	30
21	35	12	29	30	28	43	76	120	55	28	31	30
22	36	13	29	36	28	46	86	111	53	27	31	30
23	31	12	29	33	28	58	59	122	54	26	31	30
24	25	11	28	32	28	52	56	108	54	25	31	30
25	19	12	28	30	27	47	61	115	57	24	31	30
26	13	11	28	30	27	42	84	98	55	31	31	30
27	---	---	28	30	26	40	92	75	53	31	31	30
28	---	---	28	30	26	40	92	64	48	31	31	30
29	17	---	28	30	---	44	105	78	44	31	31	30
30	29	12	28	29	---	47	106	76	44	31	31	30
31	28	---	28	29	---	52	---	122	---	31	31	---
MAX	---	---	29	36	30	58	106	133	104	44	32	31
MIN	---	---	15	28	26	27	42	64	44	24	31	30
a	6684.1	6679.4	6684.1	6684.4	6683.6	6688.1	6693.8	6695.1	6686.8	6685.0	6684.9	6684.6
b	+12	-16	+16	+1	-3	+26	+54	+16	-78	-13	0	-1

CAL YR 1992 b +5
WTR YR 1993 b +14

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11293600 NORTH FORK STANISLAUS RIVER BELOW DIVERSION DAM, NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'04", long 120°01'04", unsurveyed, T.7 N., R.18 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.3 mi downstream from diversion dam and 5.6 mi northeast of Big Meadows.
DRAINAGE AREA.--28.8 mi^2.
PERIOD OF RECORD.--October 1987 to current year.
REVISED RECORDS.--WDR CA-89-3: 1988 (M).
GAGE.--Water-stage recorder, crest-stage gage, and artificial control. Elevation of gage is 6,640 ft above sea level, from topographic map.
REMARKS.--Records fair. Low and medium flow regulated by Union and Utica Reservoirs and Lake Alpine (stations 11293350, 11293370, and 11293460). See schematic diagram of Stanislaus River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573 ft^3/s, May 12, 1993, gage height 5.19 ft; minimum daily, 2.3 ft^3/s, Oct. 18-20, 22, 23, 1993.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 573 ft^3/s, May 12, gage height, 5.19 ft; minimum daily, 2.3 ft^3/s, Oct. 18-20, 22, 23.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	15	e11	17	16	14	19	24	e26	24	16	17
2	12	15	11	17	16	15	18	e27	e26	24	17	16
3	12	13	11	17	16	15	18	e28	25	24	17	17
4	11	11	12	17	16	15	19	22	e27	23	17	17
5	11	8.2	12	17	16	17	18	22	e28	23	17	17
6	12	7.0	11	17	16	18	18	23	e26	23	17	17
7	13	6.3	11	17	16	18	18	23	e25	23	17	17
8	16	5.9	11	18	16	19	19	23	e25	23	17	17
9	17	5.6	11	18	16	18	20	24	e25	23	16	17
10	17	6.2	13	17	16	18	20	e57	e24	23	18	16
11	16	6.7	14	17	16	18	19	e104	e24	22	17	16
12	16	6.8	14	17	16	19	19	e103	e24	22	17	16
13	16	6.8	14	17	16	19	18	24	e24	21	16	16
14	16	6.9	14	17	16	20	19	24	e24	18	17	16
15	9.9	6.8	15	17	16	20	20	24	e25	18	17	16
16	2.7	6.9	15	17	16	19	20	e49	e25	17	17	16
17	2.4	7.6	15	17	16	23	19	e75	e25	17	17	16
18	2.3	8.1	16	16	15	22	18	e68	e25	17	17	16
19	2.3	8.1	16	16	16	21	18	e139	e26	17	17	16
20	2.3	8.0	17	16	16	20	19	e56	e26	16	17	e16
21	2.5	7.9	17	16	15	21	21	e36	e25	16	17	e16
22	2.3	8.4	18	18	14	21	22	e25	e25	16	17	e16
23	2.3	9.3	18	18	14	23	22	e26	e25	16	17	e16
24	9.0	9.8	17	18	14	22	19	e28	e25	15	17	e16
25	14	8.6	17	17	14	19	19	e52	e26	15	17	e16
26	12	8.0	17	17	14	18	20	e25	e26	15	17	e16
27	8.7	7.6	17	17	14	17	22	23	e26	17	17	e16
28	6.8	7.0	17	16	14	17	23	22	e26	17	17	e16
29	6.2	6.3	17	16	---	18	23	21	e25	17	17	e16
30	e15	5.8	18	16	---	18	24	22	25	17	17	16
31	e16	---	18	16	---	19	---	e114	---	17	17	---
TOTAL	313.7	244.6	455	524	432	581	591	1333	759	596	525	488
MEAN	10.1	8.15	14.7	16.9	15.4	18.7	19.7	43.0	25.3	19.2	16.9	16.3
MAX	17	15	18	18	16	23	24	139	28	24	18	17
MIN	2.3	5.6	11	16	14	14	18	21	24	15	16	16
AC-FT	622	485	902	1040	857	1150	1170	2640	1510	1180	1040	968

e Estimated.

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

MEAN	15.2	17.8	11.7	14.2	15.9	22.9	37.4	33.0	17.8	15.9	14.6	16.9
MAX	20.2	42.2	14.8	18.0	24.8	42.5	99.6	69.5	25.3	28.1	22.8	26.5
(WY)	1989	1990	1992	1990	1988	1988	1988	1988	1993	1989	1988	1988
MIN	10.1	7.01	3.19	3.80	4.85	16.2	18.8	18.0	9.68	5.45	5.32	5.48
(WY)	1993	1991	1991	1991	1991	1991	1991	1992	1992	1988	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1988 - 1993	
ANNUAL TOTAL	5536.3		6842.3			
ANNUAL MEAN	15.1		18.7		19.4	
HIGHEST ANNUAL MEAN					31.0	1988
LOWEST ANNUAL MEAN					13.0	1991
HIGHEST DAILY MEAN	23	Apr 18	139	May 19	139	May 19 1993
LOWEST DAILY MEAN	2.3	Oct 18	2.3	Oct 18	2.3	Oct 18 1992
ANNUAL SEVEN-DAY MINIMUM	2.3	Oct 17	2.3	Oct 17	2.3	Oct 17 1992
INSTANTANEOUS PEAK FLOW			573	May 12	573	May 12 1993
INSTANTANEOUS PEAK STAGE			5.19	May 12	5.19	May 12 1993
ANNUAL RUNOFF (AC-FT)	10980		13570		14080	
10 PERCENT EXCEEDS	20		25		27	
50 PERCENT EXCEEDS	17		17		17	
90 PERCENT EXCEEDS	7.6		9.2		5.7	

11293700 HOBART CREEK AT NORTH FORK STANISLAUS RIVER DIVERSION TUNNEL OUTLET, NEAR NEW SPICER MEADOW DAM, CA

LOCATION.--Lat 38°24'42", long 119°59'37", unsurveyed, T.7 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 250 ft upstream from North Fork Stanislaus River Diversion Channel, 1.3 mi northwest of New Spicer Meadow Dam, and 7.5 mi east of Big Meadows.

DRAINAGE AREA.--1.13 mi^2.

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

GAGE.--Water-stage recorder and culvert control. Elevation of gage is 6,680 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No storage or diversion upstream from station. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft^3/s, May 11, 1993, gage height, 1.57 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 16	1100	(a)	*1.99	May 11	1830	*48	1.57

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e.44	.81	7.8	24	5.1	.24	.00	.00
2	.00	.00	.00	.00	e.48	.96	6.2	24	3.7	.23	.00	.00
3	.00	.00	.00	.00	e.46	1.0	6.0	17	3.1	.20	.00	.00
4	.00	.00	.00	.00	.52	1.1	7.0	13	4.5	.18	.00	.00
5	.00	.00	.00	.00	.56	1.4	7.1	13	7.8	.12	.00	.00
6	.00	.00	.00	.00	.62	1.8	5.3	14	4.4	.10	.00	.00
7	.00	.00	.00	.20	.72	2.4	4.9	14	5.0	.08	.00	.00
8	.00	.00	.00	.02	.82	2.5	6.8	14	4.2	.03	.00	.00
9	.00	.00	.00	.00	.93	2.5	9.5	18	3.3	e.02	.00	.00
10	.00	.00	.00	e.00	.88	2.5	10	24	2.9	e.02	.00	.00
11	.00	.00	.00	e.00	.85	2.8	9.4	25	3.2	e.02	.00	.00
12	.00	.00	.00	e.00	.80	3.0	8.7	19	2.8	e.01	.00	.00
13	.00	.00	.00	e.02	.80	3.4	7.3	14	2.9	e.01	.00	.00
14	.00	.00	.00	.21	.80	3.8	7.0	13	3.2	e.01	.00	.00
15	.00	.00	.00	.19	.80	4.9	9.8	13	2.1	e.01	.00	.00
16	.00	.00	.00	.22	.76	e10	10	14	1.4	e.01	.00	.00
17	.00	.00	.00	.21	.68	6.1	7.8	16	1.5	e.01	.00	.00
18	.00	.00	.00	.19	.87	6.0	6.6	16	1.4	e.01	.00	.00
19	.00	.00	.00	.11	1.0	19	5.9	14	.78	e.01	.00	.00
20	.00	.00	.00	.05	.84	16	8.1	12	.65	e.01	.00	.00
21	.00	.00	.00	.36	.80	8.5	13	10	.58	.00	.00	.00
22	.00	.00	.00	.40	.80	8.3	15	9.0	.54	.00	.00	.00
23	.00	.00	.00	.20	.80	9.5	13	9.1	.50	.00	.00	.00
24	.00	.00	.00	.33	.76	11	7.7	8.3	.43	.00	.00	.00
25	.00	.00	.00	e.53	.76	11	8.3	12	.39	.00	.00	.00
26	.00	.00	.00	e.57	.75	11	11	7.8	.36	.00	.00	.00
27	.00	.00	.00	e.54	.73	7.4	14	5.9	.34	.00	.00	.00
28	.00	.00	.00	e.50	.73	5.3	16	4.6	.31	.00	.00	.00
29	e.03	.00	.00	e.46	---	4.4	20	4.1	.27	.00	.00	.00
30	e.02	.00	.00	e.44	---	4.2	24	3.9	.25	.00	.00	.00
31	e.01	---	.00	e.42	---	5.1	---	7.8	---	.00	.00	---
TOTAL	0.06	0.00	0.00	6.17	20.76	177.67	293.2	413.5	67.90	1.33	0.00	0.00
MEAN	.002	.000	.000	.20	.74	5.73	9.77	13.3	2.26	.043	.000	.000
MAX	.03	.00	.00	.57	1.0	19	24	25	7.8	.24	.00	.00
MIN	.00	.00	.00	.00	.44	.81	4.9	3.9	.25	.00	.00	.00
AC-FT	.1	.00	.00	12	41	352	582	820	135	2.6	.00	.00

e Estimated.
a Backwater from partially plugged culverts.

11293700 HOBART CREEK AT NORTH FORK STANISLAUS RIVER DIVERSION TUNNEL OUTLET, NEAR NEW SPICER MEADOW DAM, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.019	.065	.020	.050	.26	4.33	7.38	4.61	.69	.039	.003	.002
MAX	.073	.26	.079	.20	.74	8.06	11.3	13.3	2.26	.051	.012	.009
(WY)	1990	1990	1990	1993	1993	1989	1989	1993	1993	1991	1990	1989
MIN	.000	.000	.000	.000	.017	.65	3.62	.30	.027	.024	.000	.000
(WY)	1991	1991	1991	1989	1989	1991	1991	1992	1992	1992	1989	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993	
ANNUAL TOTAL	236.37		980.59			
ANNUAL MEAN	.65		2.69		1.37	
HIGHEST ANNUAL MEAN					2.69	1993
LOWEST ANNUAL MEAN					.65	1992
HIGHEST DAILY MEAN	9.4	Apr 13	25	May 11	26	Mar 28 1989
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Dec 15 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Dec 15 1988
INSTANTANEOUS PEAK FLOW			48	May 11	48	May 11 1993
INSTANTANEOUS PEAK STAGE			1.99	Mar 16	1.99	Mar 16 1993
ANNUAL RUNOFF (AC-FT)	469		1950		992	
10 PERCENT EXCEEDS	2.5		10		5.9	
50 PERCENT EXCEEDS	.00		.02		.01	
90 PERCENT EXCEEDS	.00		.00		.00	

11293770 NEW SPICER MEADOW RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°23'35", long 119°59'53", in NW 1/4 NE 1/4 sec.9, T.7 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of New Spicer Meadow Dam on Highland Creek and 7.7 mi east-southeast of Big Meadows.

DRAINAGE AREA.--45.4 mi^2.
PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Calaveras County Water District).
REMARKS.--Reservoir is formed by rockfill dam with a reinforced concrete face completed in December 1988. Dam is 600 ft downstream from original concrete gravity-type dam which was completed in 1929. Usable capacity, 184,298 acre-ft between elevations 6,420.0 ft, minimum operating head, and 6,614.0 ft, crest of spillway. Released water is used for hydroelectric power and fishery maintenance. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 185,564 acre-ft, July 5, 1993, elevation, 6,612.3 ft; minimum, 30,198 acre-ft, Mar. 5, 1993, elevation, 6,491.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 185,564 acre-ft, July 5, elevation, 6,612.3 ft; minimum, 30,198 acre-ft, Mar. 5, elevation, 6,491.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

6,420	4,702	6,500	35,214	6,580	125,341
6,440	9,299	6,520	50,197	6,600	160,318
6,460	15,511	6,540	69,652	6,614	189,000
6,480	23,781	6,560	94,859		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52024	47104	42100	38687	40120	32050	45222	77592	152359	184906	171501	156294
2	51645	47077	41848	38475	40174	31188	45770	79926	153990	184892	170608	155774
3	51310	46861	41689	38381	40237	30591	46402	82180	155200	185118	169583	155148
4	51063	46794	41459	38271	40352	30361	47020	83745	158454	185265	168830	154592
5	50850	46652	41282	38237	40357	30198	47490	85456	160245	185564	168198	154282
6	50483	46468	41157	38343	40372	30390	47913	87226	161560	185021	167832	153926
7	50172	46339	41122	38726	40347	30594	48475	89069	162675	184543	167498	153440
8	49952	46109	41275	38741	40470	30737	49120	90869	163848	184274	167139	152727
9	49739	45927	41337	37323	40713	30888	49944	93022	165111	184115	166796	152117
10	49554	45735	41315	37411	40792	30937	50940	95841	166699	184197	166283	151357
11	49357	45635	41203	37265	40751	31149	51997	99055	168511	184030	165783	151097
12	49030	45491	40911	37442	40445	31412	52683	101643	170138	183471	165487	150788
13	48866	45323	40763	37503	40220	31796	53417	103959	172051	182797	165280	150090
14	48587	45162	40658	37326	39928	32362	55585	106392	173603	182165	164836	149377
15	48308	44976	40579	37626	39718	32812	56588	108685	174371	181377	164350	148886
16	48234	44814	40425	37691	39449	33207	57491	111306	174885	180996	163913	148024
17	48290	44622	40239	37868	39403	34539	58308	114324	175559	180684	163343	147557
18	48296	44437	40083	37722	39450	35427	58974	117380	176467	180523	162627	147230
19	48342	44287	40066	37943	39534	36156	59611	120185	178246	179708	161951	146972
20	48401	43926	39849	37985	39095	36830	61415	123339	179631	178744	161690	146380
21	48444	43863	39752	38440	38553	37562	62676	126129	180392	178008	161440	145767
22	48504	43683	39620	39183	37776	38349	64132	129128	180927	177291	161303	145066
23	48533	43482	39517	39390	36933	39465	65143	131984	181123	176381	160790	144378
24	48581	43357	39486	39567	35910	40535	66086	134883	181342	175702	160053	143906
25	48226	43239	39174	39709	34933	41350	66988	137988	182134	174858	159533	143356
26	47982	43029	39029	39827	34068	41995	67961	140361	182953	174170	159083	142921
27	47657	42807	38883	39820	33792	42305	69144	142479	183730	173591	158682	142302
28	47470	42647	38880	39975	32855	42675	70791	143911	184362	173040	158372	141712
29	47506	42428	38923	39973	---	43211	72722	145494	185008	172260	158110	140889
30	47409	42255	38789	40049	---	43727	75010	147369	185385	172055	157548	140268
31	47186	---	38740	40072	---	44416	---	150004	---	171754	156891	---
MAX	52024	47104	42100	40072	40792	44416	75010	150004	185385	185564	171501	156294
MIN	47186	42255	38740	37265	32855	30198	45222	77592	152359	171754	156891	140268
a	6516.0	6509.4	6504.7	6506.5	6495.9	6512.3	6544.3	6594.1	6612.2	6605.6	6598.0	6588.5
b	-5207	-4931	-3515	+1332	-7217	+11561	+30594	+74994	+35381	-13631	-14863	-16623

CAL YR 1992 b -11013
WTR YR 1993 b +87875

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11294000 HIGHLAND CREEK BELOW NEW SPICER MEADOW RESERVOIR, CA

LOCATION.--Lat 38°23'35", long 119°59'53", in NW 1/4 NE 1/4 sec.9, T.7 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank in New Spicer Meadow Powerplant at downstream side of New Spicer Meadow Dam, 5.4 mi upstream from mouth, and 6.5 mi east-southeast of Big Meadows.

DRAINAGE AREA.--45.4 mi^2.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1930: 1953. WDR CA-89-3: Drainage area, 1987(M), 1988(M).

GAGE.--Acoustic-flow meter and water-stage recorder on New Spicer Meadow Reservoir (station 11293770). Elevation of gage is 6,362 ft above sea level, from topographic map. December 1986 to September 1990 at site 1,400 ft downstream at different datum. October 1952 to November 1986, at site 900 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Low and medium flows regulated by New Spicer Meadow Reservoir since 1988 and, prior to 1988, by Spicer Meadows Reservoir, capacity 4,060 acre-feet. Flow has been diverted to New Spicer Meadow Reservoir from North Fork Stanislaus River since October 21, 1987. Penstock diverts from New Spicer Meadow Reservoir to New Spicer Meadow Powerplant. At times flow may bypass New Spicer Meadow Powerplant. Discharges, including extremes, represent flow through or past powerplant, and flow over spillway of reservoir. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 9,860 ft^3/s, Jan. 31, 1963, gage height, 11.88 ft, site and datum then in use, from rating curve extended above 1,200 ft^3/s; no flow some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.50 ft, site and datum then in use, from Pacific Gas & Electric Co. recorder chart, discharge, 8,800 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 649 ft^3/s, July 20; minimum daily, 6.3 ft^3/s, Oct. 22, 23.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	92	97	76	20	534	20	19	20	554	224	324
2	142	85	96	78	20	527	20	19	20	347	412	323
3	142	80	94	75	20	348	20	20	72	203	464	322
4	142	80	94	73	20	163	19	21	77	202	414	287
5	142	84	94	71	20	176	20	20	21	203	317	166
6	141	89	88	71	20	20	20	62	21	421	200	166
7	141	96	79	46	20	18	20	65	70	493	152	273
8	140	96	85	48	20	65	20	20	120	356	151	369
9	140	97	61	42	20	59	20	19	120	228	185	381
10	140	99	78	42	20	100	20	19	120	150	200	334
11	140	96	71	48	72	80	20	19	87	156	189	159
12	139	95	90	45	169	19	20	19	22	413	175	152
13	139	96	90	31	169	19	20	19	52	416	161	298
14	138	96	76	30	169	19	20	19	249	382	180	331
15	140	96	71	23	168	19	20	19	627	382	200	330
16	64	96	77	18	166	19	20	19	579	287	199	326
17	11	96	83	18	113	19	20	19	498	164	278	304
18	11	95	83	24	70	19	21	19	331	170	383	157
19	8.2	95	87	28	42	19	21	19	27	415	261	158
20	6.9	95	79	28	251	19	21	19	52	536	149	294
21	6.4	95	79	28	368	19	21	20	171	372	148	320
22	6.3	95	77	21	422	19	21	20	307	410	147	327
23	6.3	95	76	20	445	20	21	20	390	433	212	329
24	13	94	76	20	515	20	22	20	378	400	298	290
25	138	94	75	20	543	20	22	20	238	403	298	257
26	142	94	75	20	549	20	95	20	146	387	273	257
27	142	95	75	20	228	20	184	20	146	353	198	323
28	142	94	75	20	533	20	177	20	85	254	150	331
29	113	94	76	20	---	20	168	20	49	350	150	347
30	131	97	77	20	---	20	84	20	183	254	309	348
31	132	---	76	20	---	20	---	20	---	153	324	---
TOTAL	3181.1	2801	2510	1144	5192	2479	1217	694	5278	10247	7401	8583
MEAN	103	93.4	81.0	36.9	185	80.0	40.6	22.4	176	331	239	286
MAX	142	99	97	78	549	534	184	65	627	554	464	381
MIN	6.3	80	61	18	20	18	19	19	20	150	147	152
AC-FT	6310	5560	4980	2270	10300	4920	2410	1380	10470	20320	14680	17020
a	6310	5550	4980	2270	10290	4910	2410	1370	10440	20290	14680	17020

a Diversion, in acre-feet, through New Spicer Meadow Powerplant, provided by Calaveras County Water District.

11294000 HIGHLAND CREEK BELOW NEW SPICER MEADOW RESERVOIR, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.8	33.4	53.7	55.4	69.6	100	229	427	291	90.7	44.5	36.7
MAX	203	217	399	317	301	369	455	1047	1097	471	305	286
(WY)	1990	1984	1965	1980	1963	1986	1962	1969	1983	1983	1990	1993
MIN	.000	.000	.50	.50	2.69	.83	17.9	21.9	37.7	5.23	1.63	1.34
(WY)	1965	1965	1961	1961	1960	1977	1992	1991	1987	1961	1961	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1953 - 1993	
ANNUAL TOTAL	32449.1		50727.1			
ANNUAL MEAN	88.7		139		122	
HIGHEST ANNUAL MEAN					256	1983
LOWEST ANNUAL MEAN					25.3	1977
HIGHEST DAILY MEAN	209	Aug 12	627	Jun 15	5040	Dec 23 1955
LOWEST DAILY MEAN	6.3	Oct 22	6.3	Oct 22	.00	Sep 28 1964
ANNUAL SEVEN-DAY MINIMUM	8.0	Oct 17	8.0	Oct 17	.00	Sep 28 1964
INSTANTANEOUS PEAK FLOW			649	Jul 20	9860	Jan 31 1963
INSTANTANEOUS PEAK STAGE					11.88	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	64360		100600		88290	
10 PERCENT EXCEEDS	145		354		352	
50 PERCENT EXCEEDS	87		94		42	
90 PERCENT EXCEEDS	18		19		2.6	

11294400 NORTH FORK STANISLAUS RIVER AT SOURGRASS CAMPGROUND, NEAR DORRINGTON, CA

LOCATION.--Lat 38°19'14", long 120°13'05", in NE 1/4 NW 1/4 sec.04, T.5 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 1.1 mi downstream from Little Rattlesnake Creek, 1.5 mi upstream from Mill Creek, and 3.3 mi east of Dorrington.

DRAINAGE AREA.--149 mi^2.

PERIOD OF RECORD.--February 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,930 ft above sea level, from topographic map.

REMARKS.--Records fair. Low and medium flows regulated by Union and Utica Reservoirs, Lake Alpine, North Fork Stanislaus River Diversion Reservoir, and New Spicer Meadow Reservoir (stations 11293350, 11293370, 11293460, 11293590, and 11293770), total combined usable capacity, 194,001 acre-ft. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,590 ft^3/s, Mar. 4, 1991, gage height, 12.81 ft; minimum daily, 11 ft^3/s, Oct. 24, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,520 ft^3/s, Mar. 17, gage height, 12.76 ft; minimum daily, 11 ft^3/s, Oct. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	155	118	130	e220	692	849	1320	1020	624	206	367
2	171	127	123	131	e210	707	680	1340	775	561	421	366
3	168	113	122	126	e210	667	667	1260	675	316	509	366
4	169	110	120	128	200	367	760	1070	865	307	490	365
5	168	108	118	122	244	454	696	995	1070	299	385	223
6	168	104	136	132	251	366	566	1110	693	431	291	202
7	169	109	124	550	248	376	564	1120	705	594	193	271
8	170	112	123	280	378	411	681	1050	727	511	191	379
9	172	110	179	198	382	463	805	1140	684	348	201	420
10	172	113	146	163	285	492	811	1380	730	248	252	408
11	172	112	141	140	265	512	764	1480	717	227	229	240
12	171	111	136	150	368	477	718	1460	580	402	226	186
13	171	111	134	370	366	528	642	995	560	506	200	273
14	171	111	131	409	358	778	629	993	707	449	206	367
15	171	111	114	239	350	697	752	1030	1110	445	238	367
16	152	112	111	e350	346	571	798	1090	1050	413	238	366
17	42	112	130	e270	338	1980	732	1290	923	231	259	362
18	19	113	126	e240	341	1350	761	1310	821	221	422	233
19	17	114	134	e210	562	943	643	1340	452	387	379	187
20	16	115	125	e330	456	831	704	1290	383	612	191	276
21	16	112	121	e1000	604	859	887	1200	439	428	187	359
22	16	121	120	e1300	597	928	1020	1070	541	441	186	357
23	12	119	118	e600	667	960	942	1100	636	502	197	366
24	11	116	120	e350	672	1510	716	1100	621	450	340	352
25	68	116	119	e300	716	1080	745	1520	493	452	341	295
26	175	116	119	e290	709	880	851	1160	379	452	341	295
27	171	117	118	e280	437	664	1120	925	338	404	252	337
28	168	116	131	e260	651	577	1220	741	307	316	205	364
29	215	113	142	e240	---	565	1360	680	190	376	187	381
30	217	112	133	e230	---	614	1430	702	230	366	288	381
31	197	---	124	e220	---	662	---	1260	---	204	366	---
TOTAL	4064	3441	3956	9738	11431	22961	24513	35521	19421	12523	8617	9711
MEAN	131	115	128	314	408	741	817	1146	647	404	278	324
MAX	217	155	179	1300	716	1980	1430	1520	1110	624	509	420
MIN	11	104	111	122	200	366	564	680	190	204	186	186
AC-FT	8060	6830	7850	19320	22670	45540	48620	70460	38520	24840	17090	19260

e Estimated.

11294400 NORTH FORK STANISLAUS RIVER AT SOURGRASS CAMPGROUND, NEAR DORRINGTON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	165	116	124	216	238	408	556	636	364	269	239	266
MAX	199	118	128	314	408	741	817	1146	647	404	278	324
(WY)	1992	1992	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	131	115	120	118	126	235	410	160	165	172	171	168
(WY)	1993	1993	1992	1992	1991	1991	1991	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1991 - 1993		
ANNUAL TOTAL	66845		165897				
ANNUAL MEAN	183		455		321		
HIGHEST ANNUAL MEAN					455		1993
LOWEST ANNUAL MEAN					188		1992
HIGHEST DAILY MEAN	617	Apr 17	1980	Mar 17	1980	Mar 17	1993
LOWEST DAILY MEAN	11	Oct 24	11	Oct 24	11	Oct 24	1992
ANNUAL SEVEN-DAY MINIMUM	15	Oct 18	15	Oct 18	15	Oct 18	1992
INSTANTANEOUS PEAK FLOW			2520	Mar 17	2590	Mar 4	1991
INSTANTANEOUS PEAK STAGE			12.76	Mar 17	12.81	Mar 4	1991
ANNUAL RUNOFF (AC-FT)	132600		329100		232600		
10 PERCENT EXCEEDS	310		1020		681		
50 PERCENT EXCEEDS	166		358		208		
90 PERCENT EXCEEDS	115		117		118		

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA

LOCATION.--Lat 38°14'38", long 120°17'24", in SW 1/4 NE 1/4 sec.35, T.5 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 1.1 mi upstream from McKay's Point Dam, 3.3 mi upstream from Beaver Creek, and 5.1 mi northeast of Avery.

DRAINAGE AREA.--163 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1914 to September 1925, November 1928 to current year. Yearly discharge only for some years, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M). WSP 1515: 1915(M), 1932(M), 1936(M), 1938, 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 3,388.3 ft above sea level (river-profile survey). Prior to September 1922, nonrecording gage at same site at datum 0.05 ft lower.

REMARKS.--No estimated daily discharges. Records good. Low and medium flows regulated by Union and Utica Reservoirs, Lake Alpine, North Fork Stanislaus River Diversion Reservoir, and New Spicer Meadow Reservoir (stations 11293350, 11293370, 11293460, 11293590, and 11293770), total combined usable capacity, 194,001 acre-ft. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft^3/s, Jan. 31, 1963, gage height, 15.00 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 ft^3/s, Dec. 6, 7, 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,460 ft^3/s, Mar. 17, gage height, 6.44 ft; minimum daily, 12 ft^3/s, Oct. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	160	105	126	238	779	944	1300	1050	605	193	342
2	166	126	111	120	233	794	766	1310	821	615	377	342
3	164	114	109	120	233	774	733	1270	707	322	491	342
4	163	109	108	122	225	423	833	1090	902	311	483	342
5	163	106	106	117	270	505	781	1000	1100	304	373	230
6	162	104	124	125	282	434	616	1110	758	398	291	194
7	162	107	135	588	277	430	587	1130	755	586	189	240
8	164	109	115	320	411	461	712	1070	787	521	186	346
9	166	107	211	222	464	525	850	1120	730	342	187	396
10	166	110	143	186	340	553	867	1330	773	252	243	388
11	166	110	163	158	321	577	817	1460	772	224	220	249
12	165	109	130	161	402	538	775	1420	612	358	219	179
13	165	108	125	433	407	587	680	1010	568	498	195	235
14	165	107	126	515	396	876	646	1000	712	435	193	344
15	165	107	109	291	383	817	780	1040	1110	431	228	345
16	158	107	106	397	381	641	847	1080	1070	416	228	344
17	62	107	122	319	381	1920	764	1260	944	234	229	342
18	23	108	119	272	382	1470	819	1270	871	217	396	243
19	19	108	124	232	697	1050	671	1290	478	343	376	181
20	18	108	119	339	519	925	723	1260	392	608	191	240
21	20	106	113	1070	684	941	903	1190	428	423	179	337
22	19	114	112	1470	660	998	1020	1080	538	419	177	335
23	15	112	112	636	781	1040	994	1090	655	492	176	344
24	12	109	113	446	765	1560	756	1100	635	435	309	335
25	23	107	113	379	818	1220	786	1450	512	437	318	277
26	164	106	112	337	799	1020	858	1160	394	441	318	277
27	163	107	111	316	532	806	1120	954	345	388	248	308
28	160	106	124	300	699	684	1210	777	323	340	201	340
29	207	104	145	283	---	662	1330	703	208	327	178	354
30	207	101	128	264	---	716	1390	734	224	366	249	358
31	202	---	121	247	---	760	---	1230	---	205	342	---
TOTAL	3937	3303	3814	10911	12980	25486	25578	35288	20174	12293	8183	9129
MEAN	127	110	123	352	464	822	853	1138	672	397	264	304
MAX	207	160	211	1470	818	1920	1390	1460	1110	615	491	396
MIN	12	101	105	117	225	423	587	703	208	205	176	179
AC-FT	7810	6550	7570	21640	25750	50550	50730	69990	40020	24380	16230	18110

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.5	131	220	235	321	484	979	1493	785	155	68.1	63.2
MAX	482	2103	1957	1691	2105	1785	2026	3299	3651	1231	337	304
(WY)	1983	1951	1965	1980	1986	1986	1982	1969	1983	1983	1990	1993
MIN	21.8	10.6	10.1	17.0	23.5	39.7	70.6	138	44.9	34.0	24.2	22.9
(WY)	1960	1960	1977	1977	1933	1977	1924	1924	1924	1924	1981	1924

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1915 - 1993		
ANNUAL TOTAL	69629		171076				
ANNUAL MEAN	190		469		416		
HIGHEST ANNUAL MEAN					1019		1983
LOWEST ANNUAL MEAN					54.3		1924
HIGHEST DAILY MEAN	611	Apr 13	1920	Mar 17	23400	Dec 23	1955
LOWEST DAILY MEAN	12	Oct 24	12	Oct 24	5.5	Dec 6	1929
ANNUAL SEVEN-DAY MINIMUM	18	Oct 18	18	Oct 18	7.4	Dec 2	1929
INSTANTANEOUS PEAK FLOW			2460	Mar 17	36000	Jan 31	1963
INSTANTANEOUS PEAK STAGE			6.44	Mar 17	15.00	Jan 31	1963
ANNUAL RUNOFF (AC-FT)	138100		339300		301700		
10 PERCENT EXCEEDS	348		1060		1200		
50 PERCENT EXCEEDS	168		342		114		
90 PERCENT EXCEEDS	109		109		34		

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1990 to current year.

INSTRUMENTATION.--Temperature recorder since June 1990.

REMARKS.--Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 23.0°C, July 5, 27-30, 1991; minimum recorded, 0.5°C, Jan. 12-14, Feb. 15, 16, 1992.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, Aug. 1; minimum recorded, 1.0°C, Dec. 24, Jan. 13, Feb. 20, 21.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	9.5	10.0	8.0	5.0	3.5	---	---	3.5	2.5	5.0	3.5
2	12.0	10.5	10.0	9.0	5.0	4.5	---	---	4.0	2.5	6.0	4.0
3	10.5	8.0	9.5	8.5	5.5	4.5	---	---	4.5	3.5	6.0	5.0
4	10.5	7.5	8.5	7.5	5.0	4.0	---	---	5.0	3.0	6.0	4.0
5	11.0	8.5	8.5	7.5	4.0	3.0	---	---	5.0	4.0	6.5	4.5
6	11.0	8.5	8.5	7.5	4.0	3.0	---	---	5.0	3.5	7.0	5.0
7	10.5	8.0	8.5	7.5	4.0	1.5	---	---	5.0	4.0	6.5	4.5
8	10.5	7.5	8.5	7.5	1.5	---	2.0	---	5.0	4.5	6.5	4.5
9	10.5	8.0	7.5	6.0	2.5	1.5	2.0	---	4.5	3.0	6.5	5.0
10	11.0	8.0	6.0	4.5	3.5	2.5	---	---	4.0	3.0	6.5	4.5
11	11.0	8.5	5.0	4.0	3.5	2.0	---	---	4.0	3.0	6.5	3.5
12	11.0	8.5	6.0	4.5	2.0	1.5	---	---	3.5	2.5	7.0	4.5
13	11.0	9.0	7.0	5.5	2.0	---	2.5	1.0	4.0	2.5	7.5	5.5
14	10.5	8.5	7.0	6.0	2.5	1.5	3.0	2.0	4.0	3.0	6.5	4.5
15	10.0	8.0	7.5	6.5	2.5	1.5	3.5	2.5	4.0	3.0	5.5	3.5
16	10.0	8.0	7.5	6.5	2.5	1.5	4.0	3.0	3.5	3.0	6.0	5.0
17	10.5	8.5	7.0	6.0	2.0	---	3.5	3.0	4.0	3.0	6.0	3.5
18	---	---	7.0	6.0	---	---	4.0	3.0	4.5	4.0	6.0	3.5
19	---	---	6.0	6.0	---	---	3.5	3.0	4.0	3.0	6.0	4.0
20	18.0	---	5.5	4.0	---	---	4.0	3.0	2.5	1.0	6.5	4.0
21	12.5	11.0	5.0	3.5	1.5	---	4.0	2.5	3.5	1.0	7.0	4.0
22	12.0	10.0	6.5	5.0	1.5	---	3.0	2.0	4.0	3.5	7.0	4.0
23	11.5	10.0	6.0	5.0	1.5	---	3.5	2.0	4.0	3.0	5.5	3.0
24	12.0	9.5	5.0	4.5	2.0	1.0	3.5	2.5	4.0	2.5	5.5	4.0
25	12.5	10.5	6.0	5.0	2.0	---	3.5	2.5	4.5	3.0	4.5	3.0
26	12.0	10.5	6.5	5.5	1.5	---	4.0	2.5	4.0	3.5	5.0	4.0
27	11.5	10.5	7.5	6.5	---	---	4.0	3.0	4.5	2.5	5.0	4.5
28	10.5	10.0	7.0	5.5	2.0	---	4.0	3.0	5.0	2.5	5.5	4.5
29	10.5	9.0	5.5	4.5	---	---	4.0	3.5	---	---	7.0	5.0
30	9.0	8.5	4.5	3.5	---	---	3.5	2.5	---	---	7.0	5.5
31	8.5	7.5	---	---	---	---	3.5	2.5	---	---	7.5	---
MONTH	---	---	10.0	3.5	---	---	---	---	5.0	1.0	7.5	---

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.0	3.5	8.0	4.5	9.5	---	---	---	21.0	17.0	16.0	14.0
2	6.5	4.0	8.0	5.0	9.5	7.5	---	---	20.5	18.5	16.5	14.5
3	7.0	5.0	7.0	4.5	9.5	7.5	---	---	18.5	15.5	17.0	15.0
4	6.5	5.5	7.0	4.0	9.5	8.0	---	---	16.5	14.0	17.0	15.0
5	6.5	4.5	8.0	4.0	7.5	6.0	---	---	17.5	15.0	17.5	15.0
6	6.5	3.5	8.0	6.0	---	---	---	---	18.0	15.0	17.0	14.5
7	7.5	4.5	7.5	3.0	---	---	---	---	18.0	14.0	16.5	14.0
8	7.5	---	8.0	4.5	10.0	---	---	---	17.0	13.5	16.5	14.0
9	---	---	9.0	5.5	10.5	8.5	---	---	17.0	14.0	16.5	14.5
10	6.5	3.5	9.0	5.0	---	---	---	---	17.5	14.0	16.0	14.0
11	7.0	---	8.5	5.0	11.0	8.5	---	---	17.0	14.0	16.5	14.0
12	6.0	3.5	7.0	2.0	11.5	---	---	---	16.5	13.0	16.0	13.0
13	---	---	7.5	---	12.5	---	---	---	17.0	13.0	15.0	12.5
14	---	---	8.5	---	13.5	---	---	---	17.5	14.0	15.0	13.0
15	8.0	---	8.5	5.5	12.5	8.5	---	---	16.5	14.0	14.5	12.5
16	6.0	4.5	9.0	5.5	12.5	---	---	---	16.0	12.5	14.0	12.5
17	---	5.0	9.0	5.5	---	---	---	---	17.0	13.5	13.0	12.0
18	7.0	4.0	9.5	6.0	14.0	---	---	---	16.0	14.0	13.5	11.0
19	7.5	4.0	9.5	4.5	16.0	13.0	---	---	15.0	14.0	14.0	11.5
20	7.5	5.5	8.5	5.0	16.0	13.5	---	---	16.0	13.0	14.0	11.5
21	8.0	5.5	9.0	---	13.5	12.0	14.5	---	16.0	12.0	13.5	11.5
22	7.5	5.5	---	---	---	---	15.0	13.0	17.0	13.0	15.0	11.5
23	6.0	4.0	10.0	---	---	---	15.0	13.5	18.0	14.5	14.5	13.0
24	7.5	4.5	10.0	6.0	---	---	16.0	13.5	17.0	14.5	15.0	13.0
25	7.0	6.0	9.5	---	---	---	16.0	14.5	16.5	14.5	16.0	13.5
26	8.0	5.0	8.5	6.0	17.0	14.0	16.0	14.0	16.0	13.5	16.0	13.5
27	7.5	4.5	8.0	7.0	17.5	14.0	16.5	14.5	17.0	13.5	15.5	13.5
28	8.0	4.5	8.0	---	16.0	13.0	17.0	15.0	17.5	14.0	16.0	14.0
29	8.5	4.5	9.5	4.5	16.5	---	18.0	14.5	17.0	14.0	15.5	14.0
30	8.0	4.5	9.5	8.0	15.5	---	18.0	16.5	16.5	13.5	16.0	14.5
31	---	---	8.5	7.5	---	---	20.5	16.0	16.0	14.0	---	---
MONTH	---	---	---	---	---	---	---	---	21.0	12.0	17.5	11.0

11295210 BEAVER CREEK DIVERSION TO MCKAY'S POINT RESERVOIR NEAR ARNOLD, CA

LOCATION.--Lat 38°14'01", long 120°16'44", in NW 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at Beaver Creek Diversion Dam and 4.5 mi eastsoutheast of Arnold.

PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,188.0 ft above sea level (levels by Calaveras County Water District).

REMARKS.--No estimated daily discharges. Diversion through tunnel and penstock to small turbine at McKay's Point Reservoir (station 11295260) and for further power development in Collierville Powerplant (station 11295250). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 232 ft^3/s, Apr. 4, 1993; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	37	40	221	169	128	2.3	.00	.00
2	.00	.00	.00	.00	34	39	207	190	109	4.5	.00	.00
3	.00	.00	.00	.00	36	42	220	142	94	1.4	.00	.00
4	.00	.00	.00	.00	34	44	232	165	108	2.7	.00	.00
5	.00	.00	.00	.00	52	47	220	217	140	.00	.00	.00
6	.00	.00	.00	.00	63	74	199	217	120	1.2	.00	.00
7	.00	.00	.00	66	61	89	192	190	122	.00	.00	.00
8	.00	.00	.00	81	103	99	173	207	112	.00	.00	.00
9	.00	.00	44	31	119	111	220	204	96	.00	.00	.00
10	.00	.00	14	11	90	116	218	156	90	.00	.00	.00
11	.00	.00	18	4.5	86	120	214	221	86	.00	.00	.00
12	.00	.00	2.2	.60	71	131	196	220	79	.00	.00	.00
13	.00	.00	.00	86	67	146	188	179	69	.00	.00	.00
14	.00	.00	.00	117	58	183	185	169	64	.00	.00	.00
15	.00	.00	.00	56	46	176	197	173	54	.00	.00	.00
16	.00	.00	.00	25	44	174	196	177	44	.00	.00	.00
17	.00	.00	.00	67	48	57	188	190	33	.00	.00	.00
18	.00	.00	.00	44	86	21	156	195	25	.00	.00	.00
19	.00	.00	.00	33	151	121	181	194	27	.00	.00	.00
20	.00	.00	.00	73	116	142	192	186	31	.00	.00	.00
21	.00	.00	.00	78	94	158	202	173	27	.00	.00	.00
22	.00	.00	.00	47	82	158	171	159	25	.00	.00	.00
23	.00	.00	.00	102	83	203	48	159	19	.00	.00	.00
24	.00	.00	.00	122	74	89	15	157	17	.00	.00	.00
25	.00	.00	.00	104	60	144	144	182	11	.00	.00	.00
26	.00	.00	.00	88	60	175	184	169	10	.00	.00	.00
27	.00	.00	.00	78	47	178	153	140	7.4	.00	.00	.00
28	.00	.00	.00	70	45	204	156	117	8.0	.00	.00	.00
29	2.4	.00	.00	64	---	216	112	106	5.0	.00	.00	.00
30	8.4	.00	.00	50	---	214	94	101	5.1	.00	.00	.00
31	1.9	---	.00	43	---	222	---	147	---	.00	.00	---
TOTAL	12.70	0.00	78.20	1541.10	1947	3933	5274	5371	1765.5	12.10	0.00	0.00
MEAN	.41	.000	2.52	49.7	69.5	127	176	173	58.8	.39	.000	.000
MAX	8.4	.00	44	122	151	222	232	221	140	4.5	.00	.00
MIN	.00	.00	.00	.00	34	21	15	101	5.0	.00	.00	.00
AC-FT	25	.00	155	3060	3860	7800	10460	10650	3500	24	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

MEAN	.14	.000	.84	16.6	28.4	56.5	89.8	69.5	19.1	.40	.000	.001
MAX	.41	.000	2.52	49.7	69.5	127	176	173	58.8	1.19	.000	.003
(WY)	1993	1991	1993	1993	1993	1993	1993	1993	1993	1992	1990	1991
MIN	.000	.000	.000	.000	.000	3.90	57.1	2.52	.000	.000	.000	.000
(WY)	1991	1991	1991	1991	1991	1991	1991	1992	1992	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	3709.50		19934.60			
ANNUAL MEAN	10.1		54.6		26.2	
HIGHEST ANNUAL MEAN					54.6	1993
LOWEST ANNUAL MEAN					9.89	1992
HIGHEST DAILY MEAN	96	Apr 3	232	Apr 4	232	Apr 4 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Feb 5 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Feb 5 1990
ANNUAL RUNOFF (AC-FT)	7360		39540		18980	
10 PERCENT EXCEEDS	39		183		87	
50 PERCENT EXCEEDS	.00		2.2		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11295220 BEAVER CREEK DIVERSION RESERVOIR NEAR ARNOLD, CA

LOCATION.--Lat 38°13'58", long 120°16'43", in NW 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at outlet structure of Beaver Creek Diversion Dam on Beaver Creek and 4.5 mi east-southeast of Arnold.
DRAINAGE AREA.--29.3 mi^2.

PERIOD OF RECORD.--February 1990 to current year.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in July 1989. Usable capacity, 2 acre-ft between elevations 4,186.0 ft, minimum fishwater release elevation, and 4,191.5 ft, crest of spillway. Water is diverted through tunnel to McKay's Point Reservoir (station 11295260) on North Fork Stanislaus River. Released water is used for fishery maintenance. Reservoir was drained below minimum fishwater release elevation Sept. 7 to Oct. 25, 1991, to allow replacement of the fish screens. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 14 acre-ft, Jan. 21, Mar. 17, 1993, maximum elevation, 4,192.9 ft, Mar. 17, 1993; minimum, 7.2 acre-ft, Oct. 23-25, 1991, minimum elevation, 4,182.7 ft, for many days in 1991, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14 acre-ft, Jan. 21, Mar. 17; maximum elevation, 4,192.9 ft, Mar. 17; minimum, 9.8 acre-ft, Oct. 1, 13, elevation, 4,186.8 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

4,182	7	4,189	11	4,192	13
4,187	10	4,191	12	4,193	14

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	10	10	10	12	12	13	13	12	12	10	10
2	9.9	10	10	10	12	12	13	13	12	11	10	10
3	9.9	10	10	10	12	12	12	12	12	12	10	10
4	9.9	10	10	10	12	12	12	12	12	11	10	10
5	9.9	10	10	10	12	12	12	12	12	12	10	10
6	9.9	10	11	10	12	12	12	12	12	12	10	10
7	9.9	10	10	12	12	12	13	12	12	12	10	10
8	9.9	10	11	12	12	12	12	12	12	11	10	10
9	9.9	10	12	12	11	12	12	13	11	10	10	10
10	9.9	10	12	12	12	12	12	13	12	10	10	10
11	9.9	10	13	11	11	12	12	12	12	10	10	10
12	9.9	10	11	12	12	12	12	12	12	10	10	10
13	9.8	10	10	12	12	12	12	12	12	10	10	10
14	9.9	10	10	11	12	13	12	12	12	10	10	10
15	9.9	9.9	10	13	12	12	13	12	12	10	10	10
16	9.9	9.9	10	12	12	13	12	12	12	10	10	10
17	9.9	9.9	10	12	12	14	13	12	12	10	10	10
18	9.9	9.9	10	12	12	13	13	12	12	10	10	10
19	9.9	10	10	12	12	13	12	12	13	10	10	10
20	9.9	10	10	13	12	13	13	12	13	10	10	10
21	10	9.9	10	14	12	13	13	12	13	10	10	10
22	9.9	10	10	13	12	13	13	12	12	10	10	10
23	9.9	10	10	12	12	13	13	12	12	10	10	10
24	9.9	10	10	12	12	13	12	12	11	10	10	10
25	9.9	10	10	11	12	13	12	12	12	10	10	10
26	9.9	10	10	12	12	13	13	12	11	10	10	10
27	9.9	10	10	12	12	13	13	12	12	10	10	10
28	9.9	10	10	11	12	12	13	12	11	10	10	10
29	12	10	10	12	---	12	13	12	12	10	10	10
30	12	10	10	12	---	13	13	12	12	10	10	10
31	10	---	10	12	---	12	---	12	---	10	10	---
MAX	12	10	13	14	12	14	13	13	13	12	10	10
MIN	9.8	9.9	10	10	11	12	12	12	11	10	10	10
a	4187.4	4187.0	4187.4	4190.4	4189.9	4190.7	4191.2	4190.8	4190.1	4187.3	4187.1	4187.0
b	+0.2	0	0	+2.0	0	0	+1.0	-1.0	0	-2.0	0	0

CAL YR 1992 b 0.0
WTR YR 1993 b +0.2

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11295230 BEAVER CREEK BELOW DIVERSION DAM, NEAR ARNOLD, CA

LOCATION.--Lat 38°13'59", long 120°16'46", in NE 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, at Beaver Creek Diversion Dam, 4.5 mi east-southeast of Arnold.

DRAINAGE AREA.--29.3 mi^2.

PERIOD OF RECORD.--February 1990 to current year.

REVISED RECORDS.--WDR CA-92-3: 1991 (M).

GAGE.--Acoustic-velocity meter on low-flow discharge, and water-stage recorder on Beaver Creek Diversion Reservoir (station 11295220). Datum of gage is sea level (levels by Calaveras County Water District).

REMARKS.--No estimated daily discharges. Entire flow of Beaver Creek in excess of 16.5 ft^3/s required for stream maintenance can be diverted through tunnel and penstock to turbine at McKay's Point Reservoir (stations 11295210 and 11295260). Capacity of tunnel and penstock is 400 ft^3/s and flow in excess of that amount is either released or spilled at Beaver Creek Diversion Dam to the creek. Discharge, including extremes, represents the combined flow of Beaver Creek and spill or release at diversion dam. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 701 ft^3/s, Mar. 17, 1993; minimum daily, 2.0 ft^3/s, Oct. 1-25, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 701 ft^3/s, Mar. 17; minimum daily, 2.2 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	9.6	4.6	9.7	20	20	102	159	20	19	10	6.8
2	2.4	7.5	4.5	9.5	19	20	65	143	19	19	9.8	6.6
3	2.7	6.7	4.5	9.7	18	20	22	158	19	18	9.6	6.5
4	2.8	5.8	4.4	9.3	18	20	21	105	19	19	9.7	6.4
5	2.7	5.3	4.1	9.2	18	20	30	20	26	18	9.2	6.4
6	2.6	5.0	7.6	10	18	20	20	21	19	18	8.9	6.4
7	2.4	4.6	17	29	18	20	22	56	19	18	8.7	6.3
8	2.3	4.5	11	20	18	20	79	20	19	18	8.6	6.1
9	2.3	4.4	20	20	19	20	23	37	19	16	9.0	5.9
10	2.4	4.3	19	20	20	20	22	128	18	9.8	9.3	5.8
11	2.4	4.3	20	20	20	18	21	62	18	16	9.1	5.8
12	2.4	4.3	25	20	19	18	35	29	18	16	9.1	5.8
13	2.3	4.3	16	20	20	17	20	20	19	16	9.1	5.8
14	2.3	4.3	13	20	20	42	20	29	19	15	9.0	5.7
15	2.5	4.3	12	20	20	49	22	19	19	15	8.9	5.8
16	2.6	4.2	11	38	20	20	34	19	18	14	9.1	6.0
17	2.6	4.2	10	20	20	535	42	19	19	14	8.9	6.3
18	2.7	4.2	10	20	20	450	112	19	19	14	8.5	6.8
19	2.7	4.3	9.4	20	38	247	47	19	18	14	8.2	6.5
20	2.7	4.4	9.9	23	20	206	27	20	18	13	8.1	6.3
21	7.7	4.2	9.1	266	20	179	50	19	19	13	8.1	6.1
22	5.7	5.7	8.6	464	20	184	118	19	19	13	8.0	6.0
23	3.9	5.9	8.6	146	20	143	243	19	19	13	7.7	5.9
24	3.4	5.4	8.6	29	20	428	244	19	18	13	7.4	5.9
25	3.5	4.9	8.5	20	20	299	113	56	19	12	7.3	5.9
26	3.4	4.7	8.5	20	20	233	50	19	18	12	7.3	5.9
27	3.4	5.0	8.4	21	20	146	120	19	19	12	7.1	5.7
28	3.6	5.1	11	20	20	72	133	19	19	11	7.0	5.5
29	12	4.7	11	19	---	21	174	19	19	11	7.0	5.5
30	20	4.5	9.5	19	---	28	238	19	19	11	6.9	5.5
31	18	---	12	20	---	23	---	23	---	11	6.8	---
TOTAL	134.6	150.6	336.8	1411.4	563	3558	2269	1352	570	451.8	261.4	181.9
MEAN	4.34	5.02	10.9	45.5	20.1	115	75.6	43.6	19.0	14.6	8.43	6.06
MAX	20	9.6	25	464	38	535	244	159	26	19	10	6.8
MIN	2.2	4.2	4.1	9.2	18	17	20	19	18	9.8	6.8	5.5
AC-FT	267	299	668	2800	1120	7060	4500	2680	1130	896	518	361

11295230 BEAVER CREEK BELOW DIVERSION DAM, NEAR ARNOLD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.48	5.57	7.45	19.5	14.4	43.8	32.5	23.9	14.3	8.77	4.61	3.65
MAX	5.82	7.20	10.9	45.5	20.1	115	75.6	43.6	19.0	14.6	8.43	6.06
(WY)	1992	1992	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	3.28	4.48	4.53	5.00	6.32	17.6	17.2	16.3	6.93	5.29	2.98	2.48
(WY)	1991	1991	1991	1991	1991	1990	1990	1992	1992	1990	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993		
ANNUAL TOTAL	3622.1		11240.5				
ANNUAL MEAN	9.90		30.8		16.8		
HIGHEST ANNUAL MEAN					30.8		1993
LOWEST ANNUAL MEAN					9.86		1991
HIGHEST DAILY MEAN	57	Feb 20	535	Mar 17	535	Mar 17	1993
LOWEST DAILY MEAN	2.1	Sep 29	2.2	Oct 1	2.0	Oct 1	1991
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 25	2.3	Oct 8	2.0	Oct 1	1991
INSTANTANEOUS PEAK FLOW			701	Mar 17	701	Mar 17	1993
ANNUAL RUNOFF (AC-FT)	7180		22300		12200		
10 PERCENT EXCEEDS	19		50		20		
50 PERCENT EXCEEDS	7.7		18		8.7		
90 PERCENT EXCEEDS	2.6		4.3		3.0		

11295240 UTICA CANAL AT PRESSURE TAP, NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°11'33", long 120°21'14", in SW 1/4 SW 1/4 sec.17, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, at pressure tap in Collierville Tunnel and 0.5 mi east of Hathaway Pines.
PERIOD OF RECORD.--October 1989 to current year.
GAGE.--Acoustic-velocity meter. Elevation of gage is 3,160 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Flow is diverted into Collierville Tunnel at McKay's Point Reservoir (stations 11295250 and 11295260) and enters canal through pressure tap in the tunnel. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric 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, 89 ft^3/s, Oct. 17, 1989; no flow in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	49	51	50	62	49	11	71	61	81	65	49
2	48	49	52	50	65	49	17	68	73	85	55	51
3	48	49	52	50	65	48	36	68	73	84	56	51
4	48	49	52	50	63	48	36	70	65	82	57	52
5	48	49	52	46	65	53	37	73	54	82	56	52
6	48	49	51	40	64	55	41	73	57	79	56	53
7	48	49	35	14	63	55	39	70	62	79	56	52
8	48	49	42	25	49	32	40	73	68	82	57	51
9	48	49	8.0	25	45	27	70	74	74	82	56	51
10	48	49	17	29	34	58	81	74	75	82	56	51
11	48	49	10	32	56	60	65	76	73	83	55	51
12	48	49	33	32	50	60	34	72	72	82	55	51
13	41	49	40	19	50	60	49	74	74	82	54	51
14	48	49	40	15	50	60	87	74	76	83	55	51
15	48	49	56	15	50	53	79	72	76	82	56	51
16	48	49	67	15	50	40	65	76	79	81	56	51
17	29	49	63	15	39	40	60	77	78	82	55	51
18	20	49	63	15	30	40	52	75	79	83	55	51
19	20	49	63	14	30	49	72	74	80	81	56	51
20	20	49	63	14	30	55	64	76	79	81	55	51
21	20	49	63	15	30	57	62	77	77	82	55	51
22	20	49	63	15	30	60	64	74	77	79	56	52
23	20	49	52	15	30	60	67	76	79	79	55	52
24	37	49	38	15	30	27	25	75	78	82	55	51
25	48	49	36	26	30	23	76	76	78	85	56	51
26	48	49	20	40	29	21	68	66	80	84	56	53
27	48	49	20	40	33	20	61	71	81	82	56	53
28	48	49	43	40	42	23	66	75	81	82	55	51
29	48	49	48	44	---	30	69	74	78	81	56	50
30	46	49	48	50	---	20	72	79	79	82	50	51
31	48	---	47	56	---	13	---	59	---	82	48	---
TOTAL	1253	1470	1388.0	921	1264	1345	1665	2262	2216	2538	1720	1538
MEAN	40.4	49.0	44.8	29.7	45.1	43.4	55.5	73.0	73.9	81.9	55.5	51.3
MAX	48	49	67	56	65	60	87	79	81	85	65	53
MIN	20	49	8.0	14	29	13	11	59	54	79	48	49
AC-FT	2490	2920	2750	1830	2510	2670	3300	4490	4400	5030	3410	3050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

MEAN	51.5	50.7	57.0	54.8	53.2	63.7	64.0	78.5	74.7	49.6	39.7	40.7
MAX	74.7	59.3	69.8	77.7	79.0	75.8	81.5	85.2	86.0	81.9	55.5	51.3
(WY)	1990	1992	1990	1990	1991	1990	1990	1992	1992	1993	1993	1993
MIN	40.4	38.1	44.8	29.7	27.4	43.4	48.8	72.6	66.3	36.2	30.4	35.0
(WY)	1993	1991	1993	1993	1990	1993	1992	1991	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	19783.18		19580.0			
ANNUAL MEAN	54.1		53.6		56.5	
HIGHEST ANNUAL MEAN					59.8	1990
LOWEST ANNUAL MEAN					53.6	1993
HIGHEST DAILY MEAN	88	Apr 22	87	Apr 14	89	Oct 17 1989
LOWEST DAILY MEAN	.00	Apr 7	8.0	Dec 9	.00	Feb 4 1990
ANNUAL SEVEN-DAY MINIMUM	.02	Apr 7	15	Jan 14	.00	Feb 4 1990
ANNUAL RUNOFF (AC-FT)	39240		38840		40940	
10 PERCENT EXCEEDS	86		79		82	
50 PERCENT EXCEEDS	49		52		60	
90 PERCENT EXCEEDS	31		26		32	

11295250 COLLIERVILLE POWERPLANT NEAR MURPHYS, CA

LOCATION.--Lat 38°08'33", long 120°22'39", in NE 1/4 SE 1/4 sec.1, T.3 N., R.14 E., Calaveras County, Hydrologic Unit 18040010, 800 ft upstream from Stanislaus River and 4.4 mi east of Murphys.
PERIOD OF RECORD.--February 1990 to current year.
GAGE.--Pressure-differential sensors in powerplant penstocks. Elevation of powerplant is 1,120 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Flow is diverted from McKay's Point Reservoir (station 11295260) through Collierville Tunnel to the powerplant. A portion of the flow in the tunnel is diverted to Utica Canal (station 11295240) through a pressure tap near Mill Creek in SW 1/4 SW 1/4 sec.17, T.4 N., R.15 E. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were collected by Calaveras County Water District, 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, 1,330 ft^3/s, Mar. 26, May 1, 2, 1993; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	68	113	21	296	637	1010	1330	1120	412	92	339
2	47	129	98	38	154	673	789	1330	746	245	374	359
3	78	144	32	44	149	737	795	1290	821	154	328	313
4	73	109	64	84	189	563	926	1160	868	73	350	135
5	31	102	.00	30	286	509	934	1030	1070	147	290	136
6	32	129	6.2	43	151	352	772	1080	779	494	206	40
7	48	.00	73	492	177	366	756	1220	814	475	.00	298
8	46	.00	141	466	561	575	729	1080	660	311	38	318
9	87	.00	159	102	554	498	857	1110	578	341	212	265
10	26	.00	222	115	352	600	908	1200	517	45	177	323
11	88	52	171	120	321	643	895	1310	677	.00	201	168
12	68	53	.00	212	417	624	861	1260	773	344	248	.00
13	62	44	.00	358	335	348	762	1260	593	346	222	285
14	69	.00	174	603	341	931	754	1150	722	319	.00	311
15	53	.00	30	363	386	873	845	1060	936	406	.00	345
16	22	164	85	364	496	740	937	920	933	364	211	300
17	.00	17	25	214	363	1120	852	1130	758	59	207	281
18	.00	8.2	22	342	368	1310	654	1270	678	26	243	73
19	.00	29	.00	315	690	1310	669	1310	281	414	262	.00
20	.00	25	.00	413	564	1100	736	1320	167	363	205	325
21	98	.00	72	899	640	1050	972	1240	510	377	.00	314
22	91	3.2	75	1230	772	927	1180	1250	480	544	58	266
23	90	120	60	887	717	1150	1030	1060	543	490	272	329
24	.00	93	69	523	737	1310	514	1270	570	153	230	347
25	.00	65	.00	440	760	1280	604	1140	484	90	190	24
26	88	.00	.00	369	766	1330	1000	1120	230	286	242	43
27	21	21	.00	331	589	927	1110	1250	88	340	267	369
28	.00	.00	77	306	560	676	1190	919	310	311	98	312
29	105	.00	73	366	---	843	1270	746	349	252	.00	341
30	58	114	86	195	---	858	1220	675	321	356	182	292
31	116	---	77	74	---	902	---	928	---	151	230	---
TOTAL	1534.00	1489.40	2004.20	10359	12691	25762	26531	35418	18376	8688.00	5635.00	7251.00
MEAN	49.5	49.6	64.7	334	453	831	884	1143	613	280	182	242
MAX	116	164	222	1230	772	1330	1270	1330	1120	544	374	369
MIN	.00	.00	.00	21	149	348	514	675	88	.00	.00	.00
AC-FT	3040	2950	3980	20550	25170	51100	52620	70250	36450	17230	11180	14380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

MEAN	93.7	49.6	51.5	135	173	361	513	465	241	171	190	194
MAX	139	59.0	64.7	334	453	831	884	1143	613	280	300	242
(WY)	1991	1991	1993	1993	1993	1993	1993	1993	1993	1993	1990	1993
MIN	49.5	40.2	25.3	32.3	9.79	140	342	50.6	55.5	122	104	114
(WY)	1993	1992	1992	1992	1991	1991	1991	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	42141.70		155738.60			
ANNUAL MEAN	115		427		238	
HIGHEST ANNUAL MEAN					427	1993
LOWEST ANNUAL MEAN					115	1992
HIGHEST DAILY MEAN	713	Apr 2	1330	Mar 26	1330	Mar 26 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 17	.00	Feb 10 1990
ANNUAL SEVEN-DAY MINIMUM	.00	May 16	21	Oct 14	.00	Feb 7 1991
ANNUAL RUNOFF (AC-FT)	83590		308900		172100	
10 PERCENT EXCEEDS	318		1090		603	
50 PERCENT EXCEEDS	78		318		140	
90 PERCENT EXCEEDS	.00		13		.00	

11295260 MCKAY'S POINT RESERVOIR NEAR AVERY, CA

LOCATION.--Lat 38°14'01", long 120°17'30", in NE 1/4 NW 1/4 sec.2, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at outlet structure near upstream face of McKay's Point Dam on North Fork Stanislaus River and 4.6 mi northeast of Avery.
DRAINAGE AREA.--166 mi^2.
PERIOD OF RECORD.--February 1990 to current year.
REVISED RECORDS.--WDR CA-92-3: 1992 (M).
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Calaveras County Water District).
REMARKS.--Reservoir is formed by concrete arch-type dam completed in July 1989. Usable capacity, 1,928 acre-ft between elevations 3,280.0 ft, minimum operating head, and 3,370.0 ft, crest of spillway. Water is diverted from reservoir through tunnel to Utica Canal (station 11295240) and Collierville Powerplant (station 11295250, near the confluence of the middle and north forks of the Stanislaus River). Released water is used for fishery maintenance. New capacity table started on Sept. 1, 1991, based on inflow-outflow computations. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were collected by Calaveras County Water District, 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, 2,279 acre-ft, Mar. 17, 1993, elevation, 3,370.9 ft; minimum, 329 acre-ft, Oct. 24, 1991, elevation, 3,281.1 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,279 acre-ft, Mar. 17, elevation, 3,370.9 ft; minimum, 323 acre ft, Apr. 23, elevation, 3,280.4 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on inflow-outflow computations provided by Calaveras County Water District in September 1991)

3,280	320	3,340	1,325	3,370	2,248
3,300	480	3,360	1,921	3,380	2,575
3,320	869				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1432	1800	1077	1017	1120	1104	968	1015	1237	1042	1626	1840
2	1502	1648	975	1040	1174	1182	1092	1057	1285	1540	1491	1670
3	1515	1455	993	1046	1230	1124	1151	1014	948	1678	1665	1593
4	1530	1311	948	987	1205	795	1128	890	902	1952	1784	1870
5	1624	1193	1018	1027	1088	721	991	942	994	2055	1807	1912
6	1720	1014	1116	1072	1271	874	907	1051	910	1662	1828	2045
7	1786	1076	1152	1232	1391	1012	764	909	746	1649	2023	1801
8	1856	1146	1008	988	1109	856	853	969	922	1847	2140	1719
9	1846	1211	1150	1175	996	969	940	1065	1117	1650	1957	1839
10	1941	1278	955	1225	999	874	956	1338	1488	1858	1939	1829
11	1934	1250	928	1202	997	745	922	1771	1547	2068	1835	1855
12	1962	1219	1075	1004	943	595	870	2203	1137	1911	1627	2038
13	2010	1207	1203	1191	1061	1165	826	1705	1010	1995	1431	1807
14	2019	1274	1001	1099	1143	1094	648	1391	832	2011	1644	1743
15	2077	1337	1013	988	1102	1054	511	1346	1001	1864	1932	1605
16	2162	1102	897	1086	812	975	425	1694	1098	1767	1825	1560
17	2171	1143	933	1325	832	2279	363	1999	1271	1903	1723	1561
18	2128	1200	956	1202	903	2115	714	2048	1431	2052	1879	1754
19	2082	1220	1027	1018	1022	1544	805	2042	1681	1725	1966	1948
20	2034	1244	1096	930	1025	1177	866	1947	1985	1958	1801	1640
21	1827	1307	1031	1236	1130	974	808	1826	1676	1842	1982	1569
22	1608	1389	951	1717	887	1148	477	1398	1626	1379	2055	1578
23	1392	1252	900	1275	973	1020	323	1460	1643	1172	1726	1479
24	1302	1161	829	1272	967	1564	568	1078	1557	1534	1737	1320
25	1211	1116	886	1231	980	1498	917	1838	1434	2003	1843	1678
26	1214	1189	938	1199	950	970	620	1917	1594	2111	1831	1976
27	1329	1224	988	1181	790	846	671	1234	1918	2008	1635	1722
28	1487	1293	941	1160	971	1089	717	855	1768	1899	1689	1648
29	1556	1359	1006	965	---	977	767	670	1299	1860	1870	1546
30	1732	1218	979	1055	---	914	1055	690	921	1695	1861	1552
31	1758	---	940	1319	---	851	---	1418	---	1599	1940	---
MAX	2170	1800	1200	1720	1390	2280	1150	2200	1980	2110	2140	2040
MIN	1210	1010	829	930	790	595	323	670	746	1040	1430	1320
a	3354.9	3335.6	3323.3	3339.8	3324.8	3319.1	3328.6	3343.3	3322.4	3349.8	3360.6	3348.1
b	+467	-540	-278	+379	-348	-120	+204	+363	-497	+678	+341	-388

CAL YR 1992 b +315
WTR YR 1993 b +261

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAY'S POINT DAM, NEAR AVERY, CA

LOCATION.--Lat 38°13'58", long 120°17'33", in NE 1/4 NW 1/4 sec.2, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, at McKay's Point Dam and 4.5 mi northeast of Avery.

DRAINAGE AREA.--166 mi^2.

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

REVISED RECORDS.--WDR CA-91-3: 1990.

GAGE.--Acoustic-flow meter and water-stage recorder on McKay's Point Reservoir (station 11295260). August 1989 to September 1992 at site 500 ft downstream at different datum. Elevation of gage is 3,280 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Union and Utica Reservoirs, Lake Alpine (stations 11293350, 11293370, and 11293460), New Spicer Meadow Reservoir and McKay's Point Reservoir (stations 11293770 and 11295260) with combined capacity, 200,770 acre-ft. Collierville Tunnel diverts at McKay's Point Reservoir to Utica Canal and Collierville Powerplant. Discharge, including extremes, represents flow through dam's release valve, and flow over spillway. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 1,050 ft^3/s, Mar. 4, 1991, gage height, 2.68 ft, site and datum then in use, from rating curve extended above 36 ft^3/s on the basis of computation of flow over dam and discharge through minimum release valve; minimum daily, 3.4 ft^3/s, Nov. 25, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 857 ft^3/s, Mar. 17; minimum daily, 18 ft^3/s, for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	18	22	19	20	20	21	20	23	20	20	22
2	25	20	23	19	19	20	22	20	20	21	20	22
3	25	20	22	20	19	19	22	19	20	20	20	21
4	25	21	22	19	19	18	21	20	20	20	20	22
5	24	21	22	19	19	19	21	20	21	20	20	21
6	25	21	21	19	20	19	21	21	20	19	19	21
7	24	23	18	19	21	19	19	20	20	19	20	21
8	24	23	18	19	20	19	20	20	21	20	20	21
9	24	24	20	19	19	19	21	20	20	18	19	22
10	24	24	25	19	19	19	21	20	19	18	19	22
11	24	24	24	19	19	19	21	20	19	18	20	22
12	24	23	24	19	18	19	20	33	20	18	20	22
13	24	23	25	19	19	20	20	20	19	20	19	22
14	24	23	24	19	19	19	20	19	20	20	20	22
15	24	23	24	19	19	19	21	20	21	19	20	21
16	24	23	22	20	18	141	21	20	20	19	20	22
17	24	22	21	20	18	130	21	21	21	19	20	21
18	24	23	23	20	19	20	21	19	22	20	20	21
19	24	23	21	19	19	19	20	20	20	20	20	21
20	24	23	21	20	19	19	20	20	21	20	19	21
21	20	23	21	22	19	19	20	20	20	20	20	21
22	21	22	22	22	18	21	20	20	20	20	20	21
23	23	20	21	19	18	20	20	20	20	19	20	21
24	23	21	22	18	19	20	23	20	19	20	21	22
25	24	22	24	19	19	21	20	20	19	19	21	22
26	23	22	25	18	19	20	20	21	20	19	20	22
27	23	22	26	18	19	20	19	20	20	20	20	21
28	24	22	22	18	19	21	20	20	20	21	21	22
29	21	22	19	18	---	20	20	21	20	20	21	21
30	18	22	19	19	---	20	20	21	19	20	21	22
31	18	---	19	20	---	21	---	22	---	20	22	---
TOTAL	723	663	682	596	532	839	616	637	604	606	622	645
MEAN	23.3	22.1	22.0	19.2	19.0	27.1	20.5	20.5	20.1	19.5	20.1	21.5
MAX	25	24	26	22	21	141	23	33	23	21	22	22
MIN	18	18	18	18	18	18	19	19	19	18	19	21
AC-FT	1430	1320	1350	1180	1060	1660	1220	1260	1200	1200	1230	1280

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAY'S POINT DAM, NEAR AVERY, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.5	18.6	17.5	16.4	18.8	22.7	19.7	20.8	20.7	20.8	20.1	23.1
MAX	27.6	25.0	24.0	19.5	20.7	28.8	20.5	22.7	21.3	21.9	24.3	27.5
(WY)	1992	1992	1992	1992	1991	1991	1993	1990	1991	1990	1992	1991
MIN	20.3	6.06	5.55	7.93	17.4	15.8	18.9	18.4	20.1	19.5	10.6	18.9
(WY)	1990	1990	1990	1990	1990	1990	1990	1992	1993	1993	1989	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1989 - 1993		
ANNUAL TOTAL	7738		7765				
ANNUAL MEAN	21.1		21.3		20.5		
HIGHEST ANNUAL MEAN					22.0		1991
LOWEST ANNUAL MEAN					16.9		1990
HIGHEST DAILY MEAN	28	Aug 20	141	Mar 16	325	Mar 4	1991
LOWEST DAILY MEAN	17	Jan 7	18	Oct 30	3.4	Nov 25	1989
ANNUAL SEVEN-DAY MINIMUM	18	Feb 8	18	Jan 23	4.2	Nov 15	1989
INSTANTANEOUS PEAK FLOW			857	Mar 17	1050	Mar 4	1991
INSTANTANEOUS PEAK STAGE					2.68	Mar 4	1991
ANNUAL RUNOFF (AC-FT)	15350		15400		14870		
10 PERCENT EXCEEDS	25		24		24		
50 PERCENT EXCEEDS	21		20		20		
90 PERCENT EXCEEDS	18		19		13		

11295300 NORTH FORK STANISLAUS RIVER BELOW BEAVER CREEK, NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°12'26", long 120°18'58", in SW 1/4 SW 1/4 sec.10, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, at confluence with Beaver Creek and 2.8 mi northeast of Hathaway Pines.

DRAINAGE AREA.--224 mi^2.

PERIOD OF RECORD.--February 1990 to current year.

REVISED RECORD.--WDR CA-91-3: 1990.

GAGE.--Discharge computed as the sum of North Fork Stanislaus River below McKay's Point Dam (station 11295270) and Beaver Creek below diversion dam (station 11295230). Elevation of gage is 2,230 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records consist of release and spill from McKay's Point Reservoir (station 11295260) and Beaver Creek Diversion Reservoir (station 11295220). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records for Beaver Creek below diversion dam were collected by Calaveras County Water District, 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, 665 ft^3/s, Mar. 17, 1993; minimum daily, 22 ft^3/s, on several days in December 1990 and January 1991.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	28	27	29	40	40	123	179	43	39	30	29
2	27	27	27	28	38	40	87	163	39	40	30	29
3	28	27	26	30	37	39	44	177	39	38	30	27
4	28	27	26	28	37	38	42	125	39	39	30	28
5	27	26	26	28	37	39	51	40	47	38	29	27
6	28	26	29	29	38	39	41	42	39	37	28	27
7	26	28	35	48	39	39	41	76	39	37	29	27
8	26	27	29	39	38	39	99	40	40	38	29	27
9	26	28	40	39	38	39	44	57	39	34	28	28
10	26	28	44	39	39	39	43	148	37	28	28	28
11	26	28	44	39	39	37	42	82	37	34	29	28
12	26	27	49	39	37	37	55	62	38	34	29	28
13	26	27	41	39	39	37	40	40	38	36	28	28
14	26	27	37	39	39	61	40	48	39	35	29	28
15	26	27	36	39	39	68	43	39	40	34	29	27
16	27	27	33	58	38	161	55	39	38	33	29	28
17	27	26	31	40	38	665	63	40	40	33	29	27
18	27	27	33	40	39	470	133	38	41	34	28	28
19	27	27	30	39	57	266	67	39	38	34	28	27
20	27	27	31	43	39	225	47	40	39	33	27	27
21	28	27	30	288	39	198	70	39	39	33	28	27
22	27	28	31	486	38	205	138	39	39	33	28	27
23	27	26	30	165	38	163	263	39	39	32	28	27
24	26	26	31	47	39	448	267	39	37	33	28	28
25	27	27	32	39	39	320	133	76	38	31	28	28
26	26	27	33	38	39	253	70	40	38	31	27	28
27	26	27	34	39	39	166	139	39	39	32	27	27
28	28	27	33	38	39	93	153	39	39	32	28	27
29	33	27	30	37	---	41	194	40	39	31	28	26
30	38	26	28	38	---	48	258	40	38	31	28	27
31	36	---	31	40	---	44	---	45	---	31	29	---
TOTAL	856	810	1017	2007	1095	4397	2885	1989	1174	1058	883	825
MEAN	27.6	27.0	32.8	64.7	39.1	142	96.2	64.2	39.1	34.1	28.5	27.5
MAX	38	28	49	486	57	665	267	179	47	40	30	29
MIN	26	26	26	28	37	37	40	38	37	28	27	26
AC-FT	1700	1610	2020	3980	2170	8720	5720	3950	2330	2100	1750	1640

11295300 NORTH FORK STANISLAUS RIVER BELOW BEAVER CREEK, NEAR HATHAWAY PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.0	28.3	28.9	38.6	33.2	66.5	52.2	44.8	35.0	29.5	27.1	27.8
MAX	33.5	32.1	32.8	64.7	39.1	142	96.2	64.2	39.1	34.1	28.5	30.7
(WY)	1992	1992	1993	1993	1993	1993	1993	1993	1993	1993	1993	1991
MIN	25.9	25.7	23.0	23.7	27.0	33.4	36.1	34.7	27.7	27.3	26.1	25.9
(WY)	1991	1991	1991	1991	1991	1990	1990	1992	1992	1990	1990	1990

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1990 - 1993	
ANNUAL TOTAL	11344		18996			
ANNUAL MEAN	31.0		52.0		38.5	
HIGHEST ANNUAL MEAN					52.0	1993
LOWEST ANNUAL MEAN					31.7	1992
HIGHEST DAILY MEAN	75	Feb 20	665	Mar 17	665	Mar 17 1993
LOWEST DAILY MEAN	26	Jan 7	26	Oct 7	22	Dec 15 1990
ANNUAL SEVEN-DAY MINIMUM	26	Oct 7	26	Oct 7	22	Dec 25 1990
ANNUAL RUNOFF (AC-FT)	22500		37680		27910	
10 PERCENT EXCEEDS	38		72		40	
50 PERCENT EXCEEDS	28		37		30	
90 PERCENT EXCEEDS	26		27		26	

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°08'29", long 120°22'19", in NW 1/4 SW 1/4 sec.6, T.3 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, on right bank 1,000 ft upstream from Stanislaus Powerplant and 3.6 mi south of Hathaway Pines.

DRAINAGE AREA.--629 mi^2.

PERIOD OF RECORD.--July 1967 to current year.
WATER TEMPERATURE: Water years 1970-83.

REVISED RECORDS.--WDR CA-80-3: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1,077.21 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Oct. 1, 1982, published at datum 47.21 ft higher.

REMARKS.--Records good. Many diversions upstream from station for hydroelectric powerplants. Small diversions for domestic water supply. Stanislaus Tunnel diverts from left bank of Middle Fork Stanislaus River 13.7 mi upstream from station in SE 1/4 sec.24, T.4 N., R.16 E., to Stanislaus Powerplant 1,000 ft downstream from station. See schematic diagram of Stanislaus River basin. For records of combined discharge of river and tunnel, see following page.

COOPERATION.--Records of diversion to Stanislaus Powerplant were provided by Pacific Gas & Electric Co.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,200 ft^3/s, Feb. 19, 1986, gage height, 23.5 ft, from outside highwater mark, from rating curve extended above 10,000 ft^3/s on basis of computation of peak flow over a weir; minimum daily, 9.4 ft^3/s, Aug. 7, 1977.
Combined flow, maximum discharge, 46,700 ft^3/s, Feb. 19, 1986; minimum daily, 27 ft^3/s, July 20, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 5,110 ft^3/s, Jan. 22, gage height, 13.02 ft; minimum daily, 56 ft^3/s, Dec. 5.
Combined flow, maximum discharge, 5,560 ft^3/s, Jan. 22; minimum daily, 67 ft^3/s, Dec. 6.

REVISIONS.--The maximum combined flow for water year 1992 has been revised to 1,970 ft^3/s, Mar. 17, 1992.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	160	164	169	520	945	1980	e2800	3150	1570	346	442
2	125	195	151	175	360	973	1630	e2800	2660	1310	569	454
3	156	207	87	163	351	1040	1460	e2800	2510	1360	470	401
4	149	169	115	155	388	853	1710	e2700	2400	1260	488	210
5	111	157	56	135	509	793	1680	e2650	2700	1120	430	215
6	110	187	67	143	382	646	1470	e2500	2370	1380	342	114
7	121	60	226	1260	398	684	1440	e2300	2260	1440	118	382
8	120	60	226	1100	900	915	1440	1980	1990	1440	163	406
9	162	58	623	476	1100	877	1540	1640	1950	1350	358	349
10	111	57	441	421	806	976	1580	2180	2120	898	310	409
11	162	109	517	370	757	1020	1550	e2450	2620	763	332	246
12	142	113	183	420	807	1010	1510	e2500	2900	1020	393	81
13	140	103	129	997	673	732	1370	e2550	2620	845	358	369
14	151	59	285	1530	644	1430	1350	e3000	2760	674	122	392
15	129	59	123	912	666	1390	1450	e3500	3370	800	132	440
16	105	221	165	1000	777	1200	1520	e4000	3460	798	361	386
17	80	73	118	839	631	2700	1440	e4000	2840	472	325	363
18	80	64	115	960	684	3000	1360	e3900	2330	259	358	157
19	80	85	85	717	1280	2320	1280	4190	2010	703	376	83
20	80	84	83	871	1100	1920	1320	4400	2280	647	317	416
21	209	59	146	2290	1120	1820	1570	4500	2850	661	102	396
22	176	65	146	3460	1220	1690	1820	4520	2350	843	139	345
23	166	175	132	1770	1220	1900	1730	4120	2090	772	377	418
24	80	147	139	1080	1330	2700	1350	4010	2080	386	343	436
25	80	118	78	876	1220	2680	1260	3830	2050	343	301	103
26	164	59	79	741	1190	2740	1610	3820	1980	560	362	121
27	101	78	78	655	943	2020	1800	3810	1960	614	382	459
28	80	59	170	604	878	1590	2170	2970	2060	567	197	396
29	215	59	287	637	---	1610	2580	2470	1710	441	85	427
30	196	165	252	442	---	1600	2690	2400	1580	526	279	372
31	239	---	205	300	---	1620	---	2690	---	357	341	---
TOTAL	4131	3264	5671	25668	22854	47394	48660	97980	72010	26179	9576	9788
MEAN	133	109	183	828	816	1529	1622	3161	2400	844	309	326
MAX	239	221	623	3460	1330	3000	2690	4520	3460	1570	569	459
MIN	80	57	56	135	351	646	1260	1640	1580	259	85	81
AC-FT	8190	6470	11250	50910	45330	94010	96520	194300	142800	51930	18990	19410

e Estimated.

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	145	292	373	692	876	1074	1420	2308	1776	483	134	128
MAX	688	2124	2757	2859	4869	3413	3996	7297	9509	3342	624	347
(WY)	1983	1984	1984	1980	1986	1986	1982	1969	1983	1983	1983	1983
MIN	13.9	21.9	19.2	24.3	33.6	41.0	112	148	29.3	11.8	12.1	14.1
(WY)	1978	1977	1977	1977	1977	1977	1977	1992	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1967 - 1993		
ANNUAL TOTAL	81436		373175				
ANNUAL MEAN	223		1022		807		
HIGHEST ANNUAL MEAN					2551		1983
LOWEST ANNUAL MEAN					47.3		1977
HIGHEST DAILY MEAN	922	Apr 2	4520	May 22	23600	Feb 19	1986
LOWEST DAILY MEAN	56	Dec 5	56	Dec 5	9.4	Aug 7	1977
ANNUAL SEVEN-DAY MINIMUM	74	Feb 1	80	Nov 9	9.7	Aug 5	1977
INSTANTANEOUS PEAK FLOW			5110	Jan 22	46200	Feb 19	1986
INSTANTANEOUS PEAK STAGE			13.02	Jan 22	23.50	Feb 19	1986
ANNUAL RUNOFF (AC-FT)	161500		740200		584500		
10 PERCENT EXCEEDS	480		2650		2200		
50 PERCENT EXCEEDS	168		623		220		
90 PERCENT EXCEEDS	77		103		37		

11295401 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

STANISLAUS RIVER AND STANISLAUS TUNNEL AT OUTLET, NEAR HATHAWAY PINES, CA,
COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	172	433	169	993	1410	2510	3320	3680	2100	844	914
2	341	216	455	190	831	1450	2110	3290	3120	1800	1110	976
3	215	241	345	322	820	1520	1930	3320	3040	1870	1010	907
4	222	216	299	388	856	1340	2220	3170	2940	1800	974	708
5	327	202	93	337	982	1310	2210	3190	3220	1630	961	725
6	400	210	67	308	856	1140	1990	3030	2870	1900	866	629
7	403	87	414	1650	870	1170	1960	2820	2730	1920	631	881
8	404	91	478	1390	1380	1450	1950	2490	2530	1980	683	919
9	392	97	907	714	1590	1370	2020	2140	2400	1850	866	830
10	184	96	699	611	1300	1470	2080	2700	2680	1390	849	944
11	212	169	722	528	1250	1510	2100	3010	3100	1240	833	768
12	208	155	273	614	1300	1530	2020	2990	3420	1590	901	590
13	215	128	228	1450	1160	1220	1860	3070	3130	1350	865	877
14	238	104	485	2070	1120	1910	1890	3520	3250	1160	644	898
15	169	94	458	1410	1020	1880	1950	3980	3900	1350	648	917
16	179	263	485	1520	1020	1680	2040	4500	3910	1300	869	911
17	134	97	472	1310	936	3240	1970	4550	3410	962	739	874
18	137	120	422	1480	1070	3510	1860	4400	2860	758	921	652
19	194	128	258	1240	1770	2810	1800	4680	2500	1220	842	602
20	245	127	238	1350	1570	2420	1830	4950	2790	1170	792	902
21	538	106	402	2720	1580	2320	2060	4990	3340	1170	582	915
22	542	77	487	3910	1680	2230	2370	5040	2840	1350	628	845
23	420	226	494	2210	1680	2410	2240	4630	2620	1290	876	925
24	117	178	375	1490	1790	3200	1830	4510	2550	878	824	950
25	158	153	250	1280	1680	3180	1760	4350	2560	849	758	590
26	259	85	249	1210	1660	3270	2150	4350	2540	1060	799	648
27	105	123	243	1150	1410	2540	2320	4320	2420	1120	879	944
28	143	100	354	1090	1350	2100	2660	3470	2600	1080	665	936
29	270	78	397	1120	---	2130	3090	2980	2230	789	579	919
30	256	310	307	921	---	2110	3210	2890	2080	928	750	893
31	304	---	242	777	---	2090	---	3200	---	885	816	---
TOTAL	8351	4449	12031	36929	35524	62920	63990	113850	87260	41739	25004	24985
MEAN	269	148	388	1191	1269	2030	2133	3673	2909	1346	807	833
MAX	542	310	907	3910	1790	3510	3210	5040	3910	2100	1110	976
MIN	105	77	67	169	820	1140	1760	2140	2080	758	579	590
AC-FT	16560	8820	23860	73250	70460	124800	126900	225800	173100	82790	49600	49560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

MEAN	518	591	779	1065	1253	1495	1879	2770	2279	993	641	607
MAX	1108	2483	3283	3390	5388	3942	4516	7837	10020	3873	1156	879
(WY)	1983	1984	1984	1980	1986	1986	1982	1969	1983	1983	1983	1983
MIN	63.5	40.2	35.4	40.5	47.8	57.1	426	269	318	96.4	55.4	77.0
(WY)	1978	1977	1977	1977	1977	1977	1977	1992	1987	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1967 - 1993	
ANNUAL TOTAL	184292		517032			
ANNUAL MEAN	504		1417		1238	
HIGHEST ANNUAL MEAN					3051	1983
LOWEST ANNUAL MEAN					165	1977
HIGHEST DAILY MEAN	1350	Apr 2	5040	May 22	24100	Feb 19 1986
LOWEST DAILY MEAN	67	Dec 6	67	Dec 6	27	Jul 20 1977
ANNUAL SEVEN-DAY MINIMUM	118	Nov 7	118	Nov 7	29	Aug 4 1977
INSTANTANEOUS PEAK FLOW			5560	Jan 22	46700	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	365500		1026000		896600	
10 PERCENT EXCEEDS	825		3150		2740	
50 PERCENT EXCEEDS	526		1070		705	
90 PERCENT EXCEEDS	167		199		191	

11295900 PINECREST LAKE AT PINECREST, CA

LOCATION.--Lat 38°11'59", long 119°59'11", in NE 1/4 SW 1/4 sec.15, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on south side of intake tower, 400 ft upstream from dam on South Fork Stanislaus River, and 0.7 mi north of Pinecrest.

DRAINAGE AREA.--26.5 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder since July 14, 1992. Oct. 1, 1985, to July 13, 1992, nonrecording gage read once daily. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1916; storage began in 1916. Capacity, 18,312 acre-ft between elevations 5,498.7 ft, outlet drain, and 5,617.5 ft, top of flash boards in spillway. Released water flows down South Fork Stanislaus River to diversion dam for Philadelphia Canal (station 11297000) for use at Spring Gap Powerplant on Middle Fork Stanislaus River. Figures given, including extremes, represent total contents. Records from July 14, 1992, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 18,483 acre-ft, July 16, 1992, elevation, 5,618.06 ft; minimum observed, 3,157 acre-ft, Mar. 3, 4, 1991, elevation, 5,546.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,395 acre-ft, July 7, elevation, 5,617.77 ft; minimum, 3,706 acre-ft, Mar. 5, elevation, 5,551.51 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated 1938)

5,520	792	5,550	3,534	5,580	8,576
5,530	1,558	5,560	4,738	5,600	13,537
5,540	2,475	5,570	6,395	5,618.5	18,615

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12048	7820	5412	3886	5083	3812	8947	16722	17902	18269	18188	17180
2	11850	7807	5321	3902	5029	3770	9091	17372	17857	18275	18173	17134
3	11657	7778	5229	3919	4971	3743	9247	17689	17838	18211	18191	17098
4	11456	7720	5134	3938	4919	3718	9435	17678	17902	18208	18176	17059
5	11259	7671	5041	3955	4893	3706	9550	17706	17802	18223	18164	17029
6	11059	7610	4982	4008	4853	3725	9634	17774	17669	18315	18138	16981
7	10864	7563	4915	4299	4812	3804	9725	17774	17652	18395	18105	16924
8	10658	7494	4845	4391	4826	3912	9899	17810	17647	18364	18070	16826
9	10466	7408	4853	4457	4811	4016	10096	17895	17732	18321	18028	16731
10	10267	7326	4806	4512	4764	4114	10289	17998	17911	18306	18004	16690
11	10074	7233	4758	4549	4718	4218	10479	18028	17959	18301	17968	16648
12	9877	7145	4692	4602	4660	4337	10648	17892	17950	18280	17932	16610
13	9686	7051	4634	4747	4605	4494	10777	17838	18007	18269	17889	16544
14	9490	6958	4573	4874	4547	4761	10927	17877	18055	18257	17857	16393
15	9335	6872	4517	4960	4485	4938	11131	17889	18031	18260	17827	16119
16	9216	6781	4453	5045	4422	5117	11332	17983	17956	18263	17788	15847
17	9089	6685	4402	5109	4372	5811	11512	18031	17959	18260	17754	15596
18	8964	6596	4340	5159	4370	6169	11637	18076	17995	18257	17723	15433
19	8839	6499	4277	5199	4387	6413	11743	18058	18046	18257	17686	15257
20	8713	6399	4213	5233	4350	6639	11931	18094	17959	18225	17647	15075
21	8599	6302	4151	5341	4290	6895	12233	18001	17886	18188	17606	14911
22	8471	6224	4088	5542	4229	7166	12625	17980	17877	18153	17569	14730
23	8342	6146	4042	5549	4182	7450	12931	18049	17895	18176	17540	14547
24	8219	6053	4007	5512	4122	7809	13129	18028	18046	18214	17496	14403
25	8087	5957	3976	5468	4059	8008	13373	18040	18228	18234	17461	14223
26	7997	5864	3947	5425	3997	8148	13714	17950	18231	18243	17413	14020
27	7909	5776	3917	5381	3933	8237	14183	17868	18220	18249	17384	13845
28	7798	5688	3904	5329	3870	8313	14692	17810	18196	18243	17335	13670
29	7811	5597	3888	5280	---	8400	15334	17843	18205	18223	17290	13497
30	7836	5500	3864	5218	---	8529	16242	17892	18237	18223	17250	13321
31	7829	---	3854	5154	---	8703	---	18100	---	18208	17218	---
MAX	12048	7820	5412	5549	5083	8703	16242	18100	18237	18395	18191	17180
MIN	7798	5500	3854	3886	3870	3706	8947	16722	17647	18153	17218	13321
a	5576.72	5565.17	5552.78	5562.98	5552.92	5580.55	5609.39	5616.77	5617.24	5617.14	5613.73	5600.51
b	-4427	-2329	-1646	+1300	-1284	+4833	+7539	+1858	+137	-29	-990	-3897

CAL YR 1992 MAX 18483 MIN 3557 b -606
WTR YR 1993 MAX 18395 MIN 3706 b +1065

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA

LOCATION.--Lat 38°11'51", long 120°00'27", in SW 1/4 SW 1/4 sec.16, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.4 mi downstream from bridge on State Highway 108 at Strawberry, 0.6 mi downstream from Herring Creek, and 1.2 mi downstream from Pinecrest Lake.

DRAINAGE AREA.--44.8 mi^2.

PERIOD OF RECORD.--October 1911 to January 1917, August 1938 to current year. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence" 1911-13.

REVISED RECORDS.--WSP 1215: 1945(M). WSP 1515: 1916, 1943(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,235.1 ft above sea level (river-profile survey). October 1911 to January 1917, nonrecording gage at site 1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Low and medium flows regulated beginning in 1916 by Pinecrest Lake (station 11295900) 1.2 mi upstream. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 3,900 ft^3/s, Nov. 21, 1950, gage height, 9.25 ft, from rating curve extended above 1,100 ft^3/s on basis of contracted-opening measurement of peak flow at bridge 0.3 mi downstream from station; minimum daily, 1.3 ft^3/s, Nov. 22, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft^3/s, May 25, gage height, 5.28 ft; minimum daily, 6.9 ft^3/s, Jan. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	39	49	8.0	64	65	105	263	742	419	38	20
2	101	47	48	7.4	64	65	96	289	575	445	36	20
3	101	52	48	7.0	64	66	95	396	517	404	34	20
4	100	51	48	7.2	64	66	103	398	565	331	32	20
5	100	50	48	6.9	65	67	98	390	527	331	30	20
6	99	50	48	7.1	65	69	90	447	384	302	28	20
7	98	50	48	22	65	56	87	454	332	278	27	31
8	98	50	47	25	68	46	93	476	337	308	26	46
9	97	50	51	12	68	48	106	525	367	276	25	49
10	97	49	49	13	67	50	111	672	500	230	25	49
11	96	49	49	11	66	52	113	761	646	207	25	48
12	96	49	48	11	66	54	113	733	665	194	24	48
13	95	48	47	16	65	58	108	524	682	168	24	75
14	94	48	47	16	65	74	104	525	778	153	24	94
15	74	48	47	13	65	78	112	569	804	124	23	94
16	61	48	47	15	65	71	119	592	724	96	23	93
17	61	48	47	13	65	120	114	726	643	92	23	93
18	60	48	46	12	67	139	108	790	681	88	23	93
19	59	48	46	12	73	108	102	923	736	85	22	92
20	59	48	46	40	70	98	108	935	747	92	22	92
21	59	50	46	67	68	106	133	908	623	91	22	92
22	59	50	46	79	67	123	155	790	523	84	22	91
23	61	51	41	73	67	129	157	828	518	61	22	90
24	62	50	36	69	67	138	131	878	515	48	22	90
25	62	50	36	69	66	122	133	1020	562	54	21	90
26	45	50	33	68	65	108	150	803	641	59	21	89
27	43	49	30	68	65	94	178	667	614	57	21	89
28	57	49	30	66	65	86	203	545	526	55	21	89
29	62	49	31	65	---	82	233	491	409	50	21	88
30	49	49	31	65	---	84	259	588	383	46	20	88
31	41	---	23	65	---	88	---	880	---	42	20	---
TOTAL	2347	1467	1337	1028.6	1851	2610	3817	19786	17266	5270	767	2013
MEAN	75.7	48.9	43.1	33.2	66.1	84.2	127	638	576	170	24.7	67.1
MAX	101	52	51	79	73	139	259	1020	804	445	38	94
MIN	41	39	23	6.9	64	46	87	263	332	42	20	20
AC-FT	4660	2910	2650	2040	3670	5180	7570	39250	34250	10450	1520	3990

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.6	52.9	56.9	50.6	52.6	64.6	131	416	375	104	50.6	61.1
MAX	121	344	338	161	229	212	386	874	1066	683	127	99.2
(WY)	1983	1951	1951	1956	1982	1986	1982	1969	1983	1983	1983	1968
MIN	6.43	12.0	6.30	11.0	5.91	5.24	29.0	36.8	37.3	9.17	12.8	8.09
(WY)	1945	1943	1969	1987	1987	1977	1977	1977	1992	1977	1988	1984

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1938 - 1993		
ANNUAL TOTAL	23641.1		59559.6				
ANNUAL MEAN	64.6		163		123		
HIGHEST ANNUAL MEAN					259		1983
LOWEST ANNUAL MEAN					26.6		1977
HIGHEST DAILY MEAN	452	May 7	1020	May 25	2470	Nov 21	1950
LOWEST DAILY MEAN	5.5	Feb 5	6.9	Jan 5	1.3	Nov 22	1946
ANNUAL SEVEN-DAY MINIMUM	6.3	Feb 4	9.4	Jan 1	2.3	Nov 9	1942
INSTANTANEOUS PEAK FLOW			1150	May 25	3900	Nov 21	1950
INSTANTANEOUS PEAK STAGE			5.28	May 25	9.25	Nov 21	1950
ANNUAL RUNOFF (AC-FT)	46890		118100		89240		
10 PERCENT EXCEEDS	118		534		319		
50 PERCENT EXCEEDS	49		67		61		
90 PERCENT EXCEEDS	16		22		21		

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11297000 PHILADELPHIA CANAL NEAR STRAWBERRY, CA

LOCATION.--Lat 38°10'42", long 120°02'44", in NW 1/4 NW 1/4 sec.30, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 250 ft downstream from diversion dam on South Fork Stanislaus River and 2.8 mi southwest of Strawberry.
PERIOD OF RECORD.--October 1939 to current year.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,960 ft above sea level (river-profile survey).
REMARKS.--No estimated daily discharges. Canal diverts from right bank of South Fork Stanislaus River for power development at Spring Gap Powerplant of Pacific Gas & Electric Co.; tailrace empties into Middle Fork Stanislaus River. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric 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, 66 ft^3/s, June 16, 1984; no flow at times in some years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	34	1.7	.00	58	58	.00	58	54	58	32	14
2	59	25	1.7	.00	58	59	.00	56	55	57	29	14
3	59	10	1.7	.00	59	59	.00	57	57	57	26	14
4	59	10	1.7	.00	59	59	.00	57	58	57	25	14
5	59	10	1.7	.00	59	59	23	58	56	57	23	14
6	58	10	.56	.00	59	42	57	58	56	57	21	14
7	58	10	6.2	3.1	59	.00	59	59	57	58	20	23
8	58	10	27	.00	59	.00	59	58	59	58	20	41
9	58	9.8	46	.00	59	.00	58	59	59	57	19	44
10	58	9.6	45	.00	58	.00	58	56	58	57	18	43
11	58	9.5	45	.00	59	.00	57	58	56	57	18	43
12	58	9.5	44	.00	59	.00	57	57	56	57	18	43
13	58	9.5	43	.00	58	.00	57	57	57	57	18	43
14	58	9.5	43	7.7	58	.00	58	58	58	58	17	44
15	57	9.5	43	12	58	.00	58	58	57	57	17	44
16	55	9.8	42	12	59	.00	57	58	57	57	17	44
17	55	9.2	42	12	59	.00	57	57	57	59	16	44
18	55	9.1	42	12	59	.00	56	58	59	59	16	44
19	55	9.1	42	11	58	.00	56	56	58	58	16	44
20	55	4.8	41	31	57	.00	57	56	56	58	16	44
21	54	1.7	42	59	56	.00	57	58	56	58	16	44
22	54	1.6	41	60	56	.00	58	57	57	56	15	44
23	56	1.5	37	58	56	.00	58	58	58	48	15	44
24	57	1.4	31	58	56	.00	58	55	59	41	15	44
25	57	1.6	31	57	57	.00	58	56	58	46	15	44
26	41	1.7	29	58	58	.00	57	55	58	50	15	44
27	34	1.7	25	58	58	.00	58	57	58	52	14	44
28	49	1.7	26	58	58	.00	59	58	56	49	14	44
29	56	1.7	27	58	---	.00	58	57	58	44	14	44
30	44	1.7	28	58	---	.00	57	59	58	40	14	44
31	33	---	16	58	---	.00	---	58	---	36	14	---
TOTAL	1684	244.2	893.26	740.80	1626	336.00	1462.00	1777	1716	1670	563	1112
MEAN	54.3	8.14	28.8	23.9	58.1	10.8	48.7	57.3	57.2	53.9	18.2	37.1
MAX	59	34	46	60	59	59	59	59	59	59	32	44
MIN	33	1.4	.56	.00	56	.00	.00	55	54	36	14	14
AC-FT	3340	484	1770	1470	3230	666	2900	3520	3400	3310	1120	2210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

MEAN	42.2	31.4	33.5	34.6	38.6	44.7	51.8	52.3	49.4	40.8	37.7	44.8
MAX	60.9	60.1	60.1	58.8	60.7	60.8	61.8	62.1	61.9	61.2	60.0	60.9
(WY)	1968	1976	1984	1982	1984	1965	1987	1987	1984	1982	1969	1983
MIN	.000	.41	1.05	.92	.000	.000	.42	.42	.16	.59	.76	.58
(WY)	1945	1988	1977	1981	1949	1949	1977	1977	1941	1977	1977	1981

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993	
ANNUAL TOTAL	12997.04		13824.26			
ANNUAL MEAN	35.5		37.9		41.8	
HIGHEST ANNUAL MEAN					57.5	1983
LOWEST ANNUAL MEAN					4.78	1977
HIGHEST DAILY MEAN	59	Feb 28	60	Jan 22	66	Jun 16 1984
LOWEST DAILY MEAN	.00	Feb 4	.00	Jan 1	.00	Oct 3 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 4	.00	Mar 7	.00	May 28 1940
ANNUAL RUNOFF (AC-FT)	25780		27420		30290	
10 PERCENT EXCEEDS	58		58		60	
50 PERCENT EXCEEDS	40		48		54	
90 PERCENT EXCEEDS	4.9		.00		3.0	

11297200 SOUTH FORK STANISLAUS RIVER NEAR STRAWBERRY, CA

LOCATION.--Lat 38°10'40", long 120°02'45", in NW 1/4 NW 1/4 sec.30, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on right bank 400 ft downstream from diversion dam and 2.8 mi southwest of Strawberry.

DRAINAGE AREA.--48.5 mi^2.

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1970, 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,915 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 50 ft^3/s. Flow regulated by Pinecrest Lake (station 11295900). Most of the water is diverted at diversion dam 400 ft upstream to Philadelphia Canal (station 11297000). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	7.0	49	7.3	14	14	---	---	---	---	8.3	7.8
2	50	21	48	---	14	14	---	---	---	---	9.1	7.7
3	49	43	48	8.7	13	16	---	---	---	---	9.1	7.7
4	48	43	47	9.0	12	17	---	---	---	---	8.4	7.6
5	47	43	47	9.9	15	19	---	---	---	---	8.1	7.6
6	46	42	50	9.9	15	---	---	---	---	---	8.2	7.5
7	46	42	45	26	15	---	---	---	---	---	8.2	7.3
8	45	42	22	39	22	---	---	---	---	---	7.8	7.2
9	45	42	10	16	24	---	---	---	---	---	7.5	7.5
10	44	41	6.4	15	21	---	---	---	---	---	7.7	7.8
11	44	41	6.7	14	20	---	---	---	---	---	8.0	7.9
12	43	40	5.0	14	18	---	---	---	---	---	7.8	7.8
13	43	40	5.4	30	17	---	---	---	---	---	7.9	33
14	42	40	5.0	22	16	---	---	---	---	---	8.4	---
15	23	40	5.3	6.9	15	---	---	---	---	---	7.9	---
16	7.4	40	6.0	13	14	---	---	---	---	48	7.9	---
17	7.6	40	6.8	8.0	15	---	---	---	---	42	8.0	---
18	7.6	39	6.3	5.9	19	---	---	---	---	37	7.9	---
19	7.3	39	6.1	4.7	35	---	---	---	---	33	7.6	---
20	7.2	45	5.8	---	27	---	---	---	---	42	7.9	---
21	7.9	50	5.8	22	24	---	---	---	---	43	8.0	---
22	7.4	---	5.7	43	22	---	---	---	---	34	8.0	---
23	7.5	---	5.7	30	22	---	---	---	---	21	7.9	---
24	7.3	---	5.9	24	20	---	---	---	---	9.4	7.9	---
25	7.4	50	5.9	22	17	---	---	---	---	11	7.8	---
26	7.5	50	6.0	20	16	---	---	---	---	12	7.7	---
27	8.3	50	6.1	18	15	---	---	---	---	8.5	7.8	---
28	8.4	50	6.2	18	15	---	---	---	---	9.3	7.8	---
29	10	49	6.1	16	---	---	---	---	---	9.4	8.0	---
30	10	49	7.1	16	---	---	---	---	---	7.9	7.8	50
31	10	---	12	15	---	---	---	---	---	7.7	7.8	---
TOTAL	793.8	---	503.3	---	512	---	---	---	---	---	248.2	---
MEAN	25.6	---	16.2	---	18.3	---	---	---	---	---	8.01	---
MAX	50	---	50	---	35	---	---	---	---	---	9.1	---
MIN	7.2	---	5.0	---	12	---	---	---	---	---	7.5	---
AC-FT	1570	---	998	---	1020	---	---	---	---	---	492	---

11297500 TUOLUMNE CANAL NEAR LONG BARN, CA

LOCATION.--Lat 38°05'35", long 120°10'03", in SE 1/4 SW 1/4 sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 300 ft downstream from intake, 350 ft downstream from Lyons Reservoir on South Fork Stanislaus River, 2 mi west of Long Barn, and 15 mi northeast of Sonora.
PERIOD OF RECORD.--October 1937 to current year.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,110.0 ft above sea level (river-profile survey). Prior to June 1938, at site 200 ft downstream at different datum.
REMARKS.--No estimated daily discharges. Canal diverts from left bank of South Fork Stanislaus River into Tuolumne River basin for power and domestic supply in vicinity of Sonora. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric 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, 59 ft^3/s, May 11, 1975; no flow at times in some years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	39	18	31	42	43	43	44	44	46	33	36
2	30	30	18	31	41	43	42	44	44	42	33	36
3	29	21	18	31	41	44	42	43	44	46	34	37
4	29	20	18	31	41	43	42	43	44	51	34	37
5	29	21	18	31	44	43	42	46	45	50	34	37
6	29	21	19	31	46	45	41	45	43	47	34	38
7	29	21	25	32	46	46	42	45	44	46	34	37
8	29	21	30	32	47	46	43	44	44	47	34	37
9	29	20	30	32	49	46	43	44	44	47	34	37
10	29	20	29	32	48	44	43	44	45	47	35	37
11	29	20	29	32	47	42	43	44	45	45	36	37
12	29	19	29	32	40	43	43	44	45	47	36	36
13	29	18	29	33	39	43	43	44	45	46	36	36
14	29	18	29	33	43	44	43	44	44	45	36	37
15	30	18	28	34	41	45	43	44	45	47	37	38
16	29	18	29	39	42	45	43	44	44	48	31	38
17	29	18	31	41	43	47	44	44	45	48	32	38
18	29	18	31	40	44	47	44	44	45	48	36	38
19	1.9	18	31	40	46	45	44	44	46	43	36	38
20	.00	18	31	39	48	43	44	44	46	36	36	36
21	.00	19	31	40	45	43	44	44	46	37	36	34
22	.00	19	23	41	45	43	44	44	46	34	36	34
23	13	18	18	43	44	43	44	44	46	33	36	32
24	38	18	18	39	43	45	44	45	47	33	36	29
25	36	18	19	38	48	42	44	45	47	34	36	31
26	.00	18	18	40	43	41	44	44	47	33	36	30
27	.00	18	19	42	42	40	44	44	47	33	36	31
28	.00	18	26	42	43	41	44	44	46	33	36	33
29	5.4	18	31	42	---	41	44	44	47	33	36	29
30	39	17	31	42	---	41	44	45	47	34	36	28
31	39	---	31	43	---	42	---	45	---	34	36	---
TOTAL	697.30	598	785	1129	1231	1349	1297	1370	1357	1293	1087	1052
MEAN	22.5	19.9	25.3	36.4	44.0	43.5	43.2	44.2	45.2	41.7	35.1	35.1
MAX	39	39	31	43	49	47	44	46	47	51	37	38
MIN	.00	17	18	31	39	40	41	43	43	33	31	28
AC-FT	1380	1190	1560	2240	2440	2680	2570	2720	2690	2560	2160	2090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

MEAN	21.4	18.0	20.0	22.8	25.3	28.1	30.7	35.4	39.2	35.9	36.4	32.3
MAX	36.4	40.9	44.5	45.8	45.1	45.7	47.7	52.4	53.8	49.1	48.5	48.6
(WY)	1947	1983	1974	1974	1973	1974	1973	1973	1973	1983	1983	1983
MIN	12.2	8.41	8.15	8.16	9.86	7.98	.000	.000	20.6	18.6	20.0	20.1
(WY)	1940	1941	1940	1948	1961	1977	1941	1938	1939	1944	1942	1941

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1938 - 1993	
ANNUAL TOTAL	11544.30		13245.30			
ANNUAL MEAN	31.5		36.3		28.8	
HIGHEST ANNUAL MEAN					43.5	1974
LOWEST ANNUAL MEAN					18.1	1940
HIGHEST DAILY MEAN	48	May 9	51	Jul 4	59	May 11 1975
LOWEST DAILY MEAN	.00	Oct 20	.00	Oct 20	.00	Oct 4 1937
ANNUAL SEVEN-DAY MINIMUM	10	Oct 17	10	Oct 17	.00	Apr 26 1938
INSTANTANEOUS PEAK FLOW					59	May 11 1975
ANNUAL RUNOFF (AC-FT)	22900		26270		20860	
10 PERCENT EXCEEDS	45		46		44	
50 PERCENT EXCEEDS	33		39		30	
90 PERCENT EXCEEDS	18		19		12	

11297700 LYONS RESERVOIR NEAR LONG BARN, CA

LOCATION.--Lat 38°05'38", long 120°09'59", in SW 1/4 NE 1/4 sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, at left abutment of dam and 1.6 mi west of Long Barn.
DRAINAGE AREA.--66.8 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for 1981-85 water years are available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Prior to Dec. 10, 1990, nonrecording gage read three times weekly. Datum of gage is 4,134 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete arch dam completed in 1930; storage began in 1930. Usable capacity, 5,504 acre-ft between gage heights 0.0 ft, invert of outlet, and 86.0 ft, top of spillway gates. Dead storage, 4 acre-ft. Part of the released water is diverted to Tuolumne Canal (station 11297500) near the base of the dam. Records from Dec. 10, 1990, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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 observed, 6,292 acre-ft, June 4, 5, 7, 9, 10, 1989, gage height, 90.4 ft; minimum observed, 847 acre-ft, Apr. 7, 1988, gage height, 41.4 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,109 acre-ft, May 31, gage height, 89.40 ft; minimum, 1,666 acre-ft, Nov. 2, gage height, 55.27 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1930)

20	210	50	1,299	80	4,541
25	309	60	2,070	90	6,219
30	437	70	3,153	92.5	6,680
40	785				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1816	1718	2934	2994	4580	4585	4697	5266	6021	6055	5276	3317
2	1846	1666	2985	2958	4576	4588	4679	5408	5995	6078	5216	3280
3	1875	1703	3039	2917	4568	4597	4673	5704	5985	6060	5159	3211
4	1902	1740	3087	2874	4553	4598	4679	5870	6008	6033	5100	3144
5	1930	1778	3138	2833	4568	4598	4651	5892	5986	6028	5041	3075
6	1955	1815	3234	2808	4571	4616	4630	5917	5942	6021	4983	3009
7	1979	1849	3320	3143	4574	4638	4621	5920	5931	6021	4924	2941
8	2001	1883	3356	3295	4638	4635	4619	5927	5942	6053	4867	2873
9	2023	1919	3487	3345	4641	4638	4624	5945	5949	6042	4808	2805
10	2043	1956	3495	3360	4624	4641	4625	5992	5992	6013	4746	2738
11	2061	1989	3554	3359	4624	4641	4624	6006	6017	5997	4680	2671
12	2080	2026	3533	3378	4613	4636	4621	5977	6013	5983	4618	2607
13	2093	2063	3500	3850	4604	4641	4624	5952	6024	5970	4555	2555
14	2108	2099	3462	4292	4597	4662	4619	5958	6048	5997	4489	2583
15	2113	2134	3423	4501	4586	4659	4648	5960	6044	6035	4423	2607
16	2063	2171	3382	4638	4583	4656	4683	5981	6017	5995	4357	2634
17	2014	2206	3347	4662	4592	4719	4711	6058	6013	5947	4290	2659
18	1964	2242	3300	4631	4650	4705	4712	6082	6017	5888	4225	2684
19	1963	2279	3250	4606	4662	4680	4692	6077	6037	5846	4156	2708
20	1973	2320	3202	4665	4641	4671	4680	6086	6021	5824	4088	2737
21	1990	2375	3154	4771	4625	4668	4705	6053	5999	5824	4022	2768
22	2001	2437	3121	4705	4616	4671	4762	6046	5954	5817	3956	2798
23	1984	2495	3098	4659	4627	4689	4808	6064	5977	5798	3889	2832
24	1910	2550	3075	4636	4610	4720	4789	6058	5963	5741	3824	2864
25	1843	2604	3051	4622	4603	4752	4772	6098	5990	5685	3762	2896
26	1847	2658	3024	4613	4597	4729	4777	6044	6001	5629	3697	2924
27	1856	2713	3000	4606	4589	4708	4835	6013	5992	5575	3633	2951
28	1868	2769	2988	4600	4586	4692	4908	5988	5999	5517	3569	2978
29	1893	2823	2988	4592	---	4671	5015	5985	6021	5461	3506	3005
30	1847	2879	2996	4589	---	4674	5152	6001	6021	5403	3443	3040
31	1787	---	3005	4586	---	4673	---	6109	---	5341	3378	---
MAX	2113	2879	3554	4771	4662	4752	5152	6109	6048	6078	5276	3317
MIN	1787	1666	2934	2808	4553	4585	4619	5266	5931	5341	3378	2555
a	56.78	67.71	68.78	80.30	80.30	80.87	83.91	89.40	88.91	85.03	71.79	69.07
b	0	+1092	+126	+1581	0	+87	+479	+957	-88	-680	-1963	-338

CAL YR 1992 MAX 6255 MIN 1525 b -875
WTR YR 1993 MAX 6109 MIN 1666 b +1253

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11298000 SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'33", long 120°10'04", in NE 1/4 NW 1/4 sec.25, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 600 ft downstream from Lyons Dam, 1.9 mi west of Long Barn, and 15 mi northeast of Sonora.

DRAINAGE AREA.--66.9 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 4,073.4 ft above sea level (river-profile survey).

REMARKS.--No estimated daily discharges. Flow regulated by Lyons Reservoir (station 11297700) 600 ft upstream and Pinecrest Lake (station 11295900). Tuolumne Canal (station 11297500) diverts at Lyons Dam. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 4,900 ft^3/s, Nov. 21, 1950, gage height, 9.3 ft, from rating curve extended above 2,400 ft^3/s, on basis of computation of peak flow over Lyons Dam; no flow at times in 1937-39, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft^3/s, May 31, gage height, 5.49 ft; minimum daily, 2.5 ft^3/s, Oct. 19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.8	2.7	2.8	4.2	17	247	138	791	310	3.3	2.7
2	2.7	2.8	2.7	2.8	3.2	20	198	152	530	363	3.1	2.8
3	2.7	2.8	2.8	2.8	3.2	28	172	192	457	350	2.8	3.3
4	2.7	2.8	2.8	2.8	3.3	32	187	262	489	268	2.8	3.3
5	2.7	2.8	2.8	2.8	4.1	32	162	324	500	255	2.8	3.3
6	2.7	2.7	2.9	2.9	8.8	38	92	388	358	241	2.8	3.1
7	2.7	2.7	3.1	3.4	9.2	83	68	409	273	195	2.8	3.0
8	2.7	2.7	3.0	3.0	46	81	60	436	277	210	2.8	3.0
9	2.7	2.7	3.3	3.0	99	85	65	481	286	216	2.9	3.0
10	2.7	2.7	3.0	2.9	74	91	69	640	389	173	2.9	3.0
11	2.7	2.7	3.1	2.8	69	91	67	789	563	134	2.8	3.0
12	2.7	2.7	3.0	2.9	62	88	63	818	614	114	2.8	3.0
13	2.7	2.7	2.9	3.4	47	91	51	528	606	90	2.7	3.0
14	2.7	2.7	2.8	3.3	32	121	46	500	709	45	2.8	3.0
15	2.7	2.7	2.8	3.1	26	133	32	567	775	21	2.9	3.0
16	2.7	2.7	2.8	58	18	118	37	571	701	17	3.0	3.1
17	2.7	2.7	2.8	115	17	233	44	736	578	15	2.9	3.0
18	2.7	2.7	2.8	104	44	258	50	844	611	14	2.9	3.0
19	2.5	2.7	2.8	54	144	203	46	912	661	8.8	2.8	3.2
20	2.7	2.7	2.8	63	114	165	42	907	726	4.5	2.9	3.2
21	2.7	2.7	2.8	180	79	157	44	908	584	4.3	2.8	3.2
22	2.7	2.7	2.8	425	60	166	56	739	463	3.7	2.8	3.2
23	2.8	2.7	2.7	172	64	175	68	751	430	3.3	2.8	3.2
24	3.0	2.7	2.7	101	60	298	70	848	449	3.3	2.8	3.2
25	2.9	2.7	2.7	68	34	338	65	994	448	3.3	2.8	3.2
26	3.0	2.7	2.7	49	32	359	64	804	552	3.2	2.7	3.2
27	3.0	2.8	2.7	34	23	273	72	640	540	3.0	2.7	3.2
28	2.9	2.8	2.8	25	19	235	86	496	469	3.0	2.7	3.2
29	2.8	2.7	3.0	19	---	197	102	407	326	2.9	2.7	3.2
30	2.8	2.7	2.9	13	---	174	122	500	306	2.9	2.7	3.2
31	2.8	---	2.8	7.6	---	162	---	772	---	3.1	2.7	---
TOTAL	85.2	81.7	88.3	1532.3	1199.0	4542	2547	18453	15461	3080.3	87.7	93.0
MEAN	2.75	2.72	2.85	49.4	42.8	147	84.9	595	515	99.4	2.83	3.10
MAX	3.0	2.8	3.3	425	144	359	247	994	791	363	3.3	3.3
MIN	2.5	2.7	2.7	2.8	3.2	17	32	138	273	2.9	2.7	2.7
AC-FT	169	162	175	3040	2380	9010	5050	36600	30670	6110	174	184

11298000 SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.35	11.4	25.2	29.7	37.5	49.7	97.7	352	310	51.5	2.70	2.02
MAX	14.7	324	399	258	306	291	501	875	950	572	37.7	3.37
(WY)	1983	1951	1951	1956	1982	1938	1982	1969	1983	1983	1983	1947
MIN	.000	.023	.077	.013	.000	.23	.97	1.02	1.00	.92	.83	.71
(WY)	1938	1939	1939	1939	1939	1939	1977	1977	1977	1949	1940	1949

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1938 - 1993		
ANNUAL TOTAL	2996.9		47250.5				
ANNUAL MEAN	8.19		129		80.2		
HIGHEST ANNUAL MEAN					234		1983
LOWEST ANNUAL MEAN					1.50		1977
HIGHEST DAILY MEAN	284	May 9	994	May 25	3370	Nov 21	1950
LOWEST DAILY MEAN	2.2	Feb 25	2.5	Oct 19	.00	Oct 1	1937
ANNUAL SEVEN-DAY MINIMUM	2.4	Feb 5	2.7	Oct 13	.00	Oct 1	1937
INSTANTANEOUS PEAK FLOW			1130	May 31	4900	Nov 21	1950
INSTANTANEOUS PEAK STAGE			5.49	May 31	9.30	Nov 21	1950
ANNUAL RUNOFF (AC-FT)	5940		93720		58070		
10 PERCENT EXCEEDS	2.9		498		278		
50 PERCENT EXCEEDS	2.7		4.2		2.4		
90 PERCENT EXCEEDS	2.5		2.7		1.4		

11298700 ANGELS CREEK BELOW UTICA DITCH DIVERSION DAM, NEAR MURPHYS, CA

LOCATION.--Lat 38°07'51", long 120°29'03", in NW 1/4 NW 1/4 sec.7, T.3 N., R.14 E., Calaveras County, Hydrologic Unit 18040010, on right bank 120 ft downstream from diversion dam and 1.2 mi southwest of Murphys.

DRAINAGE AREA.--6.01 mi^2.

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

GAGE.--Water-stage recorder and 90° V-notch weir. Elevation of gage is 2,040 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 2.5 ft^3/s. Flow consists of fishery release and spill over diversion dam. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	1.6	---	---	---	---	---	---	---	---	1.3
2	1.6	---	1.9	---	---	---	---	---	---	---	---	.83
3	1.1	---	2.3	---	---	---	---	---	---	---	---	.82
4	.79	---	---	---	---	---	---	---	---	---	---	.84
5	.83	---	---	---	---	---	---	---	---	---	---	1.0
6	.84	2.2	---	---	---	---	---	---	---	---	---	1.2
7	.87	2.3	---	---	---	---	---	---	---	---	2.5	1.3
8	.91	2.0	---	---	---	---	---	---	---	---	2.3	1.2
9	.84	1.4	---	---	---	---	---	---	---	---	2.5	1.1
10	.89	1.7	---	---	---	---	---	---	---	---	2.4	1.1
11	.95	---	---	---	---	---	---	---	---	---	1.7	1.1
12	1.2	---	---	---	---	---	---	---	---	---	.93	1.1
13	1.5	---	---	---	---	---	---	---	---	---	.93	1.0
14	1.3	---	---	---	---	---	---	---	---	---	1.2	.97
15	1.2	---	---	---	---	---	---	---	---	---	1.3	1.0
16	1.1	---	---	---	---	---	---	---	---	---	1.3	1.1
17	1.0	---	---	---	---	---	---	---	---	---	1.3	1.1
18	.89	2.1	---	---	---	---	---	---	---	---	1.5	1.0
19	.87	1.8	---	---	---	---	---	---	---	---	1.3	1.0
20	.87	1.6	---	---	---	---	---	---	---	---	1.4	1.0
21	.97	1.9	---	---	---	---	---	---	---	---	1.3	1.1
22	.94	1.8	---	---	---	---	---	---	---	---	1.3	1.0
23	.94	1.7	---	---	---	---	---	---	---	---	1.3	1.4
24	1.2	2.0	---	---	---	---	---	---	---	---	1.3	1.6
25	1.4	2.4	---	---	---	---	---	---	---	---	1.6	1.6
26	1.1	1.8	---	---	---	---	---	---	---	---	1.8	1.6
27	1.1	---	---	---	---	---	---	---	---	---	1.7	1.6
28	1.1	2.2	---	---	---	---	---	---	---	---	1.5	1.5
29	---	1.7	---	---	---	---	---	---	---	---	1.4	1.5
30	---	1.5	---	---	---	---	---	---	---	---	1.6	1.5
31	---	---	---	---	---	---	---	---	---	---	1.6	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	35.46
MEAN	---	---	---	---	---	---	---	---	---	---	---	1.18
MAX	---	---	---	---	---	---	---	---	---	---	---	1.6
MIN	---	---	---	---	---	---	---	---	---	---	---	.82
AC-FT	---	---	---	---	---	---	---	---	---	---	---	70

11299000 NEW MELONES RESERVOIR NEAR SONORA, CA

LOCATION.--Lat 37°57'02", long 120°30'49", in NW 1/4 SE 1/4 sec.11, T.1 N., R.13 E., Calaveras County, Hydrologic Unit 18040010, at right abutment of New Melones Dam on Stanislaus River, 0.1 mi downstream from the old Melones Dam, and 7.6 mi southwest of Sonora.
DRAINAGE AREA.--904 mi^2.
PERIOD OF RECORD.--1926 (year-end contents only, published in WSP 1315-A), June 1927 to current year. Prior to October 1970, published as Melones Reservoir at Melones Dam. October 1970 to September 1978, published as Melones Lake near Sonora.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to Feb. 28, 1961, nonrecording gage, and Mar. 1, 1961, to Nov. 26, 1978, water-stage recorder at site on left side of old Melones Dam, at same datum.
REMARKS.--Reservoir is formed by earth and rockfill dam completed in November 1978. Dam is downstream from the original concrete dam which was completed in December 1926. Usable capacity 2,420,000 acre-ft between elevations 543.0 ft, invert entrance to outlet tunnel, and 1,088.0 ft, gross pool elevation. No dead storage. When elevation is above 808.0 ft, water is released through a powerplant to Tulloch Reservoir (station 11299995) where it is used for irrigation. Records for the 1971 water year represent contents at 1630 hours. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD (Subsequent to completion of New Melones Dam in 1978).--Maximum contents, 2,400,000 acre-ft, July 8-10, 1983, elevation, 1,086.42 ft; minimum since reservoir first filled in July 1983, 83,630 acre-ft, Oct. 1, 1992, elevation, 721.15 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 803,000 acre-ft, July 8, elevation, 913.17 ft; minimum, 83,630 acre-ft, Oct. 1, elevation, 721.15 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

700	53,900	760	160,500	880	611,500	1,000	1,471,000
710	66,950	780	212,300	900	723,000	1,020	1,662,000
720	81,800	800	272,800	920	846,500	1,040	1,867,000
730	98,530	820	342,400	940	982,600	1,060	2,087,000
740	117,200	840	421,800	960	1,132,000	1,088	2,420,000
750	137,800	860	511,200	980	1,295,000		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83630	87590	91320	116600	266000	371700	518500	583100	688700	799300	764400	709600
2	84030	88350	92190	118400	267800	375500	524500	584400	691500	800200	766100	706700
3	84350	89180	93140	119500	268200	379400	529700	585700	693900	800300	762300	705100
4	84320	89400	93670	120600	270100	382900	535300	586700	697400	800600	759900	702800
5	84400	89880	93910	121700	272200	385000	540700	587200	702100	800800	759400	700600
6	84800	90360	93690	122700	274500	388000	544200	587800	706300	801600	756200	698700
7	85420	90890	94080	131300	276700	391100	548700	589200	710600	802100	754900	697200
8	86130	91160	94770	137100	280600	393800	551100	590200	714500	803000	753800	695600
9	86740	91690	95660	140300	286800	397800	554600	591700	718000	802800	752200	693700
10	87770	92030	98620	143800	291000	400000	558600	593200	721900	802800	749700	692300
11	88030	92200	100500	146300	295100	403600	562200	594600	726900	802600	748500	691100
12	88380	92370	102800	149700	298900	407200	564800	597200	733200	801700	746600	689600
13	89260	92800	103100	157900	302200	408200	565600	598500	738700	800600	745200	688500
14	89460	93480	103400	169000	305300	412600	569800	601200	747800	799000	743100	687400
15	89910	92890	104200	174300	308200	417500	571800	605600	749700	797700	741500	686800
16	89530	92340	105200	179400	311100	421600	574000	611200	755600	796500	739200	686000
17	89150	91660	106500	190000	313700	429100	575100	616400	760600	794300	737000	684600
18	88760	91270	107200	198300	317000	438000	576100	624000	764500	791600	735400	683700
19	87690	91410	107800	202600	322400	443600	576400	631800	768300	790200	733400	682500
20	86540	91690	108100	207200	327700	447300	577000	638100	772800	788900	732000	682000
21	86470	91930	108600	216100	332800	451000	578300	643100	777500	785600	729700	683000
22	86390	92220	109100	230900	337700	454500	580600	648500	780600	785100	728400	680100
23	86310	92510	109800	238000	343600	458200	583400	653500	783200	782900	726500	678300
24	86230	92650	110300	242600	349600	463500	581200	658700	786000	780700	725000	675700
25	86150	92660	110800	246800	354800	472200	580400	664800	788600	780200	722500	673400
26	86080	92410	111000	250100	359900	482900	580000	669800	791300	776900	720300	672300
27	86000	92000	111200	253200	364100	490700	579300	674600	793800	775800	720100	670600
28	85840	91640	111700	256100	367800	497100	578800	676600	795600	774300	717800	670900
29	85690	91270	112800	259000	---	500800	580200	678500	797000	771900	715700	670100
30	86180	91020	114300	261400	---	505500	581500	681500	798000	769400	713300	670700
31	86920	---	115600	263600	---	511000	---	684400	---	766700	712000	---
MAX	89910	93480	115600	263600	367800	511000	583400	684400	798000	803000	766100	709600
MIN	83630	87590	91320	116600	266000	371700	518500	583100	688700	766700	712000	670100
a	723.18	725.65	739.20	797.15	826.67	859.95	874.24	893.31	912.38	907.30	898.11	890.88
b	+3080	+4100	+24580	+148000	+104200	+143200	+70500	+102900	+113600	-31300	-54700	-41300
c	669	233	231	216	355	868	1573	2542	3819	4548	4296	2964

CAL YR 1992 b -201900
WTR YR 1993 b +586860
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, published as provided; not reviewed by U.S. Geological Survey.

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA

LOCATION.--Lat 37°57'40", long 120°36'51", in SE 1/4 SE 1/4, sec.2, T.1 N., R.12 E., Calaveras County, Hydrologic Unit 18040010, on left bank 100 ft upstream from O'Byrnes Ferry Road bridge, 1,300 ft upstream from Copper Creek, and 2.1 mi southeast of Copperopolis.

DRAINAGE AREA.--14.4 mi^2.

PERIOD OF RECORD.--August 1983 to current year.

REVISED RECORDS.--WDR CA-86-3: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 746.13 ft above sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s, Feb. 19, 1986, gage height, 9.10 ft, from rating curve extended above 2,500 ft^3/s on basis of contracted-opening measurement of peak flow; no flow at times each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0415	950	4.68	Feb. 9	0245	336	3.87
Jan. 14	0545	1,100	4.78	Feb. 20	0030	125	3.29
Jan. 17	1915	*1,890	*5.41	Mar. 26	0700	331	3.87
Jan. 22	0030	1,260	4.91				

No flow for many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	69	12	30	45	3.2	1.3	.21	.00	.00
2	.00	.00	.00	17	12	25	24	2.9	.88	.18	.00	.00
3	.00	.00	.00	6.5	11	21	20	2.6	.79	.18	.00	.00
4	.00	.00	.00	4.3	10	18	19	2.7	.97	.19	.00	.00
5	.00	.00	.00	3.3	12	16	15	2.5	1.2	.17	.00	.00
6	.00	.00	.00	3.3	11	15	13	2.4	1.8	.12	.00	.00
7	.00	.00	1.2	283	10	14	11	2.3	2.5	.09	.00	.00
8	.00	.00	.59	116	73	12	10	2.1	1.4	.09	.00	.00
9	.00	.00	3.3	69	150	11	9.0	2.0	.96	.06	.00	.00
10	.00	.00	1.6	126	48	10	8.2	1.8	.79	.04	.00	.00
11	.00	.00	8.4	29	63	9.6	7.6	1.6	.70	.04	.00	.00
12	.00	.00	3.6	36	39	9.1	7.0	1.6	.64	.04	.00	.00
13	.00	.00	1.3	253	29	8.7	6.6	1.5	.58	.02	.00	.00
14	.00	.00	.87	328	23	8.6	6.0	1.4	.54	.02	.00	.00
15	.00	.00	.73	104	20	8.0	5.7	1.3	.49	.02	.00	.00
16	.00	.00	.66	66	17	8.1	5.5	1.2	.47	.02	.00	.00
17	.00	.00	.89	397	17	27	6.3	1.1	.41	.01	.00	.00
18	.00	.00	1.0	213	30	12	6.0	.99	.40	.00	.00	.00
19	.00	.00	.73	77	42	9.2	4.9	.95	.35	.00	.00	.00
20	.00	.00	.66	109	80	8.2	4.7	.94	.32	.00	.00	.00
21	.00	.00	.60	240	52	7.7	4.3	.95	.32	.00	.00	.00
22	.00	.00	.58	278	37	6.9	4.2	.82	.32	.00	.00	.00
23	.00	.00	.55	89	62	9.2	4.2	.77	.31	.00	.00	.00
24	.00	.00	.55	55	64	33	4.1	.74	.32	.00	.00	.00
25	.00	.00	.55	38	40	123	4.0	3.3	.31	.00	.00	.00
26	.00	.00	.50	29	68	169	3.9	1.4	.26	.00	.00	.00
27	.00	.00	.50	24	55	67	3.9	.99	.24	.00	.00	.00
28	.00	.00	8.5	20	38	64	3.6	.90	.22	.00	.00	.00
29	.00	.00	14	17	---	38	3.5	.76	.23	.00	.00	.00
30	.00	.00	5.5	15	---	29	3.3	.74	.20	.00	.00	.00
31	.00	---	3.1	14	---	24	---	3.4	---	.00	.00	---
TOTAL	0.00	0.00	60.46	3128.4	1125	851.3	273.5	51.85	20.22	1.50	0.00	0.00
MEAN	.000	.000	1.95	101	40.2	27.5	9.12	1.67	.67	.048	.000	.000
MAX	.00	.00	14	397	150	169	45	3.4	2.5	.21	.00	.00
MIN	.00	.00	.00	3.3	10	6.9	3.3	.74	.20	.00	.00	.00
AC-FT	.00	.00	120	6210	2230	1690	542	103	40	3.0	.00	.00

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	6.90	7.42	13.4	33.0	18.7	3.43	.82	.14	.005	.000	.010
MAX	1.80	53.1	59.4	101	170	53.4	9.12	1.83	.67	.048	.000	.11
(WY)	1992	1984	1984	1993	1986	1986	1993	1986	1993	1993	1984	1983
MIN	.000	.000	.000	.000	.16	.62	.62	.17	.000	.000	.000	.000
(WY)	1986	1991	1991	1991	1991	1988	1988	1992	1988	1984	1984	1984

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1983 - 1993	
ANNUAL TOTAL	2191.54		5512.23			
ANNUAL MEAN	5.99		15.1		6.85	
HIGHEST ANNUAL MEAN					19.7	1986
LOWEST ANNUAL MEAN					.32	1988
HIGHEST DAILY MEAN	516	Feb 12	397	Jan 17	1400	Feb 17 1986
LOWEST DAILY MEAN	.00	Jun 1	.00	Oct 1	.00	Sep 16 1983
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 1	.00	Oct 1	.00	Jun 28 1984
INSTANTANEOUS PEAK FLOW			1890	Jan 17	5200	Feb 19 1986
INSTANTANEOUS PEAK STAGE			5.41	Jan 17	9.10	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	4350		10930		4970	
10 PERCENT EXCEEDS	7.3		38		9.2	
50 PERCENT EXCEEDS	.00		.58		.16	
90 PERCENT EXCEEDS	.00		.00		.00	

11299995 TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'12", in Rancheria del Rio Estanislao Grant, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, in center of Tulloch Dam on Stanislaus River, 1.9 mi upstream from Goodwin Dam, and 5.3 mi northeast of Knights Ferry.
DRAINAGE AREA.--980 mi^2.

PERIOD OF RECORD.--November 1957 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1957. Usable capacity, 56,840 acre-ft between elevations 431.0 ft, normal minimum water surface, and 511.0 ft, top of radial gates. Dead storage, 11,560 acre-ft. Reservoir is used for irrigation and power. Water passes down Stanislaus River, first passing through Tulloch Powerplant at dam. Part of flow is diverted at Goodwin Dam to Oakdale Canal (station 11301000) and South San Joaquin Canal (station 11300500). Records, including extremes, represent total contents at 2400 hours.
COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 69,500 acre-ft, Jan. 7, 1965, elevation, 512.0 ft; minimum, 4,580 acre-ft, Oct. 3, 1960, elevation, 404.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 66,100 acre-ft, May 29, maximum elevation, 509.32 ft; minimum, 53,700 acre-ft, Jan. 31, Feb. 1, Mar. 4, elevation, 498.46, Feb. 1.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated October 1956)

404	4,580	430	11,100	475	33,100
411	6,020	445	16,400	490	45,300
420	8,200	460	23,600	512	69,500

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65100	59200	54800	54600	53700	54400	57100	61600	65400	65200	65800	65100
2	65100	58800	54400	54900	53800	54200	56900	61600	65400	64800	65900	65300
3	65200	58400	54100	55000	54500	54000	56600	61800	65500	65400	65400	65300
4	65200	58000	54100	54800	55300	53700	56400	62100	65000	65400	65700	65700
5	65200	57500	54200	54500	55100	55000	56200	62700	64800	65200	64400	65600
6	65000	57100	54300	54200	54700	54700	57900	62900	64900	65000	64800	65300
7	64500	56700	54500	56000	54400	54400	57800	62800	64900	65000	65300	65200
8	64100	56300	54500	56600	54700	54100	59300	62800	65100	65600	65100	65200
9	63600	55800	54400	56800	55500	53900	59400	62400	65000	65400	65000	65400
10	63200	55400	54200	57800	55500	55000	58900	62400	64900	64800	65100	65400
11	62700	55000	54500	57700	55500	54700	58800	62500	65100	64600	65200	65100
12	62200	54500	54600	57700	55400	54400	59500	62800	65300	64700	65500	64800
13	61800	54100	54600	58800	55200	56100	59600	63100	64500	64800	66000	64600
14	61400	54200	54700	59000	55000	55800	59400	64100	64900	65000	65400	64300
15	60900	54700	54500	57500	54700	55500	59500	64100	65700	65200	64900	63700
16	61000	55200	54100	57000	54500	55200	58700	63500	65700	65200	64900	63900
17	61300	55700	54000	61100	54200	54900	59100	64100	65800	65300	65100	64300
18	60900	55800	54000	58300	54200	54200	59300	63700	65800	65000	65300	63800
19	59900	55300	54100	57100	54100	54300	60300	62900	65100	64700	65100	63600
20	59500	54900	54100	56800	54400	54500	60600	62900	64300	64900	64900	63100
21	59700	54500	54200	56900	54400	54200	60700	64200	64300	65600	64700	62900
22	60600	54100	54200	57100	54300	54000	60000	65100	64600	65300	64800	62500
23	61200	53900	54300	56600	54400	54200	58700	65100	64800	65700	64800	63100
24	61100	53900	54300	56000	54500	54200	61500	65200	64700	65700	65300	64600
25	61000	54000	54400	55300	54400	56900	61600	64800	64700	64600	64800	65200
26	60900	54300	54400	55100	54600	56900	61200	64900	64500	65200	64900	64800
27	60800	54600	54500	54900	54600	55800	61300	64800	64400	65300	65300	65800
28	60700	54800	54700	54600	54500	54700	61900	65900	65100	64900	65300	64900
29	60500	55100	54900	54300	---	56200	61600	66100	65300	65000	65000	65200
30	60100	55100	54600	54000	---	57000	61600	64700	65400	65600	65000	64300
31	59700	---	54200	53700	---	57100	---	65200	---	65700	65100	---
MAX	65200	59200	54900	61100	55500	57100	61900	66100	65800	65700	66000	65800
MIN	59500	53900	54000	53700	53700	53700	56200	61600	64300	64600	64400	62500
a	503.94	499.83	498.98	498.51	499.23	501.67	505.60	508.60	508.70	508.97	508.48	507.85
b	-5000	-4600	-900	-500	+800	+2600	+4500	+3600	+200	+300	-600	-800

CAL YR 1992 b -500
WTR YR 1993 b -400

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'15", in Rancheria del Rio Estanislao Grant, T.1 S., R.12 E., on Calaveras-Tuolumne County line, Hydrologic Unit 18040010, temperature recorder in south corner of Tulloch Powerplant at downstream side of Tulloch Dam, 5.2 mi northeast of Knights Ferry.

DRAINAGE AREA.--980 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1972 to current year.

INSTRUMENTATION.--Temperature recorder since June 1972.

REMARKS.--Water temperature is affected by regulation from Tulloch Powerplant.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 27.5°C, Aug. 30, 1977; minimum recorded, 5.0°C, Jan. 13, 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 16.0°C, Oct.16-18; minimum recorded, 9.5°C, many days during the year.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	9.5	10.0	9.5	10.0	10.0	11.5	11.5	12.5	12.5	13.5	13.0
2	10.0	9.5	10.0	9.5	10.0	10.0	11.5	11.5	12.5	12.5	13.5	13.0
3	10.0	9.5	10.0	9.5	10.5	10.0	11.5	11.5	12.5	12.5	13.5	13.5
4	10.0	9.5	10.0	9.5	10.5	10.0	11.5	11.5	12.5	12.5	13.5	13.5
5	10.0	9.5	10.0	9.5	10.5	10.0	11.5	11.5	12.5	12.5	13.5	13.5
6	10.0	9.5	10.0	9.5	10.5	10.0	11.5	11.5	12.5	12.5	13.5	13.5
7	10.0	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	13.5	13.5
8	10.0	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	14.0	13.5
9	10.5	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	14.0	13.5
10	10.0	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	14.0	13.5
11	10.5	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	14.0	13.5
12	10.5	10.0	10.0	9.5	10.5	10.0	12.0	11.5	13.0	12.5	14.0	13.5
13	10.5	10.0	10.0	9.5	10.5	10.0	12.0	12.0	13.0	13.0	14.0	13.5
14	10.5	10.0	10.0	9.5	10.5	10.0	12.0	12.0	13.0	13.0	14.0	13.5
15	10.5	10.0	10.0	9.5	10.5	10.5	12.0	12.0	13.0	13.0	14.0	13.5
16	10.5	10.0	10.0	9.5	10.5	10.0	12.0	12.0	13.0	13.0	14.0	13.5
17	10.5	10.0	10.0	9.5	10.5	10.5	12.0	12.0	13.0	13.0	14.0	13.5
18	10.5	10.0	10.0	9.5	10.5	10.5	12.0	12.0	13.0	13.0	14.0	13.5
19	10.5	10.0	10.0	9.5	10.5	10.5	12.5	12.0	13.0	13.0	14.0	13.5
20	10.5	10.0	10.0	9.5	11.0	10.5	12.5	12.0	13.0	13.0	14.0	13.5
21	10.5	10.0	10.0	9.5	11.0	10.5	12.5	12.0	13.5	13.0	14.0	13.5
22	10.0	10.0	10.0	9.5	11.0	10.5	12.5	12.0	13.5	13.0	14.0	13.5
23	10.0	10.0	10.0	10.0	11.0	10.5	12.5	12.0	13.5	13.0	14.0	13.5
24	10.5	10.0	10.0	10.0	11.0	10.5	12.5	12.0	13.5	13.0	14.0	13.5
25	10.5	10.0	10.0	10.0	11.0	11.0	12.5	12.0	13.5	13.0	14.0	14.0
26	10.5	10.0	10.0	10.0	11.0	11.0	12.5	12.0	13.5	13.0	14.0	13.5
27	10.0	10.0	10.0	10.0	11.0	11.0	12.5	12.0	13.5	13.0	14.0	13.5
28	10.0	10.0	10.0	10.0	11.5	11.0	12.5	12.5	13.5	13.0	14.0	13.5
29	10.0	10.0	10.0	10.0	11.5	11.0	12.5	12.5	13.5	13.0	14.0	13.5
30	10.0	10.0	10.0	10.0	11.5	11.0	12.5	12.5	13.5	13.0	14.0	13.5
31	---	---	10.0	10.0	---	---	12.5	12.5	13.5	13.0	---	---
MONTH	10.5	9.5	10.0	9.5	11.5	10.0	12.5	11.5	13.5	12.5	14.0	13.0

11300500 SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'16", long 120°38'14", in Rancheria del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on left bank 0.8 mi downstream from headgate at Goodwin Dam and 3.0 mi northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 334.18 ft above sea level (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, nonrecording gage 100 ft downstream. Mar. 12, 1915, to July 1, 1921, nonrecording gage at present site and datum.

REMARKS.--Records fair. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	6.4	6.0	.78	.00	.00	2.1	1040	e598	e997	e1110	e1050
2	7.1	7.0	6.1	1.0	.00	.00	3.0	1040	e576	e998	e1110	e1050
3	4.8	7.6	6.5	2.0	.00	.00	3.9	913	e575	e1000	e993	e1070
4	3.8	8.0	6.4	2.6	.00	.00	3.8	847	e546	e1000	e917	e1080
5	3.5	7.6	6.3	2.6	.00	.00	1.8	850	e434	e1000	e941	e1080
6	4.9	6.1	6.4	2.6	.00	.00	1.7	849	e431	e1000	e940	e1070
7	5.0	6.6	6.3	3.3	.00	.00	3.7	850	e440	e1000	e943	e1050
8	4.3	6.5	6.2	2.4	.13	.00	200	854	e447	e1000	e943	e1050
9	4.4	6.7	2.9	1.1	.04	.00	344	854	e512	e998	e943	e1040
10	4.7	6.9	1.1	1.5	.00	.00	379	859	e559	e1000	e943	e923
11	4.9	6.7	1.1	1.0	.00	.00	380	865	e568	e1000	e944	e865
12	4.9	6.4	.94	1.0	.00	.00	415	863	e569	e1010	e936	e866
13	4.9	6.1	.88	43	.00	3.9	439	861	e571	e1020	e923	e862
14	4.9	6.9	.81	1.3	.00	4.4	450	880	e759	e1020	e917	e856
15	4.9	6.2	.47	1.1	.00	2.8	597	865	e868	e1020	e917	e856
16	4.9	6.3	.53	1.0	.00	2.9	703	867	e869	e1020	e917	e843
17	5.3	6.3	.71	2.3	.00	2.3	759	871	e869	e1070	e933	699
18	5.7	6.1	.62	1.6	.01	172	772	875	e886	e1090	e943	695
19	5.4	5.9	.58	.44	.01	320	768	939	e896	e1090	e939	687
20	5.6	6.2	.51	.00	.04	323	767	984	e897	e1100	e932	701
21	6.0	6.5	.33	.00	.00	323	786	989	e898	e1100	e935	832
22	6.0	6.6	.33	.01	.00	323	894	990	e898	e1100	e927	892
23	5.6	6.4	.29	.00	.04	324	883	994	e899	e1100	e923	897
24	5.6	6.2	.25	.00	.00	448	913	1000	e869	e1100	e989	900
25	6.0	6.3	.25	.00	.00	e517	994	969	e946	e1100	e1030	898
26	6.3	6.3	.25	.00	.01	e518	1000	957	e980	e1100	e1030	899
27	6.5	6.2	.25	.19	.00	e520	1010	940	e980	e1100	e1030	658
28	6.8	6.0	.72	.00	.00	e522	1030	778	e980	e1110	e1030	538
29	7.0	6.0	.32	.00	---	248	1040	694	e987	e1100	e1030	539
30	7.1	5.8	.35	.00	---	4.2	1040	701	e996	e1010	e1030	287
31	6.6	---	.44	.00	---	3.8	---	702	---	e1010	e1040	---
TOTAL	168.0	194.8	65.13	72.82	0.28	4582.30	16583.0	27540	22303	32363	30078	25733
MEAN	5.42	6.49	2.10	2.35	.010	148	553	888	743	1044	970	858
MAX	7.1	8.0	6.5	43	.13	522	1040	1040	996	1110	1110	1080
MIN	3.5	5.8	.25	.00	.00	.00	1.7	694	431	997	917	287
AC-FT	333	386	129	144	.6	9090	32890	54630	44240	64190	59660	51040

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

MEAN	151	47.4	25.7	79.2	130	245	692	904	935	861	739	465
MAX	490	324	238	363	456	1087	1160	1265	1259	1260	1251	1031
(WY)	1981	1951	1969	1987	1985	1972	1984	1975	1978	1967	1978	1967
MIN	.000	.000	.000	.000	.000	.000	115	84.0	147	78.2	70.9	5.55
(WY)	1920	1920	1920	1916	1916	1930	1967	1977	1924	1924	1924	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1914 - 1993	
ANNUAL TOTAL	160603.52		159683.33			
ANNUAL MEAN	439		437		445	
HIGHEST ANNUAL MEAN					684	1984
LOWEST ANNUAL MEAN					114	1977
HIGHEST DAILY MEAN	1110	Aug 6	1110	Jul 28	1320	Aug 10 1978
LOWEST DAILY MEAN	.00	Feb 18	.00	Jan 20	.00	Oct 30 1914
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 21	.00	Jan 28	.00	Oct 30 1914
ANNUAL RUNOFF (AC-FT)	318600		316700		322500	
10 PERCENT EXCEEDS	1000		1020		1070	
50 PERCENT EXCEEDS	463		323		329	
90 PERCENT EXCEEDS	.86		.00		.00	

11301000 OAKDALE CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'32", long 120°37'56", in SW 1/4 SE 1/4 sec.10, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 0.3 mi downstream from headgate at Goodwin Dam and 3.4 mi northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Records for water years 1933-36 incomplete; monthly and yearly estimates published in WSP 1315-A.

GAGE.--Water-stage recorder. Elevation of gage is 350 ft above sea level, from topographic map. Prior to Apr. 29, 1916, nonrecording gage at site 1,000 ft upstream at different datum. Apr. 29, 1916, to July 3, 1925, nonrecording gage and July 4, 1925, to Apr. 3, 1949, water-stage recorder at present site at datum 0.18 ft higher.

REMARKS.--Records good except for period of estimated daily discharge Mar. 1-17, which is poor. Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mi upstream for irrigation in Oakdale Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 556 ft^3/s, July 8-11, 1967; maximum discharge, 595 ft^3/s, June 10, 1991, gage height, 10.09 ft, result of damage to canal due to vandalism; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.6	2.3	.32	.00	e.00	.00	403	420	300	499	469
2	1.8	2.9	2.3	.01	.00	e.00	.00	404	419	482	486	468
3	2.7	2.9	2.6	.00	.00	e.00	.00	404	418	488	465	462
4	3.9	2.9	2.6	.00	.00	e.00	.00	404	397	489	466	458
5	2.2	2.9	2.5	.00	.00	e.00	.00	403	312	489	495	458
6	2.0	2.9	2.4	.00	.00	e.00	.00	420	315	488	497	458
7	1.7	2.9	2.5	.85	.00	e.00	.00	429	314	489	496	458
8	2.0	3.7	2.3	.36	.33	e.00	.00	430	336	489	496	458
9	2.3	4.1	.79	.17	.28	e.00	22	428	351	489	496	458
10	2.3	4.1	.01	.77	.09	e.00	52	440	293	489	496	452
11	2.4	4.3	.01	.03	.06	e.00	53	451	196	489	496	444
12	2.4	4.4	.00	.15	.01	e.00	115	452	226	489	497	426
13	3.0	4.4	.00	1.0	.00	e.00	224	452	226	488	497	414
14	2.8	4.4	.00	.78	.00	e.00	296	451	226	488	497	414
15	2.6	4.2	.00	.17	.00	e.00	332	458	227	494	497	414
16	2.3	4.4	.00	.12	.00	e.00	346	461	226	497	485	414
17	2.3	4.3	.00	3.3	.00	e.00	362	461	226	498	480	418
18	2.3	3.9	.00	1.4	.02	.00	363	446	226	499	475	422
19	2.3	4.7	.00	.14	.07	.00	363	445	226	499	476	418
20	2.3	3.4	.00	.06	.16	.00	364	443	226	499	477	408
21	2.8	4.1	.00	.16	.13	.00	364	447	226	499	477	397
22	2.9	3.9	.00	.34	.11	.00	363	452	226	498	477	389
23	2.9	3.9	.00	.09	.20	.00	364	452	226	498	478	372
24	2.7	3.7	.00	.00	.17	.00	364	451	226	498	478	368
25	2.9	3.6	.00	.00	.10	.25	362	419	226	498	478	368
26	2.9	3.5	.00	.00	.13	.33	363	426	226	499	478	368
27	2.9	3.2	.00	.00	.12	.13	374	438	226	499	478	362
28	2.8	3.2	.15	.00	.06	.10	383	438	226	499	478	357
29	2.6	3.1	.03	.00	---	.07	393	438	226	501	478	357
30	2.8	2.6	.00	.00	---	.01	403	438	226	500	478	357
31	2.9	---	.00	.00	---	.00	---	428	---	499	476	---
TOTAL	78.2	109.1	20.49	10.22	2.04	0.89	6625.00	13512	8066	15120	15023	12486
MEAN	2.52	3.64	.66	.33	.073	.029	221	436	269	488	485	416
MAX	3.9	4.7	2.6	3.3	.33	.33	403	461	420	501	499	469
MIN	1.5	2.6	.00	.00	.00	.00	.00	403	196	300	465	357
AC-FT	155	216	41	20	4.0	1.8	13140	26800	16000	29990	29800	24770

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

MEAN	92.5	5.20	1.07	1.71	2.28	47.7	227	360	371	364	328	244
MAX	404	51.5	15.8	71.0	77.9	364	496	544	552	554	547	518
(WY)	1979	1940	1987	1987	1976	1972	1962	1965	1965	1967	1967	1958
MIN	.28	.000	.000	.000	.000	.000	.004	97.5	49.8	25.8	.62	1.20
(WY)	1978	1915	1916	1916	1915	1918	1983	1915	1924	1924	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1914 - 1993	
ANNUAL TOTAL	72246.33		71052.94			
ANNUAL MEAN	197		195		173	
HIGHEST ANNUAL MEAN					277	1979
LOWEST ANNUAL MEAN					52.8	1924
HIGHEST DAILY MEAN	467	Jun 25	501	Jul 29	556	Jul 8 1967
LOWEST DAILY MEAN	.00	Jan 1	.00	Dec 12	.00	Jun 21 1914
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 8	.00	Dec 12	.00	Oct 16 1914
INSTANTANEOUS PEAK FLOW					595	Jun 10 1991
INSTANTANEOUS PEAK STAGE					10.09	Jun 10 1991
ANNUAL RUNOFF (AC-FT)	143300		140900		125300	
10 PERCENT EXCEEDS	440		489		476	
50 PERCENT EXCEEDS	91		4.2		76	
90 PERCENT EXCEEDS	.00		.00		.00	

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'06", long 120°38'13", in Rancheria del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on right bank 250 ft upstream from Owl Creek, 0.9 mi downstream from Goodwin Dam, and 2.9 mi northeast of Knights Ferry.

DRAINAGE AREA.--986 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1957 to current year. Records equivalent to those published as Stanislaus River at Knights Ferry, 1903-14, and as Stanislaus River near Knights Ferry, 1915-32, if adjusted for diversions in Stanislaus and San Joaquin Water Co.'s Canal and Oakdale and South San Joaquin Canals.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 252.83 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by New Melones Reservoir (station 11299000) since 1978 and Tulloch Reservoir (station 11299995) since 1957. South San Joaquin Canal (station 11300500) and Oakdale Canal (station 11301000) divert at Goodwin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s, Dec. 24, 1964, gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks; minimum daily, 0.12 ft^3/s, Feb. 8, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 37.7 ft, from floodmarks, discharge, 62,900 ft^3/s, by computation of flow over Goodwin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,070 ft^3/s, Jan. 17, gage height, 12.07 ft; minimum daily, 137 ft^3/s, Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	201	204	218	205	200	214	1500	1520	252	290	211
2	214	200	204	209	205	204	202	1500	1530	285	295	205
3	220	197	203	207	208	204	201	1510	1370	313	278	207
4	219	199	203	203	208	204	202	1550	1180	310	240	205
5	221	203	203	201	211	204	203	1530	893	310	245	204
6	215	206	207	207	208	205	205	1520	593	311	232	204
7	215	205	209	221	208	205	209	1520	384	322	206	207
8	214	205	204	211	224	204	200	1510	303	331	196	194
9	213	204	207	208	218	204	208	1480	303	325	198	182
10	212	202	209	221	211	204	211	1540	257	323	197	182
11	215	202	211	204	209	204	210	1510	205	321	197	179
12	213	202	207	207	207	202	208	1490	205	325	204	182
13	212	202	206	581	206	203	203	1520	204	328	200	184
14	211	200	206	1150	206	206	210	1400	209	337	203	179
15	211	202	206	1260	205	211	209	1190	206	338	206	184
16	211	202	205	567	207	209	442	893	202	341	205	168
17	654	203	207	789	208	204	452	583	200	377	213	153
18	1000	204	205	2430	213	209	451	380	202	369	207	142
19	1300	202	205	926	212	208	456	812	203	368	231	141
20	1020	203	206	543	213	653	459	1390	200	371	237	140
21	723	202	205	544	212	703	451	1510	223	367	232	142
22	273	202	205	835	210	702	456	1540	249	347	230	140
23	199	202	205	542	214	704	453	1540	243	318	243	142
24	200	202	206	541	211	704	680	1530	244	333	233	149
25	199	202	205	503	209	305	1020	1520	248	335	239	144
26	198	202	205	203	213	209	1420	1520	248	324	228	143
27	200	203	206	205	211	200	1520	1510	243	326	201	153
28	204	204	216	205	203	207	1560	1510	243	307	203	140
29	207	204	212	202	---	208	1540	1530	266	302	211	137
30	208	205	209	207	---	205	1510	1500	256	292	210	144
31	202	---	208	210	---	206	---	1520	---	286	211	---
TOTAL	10221	6072	6399	14960	5875	8900	15965	43058	12832	10094	6921	5087
MEAN	330	202	206	483	210	287	532	1389	428	326	223	170
MAX	1300	206	216	2430	224	704	1560	1550	1530	377	295	211
MIN	198	197	203	201	203	200	200	380	200	252	196	137
AC-FT	20270	12040	12690	29670	11650	17650	31670	85410	25450	20020	13730	10090

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1978, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	128	215	690	1194	1103	1060	1154	1651	1249	96.4	4.18	17.8
MAX	749	681	3521	5040	4309	3265	3686	6233	5100	1063	22.5	231
(WY)	1976	1966	1965	1969	1969	1969	1967	1969	1967	1967	1967	1969
MIN	.19	4.56	.40	11.5	2.19	4.74	2.48	1.52	1.35	1.60	1.09	.51
(WY)	1977	1977	1978	1977	1960	1960	1972	1961	1961	1960	1960	1960

SUMMARY STATISTICS	WATER YEARS 1957 - 1978		
ANNUAL MEAN	725		
HIGHEST ANNUAL MEAN	2131		1969
LOWEST ANNUAL MEAN	6.47		1977
HIGHEST DAILY MEAN	29400	Dec 24	1964
LOWEST DAILY MEAN	.14	Oct 6	1976
ANNUAL SEVEN-DAY MINIMUM	.15	Oct 13	1976
INSTANTANEOUS PEAK FLOW	40200	Dec 24	1964
INSTANTANEOUS PEAK STAGE	28.85	Dec 24	1964
ANNUAL RUNOFF (AC-FT)	525500		
10 PERCENT EXCEEDS	2300		
50 PERCENT EXCEEDS	43		
90 PERCENT EXCEEDS	1.9		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	395	462	761	781	575	1108	720	683	546	528	503	378
MAX	1228	2246	4581	4793	1693	4905	1582	1389	1080	1314	1152	1097
(WY)	1984	1984	1984	1984	1984	1986	1986	1993	1986	1985	1985	1986
MIN	172	161	140	132	140	143	236	275	185	229	157	155
(WY)	1991	1991	1992	1990	1990	1991	1991	1991	1984	1984	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1984 - 1993		
ANNUAL TOTAL	99993		146384				
ANNUAL MEAN	273		401		621		
HIGHEST ANNUAL MEAN					1469		1984
LOWEST ANNUAL MEAN					185		1991
HIGHEST DAILY MEAN	1300	Oct 19	2430	Jan 18	6330	Mar 18	1986
LOWEST DAILY MEAN	127	Mar 1	137	Sep 29	51	Oct 10	1990
ANNUAL SEVEN-DAY MINIMUM	129	Mar 1	142	Sep 18	85	Oct 10	1990
INSTANTANEOUS PEAK FLOW			3070	Jan 17	6620	Mar 15	1986
INSTANTANEOUS PEAK STAGE			12.07	Jan 17	14.74	Mar 15	1986
INSTANTANEOUS LOW FLOW			137	Sep 29			
ANNUAL RUNOFF (AC-FT)	198300		290400		450200		
10 PERCENT EXCEEDS	507		1280		1250		
50 PERCENT EXCEEDS	210		210		351		
90 PERCENT EXCEEDS	133		200		144		

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: February 1966 to current year.

INSTRUMENTATION.--Temperature recorder since February 1966.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument. Temperature recorder located 2,300 ft upstream from gaging station. Water temperature is affected by regulation from Goodwin Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 30.5°C, July 25, 1974; minimum recorded, 5.5°C, Feb. 3, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 16.5°C, several days in October; minimum recorded, 9.5°C, several days during January to February.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	14.0	13.5
2	---	---	12.0	11.0	12.0	11.0	13.0	12.0	13.5	13.0	14.0	13.5
3	---	---	11.5	11.0	11.5	11.0	13.0	12.0	13.5	13.0	14.5	13.5
4	---	---	11.5	10.5	11.0	11.0	13.0	12.0	13.5	13.0	14.0	13.5
5	---	---	11.5	11.0	11.0	11.0	13.0	12.0	13.5	13.0	14.0	13.5
6	---	---	11.5	11.0	11.0	10.5	13.0	12.0	13.5	13.0	14.0	13.5
7	---	---	11.5	10.5	12.0	10.5	13.0	12.5	13.5	13.0	14.5	13.5
8	---	---	11.5	10.5	12.0	11.0	13.0	12.5	13.5	13.0	14.5	13.5
9	---	---	11.5	10.5	12.0	11.0	13.0	12.5	13.5	13.0	14.5	13.5
10	---	---	11.5	11.0	12.0	11.0	13.0	12.5	13.5	13.0	14.5	13.5
11	---	---	11.5	10.5	12.0	11.0	13.0	12.5	13.5	12.5	14.5	13.5
12	---	---	11.5	10.5	12.0	11.0	13.5	12.5	13.5	13.0	14.0	13.5
13	---	---	11.5	10.5	12.0	11.0	13.5	12.5	13.5	13.0	14.0	13.5
14	---	---	11.5	10.5	12.0	11.5	13.0	12.5	13.5	13.0	14.0	13.5
15	---	---	11.0	10.5	12.0	11.0	---	---	13.5	13.0	14.0	13.5
16	---	---	11.5	10.0	12.5	11.0	13.0	12.5	13.5	13.0	14.0	13.5
17	---	---	10.5	10.0	12.0	11.0	13.5	12.5	13.5	13.0	14.0	13.5
18	---	---	11.0	10.0	12.0	11.5	13.5	13.0	13.5	13.0	14.5	13.5
19	---	---	11.5	10.0	12.5	11.5	13.5	13.0	---	---	14.5	13.5
20	---	---	11.5	11.0	12.0	11.5	13.5	13.0	13.5	13.0	14.5	13.5
21	---	---	12.0	11.0	12.0	11.5	13.5	13.0	14.0	13.0	14.5	13.5
22	---	---	12.0	11.0	12.0	11.0	13.5	13.0	14.0	13.0	14.0	13.5
23	---	---	12.0	11.0	12.5	11.5	13.5	13.0	14.0	13.0	14.5	13.5
24	---	---	12.0	11.5	12.5	11.5	13.5	13.0	14.0	13.0	14.5	13.5
25	---	---	11.5	11.0	12.5	11.5	13.5	13.0	14.0	13.0	14.5	13.5
26	---	---	12.0	11.0	12.5	11.5	13.5	13.0	14.0	13.0	14.5	13.5
27	---	---	11.5	11.0	12.5	11.5	14.0	13.0	14.0	13.0	14.5	13.5
28	---	---	11.5	11.0	12.5	11.5	14.0	13.0	14.0	13.5	14.5	13.5
29	---	---	12.0	11.0	12.5	12.0	13.5	13.0	14.0	13.0	14.5	14.0
30	12.0	11.5	11.5	11.0	12.5	12.0	14.0	13.0	14.0	13.5	14.5	14.0
31	---	---	11.5	11.5	---	---	14.0	13.0	14.0	13.5	---	---
MONTH	---	---	12.0	10.0	12.5	10.5	---	---	---	---	14.5	13.5

11302500 STANISLAUS RIVER AT OAKDALE, CA

LOCATION.--Lat 37°46'38", long 120°51'07", in Eight Square Leagues on Stanislaus River Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank at State Highway 120 bridge at Oakdale.

DRAINAGE AREA.--1,032 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1985 to current year.

INSTRUMENTATION.--Water-temperature recorder since Aug. 28, 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 26.0°C, June 21, 22, 1992; minimum recorded, 5.0°C, Dec. 22-25, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.5°C, June 19; minimum recorded, 7.0°C, Jan. 3, 4.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	18.5	16.5	15.5	12.0	11.0	10.0	9.0	10.5	9.0	12.5	10.5
2	19.5	18.0	17.0	15.5	11.5	11.0	9.0	8.0	10.5	9.0	13.0	11.0
3	19.0	17.5	16.5	15.0	12.5	11.5	8.0	7.0	10.5	10.0	14.0	12.0
4	18.5	17.0	16.0	14.5	11.5	11.0	8.0	7.0	11.5	9.5	14.0	12.0
5	19.0	17.0	16.0	14.5	11.5	10.5	8.0	7.5	12.0	11.0	14.0	12.0
6	19.0	17.0	16.0	14.5	12.0	11.0	9.0	7.5	12.0	10.5	15.0	12.5
7	19.0	17.0	15.5	14.5	12.5	11.5	10.0	9.0	12.0	11.0	15.5	12.5
8	19.0	17.0	15.0	14.0	11.5	11.0	10.5	9.5	12.0	11.5	15.5	13.5
9	18.5	16.5	14.0	12.5	12.5	11.5	10.0	9.0	12.5	11.5	15.0	13.5
10	18.5	16.5	13.0	11.5	13.5	12.5	10.0	9.0	12.5	11.5	15.5	13.0
11	18.5	16.5	13.0	11.5	13.0	12.0	9.5	8.5	12.5	11.5	15.5	13.5
12	18.5	17.0	13.0	11.5	12.0	11.0	8.5	8.0	12.0	10.5	15.5	13.5
13	18.5	17.0	13.5	12.0	11.0	10.0	10.5	8.5	12.0	10.5	16.0	14.0
14	18.0	16.5	13.5	12.0	11.0	10.0	10.5	10.0	11.5	10.0	15.5	14.0
15	17.5	16.5	14.0	12.5	10.5	9.5	10.5	9.5	11.5	10.0	15.0	13.0
16	17.5	16.0	14.0	13.0	10.0	9.5	11.0	10.0	12.0	11.0	14.5	13.5
17	17.0	16.0	14.5	13.5	10.5	10.0	11.0	10.0	11.5	11.0	15.0	13.5
18	17.0	15.5	14.0	13.0	10.0	9.0	10.5	10.0	12.0	11.0	15.5	13.5
19	16.5	15.5	13.0	12.5	9.5	8.5	10.5	10.0	12.5	11.5	15.5	13.5
20	16.5	15.5	13.0	12.0	10.0	9.0	11.0	10.5	12.0	11.0	14.5	13.0
21	17.0	16.0	12.5	11.5	10.0	9.0	11.5	10.5	12.0	10.5	13.5	11.5
22	17.0	15.5	13.0	12.5	10.5	9.5	11.5	10.5	11.0	10.5	13.5	11.0
23	17.0	15.5	12.5	11.5	9.5	9.0	10.5	9.5	12.0	10.5	13.0	11.5
24	17.5	16.0	12.0	11.5	9.5	9.0	10.0	9.0	12.0	10.5	12.5	11.5
25	18.0	16.5	13.0	12.0	9.5	9.0	10.0	9.0	11.5	10.5	12.0	11.0
26	18.0	16.5	13.0	11.5	9.5	9.0	10.0	9.0	11.0	10.5	14.0	12.0
27	17.0	16.5	14.0	12.5	9.5	8.5	10.0	9.5	12.0	10.0	13.5	13.0
28	16.5	16.0	13.0	12.0	9.5	8.5	10.0	9.5	12.0	10.0	13.0	12.5
29	16.0	15.5	12.5	11.5	10.5	9.5	10.5	9.5	---	---	13.5	12.0
30	16.0	15.0	12.0	11.0	10.0	9.5	10.0	9.0	---	---	15.0	12.5
31	16.0	14.5	---	---	10.0	9.5	10.5	9.0	---	---	16.0	13.0
MONTH	20.5	14.5	17.0	11.0	13.5	8.5	11.5	7.0	12.5	9.0	16.0	10.5

11302500 STANISLAUS RIVER AT OAKDALE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.5	14.0	13.5	12.0	14.0	12.0	20.5	17.5	20.5	18.0	20.5	17.5
2	15.5	13.5	13.5	12.0	13.5	12.0	20.0	17.5	20.0	18.0	21.0	18.0
3	15.0	13.5	13.0	12.0	13.5	12.0	19.0	16.5	19.0	17.5	21.0	18.5
4	15.5	14.0	13.0	11.0	13.0	12.0	19.5	16.5	20.0	17.0	21.0	18.5
5	16.0	13.5	13.5	11.0	13.0	11.5	19.5	17.0	20.5	17.5	20.5	18.0
6	16.0	13.0	13.0	11.5	13.0	12.0	20.0	17.0	21.0	18.0	20.0	17.5
7	16.5	13.5	13.0	11.0	14.5	11.5	20.0	17.0	20.5	18.0	20.0	17.5
8	16.5	14.0	13.0	11.0	17.0	13.5	19.5	17.0	21.0	18.0	20.0	17.5
9	17.0	14.5	13.5	11.5	18.0	15.0	20.0	17.0	21.0	18.0	20.5	17.5
10	16.5	14.5	14.0	11.5	18.5	16.0	19.5	16.5	20.5	18.0	21.0	18.0
11	16.0	13.5	13.0	11.5	19.0	15.5	19.5	17.0	20.5	17.5	20.5	18.0
12	15.5	12.5	13.0	11.0	19.5	16.0	19.5	17.0	20.5	17.5	20.0	17.0
13	15.5	13.0	13.0	11.0	20.0	16.0	19.5	17.0	20.5	17.5	19.5	17.0
14	16.0	13.0	13.5	11.5	20.5	17.0	19.0	16.5	20.5	17.5	19.0	16.5
15	16.5	14.0	13.0	11.5	20.5	17.0	18.5	16.0	20.5	17.5	19.0	16.5
16	14.5	13.0	14.0	11.5	20.5	17.5	18.5	16.0	20.5	17.5	18.5	16.5
17	13.0	12.0	14.0	12.5	21.0	17.5	19.0	16.0	20.0	17.5	18.0	16.0
18	14.0	11.0	15.0	12.5	21.0	17.5	18.5	15.5	20.5	17.5	18.5	15.5
19	14.0	12.0	17.0	13.5	21.5	18.0	19.0	16.5	20.5	18.0	19.0	16.0
20	14.5	12.0	13.5	12.0	21.0	18.0	18.0	16.0	20.0	17.0	19.0	16.5
21	14.5	12.5	14.0	12.0	19.5	17.5	18.5	16.0	20.0	17.5	19.5	16.5
22	14.5	12.5	14.0	12.0	19.0	16.0	19.0	16.0	21.0	18.0	19.0	16.0
23	13.5	12.0	14.0	12.0	19.0	16.0	20.0	17.0	21.0	18.0	18.5	16.0
24	14.0	11.5	14.0	12.0	19.5	16.5	20.0	17.5	20.5	17.5	18.5	16.0
25	13.5	11.5	13.5	12.0	20.5	17.0	20.0	17.5	20.0	17.5	18.5	15.5
26	14.0	12.0	14.0	12.0	20.5	17.5	20.0	17.0	20.0	17.0	19.0	16.0
27	14.0	12.0	13.0	11.5	20.5	17.5	20.0	17.5	20.5	17.5	19.0	16.0
28	14.0	12.0	14.0	12.0	19.5	17.0	20.0	17.0	20.5	17.5	19.0	16.0
29	14.0	12.0	13.5	12.0	20.0	17.0	19.5	17.0	20.5	18.0	19.0	16.0
30	14.0	12.0	13.0	12.0	20.0	17.0	19.5	17.0	20.0	17.5	19.5	17.0
31	---	---	13.5	12.0	---	---	20.5	17.5	20.0	17.0	---	---
MONTH	17.0	11.0	17.0	11.0	21.5	11.5	20.5	15.5	21.0	17.0	21.0	15.5

11303000 STANISLAUS RIVER AT RIPON, CA

LOCATION.--Lat 37°43'47", long 121°06'34", in NW 1/4 SE 1/4 sec.29, T.2 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 15 ft downstream from railroad bridge, 1.1 mi southeast of Ripon, and 15 mi upstream from mouth.

DRAINAGE AREA.--1,075 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year. April to September 1940 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 0.72 ft above sea level. October 1940 to Nov. 17, 1953, at site 100 ft upstream at same datum.

REMARKS.--Records good except for period of estimated daily discharge which is poor. Flow regulated by reservoirs and powerplants upstream from station. South San Joaquin and Oakdale Canals (stations 11300500 and 11301000) divert at Goodwin Dam 34 mi upstream for irrigation in the vicinity of Oakdale. See REMARKS for Stanislaus River below Goodwin Dam, near Knights Ferry (station 11302000).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,500 ft^3/s, Dec. 24, 1955, gage height, 63.25 ft; minimum daily, 0.11 ft^3/s, Aug. 4-6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 12, 1938, reached a stage of 64.4 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,500 ft^3/s, Jan. 19, gage height, 46.64 ft; minimum daily, 208 ft^3/s, Oct. 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	301	234	216	237	285	272	320	1330	1560	348	356	420
2	288	228	217	268	278	260	306	1360	1530	313	368	381
3	247	227	220	286	273	257	293	1380	1520	326	365	408
4	243	221	220	245	269	255	284	1410	1430	364	350	391
5	235	217	215	234	266	251	279	1480	1290	354	322	402
6	227	216	217	232	266	248	276	1520	1060	351	316	443
7	229	222	231	251	267	246	284	1490	827	350	342	396
8	220	223	236	438	301	244	279	1490	698	360	298	420
9	224	222	226	480	458	243	264	1500	559	381	286	418
10	221	219	232	437	510	243	265	1490	502	365	287	367
11	215	217	255	541	364	241	268	1490	445	366	282	344
12	222	215	255	368	323	241	276	1520	404	373	291	318
13	216	213	238	365	301	239	282	1500	377	376	288	385
14	211	212	229	854	280	236	306	1510	363	389	284	391
15	208	212	228	1260	268	235	295	1450	350	391	287	374
16	214	213	226	1220	261	237	298	1300	347	388	294	345
17	223	215	e226	819	260	247	392	1080	339	396	301	362
18	362	215	e225	1270	268	247	472	795	331	408	303	357
19	666	215	e226	2320	279	240	473	644	320	421	296	376
20	904	218	e226	1270	307	237	460	837	304	427	316	452
21	881	217	e225	808	346	408	482	1290	324	438	296	378
22	707	218	e227	807	312	547	476	1420	288	431	324	333
23	477	218	e226	910	287	573	489	1470	306	403	319	337
24	333	216	e226	645	293	633	489	1500	311	400	292	345
25	279	216	e227	584	306	648	561	1540	311	371	318	371
26	268	216	e229	548	283	597	758	1550	338	401	367	387
27	257	216	e240	398	284	511	1100	1520	312	407	402	377
28	257	216	e265	331	295	400	1260	1530	322	414	398	321
29	263	215	e255	309	---	386	1320	1510	317	405	420	246
30	256	215	e248	296	---	350	1350	1510	344	387	417	231
31	242	---	245	289	---	333	---	1530	---	373	418	---
TOTAL	10096	6537	7177	19320	8490	10305	14657	42946	17729	11877	10203	11076
MEAN	326	218	232	623	303	332	489	1385	591	383	329	369
MAX	904	234	265	2320	510	648	1350	1550	1560	438	420	452
MIN	208	212	215	232	260	235	264	644	288	313	282	231
AC-FT	20030	12970	14240	38320	16840	20440	29070	85180	35170	23560	20240	21970

e Estimated

11303000 STANISLAUS RIVER AT RIPON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

MEAN	350	473	909	1187	1148	1361	1555	2106	1482	492	337	325
MAX	1775	4518	7602	5163	4802	5094	5047	7703	5531	3633	2834	2041
(WY)	1984	1951	1951	1956	1969	1943	1983	1952	1967	1983	1983	1983
MIN	6.34	20.3	26.0	77.8	64.3	47.5	41.0	42.8	25.1	9.88	.63	2.95
(WY)	1978	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993		
ANNUAL TOTAL	110233		170413				
ANNUAL MEAN	301		467		976		
HIGHEST ANNUAL MEAN					2548		1983
LOWEST ANNUAL MEAN					44.9		1977
HIGHEST DAILY MEAN	1250	Feb 16	2320	Jan 19	47000	Dec 24	1955
LOWEST DAILY MEAN	149	Feb 9	208	Oct 15	.11	Aug 4	1977
ANNUAL SEVEN-DAY MINIMUM	156	Feb 3	214	Nov 12	.13	Aug 2	1977
INSTANTANEOUS PEAK FLOW			2500	Jan 19	62500	Dec 24	1955
INSTANTANEOUS PEAK STAGE			46.64	Jan 19	63.25	Dec 24	1955
ANNUAL RUNOFF (AC-FT)	218600		338000		706900		
10 PERCENT EXCEEDS	538		1270		2690		
50 PERCENT EXCEEDS	257		320		364		
90 PERCENT EXCEEDS	165		221		132		

11303000 STANISLAUS RIVER AT RIPON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1992 to September 1993. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in U.S. Geological Survey Open-File Report 91-74.
CHEMICAL DATA: Water year 1986 to water year 1988 and October 1992 to September 1993.
SPECIFIC CONDUCTANCE: Water year 1986 to water year 1989.
WATER TEMPERATURE: Water year 1986 to water year 1989.
SEDIMENT DATA: October 1992 to September 1993.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Water year 1986 to water year 1989.
WATER TEMPERATURE: Water year 1986 to water year 1989.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	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...	1332	218	94	7.4	18.5	760	8.8	94	--	--	--
JAN											
21...	1515	793	145	[1]7.5	12.0	766	9.4	87	51	11	5.8
FEB											
25...	0915	309	168	7.5	11.5	765	9.9	90	64	12	8.3
MAR											
29...	0945	400	209	7.2	14.0	766	8.4	81	67	13	8.5
APR											
28...	1000	1240	118	7.4	13.5	764	10.5	100	51	10	6.4
MAY											
25...	1400	1540	[1]80	7.3	15.0	760	9.1	90	30	7.2	2.9
JUN											
23...	1400	303	88	7.9	22.0	763	8.2	93	36	8.6	3.6
JUL											
26...	1440	415	78	7.0	23.0	764	8.2	95	28	6.8	2.6
AUG											
24...	1540	306	85	7.6	24.0	755	7.8	94	29	7.0	2.7
SEP											
28...	1425	324	80	7.3	22.0	761	9.0	103	30	7.2	2.8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	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)
OCT										
13...	--	--	--	--	54	0	44	--	--	--
JAN										
21...	6.0	--	0.4	--	61	0	50	7.0	5.1	<0.10
FEB										
25...	6.7	--	0.4	--	82	0	67	9.1	5.9	<0.10
MAR										
29...	8.1	18	0.4	9.4	94	0	77	7.8	9.4	0.10
APR										
28...	4.0	14	0.2	1.1	62	0	51	7.3	2.8	<0.10
MAY										
25...	2.9	17	0.2	1.0	43	0	35	4.2	1.7	0.10
JUN										
23...	4.0	19	0.3	1.3	34	0	28	4.0	2.3	<0.10
JUL										
26...	3.1	17	0.3	3.3	38	0	31	2.8	1.6	<0.10
AUG										
24...	3.4	20	0.3	1.2	40	0	33	3.0	1.8	0.10
SEP										
28...	3.7	21	0.3	1.2	42	0	34	2.9	1.5	0.10

11303000 STANISLAUS RIVER AT RIPON, CA--Continued

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

DATE	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT									
13...	--	--	--	--	--	--	--	--	--
JAN									
21...	16	97	--	--	0.030	0.670	0.420	1.2	0.80
FEB									
25...	16	98	--	--	0.050	0.850	0.150	0.60	0.40
MAR									
29...	17	130	126	0.18	0.050	0.740	1.10	2.6	2.3
APR									
28...	14	81	77	0.11	<0.010	0.340	0.010	0.30	0.20
MAY									
25...	13	57	54	0.08	--	--	--	--	--
JUN									
23...	14	65	56	0.09	<0.010	0.270	0.010	<0.20	<0.20
JUL									
26...	13	54	53	0.07	<0.010	0.160	0.040	0.30	<0.20
AUG									
24...	13	52	53	0.07	<0.010	0.150	0.030	<0.20	<0.20
SEP									
28...	13	51	54	0.07	<0.010	0.180	0.010	<0.20	<0.20

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	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)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
13...	--	--	--	--	--	--	--	--	--	--
JAN										
21...	0.380	0.270	0.250	30	140	20	<1	<1	--	--
FEB										
25...	0.180	0.100	0.130	30	65	12	<1	<1	--	--
MAR										
29...	0.700	0.530	0.490	40	200	11	<1	<1	12	2.0
APR										
28...	0.080	0.020	0.020	30	30	6	--	--	5.0	1.2
MAY										
25...	--	--	--	<10	34	6	<1	<1	4.3	1.2
JUN										
23...	0.060	0.030	0.040	<10	56	10	<1	<1	2.6	0.4
JUL										
26...	0.080	0.040	0.020	20	59	6	<1	<1	5.2	0.7
AUG										
24...	0.060	0.040	0.030	--	67	8	<1	<1	3.5	0.3
SEP										
28...	0.060	0.040	0.030	10	59	6	<1	<1	4.7	0.3

11303000 STANISLAUS RIVER AT RIPON, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN					
21...	1515	793	12.0	36	77
FEB					
25...	0915	309	11.5	25	21
MAR					
29...	0945	400	14.0	23	25
APR					
28...	1000	1240	13.5	37	124
MAY					
25...	1400	1540	15.0	31	129
JUN					
23...	1400	303	22.0	16	13
JUL					
26...	1440	415	23.0	22	25
AUG					
24...	1540	306	24.0	15	12
SEP					
28...	1425	324	22.0	7	6.0

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, San Joaquin County, Hydrologic Unit 18040003, on left bank 12 ft downstream from Durham Ferry highway bridge, 2.6 mi downstream from Stanislaus River, and 3.2 mi northeast of Vernalis.

DRAINAGE AREA.--13,536 mi^2, includes about 2,100 mi^2 in James Bypass.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-flow records only).

REVISED RECORDS.--WSP 831: 1936. WSP 931: 1940. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level. See WSP 2130 for history of changes prior to Nov. 30, 1967.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation; low flows consist mainly of return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft^3/s, Dec. 9, 1950, elevation, 32.81 ft, present datum, including flow through breaks in levee; maximum elevation, 34.55 ft, Jan. 27, 1969; minimum discharge, 19 ft^3/s, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,300 ft^3/s, Jan. 19, elevation, 18.34 ft; minimum daily, 542 ft^3/s, Oct. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	747	1020	873	1000	2410	4380	3760	4490	3110	1470	1730	3350
2	733	996	870	1060	2270	4270	3530	4580	3000	1430	1870	3250
3	702	995	876	1080	2160	4050	3270	4610	2860	1370	1820	3240
4	670	1010	884	1150	2040	3720	3110	4730	2790	1490	1760	3240
5	653	1010	897	1220	1960	3370	3100	4680	2840	1630	1640	3330
6	582	999	898	1250	1900	3010	2970	4750	2860	1620	1570	3290
7	558	991	946	1270	1840	2720	2820	4720	2710	1600	1770	3220
8	602	986	990	1400	2140	2510	3070	4620	2610	1630	1850	3100
9	566	1000	974	2330	2910	2340	3280	4700	2530	1630	1830	3180
10	542	1000	984	2920	4360	2220	3260	4430	2580	1560	1840	3170
11	594	993	1070	3460	4150	2120	3370	3880	2680	1560	1860	3030
12	598	996	1120	3910	3720	2030	3510	3770	2670	1560	1890	2950
13	554	998	1100	3670	3610	1990	3520	3700	2670	1500	1930	2780
14	550	981	1080	4940	3270	1950	3500	3600	2670	1450	2010	2690
15	550	977	1080	6470	2910	1920	3530	3560	2590	1420	2080	2760
16	546	978	1050	6530	2670	1870	3510	3460	2410	1390	2070	2800
17	582	941	1020	6160	2480	1850	3530	3320	2310	1450	1990	2900
18	927	900	1020	6570	2400	1820	3560	2970	2300	1490	1920	2940
19	813	899	1030	9590	3090	1770	3380	2620	2250	1510	1910	2710
20	1090	926	1000	8950	3850	1770	3240	2410	2210	1500	1950	2550
21	1350	918	983	7130	3760	1800	3110	2660	2250	1440	1960	2410
22	1360	921	968	6710	3460	1960	3040	2810	2100	1450	1940	2380
23	1210	931	962	6500	3300	2040	2970	2870	1940	1410	1980	2300
24	1050	931	959	6020	3200	2200	3010	2870	1710	1390	1890	2260
25	1170	916	943	5300	3240	2340	3050	2890	1670	1450	1830	2250
26	1230	904	934	4750	3510	2700	3280	3020	1650	1450	1900	2330
27	1240	902	929	4180	4070	3370	3920	3050	1630	1520	2030	2400
28	1230	884	937	3580	4310	3950	4330	3110	1590	1540	2200	2210
29	1150	884	1010	3140	---	3870	4550	3010	1570	1560	2570	2120
30	1100	883	1030	2860	---	3950	4540	2990	1470	1670	3110	1990
31	1060	---	1010	2620	---	3910	---	3030	---	1660	3250	---
TOTAL	26309	28670	30427	127720	84990	83770	102620	111910	70230	46800	61950	83130
MEAN	849	956	982	4120	3035	2702	3421	3610	2341	1510	1998	2771
MAX	1360	1020	1120	9590	4360	4380	4550	4750	3110	1670	3250	3350
MIN	542	883	870	1000	1840	1770	2820	2410	1470	1370	1570	1990
AC-FT	52180	56870	60350	253300	168600	166200	203500	222000	139300	92830	122900	164900

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2172	2330	3643	4987	6618	7186	7008	7589	6616	2449	1318	1678
MAX	13320	10680	25130	27050	32550	40040	36450	31770	36650	19230	9035	11310
(WY)	1984	1984	1951	1956	1969	1983	1983	1983	1938	1983	1983	1983
MIN	246	430	506	804	758	444	200	380	118	92.8	124	179
(WY)	1978	1978	1978	1962	1991	1961	1961	1961	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1924 - 1993	
ANNUAL TOTAL	353795		858526			
ANNUAL MEAN	967		2352		4451	
HIGHEST ANNUAL MEAN					21280	1983
LOWEST ANNUAL MEAN					575	1977
HIGHEST DAILY MEAN	5110	Feb 17	9590	Jan 19	70000	Dec 9 1950
LOWEST DAILY MEAN	390	Jun 23	542	Oct 10	30	Aug 10 1961
ANNUAL SEVEN-DAY MINIMUM	432	Jul 16	562	Oct 10	59	Jul 19 1961
INSTANTANEOUS PEAK FLOW			10300	Jan 19	79000	Dec 9 1950
INSTANTANEOUS PEAK STAGE			18.34	Jan 19	34.55	Jan 27 1969
INSTANTANEOUS LOW FLOW			542	Oct 10	19	Aug 10 1961
ANNUAL RUNOFF (AC-FT)	701800		1703000		3224000	
10 PERCENT EXCEEDS	1570		3930		11900	
50 PERCENT EXCEEDS	927		2080		2010	
90 PERCENT EXCEEDS	450		928		633	

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951 to current year.
BIOLOGICAL DATA: Water years 1974-81.
SPECIFIC CONDUCTANCE: Water years 1951-63, 1973-81, 1989 to current year.
WATER TEMPERATURE: Water years 1951 to current year.
SEDIMENT DATA: Water years 1957 to current year.
PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: March 1951 to May 1963.
SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981, October 1988 to current year.
WATER TEMPERATURE: March 1951 to current year.
SUSPENDED-SEDIMENT DISCHARGE: November 1956 to current year.
INSTRUMENTATION.--Conductivity recorder, January 1973 to October 1981. Temperature recorder, October 1961 to September 1963 and since December 1972. Water quality-monitor since June 1985.
REMARKS.--Mean daily specific-conductance records January 1973 to October 1981, provided by U.S. Bureau of Reclamation. Maximum and minimum specific-conductance values, June 1985 to September 1988, are available in files of the U.S. Geological Survey. Interruptions in record were due to malfunction of recording instrument.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,350 microsiemens, Aug. 11, 1961; minimum daily, 60 microsiemens, June 21, 1953.
WATER TEMPERATURE: Maximum recorded, 35.5°C, Aug. 9, 1990; minimum recorded, 2.0°C, Dec. 26, 1987.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,590 mg/L, Dec. 25, 1964; minimum daily mean, 6 mg/L, Jan. 1, 1991.
SEDIMENT LOAD: Maximum daily, 54,100 tons, Dec. 25, 1964; minimum daily, 2 tons, Aug. 10, 1961.
EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,420 microsiemens, Mar. 14; minimum recorded, 233 microsiemens, Jan. 19.
WATER TEMPERATURE: Maximum recorded, 28.0°C, Aug. 2; minimum recorded, 6.0°C, Jan. 4-6.
SEDIMENT CONCENTRATION: Maximum daily mean, 709 mg/L, Jan. 14; minimum daily mean, 13 mg/L, Dec. 21.
SEDIMENT LOAD: Maximum daily, 9,730 tons, Jan. 19; minimum daily, 35 tons, Dec. 21, 22.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (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)
NOV												
17...	1310	942	758	7.9	14.0	6.1	759	9.4	92	160	49	170
DEC												
16...	1030	1050	870	7.6	8.5	--	766	9.8	83	--	--	180
22...	1300	967	908	7.6	8.0	--	769	10.8	91	--	--	200
JAN												
06...	1330	1250	860	7.7	6.0	--	755	12.4	101	--	--	140
12...	1505	3860	288	8.0	8.5	59	753	8.6	74	880	1100	68
13...	1500	3630	369	7.6	8.0	--	755	8.7	75	--	--	87
22...	1300	6740	436	7.0	12.0	--	770	8.0	74	--	--	100
29...	1445	3100	787	7.0	10.5	--	765	8.9	80	--	--	170
FEB												
04...	1315	2040	1050	7.5	11.0	--	760	8.6	78	--	--	210
11...	1430	4030	616	7.7	13.0	--	765	10.7	101	--	--	130
26...	1630	3640	656	[1]7.2	11.0	--	760	8.9	81	--	--	160
MAR												
05...	1500	3320	878	7.8	16.0	--	770	8.8	88	--	--	200
12...	1400	2020	1380	7.6	19.0	--	765	9.4	101	--	--	280
17...	1340	1840	1370	8.0	18.5	18	764	9.7	104	160	73	290
18...	1345	1810	1390	7.6	19.0	--	768	9.8	105	--	--	290
26...	1530	2780	917	7.6	15.5	--	759	8.2	83	--	--	210
APR												
01...	1445	3720	738	8.0	18.0	--	765	9.7	102	--	--	170
06...	1645	2950	910	8.1	18.0	--	762	8.7	93	--	--	200
14...	1530	3500	588	7.5	18.5	--	765	10.2	109	--	--	330
20...	1515	3230	592	7.8	19.0	--	765	10.1	109	--	--	120
27...	1545	4010	427	7.4	19.0	--	763	9.2	99	--	--	95
MAY												
04...	1545	4730	319	7.5	19.0	--	765	9.2	99	--	--	83
21...	1530	2740	628	8.0	23.5	--	765	8.7	102	--	--	140
25...	1330	2900	571	7.8	19.5	19	763	10.8	118	200	200	140
JUN												
01...	1430	3100	501	7.8	20.5	--	764	8.4	93	--	--	120
14...	1430	2670	522	7.9	25.5	--	763	8.4	103	--	--	120
29...	1445	1600	766	7.9	26.0	--	760	9.5	118	--	--	170
JUL												
13...	1245	1520	822	7.8	26.0	50	759	10.2	127	120	85	180
15...	1445	1430	780	7.8	25.0	--	765	9.2	111	--	--	180
AUG												
04...	1015	1790	606	7.7	25.0	--	762	6.8	83	--	--	130
25...	1900	1820	583	7.9	25.0	--	760	8.5	103	--	--	130
SEP												
07...	1600	3210	363	7.6	22.0	--	765	8.6	98	--	--	82
14...	1420	2700	418	7.4	20.5	20	760	8.1	90	240	340	96
29...	1350	2130	513	7.7	20.5	--	760	8.1	90	--	--	110

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER WH IT FIELD MG/L AS CO3	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3
NOV												
17...	60	35	19	91	54	3	2.8	--	130	--	--	106
DEC												
16...	--	41	20	100	--	3	--	149	--	0	122	--
22...	--	43	23	120	--	4	--	156	--	0	128	--
JAN												
06...	--	31	16	120	--	4	--	171	--	0	140	--
12...	9	15	7.4	28	44	1	6.4	--	72	--	--	59
13...	--	19	9.7	42	--	2	--	78	--	0	64	--
22...	--	22	11	44	47	2	6.2	107	--	0	88	--
29...	--	35	19	86	--	3	--	149	--	0	122	--
FEB												
04...	--	44	25	120	--	4	--	159	--	0	130	--
11...	--	27	15	66	--	3	--	111	--	0	91	--
26...	--	33	18	66	--	2	--	--	--	--	--	--
MAR												
05...	--	43	22	96	51	3	4.5	159	--	0	130	--
12...	--	61	32	160	54	4	6.3	201	--	0	165	--
17...	130	63	33	170	55	4	4.7	--	204	--	--	164
18...	--	60	33	160	54	4	4.6	212	--	0	173	--
26...	--	44	24	110	53	3	4.0	151	--	0	124	--
APR												
01...	--	38	19	76	48	3	4.5	139	--	0	114	--
06...	--	42	22	97	51	3	4.0	191	--	0	157	--
14...	--	65	41	76	33	2	3.7	92	--	0	76	--
20...	--	26	14	62	52	2	2.7	148	--	0	121	--
27...	--	20	11	43	49	2	2.0	75	--	0	61	--
MAY												
04...	--	18	9.3	33	46	2	1.6	56	--	0	46	--
21...	--	31	16	66	50	2	2.5	93	--	0	76	--
25...	58	31	16	70	51	3	2.6	--	105	--	--	86
JUN												
01...	--	26	13	53	49	2	2.3	108	--	0	89	--
14...	--	27	12	54	50	2	2.1	78	--	0	64	--
29...	--	38	18	82	51	3	3.1	150	--	0	123	--
JUL												
13...	81	40	20	91	52	3	3.0	--	124	--	--	102
15...	--	41	20	89	51	3	3.2	139	--	0	114	--
AUG												
04...	--	30	14	66	51	2	2.4	98	--	0	81	--
25...	--	30	14	62	50	2	2.5	124	--	0	102	--
SEP												
07...	--	18	9.0	37	49	2	1.9	76	--	0	62	--
14...	34	22	10	44	49	2	2.4	--	76	--	--	--
29...	--	26	12	53	50	2	2.0	156	--	0	128	--

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV												
17...	110	100	0.10	15	445	443	0.61	0.020	0.040	1.20	1.20	0.090
DEC												
16...	140	120	<0.10	15	517	--	--	--	0.070	--	1.80	--
22...	150	130	0.20	17	581	--	--	--	0.050	--	1.60	--
JAN												
06...	100	130	0.20	15	495	--	--	--	0.060	--	1.40	--
12...	30	30	<0.10	15	177	174	0.24	--	0.050	--	1.30	--
13...	61	46	<0.10	16	260	--	--	--	0.040	--	1.40	--
22...	52	41	0.10	18	244	254	0.33	--	0.050	--	1.20	--
29...	120	97	0.10	18	485	--	--	--	0.050	--	1.70	--
FEB												
04...	180	150	0.10	19	--	--	--	--	0.060	--	2.10	--
11...	93	76	0.10	15	--	--	--	--	--	--	--	--
26...	110	72	<0.10	17	398	--	--	--	0.070	--	2.00	--
MAR												
05...	150	110	0.10	18	527	531	0.72	--	0.040	--	1.90	--
12...	210	200	0.10	18	776	799	1.06	--	0.080	--	2.70	--
17...	220	200	0.10	17	826	823	1.12	--	0.050	--	2.90	--
18...	200	180	0.10	17	730	759	0.99	--	--	--	--	--
26...	140	110	<0.10	16	530	534	0.72	--	0.060	--	2.50	--
APR												
01...	110	86	0.20	19	446	431	0.61	--	0.070	--	2.00	--
06...	150	110	0.20	16	546	535	0.74	--	--	--	--	--
14...	190	63	0.20	9.9	585	494	0.80	--	--	--	--	--
20...	79	76	0.10	14	328	351	0.45	--	0.020	--	0.870	--
27...	60	52	<0.10	13	246	242	0.33	--	0.020	--	0.890	--
MAY												
04...	41	38	<0.10	13	189	185	0.26	--	0.010	--	0.690	--
21...	92	82	0.10	16	369	358	0.50	--	0.030	--	1.30	--
25...	89	88	0.10	16	379	371	0.52	--	0.040	--	1.40	--
JUN												
01...	61	66	0.10	16	283	296	0.38	--	0.040	--	1.10	--
14...	81	64	0.20	13	292	297	0.40	--	0.020	--	1.10	--
29...	110	100	0.10	14	446	448	0.61	--	0.050	--	1.90	--
JUL												
13...	130	110	0.20	15	450	479	0.61	--	0.040	--	1.90	--
15...	120	110	0.20	15	484	476	0.66	--	0.040	--	2.00	--
AUG												
04...	91	70	0.10	14	349	342	0.47	--	0.030	--	1.40	--
25...	80	66	<0.10	15	334	337	0.45	--	0.010	--	1.40	--
SEP												
07...	46	35	<0.10	13	202	201	0.27	--	0.010	--	0.860	--
14...	54	49	<0.10	14	240	238	0.33	--	0.010	--	1.10	--
29...	54	61	0.10	15	271	306	0.37	--	0.020	--	1.20	--

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	COBALT, DISSOLVED (UG/L AS CO)
NOV										
17...	0.080	0.40	--	0.160	0.090	0.070	<10	60	--	<3
DEC										
16...	0.180	0.50	0.40	0.160	0.110	0.100	--	--	--	--
22...	0.510	0.60	1.0	0.180	0.200	0.220	--	--	--	--
JAN										
06...	0.270	1.0	0.60	0.300	0.180	0.170	--	--	--	--
12...	0.370	1.5	--	0.480	0.260	0.250	--	--	--	--
13...	0.350	2.0	1.2	0.660	0.230	0.220	--	--	--	--
22...	0.530	1.8	1.2	0.570	0.290	0.290	--	--	--	--
29...	0.240	1.1	0.80	0.410	0.250	0.250	--	--	--	--
FEB										
04...	0.230	1.0	0.70	0.410	0.250	0.240	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
26...	0.270	1.5	0.90	0.480	0.240	0.270	--	--	--	--
MAR										
05...	0.070	0.70	0.50	0.330	0.220	0.230	--	--	--	--
12...	0.230	1.3	0.70	0.510	0.280	0.280	--	--	--	--
17...	0.060	1.0	--	0.420	0.220	0.250	30	82	--	<3
18...	--	--	--	--	--	--	--	--	--	--
26...	0.240	1.1	0.70	0.360	0.230	0.200	--	--	--	--
APR										
01...	0.140	0.90	0.80	0.290	0.220	0.220	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
20...	0.050	0.50	0.40	0.200	0.120	0.110	--	--	--	--
27...	0.050	0.60	0.40	0.220	0.090	0.090	--	--	--	--
MAY										
04...	0.020	0.30	0.20	0.090	0.080	0.070	--	--	--	--
21...	0.040	0.70	0.20	0.230	0.090	0.090	--	--	340	--
25...	0.060	0.40	--	0.110	0.100	0.090	20	47	--	<3
JUN										
01...	0.070	0.50	0.30	0.200	0.120	0.100	--	--	--	--
14...	0.050	0.30	<0.20	0.110	0.090	0.090	--	--	--	--
29...	0.030	0.70	0.20	0.300	0.120	0.120	--	--	460	--
JUL										
13...	0.020	1.0	--	0.350	0.120	0.100	--	--	--	--
15...	0.030	0.90	0.30	0.310	0.130	0.110	--	--	--	--
AUG										
04...	0.030	0.30	0.20	0.150	0.100	0.100	--	--	--	--
25...	0.020	0.20	0.30	0.140	0.120	0.110	--	--	--	--
SEP										
07...	0.030	0.40	0.20	0.140	0.100	0.080	--	--	--	--
14...	0.020	0.30	--	0.100	0.080	0.080	<10	37	--	<3
29...	0.050	0.40	0.20	0.170	0.090	0.090	--	--	--	--

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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

DATE	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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
NOV											
17...	11	10	48	<10	1	1	<1.0	440	<6	--	--
DEC											
16...	17	--	46	--	--	--	--	--	--	5.7	0.6
22...	8	--	64	--	--	--	--	--	--	0.3	0.4
JAN											
06...	37	--	48	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	130	--	100	--	--	--	--	--	--	16	6.4
22...	180	--	82	--	--	--	--	--	--	--	1.9
29...	72	--	100	--	--	--	--	--	--	18	2.2
FEB											
04...	21	--	130	--	--	--	--	--	--	9.3	1.8
11...	120	--	40	--	--	--	--	--	--	--	--
26...	360	--	62	--	--	--	--	--	--	--	--
MAR											
05...	38	--	45	--	--	--	--	--	--	9.1	1.6
12...	9	--	93	--	--	--	--	--	--	5.5	1.8
17...	8	15	66	<10	2	3	<1.0	760	<6	--	--
18...	10	--	70	--	--	--	--	--	--	7.8	2.0
26...	41	--	31	--	--	--	--	--	--	7.8	2.0
APR											
01...	83	--	23	--	--	--	--	--	--	25	1.2
06...	18	--	20	--	--	--	--	--	--	--	--
14...	7	--	5	--	--	--	--	--	--	25	1.8
20...	28	--	23	--	--	--	--	--	--	16	3.3
27...	34	--	17	--	--	--	--	--	--	14	1.7
MAY											
04...	51	--	18	--	--	--	--	--	--	4.0	1.3
21...	18	--	47	2	--	2	--	--	--	4.8	1.9
25...	16	8	44	<10	<1	1	<1.0	380	<6	--	--
JUN											
01...	22	--	31	--	--	--	--	--	--	6.1	1.4
14...	20	--	17	--	--	--	--	--	--	4.1	1.3
29...	16	--	18	2	--	2	--	--	--	--	--
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
15...	19	--	18	--	--	--	--	--	--	8.7	2.7
AUG											
04...	15	--	13	--	--	--	--	--	--	3.4	0.9
25...	21	--	13	--	--	--	--	--	--	11	0.8
SEP											
07...	36	--	13	--	--	--	--	--	--	3.9	2.1
14...	34	7	16	<10	<1	1	<1.0	250	<6	--	--
29...	36	--	25	--	--	--	--	--	--	5.7	1.4

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR											
17...*	1330	5.70	150	1370	8.0	18.5	764	9.7	104	68	94
17...*	1335	4.70	191	1380	8.0	18.5	764	9.7	104	72	88
17...*	1339	5.00	235	1360	8.0	18.5	764	9.7	104	66	92
17...*	1344	5.70	262	1360	8.0	18.5	764	9.8	105	64	92
17...*	1349	4.70	310	1360	8.0	18.5	764	9.8	105	60	94
SEP											
14...*	1411	6.80	148	442	7.2	20.5	760	7.8	87	66	92
14...*	1415	6.10	185	431	7.3	20.5	760	7.8	87	75	82
14...*	1419	6.20	221	414	7.4	20.5	760	7.8	87	76	80
14...*	1423	6.00	265	404	7.3	20.5	760	7.8	87	70	78
14...*	1428	6.00	311	397	7.3	20.5	760	7.8	87	66	80

* Instantaneous discharge at time of cross-sectional measurement: Mar. 17, 1,840 ft^3/s; Sept. 14, 2,700 ft^3/s.

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

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
17...	1220	942	14.0	32	81	91
JAN						
12...	1540	3840	8.5	198	2050	84
16...	1430	6450	11.0	232	4040	84
23...	1435	6460	10.5	154	2690	74
FEB						
11...	1530	4000	13.5	150	1620	88
MAR						
17...	1245	1840	18.5	66	328	92
30...	1115	3920	16.0	113	1200	82
MAY						
25...	1250	2890	19.5	66	515	88
JUL						
13...	1200	1530	26.0	155	640	96
SEP						
14...	1335	2700	20.5	71	518	82

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	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	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM
MAR										
17...	1315	1	1840	18.5	2	4	39	91	99	100
17...	1316	1	1840	18.5	1	7	58	97	100	--
17...	1317	1	1840	18.5	--	4	68	99	100	--
17...	1318	1	1840	18.5	1	9	77	99	100	--
17...	1319	1	1840	18.5	1	7	76	100	--	--

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	566	529	746	737	884	860	954	901	580	561
2	---	---	585	552	742	714	896	845	1010	954	661	580
3	---	---	588	566	725	712	859	845	1040	1010	760	661
4	---	---	594	569	716	696	879	856	1070	1040	829	760
5	---	---	615	575	717	702	889	843	1080	1060	918	829
6	---	---	637	614	709	688	861	814	1090	1060	1020	918
7	---	---	663	616	715	682	814	731	1100	1080	1100	1020
8	---	---	679	648	682	655	737	701	1100	900	1160	1100
9	---	---	679	652	698	681	703	502	920	820	1220	1160
10	---	---	682	660	695	671	515	381	820	548	1310	1220
11	---	---	691	655	700	656	381	288	658	578	1360	1310
12	---	---	702	670	760	655	301	282	578	528	1380	1360
13	---	---	702	683	820	760	388	301	670	561	1400	1370
14	---	---	705	678	867	820	388	317	776	670	1420	1400
15	975	879	716	689	877	831	342	285	865	776	1410	1390
16	999	910	753	708	903	871	285	256	917	864	1390	1370
17	985	753	757	739	915	898	296	254	968	917	1390	1370
18	754	705	767	739	907	889	309	283	1020	968	1400	1380
19	705	639	751	727	914	892	289	233	1010	892	1390	1340
20	639	451	752	728	917	882	365	283	927	654	1350	1320
21	531	409	751	738	902	891	404	365	745	657	1330	1290
22	---	---	754	732	919	897	457	404	766	729	1290	1140
23	516	425	766	744	923	911	474	457	729	666	1140	1120
24	598	516	764	749	915	909	519	472	742	668	1120	1030
25	616	364	755	741	925	915	544	519	741	711	1030	957
26	364	330	745	718	925	917	606	543	732	558	962	901
27	355	324	726	712	931	918	673	606	558	531	905	774
28	367	338	721	707	933	913	735	672	562	554	774	655
29	432	366	727	711	920	813	809	735	---	---	655	604
30	494	431	744	724	843	814	868	805	---	---	654	616
31	532	486	---	---	860	842	901	833	---	---	698	654
MONTH	---	---	767	529	933	655	901	233	1100	528	1420	561

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	749	698	406	375	518	495	873	794	638	553	348	331
2	811	749	388	371	520	503	953	832	575	545	376	340
3	865	811	381	346	514	498	1060	953	594	559	370	339
4	872	857	347	317	521	499	1110	1060	626	591	360	342
5	884	852	339	321	540	511	1130	1100	656	624	361	327
6	925	884	341	333	577	533	1130	1120	701	646	382	359
7	991	921	350	330	622	577	1120	1080	698	574	379	349
8	1000	822	353	336	656	610	1090	1050	616	568	388	334
9	822	758	346	335	623	601	1050	1010	625	610	350	327
10	776	742	394	336	606	538	1020	970	621	590	353	330
11	765	660	417	396	538	527	970	917	613	577	355	342
12	660	623	423	407	553	524	919	847	587	544	394	343
13	649	602	442	411	548	521	849	808	557	539	410	390
14	603	578	446	433	536	518	808	770	563	544	420	399
15	579	556	481	444	535	514	792	761	575	548	407	386
16	587	570	499	481	603	529	778	751	583	554	407	390
17	594	556	527	482	606	590	764	719	587	561	390	366
18	611	563	590	527	604	582	721	680	587	566	379	352
19	613	580	666	590	611	592	682	614	601	572	442	379
20	593	571	719	666	609	561	629	580	577	547	479	440
21	601	577	671	608	574	534	647	618	595	557	484	459
22	603	577	608	557	606	574	724	621	626	595	490	447
23	610	596	581	559	631	574	725	664	618	589	497	453
24	596	563	577	546	723	631	715	662	607	590	500	483
25	565	551	586	536	733	705	686	670	609	579	532	485
26	562	481	543	530	742	685	673	642	586	557	540	524
27	482	410	569	530	726	673	660	607	561	506	528	492
28	412	388	579	525	774	723	621	604	521	502	528	494
29	398	385	547	524	780	738	616	596	514	437	536	509
30	403	392	550	508	794	738	606	561	438	379	520	507
31	---	---	532	505	---	---	636	550	380	345	---	---
MONTH	1000	385	719	317	794	495	1130	550	701	345	540	327

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.0	21.0	18.0	16.5	11.0	9.5	9.0	8.5	10.5	9.0	12.5	11.5
2	21.5	19.5	18.5	16.5	10.5	9.5	9.0	8.0	11.0	9.5	13.0	12.0
3	21.0	18.5	18.0	16.0	11.5	10.0	8.0	6.5	11.0	10.0	14.5	13.0
4	21.0	18.0	17.0	15.0	11.0	9.5	7.5	6.0	11.5	10.0	15.0	14.0
5	---	---	17.0	15.0	10.5	8.5	6.5	6.0	13.0	11.5	16.0	14.5
6	---	---	17.0	15.0	10.5	9.5	7.0	6.0	13.0	12.0	16.5	15.0
7	---	---	17.0	15.0	11.5	10.5	8.5	7.0	13.0	12.0	17.5	15.5
8	---	---	16.0	14.5	11.0	10.0	9.5	8.5	13.0	13.0	18.5	16.5
9	---	---	14.5	13.0	11.0	10.5	10.0	8.5	13.0	12.5	18.5	17.0
10	---	---	13.0	11.5	13.0	11.0	10.0	9.0	13.0	12.5	19.0	17.0
11	---	---	12.5	10.5	12.5	11.5	9.5	9.0	13.5	12.5	18.5	16.5
12	---	---	12.5	10.5	11.5	10.0	9.0	8.5	13.5	12.5	19.0	17.0
13	---	---	12.5	10.5	10.5	9.0	9.0	8.0	13.0	12.5	20.0	17.5
14	---	---	13.0	11.0	10.0	8.5	10.0	9.0	12.5	12.0	19.5	18.0
15	---	---	13.5	11.5	9.5	8.0	11.0	10.0	13.0	11.5	19.0	17.5
16	---	---	13.5	12.0	9.0	8.0	11.0	10.5	12.5	12.0	18.5	17.5
17	---	---	14.5	12.5	9.0	8.5	11.0	10.5	13.0	12.0	19.0	17.5
18	---	---	14.0	12.5	9.0	7.5	11.0	10.5	12.5	12.0	19.5	17.0
19	---	---	13.0	12.0	8.5	7.0	11.0	10.0	12.5	12.0	19.5	17.5
20	---	---	12.5	11.0	8.5	7.0	11.0	10.5	12.5	12.0	19.5	17.5
21	---	---	12.0	10.5	8.5	7.5	12.0	11.0	12.5	12.0	20.0	17.5
22	---	---	11.5	10.5	9.0	7.5	12.0	11.5	12.0	12.0	20.0	17.5
23	18.0	16.0	11.5	10.0	8.0	8.0	12.0	11.0	12.5	12.0	18.5	17.0
24	18.0	16.5	11.0	10.0	8.0	7.5	11.0	10.5	13.0	11.5	17.0	16.0
25	19.0	17.0	12.0	10.5	8.0	7.5	10.5	9.5	12.5	12.0	16.5	15.5
26	19.0	17.5	12.0	10.5	7.5	7.0	10.0	9.5	12.0	11.0	15.5	15.0
27	18.5	18.0	13.0	11.5	7.0	7.0	9.5	9.5	11.0	10.5	15.5	15.0
28	18.0	17.0	12.5	11.5	7.5	6.5	9.5	9.0	12.0	10.5	15.5	14.5
29	17.5	16.5	12.0	10.5	9.0	7.5	10.0	9.0	---	---	16.0	14.5
30	17.5	16.0	11.5	10.0	9.5	8.0	10.0	9.0	---	---	17.0	15.0
31	17.5	15.0	---	---	9.5	8.5	10.5	9.0	---	---	17.5	16.5
MONTH	---	---	18.5	10.0	13.0	6.5	12.0	6.0	13.5	9.0	20.0	11.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.0	17.0	18.0	16.5	19.5	17.5	27.0	23.5	27.5	24.5	22.0	20.0
2	18.0	17.0	18.0	17.0	19.5	17.5	26.5	24.0	28.0	25.5	22.5	20.5
3	18.0	17.0	17.0	16.0	19.0	17.5	26.0	23.0	27.5	25.5	23.0	21.5
4	18.5	17.5	17.0	15.5	17.5	17.0	26.0	23.5	27.0	24.5	22.5	21.5
5	18.0	16.5	17.0	15.0	17.5	16.0	26.5	23.5	26.5	24.0	22.0	20.5
6	18.0	16.5	17.5	15.5	17.0	16.5	27.0	24.0	26.0	23.5	22.0	20.0
7	18.5	16.5	17.0	16.0	19.0	16.5	27.5	24.0	26.0	23.5	22.0	20.0
8	19.0	17.5	17.0	15.5	21.0	18.0	27.5	24.5	25.5	23.5	22.5	20.5
9	18.5	17.5	17.5	15.5	22.5	19.5	27.0	24.0	25.5	23.0	22.0	20.5
10	18.0	17.0	18.5	16.5	23.0	21.0	27.0	24.0	25.0	23.0	21.5	20.0
11	17.0	16.0	18.0	16.5	22.5	20.5	27.0	24.0	24.5	22.0	21.5	20.0
12	16.5	15.0	17.0	15.5	22.5	20.5	27.0	24.0	24.5	22.0	21.0	19.5
13	16.5	15.0	18.0	15.5	23.0	20.5	26.5	23.5	24.5	22.5	21.0	19.5
14	17.0	15.5	18.0	16.0	24.0	21.5	25.5	23.0	24.5	22.5	21.0	19.5
15	17.5	16.0	18.0	16.5	24.0	22.0	25.0	22.0	24.0	22.5	20.5	19.5
16	17.0	16.5	19.0	16.5	24.0	22.0	25.0	22.0	24.0	22.0	20.0	18.5
17	16.5	16.0	19.5	17.5	24.0	21.5	25.5	22.0	24.0	22.0	19.0	18.0
18	17.0	15.0	20.5	18.0	25.5	22.5	26.0	22.5	25.0	22.0	19.0	17.5
19	17.0	15.5	22.0	19.0	26.5	23.5	25.5	23.0	24.5	22.5	20.0	18.0
20	17.5	15.5	21.5	20.5	26.0	24.0	25.0	22.5	24.5	22.0	20.5	19.0
21	18.0	16.5	20.5	19.0	25.0	22.5	24.5	22.0	24.5	22.0	20.5	19.0
22	18.0	16.0	20.0	17.5	23.0	21.0	25.0	22.0	26.0	23.0	20.5	19.0
23	17.0	16.5	20.0	18.0	22.5	20.5	26.5	23.0	26.5	24.0	20.0	18.5
24	18.0	16.0	19.5	18.0	24.0	20.0	26.5	23.5	25.5	23.5	20.0	18.5
25	18.5	16.5	19.5	17.5	26.0	22.0	27.0	24.0	25.0	23.0	20.5	18.5
26	18.0	16.5	19.5	17.5	27.5	24.0	26.5	24.0	24.5	22.0	20.5	18.5
27	17.0	15.5	18.5	18.0	26.5	24.5	26.5	23.5	25.0	22.5	21.0	19.0
28	17.0	15.5	19.0	17.0	25.5	23.0	26.5	23.5	25.0	22.5	21.0	19.5
29	18.0	16.0	19.5	17.5	25.5	22.5	26.0	23.0	24.0	22.5	21.5	19.5
30	18.0	16.5	19.0	18.0	26.0	23.0	26.0	22.5	22.5	21.0	22.0	20.0
31	---	---	19.0	17.5	---	---	26.5	23.5	21.5	20.0	---	---
MONTH	19.0	15.0	22.0	15.0	27.5	16.0	27.5	22.0	28.0	20.0	23.0	17.5

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	747	53	106	1020	68	187	873	17	41
2	733	51	101	996	68	182	870	19	46
3	702	49	92	995	71	191	876	23	53
4	670	48	87	1010	68	186	884	25	61
5	653	48	85	1010	64	174	897	20	49
6	582	46	73	999	64	171	898	22	54
7	558	54	82	991	61	163	946	30	78
8	602	49	79	986	54	144	990	48	129
9	566	39	60	1000	43	117	974	49	128
10	542	37	54	1000	34	93	984	53	140
11	594	45	71	993	28	76	1070	66	191
12	598	36	60	996	31	83	1120	62	189
13	554	36	54	998	35	94	1100	38	113
14	550	33	49	981	36	94	1080	27	78
15	550	29	43	977	38	99	1080	24	71
16	546	27	40	978	37	97	1050	19	54
17	582	34	53	941	34	85	1020	20	55
18	927	38	95	900	35	85	1020	21	57
19	813	43	95	899	34	82	1030	19	52
20	1090	46	134	926	35	86	1000	15	41
21	1350	43	158	918	23	57	983	13	35
22	1360	36	133	921	20	51	968	14	35
23	1210	35	114	931	21	54	962	19	50
24	1050	38	109	931	20	51	959	17	45
25	1170	64	204	916	21	53	943	17	42
26	1230	73	242	904	29	71	934	15	38
27	1240	78	260	902	37	90	929	15	37
28	1230	82	271	884	36	85	937	20	50
29	1150	76	235	884	22	53	1010	31	85
30	1100	65	192	883	18	44	1030	47	131
31	1060	61	175	---	---	---	1010	50	136
TOTAL	26309	---	3606	28670	---	3098	30427	---	2364
		JANUARY			FEBRUARY			MARCH	
1	1000	46	125	2410	75	491	4380	118	1390
2	1060	44	125	2270	71	438	4270	113	1310
3	1080	42	124	2160	66	383	4050	101	1100
4	1150	51	158	2040	61	337	3720	91	913
5	1220	47	155	1960	67	357	3370	86	782
6	1250	53	178	1900	69	352	3010	79	644
7	1270	91	313	1840	75	374	2720	82	600
8	1400	236	904	2140	235	1420	2510	78	529
9	2330	307	1950	2910	387	3070	2340	73	462
10	2920	259	2050	4360	313	3670	2220	69	414
11	3460	266	2500	4150	180	2030	2120	66	377
12	3910	218	2310	3720	154	1540	2030	59	323
13	3670	346	3470	3610	146	1420	1990	61	328
14	4940	709	9460	3270	134	1180	1950	67	352
15	6470	439	7660	2910	128	1010	1920	67	345
16	6530	266	4690	2670	125	898	1870	69	349
17	6160	255	4250	2480	124	833	1850	66	330
18	6570	361	6460	2400	137	889	1820	64	315
19	9590	375	9730	3090	329	2830	1770	67	318
20	8950	222	5370	3850	632	6580	1770	70	336
21	7130	200	3830	3760	311	3180	1800	71	345
22	6710	208	3770	3460	170	1590	1960	77	411
23	6500	187	3290	3300	124	1100	2040	74	410
24	6020	202	3260	3200	115	991	2200	81	485
25	5300	169	2430	3240	110	963	2340	94	593
26	4750	129	1660	3510	161	1550	2700	132	972
27	4180	104	1170	4070	169	1860	3370	161	1480
28	3580	102	984	4310	131	1530	3950	168	1790
29	3140	77	651	---	---	---	3870	140	1460
30	2860	79	607	---	---	---	3950	115	1230
31	2620	79	559	---	---	---	3910	109	1150
TOTAL	127720	---	84193	84990	---	42866	83770	---	21843

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	3760	104	1060	4490	75	905	3110	54	454
2	3530	109	1030	4580	77	948	3000	58	470
3	3270	115	1010	4610	81	1010	2860	59	456
4	3110	109	916	4730	68	868	2790	65	492
5	3100	100	835	4680	72	910	2840	81	619
6	2970	92	740	4750	69	888	2860	80	621
7	2820	89	681	4720	72	919	2710	81	591
8	3070	94	780	4620	74	922	2610	83	587
9	3280	94	830	4700	72	918	2530	92	630
10	3260	97	850	4430	70	840	2580	95	661
11	3370	100	908	3880	70	735	2680	103	749
12	3510	94	892	3770	73	742	2670	110	791
13	3520	86	819	3700	72	716	2670	109	786
14	3500	83	786	3600	69	673	2670	109	782
15	3530	80	764	3560	65	621	2590	112	784
16	3510	83	788	3460	62	578	2410	114	738
17	3530	82	778	3320	60	536	2310	114	714
18	3560	75	718	2970	65	515	2300	121	754
19	3380	68	620	2620	70	492	2250	129	783
20	3240	69	606	2410	72	469	2210	126	751
21	3110	75	628	2660	73	527	2250	123	747
22	3040	79	649	2810	66	499	2100	128	726
23	2970	84	670	2870	64	495	1940	129	673
24	3010	88	712	2870	57	442	1710	122	564
25	3050	81	670	2890	62	484	1670	119	535
26	3280	77	685	3020	57	464	1650	135	600
27	3920	72	765	3050	57	466	1630	130	576
28	4330	76	891	3110	57	477	1590	135	577
29	4550	75	918	3010	54	440	1570	135	571
30	4540	76	926	2990	55	447	1470	130	518
31	---	---	---	3030	59	480	---	---	---
TOTAL	102620	---	23925	111910	---	20426	70230	---	19300
		JULY			AUGUST			SEPTEMBER	
1	1470	150	594	1730	161	755	3350	98	884
2	1430	141	547	1870	158	796	3250	91	798
3	1370	139	515	1820	157	770	3240	93	810
4	1490	148	596	1760	148	704	3240	98	857
5	1630	154	681	1640	137	605	3330	89	798
6	1620	150	653	1570	142	603	3290	81	719
7	1600	144	622	1770	148	711	3220	79	681
8	1630	160	705	1850	145	726	3100	84	700
9	1630	155	682	1830	149	734	3180	82	704
10	1560	153	647	1840	164	814	3170	83	706
11	1560	164	692	1860	168	844	3030	80	654
12	1560	165	691	1890	153	782	2950	75	599
13	1500	159	644	1930	145	755	2780	76	570
14	1450	156	609	2010	132	717	2690	77	560
15	1420	147	563	2080	128	716	2760	70	525
16	1390	138	518	2070	123	687	2800	73	551
17	1450	138	543	1990	125	674	2900	65	510
18	1490	136	549	1920	116	601	2940	61	482
19	1510	132	540	1910	116	598	2710	58	424
20	1500	152	618	1950	110	577	2550	60	412
21	1440	127	495	1960	107	565	2410	60	389
22	1450	137	537	1940	102	536	2380	59	380
23	1410	142	542	1980	95	510	2300	59	364
24	1390	142	533	1890	112	570	2260	53	323
25	1450	158	620	1830	104	516	2250	53	320
26	1450	154	603	1900	101	521	2330	55	349
27	1520	154	631	2030	97	532	2400	60	387
28	1540	156	648	2200	96	568	2210	60	359
29	1560	165	699	2570	103	721	2120	55	314
30	1670	158	711	3110	112	944	1990	58	316
31	1660	157	705	3250	104	916	---	---	---
TOTAL	46800	---	18933	61950	---	21068	83130	---	16445
YEAR	858526		278067						

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 38°08'53", long 120°49'26", in NW 1/4 NE 1/4 sec.1, T.3 N., R.10 E., Calaveras County, Hydrologic Unit 18040011, on right bank at county road bridge, 0.5 mi upstream from Cosgrove Creek, 0.8 mi downstream from New Hogan Dam, and 3.0 mi south of Valley Springs.

DRAINAGE AREA.--363 mi^2.

PERIOD OF RECORD.--Water years 1964-66, 1971 to current year.
WATER DISCHARGE: Water years 1961-90.
CHEMICAL DATA: Water years 1964-66.
WATER TEMPERATURE: Water year 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER DISCHARGE: January 1961 to September 1990.
WATER TEMPERATURE: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

REMARKS.--Water temperature is affected by regulation from New Hogan Dam. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, Aug. 10, 28, 29, 1977, June 14, 17, 18, 22, 1989; minimum recorded, 4.0°C, Dec. 22-25, 29-31, 1990, Jan. 1, 1991.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, Oct. 5-10; minimum recorded, 6.0°C, Jan. 12.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	19.0	18.5	17.5	13.0	12.0	8.5	7.5	10.0	7.5	12.5	9.0
2	20.0	19.0	18.5	17.5	12.5	12.0	8.5	6.5	10.0	8.0	13.5	9.5
3	20.5	19.0	18.5	17.0	12.5	11.5	8.0	7.0	9.0	8.5	14.0	11.5
4	20.5	19.0	18.5	17.0	12.5	11.5	8.0	7.0	10.0	8.5	13.0	9.0
5	21.0	19.5	18.5	17.0	12.0	11.5	7.5	7.0	10.0	8.5	13.0	9.0
6	21.0	19.5	18.0	17.0	12.0	11.5	8.0	7.0	10.5	8.5	12.5	9.0
7	21.0	19.5	18.0	17.0	12.0	11.0	10.5	7.5	10.0	8.5	12.5	9.0
8	21.0	19.5	17.5	16.5	11.5	11.0	10.0	8.5	12.0	9.0	12.5	9.0
9	21.0	19.5	17.5	16.0	11.5	11.0	9.0	7.5	12.5	10.0	11.0	9.5
10	21.0	19.5	17.0	16.0	12.0	11.0	9.0	8.0	12.5	10.5	11.5	9.0
11	20.5	19.5	16.5	15.5	11.5	11.0	8.0	6.5	12.5	10.5	11.5	9.0
12	20.5	19.5	16.5	15.0	11.5	10.0	7.5	6.0	11.0	9.5	11.5	9.5
13	20.5	19.0	16.0	15.0	11.5	10.0	11.0	7.5	11.0	8.5	11.5	9.5
14	20.5	19.0	16.0	14.5	11.0	10.0	11.0	9.5	11.0	8.0	10.5	9.5
15	20.0	19.0	15.5	14.5	10.5	10.0	10.5	8.5	11.0	7.5	11.0	9.5
16	20.5	19.0	15.5	14.5	10.5	10.0	10.5	9.0	10.5	9.0	10.5	9.5
17	20.5	19.0	15.0	14.0	10.0	9.5	10.0	9.5	10.0	9.0	12.5	10.0
18	20.0	18.5	15.0	14.0	10.0	9.0	11.5	9.5	11.0	9.5	14.5	10.0
19	20.0	18.5	14.5	14.0	10.0	9.0	10.0	9.5	12.5	10.5	13.5	10.5
20	20.0	18.5	14.5	13.5	10.0	9.0	11.0	9.5	11.0	9.0	12.5	9.5
21	20.0	18.5	14.5	13.5	9.5	9.0	12.5	10.5	11.5	9.5	13.5	9.5
22	19.5	18.5	14.0	13.5	9.5	8.5	12.0	10.0	10.5	9.5	12.5	9.5
23	20.0	18.5	14.0	13.5	9.5	8.5	10.0	8.5	11.5	9.5	11.5	9.5
24	19.5	18.5	13.5	13.0	9.0	8.5	9.0	8.0	12.5	9.5	15.0	10.5
25	19.5	18.5	14.0	12.5	9.0	8.5	9.5	7.0	11.0	9.0	14.5	13.0
26	19.5	18.5	13.5	12.5	8.5	8.0	9.5	7.0	10.5	9.5	15.5	13.0
27	19.0	18.5	13.5	12.5	9.0	8.0	9.5	7.5	12.0	8.5	14.0	13.0
28	19.0	18.5	13.5	12.5	8.5	8.0	9.0	8.0	12.5	8.0	13.5	12.0
29	18.5	18.5	13.0	12.0	9.5	8.5	9.5	8.0	---	---	14.5	12.5
30	19.0	18.0	13.0	12.0	9.0	7.5	10.0	7.5	---	---	16.5	11.0
31	18.5	17.5	---	---	8.5	7.5	10.0	7.5	---	---	13.5	10.0
MONTH	21.0	17.5	18.5	12.0	13.0	7.5	12.5	6.0	12.5	7.5	16.5	9.0

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	10.0	10.5	10.0	---	---	12.0	11.0	12.5	11.5	12.5	11.5
2	12.0	9.5	10.5	10.0	---	---	12.0	11.0	12.5	11.5	12.5	11.5
3	12.0	9.5	10.5	10.0	---	---	12.0	11.0	12.5	11.5	12.5	11.5
4	12.0	10.0	11.0	10.0	---	---	12.0	11.0	12.5	11.5	12.5	11.5
5	12.5	9.5	11.0	10.0	---	---	12.0	11.0	12.0	11.5	12.5	11.5
6	12.0	9.5	11.0	10.0	---	---	12.0	11.0	12.0	11.5	12.5	11.5
7	12.5	9.5	11.0	10.0	---	---	12.0	11.0	12.0	11.5	12.5	11.5
8	12.0	9.5	---	---	---	---	12.0	11.0	12.0	11.5	12.5	11.5
9	11.5	9.5	---	---	---	---	12.0	11.0	12.5	11.5	12.5	11.5
10	11.5	9.5	---	---	---	---	12.0	11.0	12.0	11.5	12.5	11.5
11	11.5	9.5	---	---	11.5	10.5	12.0	11.0	12.5	11.5	12.5	11.5
12	11.5	9.0	---	---	11.5	10.5	12.0	11.5	12.0	11.0	12.5	11.5
13	11.0	9.5	---	---	11.5	10.5	12.0	11.0	12.0	11.5	12.5	11.5
14	11.5	9.5	---	---	11.5	10.5	12.0	11.0	12.0	11.5	12.5	11.5
15	11.5	9.5	---	---	11.5	11.0	12.0	11.0	12.0	11.5	12.5	11.5
16	10.5	9.5	---	---	11.5	11.0	12.0	11.0	12.0	11.5	12.5	11.5
17	10.5	9.5	---	---	12.0	11.0	12.0	11.0	12.0	11.5	12.0	11.5
18	11.0	9.5	---	---	12.0	11.0	12.0	11.0	12.5	11.5	12.5	11.5
19	11.0	9.5	---	---	12.0	11.0	12.0	11.0	12.0	11.5	12.5	11.5
20	11.0	9.5	---	---	12.0	11.0	12.0	11.0	12.0	11.5	12.5	11.5
21	11.0	9.5	---	---	11.5	11.0	12.0	11.0	12.5	11.5	12.5	11.5
22	11.0	9.5	---	---	12.0	11.0	12.0	11.0	12.5	11.5	12.5	11.5
23	10.5	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
24	11.0	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
25	12.0	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
26	14.0	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
27	15.0	9.0	---	---	12.0	11.0	12.5	11.5	12.5	11.5	12.5	11.5
28	12.5	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
29	11.0	9.5	---	---	12.0	11.0	12.0	11.5	12.5	11.5	12.5	11.5
30	10.5	9.5	---	---	12.0	11.0	12.5	11.5	12.5	11.5	12.5	12.0
31	---	---	---	---	---	---	12.5	11.5	12.5	11.5	---	---
MONTH	15.0	9.0	---	---	---	---	12.5	11.0	12.5	11.0	12.5	11.5

11313000 DELTA-MENDOTA CANAL AT TRACY PUMPING PLANT, NEAR TRACY, CA

LOCATION.--Lat 37°47'49", long 121°35'03", in SW 1/4 SW 1/4 sec.31, T.1 S., R.4 E., Alameda County, Hydrologic Unit 18040003, at Tracy Pumping Plant at intake to canal, 6 mi southeast of Byron, and 10 mi northwest of Tracy.
PERIOD OF RECORD.--June 1951 to current year. Prior to October 1959, published as "near Tracy."
GAGE.--Water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).
REMARKS.--No estimated daily discharges. Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy Pumping Plant where it is lifted 200 ft into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of the Central Valley Project.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation; rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,940 ft^3/s, Aug. 11, 1969; no flow for many days in some years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2030	430	862	4210	4160	4210	3940	768	1970	3330	4040	4390
2	1770	1810	859	4050	4150	4180	3970	761	1910	4370	4280	4450
3	1780	2840	870	4090	3810	4190	3940	757	2290	4360	4470	4400
4	1780	3260	286	4130	3450	4190	3770	776	2270	4360	4390	4390
5	1760	3270	575	3910	3500	4170	3920	748	1980	4360	4410	4380
6	1760	2750	357	3990	3020	4170	3930	729	1970	4260	4330	4370
7	1760	2000	.00	4030	3130	4180	3920	757	1970	4220	4380	4370
8	1770	1790	.00	4020	4000	4120	3930	786	1970	4360	4450	4370
9	1760	1800	.00	4030	4100	4000	3950	783	1970	4310	4390	4390
10	1740	1800	.00	4020	4050	3980	3960	786	1970	4370	4380	4410
11	1730	1800	6.0	4000	4180	4190	3960	778	1960	4340	4360	4400
12	1330	1960	.00	3960	4210	4170	3410	782	1980	4350	4360	4400
13	464	1010	529	3970	4200	4170	2970	788	1950	4360	4350	4380
14	.00	853	857	3860	4210	4170	3430	572	1980	4330	4370	4390
15	.00	851	859	3770	4220	4190	3910	788	1970	4380	4370	4380
16	392	856	2380	3950	4230	4190	3680	783	1920	4350	4370	4300
17	392	852	1220	3960	4220	4190	3510	782	1830	4340	4370	4340
18	404	852	1010	3910	4170	3910	3520	2000	1810	4310	4370	4410
19	367	850	1730	4030	4080	3910	3540	2960	1790	4320	4350	4370
20	398	851	1740	4040	4070	4090	2440	2740	1800	4330	4370	4370
21	794	850	1790	3940	4180	4050	1790	2750	1790	4330	4370	4380
22	797	851	1800	3950	4210	4040	1800	2740	1410	4330	4330	4400
23	1230	853	1850	3980	4170	4040	1800	2750	1390	4270	4340	4410
24	1680	281	1840	3980	4190	4030	1790	2760	1750	4380	4370	4400
25	1180	.00	1840	4010	4190	4030	1790	2760	1890	4340	4370	4380
26	242	.00	1840	3930	4200	3960	965	2770	2270	4350	4360	4350
27	414	426	1850	4010	4200	3960	642	2240	2470	4360	4380	4350
28	276	867	1850	4060	4190	3950	772	1910	2470	4370	4390	4330
29	.00	866	2380	4130	---	3950	760	1970	2470	4360	4370	4360
30	.00	859	3060	4120	---	3930	749	1980	2520	4340	4400	4360
31	.00	---	3530	4150	---	4000	---	1970	---	4240	4390	---
TOTAL	30000.00	38338.00	37770.00	124190	112690	126510	86458	47224	59690	133380	135230	131380
MEAN	968	1278	1218	4006	4025	4081	2882	1523	1990	4303	4362	4379
MAX	2030	3270	3530	4210	4230	4210	3970	2960	2520	4380	4470	4450
MIN	.00	.00	.00	3770	3020	3910	642	572	1390	3330	4040	4300
AC-FT	59500	76040	74920	246300	223500	250900	171500	93670	118400	264600	268200	260600

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

MEAN	2196	1567	1333	1717	2230	2612	2739	2654	2879	3642	3625	2729
MAX	4216	4163	4162	4182	4584	4563	4400	4540	4591	4740	4703	4591
(WY)	1990	1990	1989	1989	1976	1976	1976	1976	1973	1989	1989	1988
MIN	368	.000	.000	.000	.000	.000	99.6	58.3	113	354	976	539
(WY)	1952	1973	1953	1952	1952	1952	1952	1952	1951	1977	1952	1952

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1951 - 1993	
ANNUAL TOTAL	611230.00		1062860.00			
ANNUAL MEAN	1670		2912		2516	
HIGHEST ANNUAL MEAN					4144	1976
LOWEST ANNUAL MEAN					230	1952
HIGHEST DAILY MEAN	4140	Feb 18	4470	Aug 3	4940	Aug 11 1969
LOWEST DAILY MEAN	.00	Feb 11	.00	Oct 14	.00	Jun 1 1951
ANNUAL SEVEN-DAY MINIMUM	52	Dec 6	52	Dec 6	.00	Jun 1 1951
ANNUAL RUNOFF (AC-FT)	1212000		2108000		1823000	
10 PERCENT EXCEEDS	4090		4370		4410	
50 PERCENT EXCEEDS	952		3910		2720	
90 PERCENT EXCEEDS	748		759		71	

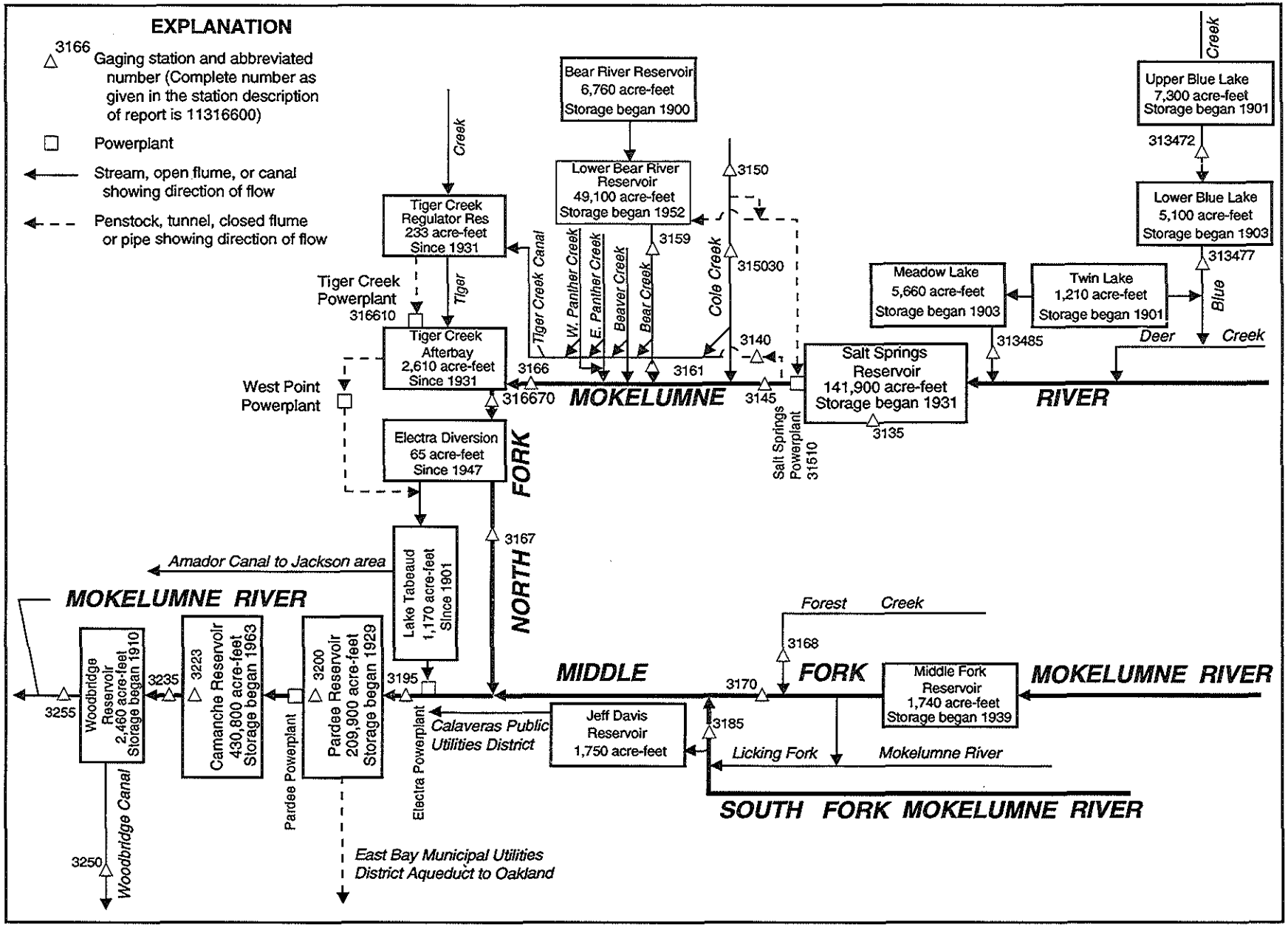

Figure 35. Diversions and storage in Mokelumne River basin.

11313472 UPPER BLUE LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°37'35", long 119°56'10", in NW 1/4 NW 1/4 sec.19, T.9 N., R.19 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft downstream from Upper Blue Lake Dam, and 9.8 mi southwest of Markleeville.

DRAINAGE AREA.--2.64 mi^2.

PERIOD OF RECORD.--October 1988 to current year. Unpublished records for water years 1981-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 8,100 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Low and medium flow regulated by Upper Blue Lake (capacity, 7,300 acre-ft) 1,000 ft upstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	8.5	1.7	---	---	---	---	17	29	4.7	24	22
2	9.1	8.1	1.7	---	---	---	---	19	15	4.6	24	22
3	8.9	7.8	1.7	---	---	---	---	20	6.0	4.3	24	22
4	8.5	10	1.6	---	---	---	---	20	6.3	4.2	24	22
5	7.9	11	1.5	---	---	---	---	20	5.8	4.1	24	22
6	7.5	10	---	---	---	---	---	21	5.4	4.2	24	22
7	7.4	9.1	---	---	---	---	---	21	5.4	4.2	24	22
8	7.2	7.9	---	---	---	---	---	21	5.5	3.9	24	27
9	9.6	6.9	---	---	---	---	---	22	5.8	3.6	23	23
10	11	6.0	---	---	---	---	---	22	6.6	3.4	23	21
11	11	5.4	---	---	---	---	---	23	6.9	3.3	23	21
12	11	4.9	---	---	---	---	---	25	6.9	3.6	23	21
13	10	4.5	---	---	---	---	---	26	7.2	3.9	23	23
14	10	4.2	---	---	---	---	---	26	7.5	3.8	23	24
15	10	3.9	---	---	---	---	---	27	7.7	3.8	23	24
16	9.8	3.7	---	---	---	---	---	28	7.5	3.8	23	29
17	9.5	3.4	---	---	---	---	---	25	7.6	3.7	23	37
18	9.3	3.2	---	---	---	---	---	21	7.8	3.7	23	37
19	9.9	3.0	---	---	---	---	---	22	7.8	3.8	23	36
20	10	2.8	---	---	---	---	9.9	22	7.5	3.7	23	36
21	10	2.6	---	---	---	---	9.8	23	7.3	3.7	23	36
22	10	2.7	---	---	---	---	11	24	7.4	3.9	23	36
23	9.6	2.5	---	---	---	---	11	24	5.5	4.0	23	35
24	9.3	2.4	---	---	---	---	12	25	4.0	4.2	23	35
25	9.0	2.3	---	---	---	---	12	26	4.2	4.0	23	35
26	8.6	2.2	---	---	---	---	12	26	4.2	4.0	23	35
27	8.2	2.2	---	---	---	---	12	27	4.2	4.0	22	34
28	8.0	2.0	---	---	---	---	12	27	3.9	4.0	22	34
29	8.4	1.9	---	---	---	---	15	27	4.0	12	22	34
30	8.8	1.8	---	---	---	---	17	27	4.5	24	22	33
31	8.7	---	---	---	---	---	---	29	---	24	22	---
TOTAL	285.5	146.9	---	---	---	---	---	733	214.4	170.1	716	860
MEAN	9.21	4.90	---	---	---	---	---	23.6	7.15	5.49	23.1	28.7
MAX	11	11	---	---	---	---	---	29	29	24	24	37
MIN	7.2	1.8	---	---	---	---	---	17	3.9	3.3	22	21
AC-FT	566	291	---	---	---	---	---	1450	425	337	1420	1710

11313477 LOWER BLUE LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°36'24", long 119°55'31", in SW 1/4 NE 1/4 sec.30, T.9 N., R.19 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 800 ft downstream from Lower Blue Lake Dam and 10.0 mi southwest of Markleeville.

DRAINAGE AREA.--4.66 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 7,870 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Low and medium flow regulated by Lower Blue Lake (capacity, 5,100 acre-ft) 800 ft upstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	9.1	2.3	---	---	---	---	11	21	17	30	29
2	8.9	9.0	2.1	---	---	---	---	12	22	17	30	29
3	8.8	8.8	2.2	---	---	---	---	12	22	17	30	29
4	8.8	14	2.1	---	---	---	---	12	22	17	30	29
5	8.8	20	2.1	---	---	---	---	13	24	17	30	29
6	8.6	19	2.1	---	---	---	---	13	24	17	30	29
7	8.5	18	2.1	---	---	---	---	13	23	17	30	29
8	8.5	17	2.1	---	---	---	---	13	23	17	30	29
9	9.0	15	---	---	---	---	---	14	23	17	30	29
10	9.3	14	---	---	---	---	---	14	26	17	30	29
11	9.3	13	---	---	---	---	---	14	32	17	30	29
12	9.3	12	---	---	---	---	---	15	37	16	30	29
13	9.3	11	---	---	---	---	---	15	39	16	30	29
14	9.3	9.6	---	---	---	---	---	15	44	16	30	30
15	9.3	8.4	---	---	---	---	---	15	47	16	30	30
16	9.3	7.3	---	---	---	---	---	16	35	16	29	34
17	9.0	6.3	---	---	---	---	---	17	19	16	29	41
18	9.0	5.4	---	---	---	---	---	17	16	16	29	40
19	9.0	4.9	---	---	---	---	---	18	18	16	29	40
20	9.0	4.5	---	---	---	---	---	18	18	16	29	40
21	9.2	4.0	---	---	---	---	---	18	18	16	30	40
22	9.1	4.0	---	---	---	---	---	19	17	16	30	40
23	9.0	3.7	---	---	---	---	---	19	17	16	30	40
24	8.9	3.3	---	---	---	---	---	19	17	16	30	40
25	8.8	3.1	---	---	---	---	2.1	19	17	16	30	40
26	8.8	2.9	---	---	---	---	2.2	20	17	16	30	40
27	8.8	2.9	---	---	---	---	2.3	19	17	16	30	40
28	8.8	2.7	---	---	---	---	2.4	19	17	16	30	40
29	8.9	2.5	---	---	---	---	7.6	20	17	23	30	40
30	9.2	2.4	---	---	---	---	11	20	17	30	30	40
31	9.3	---	---	---	---	---	---	21	---	30	30	---
TOTAL	279.0	257.8	---	---	---	---	---	500	706	542	925	1032
MEAN	9.00	8.59	---	---	---	---	---	16.1	23.5	17.5	29.8	34.4
MAX	9.3	20	---	---	---	---	---	21	47	30	30	41
MIN	8.5	2.4	---	---	---	---	---	11	16	16	29	29
AC-FT	553	511	---	---	---	---	---	992	1400	1080	1830	2050

11313485 MEADOW LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°35'53", long 119°58'40", in SE 1/4 SE 1/4 sec.27, T.9 N., R.18 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 700 ft downstream from Meadow Lake Dam and 12.5 mi southwest of Markleeville.

DRAINAGE AREA.--5.66 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 7,660 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--Records not computed for winter months or above 40 ft^3/s. Low and medium flow regulated by Meadow Lake, capacity, 5,660 acre-ft. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	20	2.6	---	---	---	---	---	---	---	27	28
2	22	24	2.6	---	---	---	---	---	---	---	27	28
3	23	32	2.8	---	---	---	---	---	---	---	27	27
4	22	31	---	---	---	---	---	---	---	31	28	28
5	22	31	---	---	---	---	---	---	---	---	29	28
6	21	30	---	---	---	---	---	---	---	---	29	28
7	21	29	---	---	---	---	---	15	---	---	29	28
8	21	29	---	---	---	---	---	15	---	---	29	27
9	21	30	---	---	---	---	---	15	---	---	28	27
10	20	29	---	---	---	---	---	16	---	---	30	27
11	20	28	---	---	---	---	---	16	---	---	32	27
12	20	26	---	---	---	---	---	16	---	---	32	27
13	20	25	---	---	---	---	---	17	---	---	31	28
14	20	24	---	---	---	---	---	17	---	39	30	28
15	20	24	---	---	---	---	---	17	---	34	31	29
16	20	23	---	---	---	---	---	18	---	20	31	29
17	20	23	---	---	---	---	---	13	---	11	30	30
18	20	20	---	---	---	---	---	7.9	---	16	30	30
19	20	8.5	---	---	---	---	---	8.4	---	21	30	29
20	20	5.4	---	---	---	---	---	8.4	---	21	30	29
21	20	4.0	---	---	---	---	---	8.6	---	20	30	29
22	20	4.3	---	---	---	---	---	8.6	---	19	29	29
23	19	4.0	---	---	---	---	---	9.2	---	19	29	29
24	19	3.2	---	---	---	---	---	9.8	---	18	29	28
25	20	3.0	---	---	---	---	---	11	---	18	29	28
26	19	2.9	---	---	---	---	---	18	---	17	29	27
27	19	3.3	---	---	---	---	---	---	---	16	28	27
28	19	3.4	---	---	---	---	---	---	---	23	28	26
29	21	3.0	---	---	---	---	---	---	13	27	28	26
30	21	e2.8	---	---	---	---	---	---	26	28	28	26
31	21	---	---	---	---	---	---	---	---	28	28	---
TOTAL	632	525.8	---	---	---	---	---	---	---	---	905	837
MEAN	20.4	17.5	---	---	---	---	---	---	---	---	29.2	27.9
MAX	23	32	---	---	---	---	---	---	---	---	32	30
MIN	19	2.8	---	---	---	---	---	---	---	---	27	26
AC-FT	1250	1040	---	---	---	---	---	---	---	---	1800	1660

e Estimated.

11313500 SALT SPRINGS RESERVOIR NEAR WEST POINT, CA

LOCATION.--Lat 38°29'55", long 120°12'52", in NW 1/4 SE 1/4 sec.33, T.8 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Eldorado National Forest, near center of Salt Springs Dam on North Fork Mokelumne River, 1.8 mi upstream from Cole Creek, and 18 mi northeast of West Point.
DRAINAGE AREA.--169 mi^2.
PERIOD OF RECORD.--March 1931 to current year. Prior to October 1964, records published as usable contents.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Prior to Oct. 1, 1991, nonrecording gage read once daily. Datum of gage is sea level (levels by Pacific Gas & Electric Co.).
REMARKS.--Reservoir is formed by concrete-faced rockfill dam, completed in 1931; storage began in March 1931. Capacity, 141,857 acre-ft between elevations 3,667.75 ft, outlet drain, and 3,958.0 ft, top of radial gates. Storage of 1,860 acre-ft available for release to river only. Water is released through Salt Springs Powerplant just downstream from dam and discharged into Tiger Creek Powerplant Conduit (station 11314000). Figures given, including extremes, represent total contents. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric 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, 142,091 acre-ft, July 3, 1993, elevation, 3,958.24 ft; no contents at times in 1932-33, 1945, 1962.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 142,091 acre-ft, July 3, elevation, 3,958.24 ft; minimum, 9,837 acre-ft, Jan. 6, elevation, 3,750.14 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated October 1964)

3,700	1,251	3,720	3,519	3,740	7,324	3,800	28,017
3,705	1,679	3,725	4,324	3,750	9,799	3,850	54,852
3,710	2,199	3,730	5,229	3,760	12,689	3,900	90,786
3,715	2,812	3,735	6,230	3,780	19,632	3,960	143,788

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e43150	e29896	20426	10699	16853	12284	34512	e65099	e135947	140951	135272	103529
2	e42780	e29606	20302	10509	16356	11810	35160	e68812	e134724	141867	134382	102419
3	e42430	e28986	19885	10420	16135	11480	35805	e71963	e134156	142091	133421	101113
4	e42080	e28338	19522	10246	15883	11196	36685	e74436	134248	141945	132219	100391
5	e41730	e27700	19294	9875	15745	10925	37230	e76203	134007	141838	131395	99257
6	e41390	27303	19146	9837	15635	10863	37520	78360	133365	141925	130532	97796
7	e41040	27222	18845	10922	15521	10911	37789	81490	133130	141955	129354	96955
8	e40690	27123	18443	11399	15511	11028	38271	83972	133074	142050	128491	95790
9	e40420	26948	18722	11593	15707	11158	39054	86825	e133644	141955	127419	94549
10	e40230	26650	18905	11735	15690	11326	39840	90946	134220	141762	126255	93634
11	e40050	26383	19086	11593	15659	11551	40540	95735	134600	141572	125735	92367
12	e39570	26118	19120	11317	15497	11854	41194	100051	134496	141286	124512	91129
13	38816	25890	19131	12354	15187	12363	41648	102938	134676	141190	122734	89892
14	38029	25768	18954	13523	14796	13449	42045	105895	135750	140903	122339	88549
15	37256	25628	18569	13979	14387	14169	42749	109199	136850	140325	121179	87363
16	36737	25223	18180	14384	13986	14726	43587	113127	136888	139844	119816	86380
17	36573	24676	17814	14559	13610	17916	44254	117993	136631	139465	119263	85409
18	36384	24169	17407	14622	13498	19901	44763	122904	136888	138989	117541	84294
19	35862	23674	16995	14846	13937	21189	45087	126671	137267	138319	117541	83618
20	35534	23264	16599	15621	14127	22292	45632	129844	137097	137560	117049	83664
21	34817	23007	16038	17457	13953	23481	46822	132219	136296	137936	115725	83726
22	34047	22792	15339	19712	13976	24797	48572	133458	135657	138415	114381	83756
23	33591	22554	14659	20634	14360	26335	50137	134505	136152	138798	113687	83779
24	33385	22329	13973	21027	14124	28512	51050	135187	137654	139180	112601	83826
25	33183	22080	13274	20826	13846	29913	51914	135676	139655	139626	111610	83864
26	32758	21850	12600	20415	13523	30882	53041	e135196	140557	139636	e110760	83902
27	32243	21605	11911	19816	13151	31456	54553	e134819	140711	139304	e109736	83941
28	31711	21404	11399	19241	12731	31837	56867	e134343	140431	138578	e108696	84002
29	31236	21126	11498	18740	---	32214	59600	e133784	139815	137701	e107665	84049
30	30746	20740	11507	18103	---	32707	61951	e134063	140035	136926	e106560	84095
31	30132	---	11014	17497	---	33366	---	e136229	---	136105	e105194	---
MAX	43150	29896	20426	21027	16853	33366	61951	136229	140711	142091	135272	103529
MIN	30132	20740	11014	9837	12731	10863	34512	65099	133074	136105	105194	83618
a	3804.50	3782.86	3754.39	3774.26	3760.13	3811.30	3860.89		3956.10	3951.87		3891.45
b	-13377	-9392	-9726	+6483	-4766	+20635	+28585	+74278	+3806	-3930	-30911	-21099

CAL YR 1992 MAX 95443 MIN 8841 b -11765
WTR YR 1993 MAX 142091 MIN 9837 b +40586

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11314000 TIGER CREEK POWERPLANT CONDUIT BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'45", long 120°13'11", in SE 1/4 SW 1/4 sec.33, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft downstream from Salt Springs Dam and Powerplant and 18 mi northeast of West Point.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,700 ft above sea level, from topographic map. Auxiliary nonrecording gages in stilling wells upstream and downstream from control.

REMARKS.--No estimated daily discharges. Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs Powerplant to forebay of Tiger Creek Powerplant. Since December 1952, flow includes Bear River and Cole Creek Diversion to Salt Springs No. 2 Powerplant (station 11313510). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 577 ft^3/s, June 22, 1945; no flow at times in many years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405	157	149	308	482	544	345	497	554	105	527	530
2	302	256	50	147	489	544	462	338	554	439	526	529
3	190	385	196	97	500	545	512	6.6	555	446	522	526
4	189	381	178	234	504	545	513	89	553	461	522	522
5	294	377	107	237	499	544	533	533	552	467	522	514
6	399	265	107	146	485	544	529	546	557	268	521	509
7	398	108	190	194	485	546	527	547	556	7.7	521	508
8	398	108	249	74	486	532	527	548	545	154	522	506
9	264	253	122	96	447	534	525	549	538	528	523	504
10	105	391	44	96	469	545	526	550	522	528	523	500
11	105	402	47	349	476	546	527	549	490	528	524	493
12	250	402	46	497	477	549	527	548	456	531	524	490
13	403	272	47	220	485	550	526	549	251	532	523	490
14	399	97	134	73	494	554	523	549	8.1	526	523	488
15	399	95	247	140	492	546	525	549	10	510	523	484
16	262	228	246	171	516	545	525	548	124	509	523	482
17	97	299	244	203	507	520	526	548	520	498	523	480
18	96	277	245	268	514	506	526	549	526	490	405	478
19	262	274	245	224	519	513	523	551	527	466	401	319
20	160	211	241	251	432	515	524	552	527	261	535	.00
21	398	125	332	97	546	512	523	530	532	6.8	534	.00
22	399	124	396	93	419	529	525	520	540	5.0	534	.00
23	237	124	396	95	225	504	528	515	542	.00	534	.00
24	109	123	395	201	542	507	526	29	541	.00	536	.00
25	109	122	394	369	545	514	530	3.6	539	.00	539	.00
26	281	121	393	454	545	525	531	209	539	214	539	.00
27	498	122	395	480	544	523	519	554	539	493	535	.00
28	497	122	450	486	545	541	508	554	516	528	534	.00
29	434	122	264	462	---	542	509	555	489	555	534	.00
30	395	190	131	486	---	541	510	555	9.1	556	534	.00
31	392	---	525	479	---	493	---	555	---	548	533	---
TOTAL	9126	6533	7205	7727	13669	16498	15460	14275.2	13711.2	11160.50	16119	9352.00
MEAN	294	218	232	249	488	532	515	460	457	360	520	312
MAX	498	402	525	497	546	554	533	555	557	556	539	530
MIN	96	95	44	73	225	493	345	3.6	8.1	.00	401	.00
AC-FT	18100	12960	14290	15330	27110	32720	30660	28310	27200	22140	31970	18550
a	3580	1520	1190	3410	10890	11740	12790	13790	13200	10520	13330	8090

a Inflow, in acre-feet, through Salt Springs No. 2 Powerplant, provided by Pacific Gas & Electric Co.

11314000 TIGER CREEK POWERPLANT CONDUIT BELOW SALT SPRINGS DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1952, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	421	324	260	210	116	118	77.4	72.8	222	408	437	437
MAX	518	470	445	373	339	360	309	404	459	517	514	502
(WY)	1949	1944	1939	1951	1951	1951	1944	1940	1940	1940	1945	1944
MIN	167	118	95.9	10.3	.000	.000	.000	.000	3.03	273	267	283
(WY)	1932	1932	1932	1946	1932	1952	1952	1938	1942	1939	1932	1931

SUMMARY STATISTICS	WATER YEARS 1931 - 1952	
ANNUAL MEAN	260	
HIGHEST ANNUAL MEAN	353	1951
LOWEST ANNUAL MEAN	154	1932
HIGHEST DAILY MEAN	577	Jun 22 1945
LOWEST DAILY MEAN	.00	Dec 24 1931
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 24 1931
ANNUAL RUNOFF (AC-FT)	188700	
10 PERCENT EXCEEDS	508	
50 PERCENT EXCEEDS	286	
90 PERCENT EXCEEDS	.10	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	466	450	435	381	335	334	324	286	470	492	495	485
MAX	552	550	551	545	550	546	542	544	562	559	551	555
(WY)	1965	1963	1981	1984	1965	1980	1970	1986	1986	1980	1984	1964
MIN	4.29	12.2	124	25.1	56.9	25.4	36.9	118	254	257	273	268
(WY)	1978	1978	1977	1991	1977	1957	1959	1963	1976	1976	1976	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1954 - 1993	
ANNUAL TOTAL	108039.10		140835.90			
ANNUAL MEAN	295		386		413	
HIGHEST ANNUAL MEAN					517	1984
LOWEST ANNUAL MEAN					191	1977
HIGHEST DAILY MEAN	542	Jun 25	557	Jun 6	572	Oct 16 1984
LOWEST DAILY MEAN	.00	Jun 11	.00	Jul 23	.00	May 20 1954
ANNUAL SEVEN-DAY MINIMUM	17	Jun 8	.00	Sep 20	.00	Apr 26 1955
ANNUAL RUNOFF (AC-FT)	214300		279300		299300	
ANNUAL INFLOW (AC-FT) a	60270		104100			
10 PERCENT EXCEEDS	520		546		550	
50 PERCENT EXCEEDS	300		490		502	
90 PERCENT EXCEEDS	105		96		102	

a Inflow, in acre-feet, through Salt Springs No. 2 Powerplant, provided by Pacific Gas & Electric Co.

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'37", long 120°13'12", in NE 1/4 NW 1/4 sec.4, T.7 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Stanislaus National Forest, on left bank 0.5 mi downstream from Salt Springs Dam, 1.3 mi upstream from Cole Creek, and 18 mi northeast of West Point.

DRAINAGE AREA.--170 mi^2.

PERIOD OF RECORD.--September 1926 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,590 ft above sea level, from topographic map. Prior to Sept. 12, 1928, at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, at present site at datum 2.0 ft higher.

REMARKS.--No estimated daily discharges. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 0.5 mi upstream. Water is imported from Bear River and Cole Creek to Salt Springs No. 2 Powerplant (station 11313510) upstream from station since December 1952. Then most of the water bypasses station through Tiger Creek Powerplant Conduit (station 11314000). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 16,000 ft^3/s, Nov. 21, 1950, gage height, 17.20 ft, from rating curve extended above 3,900 ft^3/s on basis of computations of flow over dam and discharge through powerplant; minimum daily, 0.3 ft^3/s, Mar. 17, 23, 31, and Apr. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,780 ft^3/s, May 25, gage height, 9.51 ft; minimum daily, 22 ft^3/s, several days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	26	29	27	22	72	267	272	2990	924	273	338
2	26	26	39	26	23	90	169	477	2260	568	308	341
3	26	26	35	25	24	83	127	816	1830	674	341	342
4	26	26	30	26	23	57	148	728	1830	769	341	344
5	27	26	25	26	24	50	151	266	1900	755	339	349
6	26	28	26	27	24	33	142	259	1430	866	332	356
7	26	27	27	29	23	22	146	264	1130	1120	327	315
8	26	26	26	26	63	24	149	269	1070	970	325	341
9	26	28	27	25	27	24	154	274	1120	517	337	375
10	26	26	27	26	22	22	158	280	1430	427	342	365
11	26	26	26	26	23	23	161	293	1960	398	341	383
12	28	26	26	27	44	23	165	305	2080	375	341	393
13	27	25	26	28	93	23	166	312	2240	327	340	406
14	27	26	27	26	112	23	161	318	2410	334	338	418
15	27	27	25	26	116	25	173	325	2410	333	338	401
16	28	27	24	27	88	24	178	333	2500	300	338	289
17	26	26	24	28	95	24	182	343	2010	289	338	326
18	26	26	23	25	89	23	186	530	2030	318	342	387
19	27	26	23	26	36	22	188	1190	2100	389	92	261
20	27	27	24	29	23	22	189	1600	2170	261	242	49
21	26	26	26	28	23	23	192	1750	2010	44	333	44
22	26	26	25	28	24	38	197	2010	1720	45	334	48
23	29	26	26	26	81	47	202	2300	1080	45	333	52
24	27	25	26	26	22	100	206	2720	568	45	332	51
25	26	25	26	26	22	121	207	3330	386	45	331	51
26	28	25	26	26	22	122	212	3400	992	57	330	51
27	26	25	26	80	45	124	229	2910	1450	161	329	46
28	26	25	27	51	73	129	239	1960	1470	272	327	41
29	26	26	27	23	---	118	253	1590	1260	279	327	41
30	26	26	28	24	---	109	261	1750	1280	256	331	41
31	26	---	27	22	---	112	---	2460	---	269	335	---
TOTAL	822	782	829	891	1306	1752	5558	35634	51116	12432	9957	7245
MEAN	26.5	26.1	26.7	28.7	46.6	56.5	185	1149	1704	401	321	241
MAX	29	28	39	80	116	129	267	3400	2990	1120	342	418
MIN	26	25	23	22	22	22	127	259	386	44	92	41
AC-FT	1630	1550	1640	1770	2590	3480	11020	70680	101400	24660	19750	14370

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.7	54.1	83.1	75.4	103	120	241	738	894	157	59.8	45.7
MAX	284	802	1390	537	710	969	1502	2473	3267	1830	406	330
(WY)	1966	1951	1951	1956	1942	1928	1938	1982	1983	1983	1983	1965
MIN	1.33	1.11	.73	.94	.91	1.87	1.55	3.11	3.77	3.02	2.89	2.80
(WY)	1941	1941	1944	1944	1944	1944	1944	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1927 - 1993	
ANNUAL TOTAL	9374		128324			
ANNUAL MEAN	25.6		352		217	
HIGHEST ANNUAL MEAN					710	1983
LOWEST ANNUAL MEAN					4.27	1977
HIGHEST DAILY MEAN	39	Dec 2	3400	May 26	8860	Dec 8 1950
LOWEST DAILY MEAN	22	Mar 7	22	Jan 31	.30	Mar 17 1931
ANNUAL SEVEN-DAY MINIMUM	22	Mar 17	23	Jan 29	.39	Mar 19 1931
INSTANTANEOUS PEAK FLOW			3780	May 25	16000	Nov 21 1950
INSTANTANEOUS PEAK STAGE			9.51	May 25	17.20	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	18590		254500		157300	
10 PERCENT EXCEEDS	27		1150		590	
50 PERCENT EXCEEDS	26		81		16	
90 PERCENT EXCEEDS	23		24		4.1	

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°31'09", long 120°12'42", in SW 1/4 NE 1/4 sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 200 ft downstream from bridge, 0.3 mi upstream from diversion dam, 1.4 mi north of Salt Springs Dam, 3.2 mi upstream from mouth, and 6.5 mi southwest of Mokelumne Peak.

DRAINAGE AREA.--21.0 mi^2.

PERIOD OF RECORD.--July 1927 to November 1942, October 1943 to current year. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 1960, published as "near Mokelumne Peak."

REVISED RECORDS.--WSP 1515: 1928, 1930-31, 1938(M), 1944, 1947. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control since Oct. 30, 1974. Elevation of gage is 5,920 ft above sea level, from topographic map. Prior to Oct. 30, 1974, at site 0.4 mi upstream at different datum.

REMARKS.--Occasional pumping upstream from station for domestic use in summer-home tract began in September 1961. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 6,140 ft^3/s, Dec. 23, 1964, gage height, 10.21 ft, site and datum then in use, from rating curve extended above 900 ft^3/s on basis of slope-area measurement at gage height 9.69 ft, site and datum then in use; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,620 ft^3/s, May 31, gage height, 4.67 ft; minimum daily, 0.08 ft^3/s, Oct. 13, 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	18	2.8	13	27	21	158	406	407	99	4.3	.31
2	.19	23	2.6	12	e27	23	110	412	267	95	3.7	.34
3	.22	21	2.6	13	27	31	114	373	228	80	3.1	.34
4	.18	11	e2.3	13	29	33	129	265	306	70	2.6	.31
5	.16	9.7	e2.0	14	33	37	104	250	269	68	e2.3	.31
6	.15	8.1	1.8	16	30	53	84	306	160	64	e2.0	.31
7	.14	9.4	1.8	173	32	70	85	296	200	59	e1.8	.29
8	.13	8.1	2.7	443	42	75	121	314	202	51	e1.6	.28
9	.15	5.7	4.2	150	35	75	159	361	224	45	e1.5	.28
10	.13	3.8	5.1	84	29	69	159	503	310	39	e1.4	.26
11	.13	3.1	13	54	29	77	149	583	298	35	e1.3	.26
12	.10	2.2	23	50	e28	82	142	429	266	31	1.3	.26
13	.08	1.8	19	60	e26	97	124	261	296	28	1.3	.26
14	.08	1.7	18	71	e25	141	126	321	336	25	1.1	.26
15	.09	1.6	20	57	24	121	157	354	304	22	e1.0	.23
16	.10	1.6	24	38	23	93	172	421	250	19	e.90	.23
17	.11	1.8	18	26	23	411	135	487	271	17	e.85	.23
18	.11	1.9	15	22	29	270	117	518	293	15	e.80	.26
19	.10	1.8	15	19	30	173	108	509	294	14	e.75	.23
20	.11	1.8	13	25	26	156	147	510	236	12	e.70	.23
21	.25	1.7	12	127	25	166	215	445	183	11	e.65	.21
22	.28	e6.0	11	351	24	189	266	384	158	10	e.60	.21
23	.21	e9.5	10	102	22	198	230	439	164	10	e.55	.21
24	.18	e6.0	11	48	22	231	145	447	170	12	e.50	.21
25	.16	4.4	12	40	21	140	149	602	181	10	e.45	.19
26	.16	3.8	13	38	21	105	186	407	170	9.5	e.41	.19
27	.16	3.7	13	36	22	85	254	299	158	8.4	e.38	.16
28	.18	7.0	12	34	e20	76	308	216	130	6.8	e.38	.16
29	2.1	e4.5	10	32	---	77	376	211	103	5.8	e.34	.16
30	22	e4.0	11	29	---	101	417	257	98	5.6	e.34	.16
31	14	---	12	27	---	124	---	823	---	5.1	e.33	---
TOTAL	42.24	187.7	332.9	2217	751	3600	5146	12389	6932	982.2	39.23	7.34
MEAN	1.36	6.26	10.7	71.5	26.8	116	172	400	231	31.7	1.27	.24
MAX	22	23	24	443	42	411	417	823	407	99	4.3	.34
MIN	.08	1.6	1.8	12	20	21	84	211	98	5.1	.33	.16
AC-FT	84	372	660	4400	1490	7140	10210	24570	13750	1950	78	15

e Estimated.

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.53	22.6	37.9	34.9	40.7	62.4	143	253	147	18.4	1.31	.97
MAX	88.3	368	361	239	228	212	242	509	564	263	25.2	15.6
(WY)	1983	1951	1965	1980	1982	1986	1936	1969	1983	1983	1983	1983
MIN	.045	.10	.14	.30	.30	1.87	38.9	50.1	5.22	.38	.013	.000
(WY)	1967	1960	1960	1933	1933	1933	1975	1934	1992	1976	1931	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1928 - 1993		
ANNUAL TOTAL	11320.67		32626.61				
ANNUAL MEAN	30.9		89.4		63.9		
HIGHEST ANNUAL MEAN					131		1983
LOWEST ANNUAL MEAN					16.6		1977
HIGHEST DAILY MEAN	350	Apr 17	823	May 31	3760	Dec 23	1964
LOWEST DAILY MEAN	.08	Oct 13	.08	Oct 13	.00	Aug 1	1931
ANNUAL SEVEN-DAY MINIMUM	.10	Oct 12	.10	Oct 12	.00	Aug 1	1931
INSTANTANEOUS PEAK FLOW			1620	May 31	6140	Dec 23	1964
INSTANTANEOUS PEAK STAGE			4.67	May 31	10.21	Dec 23	1964
ANNUAL RUNOFF (AC-FT)	22450		64710		46280		
10 PERCENT EXCEEDS	114		297		199		
50 PERCENT EXCEEDS	9.7		23		15		
90 PERCENT EXCEEDS	.16		.23		.17		

11315030 COLE CREEK BELOW DIVISION DAM, NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°30'54", long 120°12'53", in NW 1/4 SE 1/4 sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft downstream from diversion dam, 1.1 mi north of Salt Springs Dam, and 6.7 mi southwest of Mokelumne Peak.

DRAINAGE AREA.--21.8 mi^2.

PERIOD OF RECORD.--December 1987 to current year (low-flow records only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 5,830 ft above sea level, from topographic map. Prior to Dec. 3, 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 3.9 ft^3/s. Flow regulated by Cole Creek Diversion Dam. Water is diverted for power since December 1952 to a tunnel from Lower Bear River Reservoir to Salt Springs Powerplant No. 2 (station 11313510) on North Fork Mokelumne River. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	3.6	3.4	3.5	3.5	3.4	---	---	---	---	3.3	.43
2	.19	3.5	3.1	3.5	3.4	3.4	---	---	---	---	3.3	.40
3	.26	3.5	2.9	3.6	3.4	3.5	---	---	---	---	3.2	.37
4	.22	3.4	2.3	3.5	3.4	3.5	---	---	---	---	3.0	.37
5	.21	3.3	2.1	3.6	3.5	3.5	---	---	---	3.9	2.4	.37
6	.17	3.3	2.3	3.6	3.5	3.6	---	---	---	3.8	2.1	.37
7	.16	3.3	2.0	3.7	3.5	3.7	---	---	---	3.7	1.8	.34
8	.16	3.4	2.6	3.7	3.6	3.7	---	---	---	3.7	1.6	.32
9	.17	3.4	3.3	3.6	3.6	3.7	---	---	---	3.6	1.4	.32
10	.14	3.4	3.4	3.6	3.5	3.7	---	---	---	3.6	1.3	.29
11	.14	3.4	3.4	3.6	3.5	3.7	---	---	---	3.6	1.2	.27
12	.12	2.7	3.5	3.6	3.5	3.7	---	---	---	3.5	1.1	.27
13	.09	2.2	3.5	3.6	3.5	3.8	---	---	---	3.5	1.0	.23
14	.09	2.0	3.5	3.6	3.5	---	---	---	---	3.5	.97	.22
15	.09	2.1	3.4	---	3.5	---	---	---	---	3.5	.97	.22
16	.09	2.2	3.5	3.5	3.4	---	---	---	---	3.4	1.0	.22
17	.10	2.1	3.5	3.6	3.4	---	---	---	---	3.4	.95	.22
18	.10	2.0	3.5	3.5	3.5	---	---	---	---	3.4	.88	.26
19	.10	1.9	3.5	3.5	3.6	---	---	---	---	3.4	.82	.27
20	.10	2.0	3.5	3.5	3.6	---	---	---	---	3.4	.80	.27
21	.28	1.8	3.5	3.7	3.6	---	---	---	---	3.4	.78	.25
22	.33	2.9	3.5	---	3.5	---	---	---	---	3.4	.74	.25
23	.24	3.5	3.4	3.8	3.5	---	---	---	---	3.4	.69	.25
24	.20	3.5	3.5	3.6	3.5	---	---	---	---	3.4	.64	.22
25	.20	3.5	3.4	3.6	3.5	---	---	---	---	3.4	.61	.22
26	.20	3.5	3.4	3.6	3.4	---	---	---	---	3.4	.58	.22
27	.20	3.5	3.5	3.5	3.4	---	---	---	---	3.3	.54	.22
28	.22	3.5	3.5	3.5	3.4	---	---	---	---	3.3	.50	.20
29	2.0	3.5	3.5	3.5	---	---	---	---	---	3.3	.50	.20
30	3.6	3.4	3.5	3.5	---	---	---	---	---	3.3	.52	.20
31	3.6	---	3.5	3.5	---	---	---	---	---	3.3	.50	---
TOTAL	13.89	89.3	100.4	---	97.7	---	---	---	---	---	39.69	8.26
MEAN	.45	2.98	3.24	---	3.49	---	---	---	---	---	1.28	.28
MAX	3.6	3.6	3.5	---	3.6	---	---	---	---	---	3.3	.43
MIN	.09	1.8	2.0	---	3.4	---	---	---	---	---	.50	.20
AC-FT	28	177	199	---	194	---	---	---	---	---	79	16

11315900 BEAR RIVER BELOW LOWER BEAR RIVER DAM, CA

LOCATION.--Lat 38°32'11", long 120°15'24", in NW 1/4 NW 1/4 sec.19, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 250 ft downstream from outlet valve on Lower Bear River Reservoir, 0.2 mi below Lower Bear River Reservoir Dam, 1.4 mi upstream from Rattlesnake Creek, and 3.5 mi northwest of Salt Springs Dam.

DRAINAGE AREA.--37.4 mi^2.

PERIOD OF RECORD.--December 1987 to current year (low-flow periods only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,500 ft above sea level, from topographic map. Prior to Dec. 3, 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 5.9 ft^3/s. Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 0.2 mi upstream, capacity, 49,100 acre-ft. Water diverted for power since December 1952 from Lower Bear River Reservoir through tunnel to Salt Springs Powerplant No. 2 (station 11313510) on North Fork Mokelumne River. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.0	4.3	3.1	3.5	3.3	4.8	5.7	---	---	4.9	4.8
2	3.3	2.9	5.1	3.1	3.5	3.4	4.2	5.8	---	---	4.9	4.8
3	3.2	2.7	4.6	3.1	3.5	3.6	4.1	---	---	---	4.9	4.8
4	3.2	2.8	3.5	3.1	3.6	3.5	4.6	---	---	---	4.9	4.8
5	3.2	2.9	2.8	3.0	3.8	3.6	4.5	---	---	---	4.9	4.8
6	3.2	2.9	2.9	3.3	3.7	3.8	4.8	---	---	---	4.9	4.8
7	3.2	2.9	3.0	5.1	3.7	3.9	4.9	---	---	---	4.8	4.7
8	3.2	2.9	3.0	3.4	4.5	3.8	5.0	---	---	---	4.8	4.7
9	3.2	2.9	5.3	3.3	4.0	3.5	5.2	---	---	---	4.8	4.6
10	3.2	2.9	4.1	3.3	3.7	3.6	5.1	---	---	---	4.8	4.7
11	3.2	2.8	3.5	3.2	3.7	3.6	5.1	---	---	---	4.8	4.8
12	3.1	2.8	3.3	3.3	3.6	3.7	5.0	---	---	---	4.8	4.8
13	3.1	2.8	3.2	4.9	3.5	4.1	5.0	---	---	---	4.8	4.8
14	3.2	2.8	3.1	4.1	3.5	4.6	5.0	---	---	---	4.7	4.8
15	3.2	2.8	3.1	3.7	3.5	3.9	4.9	---	---	---	4.7	4.8
16	3.2	2.8	3.0	3.9	3.5	4.1	5.0	---	---	---	4.7	4.8
17	3.2	2.8	3.0	3.5	3.5	---	5.2	---	---	4.0	4.8	4.7
18	3.2	2.8	3.1	3.4	4.0	5.0	5.3	---	---	4.0	4.9	---
19	4.9	2.8	3.0	3.3	4.3	4.2	5.1	---	---	---	4.9	---
20	---	2.8	3.0	---	3.6	4.1	4.8	---	---	---	4.8	---
21	4.7	2.8	3.0	---	3.7	4.2	4.9	---	---	---	4.9	---
22	2.9	3.0	3.0	---	3.6	4.3	5.0	---	---	---	4.9	---
23	2.8	2.9	3.0	4.0	3.6	4.6	5.1	---	---	5.4	4.9	---
24	2.8	2.8	3.0	3.7	3.6	---	5.2	---	---	5.3	4.9	---
25	2.8	2.8	3.0	3.5	3.6	4.9	5.2	---	---	5.2	4.9	---
26	2.8	2.8	3.0	3.5	3.3	4.7	5.2	---	---	5.1	4.9	---
27	2.8	2.9	3.0	3.5	3.3	4.2	5.2	---	---	5.1	4.9	---
28	2.8	2.8	2.9	3.5	3.3	4.0	5.3	---	---	5.1	4.9	---
29	3.4	2.8	---	3.5	---	4.0	5.4	---	---	5.1	4.9	---
30	3.7	2.8	3.1	3.4	---	4.1	5.6	---	---	5.0	4.9	---
31	3.0	---	3.1	3.4	---	4.3	---	---	---	5.0	4.8	---
TOTAL	---	85.2	---	---	102.2	---	149.7	---	---	---	150.3	---
MEAN	---	2.84	---	---	3.65	---	4.99	---	---	---	4.85	---
MAX	---	3.0	---	---	4.5	---	5.6	---	---	---	4.9	---
MIN	---	2.7	---	---	3.3	---	4.1	---	---	---	4.7	---
AC-FT	---	169	---	---	203	---	297	---	---	---	298	---

11316100 BEAR RIVER BELOW BEAR RIVER DIVERSION DAM, CA

LOCATION.--Lat 38°29'33", long 120°17'21", in NE 1/4 NW 1/4 sec.2, T.7 N., R.15 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft downstream from diversion dam on Bear River and highway bridge, 1.4 mi upstream from mouth, and 3.5 mi northwest of Salt Springs Dam.

DRAINAGE AREA.--47.8 mi^2.

PERIOD OF RECORD.--December 1987 to current year (low-flow records only). Unpublished records for water years 1983-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 3,710 ft above sea level, from topographic map. Prior to Dec. 8, 1987, nonrecording gage at same site and datum.

REMARKS.--No records computed above 10 ft^3/s. Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 4 mi upstream, capacity, 49,100 acre-ft. Water diverted for power since December 1952 from Lower Bear River Reservoir through tunnel to Salt Springs Powerplant No. 2 (station 11313510) on North Fork Mokelumne River. Water diverted at diversion dam 200 ft upstream to Tiger Creek Powerplant Conduit for use at Tiger Creek Powerplant (station 11316610). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	4.9	e6.5	5.4	5.7	5.0	4.1	5.1	5.1	5.6	5.1	5.1
2	5.7	4.1	e6.6	5.8	5.2	5.0	4.3	---	5.1	6.4	5.1	5.1
3	5.4	5.6	e8.0	6.4	5.2	5.0	4.9	---	5.0	5.3	5.1	5.1
4	5.4	5.0	e7.5	7.9	5.2	5.0	4.9	---	5.0	5.1	5.1	5.1
5	5.5	5.0	e5.6	8.3	5.2	5.0	5.0	---	5.0	5.0	5.1	5.1
6	5.5	5.1	e7.8	7.0	5.2	5.0	5.1	5.0	5.1	6.0	5.1	5.2
7	5.3	4.7	---	8.7	5.1	5.0	5.1	5.0	5.1	5.2	5.0	5.2
8	5.3	4.7	e9.2	6.7	5.1	5.0	5.1	5.0	5.1	6.5	5.0	5.2
9	6.0	4.9	---	6.9	5.0	5.0	5.1	5.0	5.1	7.6	5.1	5.2
10	5.9	5.1	---	6.8	5.0	5.0	5.1	5.0	5.1	5.1	5.1	5.2
11	5.9	5.2	---	6.1	5.0	5.1	5.1	5.0	5.1	5.1	5.1	5.1
12	5.9	5.2	---	5.1	5.0	5.1	5.1	5.0	5.1	5.1	5.1	5.1
13	5.3	5.1	e8.8	6.5	5.1	5.1	5.1	5.0	---	5.1	5.1	5.1
14	5.3	4.6	e8.7	7.1	5.1	5.1	5.1	5.0	---	5.1	5.1	5.1
15	5.3	4.6	e9.7	6.6	5.1	5.0	5.2	5.0	---	5.2	5.1	5.1
16	6.0	5.0	e9.4	6.5	5.2	5.1	5.1	5.0	---	5.2	5.1	5.1
17	6.0	5.1	e9.8	8.2	5.2	5.0	5.1	5.0	---	5.1	5.2	5.1
18	6.0	5.0	---	9.3	5.3	4.9	5.1	5.0	4.7	5.2	e6.2	5.1
19	5.9	5.0	---	8.4	5.4	5.0	5.1	5.0	5.0	5.2	e6.5	e8.5
20	e6.4	5.0	---	9.1	5.0	5.0	5.2	5.0	5.0	---	e5.7	e8.5
21	5.3	4.8	e9.5	7.8	5.4	5.0	5.2	5.0	5.0	---	5.1	e8.5
22	5.4	4.8	e9.4	---	4.8	5.0	5.2	5.0	5.0	---	5.0	e8.5
23	5.9	4.7	e9.6	---	---	5.1	5.2	5.0	5.1	e9.5	5.0	e8.5
24	5.6	4.7	e9.8	---	5.0	5.1	5.2	5.0	5.1	e9.4	5.1	e8.5
25	5.4	4.7	e9.7	---	5.0	5.1	5.2	---	5.1	e9.2	5.1	e8.5
26	5.6	4.7	e9.6	---	5.0	5.1	5.2	---	5.1	---	5.1	e8.5
27	5.4	4.7	e9.3	---	5.0	5.1	5.2	---	5.1	---	5.1	e8.5
28	5.4	4.7	e10	5.5	5.0	5.1	5.1	5.0	5.2	e8.7	5.1	e8.5
29	8.5	4.6	---	5.4	---	5.2	5.1	5.1	5.2	5.0	5.1	e8.5
30	9.8	4.8	---	6.4	---	5.2	5.1	5.1	4.0	5.0	5.1	e8.5
31	9.4	---	---	6.4	---	5.1	---	5.1	---	5.0	5.1	---
TOTAL	185.0	146.1	---	---	---	156.5	151.6	---	---	---	160.9	194.3
MEAN	5.97	4.87	---	---	---	5.05	5.05	---	---	---	5.19	6.48
MAX	9.8	5.6	---	---	---	5.2	5.2	---	---	---	6.5	8.5
MIN	5.3	4.1	---	---	---	4.9	4.1	---	---	---	5.0	5.1
AC-FT	367	290	---	---	---	310	301	---	---	---	319	385

e Estimated.

11316600 NORTH FORK MOKELUMNE RIVER ABOVE TIGER CREEK, NEAR WEST POINT, CA

LOCATION.--Lat 38°26'48", long 120°29'21", in SW 1/4 NE 1/4 sec.24, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 0.4 mi upstream from Tiger Creek and Tiger Creek Powerplant, 3.9 mi northeast of West Point, 18.3 mi downstream from Salt Springs Dam, and at mile 106.4.

DRAINAGE AREA.--333 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1970-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,337.50 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 18.3 mi upstream. Some water is diverted through Tiger Creek Powerplant Conduit (station 11314000). Additional water is diverted out of the Bear River and several smaller tributaries into Tiger Creek Powerplant Conduit. All the water enters the North Fork Mokelumne River at Tiger Creek Powerplant (station 11316610) 0.4 mi downstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric 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, 12,900 ft^3/s, Feb. 19, 1986, gage height, 8.98 ft, from rating curve extended above 7,700 ft^3/s; minimum daily, 30 ft^3/s, Aug. 6, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,610 ft^3/s, May 31, gage height, 6.87 ft; minimum daily, 36 ft^3/s, Oct. 5, 7-9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e38	82	50	105	139	269	820	872	4220	1080	307	351
2	39	56	65	86	133	274	861	967	2950	618	318	357
3	40	50	58	86	130	307	666	1330	2330	705	366	357
4	38	45	55	85	127	279	716	1190	2370	814	365	361
5	36	44	42	90	138	266	697	728	2680	800	362	364
6	37	44	45	85	151	292	639	667	1940	841	354	375
7	36	47	112	386	146	301	614	699	1610	1130	348	371
8	36	46	72	267	227	330	604	820	1600	1090	346	310
9	36	46	352	175	321	361	621	860	1590	587	353	401
10	37	44	158	141	232	367	621	1030	1930	493	363	381
11	37	41	223	116	234	369	605	1240	2500	437	363	393
12	39	41	122	106	213	376	589	1350	2540	428	363	414
13	43	40	91	344	235	399	568	1140	2600	373	361	418
14	40	41	79	445	250	480	543	1220	2910	365	359	440
15	44	45	77	282	249	495	560	1320	2730	378	360	433
16	46	45	69	301	252	454	570	1330	2850	342	359	362
17	51	44	73	311	250	1050	576	1450	2270	321	357	286
18	45	42	66	317	359	1090	612	1710	2180	331	362	410
19	45	46	58	237	423	789	568	2100	2300	414	210	399
20	52	48	62	335	382	678	562	2660	2530	439	164	90
21	70	48	63	810	324	632	587	2660	2250	120	348	70
22	56	52	64	1030	300	645	617	2770	1890	98	350	67
23	51	56	62	512	408	681	632	2990	1410	85	349	71
24	58	51	62	353	370	1100	605	3500	982	74	347	71
25	51	49	61	282	299	1100	586	4430	652	66	346	71
26	50	49	62	240	276	1040	577	4380	1130	61	344	70
27	55	50	61	227	251	892	601	3750	1580	97	343	70
28	53	51	78	245	285	802	633	2530	1580	268	342	62
29	87	49	153	170	---	727	679	1990	1420	326	341	61
30	140	52	102	157	---	680	816	2200	1350	292	344	61
31	106	---	90	149	---	665	---	3640	---	299	351	---
TOTAL	1592	1444	2787	8475	7104	18190	18945	59523	62874	13772	10545	7947
MEAN	51.4	48.1	89.9	273	254	587	631	1920	2096	444	340	265
MAX	140	82	352	1030	423	1100	861	4430	4220	1130	366	440
MIN	36	40	42	85	127	266	543	667	652	61	164	61
AC-FT	3160	2860	5530	16810	14090	36080	37580	118100	124700	27320	20920	15760
a	17980	13080	14850	20980	31620	37460	33140	29310	27730	22410	31580	18180

e Estimated.
a Diversion, in acre-feet, to Tiger Creek Powerplant, provided by Pacific Gas & Electric Co.

11316600 NORTH FORK MOKELUMNE RIVER ABOVE TIGER CREEK, NEAR WEST POINT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	56.8	54.8	65.0	105	297	400	423	716	601	112	84.5	76.4
MAX	76.8	74.3	97.0	273	1702	1855	1602	2283	2096	444	340	265
(WY)	1990	1986	1986	1993	1986	1986	1986	1986	1993	1993	1993	1993
MIN	39.4	44.2	47.0	49.8	51.4	76.8	87.3	70.0	49.8	37.0	36.2	37.3
(WY)	1989	1992	1991	1991	1991	1988	1988	1992	1987	1987	1987	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1986 - 1993		
ANNUAL TOTAL	24545		213198				
ANNUAL MEAN	67.1		584		249		
HIGHEST ANNUAL MEAN					801		1986
LOWEST ANNUAL MEAN					59.9		1988
HIGHEST DAILY MEAN	352	Dec 9	4430	May 25	8170	Feb 19	1986
LOWEST DAILY MEAN	35	Aug 21	36	Oct 5	30	Aug 6	1987
ANNUAL SEVEN-DAY MINIMUM	36	Aug 21	36	Oct 5	32	Aug 4	1987
INSTANTANEOUS PEAK FLOW			5610	May 31	12900	Feb 19	1986
INSTANTANEOUS PEAK STAGE			6.87	May 31	8.98	Feb 19	1986
ANNUAL RUNOFF (AC-FT)	48680		422900		180100		
ANNUAL TOTAL, DIVERSION (AC-FT)	a 222500		298300				
10 PERCENT EXCEEDS	115		1580		610		
50 PERCENT EXCEEDS	52		344		63		
90 PERCENT EXCEEDS	37		48		41		

a Diversion, in acre-feet, to Tiger Creek Powerplant, provided by Pacific Gas & Electric Co.

11316670 NORTH FORK MOKELUMNE RIVER BELOW TIGER CREEK RESERVOIR, NEAR WEST POINT, CA

LOCATION.--Lat 38°26'25", long 120°30'14", in SE 1/4 SE 1/4 sec.23, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, on right bank 500 ft downstream from Tiger Creek Reservoir Dam and 3.1 mi northeast of West Point.

DRAINAGE AREA.--357 mi^2.

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1982-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,220 ft above sea level, from topographic map.

REMARKS.--No records computed above 50 ft^3/s. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 20 mi upstream. Most of the water is diverted at Tiger Creek Reservoir to West Point Powerplant. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	14	14	19	---	---	---	---	---	---	---
2	14	14	14	14	13	---	---	---	---	---	---	---
3	14	14	14	14	---	---	---	---	---	---	---	---
4	14	14	13	14	---	---	---	---	---	---	---	---
5	14	15	13	14	e43	---	---	---	---	---	---	---
6	14	14	13	---	---	---	---	---	---	---	---	---
7	14	14	13	---	---	---	---	---	---	---	---	---
8	14	14	13	15	---	---	---	---	---	---	---	---
9	14	14	15	13	---	---	---	---	---	---	---	---
10	14	14	14	13	---	---	---	---	---	---	---	---
11	14	14	13	13	---	---	---	---	---	---	---	---
12	14	14	13	13	---	---	---	---	---	---	---	---
13	14	14	13	e33	---	---	---	---	---	---	---	---
14	14	14	13	---	---	---	---	---	---	---	---	---
15	14	14	13	13	---	---	---	---	---	---	---	---
16	14	14	13	13	---	---	---	---	---	---	---	---
17	14	14	13	14	---	---	---	---	---	---	---	---
18	14	14	14	14	---	---	---	---	---	---	---	---
19	14	14	14	14	---	---	---	---	---	---	25	---
20	14	14	13	---	---	---	---	---	---	---	---	---
21	14	14	13	---	---	---	---	---	---	24	---	---
22	14	13	13	---	---	---	---	---	---	23	---	---
23	14	13	13	---	---	---	---	---	---	23	---	50
24	14	13	13	---	---	---	---	---	---	23	---	---
25	14	14	13	---	---	---	---	---	---	22	---	---
26	14	13	13	---	---	---	---	---	---	21	---	---
27	14	13	13	---	---	---	---	---	---	---	---	---
28	14	13	15	---	---	---	---	---	---	---	---	48
29	14	13	14	---	---	---	---	---	---	---	---	43
30	14	13	13	---	---	---	---	---	---	---	---	42
31	14	---	13	---	---	---	---	---	---	---	---	---
TOTAL	434	413	414	---	---	---	---	---	---	---	---	---
MEAN	14.0	13.8	13.4	---	---	---	---	---	---	---	---	---
MAX	14	15	15	---	---	---	---	---	---	---	---	---
MIN	14	13	13	---	---	---	---	---	---	---	---	---
AC-FT	861	819	821	---	---	---	---	---	---	---	---	---

CAL YR 1992 TOTAL 4773 MEAN 13.0 MAX 27 MIN 11 AC-FT 9470

e Estimated.

11316700 NORTH FORK MOKELUMNE RIVER BELOW ELECTRA DIVERSION DAM, NEAR WEST POINT, CA

LOCATION.--Lat 38°25'15", long 120°32'56", in SW 1/4 NE 1/4 sec.33, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, on right bank 300 ft downstream from Electra Diversion Dam and 2.0 mi northwest of West Point.

DRAINAGE AREA.--365 mi^2.

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1982-84 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir since March 1987. Elevation of gage is 1,980 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 30 ft^3/s. Flow regulated since 1931 by numerous reservoirs and diversions upstream. Most of the water is diverted at Electra Diversion Dam to Electra Powerplant. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	12	18	13	---	---	---	---	---	18	19
2	12	13	12	18	13	---	---	---	---	---	21	19
3	12	13	12	17	13	---	---	---	---	---	23	20
4	12	13	12	17	13	---	---	---	---	---	22	19
5	12	13	13	16	12	---	---	---	---	---	29	19
6	12	13	13	16	13	---	---	---	---	---	25	18
7	12	13	13	23	13	---	---	---	---	---	23	18
8	12	12	13	---	23	---	---	---	---	---	22	19
9	12	12	13	21	---	---	---	---	---	---	21	20
10	12	12	13	20	---	---	---	---	---	---	22	26
11	12	12	13	20	24	---	---	---	---	24	22	23
12	12	12	13	19	26	---	---	---	---	---	24	24
13	12	12	12	---	16	---	---	---	---	---	25	22
14	12	12	12	---	17	---	---	---	---	29	25	24
15	12	12	12	24	17	---	---	---	---	27	25	28
16	12	12	12	20	18	---	---	---	---	25	23	19
17	13	12	12	21	---	---	---	---	---	21	21	17
18	13	12	12	20	---	---	---	---	---	27	30	20
19	13	12	12	19	---	---	---	---	---	---	24	23
20	12	12	12	20	---	---	---	---	---	---	21	25
21	13	12	12	---	---	---	---	---	---	27	24	---
22	12	12	12	---	---	---	---	---	---	26	26	19
23	12	12	12	---	---	---	---	---	---	24	22	17
24	12	12	12	20	---	---	---	---	---	24	20	17
25	13	12	12	30	---	---	---	---	---	24	19	17
26	13	12	12	23	---	---	---	---	---	24	20	17
27	13	12	12	14	---	---	---	---	---	26	23	17
28	13	12	13	18	---	---	---	---	---	25	20	18
29	13	12	15	12	---	---	---	---	---	23	19	18
30	13	12	15	12	---	---	---	---	---	20	20	18
31	13	---	17	14	---	---	---	---	---	18	19	---
TOTAL	383	367	392	---	---	---	---	---	---	---	698	---
MEAN	12.4	12.2	12.6	---	---	---	---	---	---	---	22.5	---
MAX	13	13	17	---	---	---	---	---	---	---	30	---
MIN	12	12	12	---	---	---	---	---	---	---	18	---
AC-FT	760	728	778	---	---	---	---	---	---	---	1380	---

CAL YR 1992 TOTAL 4591 MEAN 12.5 MAX 17 MIN 12 AC-FT 9110

11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW 1/4 NW 1/4 sec.4, T.6 N., R.14 E., Calaveras County, Hydrologic Unit 18040012, on left bank 1.0 mi downstream from Lion Creek, 1.8 mi upstream from mouth, and 4 mi northeast of Wilseyville.

DRAINAGE AREA.--20.8 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,950 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation. Minor diversions upstream from station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s, Feb. 19, 1986, gage height, 8.12 ft, from rating curve extended above 500 ft^3/s on basis of slope-area measurement at gage height 7.41 ft; minimum daily, 0.11 ft^3/s, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 7	0500	151	4.41	Jan. 21	2330	*461	*5.27
Jan. 14	0900	145	4.47	Mar. 25	0900	198	4.51

Minimum daily, 0.36 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	3.1	1.7	16	27	43	121	47	25	8.4	4.3	2.2
2	.56	2.5	1.7	13	25	42	95	46	20	8.3	4.0	2.3
3	.58	2.2	1.7	10	24	44	87	46	19	8.0	4.1	2.2
4	.61	1.9	1.6	9.2	23	43	91	45	19	7.9	4.3	2.0
5	.63	1.8	1.3	8.7	26	43	85	41	26	7.7	3.8	2.2
6	.60	1.7	2.4	9.4	28	45	78	38	25	7.2	3.7	2.2
7	.58	1.6	10	98	27	47	74	37	28	7.0	3.7	2.5
8	.55	1.6	7.5	56	45	50	71	36	24	7.0	3.6	2.4
9	.52	1.5	58	32	66	52	71	34	21	6.9	3.6	2.1
10	.50	1.6	21	22	54	53	69	33	20	6.8	3.6	1.8
11	.45	1.5	39	17	55	54	65	34	19	6.7	3.6	1.8
12	.42	1.5	15	15	51	55	63	34	18	6.5	3.5	1.9
13	.41	1.5	11	89	45	58	59	31	17	6.2	3.2	1.9
14	.39	1.5	9.4	102	41	67	57	28	16	5.4	3.3	1.7
15	.39	1.5	8.3	54	38	69	56	27	15	5.7	3.4	2.0
16	.42	1.4	7.3	59	36	66	55	26	14	5.7	3.5	2.0
17	.43	1.4	7.7	71	37	143	56	25	14	5.7	3.3	2.2
18	.42	1.4	6.8	71	44	140	60	24	13	5.6	3.0	2.4
19	.41	1.5	6.7	46	67	112	55	24	12	5.6	3.1	2.4
20	.39	1.7	7.0	79	63	100	53	23	12	5.5	3.2	2.2
21	1.2	1.6	6.9	187	56	94	53	23	11	5.5	3.4	2.0
22	1.0	2.1	6.7	205	52	90	53	21	11	5.3	3.1	2.1
23	.94	2.2	6.6	93	64	93	54	20	10	5.2	2.9	2.2
24	.88	2.1	6.4	68	64	161	53	19	10	5.3	2.6	2.0
25	.92	2.2	6.1	56	52	181	50	26	9.8	5.1	2.5	1.9
26	.93	2.0	6.0	49	49	163	47	22	9.4	5.0	2.4	1.8
27	.92	1.9	5.9	42	45	131	46	20	9.1	4.8	2.5	1.8
28	.96	2.1	10	38	43	118	46	19	8.7	4.8	2.4	1.6
29	3.2	1.9	20	34	---	103	46	18	8.6	4.7	2.4	1.6
30	6.7	1.6	13	32	---	96	47	17	8.6	4.7	2.5	1.6
31	5.2	---	11	30	---	91	---	33	---	4.3	2.5	---
TOTAL	32.47	54.1	323.7	1711.3	1247	2647	1916	917	473.2	188.5	101.0	61.0
MEAN	1.05	1.80	10.4	55.2	44.5	85.4	63.9	29.6	15.8	6.08	3.26	2.03
MAX	6.7	3.1	58	205	67	181	121	47	28	8.4	4.3	2.5
MIN	.36	1.4	1.3	8.7	23	42	46	17	8.6	4.3	2.4	1.6
AC-FT	64	107	642	3390	2470	5250	3800	1820	939	374	200	121

11316800 FOREST CREEK NEAR WILSEYVILLE, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.16	9.51	20.5	35.0	43.7	49.0	48.6	32.8	12.7	5.82	3.64	3.15
MAX	11.9	59.5	138	144	243	209	174	128	47.4	17.1	10.5	8.36
(WY)	1983	1984	1965	1970	1986	1983	1982	1967	1967	1983	1983	1983
MIN	.63	1.80	2.17	2.40	2.35	4.58	2.96	3.92	1.58	.46	.33	.50
(WY)	1978	1993	1977	1991	1991	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1961 - 1993		
ANNUAL TOTAL	2453.08		9672.27				
ANNUAL MEAN	6.70		26.5		22.3		
HIGHEST ANNUAL MEAN					67.8		1983
LOWEST ANNUAL MEAN					2.39		1977
HIGHEST DAILY MEAN	58	Dec 9	205	Jan 22	1250	Feb 19	1986
LOWEST DAILY MEAN	.30	Aug 28	.36	Oct 1	.11	Aug 14	1977
ANNUAL SEVEN-DAY MINIMUM	.37	Sep 25	.41	Oct 14	.15	Aug 11	1977
INSTANTANEOUS PEAK FLOW			461	Jan 21	2020	Feb 19	1986
INSTANTANEOUS PEAK STAGE			5.27	Jan 21	8.12	Feb 19	1986
ANNUAL RUNOFF (AC-FT)	4870		19180		16130		
10 PERCENT EXCEEDS	21		67		56		
50 PERCENT EXCEEDS	2.5		9.8		7.6		
90 PERCENT EXCEEDS	.51		1.5		2.0		

11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA

LOCATION.--Lat 38°23'23", long 120°31'32", in SE 1/4 NE 1/4 sec.10, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 200 ft downstream from highway bridge, 0.6 mi south of West Point, and 4.5 mi upstream from South Fork Mokelumne River.
DRAINAGE AREA.--68.4 mi^2.
PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for October 1911, published in WSP 1315-A.

REVISED RECORDS.--WSP 1515: 1919-20, 1927-28(M), 1936(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,450 ft above sea level, from topographic map. Prior to Oct. 6, 1926, nonrecording gage at site 1,200 ft upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records fair. Flow slightly regulated by Schaads Reservoir, capacity, 1,740 acre-ft, 6 mi upstream from station, since January 1940. Maximum output of Schaads Powerplant is 35 ft^3/s and is operational only when reservoir level is within 4 ft of spill gates. Several small diversions upstream from station. At times water is diverted 4 mi upstream from station to Licking Fork Mokelumne River via Middle Fork Ditch, capacity, 10 ft^3/s; because of leakage, only 5 ft^3/s may reach Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft^3/s, Feb. 19, 1986, gage height, 9.19 ft, from rating curve extended above 3,100 ft^3/s; no flow for many days in 1931 and Sept. 9, 1934.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0330	*1,070	*5.15	Mar. 22	1145	663	4.31

Minimum daily, 2.7 ft^3/s, Oct. 1, 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	6.3	5.5	27	93	133	324	134	98	42	8.8	19
2	3.4	5.3	5.2	18	89	131	249	133	84	52	7.6	12
3	3.4	5.0	5.4	11	86	135	221	133	77	24	7.4	5.6
4	3.6	4.8	5.3	8.4	83	134	226	130	74	33	11	5.2
5	3.4	4.8	5.1	7.3	84	132	213	123	92	50	17	5.7
6	3.3	4.7	6.3	8.1	102	135	193	119	91	23	16	5.7
7	3.2	4.5	18	189	98	141	181	116	95	21	16	5.9
8	3.4	4.5	10	81	132	146	176	114	88	48	11	7.8
9	3.4	4.5	64	46	221	150	174	111	81	23	3.1	11
10	3.3	4.7	22	30	179	154	170	113	75	17	8.9	11
11	3.3	4.8	47	27	171	161	164	116	72	9.6	10	10
12	3.6	4.8	15	22	156	161	158	117	69	27	10	9.2
13	3.4	4.8	9.0	294	139	167	149	107	66	23	10	9.1
14	2.7	4.8	6.8	367	129	188	143	101	63	12	11	8.7
15	3.8	4.8	5.4	136	120	197	141	99	62	9.4	12	4.9
16	3.6	4.9	4.8	135	115	185	141	96	62	9.5	13	6.9
17	3.9	4.8	5.5	244	119	383	141	95	60	9.5	12	7.8
18	4.4	4.9	4.6	290	138	432	153	95	60	8.7	12	8.5
19	3.7	5.1	4.6	175	207	316	141	96	59	8.4	12	9.0
20	4.1	5.4	4.6	216	210	274	137	95	59	8.8	12	8.6
21	7.6	5.4	4.5	484	184	255	137	94	56	24	12	7.4
22	5.9	6.0	4.3	691	174	245	139	91	32	9.8	12	6.9
23	6.5	6.3	4.3	302	214	248	140	88	56	11	12	7.1
24	6.3	5.9	4.0	214	249	461	136	86	46	11	12	6.7
25	5.9	6.0	3.8	176	179	571	130	101	32	11	13	6.0
26	5.9	5.9	3.8	157	164	497	127	101	64	10	12	5.9
27	5.3	5.9	3.7	136	148	353	126	90	36	11	15	5.4
28	5.3	5.8	13	123	138	311	126	82	36	10	17	5.0
29	8.0	5.8	40	113	---	263	128	76	67	10	19	4.8
30	12	5.7	18	104	---	240	133	72	33	10	20	5.7
31	11	---	12	100	---	224	---	104	---	9.6	20	---
TOTAL	149.3	156.9	365.5	4931.8	4121	7523	4917	3228	1945	586.3	384.8	232.5
MEAN	4.82	5.23	11.8	159	147	243	164	104	64.8	18.9	12.4	7.75
MAX	12	6.3	64	691	249	571	324	134	98	52	20	19
MIN	2.7	4.5	3.7	7.3	83	131	126	72	32	8.4	3.1	4.8
AC-FT	296	311	725	9780	8170	14920	9750	6400	3860	1160	763	461

11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	22.6	49.4	84.9	121	135	147	106	42.1	15.9	8.88	7.40
MAX	37.5	223	389	622	768	653	561	372	181	68.1	40.8	31.1
(WY)	1983	1951	1956	1914	1986	1983	1982	1983	1983	1983	1969	1969
MIN	.86	2.64	3.33	4.75	5.70	9.06	6.47	4.17	.95	.22	.071	.15
(WY)	1932	1930	1977	1977	1991	1977	1977	1931	1924	1924	1931	1931

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1912 - 1993	
ANNUAL TOTAL	6713.6		28541.1			
ANNUAL MEAN	18.3		78.2		62.3	
HIGHEST ANNUAL MEAN					218	1983
LOWEST ANNUAL MEAN					5.25	1977
HIGHEST DAILY MEAN	113	Mar 6	691	Jan 22	3610	Feb 19 1986
LOWEST DAILY MEAN	1.0	Aug 30	2.7	Oct 1	.00	Aug 23 1931
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 4	3.3	Oct 1	.00	Aug 23 1931
INSTANTANEOUS PEAK FLOW			1070	Jan 22	4920	Feb 19 1986
INSTANTANEOUS PEAK STAGE			5.15	Jan 22	9.19	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	13320		56610		45120	
10 PERCENT EXCEEDS	60		191		161	
50 PERCENT EXCEEDS	5.9		27		20	
90 PERCENT EXCEEDS	2.7		4.8		3.8	

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA

LOCATION.--Lat 38°22'06", long 120°32'40", in SE 1/4 SE 1/4 sec.16, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 500 ft upstream from highway bridge, 2.4 mi southwest of West Point, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--75.1 mi^2.

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1315-A: 1934(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,950 ft above sea level, from topographic map. October 1933 to Sept. 19, 1957, at site 1,100 ft downstream at different datum.

REMARKS.--Records good except period of estimated daily discharges and those less than 1.0 ft^3/s, which are poor. The Middle Fork Ditch can divert 10 ft^3/s from the Middle Fork Mokelumne River which, due to leakage, delivers about 5 ft^3/s to the Licking Fork Mokelumne River. There are two pumps with a combined capacity of 8.9 ft^3/s that can pump water to Jeff Davis Reservoir upstream from the station. There are other small diversions upstream from the station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft^3/s, Feb. 19, 1986, gage height, 12.48 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0415	*1,330	*6.55	Mar. 25	1000	887	5.75
Feb. 24	0200	585	5.06				

Minimum daily, 0.23 ft^3/s, Nov. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	11	5.4	85	97	171	513	149	77	24	9.9	4.5
2	.55	6.4	5.4	61	91	161	402	143	61	22	9.3	4.2
3	.40	.89	6.2	38	85	159	358	140	56	21	9.1	4.3
4	.42	.39	5.7	27	82	154	359	135	55	22	9.4	3.5
5	.71	.23	5.5	e24	93	151	334	123	79	23	8.8	3.6
6	.91	4.6	8.1	e24	104	158	295	117	73	22	9.0	3.3
7	.87	4.3	51	e50	97	171	274	113	82	22	9.3	2.8
8	1.0	4.1	24	e270	177	180	264	108	71	21	8.0	2.4
9	.88	4.4	165	e150	350	187	261	104	63	21	8.2	2.5
10	.77	4.3	72	e90	270	192	249	99	58	19	8.3	3.7
11	.75	4.3	145	e65	248	193	236	98	55	17	7.8	2.7
12	.78	4.3	51	e56	216	194	222	97	51	17	7.6	2.1
13	.79	4.7	27	e400	187	204	210	90	49	16	7.7	1.9
14	.72	4.3	18	e498	168	245	199	85	48	16	7.5	3.8
15	1.0	4.0	14	e260	150	257	195	81	46	16	7.2	6.7
16	1.5	3.9	12	e180	139	239	193	77	42	16	7.8	7.0
17	1.3	4.0	15	e250	154	550	193	76	41	15	7.3	7.6
18	1.5	4.0	17	e350	193	542	221	73	38	15	6.9	8.5
19	1.7	4.1	14	e340	324	408	193	70	37	15	6.6	8.4
20	1.8	4.6	13	e160	373	355	184	69	36	14	6.9	8.1
21	4.2	4.9	12	750	315	331	183	68	35	14	6.6	7.6
22	4.5	5.4	8.4	952	281	317	187	64	34	14	6.9	7.4
23	5.0	7.0	7.8	487	371	323	183	62	33	14	6.9	5.5
24	3.9	6.9	7.1	333	460	643	173	60	32	14	6.0	2.6
25	3.5	6.1	6.8	249	308	779	164	86	30	13	5.8	2.6
26	3.2	5.7	6.5	199	262	739	156	70	29	13	5.8	2.4
27	3.2	5.6	6.2	171	217	570	154	61	27	12	5.8	2.9
28	2.9	5.5	31	147	188	503	151	59	26	12	5.7	2.1
29	7.7	5.4	156	129	---	427	150	56	25	11	5.4	2.3
30	24	5.4	68	119	---	384	153	56	25	11	5.0	2.0
31	20	---	42	107	---	361	---	97	---	11	4.8	---
TOTAL	101.42	140.71	1026.1	7021	6000	10248	7009	2786	1414	513	227.3	129.0
MEAN	3.27	4.69	33.1	226	214	331	234	89.9	47.1	16.5	7.33	4.30
MAX	24	11	165	952	460	779	513	149	82	24	9.9	8.5
MIN	.40	.23	5.4	24	82	151	150	56	25	11	4.8	1.9
AC-FT	201	279	2040	13930	11900	20330	13900	5530	2800	1020	451	256

e Estimated.

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.9	31.9	73.6	122	169	182	183	117	45.4	21.2	12.3	10.2
MAX	41.6	270	465	661	959	825	704	424	163	62.9	36.1	31.6
(WY)	1983	1951	1956	1969	1986	1983	1982	1983	1983	1983	1952	1983
MIN	1.65	3.21	2.83	1.85	2.53	11.3	7.48	10.9	4.49	1.00	.039	.13
(WY)	1989	1991	1991	1991	1991	1977	1977	1977	1992	1934	1934	1934

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1934 - 1993		
ANNUAL TOTAL	7725.39		36615.53				
ANNUAL MEAN	21.1		100		81.3		
HIGHEST ANNUAL MEAN					264		1983
LOWEST ANNUAL MEAN					6.14		1977
HIGHEST DAILY MEAN	264	Feb 15	952	Jan 22	5780	Feb 17	1986
LOWEST DAILY MEAN	.23	Nov 5	.23	Nov 5	.00	Aug 6	1934
ANNUAL SEVEN-DAY MINIMUM	.40	Aug 25	.69	Oct 1	.00	Aug 12	1934
INSTANTANEOUS PEAK FLOW			1330	Jan 22	7300	Feb 19	1986
INSTANTANEOUS PEAK STAGE			6.55	Jan 22	12.48	Feb 19	1986
ANNUAL RUNOFF (AC-FT)	15320		72630		58910		
10 PERCENT EXCEEDS	69		287		208		
50 PERCENT EXCEEDS	5.6		29		27		
90 PERCENT EXCEEDS	.58		2.9		5.9		

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.--Lat 38°18'46", long 120°43'09", in SW 1/4 SW 1/4 sec.1, T.5 N., R.11 E., Calaveras County, Hydrologic Unit 18040012, on downstream side of bridge 1.2 mi northwest of Mokelumne Hill and 8 mi downstream from confluence of north and south Forks of Mokelumne River.

DRAINAGE AREA.--544 mi^2.

PERIOD OF RECORD.--January to June 1901, May 1903 to December 1904, October 1927 to current year. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.
CHEMICAL DATA: Water year 1980. Water years 1971-79 in files of California Department of Water Resources.
WATER TEMPERATURE: Water years 1961-79 (daily record).

REVISED RECORDS.--WSP 1445: 1903-4, 1928(M), 1936(M), 1938(M), 1940(M), 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.88 ft above sea level (levels by California Division of Highways). Jan. 1 to June 30, 1901, and May 11, 1903, to Dec. 31, 1904, nonrecording gage at site 3 mi upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water-stage recorder at site 40 ft upstream at datum 5.00 ft higher. Aug. 27, 1952, to Oct. 14, 1977, at present site at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Salt Springs Reservoir (station 11313500) beginning in 1931, several smaller reservoirs, and four powerplants. Diversion upstream from station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft^3/s, Dec. 3, 1950, gage height, 23.5 ft, present datum; minimum observed, 5 ft^3/s, Aug. 13-15, 17, 18, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,990 ft^3/s, June 1, gage height, 13.74 ft; minimum daily, 55 ft^3/s, Sept. 23.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	378	229	130	661	962	1320	2610	1740	5620	1260	907	791
2	355	202	136	490	825	1280	2190	1760	4160	1100	825	938
3	261	496	230	205	926	1270	2030	1970	3480	1210	843	887
4	214	408	256	262	894	1280	2090	1610	3370	1350	883	796
5	163	345	194	461	821	1250	2070	1600	3810	1350	874	863
6	361	374	140	285	1080	1250	1960	1570	3030	1280	891	888
7	360	141	364	1470	955	1300	1670	1610	2640	1220	892	879
8	399	171	385	1420	1080	1350	1750	1770	2640	1270	884	760
9	338	157	915	833	1700	1430	1850	1790	2540	1170	874	836
10	135	374	619	639	1510	1410	1710	1910	2700	1130	900	807
11	93	395	541	563	1350	1410	1670	2240	3330	1010	861	920
12	133	441	335	819	1420	1420	1780	2370	3550	1020	916	887
13	436	341	244	1580	1240	1520	1590	2060	3350	1040	863	957
14	411	141	142	2060	1230	1640	1610	2170	3530	952	888	816
15	336	126	257	1360	1190	1660	1630	2240	3100	834	970	861
16	368	208	356	1240	1200	1640	1600	2230	3430	913	832	946
17	156	297	335	1500	1170	2540	1520	2370	3180	1000	848	878
18	103	291	329	1700	1320	3120	1710	2660	3230	838	912	810
19	247	303	309	1250	1610	2380	1610	3140	3200	800	435	694
20	296	275	298	1180	1840	2070	1590	3930	3420	936	684	175
21	227	195	365	2420	1620	1940	1530	3860	3270	191	786	94
22	560	151	436	3800	1610	1950	1500	4030	2660	79	913	146
23	167	145	408	2170	1550	2100	1700	4160	2400	136	852	55
24	94	166	517	1550	1840	3000	1580	4640	1740	87	911	79
25	142	166	415	1390	1680	3530	1480	5340	1270	98	970	75
26	212	168	423	1170	1540	3390	1510	5270	1570	192	667	68
27	555	102	417	1250	1410	2850	1560	4570	2510	554	912	68
28	490	169	567	1220	1310	2530	1490	3690	2330	717	990	64
29	540	167	949	1110	---	2380	1660	3000	2200	859	813	60
30	647	175	441	993	---	2070	1740	3170	1700	857	873	58
31	394	---	567	950	---	2160	---	4260	---	817	896	---
TOTAL	9571	7319	12020	38001	36883	60440	51990	88730	88960	26270	26565	17156
MEAN	309	244	388	1226	1317	1950	1733	2862	2965	847	857	572
MAX	647	496	949	3800	1840	3530	2610	5340	5620	1350	990	957
MIN	93	102	130	205	821	1250	1480	1570	1270	79	435	55
AC-FT	18980	14520	23840	75370	73160	119900	103100	176000	176500	52110	52690	34030

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	502	584	765	859	1005	1124	1356	1866	1753	699	543	517
MAX	898	3275	4375	2903	4788	3950	4114	5092	6243	3384	1117	949
(WY)	1984	1951	1951	1956	1986	1983	1982	1952	1983	1983	1983	1983
MIN	8.97	25.3	70.1	65.5	100	115	221	273	262	106	77.5	67.7
(WY)	1978	1930	1931	1991	1977	1977	1977	1987	1977	1928	1930	1930

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1928 - 1993	
ANNUAL TOTAL	144420		463905			
ANNUAL MEAN	395		1271		963	
HIGHEST ANNUAL MEAN					2511	1983
LOWEST ANNUAL MEAN					208	1977
HIGHEST DAILY MEAN	1030	Feb 15	5620	Jun 1	22700	Feb 17 1986
LOWEST DAILY MEAN	23	Jun 11	55	Sep 23	6.6	Oct 2 1977
ANNUAL SEVEN-DAY MINIMUM	33	Jun 9	67	Sep 23	7.0	Sep 28 1977
INSTANTANEOUS PEAK FLOW			6990	Jun 1	33700	Dec 3 1950
INSTANTANEOUS PEAK STAGE			13.74	Jun 1	23.50	Dec 3 1950
ANNUAL RUNOFF (AC-FT)	286500		920200		697700	
10 PERCENT EXCEEDS	617		2760		2100	
50 PERCENT EXCEEDS	366		957		610	
90 PERCENT EXCEEDS	169		167		234	

11320000 PARDEE RESERVOIR NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°15'25", long 120°50'59", in NW 1/4 SW 1/4 sec.26, T.5 N., R.10 E., Amador County, Hydrologic Unit 18040012, at Pardee Dam on the Mokelumne River, 4.5 mi north of Valley Springs.
DRAINAGE AREA.--578 mi^2.
PERIOD OF RECORD.--October 1961 to current year. March 1929 to September 1930 (lake elevation only), October 1930 to September 1933, published in reports of U.S. Geological Survey. October 1933 to September 1961, in files of East Bay Municipal Utility District.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by East Bay Municipal Utility District).
REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929. Storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 ft, diversion tunnel invert, and 567.65 ft, spillway crest. Dead storage, 15,800 acre-ft. Water is released from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District. Prior to Oct. 1, 1985, records, including extremes, represent contents at 2400 hours. Records from Oct. 1, 1985, through July 24, 1989, including extremes, represent total contents at 0800 hours. Records from July 25, 1989, including extremes, represent contents at 2400 hours. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records provided by East Bay Municipal Utility District.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 219,300 acre-ft, Dec. 23, 1955, Feb. 19, 1986, elevation, 571.72 ft; minimum, 47,000 acre-ft, Mar. 25, 1977, elevation, 454.98 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 207,000 acre-ft, July 8, elevation, 566.33 ft; minimum, 144,800 acre-ft, Oct. 26, elevation, 534.88 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey provided by East Bay Municipal Utility District in 1930)

450	43,400	480	69,200	510	105,700	540	153,800	570	215,300
460	50,900	490	80,100	520	120,400	550	172,700	580	239,100
470	59,500	500	92,300	530	136,500	560	193,200		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157400	145600	146100	158700	183100	179700	194600	190800	194700	205100	189500	176600
2	157200	146000	146000	159400	181800	179400	193000	191100	194700	204600	190000	176700
3	157000	146400	145900	159400	180700	179000	191100	191900	193300	204900	190200	177000
4	156500	146600	146000	159500	179600	179000	190100	192000	191600	205500	190200	177100
5	156000	146800	145900	160000	178400	179200	190200	192000	191000	206100	190000	177400
6	155800	147100	145900	160300	177600	178700	190100	192000	190300	206500	189700	177700
7	155700	146900	146100	163500	176700	178300	189400	192100	191000	206700	189300	178000
8	155700	146800	146400	165600	176200	178000	189100	192400	193200	207000	188800	178000
9	155500	146600	147900	165700	177100	177800	189300	192800	195200	206900	188300	178200
10	154900	146800	148800	165400	177300	177700	189300	193200	197400	206000	187900	178300
11	154300	147200	149600	165000	177200	177600	189200	194000	198700	205000	187300	178700
12	153700	147600	149800	165100	177100	177400	189500	195000	198600	204000	187000	178900
13	153700	147800	149900	167800	176700	177400	189300	194900	198000	203000	186400	179300
14	153700	147600	149700	170700	176300	177600	189500	194600	197900	201800	185900	179500
15	153500	147400	149700	172000	175700	177800	189700	194400	197200	200400	185600	179700
16	153400	147400	149900	172900	175200	178100	189800	194100	198100	199100	185000	180100
17	152300	147500	150200	174700	174700	180100	189800	193800	198700	198000	184400	180800
18	151000	147600	150400	176900	174600	183200	190100	192800	199500	196600	183900	181800
19	149900	147700	150500	177300	175500	184900	190200	191800	199800	195200	182500	182600
20	149000	147800	150700	177700	176800	186000	190300	191400	200600	194400	181700	182400
21	148000	147700	150900	180900	177400	186800	190200	190600	201100	192600	180900	182000
22	147600	147600	151300	185900	177700	187600	190100	190000	201200	190600	180500	181600
23	146500	147400	151700	187400	178400	189000	190300	189700	201600	189100	179900	181100
24	145800	147300	152300	187700	179300	191500	190400	190500	201500	187400	179600	180700
25	145200	147200	152600	187700	179800	192700	190200	192900	201000	185500	179300	180200
26	144800	147000	153000	187200	180100	192800	190100	195100	200900	184400	178400	179700
27	145100	146700	153400	186800	180100	192000	190100	195700	202700	184500	178200	179200
28	145300	146600	154500	186300	179800	192500	190000	194500	204200	185300	178200	178700
29	145200	146500	156200	185800	---	193400	190200	191900	205400	186300	177900	178000
30	145700	146300	156700	184900	---	193600	190500	190200	205600	187300	177500	177200
31	145600	---	157400	184000	---	194200	---	191200	---	188300	177200	---
MAX	157400	147800	157400	187700	183100	194200	194600	195700	205600	207000	190200	182600
MIN	144800	145600	145900	158700	174600	177400	189100	189700	190300	184400	177200	176600
a	535.36	535.78	541.97	555.62	553.58	560.50	558.74	559.08	565.73	557.71	552.27	552.27
b	-11900	+700	+11100	+26600	-4200	+14400	-3700	+700	+14400	-17300	-11100	0
c	625	269	122	131	257	398	681	1054	1372	1588	1388	1131
d	15724	13866	14259	11255	9727	11284	14134	17820	18251	20544	18925	17659

CAL YR 1992 b -31000
WTR YR 1993 b +19700

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by East Bay Municipal Utility District; not reviewed by U.S. Geological Survey.
d Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District provided by East Bay Municipal Utility District; not reviewed by U.S. Geological Survey.

11322300 CAMANCHE RESERVOIR NEAR CLEMENTS, CA

LOCATION.--Lat 38°13'31", long 121°01'17", in NE 1/4 SE 1/4 sec.6, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, at Camanche Dam on the Mokelumne River, 4.3 mi northeast of Clements.
DRAINAGE AREA.--621 mi^2.
PERIOD OF RECORD.--December 1963 to current year.
REVISED RECORDS.--WDR CA-85-3: 1984.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by East Bay Municipal Utility District).
REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft between elevations 104.00 ft, invert of emergency valve release, and 235.50 ft, spillway crest. Dead storage, 534 acre-ft. Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Prior to July 1, 1984, records, including extremes, represent total contents at 2400 hours. Records from July 1, 1984, through July 24, 1989, including extremes, represent total contents at 0800 hours. Records from July 25, 1989, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records provided by East Bay Municipal Utility District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 439,100 acre-ft, Feb. 22, 1986, elevation, 236.57 ft; minimum since reservoir first filled, 8,530 acre-ft, Oct. 5, 1988, elevation, 124.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 408,100 acre-ft, June 23, 24, elevation, 232.47 ft; minimum, 88,700 acre-ft, Jan. 6, elevation, 172.02 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey provided by East Bay Municipal Utility District in 1964)

120	4,970	170	82,600
130	13,600	190	156,200
140	25,000	220	320,900
150	38,900	235.5	430,900
160	57,100	240	465,900

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113300	112800	100400	90200	136100	195200	254100	279200	353600	391600	351500	328700
2	113300	112400	100000	89900	138300	196400	258300	279200	358400	390800	349200	328900
3	113300	111900	100000	89900	140400	197800	262500	279000	363200	389200	347100	328700
4	113300	111500	99600	89300	142600	198700	265800	279000	367800	387700	345500	328500
5	113300	111000	99100	88900	144800	199300	268000	279000	372700	386400	344100	328200
6	113300	110600	98700	88700	147100	200500	270100	278900	376100	384900	342800	328000
7	113300	110200	98300	89400	149300	201700	272300	278700	377200	383600	341600	328000
8	113300	109800	98100	89900	148900	202900	274200	278700	376900	382500	340400	327800
9	113400	109400	97700	91100	151500	204200	275700	278500	376700	381200	339200	327800
10	113400	109000	97500	92300	153600	205400	277400	278500	376300	380800	338100	327800
11	113400	108700	97100	93300	155800	206600	278600	278900	378000	380400	336900	327800
12	113400	108200	96600	94900	157800	207700	279800	279000	381700	379900	336300	327600
13	113500	108300	96100	97000	159800	208900	279800	279600	385500	379300	334700	327600
14	113500	107900	95600	98500	161900	210100	279800	280700	389200	379100	333700	327400
15	113600	107500	95000	99700	163800	211400	279800	281800	392300	378400	332500	327400
16	113600	107000	94500	101000	165800	212800	279800	282900	394700	378200	331300	327200
17	114100	106600	94100	102900	167900	214200	279800	284400	396900	377800	330300	326800
18	114800	106100	93900	104500	170800	215400	279800	287000	398800	377200	329300	326000
19	115500	105700	93500	106500	173700	217800	279800	290700	401200	376900	328200	325400
20	116200	105300	93300	108800	176600	218900	279800	295200	403700	375900	327000	324400
21	116800	104900	92800	111500	178700	220200	279800	300100	405900	374800	326600	323700
22	117600	104400	92500	114100	181100	221500	279600	305100	407400	373500	326200	323100
23	118300	104000	92200	116500	184000	223200	279600	310100	408100	371800	325600	322100
24	118500	103500	91800	118700	186200	225600	279600	315400	408100	370300	325400	321300
25	118500	103100	91500	120900	188500	231000	279600	320300	407900	369100	325600	320500
26	118300	102600	91100	123100	191200	236400	279600	325200	407400	367200	326200	319700
27	117200	102200	90700	125300	192700	241300	279600	330200	406800	364800	326600	318900
28	116100	101800	90500	127400	194000	244200	279400	335200	406300	362100	327200	318300
29	115500	101400	90500	129600	---	246500	279400	340300	405900	359200	327200	317700
30	114400	100900	90500	131800	---	248800	279200	344700	405400	356700	327600	317500
31	113500	---	90200	133900	---	250900	---	349300	---	354200	328000	---
MAX	118500	112800	100400	133900	194000	250900	279800	349300	408100	391600	351500	328900
MIN	113300	100900	90200	88700	136100	195200	254100	278500	353600	354200	325400	317500
a	179.35	175.77	172.48	184.68	198.08	208.64	213.42	224.22	232.11	226.77	222.93	221.34
b	+300	-12600	-10700	+43700	+60100	+56900	+28300	+70100	+56100	-51200	-26200	-10500
c	1390	650	320	550	580	1290	2240	3650	5210	5660	5310	4070

CAL YR 1992 b -28700
WTR YR 1993 b +204300

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by East Bay Municipal Utility District; not reviewed by U.S. Geological Survey.

11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, CA

LOCATION.--Lat 38°13'14", long 121°02'19", in NW 1/4 NW 1/4 sec.7, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, on left bank 0.7 mi downstream from Murphy Creek, 1.0 mi downstream from Camanche Dam, and 3.4 mi northeast of Clements.

DRAINAGE AREA.--627 mi^2.

PERIOD OF RECORD.--October 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A and 1735. Prior to October 1961, published as "near Clements."
CHEMICAL DATA: Water years 1906-7, 1965-66. Published as "at Clements" in 1906-07.
WATER TEMPERATURE: Water years 1962-68, 1970-76.
SEDIMENT DATA: Water years 1956-70. Prior to 1962 water year, published as "near Clements."

REVISED RECORDS.--WSP 751: Drainage area. WSP 881: 1905-09 (yearly summaries only). WSP 1445: 1911, 1917(M), 1925(M).

GAGE.--Water-stage recorder. Datum of gage is 82.71 ft above sea level. See WSP 1930 for history of changes prior to Oct. 1, 1961.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Camanche Reservoir (station 11322300) 1 mi upstream beginning December 1963, Salt Springs Reservoir (station 11313500) beginning March 1931, Pardee Reservoir (station 11320000) beginning March 1929, and several small reservoirs. East Bay Municipal Utility District aqueducts, maximum capacity 511 ft^3/s with Pardee Reservoir full, are the largest of several diversions upstream from the station. See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft^3/s, Nov. 21, 1950, gage height, 24.40 ft, site and datum then in use; no flow on several days in 1924. Maximum discharge since construction of Camanche Dam in 1963, 6,060 ft^3/s, Feb. 19, 1986, gage height, 11.21 ft; minimum daily, 23 ft^3/s, Oct. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,470 ft^3/s, May 28, gage height, 5.58 ft; minimum daily, 104 ft^3/s, Oct. 22-25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	299	207	171	200	576	586	1220	1330	1320	1290	438
2	123	189	207	161	200	561	576	1210	1320	1320	1290	432
3	118	191	207	160	198	566	572	1220	1330	1320	1290	431
4	116	192	207	160	194	567	567	1220	1320	1310	1280	429
5	124	190	207	160	196	567	573	1230	1320	1310	1280	439
6	128	190	211	161	195	568	575	1220	1310	1320	1280	440
7	128	191	208	227	197	568	573	1230	1320	1320	1290	420
8	123	189	208	209	210	568	567	1230	1320	1320	1290	372
9	119	187	211	185	243	568	565	1230	1310	1310	1290	381
10	119	189	211	171	211	568	570	1280	1310	1310	1290	381
11	116	189	211	167	210	565	571	1250	1310	1300	1290	380
12	116	189	207	178	205	567	702	1270	1310	1300	1290	380
13	111	189	207	276	203	568	1180	1340	1310	1300	1290	384
14	105	190	207	193	196	575	1230	1340	1300	1300	1290	369
15	107	192	207	167	195	581	1230	1340	1310	1300	1290	360
16	115	192	176	188	197	579	1220	1350	1310	1310	1290	360
17	120	192	157	244	204	576	1230	1350	1310	1310	1290	356
18	121	192	159	219	222	575	1240	1340	1310	1320	1290	354
19	122	199	161	197	237	575	1240	1330	1320	1310	1300	355
20	113	207	161	212	225	571	1240	1310	1320	1310	1250	354
21	105	207	162	231	219	571	1230	1330	1320	1320	980	358
22	104	207	164	230	210	576	1220	1310	1320	1320	985	359
23	104	207	164	200	250	581	1220	1330	1320	1300	974	361
24	104	205	164	193	221	617	1230	1330	1320	1300	916	356
25	104	207	162	192	205	622	1230	1330	1320	1300	472	353
26	211	206	161	192	244	612	1230	1340	1320	1300	435	354
27	692	207	161	190	442	586	1230	1340	1320	1290	436	344
28	695	207	165	193	569	588	1230	1340	1320	1290	435	335
29	689	207	164	192	---	582	1220	1320	1320	1290	438	336
30	683	207	162	199	---	581	1210	1320	1320	1290	440	327
31	670	---	160	199	---	584	---	1330	---	1300	440	---
TOTAL	6526	6005	5726	6017	6498	17909	29057	40130	39500	40520	32691	11298
MEAN	211	200	185	194	232	578	969	1295	1317	1307	1055	377
MAX	695	299	211	276	569	622	1240	1350	1330	1320	1300	440
MIN	104	187	157	160	194	561	565	1210	1300	1290	435	327
AC-FT	12940	11910	11360	11930	12890	35520	57630	79600	78350	80370	64840	22410

11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, 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	450	543	710	745	883	913	1193	1608	1458	557	478	467
MAX	670	3188	4568	3529	2473	3155	3451	4217	3164	1194	691	678
(WY)	1939	1951	1951	1956	1938	1938	1938	1952	1952	1952	1962	1958
MIN	58.0	63.1	95.6	112	77.6	132	136	179	241	296	267	108
(WY)	1932	1932	1960	1962	1948	1931	1961	1961	1931	1961	1961	1931

SUMMARY STATISTICS	WATER YEARS 1931 - 1963	
ANNUAL MEAN	832	
HIGHEST ANNUAL MEAN	1669	1938
LOWEST ANNUAL MEAN	221	1961
HIGHEST DAILY MEAN	26900	Nov 21 1950
LOWEST DAILY MEAN	35	Apr 24 1955
ANNUAL SEVEN-DAY MINIMUM	49	Feb 12 1948
INSTANTANEOUS PEAK FLOW	28800	Nov 21 1950
INSTANTANEOUS PEAK STAGE	24.40	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	603000	
10 PERCENT EXCEEDS	1890	
50 PERCENT EXCEEDS	551	
90 PERCENT EXCEEDS	213	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	602	519	492	785	814	923	912	1019	934	745	635	561
MAX	2061	2157	2938	2680	2814	5117	3726	3889	3197	2788	1412	1377
(WY)	1966	1984	1984	1980	1983	1986	1983	1982	1983	1983	1983	1983
MIN	33.3	83.6	78.7	83.6	60.8	77.9	125	170	254	249	235	123
(WY)	1978	1989	1967	1967	1967	1989	1991	1988	1977	1991	1991	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1965 - 1993	
ANNUAL TOTAL	79829		241877			
ANNUAL MEAN	218		663		745	
ANNUAL MEAN a	205		988		790	
HIGHEST ANNUAL MEAN					2400	1983
LOWEST ANNUAL MEAN					172	1988
HIGHEST DAILY MEAN	695	Oct 28	1350	May 16	5750	Feb 18 1986
LOWEST DAILY MEAN	104	Oct 22	104	Oct 22	23	Oct 6 1977
ANNUAL SEVEN-DAY MINIMUM	108	Oct 19	108	Oct 19	28	Oct 14 1977
INSTANTANEOUS PEAK FLOW			1470	May 28	6060	Feb 19 1986
INSTANTANEOUS PEAK STAGE			5.58	May 28	11.21	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	158300		479800		539500	
ANNUAL RUNOFF (AC-FT) a	148720		715020		572400	
10 PERCENT EXCEEDS	291		1320		1720	
50 PERCENT EXCEEDS	202		561		454	
90 PERCENT EXCEEDS	122		161		104	

11325000 WOODBRIDGE CANAL AT WOODBRIDGE, CA

LOCATION.--Lat 38°09'07", long 121°18'00", in NE 1/4 SE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, at point of diversion from Woodbridge Reservoir.
PERIOD OF RECORD.--April 1926 to current year.
GAGE.--Water-stage recorder. Datum of gage is 32.18 ft above sea level (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mi downstream at different datum.
REMARKS.--Records good. Discharge computed from records of gate openings and effective head as shown by differential recorder. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram of Mokelumne River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 482 ft^3/s, July 8, 1953; no flow at times in each year. Lowest daily mean, -64 ft^3/s, May 4, 1938 (the water level in Woodbridge Reservoir was drawn down and water from the canal drained back into the reservoir. In order that the figures may represent the net diverted flow, the reverse flow was indicated by negative figures).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	118	155	146	287	241	202
2	.00	.00	.00	.00	.00	.00	104	152	151	e288	236	211
3	.00	.00	.00	.00	.00	.00	98	148	161	e281	237	216
4	.00	.00	.00	.00	.00	.00	98	146	167	e286	241	219
5	.00	.00	.00	.00	.00	.00	94	146	171	e278	241	219
6	.00	.00	.00	.00	.00	.00	86	145	168	e276	229	221
7	.00	.00	.00	.00	.00	.00	60	139	169	e282	234	227
8	.00	.00	.00	.00	.00	.00	91	140	174	e287	232	227
9	.00	.00	.00	.00	.00	.00	102	133	174	e296	240	227
10	.00	.00	.00	.00	.00	.00	102	135	178	e298	256	221
11	.00	.00	.00	.00	.00	.00	101	151	183	e298	253	220
12	.00	.00	.00	.00	.00	.00	106	162	185	e296	263	219
13	.00	.00	.00	.00	.00	.00	108	171	189	e296	273	220
14	.00	.00	.00	.00	.00	.00	113	171	207	294	269	224
15	.00	.00	.00	.00	.00	e11	114	171	236	295	252	224
16	.00	.00	.00	.00	.00	18	113	166	245	298	243	214
17	.00	.00	.00	.00	.00	20	108	167	280	294	241	206
18	.00	.00	.00	.00	.00	30	109	176	306	290	242	205
19	.00	.00	.00	.00	.00	33	109	177	310	284	246	202
20	.00	.00	.00	.00	.00	33	110	178	314	281	246	196
21	.00	.00	.00	.00	.00	33	111	178	316	251	247	196
22	.00	.00	.00	.00	.00	32	110	178	313	244	238	202
23	.00	.00	.00	.00	.00	31	116	167	309	250	225	202
24	.00	.00	.00	.00	.00	32	132	160	312	252	212	199
25	.00	.00	.00	.00	.00	57	136	158	308	251	214	199
26	.00	.00	.00	.00	.00	98	131	152	307	251	214	201
27	.00	.00	.00	.00	.00	110	129	150	295	262	206	194
28	.00	.00	.00	.00	.00	110	128	148	296	277	209	181
29	.00	.00	.00	.00	---	117	130	142	290	269	201	173
30	.00	.00	.00	.00	---	131	144	142	287	261	200	174
31	.00	---	.00	.00	---	132	---	144	---	248	197	---
TOTAL	0.00	0.00	0.00	0.00	0.00	1028.00	3311	4848	7147	8601	7278	6241
MEAN	.000	.000	.000	.000	.000	33.2	110	156	238	277	235	208
MAX	.00	.00	.00	.00	.00	132	144	178	316	298	273	227
MIN	.00	.00	.00	.00	.00	.00	60	133	146	244	197	173
AC-FT	.00	.00	.00	.00	.00	2040	6570	9620	14180	17060	14440	12380

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1993, BY WATER YEAR (WY)

MEAN	108	26.1	5.00	.25	.20	23.5	117	214	265	276	258	185
MAX	218	137	83.5	5.95	5.55	158	295	376	401	412	378	294
(WY)	1955	1959	1959	1931	1931	1953	1953	1950	1950	1953	1953	1948
MIN	.000	-.14	.000	.000	.000	.000	.000	76.5	95.9	63.0	66.8	5.37
(WY)	1978	1939	1927	1927	1927	1927	1927	1977	1926	1926	1926	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1926 - 1993	
ANNUAL TOTAL	19629.00		38454.00			
ANNUAL MEAN	53.6		105		125	
HIGHEST ANNUAL MEAN					206	1953
LOWEST ANNUAL MEAN					49.2	1928
HIGHEST DAILY MEAN	179	Jun 16	316	Jun 21	482	Jul 8 1953
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	-64	May 4 1938
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	-6.3	Oct 31 1938
ANNUAL RUNOFF (AC-FT)	38930		76270		90200	
10 PERCENT EXCEEDS	155		271		316	
50 PERCENT EXCEEDS	.00		98		101	
90 PERCENT EXCEEDS	.00		.00		.00	

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 38°09'31", long 121°18'09", in NW 1/4 NE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, 0.4 mi downstream from County Highway Bridge, and 0.5 mi downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year (low-flow records only 1924-25).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft above sea level (levels by East Bay Municipal Utility District). See WSP 2130 for history of changes prior to July 26, 1968.

REMARKS.--No estimated daily discharges. Records good. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam (station 11323500). Between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (station 11325000). See schematic diagram of Mokelumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft^3/s, Nov. 22, 1950, gage height, 29.58 ft, from rating curve extended above 6,200 ft^3/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.23 ft^3/s, Nov. 15, 1977. Maximum discharge since construction of Camanche Dam in 1963, 5,340 ft^3/s, Mar. 8, 1986, gage height, 23.19 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,140 ft^3/s, May 31, gage height, 11.68 ft; minimum daily, 32 ft^3/s, Oct. 1-25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	550	144	134	145	309	414	901	1070	876	899	158
2	32	266	146	125	144	269	427	903	1070	874	903	155
3	32	169	153	111	143	399	437	909	1040	864	887	136
4	32	154	145	107	142	449	437	929	1050	871	866	134
5	32	148	144	107	147	488	435	929	1060	889	866	132
6	32	143	162	114	141	464	443	930	1060	895	891	138
7	32	139	164	172	141	471	463	929	1070	899	893	138
8	32	138	152	200	196	464	458	935	1060	893	897	115
9	32	136	194	166	199	475	435	935	1040	887	899	97
10	32	135	174	140	188	479	434	954	1030	886	885	94
11	32	135	175	123	167	483	434	1030	1010	884	899	92
12	33	134	154	131	153	484	443	904	1000	883	898	90
13	33	133	150	218	148	490	675	969	991	863	888	90
14	33	133	150	252	146	496	912	999	967	873	916	90
15	32	133	149	163	145	496	931	1000	912	873	938	90
16	32	134	149	135	144	456	930	1020	916	873	940	88
17	32	132	132	176	152	504	947	1030	860	876	931	88
18	32	133	112	219	165	475	964	997	844	884	932	86
19	32	140	109	175	223	472	980	979	822	897	932	84
20	32	141	110	179	216	474	987	960	859	904	935	83
21	33	143	109	205	197	471	982	962	849	945	769	83
22	33	145	108	217	179	478	975	965	881	937	667	82
23	33	145	108	183	214	509	960	969	846	940	671	82
24	32	147	109	156	247	534	953	1010	847	918	646	81
25	32	146	109	148	190	533	950	1070	855	926	413	81
26	361	146	107	146	187	472	956	1050	853	932	192	79
27	373	146	108	143	230	446	955	1060	852	918	164	77
28	512	143	137	142	382	431	951	1060	867	881	157	77
29	588	141	137	143	---	417	945	1050	896	887	151	77
30	598	145	119	142	---	398	901	1040	892	910	158	75
31	598	---	112	145	---	398	---	1100	---	896	158	---
TOTAL	3836	4773	4231	4917	5071	14184	22114	30478	28369	27734	22241	2972
MEAN	124	159	136	159	181	458	737	983	946	895	717	99.1
MAX	598	550	194	252	382	534	987	1100	1070	945	940	158
MIN	32	132	107	107	141	269	414	901	822	863	151	75
AC-FT	7610	9470	8390	9750	10060	28130	43860	60450	56270	55010	44120	5890

11325500 MOKELUMNE RIVER AT WOODBRIDGE, 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	277	469	655	713	870	848	989	1282	1121	200	133	198
MAX	571	2529	4283	3435	2341	3032	3278	3990	2958	728	309	400
(WY)	1939	1951	1951	1956	1938	1938	1938	1952	1952	1952	1931	1958
MIN	3.76	13.6	29.4	56.6	45.0	34.5	7.02	11.3	11.3	17.1	17.2	10.0
(WY)	1932	1932	1960	1962	1948	1961	1931	1931	1931	1955	1955	1931

SUMMARY STATISTICS	WATER YEARS 1931 - 1963		
ANNUAL MEAN	644		
HIGHEST ANNUAL MEAN	1507		1938
LOWEST ANNUAL MEAN	62.2		1960
HIGHEST DAILY MEAN	19600	Dec 9	1950
LOWEST DAILY MEAN	2.4	Oct 2	1931
ANNUAL SEVEN-DAY MINIMUM	2.4	Oct 2	1931
INSTANTANEOUS PEAK FLOW	27000	Nov 22	1950
INSTANTANEOUS PEAK STAGE	29.58	Nov 22	1950
ANNUAL RUNOFF (AC-FT)	466700		
10 PERCENT EXCEEDS	1680		
50 PERCENT EXCEEDS	346		
90 PERCENT EXCEEDS	28		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	457	469	427	719	742	800	707	685	540	335	255	304
MAX	1716	1979	2825	2448	2698	4711	3641	3522	2736	2372	982	1067
(WY)	1966	1984	1984	1980	1970	1986	1983	1982	1983	1983	1983	1983
MIN	2.12	23.3	38.5	33.1	20.2	9.34	9.02	8.66	8.34	9.24	6.58	5.13
(WY)	1978	1978	1990	1977	1977	1989	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1965 - 1993		
ANNUAL TOTAL	33546		170920				
ANNUAL MEAN	91.7		468		535		
HIGHEST ANNUAL MEAN					2170		1983
LOWEST ANNUAL MEAN					21.8		1977
HIGHEST DAILY MEAN	598	Oct 30	1100	May 31	5240	Mar 8	1986
LOWEST DAILY MEAN	24	Apr 21	32	Oct 1	.23	Nov 15	1977
ANNUAL SEVEN-DAY MINIMUM	27	Apr 26	32	Oct 1	.24	Nov 12	1977
INSTANTANEOUS PEAK FLOW			1140	May 31	5340	Mar 8	1986
INSTANTANEOUS PEAK STAGE			11.68	May 31	23.19	Mar 8	1986
ANNUAL RUNOFF (AC-FT)	66540		339000		387900		
10 PERCENT EXCEEDS	150		964		1520		
50 PERCENT EXCEEDS	44		373		175		
90 PERCENT EXCEEDS	31		84		24		

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951 to current year.
BIOLOGICAL DATA: Water years 1975-81.
SPECIFIC CONDUCTANCE: Water years 1952-58, 1975-77.
WATER TEMPERATURE: Water years 1951-58, 1961-1986.
SEDIMENT DATA: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL DATA: March 1951 to September 1958.
SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1974 to September 1977.
WATER TEMPERATURE: March 1951 to September 1958, November 1960 to September 1986.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (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												
17...	1030	135	56	7.2	9.5	4.2	759	11.2	98	43	340	18
MAR												
18...	1130	475	58	7.0	11.5	3.9	767	11.3	103	93	69	20
31...	0930	397	60	6.9	12.0	--	765	10.4	96	--	--	--
JUN												
23...	1310	842	52	6.7	15.0	0.60	760	9.6	95	30	K20	18
AUG												
24...	1745	640	42	7.2	19.0	--	755	9.2	100	--	--	--
SEP												
16...	1145	88	45	6.9	17.0	32	760	9.7	100	150	80	14

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 WH IT FIELD MG/L AS HCO3	BICAR-BONATE WATER DIS 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	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3
DEC												
17...	0	4.5	1.7	3.3	27	0.3	1.0	--	24	--	--	--
MAR												
18...	0	5.2	1.6	3.5	27	0.3	1.0	--	24	--	--	19
31...	--	--	--	--	--	--	--	25	--	0	20	--
JUN												
23...	0	4.7	1.5	2.8	24	0.3	0.90	--	22	--	--	18
AUG												
24...	--	--	--	--	--	--	--	21	--	0	17	--
SEP												
16...	0	3.7	1.2	2.4	25	0.3	1.0	--	19	--	--	16

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC											
17...	2.9	3.3	<0.10	7.4	36	37	0.05	0.020	0.020	0.130	0.130
MAR											
18...	3.6	3.4	<0.10	11	--	42	0.08	--	<0.010	--	0.140
31...	--	--	--	--	--	--	--	--	0.020	--	0.150
JUN											
23...	2.2	2.7	<0.10	11	38	37	0.05	--	<0.010	--	0.082
AUG											
24...	--	--	--	--	--	--	--	--	<0.010	--	0.061
SEP											
16...	1.8	1.9	0.10	9.5	35	31	0.05	--	<0.010	--	0.069

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

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

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)
DEC											
17...	0.030	0.030	0.40	--	0.050	0.040	0.010	0.020	<10	24	<3
MAR											
18...	--	0.020	<0.20	--	0.020	0.020	--	<0.010	20	20	<3
31...	--	0.030	<0.20	<0.20	0.020	0.010	--	0.020	--	--	--
JUN											
23...	--	0.010	<0.20	--	0.010	0.020	--	0.010	<10	17	<3
AUG											
24...	--	0.020	<0.20	<0.20	0.020	0.010	--	<0.010	--	--	--
SEP											
16...	--	0.020	<0.20	--	<0.010	<0.010	--	0.020	<10	15	<3

DATE	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
DEC											
17...	21	<4	7	<10	<1	<1	<1.0	56	<6	--	--
MAR											
18...	30	<4	6	<10	<1	<1	<1.0	52	<6	--	--
31...	--	--	--	--	--	--	--	--	--	2.9	0.3
JUN											
23...	27	5	10	<10	<1	<1	<1.0	49	<6	--	--
AUG											
24...	--	--	--	--	--	--	--	--	--	--	--
SEP											
16...	31	<4	6	<10	<1	<1	<1.0	41	<6	--	--

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

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)
MAR										
18...*	1124	3.60	16.0	59	7.4	11.5	767	11.2	102	--
18...*	1126	5.20	28.0	58	7.2	11.5	767	11.2	102	--
18...*	1129	5.20	37.0	59	7.1	11.5	767	11.3	103	--
18...*	1132	5.10	46.0	60	7.2	12.0	767	11.4	105	--
18...*	1135	4.80	56.0	59	7.0	12.0	767	11.5	106	--
SEP										
16...*	1140	1.30	6.20	45	7.3	17.0	760	9.6	99	5
16...*	1143	1.60	12.8	45	7.4	17.0	760	9.6	99	6
16...*	1146	1.70	19.7	45	7.5	17.0	760	9.6	99	5
16...*	1149	1.90	26.1	45	7.4	17.0	760	9.6	99	4
16...*	1151	1.50	33.4	45	7.4	17.0	760	9.6	99	3

* Instantaneous streamflow at time of cross-sectional measurements: Mar. 18 475 ft^3/s; Sept. 16, 88 ft^3/s.

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC						
17...	1030	135	9.5	9	3.3	93
MAR						
31...	0930	397	12.0	31	33	--
JUN						
23...	1310	842	15.0	6	14	89
AUG						
24...	1745	640	19.0	7	12	--
SEP						
16...	1145	88	17.0	6	1.4	98

11333000 CAMP CREEK NEAR SOMERSET, CA

LOCATION.--Lat 38°39'26", long 120°39'46", in SW 1/4 SW 1/4 sec.4, T.9 N., R.12 E., El Dorado County, Hydrologic Unit 18040013, on right bank 0.2 mi upstream from mouth, 1.3 mi northeast of Somerset, and 5.6 mi south of Camino.

DRAINAGE AREA.--62.6 mi^2.

PERIOD OF RECORD.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,820 ft above sea level, from topographic map. Feb. 1 to May 31, 1924, nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. Water is released from Jenkinson Lake through Camino Conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American River basins. Seepage from North Fork Extension Ditch siphon could constitute a major part or all the flow at low stages. Some water is released from Jenkinson Lake for irrigation downstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,680 ft^3/s, Feb. 16, 1982, gage height, 14.50 ft, from rating curve extended above 5,000 ft^3/s; no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 938 ft^3/s, Apr. 17, gage height, 6.59 ft; minimum daily, 1.20 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	10	3.6	23	15	150	478	242	149	8.4	8.7	4.4
2	1.3	4.9	3.3	20	14	142	391	257	127	23	8.2	4.5
3	1.3	4.6	3.7	12	13	155	340	248	98	21	8.1	4.4
4	1.6	4.4	3.7	9.5	13	166	348	238	86	18	7.9	4.3
5	1.6	4.3	3.6	9.1	13	173	325	219	93	18	7.8	4.3
6	1.4	4.1	3.8	9.9	13	185	304	186	78	17	7.5	4.3
7	1.4	3.9	13	63	12	205	321	164	92	16	7.3	4.3
8	1.4	3.8	8.2	56	16	224	306	150	86	15	7.1	4.3
9	1.4	3.6	52	44	37	237	578	142	78	15	6.8	4.3
10	1.4	3.4	20	26	27	247	714	128	70	14	6.6	4.3
11	1.4	3.4	31	18	37	250	596	123	66	13	5.9	4.2
12	1.4	3.4	11	16	34	250	482	123	58	13	5.5	4.1
13	1.4	3.4	6.0	65	28	254	421	123	50	12	5.6	4.1
14	1.4	3.4	4.8	72	29	296	382	88	41	12	5.5	4.1
15	1.5	3.4	5.1	46	70	321	393	82	35	11	5.4	4.1
16	1.5	3.4	4.8	47	111	306	680	81	30	11	5.4	4.2
17	1.5	3.4	5.5	67	140	586	834	82	22	11	4.0	4.4
18	1.5	3.4	5.7	108	158	713	758	83	15	10	3.8	4.5
19	1.5	3.4	4.5	51	299	593	646	81	11	10	3.8	4.6
20	1.6	3.5	4.7	79	462	480	559	80	8.1	12	4.0	4.6
21	2.2	3.6	4.6	273	339	420	470	82	7.5	12	4.9	4.3
22	2.4	4.4	4.6	299	276	382	409	78	7.2	12	4.8	4.1
23	2.8	4.6	4.3	65	318	396	366	72	7.2	12	4.7	4.1
24	2.4	4.3	4.3	43	346	684	481	68	7.1	12	4.6	4.1
25	2.3	4.2	4.3	32	251	835	395	96	7.4	11	4.8	3.8
26	2.2	3.8	4.2	25	214	752	343	110	7.9	11	4.7	3.6
27	2.3	3.8	4.0	21	185	641	351	98	6.4	10	4.7	3.6
28	2.1	3.8	11	18	164	554	327	79	6.3	10	4.6	3.6
29	4.5	3.8	42	15	---	466	287	61	6.2	9.8	4.5	3.6
30	15	3.6	22	13	---	405	258	44	6.1	9.5	4.4	3.6
31	20	---	14	14	---	365	---	110	---	9.2	4.4	---
TOTAL	86.9	121.0	317.3	1659.5	3634	11833	13543	3818	1362.4	398.9	176.0	124.7
MEAN	2.80	4.03	10.2	53.5	130	382	451	123	45.4	12.9	5.68	4.16
MAX	20	10	52	299	462	835	834	257	149	23	8.7	4.6
MIN	1.2	3.4	3.3	9.1	12	142	258	44	6.1	8.4	3.8	3.6
AC-FT	172	240	629	3290	7210	23470	26860	7570	2700	791	349	247
a	-2483	-1250	+929	+11825	+3627	+220	-421	+45	-1200	-4646	-4734	-3916
b	2371	1081	948	911	658	737	773	2232	2899	4843	4649	3929
c	124	25	11	8	16	69	102	164	203	261	227	168

a Change in contents, in acre-feet, in Jenkinson Lake.
b Diversion, in acre-feet, from Jenkinson Lake provided by U.S. Bureau of Reclamation.
c Evaporation, in acre-feet, from Jenkinson Lake provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

11333000 CAMP CREEK NEAR SOMERSET, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.14	8.75	44.7	76.7	106	121	147	101	23.0	10.9	6.91	5.17
MAX	32.9	71.3	469	456	820	745	621	452	156	34.7	23.7	17.2
(WY)	1983	1984	1984	1970	1986	1983	1982	1967	1967	1967	1972	1982
MIN	.71	1.62	2.01	2.82	2.43	2.84	1.59	2.42	.57	.51	.12	.67
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1955 - 1993		
ANNUAL TOTAL	2102.51		37074.7				
ANNUAL MEAN	5.74		102		54.5		
ANNUAL MEAN a	25.7		137		82.4		
HIGHEST ANNUAL MEAN					215		1983
LOWEST ANNUAL MEAN					1.89		1977
HIGHEST DAILY MEAN	52	Dec 9	835	Mar 25	5640	Feb 19	1986
LOWEST DAILY MEAN	.90	Aug 23	1.2	Oct 1	.00	Aug 7	1977
ANNUAL SEVEN-DAY MINIMUM	.94	Aug 17	1.4	Oct 1	.00	Aug 7	1977
INSTANTANEOUS PEAK FLOW			938	Apr 17	8680	Feb 16	1982
INSTANTANEOUS PEAK STAGE			6.59	Apr 17	14.50	Feb 16	1982
ANNUAL RUNOFF (AC-FT)	4170		73540		39500		
ANNUAL RUNOFF (AC-FT) a	18680		98950		59700		
10 PERCENT EXCEEDS	11		349		156		
50 PERCENT EXCEEDS	4.0		13		7.6		
90 PERCENT EXCEEDS	1.2		3.4		2.8		

a Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA

LOCATION.--Lat 38°30'01", long 121°02'39", in NW 1/4 SE 1/4 sec.36, T.8 N., R.8 E., Sacramento County, Hydrologic Unit 18040013, on downstream side of midstream pier of county bridge at Michigan Bar, 5.5 mi southwest of Latrobe, and 12 mi downstream from confluence of north and middle Forks of Cosumnes River.

DRAINAGE AREA.--536 mi^2.

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1953-80.
WATER TEMPERATURE: Water years 1963-79.
SEDIMENT DATA: Water years 1958-74.
REVISED RECORDS.--WSP 331: 1911-12. WSP 1315-A: 1908-9, 1911(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 168.09 ft above sea level. Prior to July 10, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods with flows below 5 ft^3/s, which are poor. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. See REMARKS for Camp Creek near Somerset (station 11333000) for diversion out of basin. Numerous small diversions upstream from station for irrigation and domestic use.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,100 ft^3/s, Feb. 17, 1986, gage height, 14.76 ft, from rating curve extended above 34,000 ft^3/s on basis of area-velocity study of peak flow; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907 reached a stage of 16.3 ft, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 21	0345	*9,570	*8.17	Mar. 25	1530	8,440	7.91
Feb. 24	0245	6,170	7.33				

No flow for many days in October.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	91	18	963	574	1130	3120	925	917	109	33	12
2	.00	53	18	941	532	1030	2290	800	652	103	30	12
3	.00	36	19	388	497	985	1920	838	541	104	29	12
4	.00	27	19	257	468	953	1850	975	477	101	27	11
5	.00	24	19	203	463	920	1790	880	546	97	26	10
6	.00	21	22	191	518	919	1580	813	543	95	27	11
7	.00	20	32	1780	506	957	1430	773	565	89	26	11
8	.00	18	89	2570	828	1020	1330	730	562	84	25	11
9	.00	17	309	1420	2860	1070	1370	699	494	79	25	10
10	.00	15	696	944	1610	1110	1340	696	454	76	25	10
11	.00	14	804	691	1640	1120	1250	724	438	72	24	9.6
12	.00	14	418	548	1340	1110	1170	740	416	69	23	8.7
13	.00	14	215	3900	1050	1110	1090	650	386	66	23	8.7
14	.00	14	144	3450	903	1220	1020	571	362	63	22	8.8
15	.00	14	112	2030	817	1390	974	556	336	59	22	8.9
16	.00	14	94	1940	782	1310	974	543	313	57	23	8.6
17	.00	14	85	1940	866	2210	943	556	288	54	22	9.4
18	.00	14	94	3770	1250	2990	1070	572	266	53	22	9.5
19	.00	14	84	1700	3510	2370	978	579	249	52	21	9.9
20	.00	14	69	2410	4540	1940	914	583	232	50	21	9.9
21	.00	15	69	7100	3030	1720	900	575	218	49	19	11
22	.00	16	67	6600	2170	1610	920	536	206	48	18	13
23	.00	17	60	3220	3510	1860	939	501	190	48	18	12
24	e.50	19	57	2030	4560	5110	949	496	175	45	17	12
25	12	22	54	1490	2290	5980	872	592	161	44	16	11
26	10	22	53	1190	1970	5010	838	752	150	46	15	11
27	9.3	20	52	1000	1590	3620	824	607	140	44	15	11
28	8.5	18	159	868	1300	3280	829	519	131	40	14	11
29	9.8	17	986	771	---	2540	842	446	125	38	13	10
30	12	17	772	691	---	2140	894	404	117	38	13	9.5
31	68	---	368	624	---	1890	---	497	---	35	13	---
TOTAL	130.10	645	6057	57620	45974	61624	37210	20128	10650	2007	667	313.5
MEAN	4.20	21.5	195	1859	1642	1988	1240	649	355	64.7	21.5	10.4
MAX	68	91	986	7100	4560	5980	3120	975	917	109	33	13
MIN	.00	14	18	191	463	919	824	404	117	35	13	8.6
AC-FT	258	1280	12010	114300	91190	122200	73810	39920	21120	3980	1320	622

e Estimated.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.2	144	429	872	1153	1164	1064	669	245	57.0	19.1	13.7
MAX	335	2493	3380	4181	6610	5255	3992	2218	1067	346	114	82.0
(WY)	1963	1951	1965	1911	1986	1983	1982	1983	1983	1983	1983	1983
MIN	.000	7.90	18.3	21.4	35.9	43.5	33.7	48.5	4.42	.096	.000	.000
(WY)	1978	1930	1977	1991	1991	1977	1977	1977	1924	1977	1908	1924

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1908 - 1993		
ANNUAL TOTAL	57208.39		243025.60				
ANNUAL MEAN	156		666		485		
HIGHEST ANNUAL MEAN					1687		1983
LOWEST ANNUAL MEAN					21.8		1977
HIGHEST DAILY MEAN	3010	Feb 15	7100	Jan 21	34400	Feb 17	1986
LOWEST DAILY MEAN	.00	Aug 14	.00	Oct 1	.00	Jul 25	1908
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 14	.00	Oct 1	.00	Jul 25	1908
INSTANTANEOUS PEAK FLOW			9570	Jan 21	45100	Feb 17	1986
INSTANTANEOUS PEAK STAGE			8.17	Jan 21	14.76	Feb 17	1986
ANNUAL RUNOFF (AC-FT)	113500		482000		351300		
10 PERCENT EXCEEDS	460		1870		1250		
50 PERCENT EXCEEDS	29		175		100		
90 PERCENT EXCEEDS	.00		9.9		6.5		

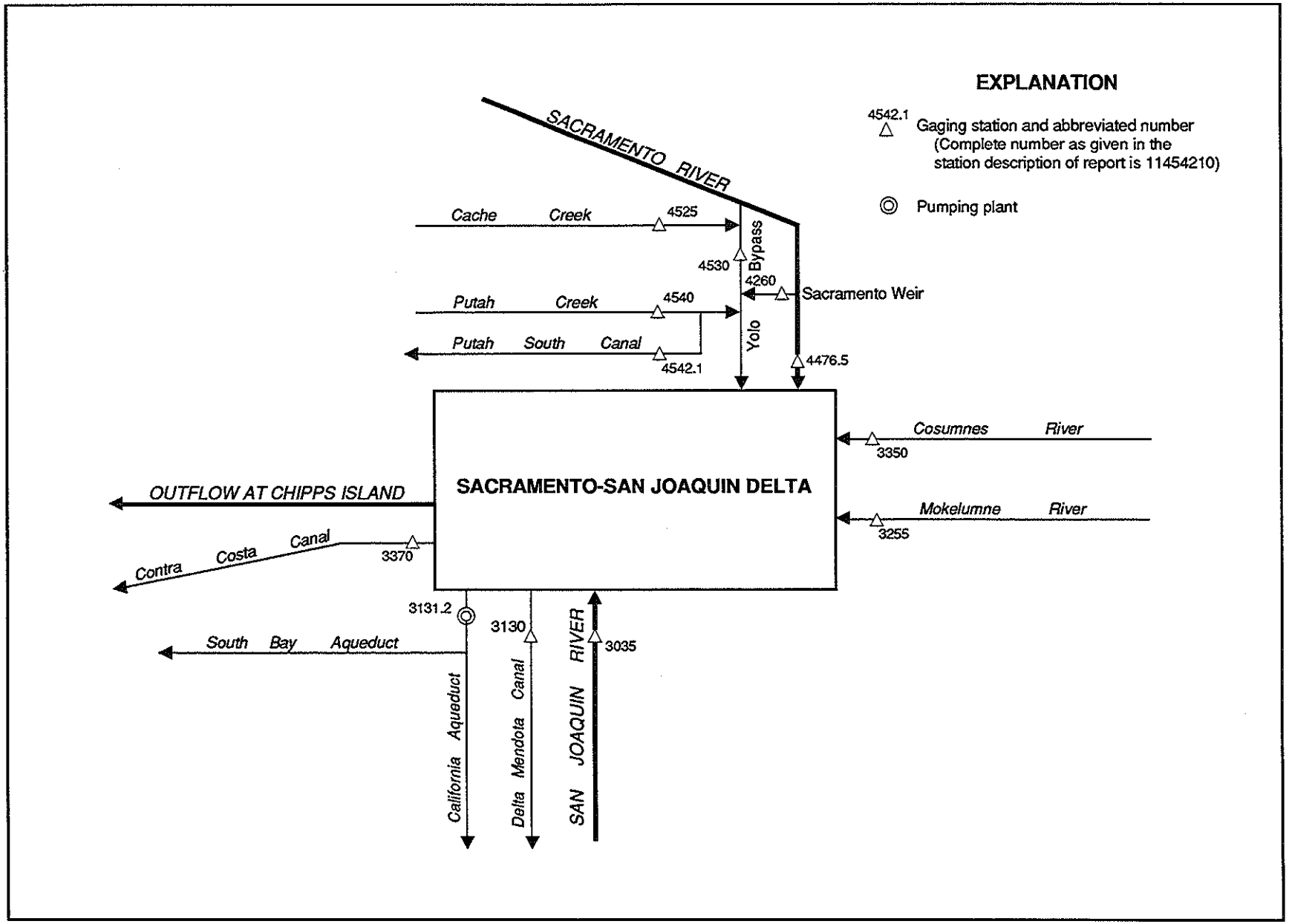

Figure 36. Principal inflows and diversions, Sacramento-San Joaquin Delta.

SACRAMENTO-SAN JOAQUIN DELTA, INFLOWS AND DIVERSIONS

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971 can be obtained from published records for stations tabulated below.

REMARKS.--Minor inflow streams and diversions are not included. Total for water year may not equal the sum of the individual months because of rounding.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals provided by U.S. Bureau of Reclamation; records for California Aqueduct and Sacramento Weir spill provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Inflows, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water year
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
52.18	56.87	60.35	253.3	168.6	166.2	203.5	222.0	139.3	92.83	122.9	164.9	1703
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
7.61	9.47	8.39	9.75	10.06	28.13	43.86	60.45	56.27	55.01	44.12	5.89	339.0
11335000 COSUMNES RIVER AT MICHIGAN BAR												
.26	1.28	12.01	114.3	91.19	122.2	73.81	39.92	21.12	3.98	1.32	.62	482.0
11426000 SACRAMENTO WEIR SPILL												
0	0	0	1.93	1.12	4.88	.72	0	0	0	0	0	8.65
11447650 SACRAMENTO RIVER AT FREEPORT												
408.6	379.6	764.9	2968	2699	3034	2571	1534	1813	1221	1296	941.8	19630
11453000 YOLO BYPASS NEAR WOODLAND[1]												
0	0	0	518.8	391.3	798.6	151.0	0	2.16	0	0	0	1862
11454000 PUTAH CREEK NEAR WINTERS												
11.01	3.80	3.21	6.64	4.37	3.54	10.39	28.35	27.72	37.09	29.76	21.68	187.6
TOTAL												
479.7	451.0	848.9	3873	3366	4158	3054	1885	2060	1410	1494	1135	24210

Diversions, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water year
11313000 DELTA-MENDOTA CANAL												
59.50	76.04	74.92	246.3	223.5	250.9	171.5	93.67	118.4	264.6	268.2	260.6	2108
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
42.67	66.77	170.1	464.8	283.7	119.5	160.9	105.3	120.5	257.1	381.8	381.0	2554
11337000 CONTRA COSTA CANAL												
9.74	6.78	6.58	4.27	4.09	4.08	5.59	8.78	10.25	12.36	12.23	11.02	95.77
11454210 PUTAH SOUTH CANAL												
9.03	2.34	1.60	1.73	1.50	2.45	9.37	29.41	26.94	35.06	28.39	20.85	168.7
TOTAL												
120.9	151.9	253.2	717.1	512.8	376.9	347.4	237.2	276.1	569.1	690.6	673.5	4927

[1]Flow not computed below 1,000 ft^3/s.

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 flood-flow 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.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1993

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Date	Annual maximum: Gage height (feet)	Annual maximum: Discharge (ft^3/s)
		Tulare Lake basin					
11205680	Frazier Creek near Strathmore, CA	Lat 36°08'33", long 118°57'17", in NE 1/4 SE 1/4 sec.32, T.20 S., R.28 E., Tulare County, Hydrologic Unit 18030012, at culvert on county road J28, 5.9 mi east of Strathmore.	3.05	1974-93	01-07-93	8.67	68
11205690	Lewis Creek near Lindsay, CA	Lat 36°11'11", long 118°59'46", in NW 1/4 NE 1/4 sec.13, T.20 S., R.27 E., Tulare County, Hydrologic Unit 18030012, at culvert on Road 258, 0.2 mi downstream from unnamed tributary, and 7.0 mi southeast of Lindsay.	21.5	1969a, 1974-93	01-07-93	24.78	631
11212000	Sand Creek near Orange Cove, CA	Lat 36°37'36", long 119°14'48", in SW 1/4 NW 1/4 sec.15, T.15 S., R.25 E., Tulare County, Hydrologic Unit 18030012, on right bank 3.8 mi east of Orange Cove.	31.6	1944-54, 1956d, 1967d, 1969d, 1971-84d, 1985-93	01-14-93	5.05	557

a Published as a miscellaneous measurement.
d Computed as continuous record.

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements: Date	Gage height (feet)	Discharge (ft^3/s)
	Buena Vista Lake basin					
11187500 Borel Canal below Isabella Dam, CA	Lat 35°38'32", long 118°28'09", in SW 1/4 NE 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank, 500 ft downstream from Isabella Dam and 3 mi upstream from point where canal crosses Erskine Creek.	--	1910-14a, 1925-90a 1993	10-07-92	4.80	97.4
				11-13-92	5.35	168
				12-10-92	5.62	200
				01-27-93	--	310
				02-16-93	6.96	388
				03-16-93	8.31	604
				04-30-93	8.32	604
				07-12-93	8.30	578
				07-26-93	8.32	576
11191000 Kern River below Isabella Dam, CA	Lat 35°38'21", long 118°29'02", in SW 1/4 NW 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 200 ft downstream from highway bridge, 0.6 mi downstream from Isabella Dam, and 1.6 mi southwest of town of Lake Isabella.	2,074	1945-90a 1993	10-07-92	3.46	20.3
				11-13-92	3.50	19.3
				12-09-92	3.51	19.8
				01-12-93	3.06	4.26
				02-12-93	3.02	3.74
				03-16-93	5.36	198
				04-29-93	5.13	167
				06-15-93	8.22	1,320
				07-06-93	7.86	1,020
				07-27-93	7.09	669
	Tulare Lake basin					
11204680 Pioneer Ditch below Success Dam, CA	Lat 36°03'34", long 118°55'22", in SW 1/4 NW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.1 mi downstream from Success Dam and 5.5 mi east of Porterville.	--	1952-90a 1993	10-06-92	.57	8.08
				11-18-92	.39	4.45
				01-13-93	.07	0.45
				04-06-93	--	(b).
				05-13-93	.95	18.9
				06-15-93	.80	13.2
				07-12-93	.83	14.4
				08-25-93	.96	17.1
11204900 Tule River below Success Dam, CA	Lat 36°03'23", long 118°55'22", in NW 1/4 SW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from Success Dam and 5 mi east of Porterville.	393	1953-90a 1993	10-07-92	2.73	25.9
				11-19-92	2.50	20.2
				01-14-93	5.94	531
				04-06-93	4.84	180
				05-14-93	4.94	225
				06-15-93	4.00	90.3
				07-13-93	3.92	90.3
				08-25-93	4.82	188
11210850 Lemoncove Ditch below Terminus Dam, CA	Lat 36°24'55", long 119°00'22", in SW 1/4 SW 1/4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, on right bank 75 ft downstream from outlet tunnel of Terminus Dam and 2.4 mi northeast of Lemoncove.	--	1963-90a 1993	10-08-92	1.51	5.76
				11-23-92	1.35	3.37
				01-27-93	.61	(b).
				04-07-93	--	(b).
				05-14-93	1.57	7.45
				06-09-93	1.33	2.88
				07-08-93	1.52	6.01
				08-24-93	1.49	6.02
11210930 Foothill Ditch below Terminus Dam, CA	Lat 36°24'48", long 119°00'47", in NW 1/4 NW 1/4 sec.35, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.7 mi downstream from Terminus Dam and 2.1 mi northeast of Lemoncove.	--	1962-90a 1993	10-08-92	.78	12.2
				11-23-92	.64	8.90
				01-27-93	.64	8.86
				04-07-93	.58	8.39
				05-17-93	.91	15.5
				06-09-93	.90	14.8
				07-09-93	1.00	12.2
11210950 Kaweah River below Terminus Dam, CA	Lat 36°24'51", long 119°00'42", in SE 1/4 SE 1/4 sec.26, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi downstream from Terminus Dam and 2.2 mi northeast of Lemoncove.	561	1962-90a 1993	10-08-92	1.19	63.5
				11-23-92	.48	12.4
				01-27-93	.82	31.5
				04-07-93	1.28	75.9
				05-18-93	5.78	1,660
				06-09-93	5.66	1,590
				07-09-93	6.48	2,290
				08-24-93	2.06	149

a Operated as a continuous-record gaging station.
b No flow.

Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at miscellaneous sites during water year 1993

Stream	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements: Date	Gage height (feet)	Discharge (ft^3/s)
			San Joaquin River basin			
11259000 Chowchilla River below Buchanan Dam near Raymond, CA	Lat 37°12'56", long 119°59'25", in SE 1/4 SW 1/4 sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on left bank 1,800 ft downstream from Buchanan Dam and 4.6 mi west of Raymond.	236	1922-23a, 1931-72a, 1976-90a	1-06-93	--	(b)
				3-15-93	1.26	0.11
				4-27-93	1.17	0.11
				6-16-93	4.12	89.4
				7-12-93	4.35	127
				8-16-93	3.29	45.6
11308900 Calaveras River below New Hogan Dam near Valley Springs, CA	Lat 38°08'53", long 120°49'26", in NW 1/4 NE 1/4 sec.1, T.3 N., R.10 E., Calaveras County, Hydrologic Unit 18040011, on right bank at county road bridge, 0.5 mi upstream from Cosgrove Creek, 0.8 mi downstream from New Hogan Dam, and 3.0 mi south of Valley Springs.	363	1961-90a 1991-93	10-07-92	1.14	56.5
				11-09-92	1.10	52.5
				12-16-92	1.06	47.4
				2-01-93	.68	11.0
				3-22-93	.91	32.2
				4-12-93	.98	37.7
				5-07-93	1.51	172
				6-11-93	1.63	202
				7-21-93	1.73	231
				8-19-93	1.83	287
				9-15-93	1.65	221

a Operated as a continuous-record gaging station.
b No flow.

Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at miscellaneous sites during water year 1993

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		Pyramid and Winnemucca Lakes basin				
10338700 Donner Creek at Highway 89 near Truckee, CA	Truckee River	Lat 39°19'16", long 120°12'25", in NE 1/4 SW 1/4 sec.16, T.17 N, R.16 E., Nevada County, Hydrologic Unit 16050102, 0.5 mi upstream from mouth, and 1.4 mi southwest of Truckee.	29.1	--	10-02-92	17.3
					11-02-92	11.0
					12-01-92	5.84
					03-23-93	262
10339400 Martis Creek near Truckee, CA	Truckee River	Lat 39°19'44", long 120°07'00", in NE 1/4 NW 1/4 sec.17, T.17 N, R.17 E., Nevada County, Hydrologic Unit 16050102, 0.2 mi downstream from Martis Creek Lake Dam, 1.8 mi upstream from mouth, and 3.5 mi east of Truckee.	39.9	1959-92	10-01-92	3.02
					11-02-92	5.84
					11-12-92	3.74
					01-05-93	6.06
					02-01-93	14.0
					03-01-93	11.3
					04-01-93	156
					04-08-93	94.6
					05-04-93	137
					06-11-93	25.3
10339419 Truckee River above Prosser Creek, near Truckee, CA	Pyramid Lake	Lat 39°22'07", long 120°06'50", in SE 1/4 NW 1/4 sec.32, T.18 N, R.17 E., Nevada County, Hydrologic Unit 16050102, 0.2 mi upstream from Prosser Creek, and 4.5 mi northeast of Truckee.	644	--	11-03-92	68.3
					12-01-92	29.8
					03-22-93	818
					05-05-93	880
					06-18-93	658
					08-31-93	45.4
					09-28-93	116
10341950 Little Truckee River below Diversion Dam near Sierraville, CA	Truckee River	Lat 39°29'29", long 120°17'39", in SE 1/4 SE 1/4 sec.15, T.19 N, R.15 E., Sierra County, Hydrologic Unit 16050102, 0.7 mi downstream from diversion dam, and 7.8 mi southeast of Sierraville.	36.1	--	10-01-92	2.16
					11-03-92	9.23
					12-01-92	4.30
					06-04-93	411
					06-18-93	414
10343200 Little Truckee River at Highway 89 near Truckee, CA	Truckee River	Lat 39°28'42", long 120°13'54", in SW 1/4 SW 1/4 sec.20, T.19 N, R.16 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, 3.3 mi upstream from Stampede Reservoir, and 10.5 mi north of Truckee.	59.0	--	10-01-92	3.98
					11-03-92	12.1
					12-01-92	5.92
10345700 Bronco Creek at Floriston, CA	Truckee River	Lat 39°23'02", long 120°01'11", in SE 1/4 NW 1/4 sec.31, T.18 N, R.18 E., Nevada County, Hydrologic Unit 16050102, 200 ft upstream from mouth, and 0.7 mi north of Floriston.	15.4	1991, 92	10-01-92	3.11
					11-02-92	5.48
					12-01-92	3.47
					04-21-93	16.5

Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at miscellaneous sites during water year 1993

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		San Joaquin River Basin				
371636120575200 Los Banos Creek at Highway 140, CA	San Joaquin River	Lat 37°16'36", long 120°57'52", in SE 1/4 SE 1/4 sec.34, T.7 S, R.9 E., Merced County, Hydrologic Unit 18040001, Orestimba Grant duck pond drainage area 2 mi northeast of Gustine.	--	--	04-01-93	6.9
11274653 Del Puerto Creek at Vineyard Road, near Patterson, CA	San Joaquin River	Lat 37°31'15", long 120°01'55", in NE 1/4 NW 1/4 sec.12, T.5 S, R.7 E., Stanislaus County, 3 mi upstream of San Joaquin River, 3.5 mi northwest of Patterson in El Pescadero Grant.	--	--	11-06-92	.29
373701121121100 Hospital Creek below confluence of Ingram Creek, near Gray, CA	San Joaquin River	Lat 37°37'01", long 121°12'11", in El Pescadero Grant, in SE 1/4 NE 1/4 sec.4, T.4 S, R.7 E, Stanislaus County, Hydrologic Unit 18040002, 1,200 ft downstream of confluence of Ingram Creek, 4.0 mi north of Westley.	--	--	03-29-94 08-23-94	17 51
373434121053900 Westport Drain near Modesto, CA	San Joaquin River	Lat 37°39'54",long 121°05'39", in SW 1/4 NE 1/4 sec.33, T.4 S, R.8 E., Stanislaus County, Hydrologic Unit 18040002, 50 ft downstream of weir at Modesto sewage disposal ponds, 4.5 mi southwest of Modesto.	--	--	03-29-93	13
375120121110300 Lone Tree Creek at Austin Road, near Manteca, CA	San Joaquin River	Lat 37°51'20",long 121°11'03", in SW 1/4 SW 1/4 sec.15, T.1 S, R.7 E., San Joaquin County, Hydrologic Unit 18040002, 50 ft downstream of Austin Road Bridge, 3 mi northeast of Manteca.	--	--	04-01-93	6.9

Miscellaneous sites

Miscellaneous measurements made at miscellaneous sites during water year 1993

Seepage investigation--Rainier Creek near Fish Camp, CA

Four series of discharge measurements were made on Rainier Creek near Fish Camp, California, from the 1991-93 water years as part of a water-resource investigation, in cooperation with the National Park Service. The measured reach is 2.46 mi in length and extends from the most upstream road crossing on Rainier Creek at elevation 7,470 ft to the most downstream road crossing on Rainier Creek at elevation 5,840 ft. River miles are the distance upstream from the confluence of Rainier Creek and Big Creek, from U.S. Geological Survey 7.5 minute Quadrangle maps. River miles for tributaries are measured at their confluence with Rainier Creek. The measurements were made during periods of relatively constant base flow of the creek and tributaries. The flow from the unnamed spring at the head of Biledo Meadow was observed to fluctuate rapidly at times, which may have influenced the results. One small diversion from Biledo Spring (unmeasured) may decrease the actual contribution of Biledo Spring to Rainier Creek from that reported here. Tributary flow (from streams and springs) is considered a contribution, not a gain. Gain (+) or loss (-) is computed by the subtraction of both the flow at the upstream end of a reach and tributary inflow (if any) from flow at the downstream end of a reach. Indicated gains or losses may be substantially in error, as affected by small inaccuracies in open-channel measurements. Specific-conductance values for June 18, 1992, were determined at a later date from samples taken during the discharge measurements.

River mile	Stream	Location	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)	Spec. cond. (US/CM)
			July 31, 1991			June 18, 1992			
4.46	Rainier Creek	Lat 37°30'18", long 119°33'26", at most upstream road crossings.	a0.0	--	--	--	--	--	--
4.20	Rainier Creek	Lat 37°30'14", long 119°33'42", at first road crossing upstream of Biledo Spring.	0.16	--	10.0	0.22	--	6.5	30
Flow not directly contributing to Rainier Creek:									
b	Unnamed Tributary No.1	Lat 37°30'07", long 119°33'23", 0.33 mi upstream of Rainier Creek.	a0.0	--	--	--	--	--	
4.17	Unnamed Tributary No.1	Lat 37°30'13", long 119°33'41", near mouth.	0.03	--	12.5	0.05	--	9.0	17
4.03	Biledo Spring	Lat 37°30'08", long 119°33'50". Developed spring. Measured at upper collection box.	0.56	--	6.0	c0.58	--	6.0	180
4.00	Rainier Creek	Lat 37°30'09", long 119°33'53", downstream of Biledo Spring inflow.	0.87	0.12	8.5	1.02	0.17	6.5	134
Flow not directly contributing to Rainier Creek:									
b	Biledo Meadow Spring No.1	Lat 37°30'18", long 119°34'04", at head of Biledo Meadow, west side.	0.15	--	7.0	0.09	--	7.0	176
b	Biledo Meadow Spring No.2	Lat 37°30'15", long 119°33'59", at head of Biledo Meadow, east side.	--	--	--	0.45	--	6.5	173
3.94	Unnamed Tributary No.2	Lat 37°30'09", long 119°33'57", outflow from Biledo Meadow, near mouth.	--	--	--	0.02	--	11.5	145
3.88	Unnamed Tributary No.3	Lat 37°30'07", long 119°34'00", outflow from Biledo Meadow, near mouth.	--	--	--	0.48	--	9.0	168
3.72	Unnamed Tributary No.4	Lat 37°30'07", long 119°34'05", outflow from Biledo Meadow, near mouth.	--	--	--	0.24	--	12.5	127
3.53	Rainier Creek	Lat 37°29'56", long 119°34'16", at first road crossing downstream of Biledo Meadow and Biledo Spring.	1.79	d0.92	11.0	1.87	0.11	9.0	139
3.24	Rainier Creek	Lat 37°29'48", long 119°34'29", at second-most downstream road crossing.	1.70	-0.09	12.0	1.76	-0.11	7.0	137
2.00	Rainier Creek	Lat 37°29'26", long 119°35'40", at most downstream road crossings.	e1.90	0.20	e13.0	1.98	0.22	--	131
		Gain or loss for entire reach		d1.15			-1.1		

See footnotes on following page.

Miscellaneous sites

Miscellaneous measurements made at miscellaneous sites during water year 1993

Seepage investigation--Rainier Creek near Fish Camp, CA--Continued

River mile	Stream	Location	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)
			August 4, 1992			October 7, 1992		
4.46	Rainier Creek	Lat 37°30'18", long 119°33'26", at most upstream road crossings.	--	--	--	--	--	--
4.20	Rainier Creek	Lat 37°30'14", long 119°33'42", at first road crossing upstream of Biledo Spring.	0.06	--	10.0	0.02	--	10.5
Flow not directly contributing to Rainier Creek:								
b	Unnamed Tributary No.1	Lat 37°30'07", long 119°33'23", 0.33 mi upstream of Rainier Creek.	--	--	--	--	--	--
4.17	Unnamed Tributary No.1	Lat 37°30'13", long 119°33'41", near mouth.	0.01	--	11.5	0.0	--	--
4.03	Biledo Spring	Lat 37°30'08", long 119°33'50". Developed spring. Measured at upper collection box.	0.56	--	--	0.55	--	--
4.00	Rainier Creek	Lat 37°30'09", long 119°33'53", downstream of Biledo Spring inflow.	0.78	0.15	--	0.79	0.22	6.0
Flow not directly contributing to Rainier Creek:								
b	Biledo Meadow Spring No.1	Lat 37°30'18", long 119°34'04", at head of Biledo Meadow, west side.	f0.09	--	7.0	0.0	--	--
b	Biledo Meadow Spring No.2	Lat 37°30'15", long 119°33'59", at head of Biledo Meadow, east side.	0.42	--	6.5	0.40	--	6.0
3.94	Unnamed Tributary No.2	Lat 37°30'09", long 119°33'57", outflow from Biledo Meadow, near mouth.	0.01	--	15.0	0.01	--	14.0
3.88	Unnamed Tributary No.3	Lat 37°30'07", long 119°34'00", outflow from Biledo Meadow, near mouth.	0.38	--	9.0	0.46	--	9.5
3.72	Unnamed Tributary No.4	Lat 37°30'07", long 119°34'05", outflow from Biledo Meadow, near mouth.	0.09	--	15.0	0.04	--	12.5
3.53	Rainier Creek	Lat 37°29'56", long 119°34'16", at first road crossing downstream of Biledo Meadow and Biledo Spring.	1.53	0.27	11.0	1.31	0.01	--
3.24	Rainier Creek	Lat 37°29'48", long 119°34'29", at second-most downstream road crossing.	1.36	-0.17	13.5	1.19	-0.12	9.5
2.00	Rainier Creek	Lat 37°29'26", long 119°35'40", at most downstream road crossings.	1.40	0.04	--	1.18	-0.01	9.0
		Gain or loss for entire reach		0.29			0.10	

a Observed July 29, 1991.
b Flow at these sites is measured again prior to entering Rainier Creek.
c Measured June 16, 1992. Repeated measurements of this spring show flow to be very stable.
d Some of the flow counted as gain here is measured as contributing tributary flow in later seepage runs.
e Measured August 2, 1991, at same gage height noted July 31, 1991.
f Flow measured at 1245 hours. No flow at 1015 hours.

Miscellaneous sites

Miscellaneous measurements made at miscellaneous sites during water year 1993

Seepage investigation--Rainier Creek near Fish Camp, CA--Continued

Miscellaneous measurements made in conjunction with the Rainier Creek seepage investigation:

River mile	Stream	Location	Meas. disch. (ft^3/s)	Water temp. (°C)	Meas. disch. (ft^3/s)	Water temp. (°C)	Meas. disch. (ft^3/s)	Water temp. (°C)	Meas. disch. (ft^3/s)	Water temp. (°C)
			August 14, 1991							
2.00	Rainier Creek	Lat 37°29'26", long 119°35'40", at most downstream road crossings.	1.73	12.0						
			August 2, 1991		June 18, 1992		August 4, 1992		October 7, 1992	
--	Long Meadow Creek	Lat 37°29'34", long 119°33'44" at upstream road crossing, 2.04 mi upstream of confluence with White Chief Branch.	a0.0	--	--	--	0.0	--	--	--
--	Long Meadow Creek	Lat 37°29'01", long 119°34'57" at downstream road crossing, 0.59 mi upstream of confluence with White Chief Branch.	0.02	--	0.120	--	0.004	--	0.0	--
--	White Chief Branch	Lat 37°29'07", long 119°33'23" at upstream road crossing, 1.74 mi upstream of confluence with Long Meadow Creek.	0.12	--	--	--	0.02	15.0	--	--
--	White Chief Branch	Lat 37°28'40", long 119°34'30" at downstream road crossing, 0.47 mi upstream of confluence with Long Meadow Creek.	0.24	14.5	0.39	--	0.12	15.5	0.04	9.0

a Observed July 30, 1991.

Miscellaneous sites

Miscellaneous measurements made at miscellaneous sites during water year 1993

Seepage investigation--South Fork Merced River near Wawona, CA

Four series of discharge measurements were made on the South Fork Merced River near Wawona, California, from the 1991-93 water years as part of a water-resources investigation, in cooperation with the National Park Service. The measured reach is 4.5 mi in length and extends from a diversion weir 2.6 mi upstream of State Highway 41 crossing at elevation 4,160 ft to 1.9 mi downstream of the highway at the downstream end of the Wawona Campground at elevation 3,860 ft. River miles are the distance upstream from the mouth of South Fork Merced River, as delineated on U.S. Geological Survey 7.5 minute Quadrangle maps. River miles for tributaries are measured at their confluence with South Fork Merced River. Included in the reach is the discontinued gaging station, South Fork Merced River at Wawona, California (11267300, period of record 1959-68 water years, drainage area 100 mi^2, river mile 22.54). The measurements were made during periods of relatively constant base flow of the river and tributaries. A municipal diversion is present at the upstream end of the reach at the diversion weir, but was not in use at least 12 hours prior to or during the seepage measurements. Tributary flow is considered a contribution, not a gain. Gain (+) or loss (-) is computed by the subtraction of both the flow at the upstream end of a reach and tributary inflow (if any) from flow at the downstream end of a reach. Indicated gains or losses may be substantially in error, as affected by small inaccuracies in open-channel measurements. Specific-conductance values for June 17, 1992, were determined at a later date from samples taken during the discharge measurements.

River mile	Stream	Location	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)	Meas. disch. (ft^3/s)	Gain or loss	Water temp. (°C)	Spec. cond. (US/CM)
			August 1, 1991			June 17, 1992			
25.50	South Fork Merced River	Lat 37°32'21", long 119°37'18", downstream of diversion dam.	7.52	--	19.5	24.9	--	11.5	22
24.62	South Fork Merced River	Lat 37°32'44", long 119°38'04", upstream of Chilnualna Creek.	7.37	-0.15	24.0	23.3	-1.6	17.0	22
24.52	Chilnualna Creek	Lat 37°32'49", long 119°38'01", near mouth.	1.34	--	19.0	7.14	--	10.5	11
22.96	South Fork Merced River	Lat 37°32'18", long 119°39'31", upstream of Highway 41.	8.25	-0.46	24.5	--	--	--	--
22.87	Unnamed Tributary	Lat 37°32'09", long 119°39'25", drainage from Wawona meadow and golf course, near mouth.	0.04	--	14.0	0.07	--	12.0	150
22.83	South Fork Merced River	Lat 37°32'18", long 119°39'38", downstream of Highway 41.	--	--	--	a28.9	-1.6	11.0	22
22.47	Big Creek	Lat 37°32'21", long 119°40'02", near mouth.	4.88	--	19.5	4.88	--	11.5	68
21.46	Rush Creek	Lat 37°32'48", long 119°40'51", near mouth.	0.82	--	14.5	1.51	--	12.0	28
21.03	South Fork Merced River	Lat 37°32'60", long 119°41'05", at downstream end of Wawona campground.	13.56	-0.43	23.5	37.4	2.1	17.5	28
		Gain or loss for entire reach		-1.04			-1.1		
			August 5, 1992			October 8, 1992			
25.50	South Fork Merced River	Lat 37°32'21", long 119°37'18", downstream of diversion dam.	5.23	--	17.5	2.02	--	11.0	--
24.62	South Fork Merced River	Lat 37°32'44", long 119°38'04", upstream of Chilnualna Creek.	b4.8	-0.4	15.5	1.73	-0.29	14.0	--
24.52	Chilnualna Creek	Lat 37°32'49", long 119°38'01", near mouth.	0.65	--	15.5	0.0	--	--	--
22.96	South Fork Merced River	Lat 37°32'18", long 119°39'31", upstream of Highway 41.	--	--	--	--	--	--	--
22.87	Unnamed Tributary	Lat 37°32'09", long 119°39'25", drainage from Wawona meadow and golf course, near mouth.	0.06	--	13.0	0.04	--	10.0	--
22.83	South Fork Merced River	Lat 37°32'18", long 119°39'38", downstream of Highway 41.	a4.74	-0.77	18.0	b1.92	0.15	12.0	--
22.47	Big Creek	Lat 37°32'21", long 119°40'02", near mouth.	2.17	--	15.0	1.88	--	10.0	--
21.46	Rush Creek	Lat 37°32'48", long 119°40'51", near mouth.	0.57	--	16.0	0.19	--	10.5	--
21.03	South Fork Merced River	Lat 37°32'60", long 119°41'05", at downstream end of Wawona campground.	8.04	0.56	22.0	4.16	0.17	14.0	--
		Gain or loss for entire reach		-0.64			0.03		

a Mean of two discharge measurements.
b Original measurement in error. Flow estimated based on measurement at river mile 25.50, and measurements made August 6, 1992, at river miles 25.50 (4.27 ft^3/s) and 24.62 (3.88 ft^3/s).

Miscellaneous sites

Miscellaneous measurements made at miscellaneous sites during water year 1993

Seepage investigation--South Fork Merced River near Wawona, CA--Continued

Miscellaneous measurements made in conjunction with the South Fork Merced River seepage investigation:

River mile	Stream	Location	Meas. disch. (ft^3/s)	Water temp. (°C)
			August 13, 1991	
--	Unnamed Tributary to Wawona Meadow	Lat 37°31'32", long 119°38'01", inflow to head of Wawona Meadow from east 0.1 mi upstream of Meadow Loop Rd.	0.02	18.0
--	Unnamed Tributary to Wawona Meadow	Lat 37°31'30", long 119°38'10", inflow to head of Wawona Meadow from east at Meadow Loop Rd.	0.0	--
--	Unnamed Tributary to Wawona Meadow	Lat 37°31'23", long 119°38'11", inflow to head of Wawona meadow from southeast.	0.01	15.5
--	Unnamed Tributary to Wawona Meadow	Lat 37°31'22", long 119°38'26", inflow to head of Wawona meadow from southwest.	0.0	--
--	Unnamed Tributary to South Fork Merced River	Lat 37°31'38", long 119°38'28", Wawona meadow drainage near head.	0.0	--
--	Unnamed Tributary to South Fork Merced River	Lat 37°31'59", long 119°39'15", Wawona meadow drainage upstream of golf course.	0.0	--
22.87	Unnamed Tributary to South Fork Merced River	Lat 37°32'09", long 119°39'25", drainage from Wawona meadow and golf course, near mouth.	0.04	14.5
			August 14, 1991	
22.83	South Fork Merced River	Lat 37°32'18", long 119°39'38", downstream of Highway 41.	5.58	22.0

SAN JOAQUIN RIVER BASIN

11274653 DEL PUERTO CREEK AT VINEYARD ROAD, NEAR PATTERSON, CA

LOCATION.--Lat 37°31'15", long 121°08'55", in NE 1/4 NW 1/4 sec.12, T.5 S., R.7 E., Stanislaus County, 3 mi upstream of San Joaquin River, 3.5 mi northwest of Patterson in El Pescadero Grant.

PERIOD OF RECORD.--
CHEMICAL DATA: April 1993 to September 1993.
SEDIMENT DATA: April 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	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
APR											
01...	1100	29	904	8.4	17.5	765	9.5	99	405	2	335
AUG											
26...	1730	15	574	8.3	28.5	760	6.5	84	115	0	94

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)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
APR										
01...	0.020	0.860	0.120	0.40	0.30	0.070	0.040	0.050	3.6	0.6
AUG										
26...	0.060	1.90	0.050	0.40	0.20	0.200	0.160	0.140	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
APR					
01...	1100	29	17.5	58	4.5

SAN JOAQUIN RIVER BASIN

371521120390800 BEAR CREEK AT BERT CRANE ROAD, NEAR MERCED, CA

LOCATION.--Lat 37°15'21", long 120°39'08", in NE 1/4 NE 1/4 sec.9, T.8 S., R.12 E., Merced County, Hydrologic Unit 18040001, 3.5 mi upstream of East Side Canal, 7.5 mi south of Atwater.

PERIOD OF RECORD.--
CHEMICAL DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
MAR										
30...	1200	290	171	7.5	16.0	766	9.4	95	82	0
AUG										
24...	1215	123	66	7.1	21.5	757	8.1	92	29	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR									
30...	67	0.020	0.430	0.070	0.80	0.70	0.120	0.070	0.070
AUG									
24...	23	0.010	0.450	0.060	0.30	0.30	0.070	0.070	0.060

SAN JOAQUIN RIVER BASIN

371636120575200 LOS BANOS CREEK AT HIGHWAY 140, CA

LOCATION.--Lat 37°16'36", long 120°57'52", in SE 1/4 SE 1/4 sec.34, T.7 S., R.9 E., Merced County, Hydrologic Unit 18040001, Orestimba Grant duck pond drainage area 2 mi northeast of Gustine.

PERIOD OF RECORD.--
CHEMICAL DATA: March 1993 to September 1993.
SEDIMENT DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	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
MAR											
31...	1545	151	896	7.5	20.5	762	8.6	96	205	0	168
AUG											
26...	1600	.99	887	8.9	32.0	762	16.3	224	119	26	140

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)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
MAR										
31...	0.150	1.40	0.450	1.2	1.2	0.660	0.580	0.530	10	1.2
AUG										
26...	<0.010	<0.050	0.040	1.7	0.70	0.570	0.230	0.190	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAR					
31...	1545	151	20.5	26	11

SAN JOAQUIN RIVER BASIN

372424120432800 LIVINGSTON TREATMENT PLANT, NEAR LIVINGSTON, CA.

LOCATION.--Lat 37°24'24", long 120°43'28", in SE 1/4 SE 1/4 sec.14, T.6 S., R.11 E., Merced County, Hydrologic Unit 18040002, at upstream side of bridge at Livingston Treatment Plant, 200 ft south of Merced River, 1 mi north of Livingston.

PERIOD OF RECORD.--
CHEMICAL DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
MAR										
30...	1445	19	128	7.7	20.0	765	9.8	107	58	0
AUG										
24...	1445	11	35	8.5	23.5	757	9.6	114	4	6

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR									
30...	47	0.040	0.270	1.30	2.5	2.1	0.440	0.330	0.310
AUG									
24...	14	<0.010	<0.050	0.020	<0.20	<0.20	0.020	0.010	<0.010

SAN JOAQUIN RIVER BASIN

373232121053900 WESTPORT DRAIN NEAR MODESTO, CA

LOCATION.--Lat 37°32'32", long 121°05'39", in SW 1/4 NE 1/4 sec.33, T.4 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, 50 ft downstream of weir at Modesto sewage disposal ponds, 4.5 mi southwest of Modesto.

PERIOD OF RECORD.--
CHEMICAL DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
MAR										
29...	1130	13	800	8.1	17.0	767	8.5	88	307	0
AUG										
23...	1215	28	502	7.6	23.0	750	7.7	92	191	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR									
29...	252	0.120	9.30	0.170	0.90	0.90	0.290	0.250	0.240
AUG									
23...	157	0.080	7.50	0.070	0.60	0.80	0.140	0.090	0.100

SAN JOAQUIN RIVER BASIN

373701121121100 HOSPITAL CREEK BELOW CONFLUENCE OF INGRAM CREEK NEAR GRAY, CA

LOCATION.--Lat 37°37'01", long 121°12'11", El Pescadero Grant, in SE 1/4 NE 1/4 sec.4, T.4 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, 1,200 ft downstream of confluence of Ingram Creek, 4.0 mi north of Westley.

PERIOD OF RECORD.--
CHEMICAL DATA: March 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
MAR										
29...	1515	17	1000	8.3	17.5	767	8.8	92	218	0
AUG										
23...	1630	51	699	7.9	28.0	760	6.6	85	136	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
MAR									
29...	179	0.040	3.30	0.100	0.50	0.60	0.370	0.120	0.130
AUG									
23...	111	0.050	2.90	0.070	0.60	0.40	0.250	0.180	0.180

SAN JOAQUIN RIVER BASIN

375120121110300 LONE TREE CREEK AT AUSTIN ROAD, NEAR MANTECA, CA

LOCATION.--Lat 37°51'20", long 121°11'03", in SW 1/4 SW 1/4 sec.15, T.1 S., R.7 E., San Joaquin County, Hydrologic Unit 18040002, 50 ft downstream of Austin Road Bridge, 3 mi northeast of Manteca.

PERIOD OF RECORD.--
CHEMICAL DATA: April 1993 to September 1993.
SEDIMENT DATA: April 1993 to September 1993.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH 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)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3
APR										
01...	1345	6.9	373	7.3	20.5	767	7.1	79	159	0
AUG										
27...	0910	68	93	7.0	20.0	765	7.7	84	48	0

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (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)
APR									
01...	130	0.360	2.30	2.50	5.9	6.1	2.10	2.80	2.90
AUG									
27...	39	0.030	0.490	0.060	0.50	0.50	0.500	0.430	0.420

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
APR					
01...	1345	6.9	20.5	108	2.0

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic–foot–per–second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre–foot (acre–ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first–order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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