

Water Resources Data California Water Year 1997

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-97-3
Prepared in cooperation with the California Department
of Water Resources and with other agencies



CALENDAR FOR WATER YEAR 1997

1996

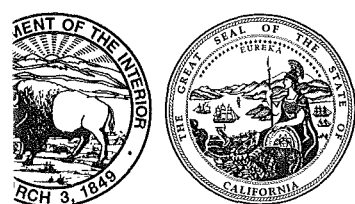
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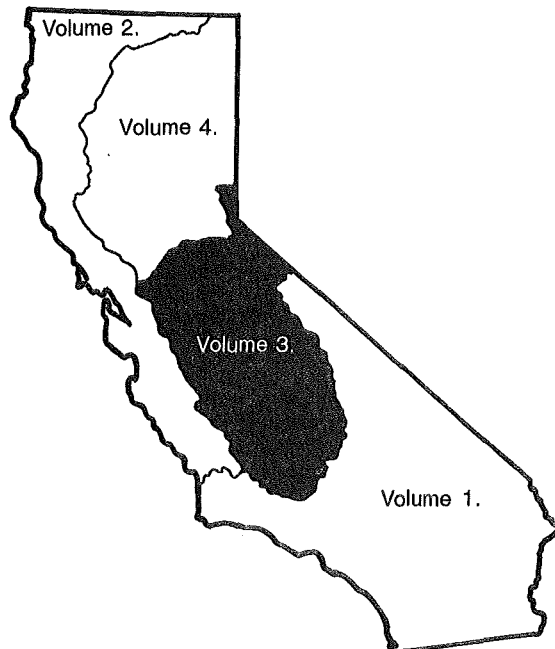
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Water Resources Data California Water Year 1997

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

by S.W. Anderson, P.D. Hayes, and G.L. Rockwell



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-97-3
Prepared in cooperation with the California Department
of Water Resources and with other agencies

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PREFACE

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

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

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

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

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

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

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

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

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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]

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McKay's Point Reservoir near Avery (l)	11295260	382
North Fork Stanislaus River below McKay's Point Dam, near Avery (d)	11295270	383
North Fork Stanislaus River below Beaver Creek, near Hathaway Pines (d)	11295300	385
South Fork Stanislaus River:		
Pinecrest Lake at Pinecrest (l)	11295900	386
South Fork Stanislaus River at Strawberry (d)	11296500	387
South Fork Stanislaus River near Strawberry (d)	11297200	389
Lyons Reservoir near Long Barn (l)	11297700	390
South Fork Stanislaus River near Long Barn (d)	11298000	391
Angels Creek below Utica Ditch Diversion Dam, near Murphys (d)	11298700	393
New Melones Reservoir near Sonora (l)	11299000	394
Black Creek near Copperopolis (d)	11299600	395
Tulloch Reservoir near Knights Ferry (l)	11299995	397
Stanislaus River below Tulloch Powerplant, near Knights Ferry (t)	11299997	398
South San Joaquin Canal near Knights Ferry (d)	11300500	400
Oakdale Canal near Knights Ferry (d)	11301000	401
Stanislaus River below Goodwin Dam, near Knights Ferry (dt)	11302000	402
Stanislaus River at Oakdale (t)	11302500	406
Stanislaus River at Ripon (dct)	11303000	408
San Joaquin River near Vernalis (dcts)	11303500	412
Old River:		
Delta-Mendota Canal at Tracy Pumping Plant, near Tracy (d)	11313000	422
North Fork Mokelumne River:		
Deer Creek:		
Blue Creek:		
Upper Blue Lake Outlet near Markleeville (d)	11313472	424
Lower Blue Lake Outlet near Markleeville (d)	11313477	425
Meadow Lake Outlet near Markleeville (d)	11313485	426
Salt Springs Reservoir near West Point (l)	11313500	427
North Fork Mokelumne River below Salt Springs Dam (d)	11314500	428
Cole Creek near Salt Springs Dam (d)	11315000	430
Cole Creek below diversion dam, near Salt Springs Dam (d)	11315030	432

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued</u>		
<u>SAN JOAQUIN RIVER BASIN—Continued</u>		
<u>San Joaquin River—Continued</u>		
Bear River below Lower Bear River Dam (d)	11315900	433
Bear River below Bear River Diversion Dam (d)	11316100	434
North Fork Mokelumne River above Tiger Creek, near West Point (d)	11316600	435
North Fork Mokelumne River below Tiger Creek Reservoir, near West Point (d)	11316670	437
North Fork Mokelumne River below Electra Diversion Dam, near West Point (d)	11316700	438
Middle Fork Mokelumne River:		
Forest Creek near Wilseyville (d)	11316800	439
Middle Fork Mokelumne River at West Point (d)	11317000	441
South Fork Mokelumne River near West Point (d)	11318500	443
Mokelumne River near Mokelumne Hill (d)	11319500	445
Mokelumne River below Camanche Dam (d)	11323500	446
Woodbridge Canal at Woodbridge (d)	11325000	448
Mokelumne River at Woodbridge (d)	11325500	449
Dry Creek near Galt (d)	11329500	452
North Fork Cosumnes River:		
Camp Creek near Somerset (d)	11333000	453
Cosumnes River at Michigan Bar (d)	11335000	455
Laguna Creek near Elk Grove (d)	11336585	457
Old River:		
Rock Slough:		
Contra Costa Canal near Oakley (d)	11337000	459

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 USGS Water Data 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
10336593	Grass Lake Creek near Meyers	6.99	1971–74
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
10343200	Little Truckee River at Highway 89, near Truckee	59.0	1993–94
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
11187000	Kern River at Kernville	1,009	1905–12, 1953–93
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
11205680	Frazier Creek near Strathmore	3.05	1974–94
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

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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
11211300	Dry Creek near Lemoncove	75.6	1960–94
11211500	Kaweah River at McKay Point, near Lemoncove	647	1919–21
11211785	Cottonwood Creek above Collier Creek, near Elderwood	52.3	1985–94
11211790	Cottonwood Creek near Elderwood	60.4	1971–85
11212000	Sand Creek near Orange Cove	31.6	1944–54, 1956, 1967, 1969, 1971–84, 1985–94
11212500	South Fork Kings River near Cedar Grove	408	1951–57
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
11218500	Kings River below North Fork, near Trimmer	1,342	1951–93
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
11221700	Mill Creek near Piedra	127	1958–94
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

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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	Chamberlain 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
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
11270800	Northside Canal at Merced Falls	—	1987–94
11271320	Dry Creek near Snelling	67.6	1966–92
11271500	Merced River near Livingston	1,259	1922–24, 1926–44
11272500	Merced River near Stevinson	1,273	1941–95
11273000	Merced River Slough near Newman	1,276	1942–72
11274554	Spanish Grant Combined Drain near Patterson	—	1993–95
11274560	Turlock Irrigation District Lateral No. 5 near Patterson	—	1992–95
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
11278200	Cherry Creek Canal near Early Intake	—	1956–71, 1987–96
11278500	Jawbone Creek near Tuolumne	19.1	1911
11279500	South Fork Tuolumne River at Italian Flat, near Sequoia	64.9	1925–30, 1932–33
11280000	South Fork Tuolumne River near Sequoia	68.3	1914–17

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
11281000	South Fork Tuolumne River near Oakland Recreation Camp	87	1923–96
11281500	Middle Tuolumne River near Mather	52.4	1925–29, 1932–33
11282000	Middle Tuolumne River at Oakland Recreation Camp	73.5	1917–96
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
11283250	Clavey River near Long Barn	48.9	1987–94
11283350	Reed Creek near Long Barn	27.2	1987–94
11283500	Clavey River near Buck Meadows	144	1960–84, 1987–94
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
11292500	Clark Fork Stanislaus River near Dardanelle	67.5	1951–94
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
11293650	North Fork Stanislaus River at Camp Wolfesboro, near Big Meadows	47.4	1994–96
11293700	Hobart Creek at North Fork Stanislaus River Diversion Tunnel Outlet, near New Spicer Meadow Dam	1.13	1989–94
11294300	North Fork Stanislaus River below Ganns Dam Site, near Big Meadow	111	1961–67
11294400	North Fork Stanislaus River at Sourgrass Campground, near Dorrington	149	1991–96
11295000	Utica Canal near Avery	—	1970, 1976–89
11295400	Stanislaus River near Hathaway Pines	629	1967–94
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
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

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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
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 McConnel	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 USGS Water Data 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
11320000	Pardee Reservoir near Valley Springs	578	1962–93
11322300	Camanche Reservoir near Clements	621	1964–93

DISCONTINUED WATER-QUALITY STATIONS

The following continuous water-quality stations in California have been discontinued. Daily records were collected and are stored in USGS Water Data 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
10336670	Ward Creek near Tahoe Pines	2.03	T,S	1973–76

DISCONTINUED WATER-QUALITY STATIONS

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record
10336672	Ward Creek Tributary near Tahoe Pines	.91	T,S	1973–76
10336684	Dollar Creek near Tahoe City	1.07	T,S	1972–74
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
10337000	Lake Tahoe at Tahoe City	506	WQ	1969, 1978–79
10337500	Truckee River at Tahoe City	507	WQ,T	1978–81, 1993–94
10338000	Truckee River near Truckee	553	WQ,C,T	1951–66, 1977–94
10338700	Donner Creek at Highway 89, near Truckee	29.1	T	1993–94
10339250	Martis Creek at State Highway 267, near Truckee	25.8	WQ,T,S	1975–95
10339380	Martis Creek Lake near Truckee	39.6	WQ,S	1975–95
10339400	Martis Creek near Truckee	—	WQ,S	1975–95
10341950	Little Truckee River below Diversion Dam, near Sierraville	36.1	T	1993–94
10343200	Little Truckee River at Highway 89, near Truckee	59.0	T	1993–94
10343500	Sagehen Creek near Truckee	10.5	WQ,T,S	1968–75, 1981–96
10345700	Bronco Creek at Floriston	15.4	T	1993–94
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,T	1956–66, 1971–94
11204900	Tule River below Success Dam	393	WQ,T	1962–69, 1971–94
11206500	Middle Fork Kaweah River near Potwisha Camp	102	WQ,C,T	1958–63, 1972, 1980–81
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,T	1962–94
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,T	1956–66, 1970–94
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
11204900	Tule River below Success Dam	393	WQ,T	1962–69, 1971–94
11253500	James 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
11259000	Chowchilla River below Buchanan Dam, near Raymond	236	WQ,T	1958–65, 1976–94
11260815	San Joaquin River near Stevinson	7,388	C,T	1989–96
11264500	Merced River at Happy Isles Bridge, near Yosemite	181	WQ,B,T,S	1966–96
11266500	Merced River at Pohono Bridge, near Yosemite	321	T	1995
11268000	South Fork Merced River near El Portal	241	T	1975–78
11268200	Merced River near Briceburg	691	T	1976–77
11272500	Merced River near Stevinson	1,273	C,T	1989–92
11274000	San Joaquin River near Newman	9,520	WQ,C,T,S	1989, 1992–95
11274538	Orestimba Creek at River Road, near Crows Landing	—	WQ,S	1992–95
11274554	Spanish Grant Combined Drain near Patterson	—	WQ,C,T,S	1993–95
11274560	Turlock Irrigation District Lateral No. 5 near Crows Landing	—	WQ,C,T,S	1992–95
11274570	San Joaquin River at Patterson Bridge, near Patterson	9,760	WQ,C,T,S	1989–95
11283100	Lily Creek near Pinecrest	11.9	T	1965–74

DISCONTINUED WATER-QUALITY STATIONS

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record
11290000	Tuolumne River at Modesto	1,884	WQ,C,T,S	1989–95
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	WQ,C,T,S	1989, 1993–94
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,T	1964–66, 1971–94
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	WQ,B,C,T,S	1951–94
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 1997
VOLUME 3—SOUTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN
FROM WALKER RIVER TO TRUCKEE RIVER

By S.W. Anderson, P.D. Hayes, and G.L. Rockwell

INTRODUCTION

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

This volume of the report includes records on surface water in the State. Specifically, it contains: (1) discharge records for 170 streamflow-gaging stations and 2 partial-record stations; (2) stage and content records for 43 lakes and reservoirs; and (3) water-quality records for 30 streamflow-gaging stations. Records included for stream stages are only a small fraction of those obtained during the water year.

The series of annual reports for California began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format changed to include data on quantities of surface water, quality of surface and ground water, and ground-water levels. From the 1985 through the 1993 water years, 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 principal cities of the United States, or if not out of print, they may be purchased from U.S. Geological Survey, Information Services, Box 25286, Denver Federal Center, Denver, CO 80225-0046.

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-97-3." 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 on microfiche, by the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. For further ordering information, the Customer Inquiries telephone number is (703) 487-4650, between 8:30 a.m. and 5:30 p.m. Eastern Standard Time.

Additional information 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 at (916) 278-3100.

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:

Calaveras County Water District, William Becker, General Manager.

California Department of Water Resources, David N. Kennedy, Director.

East Bay Municipal Utility District, Jack Jacobs, Manager, Water Operations.

Madera Irrigation District, Robert L. Stanfield, General Manager-Chief Engineer.

Sacramento County Department of Public Works, Terri Wegner, Senior Civil Engineer.

San Francisco, City and County, Hetch-Hetchy Water and Power, Lawrence T. Klein, General Manager.

Tulare County Flood Control District, Douglas C. Wilson, Public Works Director.

Turlock Irrigation District, Wes Monier, Electric Utility Administrator.

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

The following organizations aided in collecting records: Calaveras County Water District; Olcese Water District; Pacific Gas & Electric Co.; Southern California Edison Co.; Merced and Oakdale–South San Joaquin Irrigation Districts; Northern California Power Agency; Utica Power Authority; and Woodbridge Irrigation District.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 50 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 human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, the Columbia, the Colorado, and the Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites; (2) provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred; (3) provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

<http://nadp.nrel.colostate.edu/NADP>

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at:

http://www.wrvaes.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1997 water year that began October 1, 1996, and ended September 30, 1997. 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 11238600, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "238600." 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. 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 (fig. 1).

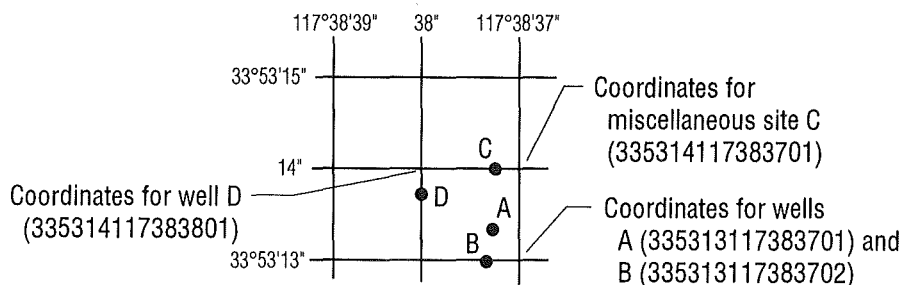


Figure 1. System for numbering miscellaneous sites (latitude and longitude).

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 stations for which data are given in this report are shown, by county, in figures 2 through 21.

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 relation 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 relation 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 digital recorders, data collection platforms, or data loggers that sample stage values 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, Chapters A1 through A19, and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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 (gauge 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 gauge 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 gauge set at some distance from the base gauge. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

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

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

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

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

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

Station manuscript

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

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

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

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

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

GAGE.—The type of gage currently in use, the datum of the current gage referred to sea level (see glossary), 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 gage, 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-gaging 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 (IN.) 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 10 percent of the time for the designated period.

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

90 PERCENT EXCEEDS.—The discharge that is exceeded 90 percent of the time for the designated period.

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

for more than 1,000 ft³/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 20192, 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 or stored electronically in a data logger. 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 2 through 21.

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 (1997) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter ($\mu\text{g/L}$) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

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

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with the ASTM standards and generally follow ISO standards.

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

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

Estimates of bedload and total-sediment discharge are included for some stations. Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith or BL 84 bedload samplers or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis. The bedload samplers are designed to collect time-weighted samples for the sediment moving within 0.25 ft of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. Calibration of the bedload samplers has not been completed, and a trap efficiency of 1.0 has been assumed applicable to these devices. Error sources in the theoretical methods, based on analysis of bed-material

characteristics, channel geometry, and associated hydraulic factors, are also undefined. In consequence, figures of bedload discharge must be used with caution. They are estimates, at best, and are subject to revision.

Cross-Sectional Data

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S Geological Survey's National Water-Quality Laboratory in Arvada, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in the Techniques of Water-Resources Investigations, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Water Quality-Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District are described in the following section. Procedures have been established for the storage of water quality-control data within the U. S. Geological Survey. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure the environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this District are:

Field blank—a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—a blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and

analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

Sequential samples—a type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

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, National Water Information System (NWIS), 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 USGS WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov>.

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of additional data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices. (See address on the back of the title page.)

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/m³) and periphyton and benthic organisms in grams per square meter (g/m²).

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 (μm³) is determined by obtaining critical cell measurements on cell dimensions (that is, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the

nearest geometric solid or combinations of simple solids (that is, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic Bench-Mark Network is a network of approximately 50 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 human activities.

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

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

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

where I_0 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

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

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

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

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

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

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

Milligrams per liter (MG/L, 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.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites; (2) provide the mechanism to evaluate the effectiveness of the significant reduction in SO_2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred; (3) provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO_2 and NO_x scheduled to begin in 2000.

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) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, the Columbia, the Colorado, and the Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

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's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's 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 having a blue pigment in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

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

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

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

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

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

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

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

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

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

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (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:

KingdomAnimal
 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, 1997, is called the "1997 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS—TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS—TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS—TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS—TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS—TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS—TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS—TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS—TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by slope-area method*, by Tate Dalrymple and M.A. Benson: USGS—TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS—TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS—TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS—TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS—TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS—TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS—TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS—TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS—TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS—TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS—TWRI Book 3, Chapter A12. 1986. 34 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. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS—TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS—TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS—TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS—TWRI Book 3, Chapter A21. 1995. 56 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS—TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS—TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS—TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS—TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS—TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS—TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS—TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS—TWRI Book 3, Chapter B7. 1992. 190 pages.
- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS—TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS—TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS—TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS—TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS—TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS—TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS—TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS—TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS—TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS—TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS—TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS—TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS—TWRI Book 5, Chapter A4. 1989. 363 pages.

- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS—TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS—TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS—TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS—TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS—TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS—TWRI Book 6 Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS—TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS—TWRI Book 6, Chapter A5. 1993. 243 pages.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler. 1995. 125 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS—TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS—TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS—TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS—TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS—TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS—TWRI Book 8, Chapter B2. 1968. 15 pages.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, by D.N. Myers and F.D. Wilde: USGS--TWRI Book 9, Chapter A7. 1997. 49 pages.

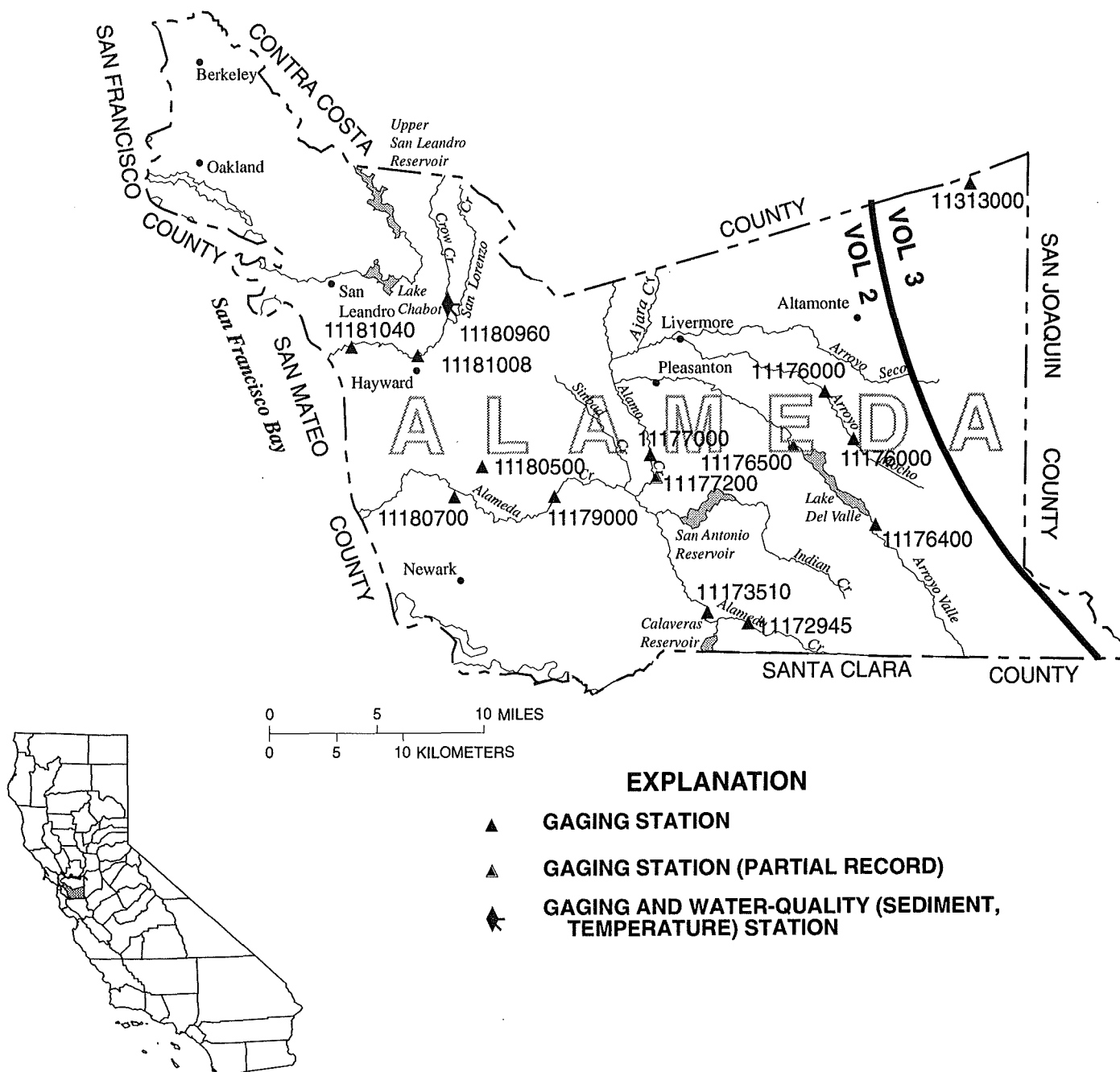


Figure 2. Location of discharge and water-quality stations in Alameda County.
 (NOTE: Records for stations 11172945 through 11181040 published in volume 2.)

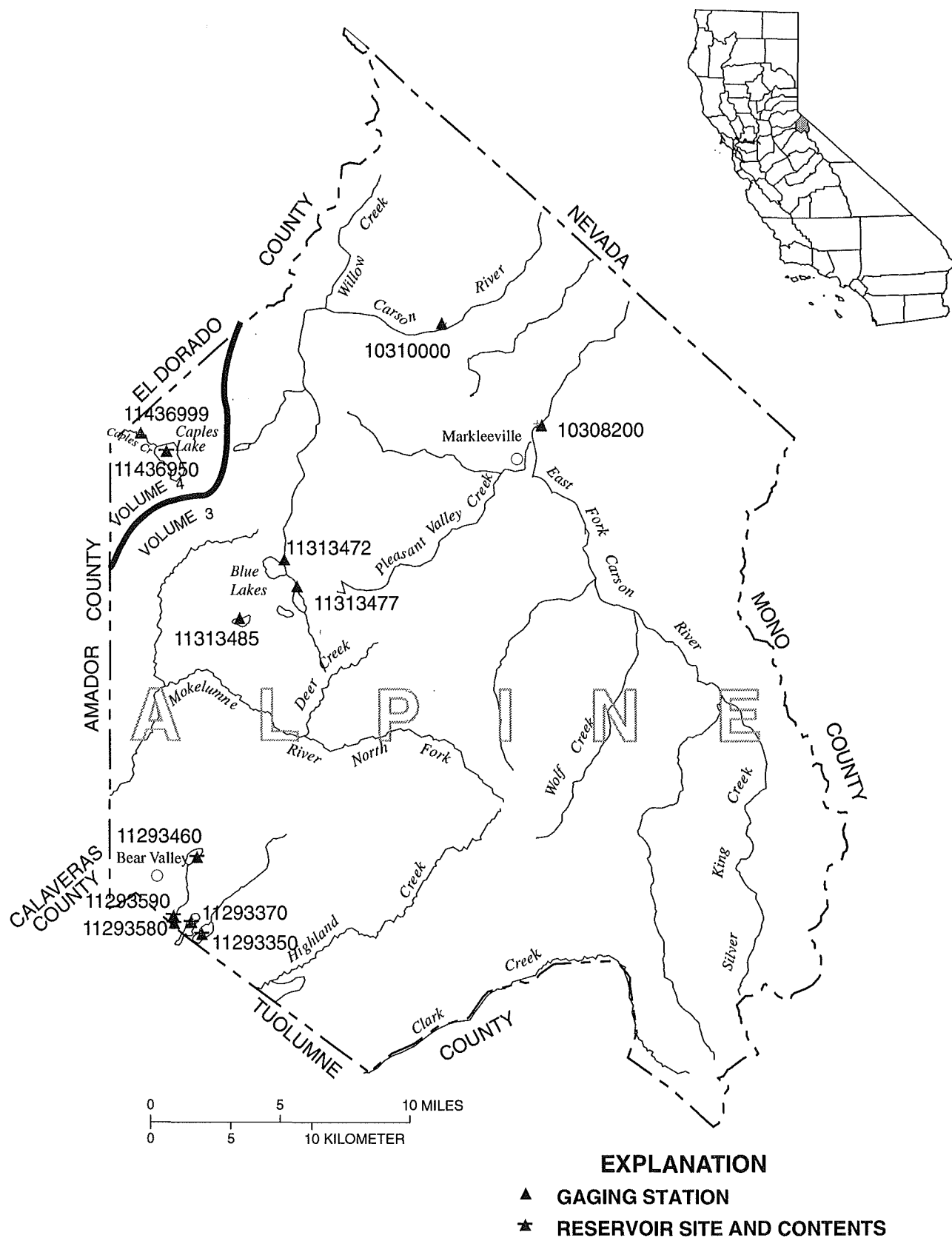


Figure 3. Location of discharge stations in Alpine County.
 (NOTE: Station 10297000 in Douglas County, Nevada, not shown on this map.
 Record for stations 11436950 and 11436999 published in volume 4.)

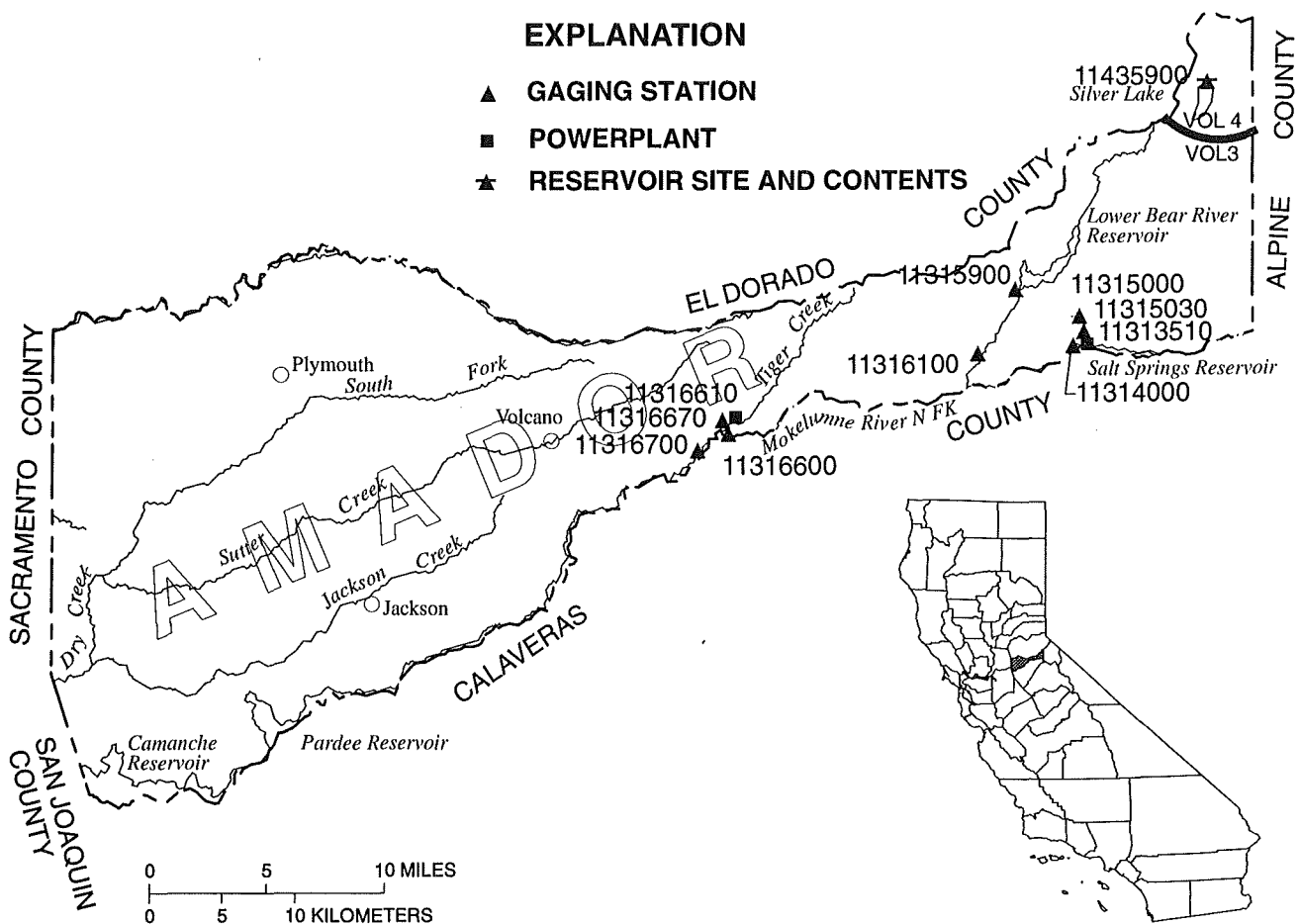


Figure 4. Location of discharge stations in Amador County.
(NOTE: Record for station 11435900 published in volume 4.)

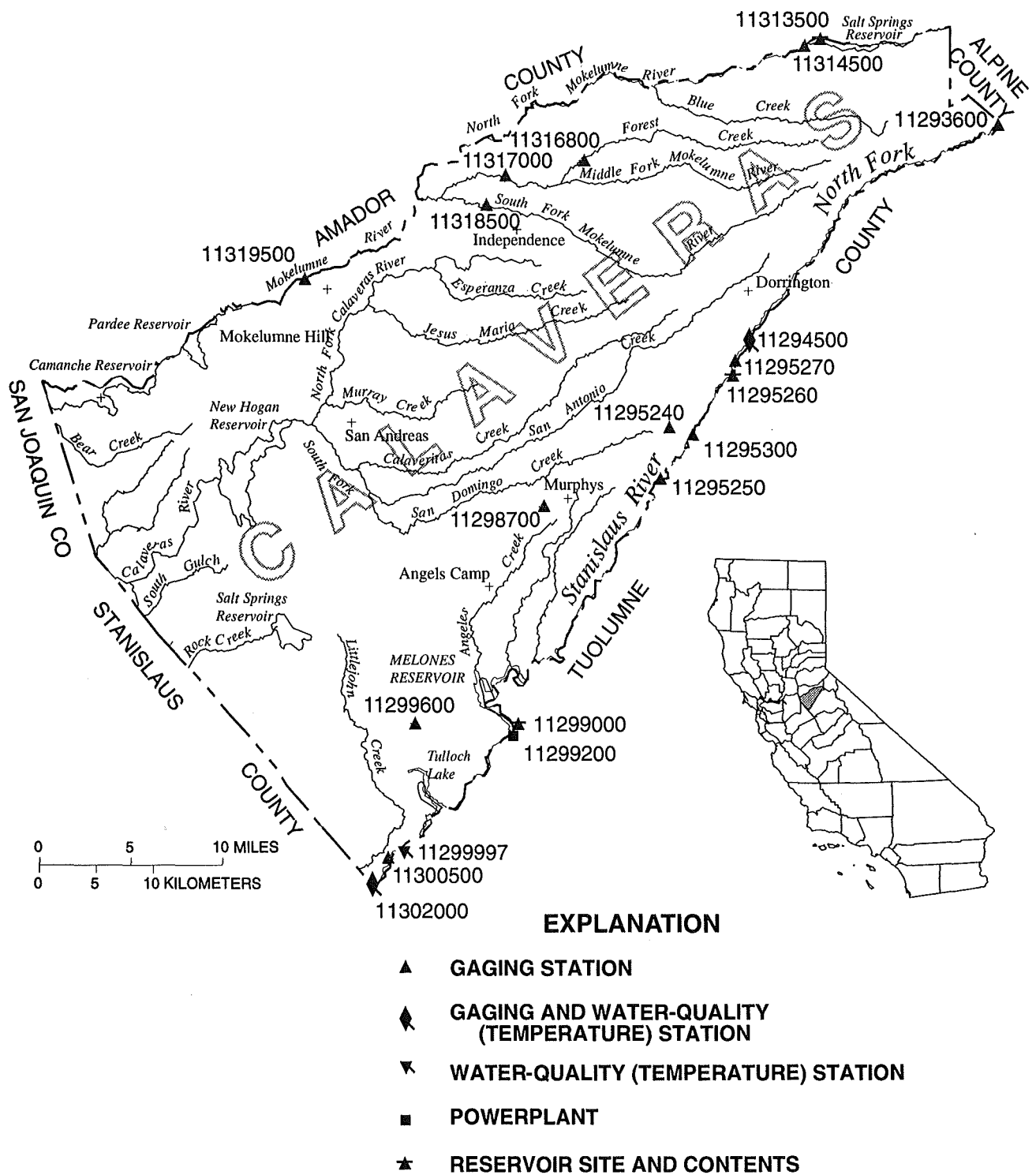


Figure 5. Location of discharge and water-quality stations in Calaveras County.

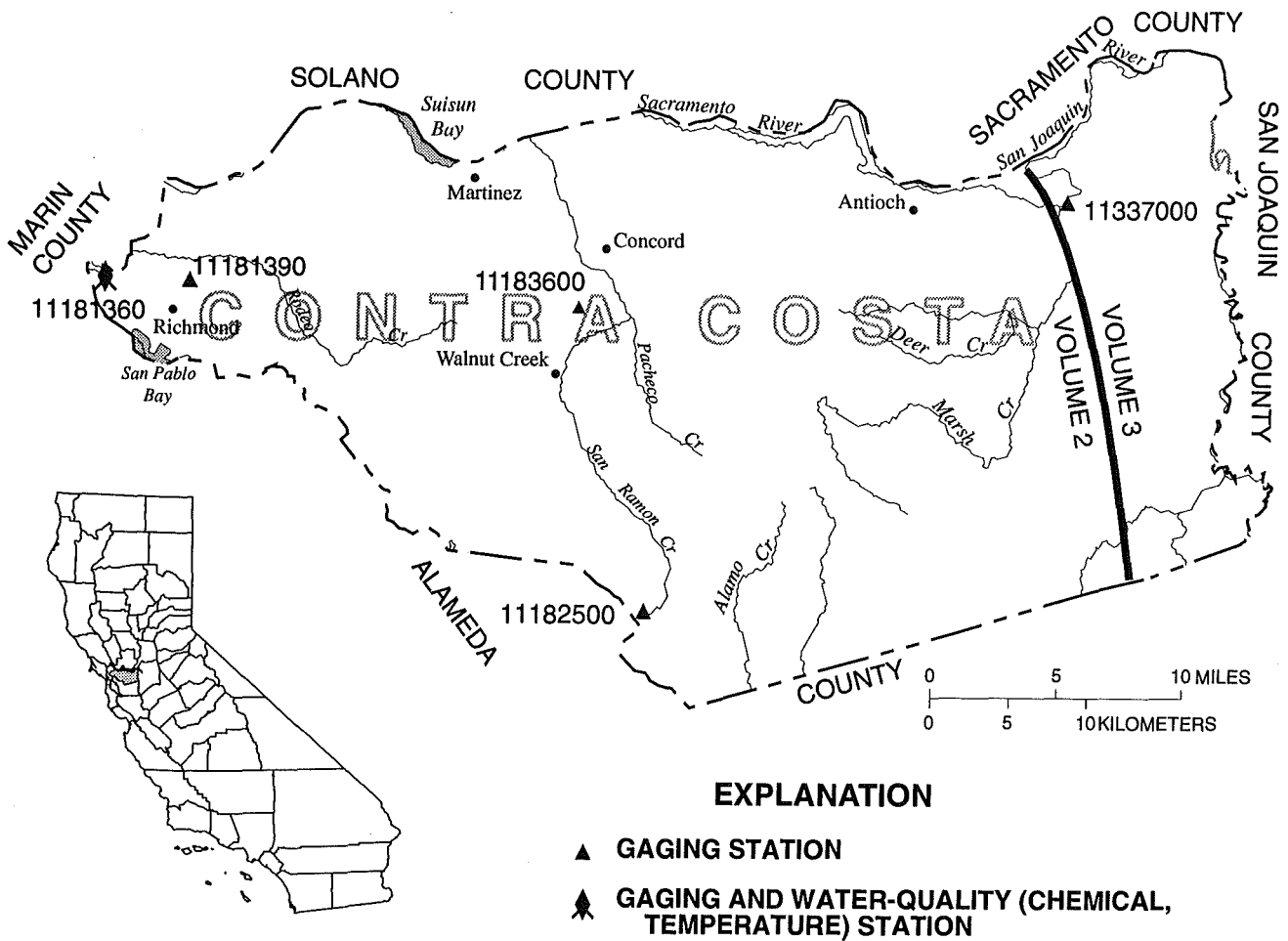
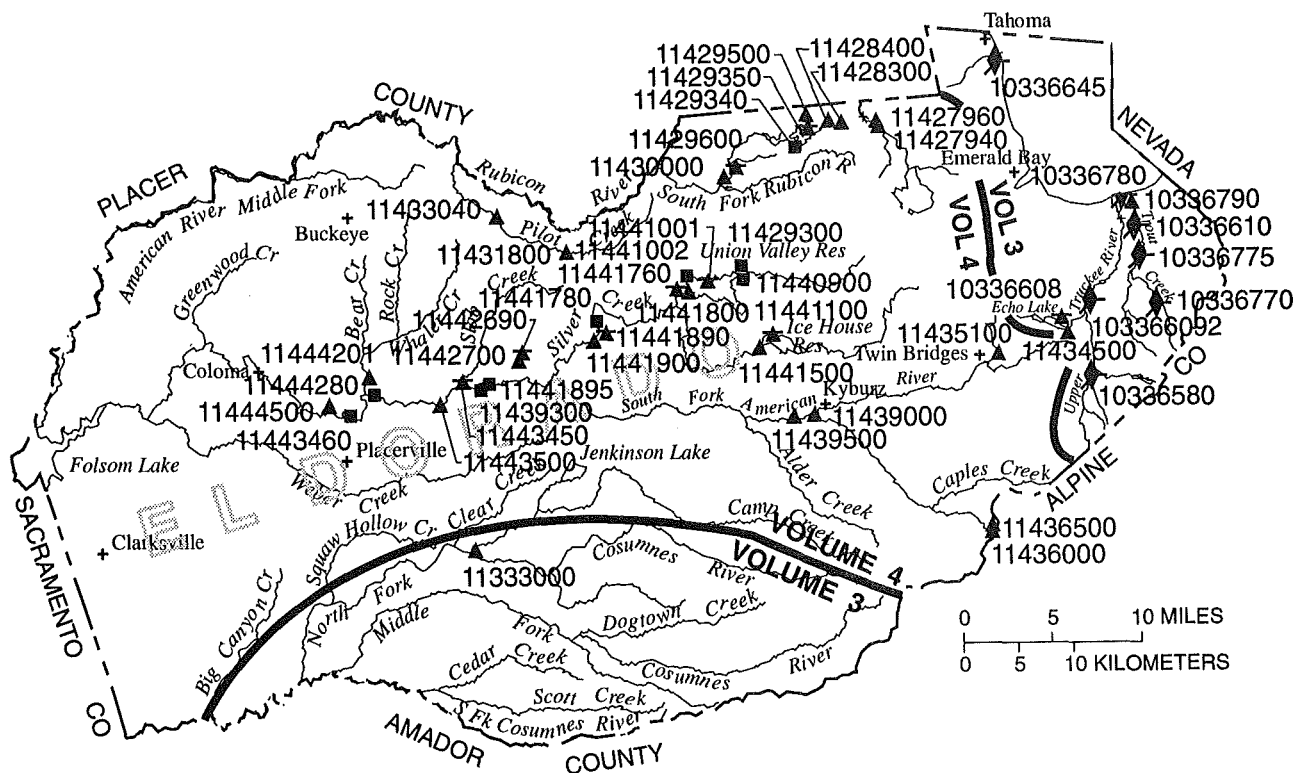


Figure 6. Location of discharge and water-quality stations in Contra Costa County.
 (NOTE: Records for stations 11181360 through 11183600 published in volume 2.)



EXPLANATION

- ▲ GAGING STATION
- ◆ GAGING AND WATER-QUALITY (SEDIMENT, CHEMICAL) STATION
- ▼ WATER-QUALITY (CHEMICAL, SEDIMENT) STATION
- POWERPLANT
- ★ RESERVOIR SITE AND CONTENTS

Figure 7. Location of discharge and water-quality stations in El Dorado County.
(NOTE: Records for stations 11427940 through 11444500 published in volume 4.)

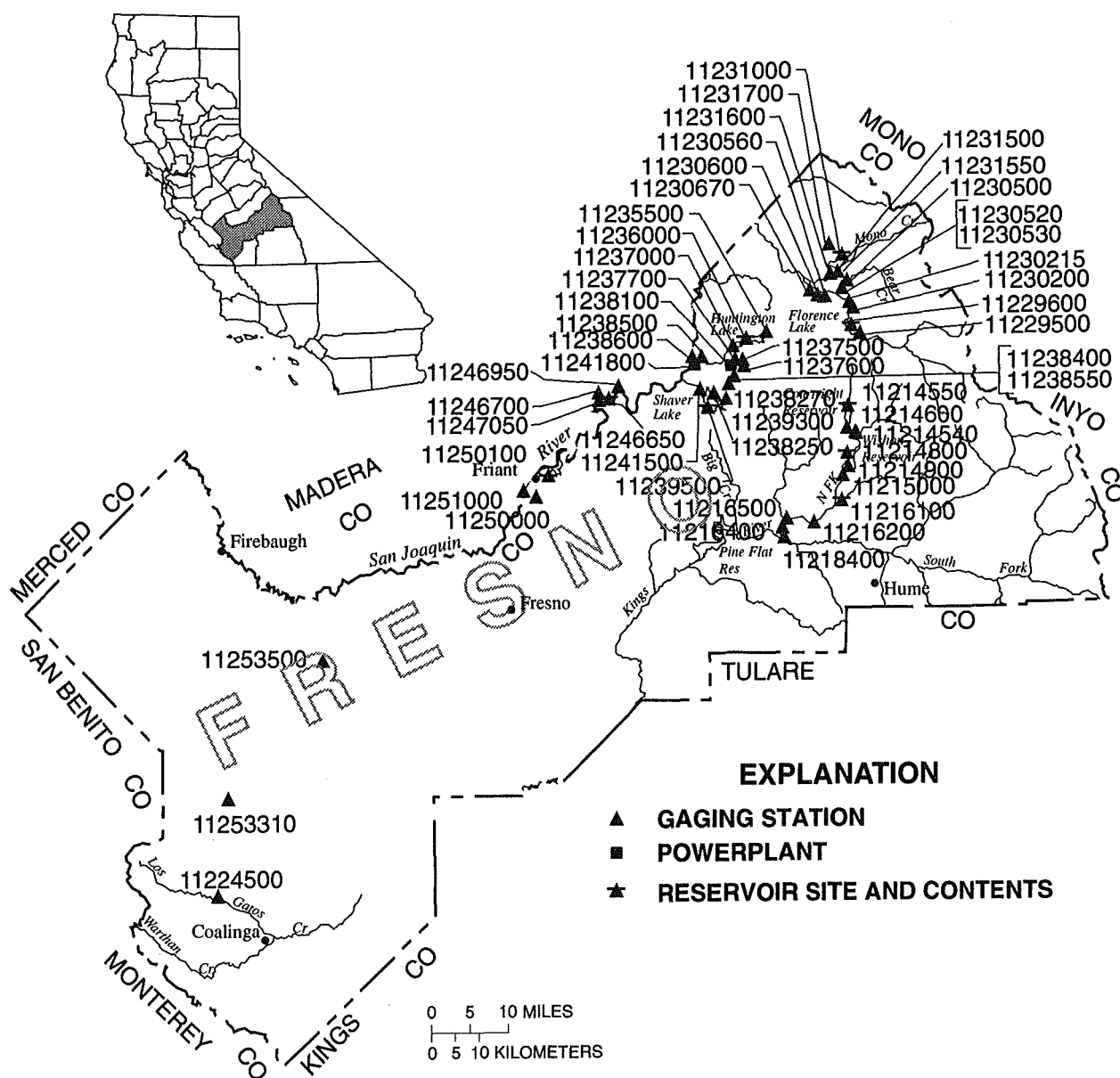


Figure 8. Location of discharge stations in Fresno County.

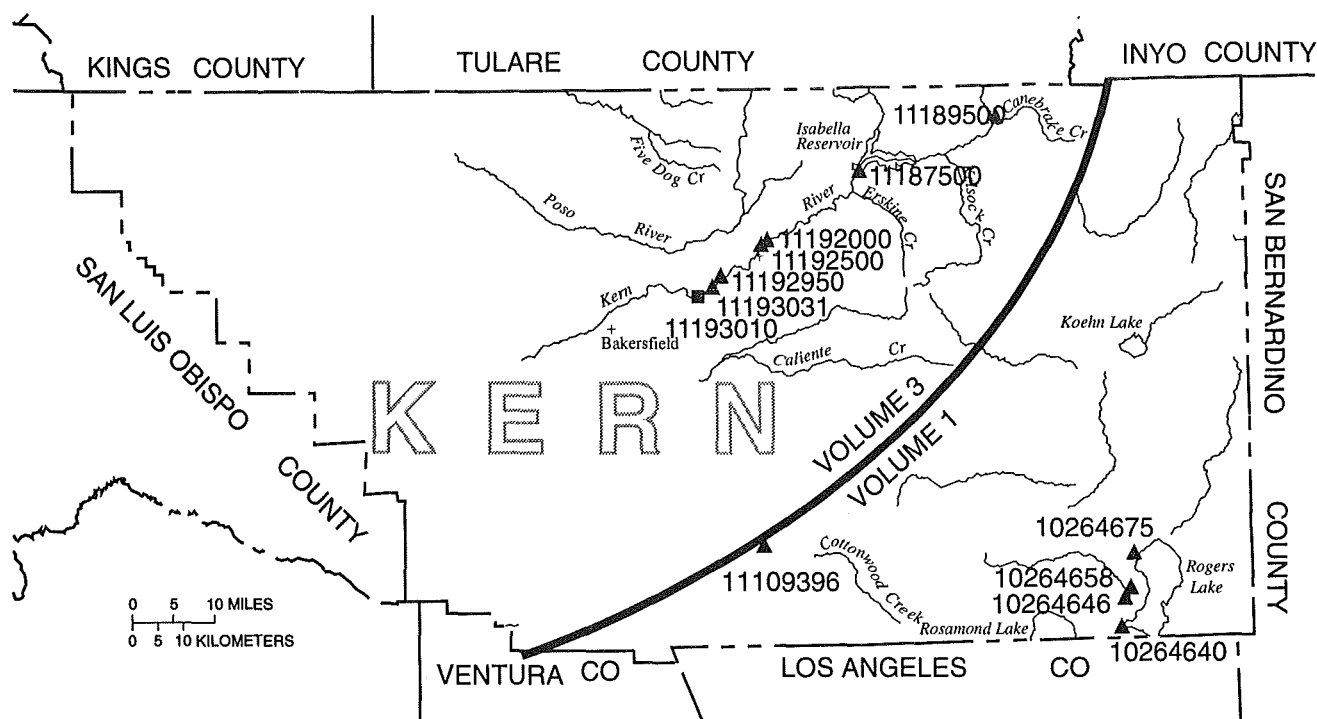


Figure 9. Location of discharge stations in Kern County.

(NOTE: Records for stations 10264640 through 10264675 and 11109396 published in volume 1.)

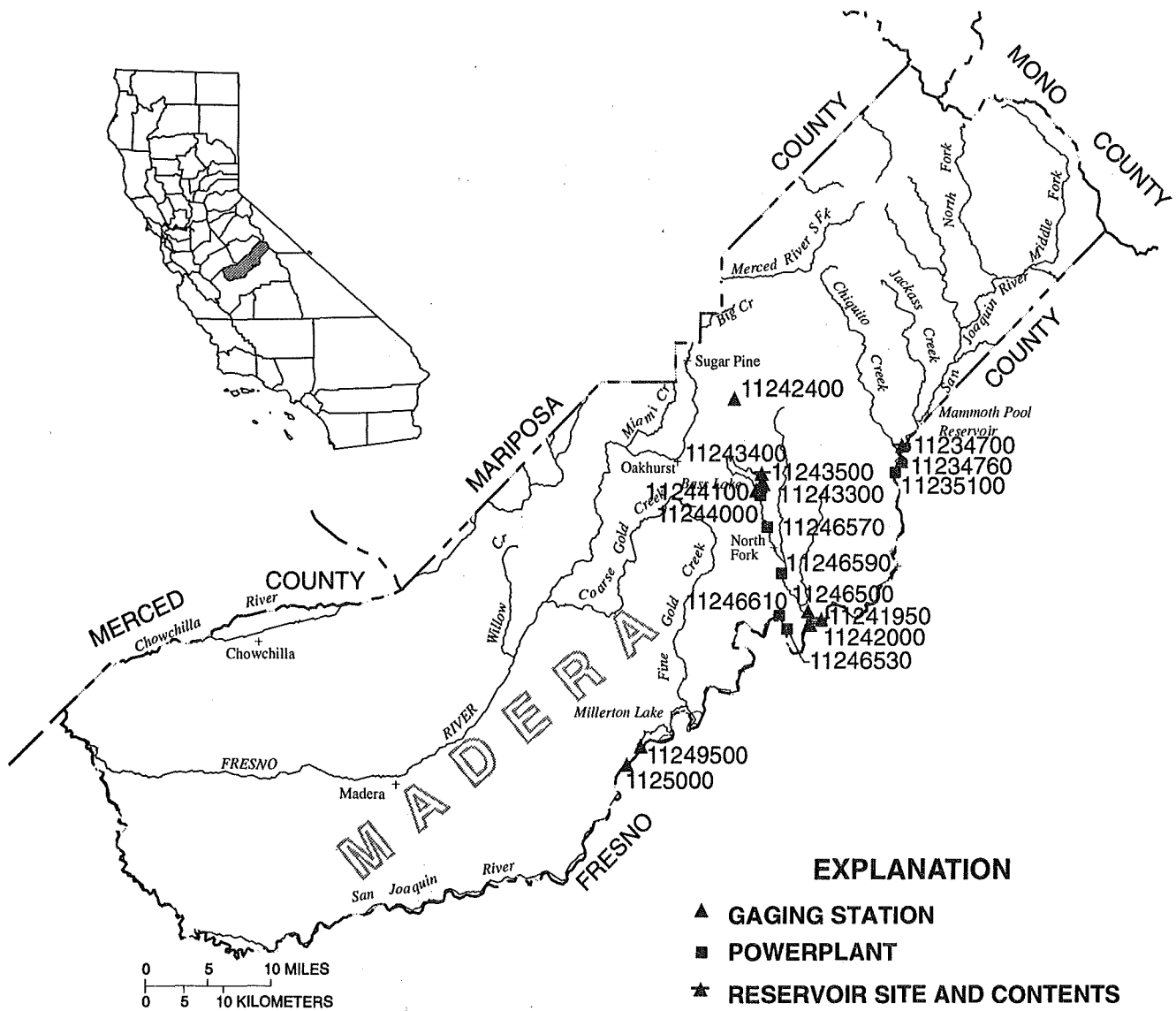


Figure 10. Location of discharge stations in Madera County.

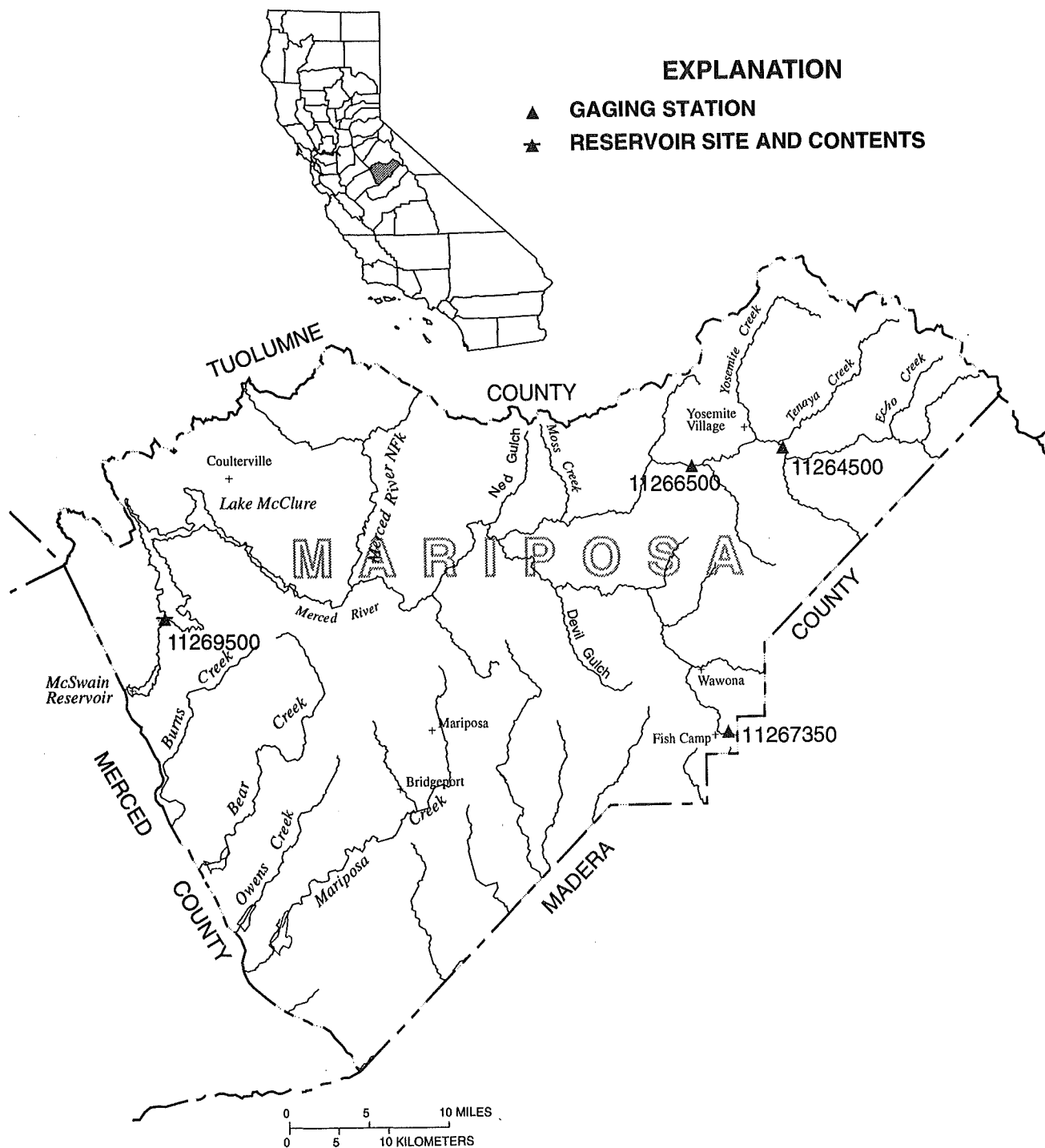


Figure 11. Location of discharge stations in Mariposa County.

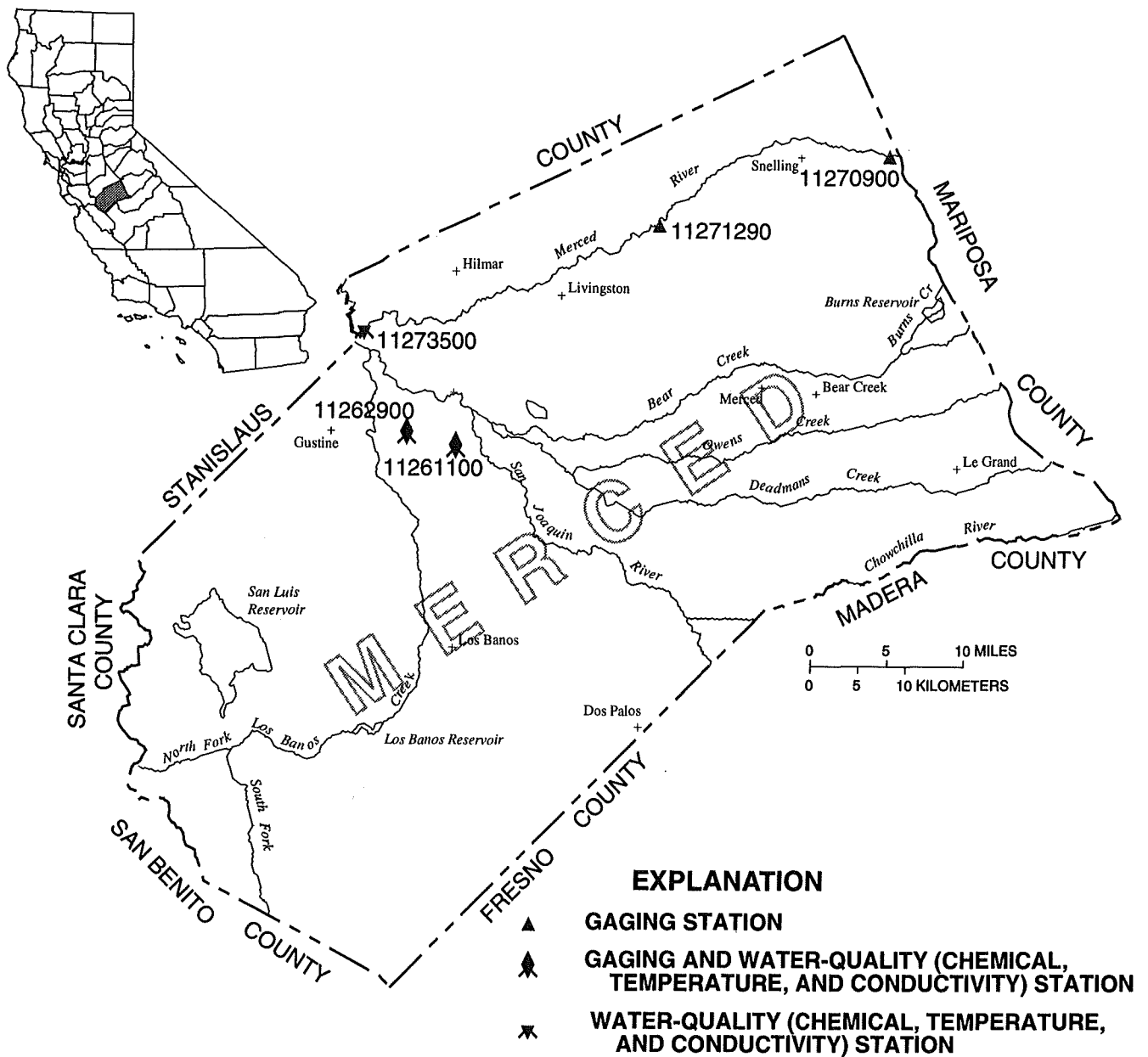


Figure 12. Location of discharge and water-quality stations in Merced County.

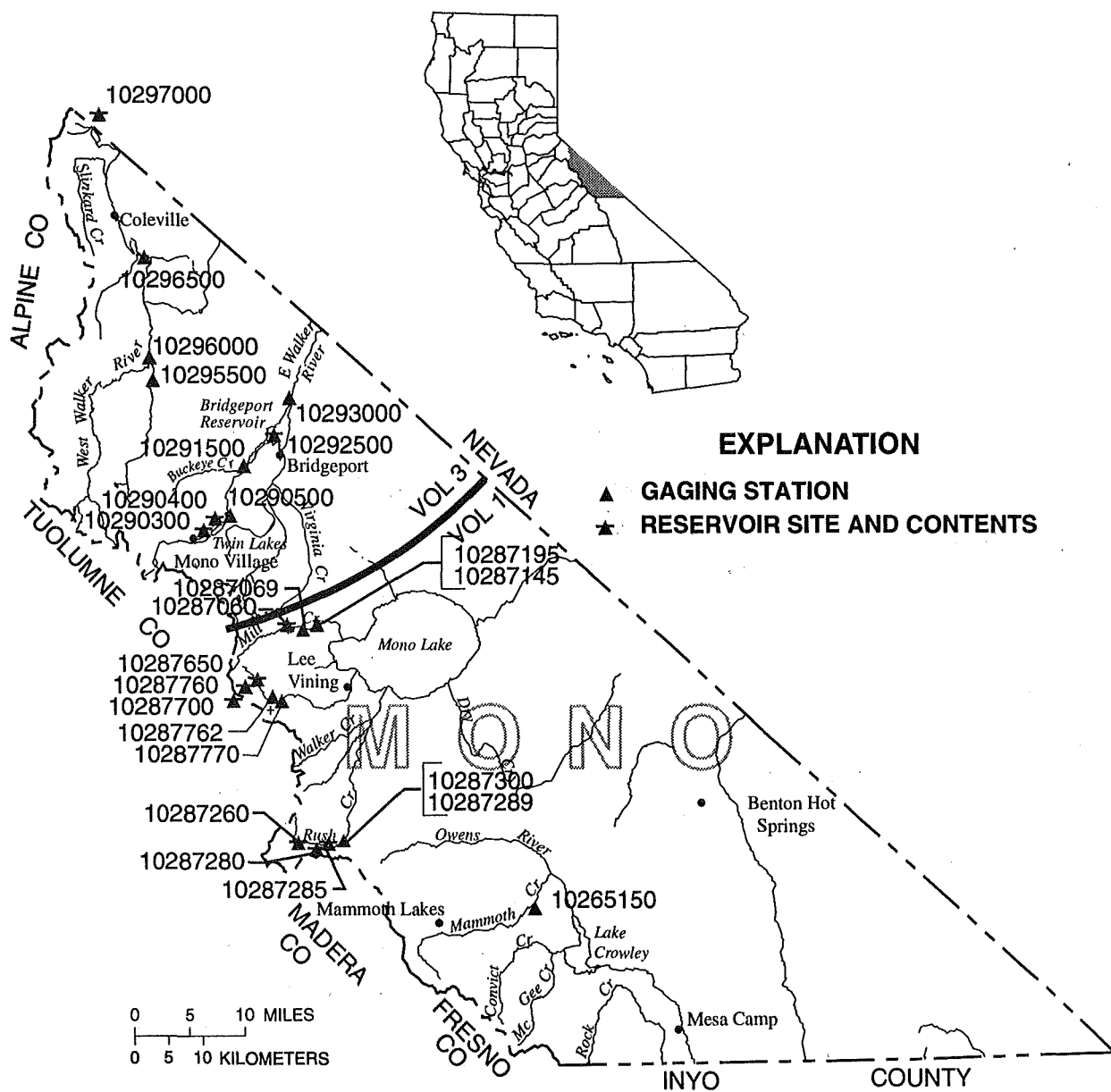


Figure 13. Location of discharge stations in Mono County.
(NOTE: Records for stations 10265150 through 10287770 published in volume 1.)

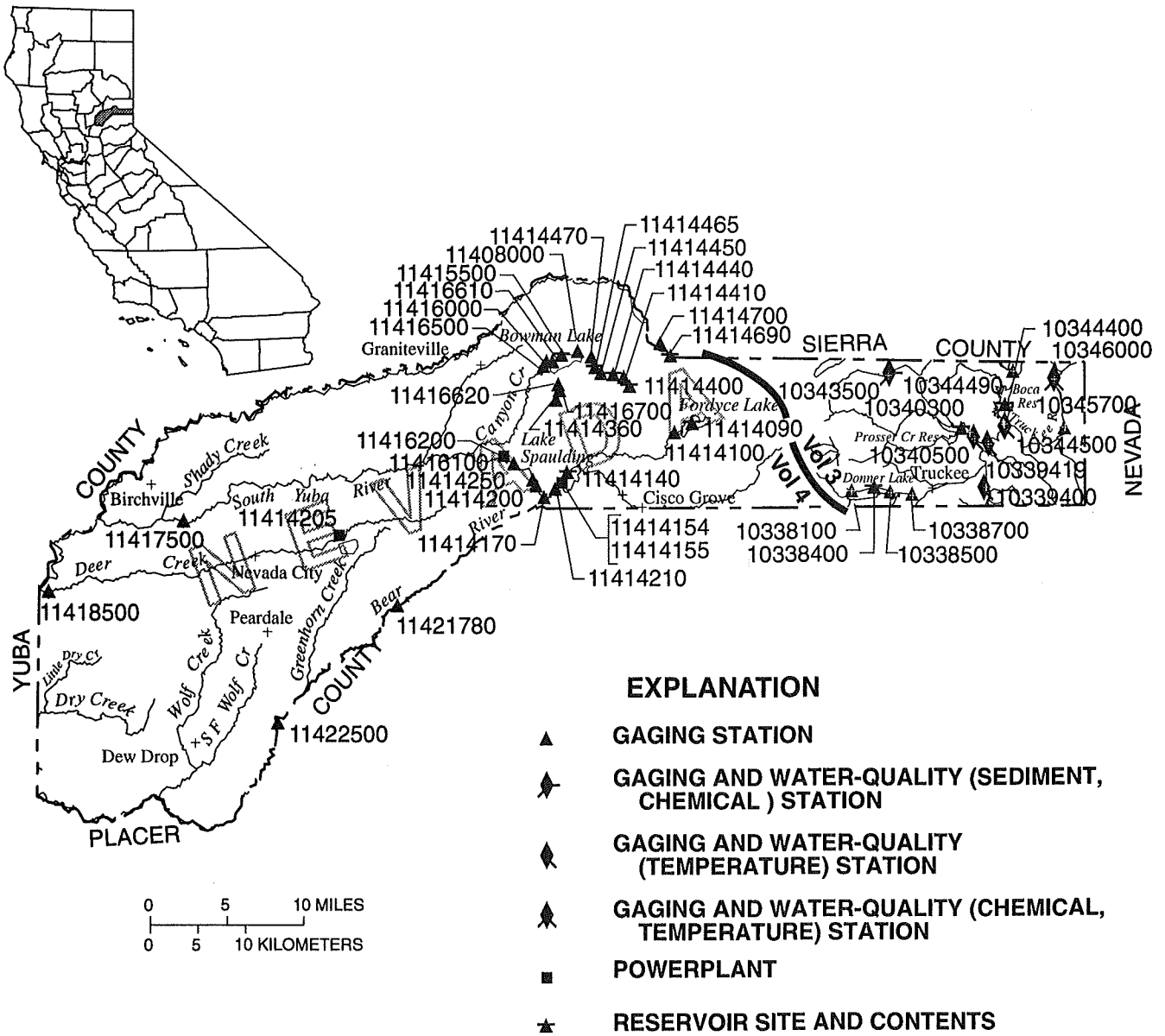
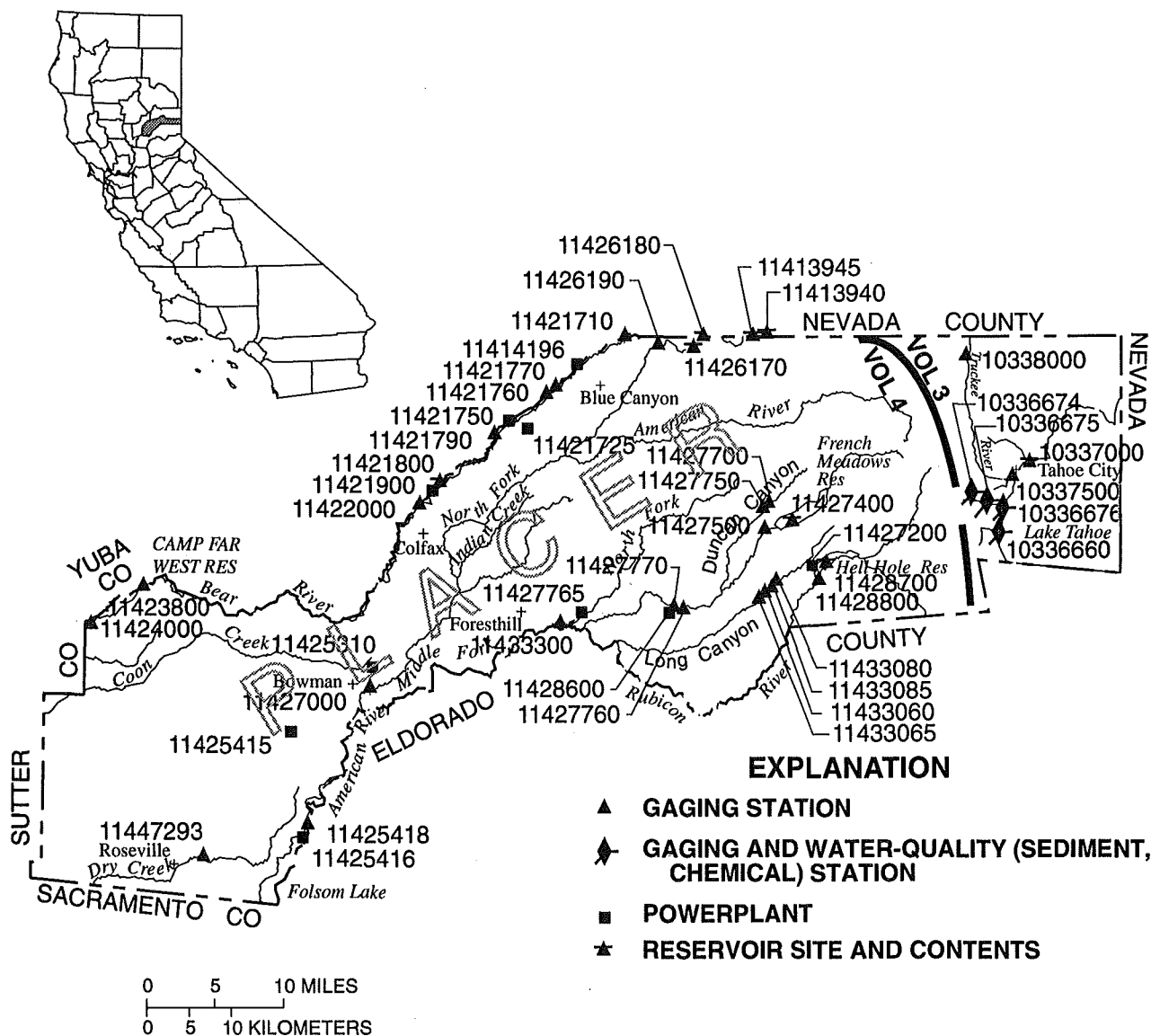


Figure 14. Location of discharge and water-quality stations in Nevada County.
 (NOTE: Records for stations 11408000 through 11422500 published in volume 4.)



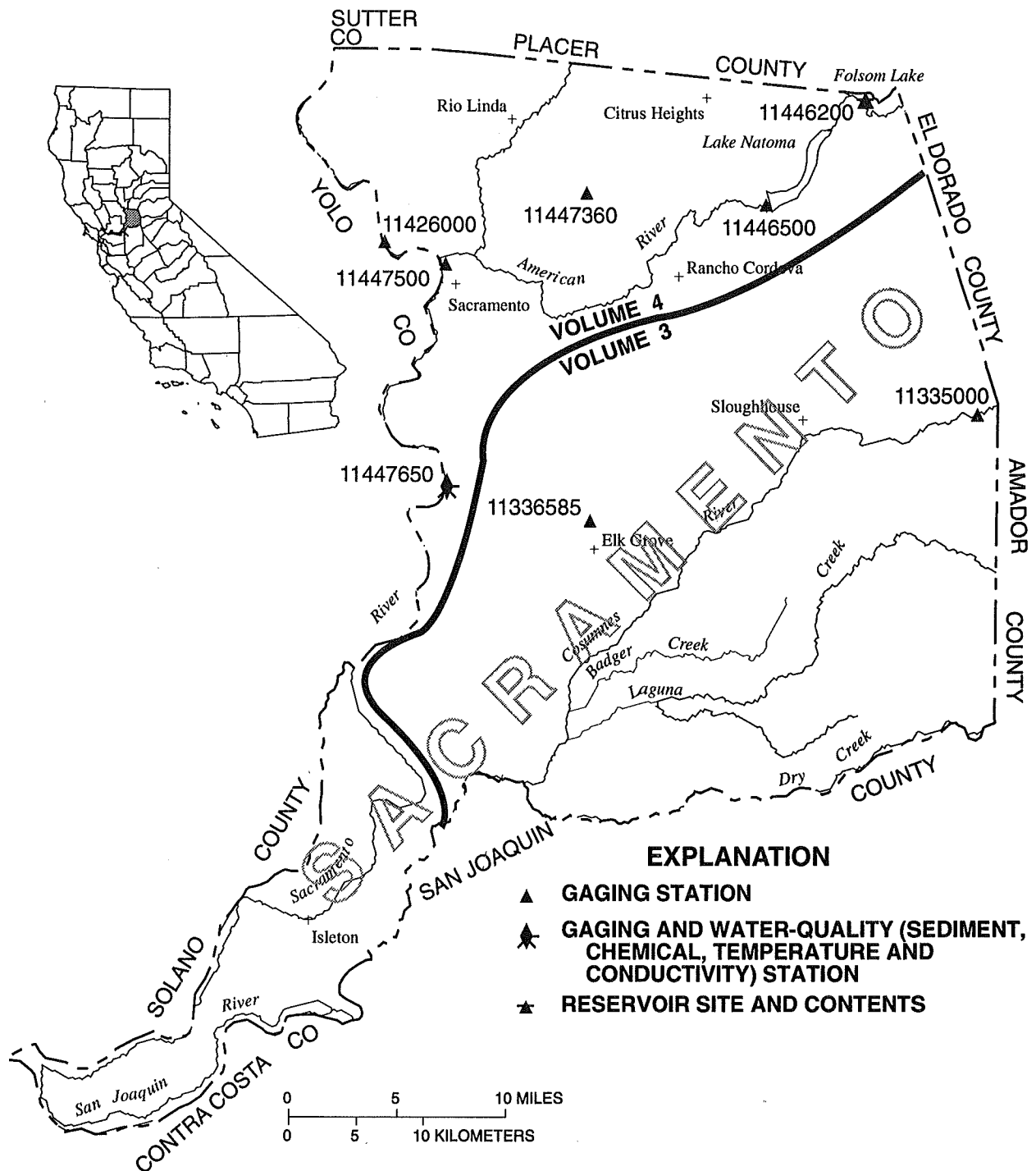


Figure 16. Location of discharge and water-quality stations in Sacramento County.
(NOTE: Records for stations 11426000 through 11447650 published in volume 4.)

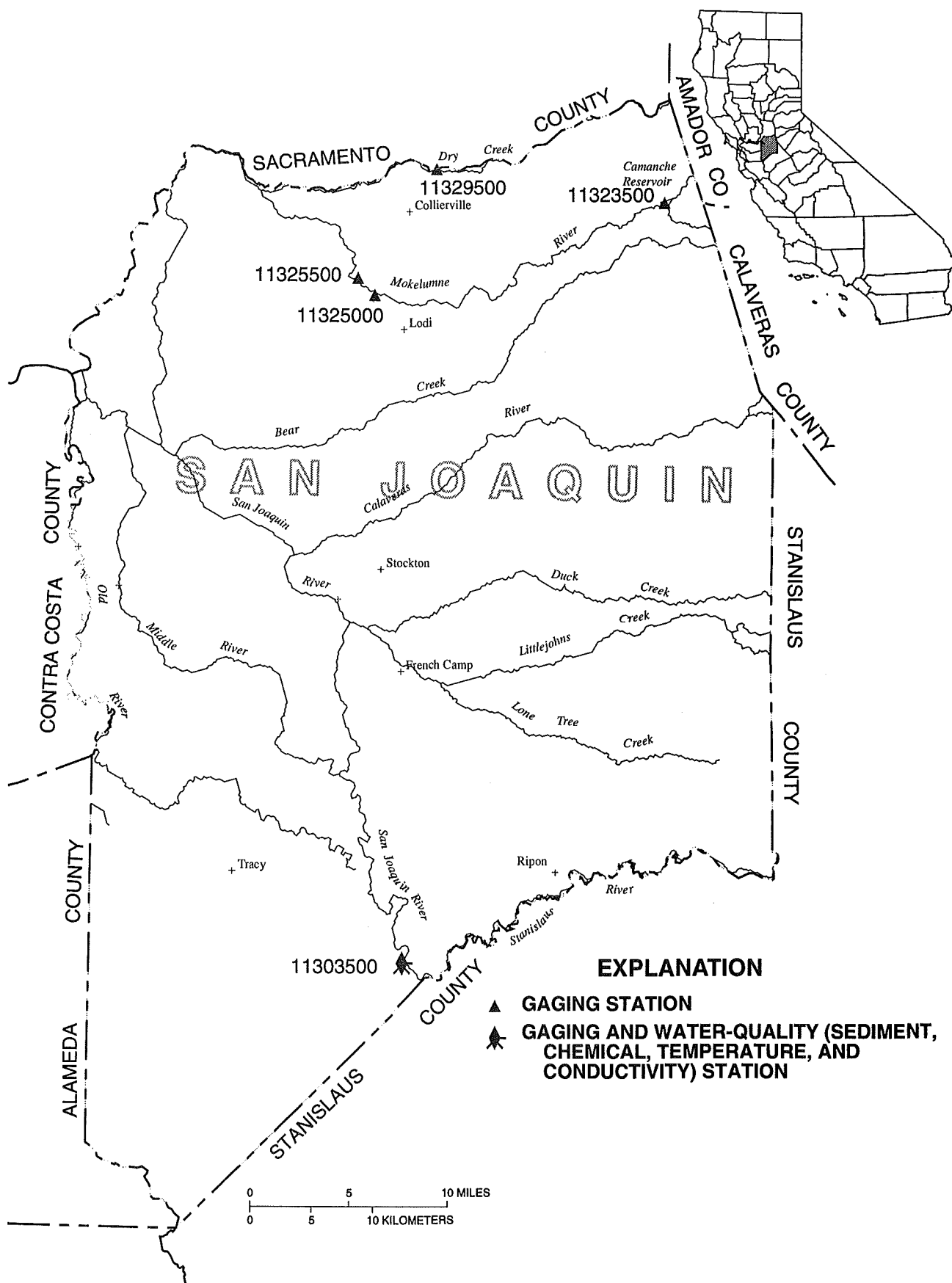


Figure 17. Location of discharge and water-quality stations in San Joaquin County.

EXPLANATION

▲ GAGING STATION

★ RESERVOIR SITE AND CONTENTS

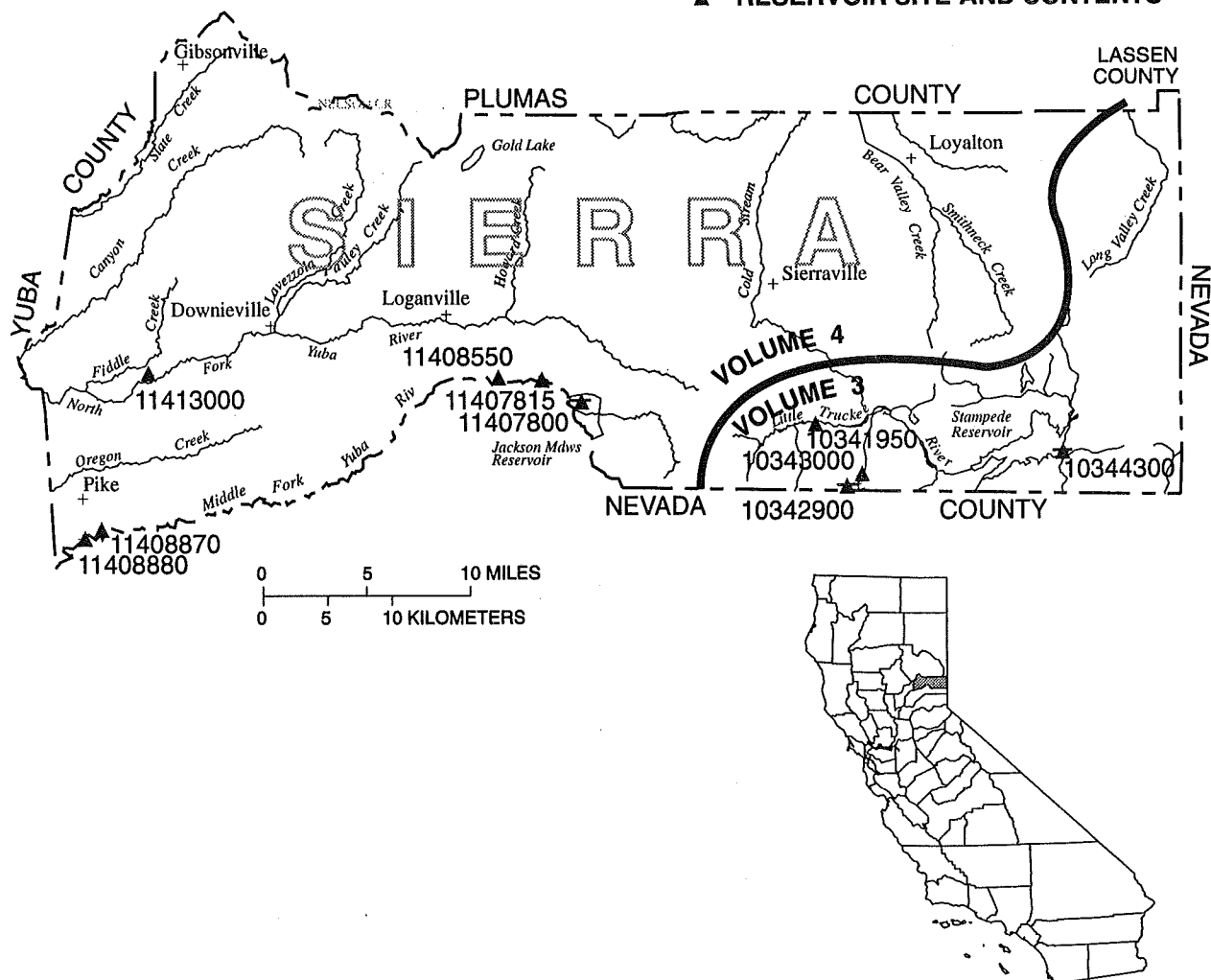


Figure 18. Location of discharge stations in Sierra County.
 (NOTE: Records for stations 11407800 through 11413000 published in volume 4.)

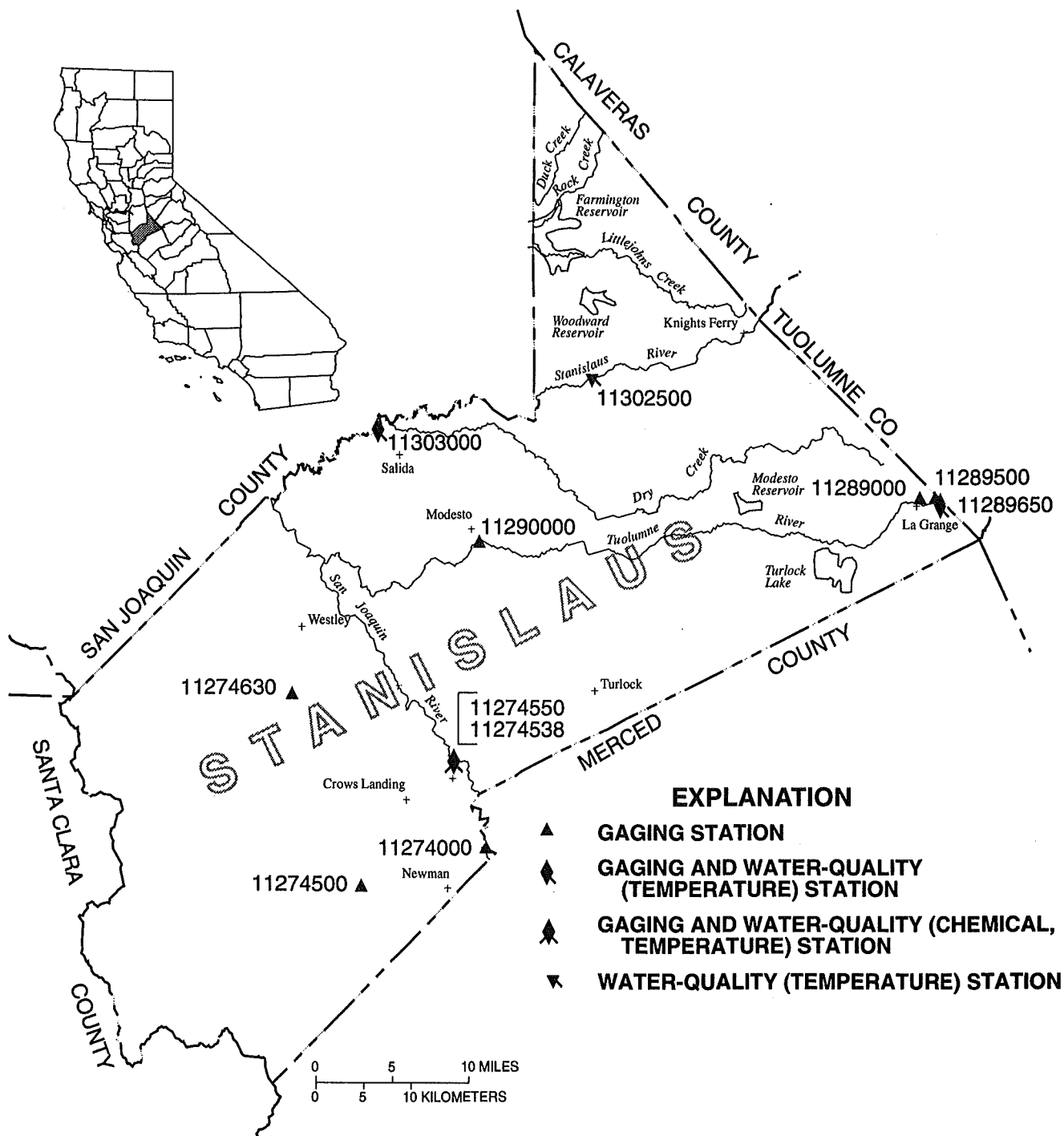


Figure 19. Location of discharge and water-quality stations in Stanislaus County.

EXPLANATION

- ▲ GAGING STATION
- ▲ GAGING STATION (PARTIAL RECORD)
- POWERPLANT

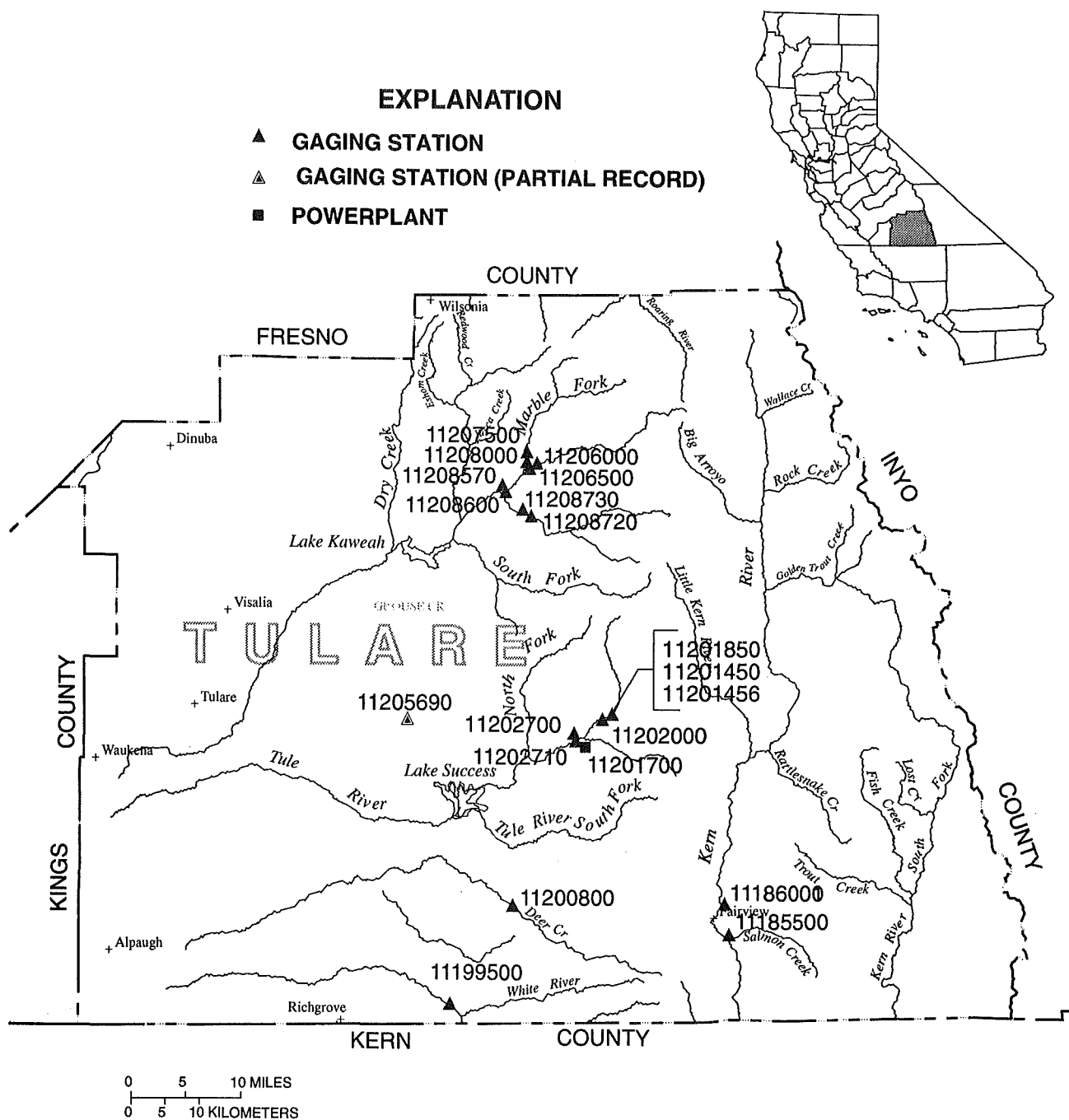


Figure 20. Location of discharge stations in Tulare County.

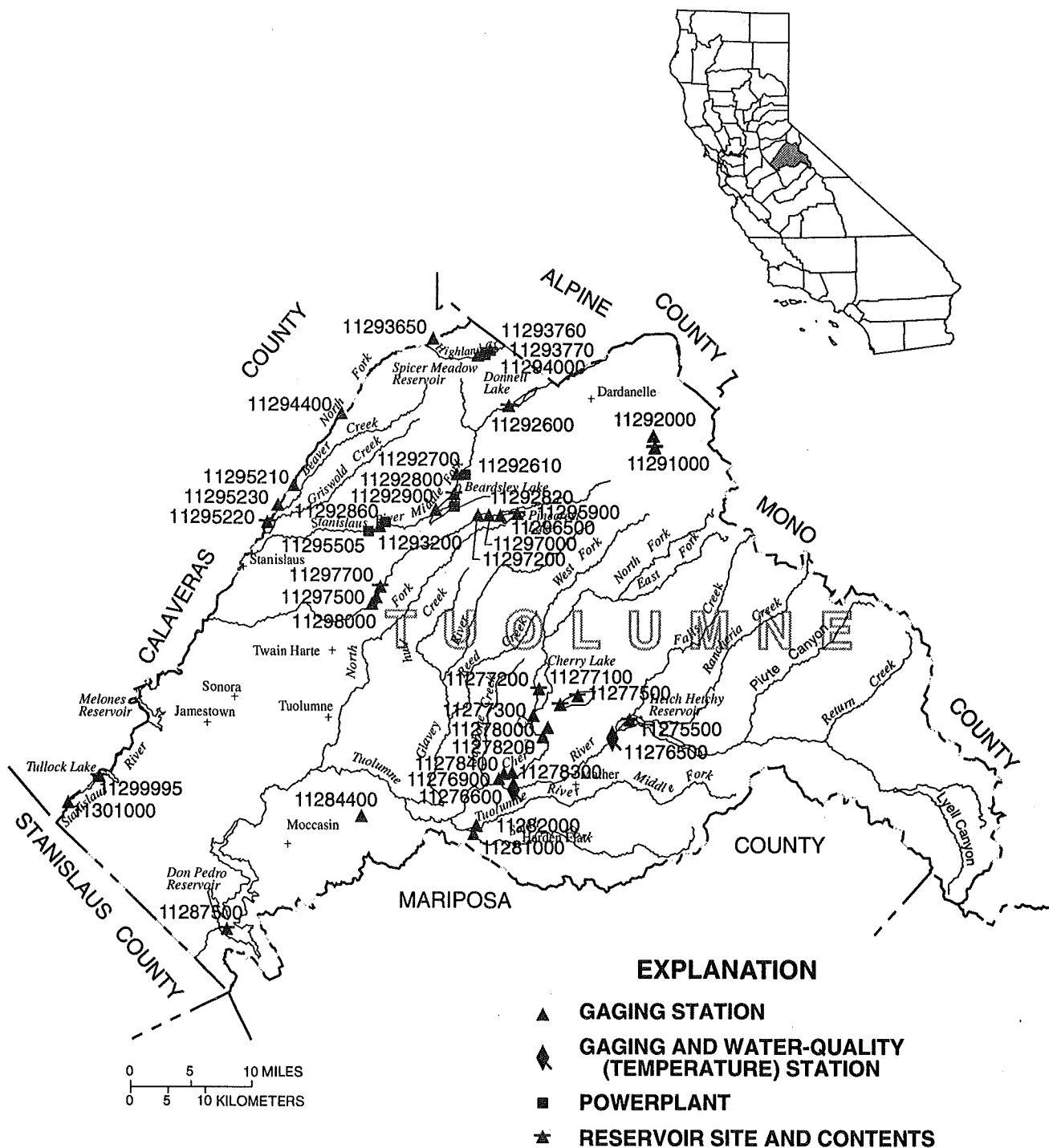


Figure 21. Location of discharge and water-quality stations in Tuolumne County.

SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUTREMARK

e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the 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 measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
A	Samples collected by another agency.
N	Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.
V	Analyte was detected in both the environmental sample and the associated blanks.

Dissolved Trace-Element Concentrations

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

Change in National Trends Network procedures

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

WALKER LAKE BASIN

10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.—Lat 38°09'15", long 119°20'58", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ 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 mi².

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

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, 2,680 acre-ft, June 23, elevation, 7,208.90 ft; minimum observed, 2,110 acre-ft, Sept. 23, elevation, 7,207.12 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND TOTAL CONTENTS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
September 30.....	7207.50	2,230	—
October 31.....	7207.34	2,180	-50
November 30.....	7207.37	2,190	+10
December 31.....	7207.47	2,220	+30
CALENDAR YEAR 1996.....	—	—	+10
January 31.....	7207.60	2,260	+40
February 28.....	7207.38	2,190	-70
March 31.....	7207.73	2,300	+110
April 30.....	7208.30	2,490	+190
May 31.....	7208.68	2,610	+120
June 30.....	7208.80	2,650	+40
July 31.....	7208.25	2,470	-180
August 31.....	7207.60	2,260	-210
September 30.....	7206.92	2,040	-220
WATER YEAR 1997.....	—	—	-190

NOTE.—Monthend elevations 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 mi².

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

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, 5,140 acre-ft, June 23, elevation, 7,202.63 ft; minimum observed, 2,840 acre-ft, Oct. 2, elevation 7,197.11 ft.

MONTHEND ELEVATION AND CONTENTS, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
September 30.....	7197.22	2,890	—
October 31.....	7197.56	3,020	+130
November 30.....	7200.24	4,110	+1,090
December 31.....	7200.82	4,360	+250
CALENDAR YEAR 1996.....	—	—	+230
January 31.....	7201.10	4,470	+110
February 28.....	7201.00	4,430	-40
March 31.....	7201.06	4,460	+30
April 30.....	7201.65	4,710	+250
May 31.....	7202.21	4,950	+240
June 30.....	7202.45	5,050	+100
July 31.....	7201.60	4,690	-360
August 31.....	7200.20	4,100	-590
September 30.....	7199.12	3,650	-450
WATER YEAR 1997.....	—	—	+760

NOTE.—Monthend elevations 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 mi².

PERIOD OF RECORD.—October 1953 to September 1975, May 1992 to September 1994 (irrigation season only), October 1994 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 7,050 ft above sea level, from topographic map.

REMARKS.—Records good, except for estimated daily discharges, which are poor. Flow regulated by Upper and Lower Twin Lakes. No flow for many days in some years. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

REVISIONS.—WSP 1927: Drainage area.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	7.9	32	67	62	42	68	118	281	184	125	74
2	29	7.9	30	352	59	39	67	117	298	171	121	74
3	28	7.7	28	998	56	40	65	115	293	157	115	71
4	28	7.6	28	613	54	40	65	114	290	150	111	69
5	27	7.5	36	412	53	40	63	118	297	147	110	70
6	26	7.5	38	310	52	39	61	123	296	149	110	69
7	26	7.7	35	229	50	39	59	130	266	154	110	68
8	25	7.7	35	173	50	39	58	139	249	159	112	69
9	25	7.7	34	132	50	39	56	145	248	164	115	68
10	24	7.6	39	107	49	39	55	155	246	168	116	70
11	25	7.7	46	103	48	39	55	168	238	177	114	67
12	24	7.7	45	101	47	39	54	185	230	184	109	65
13	24	7.7	44	102	47	39	53	203	216	183	103	65
14	23	7.7	39	100	46	39	53	222	208	177	97	64
15	23	7.8	35	93	45	39	53	235	202	173	92	59
16	23	7.7	33	87	45	39	54	246	193	174	88	55
17	20	6.9	32	83	46	40	56	252	191	173	85	55
18	17	4.6	31	79	46	41	60	254	205	167	83	54
19	15	4.4	29	75	45	41	67	249	239	160	81	53
20	15	4.4	29	76	44	42	75	250	270	151	80	49
21	16	5.1	34	75	44	43	84	245	290	145	76	45
22	17	10	47	74	44	45	98	235	294	144	75	41
23	16	18	45	79	43	e45	110	225	283	149	73	38
24	13	25	40	74	42	e47	115	212	264	159	71	37
25	9.4	29	36	88	42	e50	116	198	243	162	69	34
26	8.8	31	35	94	42	e56	113	184	230	158	72	32
27	8.5	32	36	89	42	57	112	173	223	151	71	32
28	8.3	33	34	82	42	58	113	171	216	143	69	32
29	8.0	33	36	77	---	61	115	180	206	136	69	32
30	7.9	32	40	71	---	64	118	204	198	134	67	32
31	7.9	---	39	65	---	68	---	239	---	128	72	---
TOTAL	596.8	391.5	1120	5160	1335	1388	2291	5804	7403	4931	2861	1643
MEAN	19.3	13.1	36.1	166	47.7	44.8	76.4	187	247	159	92.3	54.8
MAX	29	33	47	998	62	68	118	254	298	184	125	74
MIN	7.9	4.4	28	65	42	39	53	114	191	128	67	32
AC-FT	1180	777	2220	10230	2650	2750	4540	11510	14680	9780	5670	3260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1997, BY WATER YEAR (WY)

MEAN	20.8	8.34	6.82	16.4	15.7	16.8	47.5	107	190	162	98.2	51.3
MAX	37.5	25.0	36.1	166	63.4	44.8	79.4	187	349	400	199	89.0
(WY)	1970	1968	1997	1997	1963	1997	1959	1997	1969	1995	1995	1974
MIN	7.00	.67	.000	.000	.000	.000	22.3	59.1	68.2	62.0	35.1	15.9
(WY)	1995	1958	1954	1954	1954	1955	1975	1955	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1954 - 1997

ANNUAL TOTAL	29243.3	34924.3	
ANNUAL MEAN	79.9	95.7	63.9
HIGHEST ANNUAL MEAN			100
LOWEST ANNUAL MEAN			33.8
HIGHEST DAILY MEAN	378	May 18	998
LOWEST DAILY MEAN	4.4	Nov 19	4.4
ANNUAL SEVEN-DAY MINIMUM	5.8	Nov 15	5.8
INSTANTANEOUS PEAK FLOW			1170
INSTANTANEOUS PEAK STAGE			5.44
ANNUAL RUNOFF (AC-FT)	58000	69270	46270
10 PERCENT EXCEEDS	211	224	161
50 PERCENT EXCEEDS	39	65	31
90 PERCENT EXCEEDS	18	18	.30

e Estimated.

10291500 BUCKEYE CREEK NEAR BRIDGEPORT, CA

LOCATION.—Lat 38°14'20", long 119°19'30", in NE 1/4 NE 1/4 sec.04, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, on right bank at Buckeye Hot Springs, 0.6 mi downstream from Eagle Creek, and about 5.5 mi southwest of Bridgeport.

DRAINAGE AREA.—44.1 mi².

PERIOD OF RECORD.—November 1910 to September 1914 (fragmentary), October 1953 to September 1979, October 1995 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,900 ft above sea level, from topographic map. November 1910 to September 1914, non-recording gage at site 0.5 mi downstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion above station. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of June 21, 1911, reached an observed stage of 4.8 ft, discharge not determined, site and datum then in use.

REVISIONS.—WSP 1927: Drainage area.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	26	31	269	63	42	99	153	e330	154	92	44
2	31	26	32	e1050	63	41	93	154	e325	148	88	50
3	30	26	e33	e700	63	40	91	160	e315	149	84	50
4	29	26	34	e450	62	40	89	180	e290	155	84	47
5	29	24	50	e350	62	40	86	197	e275	158	83	46
6	28	24	33	e250	60	40	84	210	e260	155	84	44
7	28	25	31	e200	58	41	83	219	e265	155	83	43
8	27	25	32	e119	57	42	84	e240	e265	159	83	41
9	27	26	32	e90	59	45	82	e265	e270	160	81	40
10	27	26	27	e80	57	49	79	e270	e260	167	79	40
11	27	26	31	e73	56	54	77	e300	e270	160	71	40
12	27	26	36	e70	56	56	76	e320	e275	149	69	39
13	26	25	33	e67	55	55	77	e330	e275	138	68	38
14	26	24	31	e65	55	59	82	e325	e300	141	65	37
15	26	23	e30	e65	56	65	93	e325	e280	146	63	38
16	25	22	e29	e65	55	70	108	e335	e280	141	63	37
17	25	59	29	e65	56	66	118	e350	e295	133	63	36
18	27	73	e29	e64	55	68	119	e335	e310	125	60	35
19	27	45	e30	e64	56	77	128	e335	e320	119	58	35
20	25	41	e30	e64	55	83	144	e330	e330	119	57	35
21	24	42	30	e64	55	82	159	e300	e285	127	58	34
22	25	57	50	e64	56	83	161	e280	e265	136	54	33
23	26	39	46	e63	54	91	149	e270	e250	135	53	29
24	26	36	e42	e63	52	97	139	e260	e230	128	55	25
25	26	34	e40	e63	56	101	131	e255	201	119	54	26
26	26	33	e37	e62	44	109	142	e255	203	111	50	26
27	26	30	e40	e62	43	113	172	e265	197	111	48	26
28	26	32	31	e61	42	111	182	e275	188	111	47	25
29	26	30	36	e60	---	111	166	e280	182	102	46	24
30	27	38	48	e61	---	110	161	e290	173	105	45	25
31	26	---	54	64	---	107	---	e350	---	96	45	---
TOTAL	829	989	1097	4907	1561	2188	3454	8413	7964	4212	2033	1088
MEAN	26.7	33.0	35.4	158	55.8	70.6	115	271	265	136	65.6	36.3
MAX	31	73	54	1050	63	113	182	350	330	167	92	50
MIN	24	22	27	60	42	40	76	153	173	96	45	24
AC-FT	1640	1960	2180	9730	3100	4340	6850	16690	15800	8350	4030	2160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1997, BY WATER YEAR (WY)

	MEAN	22.9	22.2	22.4	25.2	22.2	25.8	50.8	140	206	128	52.1	29.4
MAX	41.4	44.4	52.2	158	55.8	70.6	115	322	432	399	115	65.6	
(WY)	1957	1974	1965	1997	1997	1997	1997	1969	1911	1911	1967	1911	
MIN	7.43	11.6	10.2	10.2	10.2	11.7	22.3	32.2	43.4	18.8	9.76	7.55	
(WY)	1978	1962	1978	1960	1977	1977	1967	1977	1976	1977	1977	1977	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1911 - 1997

ANNUAL TOTAL	32450	38735	
ANNUAL MEAN	88.7	106	60.8
HIGHEST ANNUAL MEAN			114
LOWEST ANNUAL MEAN			19.5
HIGHEST DAILY MEAN	359	May 16	1050
LOWEST DAILY MEAN	22	Nov 16	22
ANNUAL SEVEN-DAY MINIMUM	25	Nov 10	25
INSTANTANEOUS PEAK FLOW			2750
INSTANTANEOUS PEAK STAGE		7.49	Jan 2
ANNUAL RUNOFF (AC-FT)	64360	76830	44060
10 PERCENT EXCEEDS	242	270	171
50 PERCENT EXCEEDS	44	63	29
90 PERCENT EXCEEDS	26	26	14

e Estimated.

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 mi².

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

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 contents, 43,400 acre-ft, Jan. 4, elevation, 6,460.31 ft; minimum 18,640 acre-feet, Oct. 16, elevation, 6,449.92 ft.

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

6,425	334	6,440	6,240	6,455	29,160
6,430	1,130	6,445	11,380	6,460	42,460
6,435	2,920	6,450	18,780	6,461	45,490

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20250	20220	28240	33730	32310	26550	33140	32810	36020	41230	41700	27340
2	20200	20360	28420	40040	32810	26680	33270	32690	36710	41260	41640	26880
3	20140	20550	28610	43340	33170	26750	33470	32560	37120	41320	41530	26440
4	20050	20720	28880	43220	33550	27090	33630	32510	37590	41350	41350	26050
5	20010	20840	29330	42610	33530	27530	33830	32410	38260	41380	40880	25670
6	19920	20950	29620	41440	33020	28060	33960	32280	38870	41500	40360	25230
7	19850	21090	29860	40210	32310	28540	33980	32100	39040	41500	39770	24810
8	19680	21230	30220	38980	31650	28980	33650	31900	39210	41530	39180	24430
9	19520	21380	30360	38010	30940	29400	34030	31850	39920	41470	38650	24040
10	19370	21540	31040	37150	30290	29810	33980	32030	40330	41470	38210	23660
11	19240	21680	31600	36520	29590	30270	33880	32130	40270	41470	37790	23290
12	19110	21820	32150	35860	28860	30610	33930	32410	40040	41500	37340	22980
13	18980	21950	32590	35140	28330	30920	33880	32790	40360	41470	36900	22620
14	18890	22050	32690	34450	27890	31210	33830	33270	40390	41410	36470	22340
15	18820	22170	32540	33930	27620	31570	33880	33730	40270	41350	36100	21780
16	18730	22340	32430	33370	27370	31820	33960	34320	40010	41260	35670	21420
17	18750	23290	32330	32760	27090	32200	34080	34750	39800	41090	35300	21130
18	18800	23850	32130	32330	26820	32280	34110	35170	39740	41060	34880	20860
19	18750	24260	31980	31900	26660	32330	34080	35490	39890	40880	34430	20620
20	18730	24640	31870	31600	26640	32360	34080	35780	40120	40620	33880	20380
21	18780	25140	32180	31400	26570	32330	34060	35890	40420	40420	33350	20180
22	18800	26000	32310	31500	26570	32310	34220	35830	40590	40450	32840	19960
23	18890	26350	32200	31400	26510	32380	34080	35830	40710	40740	32330	19760
24	19180	26640	32260	31230	26440	32480	33880	35730	40680	41090	31620	19570
25	19060	26880	32260	31400	26400	32560	33750	35540	40530	41320	31040	19460
26	19180	27180	32310	31330	26460	32710	33500	35280	40530	41440	30410	19370
27	19260	27370	32410	30990	26570	32640	33370	34960	40740	41610	29860	19260
28	19370	27620	32330	30680	26600	32740	33220	34670	40880	41670	29330	19090
29	19590	27850	32200	30770	---	32760	33090	34590	41090	41700	28810	18960
30	19790	28100	32000	31280	---	32660	33020	34800	41180	41700	28330	18780
31	20010	---	32050	31750	---	33040	---	35280	---	41760	27800	---
MAX	20250	28100	32690	43340	33550	33040	34220	35890	41180	41760	41700	27340
MIN	18730	20220	28240	30680	26400	26550	33020	31850	36020	40420	27800	18780
a	6450.67	6454.54	6456.19	6456.07	6453.88	6456.58	6456.57	6457.44	6459.56	6459.76	6454.41	6450.00
b	-350	+8090	+3950	-300	-5150	+6440	-20	+2260	+5900	+580	-13960	-9020

CAL YR 1996 MAX 42980 MIN 18730 b +45060

WTR YR 1997 MAX 43340 MIN 18730 b -1580

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 $\frac{1}{4}$ NE $\frac{1}{4}$ 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 mi².

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 Sept. 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 good. Diversions for irrigation of meadow pasturelands near Bridgeport. Flow regulated by Bridgeport Reservoir (station 10292500). These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	29	35	876	53	225	209	359	506	256	268	332
2	101	29	35	1330	49	225	210	359	537	242	269	339
3	94	30	35	1620	49	178	200	360	579	242	269	342
4	94	30	34	1880	91	68	171	360	581	243	296	315
5	94	30	35	1810	252	40	164	380	584	228	366	295
6	86	30	35	1580	525	40	185	408	585	206	397	294
7	97	30	35	1430	606	58	185	438	632	223	399	294
8	126	30	35	1390	604	98	184	455	659	267	380	289
9	126	30	35	1150	601	112	184	489	576	288	372	273
10	126	31	35	939	600	113	184	508	537	287	371	259
11	125	32	35	802	598	113	184	508	710	287	371	250
12	113	32	43	742	597	114	184	508	736	295	371	237
13	94	32	89	739	526	114	184	508	689	309	360	256
14	98	32	180	685	432	115	184	507	695	309	326	273
15	95	32	231	656	379	115	161	509	739	324	298	258
16	79	32	231	654	371	116	153	540	739	346	298	240
17	72	33	231	651	370	158	170	629	643	326	298	230
18	59	33	231	561	370	246	198	653	544	296	307	218
19	65	33	231	514	333	323	234	682	519	324	335	205
20	65	33	188	513	313	323	254	723	519	358	355	196
21	65	33	144	399	283	323	253	722	546	318	349	189
22	61	33	145	319	267	323	268	722	562	255	342	182
23	55	33	144	336	268	323	311	676	564	247	350	169
24	47	33	143	439	239	323	324	651	564	247	361	162
25	36	33	144	573	223	323	338	650	539	247	361	157
26	36	33	159	618	224	339	359	647	450	246	355	151
27	36	33	168	619	225	348	358	646	340	246	342	159
28	33	33	206	617	225	335	358	646	301	259	326	171
29	30	34	334	338	---	300	358	585	301	291	321	171
30	29	34	467	89	---	280	358	505	289	304	333	175
31	29	---	606	64	---	243	---	505	---	290	330	---
TOTAL	2384	955	4699	24933	9673	6354	7067	16838	16765	8606	10476	7081
MEAN	76.9	31.8	152	804	345	205	236	543	559	278	338	236
MAX	126	34	606	1880	606	348	359	723	739	358	399	342
MIN	29	29	34	64	49	40	153	359	289	206	268	151
AC-FT	4730	1890	9320	49450	19190	12600	14020	33400	33250	17070	20780	14050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1997, BY WATER YEAR (WY)

	MEAN	60.4	28.2	37.7	46.8	50.4	87.0	175	258	312	299	240	154
MAX	301	325	398	804	345	417	721	880	1001	797	638	406	
(WY)	1984	1983	1984	1997	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1922 - 1997

ANNUAL TOTAL	84660	115831		
ANNUAL MEAN	231	317		
HIGHEST ANNUAL MEAN			146	
LOWEST ANNUAL MEAN			443	1983
HIGHEST DAILY MEAN	686	May 23	37.5	1931
LOWEST DAILY MEAN	29	Oct 30	1880	Jan 4 1997
ANNUAL SEVEN-DAY MINIMUM	29	Oct 29	29	Oct 30
INSTANTANEOUS PEAK FLOW			29	Oct 29
INSTANTANEOUS PEAK STAGE			1910	Jan 4
ANNUAL RUNOFF (AC-FT)	167900	229800	6.74	Jan 4
10 PERCENT EXCEEDS	422	636	1910	Jan 4 1997
50 PERCENT EXCEEDS	231	273	6.74	Jan 4 1997
90 PERCENT EXCEEDS	35	35	7.0	

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.—Lat 38°21'30", long 119°26'30", in NW 1/4 NW 1/4 sec.22, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, in Toiyabe National Forest, on right bank, 0.8 mi North of Sonora Junction, 1.5 mi upstream from mouth, and 14 mi northwest of Bridgeport.

DRAINAGE AREA.—63.1 mi².

PERIOD OF RECORD.—April to August 1910, October 1944 to September 1986, October 1995 to current year. Prior to October 1958, published as East Fork Walker River near Bridgeport.

REVISED RECORDS.—WDR 82-1: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 6,790 ft above sea level, from topographic map. April to August 1910, nonrecording gage at site 1 mi upstream at different datum. Prior to Jan. 2, 1997, at same site, at datum 1.0 ft higher.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Small diversions above station. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	e21	e25	e250	e50	48	84	97	326	125	64	30
2	20	e21	e20	e600	49	48	78	100	321	117	60	34
3	e20	e21	e25	e350	e49	49	75	105	309	115	58	33
4	e20	e21	e27	e200	e48	e48	71	117	299	117	58	31
5	e20	e18	e35	e145	e48	47	68	122	270	117	57	30
6	e19	e20	e28	e119	e47	47	64	131	247	116	56	30
7	e18	e21	e27	e91	e46	41	63	173	248	119	54	29
8	e18	e21	e27	e81	e46	45	64	234	242	122	52	28
9	e18	e21	e27	e71	e45	49	63	260	251	119	52	28
10	e18	e21	e25	e65	e45	56	63	284	248	122	50	27
11	e18	e21	e29	e60	e44	62	60	302	222	117	47	27
12	e18	e20	e34	e57	e44	60	58	317	250	110	46	27
13	e17	e20	e35	e55	e43	58	60	323	235	106	46	26
14	e17	e20	e32	e55	46	65	64	310	246	106	45	26
15	e17	e20	e29	e55	48	74	72	318	218	108	43	26
16	e17	e19	e27	e55	49	71	82	329	209	103	42	26
17	e17	e40	e25	e55	47	65	91	340	224	97	41	25
18	e19	e48	e26	e55	43	69	96	325	253	92	40	25
19	e22	e35	e27	e55	44	75	106	324	260	90	39	25
20	e20	e27	e24	e55	40	77	113	316	264	90	39	25
21	e19	e26	e23	e55	42	74	146	296	233	106	38	25
22	e20	e40	e20	e55	38	76	171	282	210	121	36	24
23	e21	e26	e30	e55	38	85	136	275	189	108	36	24
24	e21	e25	e35	e58	37	89	90	256	171	91	36	24
25	e23	e24	e35	e70	43	90	98	233	168	82	35	25
26	e22	e23	e40	e59	44	97	100	225	164	79	33	25
27	e23	e22	e37	e54	45	102	102	235	158	76	33	23
28	e20	e21	e35	e53	44	102	98	285	149	76	32	23
29	e23	e20	e40	e53	---	98	99	292	141	75	31	22
30	e25	e20	e50	e52	---	96	95	325	135	79	31	22
31	e22	---	e70	e50	---	94	---	351	---	68	30	---
TOTAL	612	723	969	3143	1252	2157	2630	7882	6860	3169	1360	795
MEAN	19.7	24.1	31.3	101	44.7	69.6	87.7	254	229	102	43.9	26.5
MAX	25	48	70	600	50	102	171	351	326	125	64	34
MIN	17	18	20	50	37	41	58	97	135	68	30	22
AC-FT	1210	1430	1920	6230	2480	4280	5220	15630	13610	6290	2700	1580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	MEAN	20.3	21.8	22.3	22.9	22.9	27.3	51.5	127	177	103	39.6	23.3
MAX	47.7	65.3	98.4	101	58.9	85.7	97.0	323	388	297	137	55.5	
(WY)	1983	1951	1951	1997	1986	1986	1986	1969	1983	1967	1983	1983	
MIN	6.79	9.84	9.10	9.26	11.0	10.8	20.9	16.5	36.6	9.48	5.41	4.95	
(WY)	1978	1949	1949	1949	1977	1977	1976	1977	1976	1977	1977	1977	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1945 - 1997
ANNUAL TOTAL	29173	31552	
ANNUAL MEAN	79.7	86.4	55.0
HIGHEST ANNUAL MEAN			113
LOWEST ANNUAL MEAN			13.9
HIGHEST DAILY MEAN	730	May 16	730
LOWEST DAILY MEAN	17	Oct 13	17
ANNUAL SEVEN-DAY MINIMUM	17	Oct 11	17
INSTANTANEOUS PEAK FLOW		2540	2540
INSTANTANEOUS PEAK STAGE		5.70	5.70
ANNUAL RUNOFF (AC-FT)	57860	62580	39860
10 PERCENT EXCEEDS	199	246	146
50 PERCENT EXCEEDS	36	52	26
90 PERCENT EXCEEDS	20	21	13

e Estimated.

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

LOCATION.—Lat 38°22'47", long 119°26'57", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.9, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, in Toiyabe National Forest, on left bank, 200 ft downstream from Little Walker River, 10 ft upstream from bridge on U.S. Highway 395, and 13 mi southeast of Coleville.

DRAINAGE AREA.—181 mi².

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 Sept. 30, 1969, at present site and datum. Oct. 1, 1969, to July 10, 1987, at site 100 ft downstream at same datum. July 10, 1987, to Mar. 5, 1997, at site upstream 100 ft at same datum. Mar. 6, 1987, at site 150 ft downstream at datum 2.00 ft lower.

REMARKS.—Records fair 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, capacity, 1,200 acre-ft, 7 mi upstream. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge observed prior to 1938, 5,800 ft³/s, Dec. 11, 1937, on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	54	89	1630	162	e160	473	858	2050	573	252	89
2	58	53	76	8660	152	163	424	839	1740	539	235	105
3	55	53	93	3760	144	e170	406	866	1690	560	216	122
4	52	54	98	1750	133	168	375	1040	1740	630	219	109
5	50	45	167	1230	e130	e165	357	1160	1570	665	215	103
6	49	45	114	930	e132	e160	341	1240	1330	653	215	98
7	48	50	107	797	e132	159	331	1320	1380	650	209	93
8	47	53	105	681	e132	169	338	1350	1480	706	201	89
9	47	54	103	600	e130	177	337	1470	1420	710	198	86
10	46	54	91	530	e130	197	322	1650	1230	746	188	83
11	45	54	115	479	e134	221	313	1710	1210	707	170	81
12	45	55	156	432	e135	227	309	1800	1200	618	158	81
13	45	53	161	411	e130	225	312	1920	1090	553	152	79
14	45	52	133	392	e132	242	348	1940	1120	566	149	76
15	45	48	123	374	e136	274	417	1820	1060	597	141	75
16	44	44	119	321	139	294	531	1880	1210	554	138	75
17	44	125	108	297	146	283	640	1950	1370	483	135	72
18	47	168	105	276	144	291	690	1750	1510	451	137	68
19	50	141	108	260	150	327	791	1730	1490	407	134	69
20	46	119	96	245	156	378	914	1750	1480	412	131	70
21	43	116	72	233	154	379	1110	1490	1370	446	134	69
22	47	193	65	228	159	377	1090	1330	1200	509	124	67
23	48	143	85	220	156	418	912	1200	1020	428	120	66
24	49	128	120	224	e165	463	777	1010	929	440	120	65
25	54	115	120	279	203	495	703	895	929	418	122	70
26	51	107	130	246	161	553	794	866	941	360	114	73
27	54	89	117	225	161	607	1030	979	941	345	107	67
28	51	96	106	204	160	602	1090	1270	859	336	101	65
29	54	87	138	196	---	583	915	1490	786	307	98	62
30	56	82	204	182	---	563	877	1810	718	297	93	59
31	57	---	271	171	---	534	---	2050	---	282	90	---
TOTAL	1524	2530	3695	26463	4098	10024	18267	44433	38063	15948	4816	2386
MEAN	49.2	84.3	119	854	146	323	609	1433	1269	514	155	79.5
MAX	58	193	271	8660	203	607	1110	2050	2050	746	252	122
MIN	43	44	65	171	130	159	309	839	718	282	90	59
AC-FT	3020	5020	7330	52490	8130	19880	36230	88130	75500	31630	9550	4730

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

	MEAN	55.3	68.8	72.9	80.4	76.3	109	300	770	946	490	152	74.1
MAX	219	539	448	854	246	369	609	1655	2066	1864	663	246	
(WY)	1983	1951	1951	1997	1963	1986	1997	1969	1983	1995	1983	1983	
MIN	16.6	22.2	20.0	18.1	26.0	32.1	108	139	189	41.1	18.5	12.4	
(WY)	1978	1978	1991	1977	1991	1977	1975	1977	1976	1977	1977	1977	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1938 - 1997

ANNUAL TOTAL	129640	172247	
ANNUAL MEAN	354	472	264
HIGHEST ANNUAL MEAN			537
LOWEST ANNUAL MEAN			65.3
HIGHEST DAILY MEAN	3450	May 16	8660
LOWEST DAILY MEAN	43	Oct 21	43
ANNUAL SEVEN-DAY MINIMUM	45	Oct 11	45
INSTANTANEOUS PEAK FLOW			12300
INSTANTANEOUS PEAK STAGE			10.11
ANNUAL RUNOFF (AC-FT)	257100	341700	191000
10 PERCENT EXCEEDS	975	1320	810
50 PERCENT EXCEEDS	152	198	89
90 PERCENT EXCEEDS	53	54	34

e Estimated.

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, 0.4 mi downstream from Rock Creek, and 5 mi southeast of Coleville.

DRAINAGE AREA.—250 mi².

PERIOD OF RECORD.—October 1902 to July 1908 (published as West Fork of Walker River near Coleville, 1903, 1905-8 and as Walker River (West Fork) near Coleville, 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to current year.

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 Sept. 10, 1963, water-stage recorder at site 10 ft downstream at datum 0.38 ft lower, Sept. 10, 1963, to Oct. 28, 1994, water-stage recorder at site 20 ft upstream at datum 2.50 ft higher.

REMARKS.—Records poor. Peak flow estimated from upstream site (10296000) indirect measurement. Peak stage determined from high-water marks at old gage site. Gage destroyed during Jan. 2 flood. Estimated period from January to September based on comparison with upstream station and flow measurements at this site. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poore Lake, capacity, 1,200 acre-ft, 17 mi upstream. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	74	108	1670	e170	e169	e490	e870	e2100	e585	e260	e97
2	78	74	87	e9000	e160	e170	e440	e860	e1790	e549	e243	e112
3	76	74	100	e4000	e150	e180	e420	e885	e1750	e570	e224	e130
4	73	76	102	e1900	e145	e178	e388	e1080	e1790	e640	e227	e117
5	71	64	185	e1380	e140	e175	e365	e1190	e1620	e680	e225	e110
6	69	62	138	e1050	e140	e170	e350	e1290	e1370	e670	e225	e106
7	67	66	123	e820	e142	e169	e340	e1370	e1400	e665	e217	e101
8	66	70	122	e750	e142	e179	e343	e1400	e1530	e718	e209	e97
9	65	71	121	e630	e140	e188	e342	e1500	e1470	e720	e206	e94
10	64	67	126	e550	e140	e210	e332	e1700	e1270	e760	e196	e91
11	64	64	128	e500	e144	e230	e322	e1760	e1240	e718	e178	e89
12	64	64	172	e440	e145	e239	e317	e1860	e1230	e620	e166	e89
13	64	61	190	e430	e140	e235	e320	e1980	e1110	e566	e160	e87
14	64	58	160	e420	e142	e260	e358	e2000	e1150	e576	e157	e84
15	64	56	139	e400	e145	e285	e430	e1860	e1100	e608	e149	e83
16	64	55	133	e350	e148	e310	e550	e1910	e1250	e564	e146	e83
17	64	129	127	e340	e152	e300	e660	e2000	e1410	e483	e143	e80
18	65	184	124	e310	e150	e308	e710	e1800	e1560	e460	e145	e76
19	72	162	133	e290	e158	e340	e815	e1780	e1540	e415	e142	e77
20	66	143	114	e260	e165	e400	e950	e1800	e1530	e405	e139	e78
21	63	128	100	e250	e163	e400	e1150	e1540	e1410	e456	e142	e77
22	67	217	58	e240	e170	e398	e1130	e1370	e1240	e520	e132	e75
23	70	161	87	e230	e167	e425	e950	e1240	e1050	e440	e128	e74
24	68	145	134	e235	e175	e480	e790	e1050	e950	e450	e128	e73
25	74	130	144	e300	e210	e510	e715	e930	e950	e427	e130	e78
26	74	122	138	e260	e170	e580	e810	e890	e960	e370	e121	e81
27	73	101	136	e260	e170	e620	e1060	e935	e960	e354	e115	e75
28	72	113	125	e220	e169	e618	e1110	e1320	e878	e344	e109	e73
29	75	107	162	e210	---	e600	e940	e1550	e798	e315	e107	e70
30	77	90	238	e190	---	e580	e890	e1860	e735	e305	e101	e69
31	76	---	317	e180	---	e550	---	e2100	---	e280	e98	---
TOTAL	2140	2988	4271	28065	4352	10456	18787	45680	39141	16233	5068	2626
MEAN	69.0	99.6	138	905	155	337	626	1474	1305	524	163	87.5
MAX	78	217	317	9000	210	620	1150	2100	2100	760	260	130
MIN	63	55	58	180	140	169	317	860	735	280	98	69
AC-FT	4240	5930	8470	55670	8630	20740	37260	90610	77640	32200	10050	5210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1997, BY WATER YEAR (WY)

	MEAN	70.5	71.3	68.2	80.1	82.2	126	306	785	986	525	167	83.8
MAX	299	214	270	905	280	403	636	1756	2055	2492	721	269	
(WY)	1905	1974	1965	1997	1963	1986	1910	1969	1983	1907	1995	1907	
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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1903 - 1997	
ANNUAL TOTAL	141065		179807			
ANNUAL MEAN	385		493		279	
HIGHEST ANNUAL MEAN					669	
LOWEST ANNUAL MEAN					74.5	
HIGHEST DAILY MEAN	3210	May 16	9000	Jan 2	9000	Jan 2 1997
LOWEST DAILY MEAN	55	Nov 16	55	Nov 16	14	Jul 24 1924
ANNUAL SEVEN-DAY MINIMUM	61	Nov 10	61	Nov 10	14	Aug 28 1924
INSTANTANEOUS PEAK FLOW			12500	Jan 2	12500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			10.23	Jan 2	10.23	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	279800		356600		202100	
10 PERCENT EXCEEDS	1050		1370		843	
50 PERCENT EXCEEDS	179		210		98	
90 PERCENT EXCEEDS	72		72		37	

e Estimated.

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 (shown on Mono County map), 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. 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). Usable 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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 60,680 acre-ft, July 3, 1980, July 10, 1995, elevation 5,000.92 ft, present datum; no usable contents at times in some years.

EXTREMES FOR CURRENT YEAR.—Maximum contents 59,190 acre-ft, June 25, elevation, 5,000.27 ft; minimum contents, 15,760 acre-ft, Sept. 30, elevation 4,977.60 ft.

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	5,001	60,870

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22760	20090	27230	37190	42690	33090	47170	45130	52030	58730	47070	27040
2	22530	20190	27420	42370	43150	33380	47710	44140	52470	58270	46650	26480
3	22360	20330	27610	47150	43600	33630	48260	43170	53130	57820	46270	25930
4	22220	20460	27840	48950	44010	33920	48730	42410	54020	57570	45870	25410
5	22120	20590	28380	49790	43950	34200	49160	41860	54910	57110	45430	24930
6	22030	20710	28660	50390	43370	34450	49380	41410	55130	56660	44950	24420
7	21910	20880	28900	50780	42800	34730	49380	41010	55360	56440	44410	23870
8	21810	21050	29200	50980	42240	35000	49380	40630	55810	56210	43850	23340
9	21710	21220	29390	50940	41650	35300	49380	40410	56260	55760	43270	22810
10	21590	21370	29900	50280	40910	35600	49380	40590	56710	55310	42760	22240
11	21460	21560	30240	49630	40010	35900	49160	40910	56930	55090	42220	21730
12	21320	21710	30610	48770	39130	36230	49160	41190	57160	54640	41680	21200
13	21190	21860	30920	47810	38270	36540	49160	41610	57390	54170	41090	20730
14	21080	22030	31260	46670	37440	36880	49160	42310	57610	53730	40450	20140
15	20950	22190	31550	45530	36690	37260	48950	42940	57610	53510	39750	19700
16	20880	22390	31830	44450	35950	37690	49160	43520	57610	53290	39000	19300
17	20800	22800	32120	43290	35260	38060	49180	44160	57610	52840	38130	18950
18	20650	23170	32350	42140	34530	38450	49180	44630	57610	52400	37260	18550
19	20530	23600	32590	40970	33890	38880	49400	44950	57840	51960	36390	18200
20	20430	23960	32820	39870	33310	39370	49610	45430	57840	51530	35560	17850
21	20330	24370	33380	39210	32690	39890	50260	45740	57840	51090	34820	17550
22	20260	24830	33650	39470	32190	40390	50480	46100	58070	50650	34140	17250
23	20190	25210	33800	39550	31810	40930	50260	46520	58520	50410	33380	16980
24	20040	25520	34030	39450	31670	41530	49830	46980	58980	50200	32690	16750
25	20070	25830	34310	39790	31900	42140	49400	47430	59190	49760	32050	16540
26	20020	26090	34650	39890	32170	42820	48750	47750	59190	49330	31280	16360
27	19970	26350	35060	40350	32570	43600	48200	48050	59190	49120	30480	16190
28	19960	26570	35450	40870	32870	44340	47600	48470	59190	48690	29720	16030
29	19970	26800	36050	41350	---	45070	46770	48970	59190	48320	29010	15880
30	19990	27020	36310	41740	---	45850	45910	49850	58960	47900	28340	15760
31	20020	---	35950	42220	---	46520	---	51150	---	47510	27660	---
MAX	22760	27020	36310	50980	44010	46520	50480	51150	59190	58730	47070	27040
MIN	19960	20090	27230	37190	31670	33090	45910	40410	52030	47510	27660	15760
a	4980.15	4984.26	4989.26	4992.45	4987.58	4994.52	4994.23	4996.68	5001.17	4994.99	4984.63	4977.60
b	-2980	+7000	+8930	+6270	-9350	+13650	-610	+5240	+7810	-11450	-19850	-11900

CAL YR 1996 MAX 59900 MIN 19960 b -11580

WTR YR 1997 MAX 59190 MIN 15760 b -7240

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 northeast of Markleeville.

DRAINAGE AREA.—276 mi².

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	80	e118	8570	612	226	704	1020	1450	456	181	131
2	80	83	113	12500	567	235	696	1000	1310	413	172	140
3	75	81	121	5390	522	225	574	1040	1300	391	163	172
4	72	82	125	3390	490	218	546	1160	1230	391	157	169
5	70	75	e200	2540	467	214	526	1260	1230	382	153	159
6	69	69	258	1930	424	217	506	1310	1070	369	156	137
7	69	77	207	1560	419	228	498	1280	1050	358	165	132
8	68	81	193	1330	410	246	508	1330	1120	358	168	129
9	68	80	196	1180	384	274	498	1490	1050	349	168	113
10	67	79	252	1090	382	330	468	1650	1060	344	161	93
11	68	79	302	967	357	404	453	1700	973	336	156	91
12	68	79	614	874	362	405	444	1740	926	318	146	86
13	68	78	409	747	332	381	448	1950	898	302	143	75
14	67	78	301	650	323	402	501	1980	1280	290	140	72
15	68	75	251	683	318	456	565	1900	1140	285	131	77
16	68	70	236	609	337	502	656	1920	1010	273	131	74
17	68	175	219	559	370	466	781	1830	987	262	129	72
18	73	617	200	534	339	477	862	1710	968	248	127	71
19	82	272	195	519	333	559	1080	1710	930	243	126	78
20	73	229	189	499	328	642	1230	1640	946	254	139	78
21	68	219	185	471	322	627	1580	1490	898	246	139	76
22	73	427	152	467	313	652	1480	1350	802	236	142	72
23	76	254	156	497	292	726	1240	1250	710	238	141	71
24	75	212	188	474	253	790	1080	1130	648	239	141	75
25	84	185	195	1330	246	797	1020	1060	623	222	131	79
26	80	171	215	942	269	874	1080	1040	600	217	131	86
27	78	141	289	707	264	935	1290	1050	586	217	136	80
28	79	e135	233	613	245	912	1300	1170	564	219	140	79
29	86	139	695	594	---	876	1100	1250	516	224	140	77
30	86	119	941	571	---	835	1060	1410	499	212	133	73
31	85	---	1370	594	---	800	---	1540	---	198	132	---
TOTAL	2283	4541	9318	53381	10280	15931	24774	44360	28374	9090	4518	2917
MEAN	73.6	151	301	1722	367	514	826	1431	946	293	146	97.2
MAX	86	617	1370	12500	612	935	1580	1980	1450	456	181	172
MIN	67	69	113	467	245	214	444	1000	499	198	126	71
AC-FT	4530	9010	18480	105900	20390	31600	49140	87990	56280	18030	8960	5790

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY)

	MEAN	81.1	113	139	206	215	290	551	1135	994	396	146	89.9
MAX	346	476	718	1722	917	983	1121	2447	2996	1721	477	239	
(WY)	1983	1984	1965	1997	1986	1986	1982	1969	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1960 - 1997	
ANNUAL TOTAL	196341		209767			
ANNUAL MEAN	536		575		363	
HIGHEST ANNUAL MEAN					809	
LOWEST ANNUAL MEAN					83.7	
HIGHEST DAILY MEAN	6310	May 16	12500	Jan 2	12500	Jan 2 1997
LOWEST DAILY MEAN	67	Oct 10	67	Oct 10	12	Sep 10 1987
ANNUAL SEVEN-DAY MINIMUM	68	Oct 8	68	Oct 8	12	Sep 7 1987
INSTANTANEOUS PEAK FLOW			18900	Jan 2	18900	Jan 2 1997
INSTANTANEOUS PEAK STAGE			11.78	Jan 2	11.78	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	389400		416100		263300	
10 PERCENT EXCEEDS	1500		1280		960	
50 PERCENT EXCEEDS	267		318		147	
90 PERCENT EXCEEDS	79		77		50	

e Estimated.

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA

LOCATION.—Lat 38°46'11", long 119°49'58", 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 mi².

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.

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 October 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. Gage moved 200 ft upstream March 1997 at same datum.

REMARKS.—Records poor. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 11, 1937, reached a stage of 8.0 ft, present datum, from floodmarks, discharge, 3,500 ft³/s, on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	29	49	e4000	153	85	242	389	320	114	50	29
2	27	30	38	e5500	145	86	e210	351	289	107	48	30
3	27	29	42	e2800	138	83	204	356	271	103	46	31
4	26	30	43	e1500	134	87	208	398	343	101	45	30
5	26	28	177	e850	128	84	206	429	337	98	44	29
6	26	26	88	e500	122	86	203	424	271	96	43	29
7	25	27	72	e340	122	87	200	431	249	94	42	28
8	25	28	72	e250	120	90	212	441	259	93	41	28
9	24	28	73	e200	114	95	207	456	253	93	39	27
10	24	28	55	e190	115	109	192	497	231	89	39	33
11	24	28	61	e180	108	127	190	500	212	e87	38	50
12	24	28	140	e170	104	128	184	498	206	e85	40	53
13	25	28	134	e160	101	125	189	528	211	e85	51	32
14	25	27	100	e150	101	135	215	509	307	e84	51	28
15	24	27	81	e145	101	158	253	486	259	79	40	28
16	24	27	75	e140	102	173	284	485	234	75	35	27
17	25	86	69	e135	102	163	332	468	226	74	34	27
18	26	218	62	e125	98	172	358	459	223	e73	33	27
19	29	103	60	e120	99	205	504	467	209	e71	33	28
20	27	83	59	e118	101	228	528	446	201	e70	33	27
21	26	68	39	e115	99	224	717	381	188	e68	32	27
22	26	125	35	e100	98	238	621	335	172	e67	32	26
23	25	79	41	e100	96	273	534	329	159	66	31	26
24	28	65	55	e200	87	300	444	308	149	64	31	26
25	33	59	64	185	94	301	400	270	143	62	31	39
26	29	55	69	174	95	345	422	255	139	61	30	41
27	27	49	66	165	95	379	495	250	132	63	38	29
28	27	51	61	166	89	349	497	271	126	62	45	27
29	29	47	80	162	---	321	417	289	121	60	52	26
30	30	43	118	153	---	313	388	320	119	57	35	26
31	29	---	260	154	---	288	---	338	---	53	30	---
TOTAL	819	1579	2438	19247	3061	5837	10056	12364	6559	2454	1212	914
MEAN	26.4	52.6	78.6	621	109	188	335	399	219	79.2	39.1	30.5
MAX	33	218	260	5500	153	379	717	528	343	114	52	53
MIN	24	26	35	100	87	83	184	250	119	53	30	26
AC-FT	1620	3130	4840	38180	6070	11580	19950	24520	13010	4870	2400	1810

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
27.4	40.7	48.3	55.0	58.4	78.3
207	378	259	107	49.1	31.0
79.1	321	347	621	259	283
1983	1951	1951	1997	1963	1986
1907	1906	1983	1907	1907	1983
8.27	13.1	12.8	13.7	16.3	18.2
46.6	56.4	37.4	18.1	11.1	7.00
1989	1991	1991	1961	1977	1977
1975	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1901 - 1997
ANNUAL TOTAL	53302	66540	
ANNUAL MEAN	146	182	112
HIGHEST ANNUAL MEAN			290
LOWEST ANNUAL MEAN			26.1
HIGHEST DAILY MEAN	1820	May 16	5500
LOWEST DAILY MEAN	24	Oct 9	5.3
ANNUAL SEVEN-DAY MINIMUM	24	Oct 9	5.4
INSTANTANEOUS PEAK FLOW			8100
INSTANTANEOUS PEAK STAGE			15.36
ANNUAL RUNOFF (AC-FT)	105700	132000	80990
10 PERCENT EXCEEDS	373	384	296
50 PERCENT EXCEEDS	72	95	46
90 PERCENT EXCEEDS	28	27	17

e Estimated.

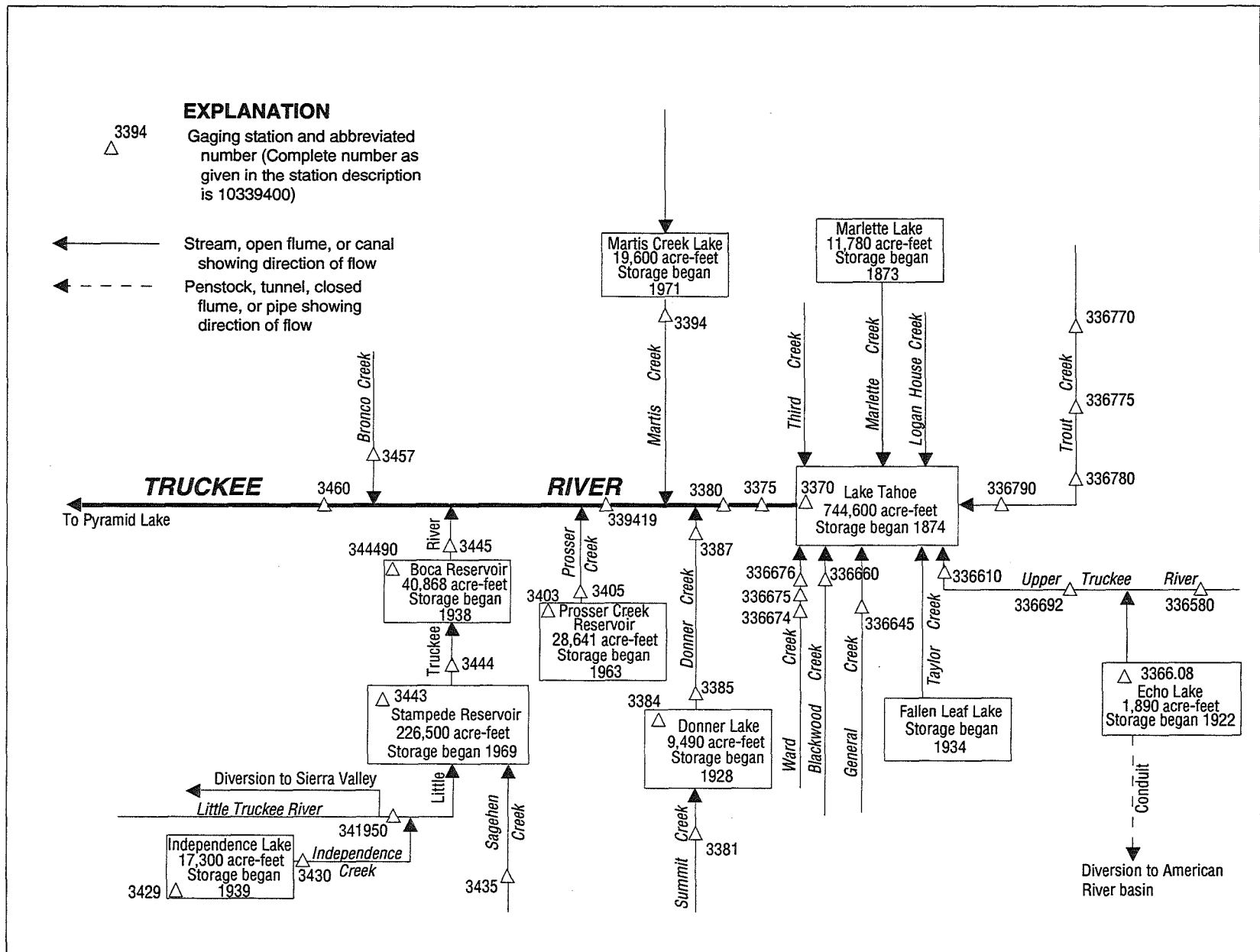


Figure 22. Diversions and storage in Truckee River Basin.

10336580 UPPER TRUCKEE RIVER AT SOUTH UPPER TRUCKEE ROAD, NEAR MEYERS, CA

LOCATION.—Lat 38°47'47", long 120°01'05", in NW 1/4 SW 1/4 sec.17, T.11 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank, 0.25 mi upstream from bridge, 0.5 mi upstream of confluence of Big Meadow and Grass Lake Creeks, 0.5 mi west of State Highway 89, and 4.0 mi south of Meyers.

DRAINAGE AREA.—14.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,490 ft above sea level, from topographic map. Prior to Oct. 1, 1991, at site 1,200 ft downstream at datum 2.54 higher.

REMARKS.—Records good except for estimated daily discharges, which are poor. See schematic diagram of Truckee River Basin. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.0	15	606	31	19	53	125	172	32	7.0	2.1
2	2.6	3.2	20	1130	30	18	46	117	150	30	6.7	2.4
3	2.4	2.9	14	333	29	17	41	132	139	29	6.4	2.6
4	2.4	3.0	14	193	28	17	41	169	198	30	6.3	e2.6
5	2.3	2.6	96	138	27	17	41	182	159	29	6.2	e2.6
6	2.3	2.6	53	106	29	15	41	178	133	26	6.1	e2.4
7	2.3	3.0	40	92	25	15	42	182	128	25	6.2	e2.4
8	2.4	3.2	37	79	25	16	44	190	117	26	5.8	e2.4
9	2.2	3.4	39	70	24	17	42	209	127	26	5.5	e2.3
10	2.3	3.7	35	66	23	19	38	236	120	23	5.1	e2.3
11	2.2	4.1	38	63	23	22	38	229	104	22	5.0	e2.3
12	2.3	4.5	86	60	24	22	38	240	94	20	4.9	e2.3
13	2.2	4.4	58	63	23	22	42	243	86	18	5.0	e2.3
14	2.3	4.6	43	55	22	24	50	230	147	18	4.9	e2.2
15	2.2	4.2	34	53	22	28	63	231	123	17	4.6	e2.2
16	2.3	4.0	30	47	22	31	88	236	111	15	4.5	e2.3
17	2.3	49	25	44	23	30	106	235	109	13	4.4	e2.3
18	2.9	148	23	42	22	32	120	232	101	11	4.2	2.5
19	3.4	52	21	40	22	42	197	233	92	11	3.9	2.6
20	3.8	45	20	40	22	51	177	214	85	11	3.6	2.7
21	2.0	36	e21	38	21	50	242	181	73	11	3.4	2.7
22	2.3	66	e21	37	21	55	191	157	63	10	3.2	2.6
23	2.2	35	e22	39	21	69	189	155	55	10	2.9	2.4
24	5.0	27	e22	34	25	74	147	136	52	9.7	2.6	2.3
25	6.5	22	e22	47	23	72	135	119	51	9.1	2.3	2.9
26	3.6	19	23	42	20	84	159	115	48	8.7	2.3	3.1
27	3.1	16	25	34	20	94	205	129	44	8.4	2.1	2.7
28	2.9	17	20	32	18	85	182	150	41	8.7	2.1	2.2
29	3.0	15	37	32	---	77	137	171	38	8.6	2.0	2.1
30	3.1	19	85	32	---	71	129	192	37	8.4	2.2	1.9
31	3.3	---	120	32	---	63	---	188	---	7.9	2.2	---
TOTAL	86.6	622.4	1159	3719	665	1268	3064	5736	2997	532.5	133.6	72.7
MEAN	2.79	20.7	37.4	120	23.8	40.9	102	185	99.9	17.2	4.31	2.42
MAX	6.5	148	120	1130	31	94	242	243	198	32	7.0	3.1
MIN	2.0	2.6	14	32	18	15	38	115	37	7.9	2.0	1.9
AC-FT	172	1230	2300	7380	1320	2520	6080	11380	5940	1060	265	144

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	3.08	6.79	11.0	23.3	14.2	22.5	53.6	136	115	46.3	9.64	3.20
MAX	4.97	20.7	37.4	120	39.2	41.3	102	216	329	220	45.9	9.33	
(WY)	1996	1997	1997	1997	1996	1995	1997	1996	1995	1995	1995	1995	
MIN	2.12	2.13	1.69	1.57	3.06	6.64	15.1	51.2	12.1	3.40	1.64	1.30	
(WY)	1993	1991	1991	1991	1991	1991	1991	1992	1992	1994	1994	1991	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	19110.6	20055.8	
ANNUAL MEAN	52.2	54.9	
HIGHEST ANNUAL MEAN			38.5
LOWEST ANNUAL MEAN			72.3
HIGHEST DAILY MEAN	658	May 16	1130
LOWEST DAILY MEAN	2.0	Oct 21	1.9
ANNUAL SEVEN-DAY MINIMUM	2.2	Oct 9	2.1
INSTANTANEOUS PEAK FLOW			2010
INSTANTANEOUS PEAK STAGE			11.31
ANNUAL RUNOFF (AC-FT)	37910	39780	27890
10 PERCENT EXCEEDS	164	158	111
50 PERCENT EXCEEDS	22	24	8.0
90 PERCENT EXCEEDS	3.1	2.4	2.0

e Estimated.

10336580 UPPER TRUCKEE RIVER AT SOUTH UPPER TRUCKEE ROAD, NEAR MEYERS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1990 to current year.

REMARKS.—In November 1989, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
02...	1710	2.7	52	--	14.0	9.5	--	--	--
18...	1200	2.5	75	--	9.5	6.0	--	--	--
NOV									
05...	1430	2.6	49	--	4.5	1.5	--	--	--
18...	1700	86	18	--	3.5	2.0	--	--	--
19...	1705	54	24	--	4.0	3.0	--	--	--
26...	1230	18	37	--	2.0	2.0	--	--	--
DEC									
05...	1550	94	18	--	0.5	1.0	--	--	--
12...	1600	107	17	--	1.0	1.0	--	--	--
31...	1248	112	19	--	5.5	2.0	--	--	--
JAN									
03...	1650	280	18	--	-3.0	1.0	--	--	--
04...	0950	200	--	--	--	1.0	--	--	--
08...	1600	81	23	--	-0.5	1.5	--	--	--
23...	1230	43	--	--	5.0	1.0	--	--	--
FEB									
18...	1325	22	32	7.6	7.0	1.5	600	11.1	101
MAR									
12...	1300	22	29	--	7.0	2.5	--	--	--
20...	1230	47	--	--	15.0	3.0	--	--	--
27...	1345	84	22	--	11.0	4.0	--	--	--
APR									
09...	1340	42	27	7.7	2.0	2.0	596	10.5	97
21...	1053	235	--	--	12.0	3.0	--	--	--
MAY									
01...	1245	118	21	--	13.0	4.5	--	--	--
08...	1540	185	21	7.3	18.0	7.0	600	9.8	103
15...	1145	189	21	--	23.0	5.5	--	--	--
15...	1700	245	19	--	18.0	8.0	--	--	--
22...	1645	142	22	--	12.0	8.0	--	--	--
30...	1400	158	21	--	21.5	10.5	--	--	--
JUN									
03...	1120	123	23	--	15.0	6.5	--	--	--
06...	1410	118	23	--	15.0	9.5	--	--	--
09...	1730	177	21	--	13.0	8.5	--	--	--
12...	1450	85	24	7.8	12.5	9.0	594	9.0	100
17...	1650	118	22	--	23.0	13.0	--	--	--
27...	1515	41	29	--	21.5	12.0	--	--	--
JUL									
17...	0930	15	25	--	15.0	10.0	--	--	--
23...	1430	10	37	--	14.5	12.0	--	--	--
AUG									
11...	1240	5.3	44	--	17.5	11.0	--	--	--
18...	1420	4.2	47	--	22.0	13.0	--	--	--
SEP									
17...	1615	3.8	52	7.7	13.5	9.5	595	9.3	105
22...	1054	2.7	--	--	--	--	--	--	--

10336580 UPPER TRUCKEE RIVER AT SOUTH UPPER TRUCKEE ROAD, NEAR MEYERS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS P) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- ORTHOPHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT								
02...	0.036	0.013	0.42	0.032	0.026	438	1	0.01
18...	--	--	--	--	--	--	--	--
NOV								
05...	0.002	0.001	0.17	0.021	0.021	187	1	0.01
18...	0.012	0.002	0.22	0.032	0.007	170	10	2.3
19...	0.008	<0.001	0.09	0.026	0.008	221	6	0.87
26...	--	--	--	--	--	--	--	--
DEC								
05...	0.003	<0.001	0.23	0.021	0.007	246	6	1.5
12...	0.003	0.002	0.28	0.016	0.006	135	4	1.2
31...	--	--	--	--	--	--	--	--
JAN								
03...	0.012	<0.001	0.07	0.054	0.011	182	35	26
04...	--	--	--	--	--	--	--	--
08...	0.009	<0.001	0.09	0.019	0.010	75	4	0.87
23...	--	--	--	--	--	--	--	--
FEB								
18...	0.010	0.004	0.08	0.016	0.009	172	<1	--
MAR								
12...	0.006	0.001	0.08	0.015	0.006	104	<1	--
20...	--	--	--	--	--	--	--	--
27...	0.006	0.001	0.08	0.012	0.004	114	1	0.23
APR								
09...	0.006	0.002	0.08	0.017	0.009	131	<1	--
21...	--	--	--	--	--	--	--	--
MAY								
01...	0.004	0.001	0.07	0.016	0.006	87	3	0.96
08...	0.004	0.016	0.15	0.014	0.001	99	4	2.0
15...	0.008	0.002	0.06	0.018	0.004	133	9	4.6
15...	0.007	0.001	0.12	0.020	0.005	217	12	7.9
22...	0.006	<0.001	0.10	0.029	0.007	193	4	1.5
30...	0.004	0.001	0.07	0.032	0.005	215	4	1.7
JUN								
03...	--	--	--	--	--	--	--	--
06...	0.004	<0.001	0.06	0.021	0.006	125	2	0.64
09...	0.011	<0.001	0.17	0.043	0.007	356	16	7.6
12...	0.004	<0.001	0.07	0.036	0.007	123	1	0.23
17...	0.004	0.001	0.09	0.033	0.006	120	3	0.96
27...	0.005	0.003	0.09	0.025	0.011	106	<1	--
JUL								
17...	--	--	--	--	--	--	--	--
23...	0.010	0.005	0.06	0.045	0.016	115	1	0.03
AUG								
11...	--	--	--	--	--	--	--	--
18...	0.030	<0.001	0.06	0.042	0.021	112	<1	--
SEP								
17...	0.017	0.003	0.15	0.050	0.021	98	<1	0.0
22...	--	--	--	--	--	--	--	--

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 mi².

PERIOD OF RECORD.—October 1991 to current year. 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 flashboards. 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 Truckee 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, 1,974 acre-ft, July 8, 9, 1997, gage height, 6.26 ft; minimum, 0 acre-ft, Nov. 18–20, 1993, many days in 1995, gage height, 0.0 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,974 acre-ft, July 8, 9, gage height, 6.26 ft; minimum, 9 acre-ft, Mar. 4, gage height, 0.03 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
1	310	5	1,570
2	625	6	1,890
3	940	6.7	2,118

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	768	202	123	1106	105	18	151	226	1773	1906	1913	1754
2	735	192	117	1541	99	15	108	232	1805	1896	1909	1700
3	709	179	105	895	87	12	108	274	1776	1909	1903	1635
4	679	164	158	676	84	9	99	283	1742	1929	1903	1570
5	661	151	256	359	81	30	93	289	1751	1942	1903	1537
6	640	137	265	274	111	42	90	298	1748	1955	1903	1537
7	625	130	195	223	108	66	90	298	1712	1961	1896	1502
8	611	123	155	188	102	96	90	322	1706	1974	1896	1481
9	590	114	161	164	96	114	93	346	1748	1974	1890	1460
10	575	111	202	144	96	123	93	359	1770	1942	1883	1439
11	551	102	259	127	90	102	93	395	1779	1929	1883	1424
12	506	96	392	123	87	87	93	405	1789	1916	1877	1399
13	473	93	310	120	81	69	93	433	1792	1900	1877	1379
14	443	81	238	111	78	66	93	679	1864	1893	1874	1353
15	402	78	192	111	75	75	114	907	1864	1896	1861	1323
16	376	87	144	99	72	69	141	1136	1857	1906	1857	1261
17	331	422	117	99	66	81	170	1341	1848	1906	1844	1187
18	319	667	99	93	63	81	209	1541	1835	1906	1838	1175
19	304	548	99	78	60	87	325	1697	1825	1903	1831	1133
20	277	429	93	99	54	90	376	1770	1828	1909	1818	1124
21	268	369	192	96	51	99	461	1773	1818	1896	1812	1093
22	244	379	192	134	48	108	422	1760	1822	1903	1812	1052
23	226	316	182	111	39	117	412	1715	1822	1913	1802	982
24	238	262	151	90	39	134	331	1712	1841	1922	1799	952
25	253	216	120	120	33	144	277	1733	1887	1922	1805	904
26	235	179	141	148	30	164	253	1773	1919	1922	1792	855
27	247	158	123	127	27	182	274	1818	1922	1922	1783	811
28	223	137	123	137	24	185	268	1838	1952	1929	1779	765
29	216	123	151	148	---	188	256	1854	1971	1929	1770	723
30	209	99	229	137	---	182	235	1812	1952	1922	1766	679
31	216	---	313	117	---	176	---	1809	---	1916	1760	---
MAX	768	667	392	1541	111	188	461	1854	1971	1974	1913	1754
MIN	209	78	93	78	24	9	90	226	1706	1893	1760	679
a	.69	.33	1.01	.39	.08	.57	.75	5.75	6.19	6.08	5.60	2.18
b	-578	-117	+214	-196	-93	+152	+59	+1574	+143	-36	-156	-1081
c	585	209	123	0	0	0	0	0	0	0	0	509

CAL YR 1996 MAX 1916 MIN 45 b +155 c 1840

WTR YR 1997 MAX 1974 MIN 9 b -115 c 1430

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

c Release, in acre-feet, through Echo Lake Conduit, provided by Pacific Gas & Electric Co.

103366092 UPPER TRUCKEE RIVER AT HIGHWAY 50, ABOVE MEYERS, CA

LOCATION.—Lat 38°50'55", long 120°01'34", in NE 1/4 NE 1/4 sec.31, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank, 500 ft downstream of U.S. Highway 50 bridge, 1 mi southwest of Meyers, and 7.5 mi upstream of Lake Tahoe.

DRAINAGE AREA.—34.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,310 ft above sea level, from topographic map. June 1990 to Sept. 5, 1997, at present site, datum 3.00 ft higher.

REMARKS.—Records fair except for estimated daily discharges, which are poor. See schematic diagram of Truckee River Basin. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	9.2	46	1240	e99	56	145	237	399	62	24	13
2	6.7	9.4	40	e2000	e95	51	128	219	354	48	22	30
3	6.4	9.5	38	e1700	e90	49	119	235	323	39	21	39
4	6.3	10	39	e750	e88	48	115	291	452	36	21	39
5	6.4	9.2	225	e400	e88	48	112	328	418	37	20	35
6	6.4	8.8	122	e330	e86	48	107	333	327	36	19	32
7	6.3	9.2	102	e265	e86	48	107	348	283	37	18	23
8	6.3	9.7	88	e230	e83	49	109	362	263	39	17	18
9	6.1	9.8	86	e195	e82	51	107	388	262	46	16	16
10	6.3	10	82	e170	e80	64	102	445	243	48	15	15
11	6.5	10	90	e160	e75	81	98	450	209	45	15	13
12	6.3	11	223	e158	e70	81	97	461	198	42	15	12
13	6.4	11	188	e165	e67	76	98	497	196	40	15	12
14	6.3	11	124	e140	e67	77	110	485	330	36	15	11
15	6.4	13	95	e135	e67	86	127	426	295	32	14	16
16	6.8	17	78	e130	e67	93	155	379	267	32	15	25
17	6.7	133	67	e125	e70	92	188	378	257	31	15	17
18	7.5	534	60	e120	e68	94	210	380	235	34	15	13
19	8.8	305	55	e120	e68	109	344	385	205	34	15	11
20	8.4	239	53	e123	e66	124	336	360	173	34	15	11
21	7.7	159	e55	e135	e64	127	473	309	144	33	14	11
22	7.5	231	e55	e138	e63	134	395	301	123	31	13	11
23	7.2	149	e58	e145	e62	152	375	361	98	31	13	25
24	9.0	108	e60	e160	e57	165	304	353	74	31	13	10
25	16	81	e62	e180	e58	166	261	276	63	30	12	11
26	10	63	63	e150	e58	185	277	244	57	30	12	11
27	9.4	52	74	e138	e59	208	346	253	49	29	12	9.9
28	9.3	49	57	e125	e57	197	332	301	45	29	12	9.1
29	10	44	95	e120	---	180	264	344	45	28	12	8.6
30	10	39	195	e110	---	174	239	402	59	27	12	8.1
31	10	---	312	e105	---	170	---	425	---	26	13	---
TOTAL	240.3	2353.8	2987	10162	2040	3283	6180	10956	6446	1113	480	515.7
MEAN	7.75	78.5	96.4	328	72.9	106	206	353	215	35.9	15.5	17.2
MAX	16	534	312	2000	99	208	473	497	452	62	24	39
MIN	6.1	8.8	38	105	57	48	97	219	45	26	12	8.1
AC-FT	477	4670	5920	20160	4050	6510	12260	21730	12790	2210	952	1020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	8.54	19.0	25.0	66.5	44.3	72.0	125	299	232	90.6	19.4	12.0
MAX		22.6	78.5	96.4	328	125	132	206	569	709	452	78.6	37.5
(WY)		1996	1997	1997	1997	1996	1995	1997	1993	1995	1995	1995	1995
MIN		3.39	3.33	3.15	4.37	6.69	28.2	47.2	85.0	20.4	4.81	2.28	2.50
(WY)		1995	1991	1991	1991	1991	1994	1991	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1990 - 1997		
ANNUAL TOTAL	44973.9			46756.8					
ANNUAL MEAN	123			128			87.7		
HIGHEST ANNUAL MEAN							169		
LOWEST ANNUAL MEAN							26.1		
HIGHEST DAILY MEAN	1490			May 16			2000		
LOWEST DAILY MEAN	6.1			Oct 9			1.2		
ANNUAL SEVEN-DAY MINIMUM	6.3			Oct 4			1.8		
INSTANTANEOUS PEAK FLOW				5120			5120		
INSTANTANEOUS PEAK STAGE				8.95			8.95		
ANNUAL RUNOFF (AC-FT)	89210			92740			63550		
10 PERCENT EXCEEDS	345			332			238		
50 PERCENT EXCEEDS	74			66			21		
90 PERCENT EXCEEDS	9.0			9.8			4.0		

e Estimated.

103366092 UPPER TRUCKEE RIVER AT HIGHWAY 50, ABOVE MEYERS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1990 to current year.

REMARKS.—In November 1989, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
02...	1630	6.7	101	--	16.0	12.5	--	--	--
18...	0930	7.3	91	--	8.5	6.0	--	--	--
NOV									
05...	1350	8.8	82	--	5.0	3.5	--	--	--
18...	1610	464	22	--	6.0	4.5	--	--	--
19...	1605	267	21	--	3.0	4.0	--	--	--
26...	0925	65	59	--	-2.0	3.5	--	--	--
DEC									
12...	1515	269	41	--	2.0	2.0	--	--	--
31...	0936	302	40	--	6.0	1.5	--	--	--
JAN									
03...	1430	1300	22	--	0.5	1.0	--	--	--
03...	1525	1170	--	--	--	--	--	--	--
08...	1430	200	44	--	0.5	1.5	--	--	--
FEB									
13...	1415	67	--	--	7.0	3.0	--	--	--
18...	1155	67	64	7.5	6.5	2.0	605	10.8	99
MAR									
12...	1145	81	53	--	7.5	2.5	--	--	--
19...	1245	100	50	--	17.0	4.5	--	--	--
27...	1235	185	37	--	12.5	4.0	--	--	--
APR									
09...	1430	108	47	7.4	4.0	3.0	600	10.5	99
22...	1155	373	21	--	11.0	2.5	--	--	--
MAY									
01...	1200	230	28	--	12.0	4.5	--	--	--
08...	1430	324	25	7.1	20.0	8.0	605	9.9	106
15...	1300	321	26	--	24.5	7.5	--	--	--
15...	1800	360	26	--	19.0	10.0	--	--	--
22...	1525	287	26	--	14.5	9.0	--	--	--
30...	1300	350	22	--	21.5	10.5	--	--	--
JUN									
04...	1110	444	22	--	7.0	7.0	--	--	--
06...	1300	304	25	--	14.5	9.5	--	--	--
12...	1330	190	28	7.6	13.0	10.5	598	8.7	100
17...	1550	240	28	--	25.0	14.0	--	--	--
27...	1430	47	42	--	20.0	14.0	--	--	--
JUL									
18...	1000	37	59	--	15.5	11.0	--	--	--
23...	1400	32	59	--	16.5	13.5	--	--	--
AUG									
11...	1430	15	72	--	27.5	16.5	--	--	--
18...	1350	15	78	--	20.5	16.5	--	--	--
SEP									
17...	1500	13	53	7.6	13.5	13.5	599	8.3	102
23...	1030	29	--	--	14.0	--	--	--	--

103366092 UPPER TRUCKEE RIVER AT HIGHWAY 50, ABOVE MEYERS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT								
02...	0.010	0.003	0.51	0.016	0.004	430	1	0.02
18...	--	--	--	--	--	--	--	--
NOV								
05...	0.012	0.001	0.16	0.014	0.005	206	1	0.02
18...	0.016	0.001	0.15	0.031	0.005	484	21	26
19...	0.012	<0.001	0.09	0.016	0.003	859	7	5.0
26...	--	--	--	--	--	--	--	--
DEC								
12...	0.007	0.005	0.07	0.032	0.008	1180	20	15
31...	--	--	--	--	--	--	--	--
JAN								
03...	0.011	<0.001	0.07	0.098	0.006	252	176	618
03...	--	--	--	--	--	--	--	--
08...	0.013	<0.001	0.12	0.023	0.005	38	4	2.2
FEB								
13...	--	--	--	--	--	--	--	--
18...	0.011	0.001	0.09	0.013	0.004	175	2	0.36
MAR								
12...	0.014	0.002	0.04	0.012	0.003	134	1	0.22
19...	--	--	--	--	--	--	--	--
27...	0.011	0.002	0.19	0.014	0.003	233	6	3.0
APR								
09...	0.012	0.003	0.13	0.013	0.005	130	1	0.29
22...	--	--	--	--	--	--	--	--
MAY								
01...	0.008	0.001	0.28	0.013	0.003	91	2	1.2
08...	0.008	0.001	0.09	0.012	0.001	127	5	4.4
15...	0.008	0.001	0.09	0.031	0.013	245	12	10
15...	0.006	0.001	0.13	0.030	0.005	272	23	22
22...	0.008	<0.001	0.10	0.031	0.004	326	10	7.7
30...	0.005	<0.001	0.07	0.016	0.013	236	8	7.6
JUN								
04...	--	--	--	--	--	--	--	--
06...	0.006	<0.001	0.09	0.017	0.003	174	8	6.6
12...	0.006	<0.001	0.08	0.032	0.004	175	3	1.5
17...	0.004	<0.001	0.11	0.032	0.003	132	3	1.9
27...	0.003	<0.001	0.09	0.022	0.007	180	1	0.13
JUL								
18...	--	--	--	--	--	--	--	--
23...	0.013	0.004	0.22	0.032	0.006	161	1	0.09
AUG								
11...	--	--	--	--	--	--	--	--
18...	0.009	<0.001	0.05	0.024	0.006	169	<1	--
SEP								
17...	0.011	0.001	0.05	0.023	0.004	134	<1	--
23...	--	--	--	--	--	--	--	--

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA

LOCATION.—Lat 38°55'21", long 119°59'26", in NW 1/4 SE 1/4 sec.4, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 200 ft downstream from 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 mi².

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. Datum of gage is 6,229.04 ft above sea level. Prior to Apr. 26, 1984, at datum 2.00 ft higher. Prior to Oct. 19, 1993, at site 200 ft upstream at same datum.

REMARKS.—Records fair except for Jan 1 and 2, which are poor. 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 (station 10336608), to South Fork American River Basin. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,480 ft³/s, Jan. 2, 1997, gage height, 9.95 ft; minimum daily, 0.70 ft³/s, Aug. 22 to Sept. 5, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	1015	763	5.66	Jan. 2	0430	5,480	9.95
Dec. 5	1430	791	5.75	Apr. 22	0345	680	5.08
Dec. 12	1700	728	5.53	May 13	0415	662	5.02

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	15	66	2350	166	87	185	302	401	109	25	12
2	11	15	63	e3150	157	85	162	275	350	88	24	18
3	11	15	56	2280	143	83	148	275	313	74	23	39
4	9.9	15	55	1210	133	78	142	325	428	67	23	36
5	9.2	14	519	738	126	77	138	386	443	64	21	39
6	9.3	13	184	491	120	79	134	381	339	60	20	34
7	8.9	13	136	399	116	83	131	392	287	57	20	25
8	8.6	13	123	333	116	86	134	401	265	55	19	22
9	8.1	14	123	288	110	90	135	423	252	58	18	16
10	7.8	14	139	262	108	106	128	495	263	61	18	14
11	8.6	14	183	241	106	129	125	525	217	56	17	13
12	7.4	15	561	226	104	130	123	507	206	51	17	11
13	8.2	14	336	e211	101	121	123	566	202	48	17	10
14	8.0	15	190	e200	100	124	134	552	308	45	17	10
15	8.1	15	140	e190	101	139	152	490	287	38	16	12
16	8.2	17	117	179	104	151	179	413	251	36	15	26
17	8.3	143	103	164	108	149	219	394	229	35	15	19
18	9.4	613	93	157	104	148	249	406	216	33	15	13
19	13	345	87	153	104	161	405	393	197	32	15	11
20	11	280	82	150	104	181	446	385	175	31	14	11
21	11	166	e82	148	101	181	578	318	156	30	14	11
22	10	268	e82	e144	98	186	562	311	140	29	14	11
23	11	182	e82	e138	96	205	505	353	125	29	14	23
24	12	127	e83	e134	90	221	413	387	107	30	14	14
25	23	101	e83	e136	90	218	330	292	102	31	13	13
26	16	85	e83	e141	93	230	332	260	99	30	12	14
27	14	72	e84	e146	95	264	418	247	92	29	12	13
28	14	69	e85	e151	91	252	444	283	87	30	12	12
29	15	62	e90	e156	---	229	342	320	88	30	12	12
30	16	58	e100	e161	---	220	306	390	99	28	12	12
31	17	---	738	164	---	217	---	428	---	27	11	---
TOTAL	342.4	2802	4948	14991	3085	4710	7822	11875	6724	1421	509	526
MEAN	11.0	93.4	160	484	110	152	261	383	224	45.8	16.4	17.5
MAX	23	613	738	3150	166	264	578	566	443	109	25	39
MIN	7.4	13	55	134	90	77	123	247	87	27	11	10
AC-FT	679	5560	9810	29730	6120	9340	15510	23550	13340	2820	1010	1040

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.6	43.7	54.6	71.2	72.7	109	168	305	252	87.4	21.3	13.5
MAX	72.1	225	218	484	307	305	300	567	795	448	102	55.3
(WY)	1983	1984	1982	1997	1986	1986	1982	1982	1983	1995	1983	1983
MIN	2.60	7.36	8.07	8.00	10.5	21.2	64.0	55.3	23.5	4.65	1.15	1.39
(WY)	1989	1991	1991	1991	1991	1977	1977	1977	1992	1994	1994	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1972 - 1997	
ANNUAL TOTAL	56210.2		59755.4			
ANNUAL MEAN	154		164		104	
HIGHEST ANNUAL MEAN					203	
LOWEST ANNUAL MEAN					29.2	
HIGHEST DAILY MEAN	1430	May 16	3150	Jan 2	3150	Jan 2 1997
LOWEST DAILY MEAN	7.4	Oct 12	7.4	Oct 12	.70	Aug 22 1994
ANNUAL SEVEN-DAY MINIMUM	8.0	Oct 9	8.0	Oct 9	.70	Aug 22 1994
INSTANTANEOUS PEAK FLOW			5480	Jan 2	5480	Jan 2 1997
INSTANTANEOUS PEAK STAGE			9.95	Jan 2	9.95	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	111500		118500		75210	
10 PERCENT EXCEEDS	404		391		284	
50 PERCENT EXCEEDS	94		101		39	
90 PERCENT EXCEEDS	11		12		7.5	

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
01...	1030	7.3	100	7.6	14.0	11.5	605	8.8	102
NOV									
05...	1240	14	90	--	5.0	3.0	--	--	--
18...	1530	630	27	--	7.5	4.5	--	--	--
19...	1335	287	25	--	2.5	4.5	--	--	--
DEC									
05...	1315	770	39	--	1.5	1.0	--	--	--
09...	1430	119	57	--	3.0	3.0	--	--	--
12...	1400	692	43	--	4.5	2.5	--	--	--
13...	1300	323	40	--	6.5	3.5	--	--	--
31...	1545	733	40	--	7.0	1.5	--	--	--
JAN									
01...	1700	3420	24	--	8.5	0.5	--	--	--
02...	1640	e4500	17	--	1.0	1.0	--	--	--
03...	1145	2210	21	--	1.5	1.0	--	--	--
08...	1230	328	45	--	4.0	1.0	--	--	--
MAR									
13...	1310	117	63	--	9.0	4.5	--	--	--
27...	1100	263	42	--	12.5	4.0	--	--	--
APR									
09...	1245	134	53	7.3	0.5	3.0	601	10.6	100
MAY									
02...	1030	279	31	--	12.5	4.5	--	--	--
08...	0930	408	26	7.1	11.5	4.5	607	10.6	103
15...	1510	396	26	--	23.0	9.5	--	--	--
16...	0745	443	24	--	8.0	5.5	--	--	--
22...	1320	298	29	--	18.0	8.5	--	--	--
30...	1120	375	24	--	18.5	9.5	--	--	--
JUN									
06...	1400	320	27	--	15.0	11.0	--	--	--
13...	1215	206	31	7.5	8.5	8.5	598	9.0	98
20...	1550	157	32	--	22.0	16.0	--	--	--
27...	1315	94	44	--	23.0	15.0	--	--	--
JUL									
23...	1240	28	65	--	20.0	17.0	--	--	--
AUG									
19...	1240	15	88	--	21.5	18.5	--	--	--
SEP									
17...	1145	19	49	7.9	14.0	12.5	602	8.7	104

e Estimated.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- ORTHOPHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
01...	0.011	0.004	0.15	0.023	0.003	215	4	0.08	--
NOV									
05...	0.009	0.001	0.33	0.017	0.006	372	4	0.15	--
18...	0.020	0.005	0.27	0.105	0.015	1630	83	141	--
19...	0.018	0.002	0.28	0.067	0.006	1030	49	38	--
DEC									
05...	0.011	0.010	0.08	0.144	0.032	919	149	310	29
09...	0.017	0.002	0.19	0.020	0.007	278	7	2.2	--
12...	0.010	0.013	0.20	0.074	0.016	737	92	172	--
13...	0.006	0.008	0.17	0.047	0.009	767	24	21	--
31...	0.012	0.003	0.34	0.078	0.010	231	75	148	--
JAN									
01...	0.012	0.007	0.40	0.230	0.024	193	195	1800	--
02...	0.005	<0.001	0.21	0.222	0.014	85	101	e1230	--
03...	0.009	<0.001	0.16	0.098	0.009	160	36	215	--
08...	0.020	<0.001	0.23	0.036	0.006	332	16	14	--
MAR									
13...	0.019	<0.001	0.18	0.033	0.006	297	16	5.1	--
27...	0.040	0.002	0.10	0.035	0.014	864	40	28	--
APR									
09...	0.016	0.004	0.29	0.018	0.005	272	17	6.2	--
MAY									
02...	0.009	<0.001	0.21	0.018	0.004	225	8	6.0	--
08...	0.006	0.001	0.22	0.017	0.001	444	14	15	--
15...	0.006	<0.001	0.11	0.042	0.006	667	19	20	--
16...	0.003	<0.001	0.17	0.050	0.006	435	22	26	--
22...	0.040	<0.001	0.21	0.033	0.005	427	11	8.9	--
30...	0.006	<0.001	0.09	0.027	0.004	458	16	16	--
JUN									
06...	0.007	<0.001	0.13	0.029	0.003	268	16	14	--
13...	0.010	<0.001	0.09	0.036	0.005	271	20	11	--
20...	0.009	0.001	0.07	0.043	0.004	270	7	3.0	--
27...	0.010	0.003	0.15	0.022	0.007	233	5	1.3	--
JUL									
23...	0.017	0.003	0.07	0.036	0.008	259	2	0.15	--
AUG									
19...	0.012	<0.001	0.15	0.043	0.004	409	57	2.3	--
SEP									
17...	0.008	0.002	0.07	0.023	0.005	192	13	0.67	--

e Estimated.

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 mi².

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, 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, 797 ft³/s, Jan. 2, 1997, gage height, 7.86 ft (backwater from plugged culvert), from rating curve extended above 180 ft³/s on basis of computation of flow through culvert; minimum daily, 0.29 ft³/s, July 28, Aug. 15, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 12	1245	134	2.19	Apr. 19	1145	132	2.06
Jan. 2	0630	797	a7.86	May 12	2300	123	2.04

a Backwater from plugged culvert.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.1	8.0	600	30	8.7	34	52	20	5.2	1.5	1.2
2	1.4	2.1	7.2	e337	29	8.6	30	57	17	4.8	1.6	1.7
3	1.4	2.0	6.7	e140	26	8.6	29	61	15	4.4	1.8	1.8
4	1.4	1.7	7.0	e121	24	8.9	28	78	36	4.0	1.7	1.4
5	1.3	1.7	58	63	21	8.8	28	80	37	3.5	1.6	1.5
6	1.3	1.7	32	51	20	8.5	26	75	30	3.2	1.6	1.4
7	1.2	1.6	21	48	18	8.7	26	77	20	3.1	1.5	1.2
8	1.2	1.6	23	44	18	9.1	27	87	16	2.7	1.7	1.5
9	1.2	1.6	30	39	17	9.1	28	93	24	2.5	1.9	1.3
10	1.1	1.6	27	34	16	10	25	92	37	2.5	2.9	1.2
11	1.2	1.6	31	e33	15	13	25	89	24	2.6	3.1	1.2
12	1.2	1.6	107	e32	14	15	24	96	18	2.5	3.7	1.1
13	1.3	1.6	73	e31	13	14	26	85	19	2.4	3.2	1.4
14	1.3	1.6	42	e30	13	14	33	75	25	2.1	3.1	1.3
15	1.2	1.6	29	26	12	17	42	72	22	2.1	3.1	2.2
16	1.3	1.6	23	27	12	21	53	66	16	2.1	2.8	2.0
17	1.3	9.4	23	29	12	21	61	61	13	2.0	2.7	1.7
18	1.6	38	20	29	12	21	71	55	10	1.8	2.8	2.1
19	1.9	17	18	27	12	26	116	50	8.9	1.8	3.0	2.2
20	1.6	25	17	27	12	33	94	46	7.9	1.7	2.9	2.1
21	1.6	14	e18	25	12	33	110	40	7.3	1.5	2.9	2.0
22	1.6	36	e19	25	11	36	89	34	6.8	1.6	2.7	1.6
23	1.6	21	e20	e30	11	43	95	37	6.8	1.8	2.1	1.7
24	2.3	15	e20	e35	10	46	74	41	6.9	1.8	1.6	1.7
25	2.6	12	e20	e40	9.7	46	60	36	6.7	1.8	1.5	1.7
26	2.0	10	e21	e39	9.7	48	70	31	5.8	1.8	1.6	1.8
27	1.9	8.9	e21	e37	9.7	49	94	28	5.1	1.8	1.6	1.5
28	1.9	8.5	e21	e35	9.3	49	84	27	4.6	1.8	1.5	1.7
29	2.4	7.8	35	e35	---	48	55	26	4.4	1.8	1.3	1.7
30	2.6	7.1	71	35	---	46	53	24	4.7	1.8	1.4	1.4
31	2.4	---	164	32	---	43	---	23	---	1.7	1.4	---
TOTAL	49.7	257.0	1032.9	2136	428.4	771.0	1610	1794	474.9	76.2	67.8	48.3
MEAN	1.60	8.57	33.3	68.9	15.3	24.9	53.7	57.9	15.8	2.46	2.19	1.61
MAX	2.6	38	164	600	30	49	116	96	37	5.2	3.7	2.2
MIN	1.1	1.6	6.7	25	9.3	8.5	24	23	4.4	1.5	1.3	1.1
AC-FT	99	510	2050	4240	850	1530	3190	3560	942	151	134	96

e Estimated.

10336645 GENERAL CREEK NEAR MEEKS BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.22	7.79	10.3	10.5	13.7	19.0	39.1	61.6	33.1	6.77	1.36	1.30
MAX	15.5	45.4	58.7	68.9	64.2	60.1	70.4	114	158	49.6	4.72	4.36
(WY)	1983	1982	1982	1997	1986	1986	1989	1993	1983	1983	1983	1983
MIN	.73	.84	.89	.90	.99	5.86	15.9	7.18	2.23	.49	.35	.39
(WY)	1993	1993	1991	1991	1991	1994	1991	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1980 - 1997	
ANNUAL TOTAL	9685.6		8746.2			
ANNUAL MEAN	26.5		24.0		17.2	
HIGHEST ANNUAL MEAN					34.7	
LOWEST ANNUAL MEAN					4.96	
HIGHEST DAILY MEAN	348	May 16	600	Jan 1	600	Jan 1 1997
LOWEST DAILY MEAN	1.1	Oct 10	1.1	Oct 10	.29	Jul 28 1994
ANNUAL SEVEN-DAY MINIMUM	1.2	Oct 6	1.2	Oct 6	.31	Aug 15 1994
INSTANTANEOUS PEAK FLOW			797	Jan 2	797	Jan 2 1997
INSTANTANEOUS PEAK STAGE			7.86	Jan 2	7.86	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	19210		17350		12470	
10 PERCENT EXCEEDS	79		59		49	
50 PERCENT EXCEEDS	12		12		3.2	
90 PERCENT EXCEEDS	1.5		1.5		.78	

10336645 GENERAL CREEK NEAR MEEKS BAY, CA—Continued

WATER-QUALITY RECORDS

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

PERIOD 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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT								
17...	1605	2.1	70	15.5	6.0	9.3	94	0.004
NOV								
17...	1130	8.0	60	6.0	3.0	9.8	92	0.013
17...	1850	14	57	4.0	3.5	--	--	0.020
18...	1245	49	21	7.0	4.0	10.0	96	0.012
19...	2120	18	32	3.0	3.5	--	--	0.010
21...	2350	20	30	3.5	3.5	--	--	0.003
DEC								
05...	1025	78	25	1.5	1.0	--	--	0.007
05...	1735	76	18	0.0	0.5	--	--	0.006
11...	2150	45	26	3.0	1.0	--	--	0.005
12...	0920	125	19	2.0	0.5	--	--	0.005
12...	1730	123	18	1.0	1.0	--	--	0.004
30...	1305	70	22	4.5	0.0	--	--	0.003
31...	1115	146	17	6.5	0.0	--	--	0.003
JAN								
01...	1005	694	15	9.0	0.5	--	--	0.004
02...	1650	716	11	--	--	--	--	0.003
04...	1205	116	17	--	1.0	--	--	0.004
06...	1145	53	21	-4.0	0.0	--	--	0.003
10...	1145	33	21	4.0	1.0	--	--	0.005
FEB								
13...	1635	13	31	2.5	1.5	10.8	96	0.003
MAR								
15...	1635	17	30	7.0	3.5	--	--	0.004
26...	1155	47	21	13.0	3.5	--	--	0.005
APR								
14...	1535	32	24	12.0	6.0	--	--	0.005
19...	1215	132	14	11.0	3.0	--	--	0.006
19...	1915	121	14	5.0	2.5	--	--	0.005
21...	1800	110	14	8.5	4.0	10.5	100	0.005
22...	1515	78	15	9.0	4.0	10.3	98	0.004
30...	1655	49	17	5.0	5.0	9.9	98	0.003
MAY								
08...	0735	82	13	3.0	3.0	--	--	0.003
14...	2115	87	12	9.5	8.0	9.4	99	0.003
22...	1725	32	18	12.5	9.5	8.7	97	0.004
23...	1855	51	17	5.0	7.0	--	--	0.003
JUN								
03...	1145	15	26	10.5	10.0	--	--	0.004
04...	0830	32	20	7.0	8.0	--	--	0.005
04...	1940	44	18	6.0	8.0	9.2	98	0.004
18...	1635	10	33	23.5	16.0	7.4	94	0.006
JUL								
17...	1540	1.8	59	19.0	18.0	6.6	88	0.012
AUG								
18...	1635	2.8	68	20.5	18.0	6.7	89	0.013
SEP								
16...	1625	1.8	70	16.5	13.5	7.3	88	0.005

10336645 GENERAL CREEK NEAR MEEKS BAY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT							
17...	0.004	0.10	0.024	0.016	129	<1	<0.01
NOV							
17...	0.003	0.14	0.056	0.024	498	10	0.22
17...	0.003	0.13	0.116	0.030	2300	22	0.83
18...	0.012	0.15	0.042	0.006	187	10	1.3
19...	0.002	0.12	0.024	0.007	138	6	0.29
21...	0.001	0.25	0.028	0.005	136	4	0.22
DEC							
05...	0.003	0.11	0.044	0.008	207	24	5.1
05...	0.005	0.14	0.024	0.005	67	8	1.6
11...	0.011	0.11	0.015	0.006	186	4	0.49
12...	0.001	0.12	0.027	0.006	224	19	6.4
12...	0.001	0.11	0.018	0.005	242	13	4.3
30...	0.009	0.17	0.014	0.002	97	6	1.1
31...	<0.001	0.33	0.015	0.003	282	12	4.7
JAN							
01...	<0.001	0.25	0.351	0.006	386	500	937
02...	<0.001	0.57	0.350	0.006	306	1620	3130
04...	0.001	0.18	0.052	0.003	164	380	119
06...	0.001	0.31	0.025	0.003	143	57	8.2
10...	0.001	0.15	0.021	0.003	69	30	2.7
FEB							
13...	0.001	0.14	0.010	0.005	48	11	0.39
MAR							
15...	0.002	0.24	0.018	0.005	85	17	0.78
26...	0.002	0.11	0.010	0.004	211	47	6.0
APR							
14...	0.002	0.31	0.013	0.004	157	19	1.6
19...	<0.001	0.15	0.044	0.004	1960	151	54
19...	<0.001	0.17	0.029	0.003	393	102	33
21...	0.001	0.15	0.017	0.003	943	63	19
22...	<0.001	0.30	0.016	0.003	402	50	11
30...	0.001	0.25	0.016	0.003	135	17	2.2
MAY							
08...	0.001	0.09	0.012	0.003	218	17	3.8
14...	<0.001	0.12	0.019	0.003	386	35	8.2
22...	0.002	0.10	0.014	0.004	164	10	0.86
23...	0.003	0.15	0.021	0.003	519	38	5.2
JUN							
03...	0.001	0.08	0.025	0.005	225	4	0.16
04...	<0.001	0.12	0.029	0.005	342	23	2.0
04...	<0.001	0.12	0.024	0.003	207	22	2.6
18...	0.001	0.09	0.018	0.009	169	1	0.03
JUL							
17...	0.006	0.10	0.042	0.025	499	1	0.00
AUG							
18...	0.003	0.11	0.047	0.021	534	1	0.01
SEP							
16...	0.009	0.09	0.049	0.017	450	3	0.01

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 mi².

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 daily discharges after Jan. 1, which are poor. No known diversion or regulation upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,940 ft³/s, Jan. 1, 1997, gage height, 9.82 ft; maximum gage height, 9.90 ft, site and datum then in use, Dec. 22, 1964; minimum daily, 0.50 ft³/s, Sept. 24, 1968.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0515	323	2.80	Jan. 1	1415	2,940	9.82
Dec. 5	0945	249	2.51	Apr. 19	0700	268	2.76
Dec. 12	0515	403	3.07				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.7	20	2000	35	e20	63	130	113	25	4.8	2.6
2	2.3	2.5	16	1970	35	e20	54	131	103	20	4.5	2.7
3	2.1	2.4	14	471	34	e20	47	132	98	18	4.4	2.8
4	2.1	2.2	15	234	32	e20	45	134	158	17	4.8	2.6
5	2.1	2.2	139	160	30	e19	44	137	127	17	4.9	2.6
6	2.1	2.2	62	e135	30	e19	44	137	103	15	4.9	2.5
7	2.2	2.2	42	94	e29	e19	51	137	100	14	4.4	2.5
8	2.1	2.2	43	84	27	e20	53	136	95	13	4.5	2.5
9	1.8	2.2	49	81	26	e20	51	140	94	13	4.8	2.2
10	1.7	2.2	54	76	25	e21	46	142	85	12	4.7	2.2
11	1.8	2.2	73	71	24	e23	46	143	79	10	4.7	2.0
12	2.0	2.2	e276	71	23	e25	49	148	76	10	4.5	1.9
13	1.9	2.2	140	55	23	e24	52	170	76	9.1	4.4	1.8
14	2.0	2.2	87	50	23	e24	57	170	84	9.7	4.3	1.7
15	1.9	2.2	64	48	22	e27	66	165	82	8.9	4.1	1.9
16	2.1	2.4	53	44	22	e30	76	162	78	8.7	3.9	1.7
17	2.1	71	47	42	23	e35	90	161	74	8.5	3.8	1.7
18	2.4	171	41	44	22	e37	106	158	69	9.1	3.7	1.8
19	2.7	64	38	39	22	e45	216	156	64	8.4	3.6	1.8
20	2.6	60	35	37	22	59	170	147	59	8.2	3.3	1.5
21	2.6	47	e35	35	22	61	217	131	54	7.8	3.3	1.4
22	2.5	86	e35	e37	21	68	170	116	49	8.3	3.1	1.3
23	2.2	45	e35	e40	21	82	205	124	43	8.1	3.0	1.2
24	2.7	34	e35	e44	22	86	139	120	40	8.3	3.0	1.1
25	3.2	28	e36	e44	e22	86	150	104	37	7.9	3.0	1.1
26	3.1	24	e36	e44	e22	105	150	97	33	7.6	2.8	1.1
27	3.0	20	e36	44	e22	102	143	98	31	7.3	2.8	1.2
28	2.8	19	36	40	e21	95	130	107	31	7.0	2.7	1.0
29	3.0	16	66	39	---	85	135	114	29	6.8	2.7	1.1
30	3.1	14	178	37	---	79	126	123	28	6.6	2.6	1.2
31	2.8	---	421	36	---	73	---	123	---	6.1	2.6	---
TOTAL	73.3	735.4	2257	6246	702	1449	2991	4193	2192	336.4	118.6	54.7
MEAN	2.36	24.5	72.8	201	25.1	46.7	99.7	135	73.1	10.9	3.83	1.82
MAX	3.2	171	421	2000	35	105	217	170	158	25	4.9	2.8
MIN	1.7	2.2	14	35	21	19	44	97	28	6.1	2.6	1.0
AC-FT	145	1460	4480	12390	1390	2870	5930	8320	4350	667	235	108

e Estimated.

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.04	13.4	21.2	26.7	22.3	30.9	61.2	129	99.6	28.3	5.79	2.88
MAX	28.1	94.8	157	201	116	122	124	312	320	149	36.1	10.3
(WY)	1963	1984	1965	1997	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	1.51	1.21
(WY)	1978	1978	1977	1991	1991	1977	1975	1977	1992	1987	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	20272.0		21348.4			
ANNUAL MEAN	55.4		58.5		37.2	
HIGHEST ANNUAL MEAN					73.4	
LOWEST ANNUAL MEAN					8.71	
HIGHEST DAILY MEAN	607	May 16	2000	Jan 1	2000	Jan 1 1997
LOWEST DAILY MEAN	1.7	Oct 10	1.0	Sep 28	.50	Sep 24 1968
ANNUAL SEVEN-DAY MINIMUM	1.8	Aug 30	1.1	Sep 23	.54	Sep 23 1968
INSTANTANEOUS PEAK FLOW			2940	Jan 1	2940	Jan 1 1997
INSTANTANEOUS PEAK STAGE			9.82	Jan 1	9.90	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	40210		42340		26970	
10 PERCENT EXCEEDS	150		136		107	
50 PERCENT EXCEEDS	32		27		10	
90 PERCENT EXCEEDS	2.1		2.2		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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT								
17...	1505	2.2	79	11.0	8.0	9.2	97	0.003
NOV								
17...	1030	11	69	6.0	3.5	10.0	95	0.008
17...	1750	125	35	4.0	2.5	--	--	0.046
17...	2325	206	30	6.5	2.5	--	--	0.047
18...	1145	154	30	6.0	4.0	10.2	98	0.063
19...	2020	133	32	3.5	2.5	--	--	0.032
20...	1115	55	38	7.5	4.5	--	--	0.044
21...	2250	122	33	3.5	4.0	--	--	0.015
22...	1615	75	38	0.0	2.0	--	--	0.019
DEC								
05...	0935	247	30	2.0	1.0	--	--	0.015
05...	1645	130	36	0.0	1.0	--	--	0.019
11...	2045	122	40	1.5	1.0	--	--	0.012
12...	0650	48	29	2.0	1.0	--	--	0.011
12...	1630	67	33	2.5	1.5	--	--	0.014
29...	2200	151	38	2.0	0.0	--	--	0.006
30...	1155	155	40	3.0	1.0	--	--	0.003
30...	2205	242	40	2.0	0.5	--	--	0.030
31...	1010	334	36	4.5	1.0	--	--	0.003
JAN								
01...	0700	1310	27	--	--	--	--	0.012
01...	1115	2510	22	--	--	--	--	0.007
01...	1615	2720	21	--	--	--	--	0.007
02...	1105	2330	21	--	1.0	--	--	0.004
02...	2155	914	27	1.0	1.5	--	--	0.005
03...	1755	323	33	-1.5	1.5	--	--	0.003
06...	1015	135	41	-4.0	0.5	--	--	0.022
10...	1300	71	45	2.5	3.0	--	--	0.023
FEB								
13...	1505	23	56	4.5	4.0	10.2	97	0.004
MAR								
15...	1540	27	55	8.0	6.5	--	--	0.005
26...	1255	110	44	11.5	7.0	--	--	0.011
APR								
14...	1435	53	50	9.0	8.5	--	--	0.006
19...	1120	237	31	9.0	3.5	--	--	0.026
19...	1815	209	33	7.0	3.0	--	--	0.052
21...	1635	230	33	9.0	4.0	10.3	99	0.020
22...	1410	157	36	12.0	6.0	9.7	98	0.016
30...	1550	130	39	7.0	5.0	9.9	98	0.009
MAY								
08...	0645	128	34	0.5	2.5	--	--	0.008
14...	1950	193	29	12.5	5.5	9.9	98	0.007
22...	1630	110	34	14.0	9.0	8.9	97	0.006
23...	1810	148	31	5.5	5.0	--	--	0.002
JUN								
02...	1950	103	31	12.5	8.5	--	--	0.005
04...	0735	77	30	6.0	5.0	--	--	0.009
04...	1735	103	28	7.0	6.0	9.6	99	0.010
08...	2105	102	33	10.0	7.0	--	--	0.008
18...	1520	65	37	--	15.5	7.8	99	0.003
JUL								
17...	1440	8.4	56	19.5	18.5	7.0	93	0.006
AUG								
18...	1530	3.7	69	21.0	19.5	6.9	95	0.009
SEP								
16...	1525	1.9	73	16.5	14.0	8.0	98	0.004

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AMMONIA + DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT							
17...	0.004	0.27	0.020	0.005	210	<1	<0.01
NOV							
17...	0.002	0.16	0.048	0.010	387	9	0.27
17...	0.003	0.30	0.288	0.009	2220	133	45
17...	0.004	0.16	0.533	0.011	1820	383	213
18...	0.003	0.20	0.125	0.007	1760	114	47
19...	0.002	0.17	0.112	0.007	1630	132	47
20...	0.002	0.15	0.021	0.006	73	7	1.0
21...	<0.001	0.12	0.089	0.004	1420	126	42
22...	<0.001	0.16	0.019	0.003	1880	7	1.4
DEC							
05...	0.003	0.13	0.304	0.008	1270	402	268
05...	0.001	0.18	0.059	0.006	374	56	20
11...	0.002	0.22	0.079	0.006	446	108	36
12...	0.001	0.25	0.322	0.008	1410	530	69
12...	0.001	0.27	0.069	0.006	866	96	17
29...	<0.001	0.30	0.089	0.002	411	128	52
30...	<0.001	0.32	0.066	0.002	479	71	30
30...	0.010	0.34	0.109	0.011	522	218	142
31...	<0.001	0.36	0.084	0.002	559	146	132
JAN							
01...	<0.001	0.68	1.01	0.007	691	1700	6010
01...	<0.001	0.10	1.88	0.005	472	2840	19200
01...	0.001	0.80	1.31	0.004	762	1220	8960
02...	0.001	1.3	1.47	0.005	1030	2370	14900
02...	<0.001	0.84	0.509	0.005	3910	662	1630
03...	<0.001	0.32	0.196	0.004	373	352	307
06...	0.002	0.29	0.046	0.003	306	72	26
10...	0.003	0.30	0.022	0.003	315	11	2.1
FEB							
13...	0.001	0.19	0.011	0.004	142	2	0.12
MAR							
15...	0.002	0.15	0.022	0.005	280	7	0.51
26...	0.002	--	0.018	0.005	252	20	5.9
APR							
14...	0.002	0.32	0.013	0.004	145	8	1.1
19...	<0.001	0.34	0.374	0.006	6620	572	366
19...	<0.001	0.27	0.197	0.006	4000	300	169
21...	0.001	0.25	0.160	0.005	3830	293	182
22...	0.002	0.28	0.070	0.005	1190	86	36
30...	0.001	0.05	0.022	0.003	249	20	7.0
MAY							
08...	0.001	0.17	0.022	0.004	289	21	7.3
14...	0.010	0.06	0.057	0.003	1100	93	48
22...	0.005	0.06	0.020	0.003	273	16	4.8
23...	0.001	0.11	0.026	0.003	484	38	15
JUN							
02...	<0.001	0.04	0.026	0.003	184	10	2.8
04...	<0.001	0.09	0.037	0.002	340	32	6.7
04...	<0.001	0.18	0.105	0.003	1280	123	34
08...	0.001	0.09	0.061	0.014	557	39	11
18...	0.001	0.06	0.016	0.004	138	2	0.35
JUL							
17...	0.002	0.05	0.024	0.010	148	2	0.04
AUG							
18...	0.002	0.16	0.035	0.012	167	<1	<0.01
SEP							
16...	0.006	0.04	0.051	0.010	154	1	0.01

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 mi².

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 including estimated daily discharges. No storage or diversion upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,220 ft³/s, Jan. 1, 1997, gage height, 8.85 ft, from crest stage gage; no flow for some days in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 17	2400	156	5.86	Mar. 26	1800	54	4.10
Dec. 5	0830	128	5.69	Apr. 23	0300	146	4.83
Dec. 12	0400	136	5.74	June 8	1530	100	4.50
Jan. 1	Unknown	1,220	a8.85				

a From crest stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	.76	8.0	e700	10	5.1	25	47	42	e9.2	1.3	.21
2	.54	.75	6.8	e720	10	5.3	22	47	39	e9.0	1.2	.27
3	.53	.74	5.9	e120	9.4	5.1	20	51	44	e8.8	1.1	.33
4	.52	.68	6.9	e80	8.9	4.9	23	65	77	e8.6	1.0	.29
5	.51	.62	66	e60	8.5	4.9	23	69	56	e8.4	.95	.27
6	.50	.61	26	e48	8.3	4.9	22	69	45	e8.2	.88	.26
7	.48	.62	17	e40	8.0	5.0	21	71	40	e8.0	.80	.25
8	.47	.63	19	e35	7.7	5.3	20	78	40	e7.8	.75	.26
9	.46	.65	21	e25	7.3	5.9	18	85	36	7.6	.71	.25
10	.45	.66	21	e23	7.1	7.0	15	86	32	6.9	.67	.24
11	.47	.70	28	e22	6.8	7.7	15	87	31	6.3	.68	.26
12	.48	.70	83	e21	6.6	7.7	16	90	30	6.0	.61	.24
13	.49	.76	44	e20	6.5	7.5	17	91	30	5.8	.53	.23
14	.51	.74	26	e18	6.4	8.6	24	88	33	5.6	.53	.24
15	.51	.66	20	e17	6.3	10	29	80	19	5.1	.47	.42
16	.52	.72	17	e16	6.3	11	34	79	16	4.6	.43	.31
17	.54	40	15	e15	6.4	11	38	76	14	4.3	.41	.28
18	.77	57	13	13	6.1	13	47	74	13	3.9	.40	.34
19	.71	24	12	12	6.1	17	89	71	12	3.7	.41	.43
20	.59	18	12	12	5.9	19	77	63	11	3.5	.42	.39
21	.57	26	e12	11	5.9	19	110	55	11	3.2	.47	.36
22	.59	35	e12	e11	5.9	21	87	48	10	2.8	.38	.32
23	.61	19	e12	e11	5.8	26	92	57	9.4	2.3	.33	.28
24	1.9	14	e12	11	5.6	29	62	52	9.1	2.2	.37	.26
25	.88	11	12	e11	5.5	29	55	42	9.2	2.0	.33	.39
26	.66	9.9	14	e10	5.4	37	59	39	9.5	2.0	.32	.36
27	.67	8.7	15	10	5.4	43	73	39	e10	1.9	.29	e.35
28	.68	7.9	12	10	5.2	41	63	43	e9.8	1.8	.28	e.34
29	.67	6.7	35	10	---	38	51	45	e9.6	1.7	.26	e.33
30	.70	6.5	86	9.8	---	33	46	47	e9.4	1.6	.23	e.32
31	.67	---	155	9.5	---	30	---	47	---	1.4	.22	---
TOTAL	19.19	294.70	844.6	2131.3	193.3	511.9	1293	1981	757.0	154.2	17.73	9.08
MEAN	.62	9.82	27.2	68.8	6.90	16.5	43.1	63.9	25.2	4.97	.57	.30
MAX	1.9	57	155	720	10	43	110	91	77	9.2	1.3	.43
MIN	.45	.61	5.9	9.5	5.2	4.9	15	39	9.1	1.4	.22	.21
AC-FT	38	585	1680	4230	383	1020	2560	3930	1500	306	35	18

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	2.21	7.01	15.6	9.07	14.1	28.5	60.7	46.2	22.0	3.63	.61
MAX	1.21	9.82	27.2	68.8	32.5	26.9	43.1	93.5	106	88.7	16.0	1.94
(WY)	1994	1997	1997	1997	1996	1995	1997	1996	1995	1995	1995	1995
MIN	.11	.45	.69	.82	.95	5.85	22.0	20.5	3.67	.81	.025	.008
(WY)	1993	1996	1995	1992	1994	1994	1994	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1992 - 1997	
ANNUAL TOTAL	8459.17		8207.00			
ANNUAL MEAN	23.1		22.5		17.6	
HIGHEST ANNUAL MEAN					29.0	
LOWEST ANNUAL MEAN					5.56	
HIGHEST DAILY MEAN	272	May 16	720	Jan 2	720	Jan 2 1997
LOWEST DAILY MEAN	.44	Sep 11	.21	Sep 1	.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	.47	Oct 7	.25	Sep 8	.00	Sep 9 1992
INSTANTANEOUS PEAK FLOW			1220	Jan 1	1220	Jan 1 1997
INSTANTANEOUS PEAK STAGE			8.85	Jan 1	8.85	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	16780		16280		12720	
10 PERCENT EXCEEDS	63		58		55	
50 PERCENT EXCEEDS	12		8.8		3.6	
90 PERCENT EXCEEDS	.57		.39		.24	

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1993 to current year.

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	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 DIS- SOLVED (MG/L AS N) (00608)
OCT							
17...	1055	0.54	47	9.0	4.5	0.003	0.002
NOV							
17...	1345	45	29	3.5	0.5	0.035	0.003
18...	1520	31	30	4.0	3.5	0.034	0.001
19...	1620	32	30	4.0	2.5	0.021	0.001
22...	1210	30	30	0.5	2.0	0.002	<0.001
DEC							
05...	1305	71	27	0.0	1.0	0.012	0.001
30...	1615	80	26	2.5	0.0	0.002	<0.001
31...	1445	132	28	5.0	1.0	0.002	<0.001
JAN							
06...	1455	48	30	-2.5	1.0	0.002	<0.001
FEB							
13...	1100	6.8	35	2.0	1.0	0.004	0.002
MAR							
15...	1130	9.7	37	8.5	2.5	0.004	0.003
26...	1455	39	29	11.5	2.0	0.006	0.001
APR							
14...	1030	22	32	--	2.0	0.004	0.003
19...	1445	87	27	8.0	2.5	0.013	<0.001
21...	1155	110	28	6.0	2.0	0.014	0.001
30...	1150	46	29	7.5	3.0	0.003	0.002
MAY							
08...	0920	66	28	11.5	2.5	0.003	0.001
14...	1635	104	24	17.5	5.5	0.004	0.001
22...	1320	46	28	15.0	7.0	0.004	0.012
JUN							
02...	1635	47	26	15.5	7.5	0.005	0.002
04...	1400	94	24	7.5	6.0	0.009	<0.001
18...	1100	13	30	20.5	8.0	0.004	0.001
JUL							
17...	1040	4.5	37	18.0	11.0	0.004	<0.001
AUG							
18...	1140	0.53	46	19.0	14.5	0.048	0.001
SEP							
16...	1120	0.40	48	15.0	10.0	0.005	0.006

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- ORTHOPHOS- PHATE SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT						
17...	0.04	0.015	0.006	20	<1	<0.01
NOV						
17...	0.03	0.111	0.014	2320	62	7.5
18...	0.05	0.028	0.009	140	8	0.67
19...	0.04	0.038	0.008	72	16	1.4
22...	0.03	0.020	0.004	76	2	0.16
DEC						
05...	0.05	0.029	0.006	86	14	2.7
30...	0.12	0.026	0.001	216	32	6.9
31...	0.28	0.045	0.002	201	21	7.5
JAN						
06...	0.32	0.013	0.002	81	<1	<0.10
FEB						
13...	0.22	0.008	0.004	74	<1	<0.01
MAR						
15...	0.10	0.013	0.003	21	1	0.03
26...	0.08	0.016	0.004	203	12	1.3
APR						
14...	0.16	0.006	0.003	61	1	0.06
19...	0.14	0.012	0.005	127	11	2.6
21...	0.24	0.013	0.005	113	28	8.3
30...	0.07	0.013	0.003	18	4	0.50
MAY						
08...	0.06	0.012	0.006	31	2	0.36
14...	0.09	0.021	0.003	179	10	2.8
22...	0.06	0.011	0.003	36	5	0.62
JUN						
02...	0.06	0.023	0.003	59	5	0.63
04...	0.39	0.235	0.004	2030	117	30
18...	0.08	0.017	0.005	54	5	0.18
JUL						
17...	0.03	0.016	0.007	37	<1	<0.01
AUG						
18...	0.06	0.039	0.006	42	<1	<0.01
SEP						
16...	0.06	0.039	0.003	50	<1	<0.01

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 mi².

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 fair. No storage or diversion upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,370 ft³/s, Jan. 1, 1997, gage height, 7.58 ft; maximum gage height, 8.23 ft, Jan. 10, 1995, backwater from ice; minimum daily, 0.30 ft³/s, Sept. 22, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 80 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0045	303	5.62	Apr. 23	0430	295	5.70
Dec. 5	0845	315	5.66	May 14	1800	304	5.66
Dec. 12	0445	262	5.49	June 4	1530	179	5.40
Jan. 1	2330	2,370	7.58	June 8	1630	153	5.35
Mar. 27	1845	87	5.13				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	e1.7	e10	e1300	30	14	32	78	50	13	3.0	1.5
2	1.2	e1.7	e10	e1270	31	e13	28	76	45	12	2.8	1.5
3	1.2	e1.7	e10	e288	28	e13	26	79	48	12	2.7	1.6
4	1.2	e1.6	12	e157	26	e12	31	94	127	11	2.6	1.5
5	1.1	e1.6	e131	e107	24	e12	25	92	95	11	2.5	1.5
6	1.2	e1.6	39	e90	25	13	24	89	73	9.9	2.5	1.5
7	1.1	e1.5	27	e80	23	11	25	91	62	9.4	2.4	1.4
8	1.1	e1.5	31	e70	22	10	24	109	70	8.9	2.4	1.4
9	1.1	e1.5	34	64	22	12	26	110	64	8.7	2.2	1.4
10	1.1	1.6	29	55	21	14	27	117	55	8.6	2.2	1.3
11	1.2	1.7	39	e50	19	14	29	126	49	8.2	2.2	1.3
12	1.2	1.7	e155	e48	19	14	30	133	45	7.8	2.1	1.4
13	1.2	1.7	87	47	17	14	32	124	45	7.1	2.0	1.4
14	1.2	1.8	52	e45	18	16	39	140	57	6.7	2.0	1.4
15	1.1	1.7	38	43	18	18	45	130	50	6.3	1.9	1.5
16	1.1	1.6	28	41	18	20	52	124	45	5.8	1.8	1.5
17	1.1	62	31	37	19	20	56	124	43	5.3	1.8	e1.5
18	1.3	97	30	33	17	21	68	120	39	5.0	1.8	e1.5
19	1.5	32	28	33	18	32	168	106	36	4.7	1.8	e1.5
20	1.3	25	26	31	17	25	113	91	33	4.3	1.8	e1.4
21	1.2	e27	e26	30	17	26	194	77	29	4.1	1.8	e1.4
22	1.3	51	e26	28	16	29	120	63	26	3.9	1.7	e1.4
23	1.3	26	e25	25	16	43	184	76	23	4.0	1.6	e1.4
24	2.6	19	e25	25	e15	42	97	65	21	4.0	1.7	e1.4
25	2.3	16	e24	e25	e15	45	96	49	20	3.7	1.7	e1.4
26	1.6	14	e24	e26	16	51	101	44	18	3.6	1.6	e1.4
27	1.5	11	e24	e27	16	55	124	42	17	3.4	1.6	e1.4
28	1.5	11	e24	27	14	60	108	46	16	3.4	1.6	e1.3
29	1.6	9.2	63	26	---	49	95	50	15	3.3	1.6	e1.3
30	1.7	e10	e114	28	---	45	80	54	15	3.2	1.5	e1.3
31	e1.7	---	e250	28	---	39	---	55	---	3.1	1.5	---
TOTAL	41.9	436.4	1472	4184	557	802	2099	2774	1331	205.4	62.4	42.7
MEAN	1.35	14.5	47.5	135	19.9	25.9	70.0	89.5	44.4	6.63	2.01	1.42
MAX	2.6	97	250	1300	31	60	194	140	127	13	3.0	1.6
MIN	1.1	1.5	10	25	14	10	24	42	15	3.1	1.5	1.3
AC-FT	83	866	2920	8300	1100	1590	4160	5500	2640	407	124	85

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.52	4.05	12.2	30.1	16.9	25.1	48.2	97.9	71.1	26.9	5.09	1.46
MAX	2.52	14.5	47.5	135	51.2	52.1	70.0	168	182	107	20.1	3.36
(WY)	1994	1997	1997	1997	1996	1995	1997	1996	1995	1995	1995	1995
MIN	.73	1.62	1.47	2.26	2.19	9.10	26.2	22.7	4.60	1.41	.44	.36
(WY)	1995	1994	1995	1992	1994	1994	1994	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1992 - 1997	
ANNUAL TOTAL	14592.4		14007.8			
ANNUAL MEAN	39.9		38.4		28.4	
HIGHEST ANNUAL MEAN					47.5	
LOWEST ANNUAL MEAN					7.69	
HIGHEST DAILY MEAN	542	May 16	1300	Jan 1	1300	Jan 1 1997
LOWEST DAILY MEAN	1.1	Oct 1	1.1	Oct 1	.30	Sep 22 1994
ANNUAL SEVEN-DAY MINIMUM	1.1	Oct 4	1.1	Oct 4	.31	Sep 17 1994
INSTANTANEOUS PEAK FLOW			2370	Jan 1	2370	Jan 1 1997
INSTANTANEOUS PEAK STAGE			7.58	Jan 1	8.23	Jan 10 1995
ANNUAL RUNOFF (AC-FT)	28940		27780		20600	
10 PERCENT EXCEEDS	112		93		87	
50 PERCENT EXCEEDS	21		18		5.8	
90 PERCENT EXCEEDS	1.5		1.4		.90	

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1993 to current year.

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED WATER (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT								
17...	1215	1.2	82	11.0	6.5	9.2	95	0.004
NOV								
17...	1505	65	38	4.0	1.5	--	--	0.028
18...	1630	43	37	4.5	4.0	--	--	0.031
19...	1720	54	39	4.0	3.0	--	--	0.016
22...	1340	44	38	0.5	2.0	--	--	0.003
DEC								
05...	1440	119	33	0.0	1.0	--	--	0.010
12...	1345	171	33	2.5	1.5	--	--	0.007
30...	1730	166	34	2.0	0.5	--	--	0.002
31...	1620	362	30	5.0	1.0	--	--	0.002
JAN								
03...	1530	310	30	-2.0	1.5	--	--	0.002
06...	1650	124	34	-5.0	0.5	--	--	0.002
FEB								
13...	1230	23	48	6.0	2.0	--	--	0.004
MAR								
15...	1335	15	47	9.5	4.5	--	--	0.005
26...	1650	62	37	10.5	3.0	--	--	0.005
APR								
14...	1200	33	41	10.0	6.0	--	--	0.005
19...	1610	152	32	7.0	3.0	--	--	0.011
21...	1335	206	32	10.5	3.0	10.3	96	0.012
30...	1315	87	37	9.5	5.5	--	--	0.003
MAY								
08...	1040	90	34	15.0	5.0	--	--	0.003
14...	1750	286	29	17.5	7.0	--	--	0.004
22...	1440	56	34	15.0	8.5	--	--	0.004
JUN								
02...	1750	48	32	15.0	8.5	--	--	0.004
04...	1530	179	30	8.0	6.5	--	--	0.007
18...	1225	37	38	22.0	11.5	--	--	0.002
JUL								
17...	1210	5.2	56	19.5	15.0	--	--	0.005
AUG								
18...	1300	1.8	78	21.0	16.5	--	--	0.006
SEP								
16...	1225	1.5	84	17.0	11.0	--	--	0.004

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT							
17...	0.002	0.04	0.025	0.015	52	1	<0.01
NOV							
17...	0.003	0.05	0.300	0.019	1430	124	22
18...	0.002	0.06	0.032	0.011	177	<1	--
19...	0.002	0.17	0.046	0.010	831	24	3.5
22...	0.012	0.07	0.022	0.014	120	2	0.24
DEC							
05...	0.001	0.08	0.037	0.009	146	17	5.5
12...	<0.001	0.17	0.022	0.008	276	18	8.3
30...	<0.001	0.10	0.034	0.002	782	46	21
31...	<0.001	0.34	0.046	0.003	752	49	48
JAN							
03...	<0.001	0.20	0.069	0.005	231	56	47
06...	<0.001	0.20	0.021	0.005	101	8	2.7
FEB							
13...	0.001	0.17	0.014	0.008	81	3	0.19
MAR							
15...	0.003	0.14	0.019	0.008	16	3	0.12
26...	0.001	0.18	0.054	0.006	924	73	12
APR							
14...	0.002	0.23	0.025	0.006	38	6	0.53
19...	<0.001	0.19	0.030	0.006	365	48	20
21...	0.010	0.18	0.036	0.006	198	50	28
30...	0.002	0.11	0.015	0.005	38	4	0.94
MAY							
08...	0.001	0.07	0.018	0.006	50	5	1.2
14...	0.002	0.08	0.026	0.004	173	18	14
22...	0.008	0.07	0.015	0.005	421	9	1.4
JUN							
02...	<0.001	0.07	0.030	0.005	103	6	0.78
04...	<0.001	0.23	0.119	0.016	1010	90	43
18...	<0.001	0.07	0.017	0.006	103	2	0.20
JUL							
17...	0.002	0.15	0.027	0.014	45	<1	<0.01
AUG							
18...	0.002	0.11	0.044	0.019	42	<1	<0.01
SEP							
16...	0.003	0.05	0.053	0.018	33	<1	<0.01

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 mi².

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 fair except for Dec. 30 to Jan. 6, which are poor. Minor diversion for local water supply upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,530 ft³/s, Jan. 1, 1997, gage height, 9.36 ft; no flow for many days during 1977–78, 1981, 1988, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0200	308	6.11	Apr. 23	0415	257	5.61
Dec. 5	1000	297	6.08	May 12	1845	200	5.40
Dec. 12	0630	213	5.80	June 4	1500	169	5.30
Jan. 1	2345	2,530	9.36				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.7	e12	1390	29	13	43	81	71	15	e3.3	e1.5
2	1.1	2.8	e12	1370	29	13	38	79	64	14	e3.1	e1.6
3	1.1	2.7	12	308	27	13	35	83	62	13	e3.0	e1.6
4	1.1	2.8	12	177	26	e13	34	102	133	12	e2.9	e1.5
5	1.1	2.5	131	127	24	e12	33	102	92	11	e2.8	e1.4
6	1.0	2.3	47	100	23	12	32	102	71	11	e2.7	e1.4
7	1.1	2.4	32	83	22	12	32	104	62	10	e2.6	e1.3
8	.99	2.4	34	72	21	13	33	116	68	9.9	e2.6	e1.2
9	.99	2.4	37	64	20	14	31	129	63	9.5	e2.4	e1.3
10	.99	2.4	35	58	19	16	28	137	55	8.9	e2.2	e1.3
11	1.0	2.4	39	52	18	19	28	142	49	8.5	e2.1	e1.4
12	1.1	2.4	155	48	18	20	30	154	45	8.0	e2.0	e1.4
13	1.1	2.5	85	e50	17	18	31	150	44	7.5	e2.0	e1.5
14	1.1	2.6	55	e50	17	20	38	141	55	7.0	e2.0	e1.5
15	1.2	2.7	40	e45	17	23	45	134	50	6.5	e1.9	e1.6
16	1.2	2.5	33	e40	18	25	54	127	46	6.3	e1.8	e1.5
17	1.2	58	29	34	19	24	74	125	44	5.8	e1.8	e1.5
18	1.5	111	26	32	17	27	94	122	40	5.4	e1.8	e1.5
19	2.0	36	24	31	17	32	171	117	37	5.2	e1.8	e1.5
20	1.6	32	22	31	16	36	130	106	34	4.9	e1.8	e1.4
21	1.4	29	21	31	16	36	209	91	31	e4.6	e1.8	e1.4
22	1.5	59	e21	27	15	38	151	78	28	e4.4	e1.7	e1.4
23	1.6	31	e21	e27	15	45	193	93	24	e4.4	e1.6	e1.4
24	3.6	24	e21	e27	e15	49	121	88	23	e4.4	e1.7	e1.4
25	4.5	20	e21	e28	15	49	101	69	21	e4.1	e1.7	e1.4
26	2.8	18	e25	e28	14	e55	104	61	20	e3.9	e1.6	e1.4
27	2.5	15	e26	e29	14	77	132	60	18	e3.8	e1.6	e1.3
28	2.5	14	27	e29	13	71	116	64	17	e3.8	e1.6	e1.3
29	2.8	13	62	30	---	65	92	69	16	e3.7	e1.6	e1.3
30	2.7	12	134	29	---	59	81	74	16	e3.5	e1.5	e1.3
31	2.7	---	281	28	---	53	---	76	---	e3.4	e1.5	---
TOTAL	52.17	512.5	1532	4475	531	972	2334	3176	1399	223.4	64.5	42.5
MEAN	1.68	17.1	49.4	144	19.0	31.4	77.8	102	46.6	7.21	2.08	1.42
MAX	4.5	111	281	1390	29	77	209	154	133	15	3.3	1.6
MIN	.99	2.3	12	27	13	12	28	60	16	3.4	1.5	1.2
AC-FT	103	1020	3040	8880	1050	1930	4630	6300	2770	443	128	84

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.30	11.7	13.5	18.7	16.0	21.7	42.6	90.6	72.3	22.3	4.00	1.79
MAX	22.4	73.9	92.5	144	77.7	80.3	89.2	177	265	123	26.9	7.93
(WY)	1983	1982	1982	1997	1982	1986	1989	1996	1983	1983	1983	1983
MIN	.15	1.06	.80	1.10	1.24	2.52	8.06	18.7	4.59	1.10	.003	.005
(WY)	1978	1978	1977	1991	1991	1977	1975	1977	1992	1994	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1973 - 1997	
ANNUAL TOTAL	15102.68		15314.07			
ANNUAL MEAN	41.3		42.0		26.6	
HIGHEST ANNUAL MEAN					59.0	
LOWEST ANNUAL MEAN					5.29	
HIGHEST DAILY MEAN	672		1390		1390	
LOWEST DAILY MEAN	.92		.99		.00	
ANNUAL SEVEN-DAY MINIMUM	.95		1.0		.00	
INSTANTANEOUS PEAK FLOW			2530		2530	
INSTANTANEOUS PEAK STAGE			9.36		9.36	
ANNUAL RUNOFF (AC-FT)	29960		30380		19240	
10 PERCENT EXCEEDS	112		102		76	
50 PERCENT EXCEEDS	21		19		6.9	
90 PERCENT EXCEEDS	1.1		1.4		.87	

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. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT								
17...	1315	1.2	81	11.5	6.5	9.8	100	0.033
NOV								
17...	0930	23	57	6.0	2.0	10.5	96	0.025
17...	1630	84	39	--	2.0	--	--	0.029
17...	2235	149	35	6.0	2.5	--	--	0.028
18...	1040	83	35	6.5	3.5	10.4	99	0.024
19...	1850	54	40	3.5	3.0	--	--	0.016
20...	1015	31	42	8.0	4.0	--	--	0.019
21...	2135	57	37	--	--	--	--	0.003
22...	0045	119	33	2.0	3.0	--	--	0.004
22...	1445	46	39	0.0	2.0	--	--	0.003
DEC								
05...	0835	224	31	3.0	1.0	--	--	0.009
05...	1545	125	35	0.0	1.0	--	--	0.010
11...	2255	81	38	3.0	1.0	--	--	0.006
12...	0750	213	32	3.0	1.0	--	--	0.008
12...	1505	160	34	1.5	1.5	--	--	0.007
29...	2035	127	37	2.0	0.0	--	--	0.028
30...	1050	110	38	2.5	0.5	--	--	0.002
30...	2100	171	36	2.5	0.0	--	--	0.002
31...	0915	243	34	4.5	1.0	--	--	0.002
JAN								
01...	0805	1440	24	6.0	0.5	--	--	0.003
01...	1420	1670	21	6.5	0.5	--	--	0.004
02...	0920	1990	21	3.0	1.0	--	--	0.003
02...	2045	561	27	1.0	1.0	--	--	0.003
03...	1710	237	33	-1.0	1.5	--	--	0.005
06...	1730	95	37	-4.5	0.0	--	--	0.034
FEB								
13...	1325	17	49	5.5	2.0	10.8	97	0.003
MAR								
15...	1425	23	49	7.0	5.0	--	--	0.039
26...	1750	76	39	7.5	3.5	--	--	0.005
APR								
14...	1310	34	45	11.5	6.5	--	--	0.004
19...	1030	193	33	8.0	3.0	--	--	0.052
19...	1700	178	33	10.0	4.0	--	--	0.011
21...	1435	218	33	8.0	3.5	10.8	102	0.011
22...	1300	136	36	13.0	4.0	10.2	94	0.008
30...	1410	79	38	14.0	6.0	10.1	102	0.037
MAY								
08...	0555	103	35	1.0	3.0	--	--	0.033
14...	1845	169	30	15.0	7.0	9.6	99	0.040
22...	1525	75	36	14.5	8.5	9.2	99	0.004
23...	1720	126	35	6.5	5.5	--	--	0.003
JUN								
02...	1835	68	34	14.5	9.0	--	--	0.004
04...	0640	121	34	6.0	5.5	--	--	0.006
04...	1620	157	32	8.0	7.0	9.6	100	0.006
08...	2015	83	33	9.5	7.5	--	--	0.012
18...	1325	39	39	25.0	13.5	8.2	100	0.003
JUL								
17...	1310	6.3	60	22.0	17.0	7.5	97	0.003
AUG								
18...	1435	2.2	80	22.0	18.5	7.2	96	0.006
SEP								
16...	1325	1.5	86	18.0	13.5	8.2	97	0.031

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT							
17...	0.010	0.04	0.038	0.022	35	5	0.02
NOV							
17...	0.014	0.05	0.106	0.033	838	30	1.9
17...	0.004	0.04	0.306	0.021	1370	90	20
17...	0.003	0.05	0.363	0.020	2350	177	71
18...	0.002	0.08	0.052	0.014	959	28	6.3
19...	0.001	0.05	0.068	0.011	476	38	5.5
20...	0.002	0.16	0.022	0.009	86	3	0.25
21...	<0.001	0.05	0.070	0.005	463	52	8.0
22...	0.001	0.07	0.106	0.006	727	64	21
22...	<0.001	0.11	0.025	0.004	632	2	0.25
DEC							
05...	0.003	0.04	0.178	0.012	919	190	115
05...	0.001	0.05	0.046	0.009	356	18	6.1
11...	0.001	0.19	0.030	0.007	360	34	7.4
12...	0.001	0.19	0.056	0.009	275	46	26
12...	<0.001	0.13	0.027	0.008	460	17	7.3
29...	0.010	0.17	0.031	0.014	308	32	11
30...	<0.001	0.37	0.020	0.003	310	16	4.8
30...	<0.001	0.21	0.060	0.003	437	92	42
31...	<0.001	0.23	0.055	0.004	479	72	47
JAN							
01...	<0.001	0.26	1.78	0.007	532	2010	7810
01...	0.001	0.15	1.95	0.005	640	3000	13500
02...	<0.001	0.86	2.14	0.007	381	1940	10400
02...	<0.001	0.57	0.598	0.010	895	704	1070
03...	<0.001	0.21	0.199	0.010	3940	269	172
06...	0.011	0.21	0.026	0.017	281	10	2.6
FEB							
13...	<0.001	0.17	0.014	0.008	26	4	0.18
MAR							
15...	0.013	0.15	0.023	0.019	113	6	0.37
26...	0.001	0.17	0.094	0.007	1730	114	23
APR							
14...	0.002	0.28	0.027	0.007	45	7	0.64
19...	0.010	0.25	0.129	0.007	2950	183	95
19...	<0.001	0.25	0.072	0.007	880	94	45
21...	0.001	0.21	0.070	0.007	1250	71	42
22...	<0.001	0.17	0.022	0.006	237	22	8.1
30...	0.001	0.15	0.017	0.016	58	5	1.1
MAY							
08...	0.001	0.05	0.016	0.006	81	4	1.1
14...	0.001	0.08	0.030	0.005	252	15	6.8
22...	0.002	0.08	0.028	0.005	74	3	0.61
23...	0.001	0.11	0.026	0.006	214	12	4.1
JUN							
02...	0.009	0.06	0.030	0.006	86	6	1.1
04...	<0.001	0.13	0.038	0.005	220	17	5.6
04...	<0.001	0.20	0.099	0.005	846	72	31
08...	0.002	0.27	0.196	0.004	1950	144	32
18...	<0.001	0.02	0.019	0.007	61	1	0.11
JUL							
17...	0.002	0.04	0.038	0.014	46	<1	<0.02
AUG							
18...	0.012	0.06	0.039	0.027	59	<1	<0.01
SEP							
16...	0.004	0.05	0.053	0.014	60	<1	<0.01

10336770 TROUT CREEK AT U.S. FOREST SERVICE ROAD 12N01, NEAR MEYERS, CA

LOCATION.—Lat 38°51'48", long 119°57'26", in NE 1/4 NW 1/4 sec.26, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on right bank, 50 ft downstream from U.S. Forest Service Road 12N01, about 2.2 mi upstream from confluence of Saxon Creek, and 2.6 mi northeast of Meyers.

DRAINAGE AREA.—7.40 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,850 ft above sea level, from topographic map.

REMARKS.—Records poor. See schematic diagram of Truckee River Basin. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.7	7.6	e50	e14	10	20	29	49	23	10	6.6
2	5.7	6.7	e8.0	e80	e14	11	19	30	47	21	10	7.2
3	5.7	6.7	e8.0	e50	e14	11	18	32	45	20	9.8	7.2
4	5.7	6.6	8.0	e45	e13	11	19	36	48	19	9.4	6.9
5	5.5	6.4	16	e40	e13	10	19	38	47	19	9.2	6.9
6	5.5	e6.5	9.3	e35	e12	10	18	40	41	18	8.9	6.8
7	5.6	6.4	8.3	e30	e12	10	18	42	39	18	8.9	6.6
8	5.6	6.5	8.0	e25	e11	11	18	42	43	18	8.6	6.5
9	5.6	6.6	7.9	e24	e11	11	18	44	41	20	8.1	6.6
10	5.9	6.6	7.9	e22	11	11	17	49	37	19	8.0	6.7
11	6.1	6.6	7.7	e20	11	11	17	50	34	19	8.0	6.8
12	6.1	6.6	11	e19	11	11	17	50	33	18	7.8	6.7
13	6.1	6.3	8.9	e18	11	11	18	53	36	16	7.7	6.6
14	6.1	6.2	8.2	e18	11	12	19	55	54	16	7.7	6.6
15	6.2	6.1	7.9	e17	11	12	21	58	39	16	7.6	7.1
16	6.2	6.1	7.7	e17	11	12	23	61	37	14	7.4	6.7
17	6.2	18	7.5	e17	11	12	25	61	35	14	7.2	6.5
18	7.1	20	7.6	e17	11	13	23	60	33	14	7.0	6.6
19	6.9	12	7.3	e16	11	14	28	62	31	13	7.0	6.7
20	6.6	10	7.3	e16	11	14	24	59	30	13	7.0	6.7
21	6.6	9.6	7.2	e16	11	15	26	56	32	13	6.8	6.8
22	6.6	11	e14	e16	11	15	25	54	29	12	6.8	6.7
23	6.7	8.4	e30	e18	11	16	27	55	28	12	6.7	6.6
24	7.3	7.8	e25	e16	10	16	26	50	26	13	6.7	6.6
25	7.2	7.6	e20	e25	11	17	26	46	25	16	6.7	7.3
26	6.7	7.3	e19	e23	10	22	29	44	24	14	6.8	7.0
27	6.6	7.7	e25	e20	10	22	30	43	23	14	6.8	6.8
28	6.6	8.0	e20	e18	10	23	28	45	23	13	6.7	6.7
29	6.7	7.5	e30	e16	---	23	26	48	23	12	6.8	6.6
30	6.7	e7.5	e45	e15	---	22	27	50	24	11	6.7	6.6
31	6.7	---	e35	e14	---	22	---	50	---	10	6.6	---
TOTAL	194.4	246.0	440.3	773	319	441	669	1492	1056	488	239.4	202.7
MEAN	6.27	8.20	14.2	24.9	11.4	14.2	22.3	48.1	35.2	15.7	7.72	6.76
MAX	7.3	20	45	80	14	23	30	62	54	23	10	7.3
MIN	5.5	6.1	7.2	14	10	10	17	29	23	10	6.6	6.5
AC-FT	386	488	873	1530	633	875	1330	2960	2090	968	475	402

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	4.69	5.15	6.06	7.65	5.65	7.26	11.3	26.9	30.0	15.7	7.40	5.25
MAX	7.83	8.20	14.2	24.9	11.4	14.2	22.3	48.1	84.9	62.1	20.0	9.55	
(WY)	1996	1997	1997	1997	1997	1997	1997	1997	1995	1995	1995	1995	
MIN	2.91	2.93	2.63	2.59	2.65	3.25	5.18	8.81	4.10	3.60	3.36	3.32	
(WY)	1993	1993	1993	1991	1991	1991	1991	1992	1992	1992	1994	1990	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	6080.8	6560.8	
ANNUAL MEAN	16.6	18.0	11.6
HIGHEST ANNUAL MEAN			19.8
LOWEST ANNUAL MEAN			4.48
HIGHEST DAILY MEAN	88	May 16	80
LOWEST DAILY MEAN	5.5	Oct 5	5.5
ANNUAL SEVEN-DAY MINIMUM	5.6	Oct 3	5.6
INSTANTANEOUS PEAK FLOW			95
INSTANTANEOUS PEAK STAGE			5.63
ANNUAL RUNOFF (AC-FT)	12060	13010	8370
10 PERCENT EXCEEDS	44	42	25
50 PERCENT EXCEEDS	9.7	12	5.8
90 PERCENT EXCEEDS	6.6	6.6	3.0

e Estimated.

10336770 TROUT CREEK AT U.S. FOREST SERVICE ROAD 12N01, NEAR MEYERS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1990 to current year.

REMARKS.—In November 1989, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
02...	1455	5.7	52	--	16.5	7.0	--	--	--
16...	1130	6.7	62	--	7.5	3.0	--	--	--
NOV									
04...	1145	6.4	50	--	4.5	2.0	--	--	--
21...	1455	8.6	46	--	6.5	4.5	--	--	--
27...	1020	7.4	57	--	-3.0	0.0	--	--	--
DEC									
13...	1040	8.9	46	--	3.0	2.5	--	--	--
FEB									
10...	1315	11	44	7.1	3.0	2.5	--	--	--
MAR									
20...	1030	14	43	--	6.5	3.0	--	--	--
APR									
25...	1130	24	33	--	8.0	3.0	--	--	--
MAY									
08...	1510	40	26	7.4	18.5	7.5	--	--	--
15...	1300	52	22	--	19.5	6.5	--	--	--
15...	1640	60	21	--	18.0	8.0	--	--	--
21...	1600	55	22	--	16.0	8.5	--	--	--
30...	1500	46	23	--	21.5	11.0	--	--	--
JUN									
05...	1002	47	25	--	7.0	5.0	--	--	--
06...	1140	40	25	--	12.0	6.0	--	--	--
12...	1125	33	27	7.8	12.5	6.0	584	9.5	100
17...	1810	32	27	--	15.5	12.0	--	--	--
27...	1620	21	32	--	21.0	11.0	--	--	--
JUL									
16...	1116	15	42	--	18.0	--	--	--	--
23...	1530	12	43	--	13.5	9.5	--	--	--
AUG									
14...	1534	7.7	47	--	25.0	11.0	--	--	--
18...	1200	7.5	47	--	19.5	7.5	--	--	--
SEP									
16...	1555	6.4	51	7.9	14.5	7.5	588	9.3	101
24...	1030	7.0	--	--	15.0	6.0	--	--	--

10336770 TROUT CREEK AT U.S. FOREST SERVICE ROAD 12N01, NEAR MEYERS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT								
02...	0.004	0.003	0.25	0.018	0.009	137	2	0.03
16...	--	--	--	--	--	--	--	--
NOV								
04...	0.002	0.002	0.13	0.016	0.009	127	1	0.02
21...	0.003	<0.001	0.27	0.018	0.009	79	4	0.09
27...	--	--	--	--	--	--	--	--
DEC								
13...	0.003	0.001	0.07	0.022	0.010	194	3	0.07
FEB								
10...	0.009	0.001	0.30	0.016	0.008	132	2	0.06
MAR								
20...	0.008	0.010	0.22	0.020	0.006	175	6	0.23
APR								
25...	0.006	0.001	0.28	0.022	0.006	168	3	0.19
MAY								
08...	0.006	0.001	0.23	0.031	0.006	476	11	1.2
15...	0.004	0.010	0.10	0.033	0.007	1040	14	2.0
15...	0.004	<0.001	0.28	0.041	0.007	748	21	3.4
21...	0.004	0.001	0.10	0.034	0.008	348	15	2.2
30...	0.003	<0.001	0.12	0.027	0.006	528	14	1.7
JUN								
05...	--	--	--	--	--	--	--	--
06...	0.003	<0.001	0.19	0.023	0.006	184	7	0.76
12...	0.037	<0.001	0.09	0.037	0.017	169	4	0.36
17...	0.003	<0.001	0.10	0.033	0.008	128	6	0.52
27...	0.003	<0.001	0.08	0.022	0.009	115	4	0.23
JUL								
16...	--	--	--	--	--	--	--	--
23...	0.005	0.010	0.06	0.040	0.011	140	2	0.06
AUG								
14...	--	--	--	--	--	--	--	--
18...	0.007	0.011	0.06	0.026	0.009	120	2	0.04
SEP								
16...	0.005	0.002	0.04	0.037	0.010	122	<1	--
24...	--	--	--	--	--	--	--	--

10336775 TROUT CREEK AT PIONEER TRAIL, NEAR SOUTH LAKE TAHOE, CA

LOCATION.—Lat 38°54'13", long 119°58'04", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank, 200 ft upstream of Pioneer Trail Road, 0.6 mi upstream of confluence of Cold Creek, and 2.8 mi south of South Lake Tahoe.

DRAINAGE AREA.—23.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,270 ft above sea level, from topographic map. Prior to May 1, 1992, at datum 0.12 ft higher.

REMARKS.—Records poor. See schematic diagram of Truckee River Basin. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	e19	251	48	33	50	64	100	40	20	13
2	12	13	e19	457	e48	32	49	63	99	38	20	14
3	12	13	e19	230	e46	32	48	64	95	37	19	15
4	11	13	e20	154	e44	32	47	69	100	36	19	14
5	11	12	e35	118	e44	32	46	72	98	34	19	14
6	11	e12	28	96	e42	31	45	74	88	33	18	14
7	11	e12	22	86	e40	31	45	77	83	32	18	14
8	11	12	22	76	e40	32	45	79	86	31	18	13
9	11	12	23	71	e42	32	45	83	90	30	17	13
10	11	13	25	66	e40	34	43	91	83	30	17	13
11	11	13	31	62	e38	36	43	94	74	29	17	13
12	11	13	62	59	37	35	42	99	70	29	17	13
13	11	12	39	55	37	34	42	108	74	28	17	13
14	11	12	29	e53	36	36	43	113	109	27	17	13
15	11	12	26	e52	36	38	45	118	90	27	16	14
16	11	13	23	52	37	40	47	120	80	26	16	13
17	11	38	22	49	37	40	50	124	72	26	15	13
18	12	59	22	48	36	41	52	123	69	25	15	13
19	13	29	22	47	36	44	61	126	65	25	15	13
20	12	31	21	46	35	47	60	125	62	24	15	13
21	12	23	16	45	35	48	66	118	59	24	14	13
22	12	32	51	43	34	49	64	112	56	23	14	13
23	12	26	59	50	34	52	68	112	53	23	14	13
24	12	20	50	43	e34	53	61	106	51	24	14	13
25	14	e17	41	80	e34	53	59	96	49	23	14	14
26	13	e17	39	70	34	56	63	90	47	22	14	14
27	12	e16	47	58	33	58	69	90	44	23	14	13
28	12	e17	36	54	32	57	70	95	42	25	14	13
29	13	e18	48	53	---	55	65	96	41	23	14	13
30	13	e19	80	49	---	55	64	99	41	22	14	12
31	13	---	64	48	---	54	---	102	---	21	13	---
TOTAL	365	562	1060	2721	1069	1302	1597	3002	2170	860	498	399
MEAN	11.8	18.7	34.2	87.8	38.2	42.0	53.2	96.8	72.3	27.7	16.1	13.3
MAX	14	59	80	457	48	58	70	126	109	40	20	15
MIN	11	12	16	43	32	31	42	63	41	21	13	12
AC-FT	724	1110	2100	5400	2120	2580	3170	5950	4300	1710	988	791

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	8.15	9.35	11.9	20.7	15.6	22.5	32.4	60.1	59.6	33.3	12.8	9.00
MAX	14.4	18.7	34.2	87.8	38.2	42.0	54.9	107	158	142	35.8	19.0	19.0
(WY)	1996	1997	1997	1997	1997	1997	1996	1996	1995	1995	1995	1995	1995
MIN	4.49	5.03	4.05	4.70	5.49	7.85	12.2	14.2	7.66	5.84	4.48	4.08	4.08
(WY)	1991	1991	1991	1991	1993	1992	1991	1992	1992	1992	1994	1992	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	14243	15605		
ANNUAL MEAN	38.9	42.8	25.7	
HIGHEST ANNUAL MEAN			46.9	1995
LOWEST ANNUAL MEAN			7.71	1992
HIGHEST DAILY MEAN	211	May 16	457	Jan 2 1997
LOWEST DAILY MEAN	10	Sep 26	11	Oct 4 1990
ANNUAL SEVEN-DAY MINIMUM	10	Sep 24	11	Oct 4 1990
INSTANTANEOUS PEAK FLOW			525	Jan 2 1997
INSTANTANEOUS PEAK STAGE			7.54	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	28250	30950	18590	
10 PERCENT EXCEEDS	93	89	65	
50 PERCENT EXCEEDS	26	34	12	
90 PERCENT EXCEEDS	12	13	4.7	

e Estimated.

10336775 TROUT CREEK AT PIONEER TRAIL, NEAR SOUTH LAKE TAHOE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1990 to current year.

REMARKS.—In November 1989, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
02...	1420	12	55	--	20.0	10.0	--	--	--
16...	0900	12	68	--	3.5	3.0	--	--	--
NOV									
05...	1510	12	53	--	3.0	2.0	--	--	--
18...	1640	38	43	--	5.5	4.0	--	--	--
25...	1000	17	61	--	2.0	2.5	--	--	--
DEC									
05...	1520	74	38	--	1.0	1.0	--	--	--
12...	1530	80	41	--	2.0	2.5	--	--	--
30...	0935	64	--	--	2.0	1.5	--	--	--
JAN									
03...	1355	215	--	--	1.0	2.0	--	--	--
03...	1630	209	28	--	-3.0	1.5	--	--	--
08...	1545	76	39	--	2.5	1.0	--	--	--
FEB									
11...	1245	37	--	--	6.0	1.0	--	--	--
18...	1530	36	49	7.6	6.5	2.5	606	10.6	98
MAR									
12...	1405	35	50	--	9.0	4.0	--	--	--
18...	0850	39	50	--	2.5	2.0	--	--	--
27...	1455	55	44	--	12.0	6.0	--	--	--
APR									
09...	1440	44	44	7.1	2.0	2.5	600	10.4	97
23...	1020	72	39	--	5.0	3.0	--	--	--
MAY									
01...	1400	63	36	--	12.5	6.0	--	--	--
08...	1235	76	32	7.1	16.5	6.0	603	9.7	99
15...	1155	114	26	--	18.5	5.5	--	--	--
16...	0920	118	24	--	13.0	5.0	--	--	--
21...	1455	114	25	--	17.5	7.5	--	--	--
30...	1550	95	26	--	22.5	11.0	--	--	--
JUN									
05...	1240	98	--	--	8.0	6.0	--	--	--
06...	1035	91	28	--	13.0	6.0	--	--	--
12...	0950	73	30	7.5	11.5	6.5	600	9.4	97
17...	1900	69	30	--	18.0	11.5	--	--	--
27...	1710	43	35	--	20.0	12.5	--	--	--
JUL									
17...	1310	28	45	--	20.0	12.0	--	--	--
23...	1600	24	46	--	15.5	11.5	--	--	--
AUG									
15...	0835	17	50	--	9.0	9.5	--	--	--
18...	1040	16	52	--	19.0	9.5	--	--	--
SEP									
16...	1515	14	54	7.9	19.0	10.5	604	9.2	104
23...	1309	12	--	--	18.0	9.0	--	--	--

10336775 TROUT CREEK AT PIONEER TRAIL, NEAR SOUTH LAKE TAHOE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT								
02...	0.004	0.003	0.31	0.020	0.007	313	1	0.03
16...	--	--	--	--	--	--	--	--
NOV								
05...	0.004	0.001	0.19	0.016	0.006	197	2	0.07
18...	0.015	0.002	0.25	0.074	0.014	1060	21	2.2
25...	--	--	--	--	--	--	--	--
DEC								
05...	0.010	0.001	0.18	0.087	0.016	758	60	12
12...	0.009	0.001	0.32	0.071	0.018	629	51	11
30...	--	--	--	--	--	--	--	--
JAN								
03...	--	--	--	--	--	--	--	--
03...	0.007	<0.001	0.15	0.071	0.014	479	48	27
08...	0.006	<0.001	0.16	0.030	0.009	94	14	2.9
FEB								
11...	--	--	--	--	--	--	--	--
18...	0.009	<0.001	0.21	0.019	0.008	278	2	0.19
MAR								
12...	0.010	0.002	0.17	0.023	0.009	246	2	0.19
18...	--	--	--	--	--	--	--	--
27...	0.008	0.002	0.15	0.025	0.009	399	4	0.59
APR								
09...	0.008	0.003	0.23	0.021	0.008	272	4	0.48
23...	--	--	--	--	--	--	--	--
MAY								
01...	0.006	0.001	0.13	0.022	0.006	233	6	1.0
08...	0.008	0.001	0.14	0.028	0.006	490	8	1.6
15...	0.007	0.001	0.22	0.047	0.008	880	20	6.2
16...	0.003	<0.001	0.16	0.041	0.007	535	30	9.6
21...	0.005	0.001	0.12	0.041	0.009	583	17	5.2
30...	0.004	<0.001	0.12	0.025	0.007	419	13	3.3
JUN								
05...	--	--	--	--	--	--	--	--
06...	0.005	<0.001	0.11	0.030	0.018	597	11	2.7
12...	0.005	<0.001	0.10	0.043	0.008	398	4	0.79
17...	0.005	<0.001	0.10	0.039	0.009	260	7	1.3
27...	0.004	0.010	0.09	0.024	0.009	269	4	0.46
JUL								
17...	--	--	--	--	--	--	--	--
23...	0.006	0.001	0.07	0.042	0.022	250	2	0.13
AUG								
15...	--	--	--	--	--	--	--	--
18...	0.006	<0.001	0.07	0.027	0.009	213	2	0.09
SEP								
16...	0.006	0.002	0.15	0.027	0.010	201	2	0.08
23...	--	--	--	--	--	--	--	--

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 mi².

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. Datum of gage is 6,241.57 ft above sea level.

REMARKS.—Records good. Minor diversions for local water supply upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 535 ft³/s, Feb. 1, 1963, gage height, 11.14 ft, and Jan. 2, 1997, gage height, 9.33 ft, from rating curve extended above 250 ft³/s on basis of computation of peak flow (weir formula); minimum daily, 2.5 ft³/s, Sept. 7, 1988.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0500	163	7.70	Jan. 2	1415	535	9.33
Dec. 5	1100	165	7.72	June 14	1100	229	8.21
Dec. 12	1330	119	7.19				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	21	27	350	66	e46	68	88	146	75	e40	23
2	23	21	e27	501	64	45	67	88	142	71	e40	24
3	22	21	e27	341	60	e44	65	e87	138	69	e39	27
4	22	20	e35	254	58	e44	65	e89	150	68	e38	25
5	22	20	96	197	58	e44	64	e94	145	66	e36	25
6	21	e20	48	141	e58	44	62	e98	131	64	34	23
7	21	e20	40	117	54	44	61	e101	121	63	33	23
8	21	e20	40	99	55	45	61	e105	123	62	32	22
9	20	21	36	93	e54	46	60	e108	129	61	31	22
10	20	20	42	88	53	49	58	121	121	59	31	22
11	20	21	50	83	e53	52	57	126	110	59	31	22
12	20	21	96	79	e53	e50	57	131	105	58	30	22
13	20	21	63	75	e53	e49	57	142	111	57	30	22
14	20	20	49	e72	e52	49	59	155	176	57	29	21
15	20	19	43	e69	e52	54	62	164	133	56	29	22
16	20	e19	40	67	e51	57	65	173	118	e54	28	22
17	20	68	38	63	e51	56	70	178	112	e54	28	21
18	20	86	37	62	e51	57	74	182	109	e53	27	21
19	21	48	35	61	e50	61	85	185	105	e52	27	21
20	20	44	33	59	50	66	86	187	102	e52	27	21
21	19	36	e35	58	50	66	93	178	99	e51	27	21
22	20	47	e35	57	50	68	90	170	95	e50	27	21
23	21	38	e35	e58	48	74	94	171	91	e49	26	20
24	20	32	e35	58	e48	76	86	159	88	e48	26	20
25	23	31	e35	e58	e48	75	85	141	86	e47	25	21
26	20	29	e37	e60	48	78	88	133	83	e46	25	21
27	20	e29	e40	e64	47	82	96	128	81	e45	24	21
28	20	28	42	e68	45	81	97	131	78	e44	24	21
29	20	e28	58	e68	---	78	91	134	77	e43	24	21
30	20	e27	102	67	---	77	90	141	77	e42	24	20
31	20	---	107	66	---	76	---	147	---	e41	24	---
TOTAL	639	896	1463	3553	1480	1833	2213	4235	3382	1716	916	658
MEAN	20.6	29.9	47.2	115	52.9	59.1	73.8	137	113	55.4	29.5	21.9
MAX	23	86	107	501	66	82	97	187	176	75	40	27
MIN	19	19	27	57	45	44	57	87	77	41	24	20
AC-FT	1270	1780	2900	7050	2940	3640	4390	8400	6710	3400	1820	1310

e Estimated.

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.0	19.6	21.2	24.9	25.3	30.1	43.8	79.0	92.2	48.8	23.9	17.1
MAX	37.6	61.1	64.0	115	68.7	85.0	81.9	184	286	188	88.7	49.6
(WY)	1983	1984	1984	1997	1986	1986	1982	1969	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	21656		22984			
ANNUAL MEAN	59.2		63.0		36.9	
HIGHEST ANNUAL MEAN					85.3	
LOWEST ANNUAL MEAN					10.2	
HIGHEST DAILY MEAN	267	May 16	501	Jan 2	501	Jan 2 1997
LOWEST DAILY MEAN	19	Jan 9	19	Oct 21	2.5	Sep 7 1988
ANNUAL SEVEN-DAY MINIMUM	19	Jan 8	20	Oct 9	3.0	Sep 9 1977
INSTANTANEOUS PEAK FLOW			535	Jan 2	535	Feb 1 1963
INSTANTANEOUS PEAK STAGE			9.33	Jan 2	11.14	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	42950		45590		26750	
10 PERCENT EXCEEDS	129		124		83	
50 PERCENT EXCEEDS	41		52		22	
90 PERCENT EXCEEDS	20		21		8.7	

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA

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. See schematic diagram of Truckee River Basin. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT									
02...	1810	22	50	--	14.0	10.5	--	--	--
02...	1840	22	50	--	14.0	10.5	--	--	--
NOV									
05...	1200	20	52	--	5.0	3.0	--	--	--
18...	1410	74	41	--	8.0	4.5	--	--	--
DEC									
05...	1120	120	40	--	3.0	0.5	--	--	--
09...	1340	36	50	--	2.5	2.0	--	--	--
12...	1210	111	46	--	4.5	2.5	--	--	--
31...	1415	101	48	--	6.5	2.0	--	--	--
JAN									
02...	1440	526	23	--	2.0	1.0	--	--	--
08...	1140	157	42	--	3.5	1.0	--	--	--
FEB									
14...	0930	52	49	7.4	2.5	0.5	611	11.2	97
MAR									
13...	1200	46	53	--	9.0	3.5	--	--	--
27...	0950	81	46	--	11.5	3.5	--	--	--
APR									
09...	1050	59	47	7.3	0.0	2.0	600	--	--
MAY									
02...	1130	87	38	--	10.5	4.5	--	--	--
08...	1615	105	34	7.3	14.0	9.5	605	9.2	102
15...	1550	153	28	--	22.5	10.5	--	--	--
16...	0630	176	27	--	7.0	5.5	--	--	--
22...	1145	172	27	--	13.0	6.0	--	--	--
30...	0950	142	28	--	16.0	7.5	--	--	--
JUN									
06...	1300	130	30	--	16.5	9.0	--	--	--
13...	1005	110	31	7.3	6.0	6.0	598	9.5	97
20...	1500	102	31	--	23.0	16.0	--	--	--
27...	1230	82	34	--	23.0	11.5	--	--	--
JUL									
23...	1210	49	39	--	19.0	11.0	--	--	--
AUG									
19...	1110	30	46	--	22.0	10.5	--	--	--
SEP									
16...	1130	24	49	7.8	15.0	8.0	605	9.4	100

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
02...	0.004	0.002	0.24	0.023	0.009	273	3	0.16	--
02...	0.004	0.002	0.24	0.023	0.009	273	--	--	--
NOV									
05...	0.007	0.002	0.22	0.019	0.009	283	2	0.11	--
18...	0.017	0.003	0.37	0.133	0.018	2650	76	15	--
DEC									
05...	0.014	<0.001	0.24	0.241	0.020	1680	169	55	45
09...	0.006	0.002	0.17	0.027	0.012	600	11	1.1	--
12...	0.011	0.002	0.31	0.109	0.016	357	56	17	--
31...	0.010	<0.001	0.28	0.067	0.011	440	43	12	--
JAN									
02...	0.010	<0.001	0.23	0.100	0.023	367	39	55	--
08...	0.009	<0.001	0.26	0.038	0.009	159	35	15	--
FEB									
14...	0.013	<0.001	0.25	0.021	0.007	219	6	0.84	--
MAR									
13...	0.016	<0.001	0.24	0.025	0.009	261	5	0.62	--
27...	0.011	0.002	0.12	0.031	0.008	669	12	2.6	--
APR									
09...	0.011	0.003	0.17	0.022	0.008	112	10	1.6	--
MAY									
02...	0.008	0.001	0.14	0.027	0.007	370	8	1.9	--
08...	0.008	0.001	0.12	0.034	0.007	647	19	5.4	--
15...	0.006	0.002	0.14	0.037	0.008	103	24	9.9	--
16...	0.008	0.002	0.22	0.044	0.009	526	23	11	--
22...	0.005	<0.001	0.14	0.049	0.007	632	16	7.4	--
30...	0.005	<0.001	0.10	0.035	0.007	717	16	6.1	--
JUN									
06...	0.032	0.001	0.15	0.032	0.005	383	14	4.9	--
13...	0.007	<0.001	0.10	0.051	0.008	569	12	3.6	--
20...	0.005	<0.001	0.07	0.056	0.009	317	10	2.8	--
27...	0.004	<0.001	0.18	0.024	0.009	298	9	2.0	--
JUL									
23...	0.008	0.001	0.09	0.041	0.010	454	9	1.2	--
AUG									
19...	0.012	<0.001	0.08	0.032	0.008	357	6	0.49	--
SEP									
16...	0.042	0.002	0.05	0.037	0.010	272	3	0.19	--

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 mi², 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, 6,229.40 ft, Jan. 4; minimum, 6,227.21 ft, Nov. 16.

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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.87	7.41	7.61	8.77	9.10	8.17	7.80	8.23	8.89	8.90	8.65	8.12
2	7.86	7.38	7.62	9.24	9.06	8.16	7.79	8.24	8.90	8.91	8.63	8.11
3	7.86	7.37	7.62	9.35	9.10	8.09	7.79	8.26	8.91	8.90	8.62	8.11
4	7.83	7.35	7.68	9.40	9.05	8.04	7.78	8.28	8.99	8.89	8.62	8.10
5	7.84	7.33	7.78	9.35	9.01	8.01	7.78	8.30	9.01	8.89	8.61	8.10
6	7.83	7.31	7.85	9.32	8.97	7.97	7.79	8.33	9.01	8.88	8.61	8.07
7	7.84	7.31	7.85	9.31	8.92	7.94	7.79	8.35	9.02	8.88	8.59	8.06
8	7.83	7.32	7.86	9.27	8.92	7.91	7.79	8.37	9.06	8.88	8.58	8.06
9	7.81	7.31	7.86	9.26	8.88	7.88	7.80	8.41	9.06	8.84	8.56	8.03
10	7.81	7.31	7.98	9.23	8.85	7.86	7.81	8.43	9.05	8.85	8.52	7.99
11	7.79	7.29	8.10	9.18	8.82	7.83	7.81	8.47	9.04	8.82	8.53	7.99
12	7.79	7.30	8.14	9.18	8.77	7.79	7.81	8.51	9.04	8.83	8.50	7.98
13	7.76	7.26	8.10	9.12	8.73	7.76	7.82	8.54	9.05	8.83	8.50	7.95
14	7.74	7.33	8.07	9.04	8.7	7.74	7.83	8.56	9.08	8.83	8.49	7.92
15	7.72	7.27	8.06	9.07	8.67	7.70	7.85	8.59	9.10	8.81	8.46	7.88
16	7.72	7.21	8.02	9.04	8.65	7.69	7.86	8.62	9.08	8.80	8.44	7.87
17	7.69	7.43	7.99	9.03	8.62	7.66	7.87	8.65	9.06	8.79	8.42	7.85
18	7.65	7.46	7.96	8.97	8.58	7.66	7.88	8.69	9.06	8.76	8.39	7.80
19	7.62	7.51	7.94	8.94	8.54	7.67	7.94	8.70	9.04	8.76	8.39	7.82
20	7.60	7.48	7.97	8.94	8.5	7.69	7.96	8.70	9.02	8.75	8.37	7.79
21	7.56	7.56	8.20	8.93	8.47	7.69	8.00	8.72	9.00	8.75	8.34	7.76
22	7.55	7.63	8.23	9.10	8.45	7.70	8.04	8.72	9.00	8.73	8.32	7.75
23	7.53	7.64	8.21	9.08	8.39	7.71	8.05	8.76	9.00	8.73	8.28	7.75
24	7.51	7.62	8.15	9.06	8.35	7.72	8.10	8.77	8.98	8.72	8.27	7.73
25	7.52	7.67	8.14	9.26	8.29	7.74	8.11	8.79	9.00	8.72	8.27	7.73
26	7.49	7.65	8.22	9.29	8.27	7.75	8.13	8.79	8.98	8.71	8.23	7.72
27	7.48	7.65	8.20	9.25	8.26	7.75	8.13	8.83	8.96	8.70	8.21	7.70
28	7.47	7.61	8.20	9.23	8.24	7.77	8.16	8.83	8.94	8.70	8.20	7.67
29	7.46	7.63	8.25	9.20	---	7.78	8.20	8.85	8.92	8.69	8.16	7.65
30	7.44	7.60	8.30	9.18	---	7.78	8.22	8.86	8.94	8.68	8.15	7.64
31	7.43	---	8.41	9.14	---	7.79	---	8.86	---	8.67	8.14	---
MEAN	7.67	7.44	8.02	9.15	8.68	7.82	7.92	8.58	9.01	8.79	8.42	7.89
MAX	7.87	7.67	8.41	9.40	9.10	8.17	8.22	8.86	9.10	8.91	8.65	8.12
MIN	7.43	7.21	7.61	8.77	8.24	7.66	7.78	8.23	8.89	8.67	8.14	7.64
a	539,500	560,300	659,700	749,500	638,800	583,600	636,400	715,100	724,900	691,700	626,500	565,200
b	-52600	+20800	+99400	+89800	-110700	-55200	+52800	+78700	+9800	-33200	-65200	-61300

CAL YR 1996 MEAN 7.99 MAX 9.09 MIN 6.02 b +290000

WTR YR 1997 MEAN 8.28 MAX 9.40 MIN 7.21 b -26900

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 mi².

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."

WATER TEMPERATURE: June 1993 to September 1994.

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 good including estimated daily discharges. 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, 2,690 ft³/s, Jan. 2, 1997, gage height, 9.59 ft; no flow for parts of many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	304	65	2330	2560	2170	75	71	71	205	286	303
2	50	304	e61	2610	2550	2150	72	72	70	249	286	303
3	e51	302	60	2630	2540	2140	68	72	71	282	286	303
4	e51	302	60	2630	2520	2130	68	72	71	301	296	303
5	47	299	71	2630	2500	2120	68	72	71	299	322	303
6	e50	311	62	2630	2490	2100	68	72	69	298	314	303
7	e50	318	61	2620	2470	2090	68	71	70	297	313	303
8	e50	318	62	2600	2470	2080	67	71	240	297	308	303
9	e50	323	54	2590	2450	2060	68	71	683	297	306	303
10	e50	327	53	2580	2440	2050	67	70	892	297	308	303
11	e50	327	148	2580	2420	2040	67	71	955	294	308	301
12	e49	327	1130	2570	2410	2030	67	71	866	291	309	302
13	e49	327	1850	2560	2390	2010	68	71	692	291	308	302
14	e49	327	1960	2550	2380	2000	68	70	908	290	307	300
15	e49	327	1950	2540	2360	1990	67	69	1030	287	307	299
16	e49	327	1970	2530	2350	1970	66	69	1240	287	307	300
17	49	237	1990	2520	2340	1900	64	70	1240	287	307	298
18	94	88	1970	2510	2330	874	64	70	1240	287	307	304
19	155	65	1570	2490	2320	200	63	71	1220	284	306	316
20	174	64	1310	2490	2300	105	62	71	913	284	306	314
21	172	65	1780	2490	2290	111	64	71	562	286	306	313
22	172	67	1980	2510	2280	105	62	71	380	289	306	314
23	173	67	2090	2520	2270	103	63	72	270	291	305	314
24	173	66	2140	2510	2250	103	61	72	241	293	305	313
25	196	65	2120	2570	2220	88	60	70	182	293	304	314
26	214	64	2110	2620	2210	81	65	70	142	292	304	303
27	218	64	2140	2620	2200	81	74	70	77	291	304	292
28	265	63	2120	2610	2190	80	73	71	125	291	303	289
29	301	63	2140	2600	---	78	71	71	171	292	304	273
30	302	62	2150	2580	---	77	71	70	183	289	303	204
31	302	---	2180	2570	---	76	---	70	---	287	303	---
TOTAL	3741	6170	39407	79390	66500	37192	2009	2195	14945	8898	9444	8995
MEAN	121	206	1271	2561	2375	1200	67.0	70.8	498	287	305	300
MAX	302	327	2180	2630	2560	2170	75	72	1240	301	322	316
MIN	37	62	53	2330	2190	76	60	69	69	205	286	204
AC-FT	7420	12240	78160	157500	131900	73770	3980	4350	29640	17650	18730	17840

e Estimated.

10337500 TRUCKEE RIVER AT TAHOE CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	181	197	232	242	288	251	168	158	223	273	313	266
MAX	413	1575	2209	2561	2375	2235	1806	1746	1673	1071	638	687
(WY)	1910	1983	1984	1997	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1909 - 1997	
ANNUAL TOTAL	160752		278886			
ANNUAL MEAN	439		764		230	
HIGHEST ANNUAL MEAN					1150	1983
LOWEST ANNUAL MEAN					.15	1994
HIGHEST DAILY MEAN	2210	May 21	2630	Jan 3	2630	Jan 3 1997
LOWEST DAILY MEAN	37	Oct 1	37	Oct 1	.00	Jan 4 1914
ANNUAL SEVEN-DAY MINIMUM	44	Mar 5	48	Oct 1	.00	Jan 23 1914
INSTANTANEOUS PEAK FLOW			2690	Jan 2	2690	Jan 2 1997
INSTANTANEOUS PEAK STAGE			9.59	Jan 2	9.59	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	318900		553200		166800	
10 PERCENT EXCEEDS	1050		2480		471	
50 PERCENT EXCEEDS	253		299		134	
90 PERCENT EXCEEDS	49		64		.00	

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 mi².

PERIOD OF RECORD.—December 1944 to September 1961, June 1977 to September 1982, October 1992 to September 1995, October 1996 to September 1997. Monthly discharge only for some periods, published in WSP 1314.

SPECIFIC CONDUCTANCE: July 1977 to September 1982.

WATER TEMPERATURE: July 1977 to September 1982, March 1993 to September 1994.

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 including estimated daily discharges. Flow regulated by Lake Tahoe (station 10337000), operating capacity, 744,600 acre-ft. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,900 ft³/s, Jan. 2, 1997, gage height, 9.97 ft, from rating curve extended above 3,100 ft³/s on basis of slope-area measurements at gage heights 7.62 ft and 7.92 ft; minimum daily, 3.4 ft³/s, several days in August 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e47	317	146	8900	2780	2300	301	385	321	250	309	314
2	61	317	131	8350	2760	2290	276	372	288	293	308	313
3	60	317	123	e4320	2740	2270	261	382	274	313	307	313
4	60	317	128	e3460	2720	2250	254	412	441	344	306	311
5	60	317	e569	e3160	2700	2240	249	423	322	340	340	310
6	59	320	273	e3000	2670	2230	244	423	276	338	331	310
7	59	328	207	e2880	2640	2220	239	423	266	336	329	310
8	60	331	219	2820	2630	2210	238	438	351	336	325	310
9	60	332	236	2790	2620	2210	238	471	728	334	322	310
10	61	338	257	2760	2600	2220	225	500	966	332	322	310
11	60	340	367	2730	2580	2220	217	511	978	331	324	310
12	60	340	e1550	2710	2560	2210	214	541	969	326	323	310
13	60	340	e2200	2680	2540	2190	215	523	772	323	322	310
14	59	340	2110	2680	2520	2180	235	494	945	320	320	309
15	60	340	2030	2660	2510	2190	262	471	1080	318	319	309
16	60	340	2000	2640	2500	2180	294	455	1280	317	319	306
17	60	469	2020	2610	2500	2140	334	449	1280	314	319	306
18	88	664	1990	2600	2480	1300	389	449	1260	314	319	308
19	168	277	1700	2590	2470	422	663	433	1240	312	319	319
20	195	244	1270	2590	2450	315	589	397	1020	310	317	319
21	195	205	1750	2570	2450	325	726	347	671	311	319	319
22	195	316	1980	2590	2430	341	604	326	504	314	318	319
23	195	212	2100	2640	2410	367	666	325	359	317	315	319
24	199	179	2180	2640	2390	386	523	310	345	318	315	319
25	222	162	2160	2790	2360	379	458	277	259	315	315	320
26	232	149	2190	2830	2350	397	457	267	253	315	315	313
27	240	138	2260	2820	2350	422	527	276	158	315	315	300
28	262	135	2220	2790	2320	402	507	302	177	313	315	297
29	315	129	2450	2780	---	368	438	317	229	313	315	294
30	321	124	3050	2750	---	349	407	336	248	311	315	234
31	317	---	4120	2760	---	332	---	342	---	310	315	---
TOTAL	4150	8677	45986	98890	71030	43855	11250	12377	18260	9853	9872	9251
MEAN	134	289	1483	3190	2537	1415	375	399	609	318	318	308
MAX	321	664	4120	8900	2780	2300	726	541	1280	344	340	320
MIN	47	124	123	2570	2320	315	214	267	158	250	306	234
AC-FT	8230	17210	91210	196100	140900	86990	22310	24550	36220	19540	19580	18350

e Estimated.

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	198	208	292	355	346	309	380	548	438	292	280	255
MAX	387	551	1483	3190	2537	1421	1734	2403	1381	535	492	453
(WY)	1948	1951	1997	1997	1997	1952	1958	1958	1952	1953	1959	1954
MIN	7.27	11.3	14.2	8.82	12.3	58.1	98.3	122	34.5	6.40	3.56	4.72
(WY)	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1945 - 1997

ANNUAL TOTAL	343451		
ANNUAL MEAN	941		330
HIGHEST ANNUAL MEAN			941
LOWEST ANNUAL MEAN			32.4
HIGHEST DAILY MEAN	8900	Jan 1	8900
LOWEST DAILY MEAN	47	Oct 1	3.4
ANNUAL SEVEN-DAY MINIMUM	58	Oct 1	3.4
INSTANTANEOUS PEAK FLOW	11900	Jan 2	11900
INSTANTANEOUS PEAK STAGE	9.97	Jan 2	9.97
ANNUAL RUNOFF (AC-FT)	681200		239300
10 PERCENT EXCEEDS	2610		498
50 PERCENT EXCEEDS	332		232
90 PERCENT EXCEEDS	197		43

10338100 SUMMIT CREEK ABOVE DONNER LAKE, NEAR TRUCKEE, CA

LOCATION.—Lat 39°19'14", long 120°17'47", in NW 1/4 SE 1/4 sec.15, T.17 N., R.15 E., Nevada County, Hydrologic Unit 16050102, Tahoe National Forest, on right bank at old hwy 40, 0.5 mi west of Donner Lake, and 1.5 mi east of Donner Pass.

DRAINAGE AREA.—4.96 mi².

PERIOD OF RECORD.—February to September 1997.

GAGE.—Water-stage recorder. Elevation of gage is 5,960 ft above sea level, from topographic map.

REMARKS.—Records good including estimated discharges. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 219 ft³/s, Apr. 19, gage height, 6.05 ft; no flow Aug. 17 to Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e29	e14	26	40	23	3.1	.10	.00
2	---	---	---	---	e28	e14	22	e36	20	2.5	.10	.00
3	---	---	---	---	e27	e14	20	e34	24	2.1	.09	.00
4	---	---	---	---	e25	e14	21	e34	76	1.8	.08	.00
5	---	---	---	---	e24	e14	22	e34	29	1.6	.08	.00
6	---	---	---	---	e23	e14	21	e33	21	1.4	.07	.00
7	---	---	---	---	e22	e14	22	e33	19	1.3	.07	.00
8	---	---	---	---	e22	e15	23	e33	19	1.2	.06	.00
9	---	---	---	---	e21	e16	22	e34	19	1.1	.06	.00
10	---	---	---	---	e20	e18	19	e34	17	.97	.05	.00
11	---	---	---	---	e20	e20	20	e34	16	.94	.05	.00
12	---	---	---	---	e20	e20	22	e34	15	.88	.05	.00
13	---	---	---	---	e19	19	27	e34	14	.78	.05	.00
14	---	---	---	---	e18	22	38	e33	16	.69	.05	.00
15	---	---	---	---	e18	29	47	e32	15	.62	.04	.00
16	---	---	---	---	e18	28	59	e32	14	.58	.02	.00
17	---	---	---	---	e18	25	68	e31	13	.51	.00	.00
18	---	---	---	---	e17	29	84	e30	11	.47	.00	.00
19	---	---	---	---	e16	37	179	e28	9.8	.43	.00	.00
20	---	---	---	---	e16	40	108	e27	8.9	.36	.00	.00
21	---	---	---	---	e16	41	139	e26	7.7	.29	.00	.00
22	---	---	---	---	e16	48	81	26	6.5	.24	.00	.00
23	---	---	---	---	e15	55	123	36	5.7	.23	.00	.00
24	---	---	---	---	e15	56	59	33	4.9	.26	.00	.00
25	---	---	---	---	e15	52	53	26	4.5	.20	.00	.00
26	---	---	---	---	e15	73	70	23	3.9	.21	.00	.00
27	---	---	---	---	e15	71	92	24	3.2	.19	.00	.00
28	---	---	---	---	e14	55	63	26	2.9	.20	.00	.00
29	---	---	---	---	---	43	44	26	2.6	.22	.00	.00
30	---	---	---	---	---	39	40	27	3.1	.15	.00	.00
31	---	---	---	---	---	34	---	26	---	.12	.00	---
TOTAL	---	---	---	---	542	983	1634	959	444.7	25.64	1.02	0.00
MEAN	---	---	---	---	19.4	31.7	54.5	30.9	14.8	.83	.033	.000
MAX	---	---	---	---	29	73	179	40	76	3.1	.10	.00
MIN	---	---	---	---	14	14	19	23	2.6	.12	.00	.00
AC-FT	---	---	---	---	1080	1950	3240	1900	882	51	2.0	.00

e Estimated.

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 mi².

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, 12,800 acre-ft, Jan. 2, 1997, elevation, 5,938.64 ft; minimum, 2,510 acre-ft, Jan. 24, 28–31, 1991, elevation, 5,927.23 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 12,800 acre-ft, Jan. 2, elevation, 5,938.64 ft; minimum, 3,100 acre-ft, Nov. 16, elevation, 5,927.98 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	5,934	7,970
5,926.0	1,600	5,936	9,670
5,928.0	3,120	5,938	12,000
5,930.0	4,690	5,940	14,700
5,932	6,310		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5230	3460	3640	10300	4090	3590	4370	6240	9350	9210	8920	8500
2	5130	3420	3620	12800	4070	3610	4420	6230	9340	9210	8920	8420
3	5050	3380	3590	11600	4030	3590	4250	6260	9400	9220	8900	8410
4	4940	3330	3710	10300	4000	3560	4160	6290	9610	9210	8920	8380
5	4860	3290	4340	9280	3940	3510	4120	6330	9620	9210	8910	8360
6	4790	3270	4380	8440	3910	3530	4090	6360	9590	9210	8880	8350
7	4710	3240	4340	7670	3850	3510	4080	6440	9470	9250	8880	8320
8	4610	3230	4260	7010	3840	3510	4050	6630	9440	9220	8870	8320
9	4540	3220	4310	6440	3810	3550	4060	6880	9400	9190	8840	8310
10	4460	3190	4500	5970	3770	3570	4030	7130	9340	9230	8830	8280
11	4380	3180	4810	5590	3760	3620	3970	7380	9300	9190	8830	8250
12	4310	3170	5440	5280	3720	3620	3970	7670	9280	9180	8880	8160
13	4250	3130	5520	5010	3710	3650	3940	7880	9300	9180	8920	7990
14	4180	3130	5340	4810	3670	3670	3970	8040	9310	9170	8830	7850
15	4120	3120	5120	4660	3670	3720	4020	8120	9330	9150	8860	7710
16	4030	3100	4930	4510	3660	3780	4100	8170	9310	9190	8860	7570
17	4000	3480	4740	4380	3680	3810	4190	8230	9290	9120	8820	7360
18	3950	3820	4570	4270	3670	3860	4370	8280	9270	9120	8830	7170
19	3920	3850	4430	4170	3670	3890	4760	8320	9240	9120	8740	7060
20	3860	3860	4360	4170	3650	3940	4900	8450	9240	9120	8710	6910
21	3820	3910	4430	4150	3660	4000	5160	8550	9260	9100	8710	6750
22	3770	4010	4380	4430	3630	4060	5330	8650	9230	9060	8690	6600
23	3730	4000	4300	4350	3610	4120	5720	8810	9250	9070	8650	6470
24	3690	3960	4190	4300	3600	4200	5800	8920	9230	9040	8630	6330
25	3690	3900	4110	4420	3630	4270	5860	9020	9210	9040	8620	6160
26	3590	3820	4190	4530	3590	4370	5940	9080	9220	9060	8590	5960
27	3600	3760	4250	4430	3610	4440	6100	9150	9230	9090	8580	5790
28	3550	3690	4170	4350	3590	4480	6210	9220	9210	9040	8550	5650
29	3590	3640	4430	4270	---	4490	6220	9290	9210	8990	8530	5480
30	3550	3590	5200	4190	---	4460	6240	9310	9210	8980	8570	5300
31	3490	---	6390	4130	---	4460	---	9330	---	8940	8580	---
MAX	5230	4010	6390	12800	4090	4490	6240	9330	9620	9250	8920	8500
MIN	3490	3100	3590	4130	3590	3510	3940	6230	9210	8940	8530	5300
a	5928.50	5928.62	5932.10	5929.31	5928.63	5929.72	5931.92	5935.62	5935.48	5935.16	5934.73	5930.77
b	-1840	+100	+2800	-2260	-540	+870	+1780	+3090	-120	-270	-360	-3280
CAL YR 1996	MAX	9700	MIN	3100	b	+2840						
WTR YR 1997	MAX	12800	MIN	3100	b	-30						

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 mi².

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, 863 ft³/s, Jan. 2, 1997; gage height, 6.69 ft; no flow at times in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	24	35	578	67	31	99	104	30	3.2	2.2	e1.5
2	48	22	34	820	64	32	91	102	30	3.3	2.4	e1.5
3	47	20	32	817	60	33	84	101	30	2.9	2.8	4.0
4	47	18	31	725	56	31	80	103	51	2.8	2.5	6.2
5	45	17	68	677	53	30	75	104	71	3.1	2.1	6.1
6	43	16	80	629	51	29	72	105	71	3.6	2.0	5.6
7	42	14	78	580	48	28	69	84	69	3.4	2.4	5.6
8	41	14	75	530	47	28	67	34	70	3.0	2.0	5.8
9	40	13	75	471	43	28	66	11	69	2.3	2.3	6.0
10	39	12	84	393	41	29	65	11	48	3.8	2.0	6.5
11	37	11	95	324	38	31	61	11	29	4.9	2.1	16
12	34	9.8	151	253	37	33	60	11	29	4.0	2.2	39
13	33	9.3	177	198	35	34	58	12	29	4.5	2.9	72
14	31	8.8	203	167	34	34	59	33	29	4.5	3.5	73
15	30	8.2	194	145	33	37	61	67	28	4.6	4.1	72
16	29	7.9	162	126	32	42	68	68	28	4.7	5.2	72
17	28	14	141	111	35	48	77	68	27	4.7	4.9	70
18	27	35	124	100	35	49	88	70	26	4.1	4.8	69
19	27	39	110	90	35	52	121	38	21	3.9	3.2	72
20	25	44	99	82	33	56	149	6.9	14	4.0	2.5	76
21	24	45	102	80	33	59	151	5.7	13	4.3	2.4	75
22	23	56	102	92	32	64	109	5.8	13	4.0	2.4	74
23	22	58	94	103	32	72	90	6.1	13	4.2	2.4	73
24	21	55	84	82	31	79	97	6.0	9.4	4.1	2.2	73
25	20	50	76	92	30	84	100	6.1	4.4	3.9	2.0	82
26	19	46	74	108	30	90	102	7.1	3.7	4.2	1.5	87
27	18	43	85	101	30	100	104	7.1	3.8	4.1	1.6	84
28	17	40	83	92	30	106	104	7.1	3.7	4.0	1.6	81
29	16	37	87	86	---	107	105	18	3.7	3.7	1.8	82
30	22	34	128	78	---	105	105	31	3.3	3.0	2.2	84
31	26	---	332	71	---	104	---	30	---	2.5	1.6	---
TOTAL	970	821.0	3295	8801	1125	1685	2637	1273.9	870.0	117.3	79.8	1474.8
MEAN	31.3	27.4	106	284	40.2	54.4	87.9	41.1	29.0	3.78	2.57	49.2
MAX	49	58	332	820	67	107	151	105	71	4.9	5.2	87
MIN	16	7.9	31	71	30	28	58	5.7	3.3	2.3	1.5	1.5
AC-FT	1920	1630	6540	17460	2230	3340	5230	2530	1730	233	158	2930

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.4	27.7	31.6	33.8	32.3	36.5	52.1	86.0	45.9	12.4	8.07	24.9
MAX	85.7	195	214	284	198	182	144	243	244	67.2	52.7	99.1
(WY)	1973	1951	1951	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1929 - 1997	
ANNUAL TOTAL	22604.8		23149.8			
ANNUAL MEAN	61.8		63.4		36.0	
HIGHEST ANNUAL MEAN					83.3	
LOWEST ANNUAL MEAN					7.71	
HIGHEST DAILY MEAN	540	May 17	820	Jan 2	820	Jan 2 1997
LOWEST DAILY MEAN	1.4	Jul 4	1.5	Aug 26	.00	Jan 1 1929
ANNUAL SEVEN-DAY MINIMUM	3.9	Jul 2	1.7	Aug 26	.00	Jan 1 1929
INSTANTANEOUS PEAK FLOW			863	Jan 2	863	Jan 2 1997
INSTANTANEOUS PEAK STAGE			6.69	Jan 2	6.69	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	44840		45920		26060	
10 PERCENT EXCEEDS	126		105		99	
50 PERCENT EXCEEDS	46		35		13	
90 PERCENT EXCEEDS	5.8		3.3		.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 mi².

PERIOD OF RECORD.—March 1993 to current year.

WATER TEMPERATURE: August 1993 to September 1994.

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

REMARKS.—Records good except Jan. 1 to May 9, which are 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, about 2,500 ft³/s, Jan. 2, 1997, gage height, 12.76 ft (a), on the basis of the flood routing the peak discharge between Truckee River near Truckee and Truckee River above Prosser Creek; minimum daily, 2.3 ft³/s, Aug. 21, 22, 1994.

(a) Backwater from debris under the Highway 89 bridge..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	23	51	e1350	117	52	142	218	134	25	7.1	3.6
2	45	21	46	e2380	113	54	128	213	122	25	7.0	3.7
3	45	19	43	e1300	106	52	118	208	117	23	7.3	6.0
4	44	17	47	e1290	100	50	112	215	191	23	6.8	8.8
5	42	15	216	e1090	95	49	108	209	161	22	6.2	8.6
6	41	14	140	e920	92	49	105	206	149	21	5.9	7.9
7	40	13	119	598	84	50	102	194	145	20	6.0	7.7
8	39	12	121	506	79	51	99	175	143	19	5.6	7.9
9	38	11	127	442	73	53	99	172	141	18	5.6	8.0
10	37	11	157	361	73	58	94	174	118	17	5.1	8.7
11	35	10	214	304	73	65	90	176	100	16	5.0	21
12	33	8.8	489	258	73	68	87	185	98	15	5.0	50
13	32	8.4	359	221	69	70	87	181	93	15	5.5	87
14	30	7.8	304	199	68	74	94	187	101	14	6.3	87
15	29	7.0	277	178	67	83	104	209	101	14	5.7	86
16	28	6.7	241	154	67	90	115	203	98	13	5.6	85
17	27	58	205	144	70	95	128	204	96	12	5.2	82
18	28	149	174	137	67	98	152	202	91	11	5.1	80
19	26	74	152	126	66	108	271	177	80	11	4.7	82
20	25	75	137	119	65	118	295	148	69	10	5.0	85
21	24	72	137	117	62	121	376	131	61	10	4.9	84
22	23	112	135	95	61	130	309	116	54	9.3	4.7	82
23	22	83	124	138	58	139	341	123	50	9.2	4.7	80
24	22	72	108	129	55	146	289	116	43	9.2	4.5	78
25	21	66	96	164	55	147	262	105	35	8.7	4.3	84
26	20	60	111	e160	55	161	268	101	32	8.6	3.9	88
27	19	56	147	e156	55	175	302	104	30	8.7	3.9	83
28	18	52	125	148	53	178	286	111	28	8.8	3.8	80
29	18	48	198	139	---	169	244	124	26	9.1	3.9	80
30	21	44	436	127	---	162	230	141	25	8.1	4.3	80
31	25	---	998	121	---	156	---	141	---	7.5	3.9	---
TOTAL	943	1225.7	6234	13571	2071	3071	5437	5169	2732	441.2	162.5	1634.9
MEAN	30.4	40.9	201	438	74.0	99.1	181	167	91.1	14.2	5.24	54.5
MAX	46	149	998	2380	117	178	376	218	191	25	7.3	88
MIN	18	6.7	43	95	53	49	87	101	25	7.5	3.8	3.6
AC-FT	1870	2430	12370	26920	4110	6090	10780	10250	5420	875	322	3240

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.5	22.0	70.9	151	94.2	124	161	271	169	61.3	13.3	48.9
MAX	43.3	40.9	201	438	200	251	220	379	398	180	38.1	60.2
(WY)	1994	1997	1997	1997	1996	1995	1993	1995	1995	1995	1995	1993
MIN	15.8	8.35	10.4	9.27	11.6	30.9	39.8	64.8	19.8	14.2	3.24	40.9
(WY)	1995	1994	1994	1994	1994	1994	1994	1994	1994	1997	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1993 - 1997	
ANNUAL TOTAL	42738.7		42692.3			
ANNUAL MEAN	117		117		96.9	
HIGHEST ANNUAL MEAN					142	
LOWEST ANNUAL MEAN					25.9	
HIGHEST DAILY MEAN	1060	May 17	2380	Jan 2	2380	Jan 2 1997
LOWEST DAILY MEAN	6.2	Sep 8	3.6	Sep 1	2.3	Aug 21 1994
ANNUAL SEVEN-DAY MINIMUM	6.8	Sep 2	3.9	Aug 27	2.5	Aug 19 1994
INSTANTANEOUS PEAK FLOW			e2500	Jan 2	2500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			(a) 12.76	Jan 2	12.76	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	84770		84680		70170	
10 PERCENT EXCEEDS	264		213		268	
50 PERCENT EXCEEDS	67		79		52	
90 PERCENT EXCEEDS	8.9		7.4		7.6	

a Backwater from debris under the Highway 89 bridge.

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1958 to November 1990, June 1993 to current year.

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.—Records good including estimated daily discharges. Flow is completely regulated by Martis Creek Lake since Oct. 7, 1971. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,880 ft³/s, Feb. 1, 1963, gage height, 6.16 ft, site and datum then in use; minimum, 1.3 ft³/s, July 30, 1961. Maximum discharge since construction of Martis Creek Lake Dam in 1971, 663 ft³/s, Feb. 28, 1986, gage height, 5.66 ft; maximum gage height, 6.01 ft, Apr. 2, 1974; minimum daily, 0.20 ft³/s, Nov. 9–14, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	11	12	e333	80	37	90	69	24	16	11	9.6
2	9.1	10	12	260	80	36	67	68	24	16	11	9.8
3	9.1	10	11	101	e71	38	68	68	24	15	11	4.7
4	9.1	10	11	105	66	38	68	68	29	15	11	7.7
5	9.1	10	60	107	61	38	68	68	30	14	10	16
6	9.1	9.7	63	161	59	39	68	68	27	14	10	11
7	9.2	9.6	30	211	57	43	67	68	25	14	10	10
8	9.4	9.6	27	210	54	47	67	67	24	13	9.9	9.6
9	9.4	9.6	24	210	51	51	66	67	16	13	9.9	9.3
10	9.3	9.6	51	208	48	60	65	67	8.7	13	9.7	9.4
11	9.2	9.6	67	207	46	73	58	67	31	13	9.8	9.7
12	9.5	9.6	69	206	44	73	52	66	38	13	10	9.9
13	9.5	9.8	68	e204	43	69	50	66	25	13	12	10
14	9.7	9.6	68	199	41	78	50	66	29	13	11	9.7
15	9.7	9.8	67	292	40	94	52	65	28	13	10	9.6
16	9.4	9.9	66	357	40	110	57	65	25	12	10	10
17	9.2	13	65	353	44	115	62	64	22	12	9.9	10
18	9.5	14	34	346	41	111	64	62	20	12	9.9	9.8
19	10	14	22	336	40	112	66	43	19	12	9.9	10
20	10	14	20	328	40	116	66	38	18	12	10	10
21	9.7	14	19	317	39	114	66	35	17	12	10	10
22	9.8	24	14	305	39	116	67	33	17	12	10	10
23	10	24	14	290	38	122	67	34	16	11	9.8	10
24	10	17	18	175	37	124	67	36	16	12	9.8	9.8
25	10	14	20	112	37	124	67	33	16	12	10	9.8
26	11	13	23	180	38	125	67	31	15	12	9.9	10
27	10	12	50	144	41	130	68	30	15	12	9.7	10
28	10	12	49	110	39	124	68	28	15	12	9.5	10
29	11	11	e95	98	---	113	69	27	15	12	9.5	10
30	11	10	e229	86	---	106	68	26	15	12	9.5	10
31	11	---	e287	78	---	107	---	25	---	11	9.5	---
TOTAL	300.8	363.4	1665	6629	1354	2683	1945	1618	643.7	398	313.2	295.4
MEAN	9.70	12.1	53.7	214	48.4	86.5	64.8	52.2	21.5	12.8	10.1	9.85
MAX	11	24	287	357	80	130	90	69	38	16	12	16
MIN	8.8	9.6	11	78	37	36	50	25	8.7	11	9.5	4.7
AC-FT	597	721	3300	13150	2690	5320	3860	3210	1280	789	621	586

e Estimated.

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 - 1997, BY WATER YEAR (WY)

MEAN	8.90	17.1	22.2	31.6	36.3	47.7	50.5	56.3	35.5	14.4	10.3	9.08
MAX	20.8	80.0	95.5	214	149	181	139	219	169	75.0	76.0	40.2
(WY)	1983	1984	1982	1997	1986	1986	1982	1983	1983	1986	1995	1995
MIN	3.09	1.57	1.25	6.42	8.10	8.35	8.52	7.40	3.96	2.67	2.01	2.40
(WY)	1972	1978	1978	1978	1994	1974	1980	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1972 - 1997

ANNUAL TOTAL	14909.9	18208.5	
ANNUAL MEAN	40.7	49.9	28.3
HIGHEST ANNUAL MEAN			74.5 1983
LOWEST ANNUAL MEAN			6.90 1977
HIGHEST DAILY MEAN	287 Dec 31	357 Jan 16	626 Mar 1 1986
LOWEST DAILY MEAN	2.8 Jul 23	4.7 Sep 3	.20 Nov 9 1977
ANNUAL SEVEN-DAY MINIMUM	8.2 Aug 31	8.6 Aug 29	.21 Nov 9 1977
INSTANTANEOUS PEAK FLOW		372 Jan 2	663 Feb 28 1986
INSTANTANEOUS PEAK STAGE		4.56 Jan 2	6.01 Apr 2 1974
ANNUAL RUNOFF (AC-FT)	29570	36120	20520
10 PERCENT EXCEEDS	98	112	68
50 PERCENT EXCEEDS	17	24	12
90 PERCENT EXCEEDS	8.9	9.7	4.3

10339400 MARTIS CREEK NEAR TRUCKEE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

CHEMICAL DATA: Water years 1975–95.

WATER TEMPERATURE: Water years 1975 to current year.

SEDIMENT DATA: Water years 1975–95.

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). 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, Jan. 11–13, 16, 1995.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 20.0°C, several days in July and Aug.; minimum recorded, 0.5°C, Dec. 30–Jan. 1, Jan. 27.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

10339400 MARTIS CREEK NEAR TRUCKEE, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

10339419 TRUCKEE RIVER ABOVE PROSSER CREEK, NEAR TRUCKEE, CA

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1993 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 5,560 ft above sea level, from topographic map

REMARKS.—Records good. Flow regulated by Lake Tahoe, Donner Lake, and Martis Creek Reservoir (station numbers 10337000, 10338400, and 10339380). See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 14,500 ft³/s, Jan. 2, 1997, gage height, 15.89 ft; minimum daily, 11 ft³/s, July 28, Aug. 11, 15, 19, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	365	209	10400	2800	2390	683	762	516	299	344	340
2	122	362	186	11000	2800	2390	615	740	473	352	343	340
3	121	360	173	5760	2770	2370	581	735	440	365	342	338
4	119	359	164	4890	2750	2350	564	790	714	397	341	340
5	116	356	902	4370	2720	2350	552	814	578	392	371	351
6	113	359	504	4020	2690	2340	534	801	489	387	363	345
7	111	370	362	3760	2660	2340	523	791	471	384	363	342
8	109	369	363	3450	2650	2350	524	764	514	382	359	342
9	106	372	390	3190	2620	2350	525	781	900	380	354	340
10	104	379	480	3120	2600	2370	498	831	1150	377	354	340
11	102	378	598	3070	2590	2400	475	845	1130	375	356	347
12	100	378	2150	3030	2570	2390	463	883	1170	370	356	370
13	98	376	2610	2980	2560	2380	461	870	916	366	357	402
14	96	376	2540	2900	2550	2390	491	840	1080	363	356	403
15	96	376	2430	2900	2550	2420	534	850	1250	360	355	403
16	94	375	2380	2860	2540	2450	588	817	1430	358	353	403
17	93	596	2350	2810	2560	2440	660	811	1430	355	352	400
18	104	1100	2260	2830	2540	1750	750	794	1410	354	352	399
19	181	388	2010	2850	2530	776	1190	743	1380	351	351	416
20	219	398	1490	2840	2520	659	1130	649	1180	348	351	421
21	217	288	1980	2840	2510	677	1340	574	787	348	351	418
22	216	504	2190	2800	2500	708	1130	518	610	352	349	415
23	216	351	2270	2840	2490	760	1210	516	450	353	349	414
24	221	287	2330	2750	2460	805	990	509	431	356	348	414
25	246	257	2320	2880	2430	814	888	450	336	354	347	421
26	255	230	2380	3030	2430	845	883	429	333	353	346	423
27	268	212	2520	2950	2430	913	986	433	227	352	345	405
28	290	203	2450	2890	2410	889	962	468	227	352	344	401
29	359	187	2700	2850	---	823	848	496	283	352	343	399
30	364	173	3620	2820	---	786	798	537	305	349	341	351
31	367	---	4940	2790	---	765	---	547	---	346	341	---
TOTAL	5357	11084	54251	114470	72230	52440	22376	21388	22610	11182	10877	11443
MEAN	173	369	1750	3693	2580	1692	746	690	754	361	351	381
MAX	367	1100	4940	11000	2800	2450	1340	883	1430	397	371	423
MIN	93	173	164	2750	2410	659	461	429	227	299	341	338
AC-FT	10630	21990	107600	227100	143300	104000	44380	42420	44850	22180	21570	22700

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	102	146	537	1059	883	805	710	1160	733	340	222	231
MAX	173	369	1750	3693	2580	1692	1331	2436	1144	587	351	381
(WY)	1997	1997	1997	1997	1997	1997	1996	1996	1995	1995	1997	1997
MIN	34.3	46.6	50.7	52.5	55.9	137	180	224	72.6	41.2	12.1	54.1
(WY)	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1994 - 1997	
ANNUAL TOTAL	293781		409708			
ANNUAL MEAN	803		1122		576	
HIGHEST ANNUAL MEAN					1122	
LOWEST ANNUAL MEAN					85.0	
HIGHEST DAILY MEAN	4940	Dec 31	11000	Jan 2	11000	Jan 2 1997
LOWEST DAILY MEAN	93	Oct 17	93	Oct 17	11	Jul 28 1994
ANNUAL SEVEN-DAY MINIMUM	97	Oct 11	97	Oct 11	12	Aug 9 1994
INSTANTANEOUS PEAK FLOW			14500	Jan 2	14500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			15.89	Jan 2	15.89	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	582700		812700		417400	
10 PERCENT EXCEEDS	2050		2750		1600	
50 PERCENT EXCEEDS	379		509		292	
90 PERCENT EXCEEDS	205		251		46	

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: October 1994 to current year.

WATER TEMPERATURE: March 1993 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1994 to current year.

WATER TEMPERATURE: March 1993 to current year.

INSTRUMENTATION.—Water-temperature recorder since March 1993. Specific conductance recorder since October 1994.

REMARKS.—Water temperature and specific conductance are affected by regulation from Lake Tahoe and Donner Lake.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 333 micromhos, Nov. 1, 1994; minimum recorded, 34 micromhos, Jan. 2, 1997.

WATER TEMPERATURE: Maximum recorded, 25.0°C, July 13, 15, 20, 1994; minimum recorded, 0.0°C, many days most years.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 195 micromhos, Oct. 18; minimum recorded 34 micromhos, Jan. 2.

WATER TEMPERATURE: Maximum recorded, 23.0°C, Aug. 5, 6, 8; minimum recorded, 1.0°C, Nov. 30, Dec. 2.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	140	111	102	101	124	113	62	37	88	87	88	87
2	140	133	102	101	124	113	58	34	87	85	88	87
3	134	132	102	101	118	116	75	58	86	84	88	87
4	134	128	103	101	125	117	74	70	87	85	89	88
5	131	128	102	101	117	68	89	74	87	86	89	88
6	132	130	102	101	101	84	88	76	87	85	89	88
7	132	131	102	99	109	101	88	77	87	85	90	88
8	133	131	102	101	121	105	79	77	88	86	90	88
9	134	132	102	101	112	101	80	77	87	86	90	89
10	142	132	102	101	116	99	81	79	87	86	90	88
11	135	132	102	101	119	91	81	80	87	86	90	88
12	135	133	103	101	91	77	81	80	87	87	89	88
13	136	134	102	101	80	76	82	81	88	86	89	88
14	138	134	102	101	91	80	82	81	88	87	89	88
15	177	135	102	101	95	83	82	80	88	87	89	88
16	188	135	101	101	96	84	81	80	88	87	88	87
17	180	135	103	72	95	86	81	80	89	87	88	87
18	195	121	82	55	96	84	82	81	88	87	91	87
19	170	112	103	82	96	84	83	81	88	87	97	91
20	153	110	97	80	96	88	82	81	88	87	96	94
21	112	110	104	97	92	85	83	82	88	87	96	94
22	112	111	101	75	92	85	83	81	88	87	94	91
23	112	110	108	96	99	87	84	82	88	87	91	89
24	112	110	111	105	95	86	87	84	88	87	89	87
25	110	106	113	106	96	87	88	85	88	87	89	86
26	111	106	116	109	92	84	88	83	89	88	92	73
27	109	106	121	111	95	85	87	86	88	88	76	72
28	109	103	120	113	90	87	88	86	89	88	77	73
29	113	99	123	116	94	77	88	87	---	---	79	76
30	123	102	123	117	81	69	88	87	---	---	80	79
31	103	101	---	---	69	59	88	87	---	---	83	79
MONTH	195	99	123	55	125	59	89	34	89	84	97	72

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	84	82	110	74	59	56	104	98	110	106	109	106
2	87	84	108	75	59	56	102	98	109	105	108	106
3	88	87	79	74	59	57	102	98	110	106	109	106
4	89	88	77	71	70	53	100	97	111	107	110	106
5	89	88	98	69	72	56	100	97	109	105	110	108
6	90	88	78	71	81	72	101	98	109	105	110	107
7	90	89	80	72	83	76	101	98	107	105	109	106
8	90	88	81	72	84	78	102	98	108	105	110	107
9	92	88	91	72	102	82	101	98	108	106	110	107
10	93	91	78	71	123	102	101	99	107	103	110	108
11	95	92	80	71	130	119	104	99	108	104	109	106
12	95	93	80	71	144	128	104	100	107	104	106	104
13	95	94	107	73	132	123	105	101	108	105	104	102
14	94	90	87	76	124	101	106	103	108	106	103	102
15	91	87	88	80	105	100	106	103	108	106	103	101
16	89	84	89	83	101	95	106	104	109	106	103	101
17	90	82	91	85	104	98	106	104	109	105	103	101
18	88	79	87	84	100	90	107	103	109	106	103	102
19	80	67	86	80	90	86	107	104	108	105	102	101
20	87	72	81	76	90	83	107	104	108	106	103	99
21	86	82	77	73	93	86	108	105	108	105	103	101
22	82	66	75	70	95	89	109	105	108	106	103	101
23	68	65	70	66	98	92	108	106	108	106	103	101
24	73	68	68	65	101	94	109	106	109	105	104	101
25	73	67	68	65	106	98	108	106	109	105	103	101
26	73	66	66	64	105	98	110	107	109	106	103	101
27	74	66	66	63	117	104	109	106	109	106	103	101
28	76	67	64	61	115	102	108	106	109	107	103	101
29	79	72	62	59	110	102	108	105	109	105	103	101
30	169	77	61	58	106	101	108	105	109	105	105	102
31	---	---	60	57	---	---	110	105	109	106	---	---
MONTH	169	65	110	57	144	53	110	97	111	103	110	99

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	12.0	9.5	6.5	5.0	2.5	4.5	2.5	6.5	5.5	6.5	4.5
2	16.5	11.0	9.0	6.0	3.5	1.0	4.0	3.0	6.0	5.0	5.5	4.5
3	17.0	11.5	9.5	6.5	4.0	1.5	5.0	4.0	6.0	4.5	5.5	4.5
4	16.5	12.0	9.5	7.5	4.5	1.5	5.5	4.5	6.0	5.0	6.5	3.5
5	16.5	10.5	8.5	6.5	4.5	3.0	5.5	4.5	6.0	4.5	7.0	4.5
6	16.5	10.5	8.0	5.0	3.5	2.0	5.0	3.5	6.0	4.0	7.5	4.5
7	16.5	10.5	9.0	6.0	5.5	3.0	5.0	3.5	6.0	4.5	7.5	4.5
8	16.5	10.5	9.5	6.5	6.5	4.5	5.5	4.5	6.0	5.0	7.5	5.0
9	17.0	11.5	10.0	6.5	5.5	4.5	6.0	5.0	6.0	4.5	7.5	5.0
10	16.5	11.5	10.0	7.0	4.5	3.0	6.0	5.0	6.5	5.5	8.0	5.0
11	15.5	10.5	10.5	7.5	4.5	3.0	6.0	4.5	6.5	4.5	7.5	5.0
12	13.0	9.0	10.0	7.0	5.5	3.5	5.5	4.5	6.5	5.0	7.0	5.0
13	14.0	8.5	10.5	8.0	6.5	5.0	4.5	3.5	6.5	4.5	7.5	4.5
14	13.5	8.5	9.0	7.0	5.5	4.5	5.0	3.0	6.5	4.5	8.0	5.0
15	13.0	8.0	8.0	6.5	6.5	4.5	5.5	4.5	6.5	5.0	7.5	5.5
16	12.0	7.5	7.0	5.5	7.0	5.5	6.0	5.0	7.0	5.5	6.5	5.5
17	12.0	6.5	8.0	6.0	6.5	5.5	6.0	5.0	6.5	5.0	7.5	5.0
18	11.0	8.0	6.5	5.0	6.0	5.0	6.0	5.0	7.0	4.5	8.5	5.0
19	9.5	7.0	6.5	6.0	7.0	5.5	6.0	5.0	6.5	5.0	8.5	4.5
20	9.5	6.0	8.0	5.0	6.0	4.0	5.5	4.0	6.5	5.0	8.5	4.5
21	9.5	5.5	7.0	5.5	4.0	2.5	5.5	4.5	6.5	5.0	8.0	5.5
22	10.0	6.0	7.0	5.0	4.5	3.0	4.5	2.0	6.5	5.0	8.5	5.0
23	11.0	7.5	7.0	4.5	5.5	3.5	5.5	3.0	6.0	4.0	9.0	5.0
24	12.0	9.0	6.5	4.5	6.0	4.5	5.5	4.5	5.5	3.5	9.0	5.0
25	9.5	7.0	7.0	5.0	6.5	5.0	5.0	4.0	6.5	4.0	9.0	4.5
26	7.5	6.0	6.0	4.0	6.5	6.0	5.5	3.0	6.5	5.5	10.0	5.0
27	8.0	5.0	5.0	2.5	6.0	5.0	6.0	5.0	6.0	5.0	9.0	5.0
28	7.5	5.0	5.0	3.0	6.0	5.5	6.0	5.5	6.5	4.5	9.0	5.0
29	7.5	6.5	4.5	2.5	5.5	4.5	6.0	5.0	---	---	8.5	4.0
30	8.5	6.5	4.5	1.0	5.5	4.0	6.5	5.0	---	---	8.0	5.0
31	9.0	7.5	---	---	5.0	3.5	6.5	5.5	---	---	7.0	3.5
MONTH	17.0	5.0	10.5	1.0	7.0	1.0	6.5	2.0	7.0	3.5	10.0	3.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.0	3.0	10.5	5.0	14.5	9.5	16.5	9.5	21.5	16.0	20.5	15.0
2	6.5	2.0	10.5	6.0	14.0	9.0	18.0	11.5	21.0	15.0	18.5	15.5
3	8.0	3.0	12.0	6.0	13.0	10.0	19.5	12.0	21.5	15.0	19.0	15.0
4	8.0	3.5	12.5	7.0	10.5	8.5	20.0	14.0	22.0	16.5	20.5	15.5
5	8.0	3.5	12.0	6.0	11.5	8.0	19.5	14.0	23.0	16.5	20.0	16.0
6	8.0	4.0	12.0	6.5	15.5	8.0	19.5	13.5	23.0	17.0	20.5	15.5
7	8.5	4.5	12.5	6.5	16.0	10.0	20.5	14.0	22.5	17.0	20.0	15.0
8	8.5	5.0	13.0	7.0	14.5	10.5	21.0	15.5	23.0	17.0	20.0	16.0
9	7.0	4.5	13.0	6.5	14.5	11.5	19.0	15.0	22.0	17.0	20.5	16.0
10	8.0	4.0	12.0	7.0	15.5	12.0	19.5	14.5	21.5	16.0	20.0	16.0
11	9.0	4.0	12.0	6.5	16.5	12.0	19.5	14.0	20.5	15.5	19.0	14.5
12	9.0	4.5	13.5	6.5	15.5	12.0	20.0	13.5	21.5	16.0	19.0	14.0
13	9.5	4.5	13.0	6.5	13.0	9.5	20.5	14.0	22.0	16.5	19.5	14.5
14	10.0	6.0	13.5	6.5	14.0	10.5	21.5	15.5	22.0	17.0	18.5	15.5
15	10.5	6.0	13.5	7.5	16.0	11.5	21.5	16.0	22.0	16.5	17.0	13.5
16	11.0	6.0	12.0	8.0	17.0	12.5	19.0	15.5	21.5	16.5	17.5	12.0
17	11.0	6.0	13.0	8.0	17.5	13.0	20.5	15.5	21.0	15.5	17.0	13.0
18	10.0	6.5	14.0	8.0	17.5	12.5	20.5	14.5	21.0	16.0	17.5	14.0
19	8.5	6.0	14.0	8.0	17.5	12.5	21.5	14.5	19.0	15.5	16.5	13.5
20	9.5	5.5	13.5	7.0	17.0	12.5	21.5	15.5	21.0	17.0	17.0	12.0
21	8.0	6.0	13.0	6.5	17.0	11.5	22.0	16.0	21.5	15.5	17.5	12.5
22	8.0	4.5	12.0	8.0	16.5	11.0	22.0	16.0	21.0	15.5	18.0	13.0
23	9.0	5.0	10.5	7.5	16.5	10.5	19.0	16.5	20.0	16.0	17.5	13.0
24	9.0	4.5	11.5	6.5	18.0	11.5	20.0	16.5	20.5	15.5	18.0	13.5
25	10.5	4.5	13.5	7.0	19.0	13.0	20.0	16.0	20.0	15.0	17.5	14.5
26	11.0	5.5	11.5	7.5	17.5	13.0	20.5	16.0	19.5	14.5	18.5	15.0
27	11.0	6.5	14.5	8.5	18.5	13.0	21.0	16.5	20.0	14.5	17.0	13.0
28	8.5	5.5	15.0	9.0	18.0	12.0	20.0	16.5	19.5	14.5	17.0	12.5
29	10.0	5.0	15.5	9.0	17.0	11.5	20.0	16.0	19.5	14.0	17.5	12.5
30	8.5	6.0	16.5	9.5	15.0	11.5	20.0	16.5	19.5	14.0	18.0	13.5
31	---	---	14.5	9.5	---	---	21.0	15.5	19.5	16.0	---	---
MONTH	11.0	2.0	16.5	5.0	19.0	8.0	22.0	9.5	23.0	14.0	20.5	12.0

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 mi².

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 most days. 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, 33,719 acre-ft, May 19, 1996, elevation, 5,746.11 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, 32,229 acre-ft, Jan. 3, elevation, 5,744.28 ft; minimum observed, 9,300 acre-ft, Feb. 13, elevation, 5,702.10 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15481	9942	9800	14440	9771	9784	9838	17276	24290	28021	25936	19167
2	15291	9956	9821	26520	9811	9716	9703	17349	24493	28007	25793	18968
3	15094	9974	9811	32229	9817	9642	9696	17411	24636	27978	25637	18808
4	14903	9991	9797	31336	9804	9636	9696	17505	24894	27964	25502	18618
5	14703	9984	10098	29698	9777	9646	9682	17661	25394	27949	25354	18440
6	14512	9970	9908	27871	9723	9662	9649	17798	25583	27921	25221	18244
7	14330	9950	9895	25861	9669	9676	9605	17936	25746	27900	25041	18063
8	14134	9936	9868	23695	9616	9703	9655	18201	25889	27949	24834	17888
9	13948	9922	9888	22363	9546	9744	9744	18558	26078	27935	24597	17703
10	13754	9908	9987	21087	9471	9797	9807	18974	26236	28078	24362	17515
11	13568	9895	9875	19727	9448	9814	9912	19441	26410	28050	24139	17338
12	13372	9882	10307	18244	9431	9845	10008	19897	26548	27949	23894	17152
13	13178	9868	10616	16679	9300	9824	10112	20390	26693	27835	23676	16958
14	12992	9855	10223	14276	9342	9720	10234	20828	26859	27735	23445	16785
15	12777	9841	10054	11880	9378	9655	10406	21242	27049	27678	23218	16603
16	12562	9828	9862	11099	9418	9662	10626	21630	27225	27621	22978	16423
17	12345	9834	9838	10181	9471	9703	10910	21989	27379	27578	22746	16244
18	12128	10431	9821	10060	9529	9750	11259	22331	27549	27513	22530	16067
19	11932	10254	9780	9898	9565	9817	11794	22703	27678	27450	22294	15891
20	11720	9679	9733	9733	9602	10285	12690	23028	27792	27379	22032	15794
21	11506	9659	9721	9716	9642	10757	13446	23287	27892	27323	21770	15716
22	11301	9761	9723	9703	9682	11244	14308	23483	27964	27204	21505	15639
23	11091	9868	9716	9695	9716	11448	14968	23612	28007	27070	21230	15553
24	10881	9841	9713	9622	9730	11517	15668	23689	28035	26951	20957	15477
25	10695	9774	9707	9669	9750	11502	15940	23663	28064	26817	20711	15396
26	10488	9807	9706	10068	9777	11383	16155	23599	28092	26693	20448	15319
27	10282	9807	9828	10470	9811	11244	16414	23599	28078	26555	20247	15234
28	10095	9811	9713	9865	9845	11095	16754	23663	28035	26444	20029	15154
29	9882	9811	9516	9737	---	10852	17019	23765	28021	26334	19811	15075
30	9908	9794	9895	9757	---	10555	17173	23894	28021	26209	19592	14996
31	9929	---	11293	9764	---	10237	---	24068	---	26071	19384	---
MAX	15481	10431	11293	32229	9845	11517	17173	24068	28092	28078	25936	19167
MIN	9882	9659	9516	9622	9300	9636	9605	17276	24290	26071	19384	14996
a	5703.99	5703.59	5707.79	5703.50	5703.74	5704.88	5721.04	5732.93	5738.72	5735.94	5725.16	5716.60
b	-5743	-135	+1499	-1529	+81	+392	+6936	+6895	+3953	-1950	-6687	-4388

CAL YR 1996 MAX 33719 MIN 9500 b +1222
WTR YR 1997 MAX 32229 MIN 9300 b -676

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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. 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 ft³/s, Dec. 23, 1955, gage height, 10.13 ft, present datum, from rating curve extended above 910 ft³/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 ft³/s, July 18, 1961, result of work on dam upstream. Maximum discharge since construction of Prosser Creek Dam in 1963, 2,030 ft³/s, Jan. 3, 1997, gage height, 6.72 ft, from rating curve extended above 880 ft³/s on basis of valve setting at Prosser Creek Dam; minimum daily, 0.02 ft³/s, Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	10	41	92	119	112	328	193	102	56	77	103
2	93	10	41	179	118	113	221	197	100	56	77	89
3	94	10	42	1100	118	90	189	198	100	55	77	88
4	93	16	43	1560	118	77	190	199	91	55	77	92
5	93	21	252	1380	118	78	189	200	84	56	77	92
6	93	21	228	1380	118	79	188	199	84	56	89	92
7	93	21	91	1420	118	81	160	164	83	56	104	92
8	93	21	92	1160	119	82	145	125	83	56	110	92
9	93	21	91	925	119	83	147	117	83	56	109	92
10	92	21	172	894	106	108	126	117	71	56	109	92
11	92	20	167	924	93	122	107	117	58	70	109	92
12	92	20	270	942	93	134	107	117	58	86	109	92
13	91	20	461	1110	77	165	106	119	59	86	109	91
14	98	20	311	781	67	175	107	119	60	69	111	91
15	104	20	203	911	68	173	107	122	59	53	111	92
16	104	20	143	470	68	172	109	122	59	53	110	92
17	104	22	90	242	69	173	108	124	59	53	108	92
18	104	231	90	179	69	173	108	123	58	53	107	91
19	103	435	90	178	70	83	109	123	59	53	119	72
20	103	219	83	143	70	37	108	123	59	53	126	48
21	102	89	70	113	71	37	109	122	58	68	124	48
22	102	89	70	113	72	131	109	122	58	79	125	48
23	102	89	70	113	72	225	110	160	59	79	124	48
24	101	89	70	113	73	326	160	190	59	79	124	48
25	101	59	70	89	73	352	192	189	59	79	124	48
26	100	41	71	29	75	410	190	167	73	79	107	47
27	100	41	130	292	75	447	195	134	82	78	98	47
28	100	41	180	293	94	446	199	134	69	78	103	47
29	39	41	135	138	---	442	190	132	56	79	103	48
30	10	41	20	118	---	440	191	132	56	79	103	49
31	10	---	36	118	---	437	---	116	---	79	103	---
TOTAL	2792	1819	3923	17499	2520	6003	4604	4516	2098	2043	3263	2255
MEAN	90.1	60.6	127	564	90.0	194	153	146	69.9	65.9	105	75.2
MAX	104	435	461	1560	119	447	328	200	102	86	126	103
MIN	10	10	20	29	67	37	106	116	56	53	77	47
AC-FT	5540	3610	7780	34710	5000	11910	9130	8960	4160	4050	6470	4470

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 - 1997, BY WATER YEAR (WY)

MEAN	94.6	41.3	58.6	81.5	76.9	117	127	210	109	53.9	44.7	109
MAX	282	214	361	564	397	371	372	545	494	167	151	477
(WY)	1983	1982	1965	1997	1986	1986	1969	1983	1983	1985	1995	1983
MIN	5.41	6.84	5.32	7.96	17.5	27.1	21.7	17.2	8.39	6.33	2.55	1.96
(WY)	1989	1989	1989	1989	1991	1977	1977	1985	1966	1966	1994	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1964 - 1997

ANNUAL TOTAL	47942	53335	
ANNUAL MEAN	131	146	93.7
HIGHEST ANNUAL MEAN			214 1983
LOWEST ANNUAL MEAN			24.4 1977
HIGHEST DAILY MEAN	838 May 19	1560 Jan 4	1790 Feb 21 1986
LOWEST DAILY MEAN	10 Oct 30	10 Oct 30	.02 Jan 2 1975
ANNUAL SEVEN-DAY MINIMUM	12 Oct 30	12 Oct 30	.30 Apr 13 1977
INSTANTANEOUS PEAK FLOW		2030 Jan 3	2030 Jan 3 1997
INSTANTANEOUS PEAK STAGE		6.72 Jan 3	6.72 Jan 3 1997
ANNUAL RUNOFF (AC-FT)	95090	105800	67880
10 PERCENT EXCEEDS	284	209	223
50 PERCENT EXCEEDS	93	93	46
90 PERCENT EXCEEDS	20	47	9.0

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

WATER TEMPERATURE: June 1993 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: June 1993 to current year.

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, 27.0°C, Aug. 13–15, 1994; minimum recorded, 0.0°C, Jan. 26, 1997.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 19.0°C, Sept. 20; minimum recorded, 0.0°C, Jan. 26.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	15.0	12.5	6.0	6.0	4.0	3.5	2.5	2.0	1.0	3.0	1.5
2	16.5	15.0	12.5	6.0	5.5	4.0	2.5	1.0	2.0	1.0	3.0	2.0
3	16.5	15.0	12.0	6.0	5.5	4.0	1.5	1.0	2.0	1.0	3.5	1.5
4	16.5	15.0	10.5	6.0	5.0	4.0	1.5	1.0	2.0	1.5	4.0	1.5
5	16.5	15.0	10.5	6.5	4.5	4.5	1.5	1.5	2.0	1.0	4.0	1.5
6	16.5	14.5	10.5	6.0	4.5	3.5	1.5	1.5	2.0	1.0	4.0	1.5
7	16.0	14.5	10.5	6.0	4.5	3.5	1.5	1.5	2.5	1.0	4.0	1.5
8	16.5	14.5	10.5	6.0	5.0	4.0	1.5	1.5	2.0	1.0	4.0	2.0
9	16.5	14.5	10.0	6.0	4.0	4.0	1.5	1.5	2.0	1.5	4.5	2.0
10	16.0	14.5	10.5	6.0	4.0	3.5	1.5	1.5	2.5	1.0	4.0	2.0
11	16.0	14.5	10.5	6.5	4.0	3.5	1.5	1.5	2.5	1.0	3.5	2.0
12	15.5	14.5	10.5	6.0	4.0	3.5	1.5	1.5	2.5	1.0	3.5	2.0
13	15.5	14.0	10.5	6.5	3.5	3.5	1.5	1.5	3.0	1.0	3.5	2.0
14	15.5	14.0	9.0	6.0	4.0	3.5	1.5	1.5	3.0	1.0	3.5	2.5
15	15.0	13.5	8.5	6.0	4.0	3.5	1.5	1.5	3.0	1.0	3.5	2.5
16	15.0	13.5	7.5	6.0	4.0	3.5	1.5	1.5	3.0	1.5	3.5	2.5
17	14.5	13.0	8.0	6.5	4.0	3.0	2.0	1.5	3.5	1.0	4.0	2.5
18	14.5	13.0	7.5	7.0	4.0	3.0	2.0	1.5	3.5	1.5	4.0	2.5
19	14.0	12.5	7.0	6.5	4.5	3.0	2.0	1.5	3.5	1.5	8.0	3.0
20	13.0	11.5	7.5	6.0	4.0	2.5	2.0	1.0	3.5	1.5	8.0	3.0
21	13.0	11.5	6.5	6.0	3.5	2.5	2.0	1.5	3.5	1.5	7.0	3.0
22	12.5	11.5	6.5	6.0	3.5	2.5	1.5	1.5	3.5	1.5	4.5	3.0
23	12.5	11.0	6.5	5.5	4.5	3.0	2.0	1.5	3.5	1.5	4.5	3.0
24	13.0	11.5	6.5	5.5	4.0	3.0	2.0	1.0	3.5	1.5	4.0	3.5
25	11.5	10.5	7.0	5.0	4.5	3.0	2.0	1.0	3.5	1.5	4.0	3.5
26	11.0	10.0	7.0	5.0	4.0	3.5	3.5	1.0	3.5	2.0	4.0	3.5
27	11.0	9.5	7.0	4.5	4.0	3.0	2.0	1.0	3.0	1.5	4.0	3.5
28	10.0	9.0	6.5	5.0	4.0	3.5	2.0	1.0	3.5	1.5	4.5	4.0
29	9.5	8.0	6.5	4.5	4.0	2.0	2.0	1.5	---	---	5.0	4.0
30	10.5	7.5	6.0	4.5	5.0	1.5	2.0	1.5	---	---	5.5	4.5
31	11.5	6.5	---	---	5.0	3.0	2.0	1.5	---	---	5.5	4.5
MONTH	17.0	6.5	12.5	4.5	6.0	1.5	3.5	1.0	3.5	1.0	8.0	1.5

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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 mi².

PERIOD OF RECORD.—June 1993 to current year.

WATER TEMPERATURE: October 1993 to September 1994.

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

REMARKS.—Records fair including estimated daily discharge. 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, 3,980 ft³/s, Jan. 2, 1997, gage height, 12.50 ft from crest-stage gage; minimum daily, 1.5 ft³/s, Aug. 17–19, 29, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	7.6	40	e1920	e99	56	173	267	240	4.8	2.6	3.7
2	4.4	8.0	35	e2400	e96	54	147	260	212	5.6	2.7	3.7
3	4.4	7.6	34	e1460	e92	e53	138	254	191	6.9	3.0	3.7
4	4.1	7.3	36	e1160	e89	e53	132	298	353	6.8	3.3	3.2
5	4.1	6.7	251	e860	e85	e53	116	331	243	6.1	4.0	3.1
6	4.1	6.0	135	e560	e82	60	108	339	191	5.8	2.1	3.4
7	4.1	6.0	81	e260	e78	e64	104	351	167	6.0	2.6	3.4
8	4.1	6.1	82	254	e75	e66	102	371	162	6.4	3.4	3.1
9	4.0	6.2	112	215	e71	e68	96	418	153	6.0	3.2	3.1
10	4.0	6.4	107	194	e67	e70	83	474	135	5.5	4.7	3.2
11	4.0	6.6	102	174	e64	65	75	491	120	5.0	5.0	3.2
12	4.1	6.8	293	150	e60	65	72	494	106	4.3	3.2	3.2
13	4.1	6.9	269	125	56	62	78	493	103	4.3	3.3	3.2
14	4.2	7.0	199	130	55	66	93	465	119	4.7	3.2	3.2
15	4.3	6.9	147	e125	53	76	112	493	128	4.9	3.0	4.6
16	4.3	6.3	116	e120	53	86	145	452	110	4.6	3.2	4.2
17	4.3	54	94	e116	58	86	206	429	99	4.2	3.3	3.8
18	6.5	232	83	e111	56	85	269	430	89	4.5	3.3	3.9
19	7.1	121	78	108	58	109	519	396	73	4.0	3.3	5.5
20	5.5	110	66	105	e54	143	498	361	61	3.5	3.2	5.2
21	5.2	78	e70	102	e53	154	556	296	58	3.4	2.7	4.4
22	5.2	147	e70	89	e52	170	512	257	48	3.5	2.5	3.7
23	5.4	84	e70	e90	51	191	644	286	29	3.4	2.8	2.5
24	5.9	59	e70	e95	53	211	446	366	20	3.5	3.0	2.4
25	8.6	49	e70	e100	e52	224	348	309	15	3.5	2.8	2.3
26	7.3	41	e70	e103	50	258	349	264	12	3.2	2.7	2.8
27	6.7	35	e70	e105	54	300	419	254	8.8	3.8	2.7	3.3
28	6.8	33	e70	108	58	284	418	235	6.2	5.9	2.9	3.4
29	7.7	30	e70	107	---	250	331	e205	4.9	5.0	3.6	3.5
30	7.7	29	e100	106	---	237	298	e210	5.2	3.2	3.6	3.6
31	7.4	---	692	e103	---	211	---	250	---	2.9	3.6	---
TOTAL	163.8	1210.4	3782	11655	1824	3930	7587	10799	3262.1	145.2	98.5	105.5
MEAN	5.28	40.3	122	376	65.1	127	253	348	109	4.68	3.18	3.52
MAX	8.6	232	692	2400	99	300	644	494	353	6.9	5.0	5.5
MIN	4.0	6.0	34	89	50	53	72	205	4.9	2.9	2.1	2.3
AC-FT	325	2400	7500	23120	3620	7800	15050	21420	6470	288	195	209

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.45	14.3	46.1	115	78.5	107	184	386	284	85.7	9.81	4.20
MAX	7.50	40.3	122	376	183	179	253	555	821	345	31.9	6.48
(WY)	1994	1997	1997	1997	1996	1995	1997	1996	1995	1995	1995	1993
MIN	2.52	4.58	5.50	8.14	8.94	26.9	90.1	100	16.5	4.63	2.22	2.04
(WY)	1995	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1993 - 1997
ANNUAL TOTAL	44747.1	44562.5	
ANNUAL MEAN	122	122	111
HIGHEST ANNUAL MEAN			183
LOWEST ANNUAL MEAN			23.5
HIGHEST DAILY MEAN	1700	May 16	2400
LOWEST DAILY MEAN	2.3	Jul 21	1.5
ANNUAL SEVEN-DAY MINIMUM	2.6	Jul 19	2.7
INSTANTANEOUS PEAK FLOW			2.7
INSTANTANEOUS PEAK STAGE			Aug 21
ANNUAL RUNOFF (AC-FT)	88760	88390	80090
10 PERCENT EXCEEDS	353	318	302
50 PERCENT EXCEEDS	50	60	15
90 PERCENT EXCEEDS	3.6	3.3	3.2

e Estimated.

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 mi².

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, 17,700 acre-ft, Aug. 4, 1995, elevation, 6,949.51 ft; minimum, 4,750 acre-ft, Nov. 10, 11, 1988, elevation, 6,929.39 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 17,600 acre-ft, Jan. 2, elevation, 6,949.50 ft; minimum, 10,700 acre-ft, Feb. 6, elevation, 6,939.21 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14700	13700	13900	16500	11600	10900	11800	14600	16100	17000	16200	15000
2	14700	13700	13900	17600	11400	10900	11900	14700	16100	17000	16200	15000
3	14700	13700	13900	17500	11200	10900	11900	14800	16200	17000	16100	15000
4	14600	13600	13900	17100	11000	10900	11900	14900	16400	17000	16100	15000
5	14600	13600	14000	16800	10800	10900	12000	15100	16400	16900	16100	14900
6	14600	13600	14100	16500	10700	10900	12000	15200	16400	16900	16000	14900
7	14500	13500	14100	16300	10800	10900	12000	15400	16500	16900	16000	14800
8	14500	13500	14100	16000	10800	10900	12100	15500	16500	16900	16000	14800
9	14400	13500	14100	15800	10800	10900	12100	15700	16600	16800	15900	14800
10	14400	13500	14200	15600	10800	11000	12100	15900	16700	16800	15800	14800
11	14400	13400	14400	15400	10800	11000	12100	16200	16700	16800	15800	14700
12	14300	13400	14500	15100	10800	11000	12200	16400	16800	16800	15800	14700
13	14300	13400	14500	14900	10800	11000	12200	16600	16800	16700	15800	14600
14	14200	13300	14500	14700	10800	11000	12200	16700	16800	16700	15700	14600
15	14200	13300	14500	14500	10800	11000	12300	16700	16900	16700	15700	14600
16	14200	13300	14500	14300	10800	11100	12400	16700	17000	16600	15600	14600
17	14100	13600	14500	14000	10800	11100	12500	16600	17000	16600	15600	14500
18	14100	13800	14500	13800	10800	11100	12600	16600	17000	16600	15600	14400
19	14100	13900	14500	13600	10900	11100	12800	16600	17100	16600	15500	14500
20	14100	13900	14500	13400	10900	11200	13000	16500	17100	16500	15500	14400
21	14000	13900	14700	13300	10900	11200	13300	16500	17100	16500	15400	14400
22	13900	14000	14800	13300	10900	11200	13500	16400	17100	16500	15400	14400
23	13900	14000	14800	13100	10900	11300	13700	16300	17100	16400	15400	14400
24	13900	14000	14700	12900	10900	11300	13800	16200	17100	16400	15400	14300
25	13900	14000	14700	12800	10900	11400	13900	16100	17100	16400	15300	14300
26	13800	14000	14800	12800	10900	11500	14100	16000	17000	16400	15200	14200
27	13800	13900	14900	12500	10900	11600	14200	15900	17000	16300	15200	14200
28	13700	13900	14900	12400	10900	11600	14300	15800	17000	16300	15200	14200
29	13800	13900	14900	12200	---	11700	14400	15900	17000	16300	15200	14100
30	13800	13900	14900	12000	---	11800	14600	16000	17000	16300	15100	14000
31	13700	---	15000	11800	---	11800	---	16000	---	16300	15100	---
MAX	14700	14000	15000	17600	11600	11800	14600	16700	17100	17000	16200	15000
MIN	13700	13300	13900	11800	10700	10900	11800	14600	16100	16300	15100	14000
a	6943.80	6944.03	6945.69	6940.82	6939.47	6940.87	6945.03	6947.20	6948.55	6947.50	6945.82	6944.26
b	-1100	+200	+1100	-3200	-900	+900	+2800	+1400	+1000	-700	-1200	-1100

CAL YR 1996 MAX 17500 MIN 12300 b -200

WTR YR 1997 MAX 17600 MIN 10700 b -800

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 mi².

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. Flow regulated by Independence Lake (station 10342900) since 1939. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 325 ft³/s, Jan. 3, 1997, gage height, 6.17 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	19	19	204	114	11	13	16	53	21	18	16
2	20	19	19	216	112	11	12	16	53	21	18	16
3	20	19	19	282	111	11	12	16	54	21	18	16
4	20	19	19	295	110	11	12	16	56	21	18	16
5	20	19	22	255	108	11	12	16	55	21	18	16
6	20	19	21	222	58	11	12	16	54	21	18	16
7	20	19	20	189	11	11	12	16	40	21	18	16
8	20	18	20	169	11	11	13	15	29	21	18	16
9	20	18	21	166	11	11	13	15	27	21	18	16
10	20	19	21	163	11	11	12	16	27	21	18	16
11	20	19	21	160	11	11	12	15	27	21	18	16
12	20	19	23	156	11	11	13	17	27	21	18	16
13	20	19	22	155	11	11	13	35	27	21	18	16
14	20	19	21	151	11	11	13	85	27	21	18	16
15	20	19	21	145	11	11	14	137	27	21	18	16
16	20	19	21	142	11	11	14	134	27	21	18	16
17	20	20	20	140	11	11	15	133	26	20	18	16
18	20	21	20	137	11	11	16	132	26	20	18	16
19	19	20	20	134	11	12	17	131	26	20	17	16
20	19	20	20	132	11	12	17	129	26	20	17	15
21	19	20	21	129	11	12	17	128	26	20	17	15
22	19	20	21	126	11	12	16	127	26	20	17	15
23	19	20	21	127	11	12	18	127	26	20	17	15
24	19	20	21	126	11	13	16	126	26	20	17	19
25	19	20	21	128	11	13	16	125	26	20	17	21
26	19	20	21	128	11	13	17	124	26	20	17	21
27	19	19	21	124	11	14	17	123	23	20	17	21
28	19	19	21	122	11	13	17	82	22	19	16	21
29	19	19	87	120	---	13	16	53	22	19	16	21
30	19	19	174	119	---	13	16	53	21	18	16	21
31	19	---	179	116	---	13	---	53	---	18	16	---
TOTAL	607	579	1018	4978	855	363	433	2227	958	630	541	509
MEAN	19.6	19.3	32.8	161	30.5	11.7	14.4	71.8	31.9	20.3	17.5	17.0
MAX	20	21	179	295	114	14	18	137	56	21	18	21
MIN	19	18	19	116	11	11	12	15	21	18	16	15
AC-FT	1200	1150	2020	9870	1700	720	859	4420	1900	1250	1070	1010

10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.6	22.1	12.2	13.5	11.7	15.0	19.1	43.1	55.1	27.0	20.5	21.4
MAX	45.8	97.6	58.2	161	58.0	94.5	72.9	112	188	89.2	114	133
(WY)	1976	1984	1982	1997	1986	1996	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1968 - 1997

ANNUAL TOTAL	13509.8		13698									
ANNUAL MEAN	36.9		37.5							23.0		
HIGHEST ANNUAL MEAN										46.7		1983
LOWEST ANNUAL MEAN										7.63		1989
HIGHEST DAILY MEAN												
LOWEST DAILY MEAN				179	Dec 31		295	Jan 4		295	Jan 4	1997
ANNUAL SEVEN-DAY MINIMUM				9.9	Aug 11		11	Feb 7		.02	Sep 26	1973
INSTANTANEOUS PEAK FLOW				10	Aug 7		11	Feb 7		.02	Sep 26	1973
INSTANTANEOUS PEAK STAGE							325	Jan 3		325	Jan 3	1997
ANNUAL RUNOFF (AC-FT)							6.17	Jan 3		8.16	Apr 16	1993
10 PERCENT EXCEEDS	26800						27170			16680		
50 PERCENT EXCEEDS	79						126			62		
90 PERCENT EXCEEDS	23						19			10		
	16						11			2.0		

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 mi².

PERIOD OF RECORD.—October 1953 to current year.

PRECIPITATION DATA: Water years 1990–96.

CHEMICAL DATA: Water years 1968–72, 1986–96.

WATER TEMPERATURE: Water years 1970–74.

SEDIMENT DATA: Water years 1968–75, 1981–96.

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 good including estimated periods. No storage or diversion upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,230 ft³/s, Jan. 1, 1997, gage height, 5.20 ft, from poor high-water mark on gage house. Rating curve extended above 160 ft³/s on basis of slope-area measurement at gage height 4.28 ft; minimum daily, 1.0 ft³/s, Sept. 13, 1960.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0215	61	2.78	Jan. 1	Unknown	1,230	a5.20
Dec. 5	0545	80	2.95	Mar. 26	1645	60	2.81
Dec. 12	0700	87	3.00	Apr. 23	0330	113	3.21

a From poor high-water mark on gage house.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.9	e4.5	e800	17	8.8	33	56	24	7.7	3.3	3.1
2	2.8	3.9	e4.6	e750	17	8.8	31	51	22	7.2	3.2	3.2
3	2.8	3.9	4.7	237	16	8.5	31	49	24	6.8	3.1	3.2
4	2.7	3.8	6.6	143	15	e8.5	31	50	36	6.5	3.0	3.2
5	2.7	3.6	45	99	14	8.5	29	49	26	6.2	2.9	3.1
6	2.7	3.4	13	76	14	8.4	27	49	22	5.9	2.9	3.1
7	2.6	3.5	10	66	13	8.7	27	48	20	5.6	2.8	3.2
8	2.6	3.5	12	51	13	9.0	28	48	22	5.5	2.8	3.2
9	2.6	3.6	14	44	13	9.3	27	50	23	5.3	2.8	3.2
10	2.6	3.7	14	39	12	11	25	51	20	5.1	2.8	3.2
11	2.8	3.7	22	37	12	12	25	51	18	5.1	2.9	3.3
12	2.8	3.7	58	34	12	12	24	52	17	5.0	2.9	3.2
13	2.9	3.7	28	34	11	11	26	52	18	4.8	3.0	3.2
14	2.8	3.6	18	e30	11	12	30	51	20	4.6	2.9	3.4
15	2.9	3.7	14	e25	11	14	34	49	18	4.4	2.8	4.2
16	2.9	3.6	12	18	11	15	38	47	16	4.4	2.9	3.6
17	3.0	22	11	17	11	15	43	46	14	4.3	2.9	3.4
18	3.6	29	9.8	16	10	17	55	45	13	4.3	3.0	3.3
19	3.6	14	9.0	15	10	21	81	43	12	4.2	3.0	4.0
20	3.3	10	8.3	e14	10	26	75	40	11	4.0	3.3	3.7
21	3.2	8.7	e8.3	e13	10	27	90	37	11	3.9	3.0	3.6
22	3.3	13	e8.3	11	9.9	31	77	35	10	3.8	2.7	3.5
23	3.3	8.6	e8.3	e11	9.7	34	90	37	9.8	3.8	2.8	3.4
24	3.6	7.3	e8.3	12	9.3	37	70	33	9.3	3.9	3.0	3.4
25	4.0	6.5	e8.3	e14	9.2	37	65	30	8.8	3.9	3.1	3.5
26	3.7	5.8	e8.3	e15	9.4	44	65	27	8.3	3.8	3.1	3.5
27	3.6	5.2	e8.5	16	9.3	47	74	25	7.8	3.7	3.0	3.5
28	3.6	5.2	e8.5	16	9.0	44	69	24	7.5	3.9	3.0	3.5
29	3.8	4.7	22	18	---	41	63	24	7.4	3.8	3.0	3.5
30	3.9	4.5	53	18	---	42	59	23	8.0	3.4	3.0	3.5
31	3.9	---	139	17	---	38	---	23	---	3.3	3.0	---
TOTAL	97.3	203.3	599.3	2706	328.8	666.5	1442	1295	483.9	148.1	91.9	101.9
MEAN	3.14	6.78	19.3	87.3	11.7	21.5	48.1	41.8	16.1	4.78	2.96	3.40
MAX	4.0	29	139	800	17	47	90	56	36	7.7	3.3	4.2
MIN	2.6	3.4	4.5	11	9.0	8.4	24	23	7.4	3.3	2.7	3.1
AC-FT	193	403	1190	5370	652	1320	2860	2570	960	294	182	202

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.44	5.11	7.39	8.89	8.41	10.8	24.7	43.6	25.1	7.23	3.11	2.70
MAX	11.9	27.7	44.0	87.3	51.0	50.1	51.6	117	142	37.4	11.8	7.56
(WY)	1963	1984	1965	1997	1963	1986	1986	1969	1983	1983	1983	1983
MIN	1.46	1.83	2.03	1.81	2.54	2.74	6.13	3.45	1.82	1.36	1.20	1.11
(WY)	1995	1993	1977	1962	1994	1962	1975	1988	1992	1994	1994	1960

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1954 - 1997	
ANNUAL TOTAL	6969.8		8164.0			
ANNUAL MEAN	19.0		22.4		12.6	
HIGHEST ANNUAL MEAN					30.0	
LOWEST ANNUAL MEAN					2.65	
HIGHEST DAILY MEAN	263	May 16	800	Jan 1	800	Jan 1 1997
LOWEST DAILY MEAN	2.5	Aug 31	2.6	Oct 7	1.0	Sep 13 1960
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 30	2.6	Oct 4	1.1	Sep 9 1960
INSTANTANEOUS PEAK FLOW			1230	Jan 1	1230	Jan 1 1997
INSTANTANEOUS PEAK STAGE			5.20	Jan 1	5.20	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	13820		16190		9090	
10 PERCENT EXCEEDS	54		49		33	
50 PERCENT EXCEEDS	8.3		9.4		4.4	
90 PERCENT EXCEEDS	2.8		3.0		1.9	

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 mi².

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 most days. 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, 240,387 acre-ft, Jan. 5, elevation, 5,952.66 ft; minimum observed, 181,502 acre-ft, Sept. 30, elevation, 5,934.81 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200495	199789	203430	211290	203592	193506	204046	200014	198223	192688	185365	182652
2	200431	199757	203462	230622	202492	193537	203722	199597	197681	192217	185243	182591
3	200399	199789	203430	237578	201460	193380	203786	199085	197119	191778	185120	182561
4	200399	199789	203203	239924	200463	193254	203851	198638	196578	191402	185029	182531
5	200367	199789	203948	240387	199341	193097	203754	198159	196387	190965	184906	182500
6	200335	199725	204273	239852	198159	193191	203624	197776	195974	190497	184845	182470
7	200303	199693	204111	237826	196992	193254	203495	197407	195561	190029	184753	182440
8	200270	199693	203916	235317	196037	193317	203559	197056	195085	189594	184662	182379
9	200270	199725	203819	231563	194990	193348	203462	196769	194674	189159	184570	182349
10	200238	199789	204046	228052	194010	193474	202815	196578	194547	189376	184417	182319
11	200206	199789	203916	224537	193853	193695	201911	196482	194516	189034	184234	182228
12	200174	199757	204468	220375	193916	193979	200913	196387	194358	188786	184204	182167
13	200174	199789	204728	215956	193916	194231	200014	196450	194231	188538	184112	182167
14	200078	199821	204143	211290	193947	194421	199085	196610	194358	188291	184082	182107
15	200078	199853	204013	206945	193947	194801	198159	196833	194611	188012	184021	181985
16	200046	199853	204046	205281	194010	195276	197438	197247	194801	187765	183960	181895
17	199982	199982	203948	205184	194168	195751	196737	197904	194990	187549	183838	181895
18	200014	200624	203754	204955	194137	196260	196228	198414	195022	187240	183716	181834
19	199982	201202	203948	204728	194231	196833	195974	198925	195149	187024	183625	181864
20	199918	201589	204143	204500	194168	197566	196260	199341	195307	186747	183625	181774
21	199821	201847	204238	204500	194074	198382	196514	199853	195402	186501	183472	181713
22	199821	202201	204825	204565	194042	199341	197088	200303	195466	186286	183381	181713
23	199853	202557	204760	204630	193979	200559	197502	200399	195497	186194	183351	181683
24	199853	202750	204500	204273	193790	201847	198606	200559	195244	186009	183260	181683
25	199853	202880	204262	204208	193727	203203	199213	200720	194990	185917	183138	181713
26	199821	202944	204241	205151	193758	204370	199693	200688	194642	185856	183047	181653
27	199789	203009	204630	205835	193758	205183	200270	200399	194326	185764	182925	181592
28	199725	203139	204078	205639	193727	205444	200688	200142	193916	185733	182834	181532
29	199757	203203	203430	204825	---	205087	200656	199661	193506	185703	182773	181532
30	199886	203236	204143	204533	---	204728	200367	199181	193097	185611	182743	181502
31	199886	---	206063	204500	---	204176	---	198638	---	185488	182713	---
MAX	200495	203236	206063	240387	203592	205444	204046	200720	198223	192688	185365	182652
MIN	199725	199693	203203	204208	193727	193097	195974	196387	193097	185488	182713	181502
a	5940.70	5941.74	5942.61	5942.13	5938.77	5942.03	5940.85	5940.31	5938.57	5936.12	5935.21	5934.81
b	-641	+3350	+2827	-1563	-10773	+10449	-3809	-1729	-5541	-7609	-2775	-1211

WTR YR 1997 MAX 240387 MIN 181502 b -19025

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 Jan. 2 to June 10, which are poor. 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 ft³/s, Feb. 1, 1963, gage height, 9.00 ft, from rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft³/s, Sept. 16–21, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	30	32	311	582	206	485	511	464	239	65	32
2	31	30	67	2210	582	206	437	511	464	258	65	32
3	31	30	123	1880	582	204	401	509	464	258	65	32
4	31	30	140	822	582	204	398	502	464	258	65	31
5	31	30	244	843	582	163	398	502	457	258	65	31
6	31	30	286	1200	582	130	398	501	441	258	65	31
7	31	30	226	1630	548	131	349	501	433	258	65	31
8	31	30	226	2220	523	133	353	503	433	258	65	31
9	31	30	225	2340	523	135	481	504	348	258	65	31
10	31	30	321	2180	341	140	522	504	259	217	65	31
11	31	30	309	2410	167	145	539	504	258	154	55	30
12	31	30	350	2590	137	145	539	492	259	139	46	30
13	31	30	595	2590	136	143	539	465	203	139	46	30
14	31	30	449	2560	144	146	539	452	120	139	46	30
15	31	30	227	1430	151	152	539	438	118	139	45	30
16	31	30	226	544	152	155	539	410	117	139	45	30
17	31	33	218	421	155	158	539	395	117	139	45	30
18	31	33	133	439	154	161	539	393	88	139	45	31
19	31	33	20	439	178	166	539	393	56	139	45	32
20	31	31	83	414	205	169	540	318	44	139	41	32
21	31	32	196	393	205	170	530	264	43	117	35	32
22	31	34	196	421	205	121	511	336	43	92	46	31
23	31	32	194	457	206	87	448	404	105	92	47	31
24	31	32	206	484	205	86	392	404	211	78	46	31
25	31	32	221	361	206	128	389	404	211	66	46	32
26	31	32	224	53	207	292	387	421	211	65	46	31
27	31	32	370	248	208	508	407	452	211	66	46	31
28	31	32	482	508	e200	575	480	464	211	65	39	31
29	31	31	397	479	---	605	511	471	211	65	33	31
30	30	31	68	394	---	605	511	471	211	65	32	31
31	30	---	103	487	---	543	---	467	---	65	32	---
TOTAL	959	930	7157	33758	8648	6912	14179	13866	7275	4761	1557	930
MEAN	30.9	31.0	231	1089	309	223	473	447	243	154	50.2	31.0
MAX	31	34	595	2590	582	605	540	511	464	258	65	32
MTN	30	30	20	53	136	86	349	264	43	65	32	30
AC-FT	1900	1840	14200	66960	17150	13710	28120	27500	14430	9440	3090	1840

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
LOWEST ANNUAL MEAN	58.9
HIGHEST DAILY MEAN	8810
LOWEST DAILY MEAN	3.0
ANNUAL SEVEN-DAY MINIMUM	4.0
INSTANTANEOUS PEAK FLOW	13300
INSTANTANEOUS PEAK STAGE	9.00
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 - 1997, BY WATER YEAR (WY)

MEAN	77.3	42.6	75.1	111	84.1	136	306	550	339	169	114	54.9
MAX	503	132	711	1089	400	418	923	1371	1733	1301	573	359
(WY)	1974	1975	1984	1997	1996	1996	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1969 - 1997

ANNUAL TOTAL	94412	100932	
ANNUAL MEAN	258	277	172
HIGHEST ANNUAL MEAN			427
LOWEST ANNUAL MEAN			53.4
HIGHEST DAILY MEAN	806	May 28	2590
LOWEST DAILY MEAN	20	Dec 19	20
ANNUAL SEVEN-DAY MINIMUM	30	Oct 30	30
INSTANTANEOUS PEAK FLOW			3850
INSTANTANEOUS PEAK STAGE			5.26
ANNUAL RUNOFF (AC-FT)	187300	200200	124700
10 PERCENT EXCEEDS	602	539	491
50 PERCENT EXCEEDS	225	154	44
90 PERCENT EXCEEDS	31	31	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 mi².

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, 39,272 acre-ft, June 21, elevation, 5,603.35 ft; minimum, 10,733 acre-ft, Dec. 5, elevation, 5,564.30 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19492	14163	11907	24306	26048	25891	32109	34898	34609	35761	37239	33911
2	19289	14220	11421	29193	25812	25851	32153	34988	34537	35638	37053	33689
3	19021	14278	11020	36932	25773	25851	31568	35034	34537	35716	36913	33467
4	18788	14335	10822	39109	25930	25851	31720	35079	34623	35944	36774	33246
5	18550	14392	10733	39234	25851	25812	31850	35124	34762	36128	36635	32982
6	18304	14450	11471	38272	25616	25851	31936	35124	34943	36312	36543	32763
7	18053	14508	12011	37295	25694	25891	32066	35169	35124	36497	36453	32588
8	17807	14565	12484	36802	25734	25930	32153	35215	35260	36728	36404	32370
9	17550	14623	12967	36423	25812	25969	32240	35260	35807	37006	36404	32240
10	17295	14681	13517	35835	25891	26048	32283	35169	36312	37379	36404	32066
11	17011	14739	14421	34242	25969	26166	32414	35079	36821	37613	36358	31893
12	16760	14798	15268	34466	25891	26325	32632	35034	37286	37660	36312	31763
13	16511	14856	16326	34143	25734	26643	32851	35034	37801	37660	36220	31720
14	16234	14915	17295	34492	25710	26763	33070	35079	38027	37660	36128	31657
15	15996	14973	17486	34045	25734	27164	33246	35169	38377	37660	36036	31612
16	15747	15032	17486	31699	25734	27609	33467	35306	38604	37754	35944	31568
17	15489	15120	17390	31612	25773	28058	33644	35442	38794	37801	35853	31568
18	15239	15209	17200	31091	25812	28511	33822	35533	39033	37848	35761	31533
19	14856	15268	16604	30574	25875	28968	34000	35716	39176	37942	35624	31533
20	14479	15358	16667	30062	25891	29596	34224	35899	39224	37989	35533	31446
21	14107	15239	17042	29428	25891	30190	34358	35899	39272	38036	35442	31394
22	13937	15091	17518	28735	25891	30832	34853	35716	39080	38036	35306	31351
23	13880	14944	17968	28346	25891	31307	35079	35533	38557	37989	35215	31264
24	13824	14769	18392	28223	25851	31720	35169	35306	38178	37889	35123	31307
25	13768	14594	18881	27132	25851	32196	35215	35079	37989	37942	35034	31351
26	13796	14278	19323	27447	25891	32196	35260	34853	37707	37848	34943	31351
27	13880	13880	19893	27772	25891	32283	35215	34762	37211	37754	34853	31351
28	13937	13433	20940	27748	25891	32370	34853	34762	36728	37660	34672	31351
29	13993	12940	21792	27310	---	32023	34853	34762	36358	37567	34492	31394
30	14050	12404	22553	26364	---	32109	34853	34708	35990	37473	34313	31394
31	14107	---	23068	26404	---	32196	---	34654	---	37379	34134	---
MAX	19492	15358	23068	39234	26048	32370	35260	35899	39272	38036	37239	33911
MIN	13768	12404	10733	24306	25616	25812	31568	34654	34537	35638	34134	31264
a	5570.60	5567.50	5584.30	5588.65	5588.00	5595.60	5598.60	5598.38	5599.85	5601.35	5597.80	5594.65
b	-5724	-1703	+10664	+3336	-513	+6305	+2657	-199	+1336	+1389	-3245	-2740

WTR YR 1997 MAX 39272 MIN 10733 b +11563

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 flow less than 5 ft³/s, 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 ft³/s, Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	.07	283	e1.0	1040	242	759	681	639	309	122	120
2	182	.06	281	e2.0	1040	243	674	684	638	252	122	136
3	155	.06	257	300	890	244	462	685	604	193	122	144
4	148	.06	235	1510	954	244	386	686	553	146	125	144
5	148	.06	90	1990	1020	189	386	688	503	146	116	140
6	148	.06	.12	2370	918	157	386	690	452	146	102	115
7	153	.06	.07	2460	751	158	331	692	433	127	87	115
8	156	.06	.06	2520	680	158	333	693	382	105	69	108
9	156	.06	.04	2530	681	158	556	732	98	89	63	103
10	155	.06	12	2490	402	158	657	757	1.0	61	70	103
11	154	.06	.19	2510	232	158	675	758	1.0	81	75	103
12	154	.06	.20	2500	232	82	675	695	1.0	125	75	86
13	153	.06	91	2450	182	32	675	600	1.1	125	74	e63
14	152	.06	242	2490	152	32	676	527	.87	125	74	e55
15	152	.06	243	2430	153	32	678	473	.79	110	79	e42
16	152	.06	242	1120	154	33	679	403	.80	100	84	e30
17	152	.13	287	661	154	33	680	356	.82	100	84	e27
18	191	.19	311	779	155	26	682	329	.86	100	84	e27
19	217	.14	102	777	196	2.3	684	316	.95	100	84	49
20	215	55	.08	774	234	2.4	685	277	.94	100	83	62
21	157	105	.13	771	234	2.4	540	329	27	101	83	54
22	67	115	.10	769	236	2.5	473	472	212	107	83	54
23	55	115	.06	766	237	2.4	495	560	337	111	83	35
24	55	115	.04	1030	237	2.1	385	558	323	102	83	21
25	37	163	.04	623	239	91	385	556	348	106	83	21
26	.12	224	.06	1.2	239	325	411	556	409	111	96	21
27	.06	255	.16	294	241	657	578	556	453	111	115	21
28	.06	263	.09	800	242	997	676	609	443	112	120	21
29	.07	276	.29	1040	---	1110	679	640	391	112	120	29
30	.08	285	.32	647	---	1110	680	640	339	112	120	35
31	.08	---	.65	770	---	908	---	640	---	118	120	---
TOTAL	3606.47	1972.43	2678.70	40175.2	12125	7591.1	17021	17838	7594.13	3843	2900	2084
MEAN	116	65.7	86.4	1296	433	245	567	575	253	124	93.5	69.5
MAX	217	285	311	2530	1040	1110	759	758	639	309	125	144
MIN	.06	.06	.04	1.0	152	2.1	331	277	.79	61	63	21
AC-FT	7150	3910	5310	79690	24050	15060	33760	35380	15060	7620	5750	4130

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
LOWEST ANNUAL MEAN	94.7
HIGHEST DAILY MEAN	2360
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
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)

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	1958	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
LOWEST ANNUAL MEAN	65.8
HIGHEST DAILY MEAN	5520
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	8800
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 - 1997, BY WATER YEAR (WY)

MEAN	107	72.2	91.7	124	92.4	130	275	482	315	203	156	108
MAX	441	327	568	1296	433	522	975	1148	1788	1131	585	418
(WY)	1972	1984	1984	1997	1997	1996	1986	1985	1983	1983	1975	1971
MIN	.000	.020	.11	.001	1.60	.13	.39	.31	2.63	.75	13.6	.55
(WY)	1995	1991	1978	1995	1995	1995	1988	1988	1977	1981	1984	1970

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1970 - 1997

ANNUAL TOTAL	104114.23	119429.03	
ANNUAL MEAN	284	327	180
HIGHEST ANNUAL MEAN			470
LOWEST ANNUAL MEAN			55.6
HIGHEST DAILY MEAN	1210	Feb 21	2530
LOWEST DAILY MEAN	.04	Dec 9	.04
ANNUAL SEVEN-DAY MINIMUM	.06	Nov 2	.06
INSTANTANEOUS PEAK FLOW			2720
INSTANTANEOUS PEAK STAGE			6.14
ANNUAL RUNOFF (AC-FT)	206500	236900	130500
10 PERCENT EXCEEDS	690	753	470
50 PERCENT EXCEEDS	209	152	80
90 PERCENT EXCEEDS	.12	.15	.50

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

WATER TEMPERATURE: April 1993 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: April 1993 to current year.

INSTRUMENTATION.—Water-temperature recorder since April 1993.

REMARKS.—Water temperature is affected by regulation from Boca Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, June 20, 1997; minimum recorded, 2.0°C, Nov. 26, 1994, Mar. 22, 23, 1995, Jan. 28, 29, 1996, Jan. 6, 1997.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, June 20; minimum recorded, 2.0°C, Jan. 6.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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 mi².

PERIOD OF RECORD.—April 1993 to current year.

WATER TEMPERATURE: April 1993 to September 1994.

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

REMARKS.—Records poor. No storage or diversion upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 261 ft³/s, Jan. 2, 1997, gage height, 4.74 ft, maximum gage height, 5.71 ft, May 12, 1997; minimum daily, 2.8 ft³/s, several days in 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 40 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 2	0945	261	4.74	June 4	0615	65	5.48
May 12	1745	86	a5.71				

a Control enhanced by road grader.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	7.6	e5.8	105	10	5.8	26	40	34	19	12	6.7
2	6.9	7.6	e6.0	149	9.1	5.9	25	40	30	20	12	8.1
3	6.9	7.6	e6.5	126	9.7	5.7	24	42	30	23	12	8.2
4	6.9	7.4	7.1	87	12	e5.7	23	47	50	20	12	7.5
5	6.9	6.9	12	46	11	e5.8	22	50	45	19	11	7.2
6	6.7	7.2	9.1	31	12	5.8	21	52	41	18	11	6.5
7	6.7	7.4	8.5	20	13	5.6	21	56	39	17	10	5.5
8	6.7	7.5	9.1	10	12	6.1	20	60	37	17	10	5.5
9	6.7	7.4	8.7	e10	12	6.6	21	62	35	17	10	4.8
10	6.8	7.3	9.6	e9.0	11	8.1	20	62	32	17	10	5.0
11	6.9	7.4	10	e8.0	11	9.3	19	65	31	17	10	5.2
12	6.9	7.3	12	e9.0	10	8.8	19	69	29	16	9.9	5.1
13	6.9	7.4	9.9	e8.0	10	7.6	19	69	26	15	9.6	5.0
14	6.8	7.2	9.0	e8.0	10	8.7	20	64	39	14	10	5.8
15	7.0	7.1	9.2	e9.0	11	10	21	47	30	14	8.8	6.7
16	7.1	6.9	8.4	e9.0	11	11	21	45	26	14	8.6	6.5
17	7.1	12	8.3	e9.0	10	12	26	45	25	14	8.8	6.4
18	7.5	14	e8.1	e9.0	9.0	13	30	45	23	14	8.4	6.5
19	7.5	9.6	e8.0	e9.0	8.8	14	40	44	23	14	7.6	8.4
20	6.9	8.8	7.9	e10	8.7	15	44	45	23	14	7.5	7.5
21	6.9	9.2	e8.0	e10	9.0	16	52	42	21	14	7.4	6.5
22	7.6	10	e8.0	e11	9.0	18	49	40	20	14	7.3	6.0
23	7.5	8.4	e8.0	e11	7.9	21	48	37	19	14	7.9	6.0
24	7.6	7.9	e8.0	e12	8.2	23	45	34	18	14	9.9	5.8
25	7.6	7.3	8.2	e12	9.2	24	45	32	18	14	7.4	6.3
26	7.4	6.5	8.8	e12	9.5	30	49	31	17	14	8.0	6.1
27	7.5	6.5	9.0	e12	10	32	55	29	17	14	7.9	6.1
28	7.7	5.8	8.4	11	7.9	30	52	30	17	14	7.8	5.9
29	7.7	5.3	14	9.9	---	29	49	34	18	13	7.6	6.0
30	7.7	e5.5	16	11	---	29	46	36	18	13	7.0	6.0
31	7.6	---	25	12	---	29	---	33	---	13	6.6	---
TOTAL	221.5	234.0	294.6	804.9	282.0	451.5	972	1427	831	484	284.0	188.8
MEAN	7.15	7.80	9.50	26.0	10.1	14.6	32.4	46.0	27.7	15.6	9.16	6.29
MAX	7.7	14	25	149	13	32	55	69	50	23	12	8.4
MIN	6.7	5.3	5.8	8.0	7.9	5.6	19	29	17	13	6.6	4.8
AC-FT	439	464	584	1600	559	896	1930	2830	1650	960	563	374

e Estimated.

10345700 BRONCO CREEK AT FLORISTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.14	6.84	7.38	10.9	8.09	10.6	19.2	36.6	34.9	26.5	10.7	7.40
MAX	9.84	8.24	9.70	26.0	10.7	14.6	32.4	56.3	62.2	73.7	23.0	13.6
(WY)	1996	1996	1996	1997	1996	1997	1997	1996	1995	1995	1995	1995
MIN	4.08	5.34	4.66	4.81	5.31	5.87	8.63	11.7	6.81	4.05	3.25	3.13
(WY)	1995	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1993 - 1997

ANNUAL TOTAL	6222.2	6475.3	
ANNUAL MEAN	17.0	17.7	15.6
HIGHEST ANNUAL MEAN			21.3
LOWEST ANNUAL MEAN			6.06
HIGHEST DAILY MEAN	140	May 16	152
LOWEST DAILY MEAN	5.3	Nov 29	4.8
ANNUAL SEVEN-DAY MINIMUM	5.9	Nov 26	5.2
INSTANTANEOUS PEAK FLOW			261
INSTANTANEOUS PEAK STAGE			a5.71
ANNUAL RUNOFF (AC-FT)	12340	12840	11300
10 PERCENT EXCEEDS	44	42	41
50 PERCENT EXCEEDS	9.6	10	9.0
90 PERCENT EXCEEDS	6.9	6.5	4.5

a Control enhanced by road grader.

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 mi².

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 ft³/s, Nov. 21, 1950, gage height, 14.5 ft, present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 37 ft³/s, Sept. 15, 1933.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431	389	581	10600	4270	2800	1950	1790	1460	759	578	572
2	427	386	562	12400	4230	2790	1680	1760	1400	739	576	576
3	403	384	532	7520	4030	2750	1370	1760	1320	697	573	581
4	395	387	503	8070	4040	2710	1240	1820	1550	679	573	584
5	393	389	1260	7980	4070	2660	1220	1870	1380	671	595	596
6	394	387	886	8280	3920	2620	1200	1870	1190	663	588	562
7	395	400	547	8410	3720	2620	1110	1840	1130	644	591	559
8	397	400	530	8230	3640	2630	1060	1780	1100	616	582	552
9	396	401	560	7830	3600	2640	1300	1820	1240	596	563	546
10	395	407	728	7380	3330	2680	1370	1920	1420	558	567	545
11	393	406	816	7320	3100	2740	1340	1970	1340	577	579	551
12	389	404	2420	7270	3070	2690	1330	1970	1440	648	580	555
13	388	402	3220	7290	2980	2650	1330	1880	1140	643	578	563
14	389	403	3220	7410	2920	2670	1360	1760	1300	623	570	560
15	397	405	3000	7000	2910	2710	1410	1720	1540	585	566	553
16	395	403	2890	5190	2900	2740	1480	1630	1660	568	564	548
17	393	553	2850	4230	2920	2740	1560	1560	1690	563	563	537
18	421	1350	2760	4270	2880	2170	1650	1510	1710	561	567	535
19	510	838	2360	4220	2910	998	2090	1450	1690	557	575	557
20	547	784	1580	4180	2920	788	2090	1300	1500	553	582	552
21	504	542	2120	4090	2910	799	2170	1230	1050	560	580	535
22	415	753	2370	4040	2890	909	1900	1300	1040	584	575	533
23	402	620	2450	4090	2870	1080	2000	1410	987	591	572	515
24	405	554	2530	4240	2840	1260	1710	1450	940	589	576	497
25	412	535	2510	4100	2810	1380	1640	1360	863	582	576	509
26	381	542	2540	3500	2810	1710	1650	1310	923	585	573	519
27	394	553	2760	3870	2810	2160	1920	1250	878	584	569	496
28	401	556	2730	4300	2800	2450	2030	1350	844	583	577	489
29	423	552	2940	4360	---	2500	1900	1440	831	579	577	493
30	389	551	3730	3940	---	2450	1840	1500	809	577	576	461
31	394	---	5230	3960	---	2280	---	1510	---	578	575	---
TOTAL	12768	15636	63715	189570	91100	68774	47900	50090	37365	18892	17836	16231
MEAN	412	521	2055	6115	3254	2219	1597	1616	1246	609	575	541
MAX	547	1350	5230	12400	4270	2800	2170	1970	1710	759	595	596
MIN	381	384	503	3500	2800	788	1060	1230	809	553	563	461
AC-FT	25330	31010	126400	376000	180700	136400	95010	99350	74110	37470	35380	32190

10346000 TRUCKEE RIVER AT FARAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	381	422	538	606	657	793	1273	1724	1257	651	508	462
MAX	982	2469	3596	6115	3254	4073	3887	5674	5214	2921	1084	1482
(WY)	1972	1984	1984	1997	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1909 - 1997	
ANNUAL TOTAL	470272		629877			
ANNUAL MEAN	1285		1726		765	
HIGHEST ANNUAL MEAN					2443	
LOWEST ANNUAL MEAN					184	
HIGHEST DAILY MEAN	6260		May 18		13400	
LOWEST DAILY MEAN	270		Jan 9		37	
ANNUAL SEVEN-DAY MINIMUM	277		Jan 4		40	
INSTANTANEOUS PEAK FLOW			14900		17500	
INSTANTANEOUS PEAK STAGE			13.13		14.50	
ANNUAL RUNOFF (AC-FT)	932800		1249000		554500	
10 PERCENT EXCEEDS	2530		3890		1700	
50 PERCENT EXCEEDS	805		1190		504	
90 PERCENT EXCEEDS	389		406		195	

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 1993 to current year.

WATER TEMPERATURE: Water years 1964–81, July 1993 to current year.

SUSPENDED SEDIMENT: Water years 1974, 1978.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: January 1964 to September 1980, July 1993 to current year.

WATER TEMPERATURE: January 1964 to September 1981, July 1993 to current year.

INSTRUMENTATION.—Water-quality monitor since July 1993.

REMARKS.—Water temperature and specific conductance are affected by upstream reservoirs and several powerplants.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum daily recorded, 377 micromhos, Dec. 27, 1979; minimum daily recorded, 30 microsiemens, Jan. 1, 1997.

WATER TEMPERATURE: Maximum recorded, 23.0°C, Aug. 5, 1994; minimum recorded, –0.5°C, Nov. 25, 1993.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 135 microsiemens, Nov. 10; minimum recorded, 30 microsiemens, Jan. 1.

WATER TEMPERATURE: Maximum recorded, 20.5°C, Aug. 6–8; minimum recorded, 2.0°C, Jan. 14, 22, 23.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	105	90	130	113	88	83	48	30	90	89	96	90
2	102	89	124	114	87	83	60	31	89	87	96	89
3	104	91	124	113	88	85	67	60	88	87	95	91
4	105	92	118	113	89	88	64	58	88	87	96	91
5	107	96	119	113	96	61	60	58	87	86	98	92
6	105	92	116	112	96	71	60	58	87	86	104	92
7	104	93	124	112	101	96	61	59	88	87	109	96
8	103	93	132	113	106	101	64	60	89	88	104	96
9	107	94	133	112	103	99	65	63	89	88	105	96
10	100	91	135	116	113	92	68	64	93	88	102	97
11	102	93	131	114	117	102	70	68	91	90	107	97
12	102	96	129	110	105	63	70	68	91	90	101	97
13	104	94	110	107	81	72	70	68	92	90	107	99
14	101	94	108	106	84	77	70	69	92	91	104	96
15	106	92	108	106	87	82	73	68	96	91	100	96
16	116	93	108	106	89	85	78	72	95	91	104	95
17	114	103	108	95	88	85	80	78	97	91	104	95
18	112	97	95	53	87	84	80	78	93	92	106	95
19	107	90	81	69	92	84	81	80	92	91	---	---
20	101	92	84	72	92	88	82	80	91	90	104	102
21	100	91	90	84	88	83	83	81	91	90	103	101
22	107	98	91	70	85	82	83	81	99	90	102	93
23	113	104	90	80	86	81	84	82	102	91	94	87
24	118	102	92	87	82	80	84	83	99	91	88	85
25	122	104	92	84	83	80	92	84	95	90	86	81
26	125	116	92	85	82	78	92	90	94	90	83	75
27	117	109	86	84	79	76	93	88	91	90	76	71
28	127	107	85	84	78	72	88	87	96	90	72	69
29	122	112	85	83	73	69	87	86	---	---	70	69
30	129	117	84	83	69	60	93	87	---	---	70	68
31	124	117	---	---	60	46	93	89	---	---	72	68
MONTH	129	89	135	53	117	46	93	30	102	86	---	---

10346000 TRUCKEE RIVER AT FARAD, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	74	72	69	68	63	60	83	81	95	94	94	93
2	78	74	69	68	64	61	87	82	96	94	94	92
3	82	77	69	68	65	63	91	86	95	94	96	92
4	82	81	69	66	65	58	94	90	95	94	93	92
5	82	80	68	64	66	58	93	91	97	94	94	93
6	83	80	67	64	69	66	93	91	97	94	96	94
7	85	81	68	64	69	67	95	91	96	94	96	95
8	86	80	67	64	70	67	97	93	97	94	97	95
9	83	78	65	62	82	70	97	93	98	96	97	96
10	79	78	63	60	88	81	100	96	98	95	97	96
11	80	78	63	59	90	86	101	91	96	94	98	96
12	80	78	63	58	90	87	94	90	96	94	98	96
13	79	77	63	57	89	86	93	90	98	95	99	97
14	79	77	64	58	89	86	95	91	97	95	99	98
15	79	77	64	59	91	87	98	94	98	95	100	97
16	78	76	64	60	90	85	99	95	98	95	100	98
17	77	74	64	61	90	85	100	95	96	94	101	100
18	77	73	65	61	90	86	98	96	96	95	101	100
19	74	64	65	60	91	87	98	96	96	93	101	97
20	70	65	65	60	91	88	98	97	95	93	101	99
21	70	64	67	63	91	88	98	95	95	93	102	100
22	69	64	67	65	91	83	96	94	96	93	102	101
23	67	63	67	65	84	79	95	94	95	94	107	101
24	70	67	67	64	81	79	97	94	98	94	107	104
25	71	69	68	66	82	78	96	95	95	94	108	104
26	71	69	68	65	79	75	96	95	99	92	108	104
27	70	65	69	67	75	73	96	95	96	93	108	104
28	66	63	67	64	75	73	96	94	93	92	108	104
29	68	66	65	62	79	75	97	94	93	92	109	105
30	68	67	64	61	81	78	95	94	94	92	107	103
31	---	---	63	59	---	---	95	94	94	93	---	---
MONTH	86	63	69	57	91	58	101	81	99	92	109	92

PYRAMID AND WINNEMUCCA LAKES BASIN

10346000 TRUCKEE RIVER AT FARAD, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

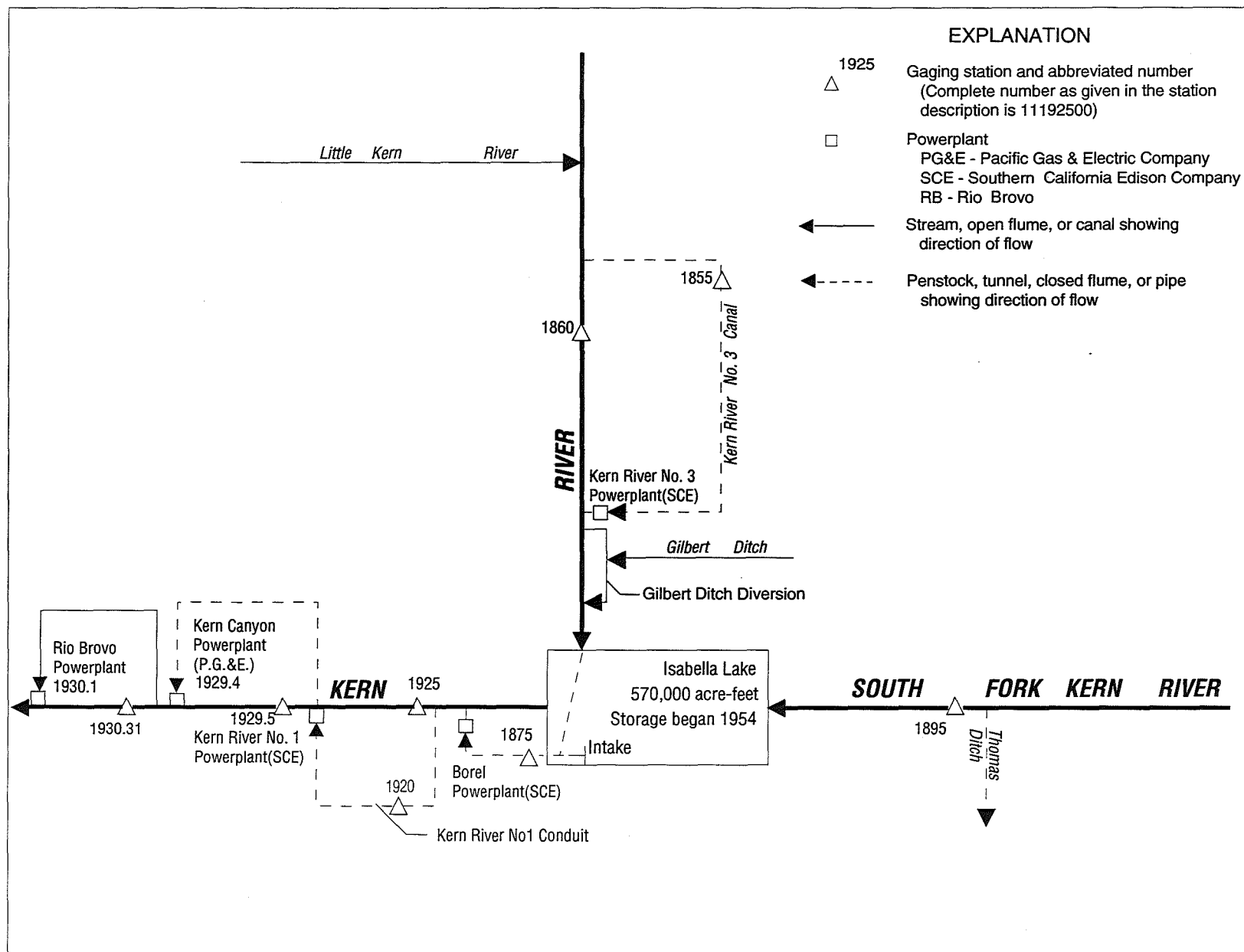


Figure 23. Diversions and storage in Kern River Basin.

PACIFIC SLOPE BASINS IN CALIFORNIA
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 mi².

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.—Since 1921, Kern River No. 3 Canal (station 11185500) diverts up to 630 ft³/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 station 11186001.

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 ft³/s, Dec. 6, 1966, gage height, 22.77 ft, site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft³/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 ft³/s, Dec. 6, 1966; minimum daily, 2.5 ft³/s, for several days in 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	47	57	1010	1060	322	1190	2280	3400	633	147	116
2	57	46	54	10500	1010	333	1070	2170	2950	512	135	118
3	57	46	55	25100	937	309	1000	2140	2860	493	145	121
4	57	45	56	7350	884	293	941	2180	2610	551	150	118
5	56	46	60	3490	828	285	882	2200	2410	593	144	118
6	56	47	69	2350	761	288	830	2360	2140	600	142	120
7	56	49	50	1870	720	299	798	2540	2000	601	141	119
8	57	50	55	1570	685	317	784	2620	2040	592	143	120
9	56	52	83	1350	624	349	771	2600	2030	576	152	121
10	55	52	257	1190	599	409	726	2430	1780	612	142	119
11	57	52	3420	1060	555	495	697	2450	1680	587	146	116
12	61	52	1750	973	533	533	674	2680	1710	525	140	116
13	61	52	857	941	495	562	676	3020	1540	499	140	116
14	61	51	541	787	480	582	714	3090	1360	500	140	118
15	59	51	345	843	488	609	746	3540	1230	464	141	282
16	58	51	242	754	497	660	858	3760	1180	411	142	282
17	59	446	188	695	510	631	1010	3500	1390	334	143	275
18	59	172	126	668	484	625	1210	3420	1570	310	143	271
19	58	53	79	659	473	715	1300	3170	1860	276	150	269
20	56	62	54	684	503	837	1480	2860	2040	247	145	266
21	56	607	50	661	484	893	1750	2820	1900	254	140	265
22	56	2440	226	761	474	895	1960	2790	1630	327	143	262
23	59	688	130	1790	464	948	2070	2790	1400	681	142	257
24	59	274	109	1230	425	955	1850	2600	1250	790	142	251
25	58	116	98	2490	393	1030	1680	2280	1190	462	142	266
26	58	53	82	3130	404	1180	1790	2070	1170	295	142	468
27	58	51	963	2020	401	1280	2110	2110	1140	222	142	426
28	57	51	590	1590	369	1330	2270	2460	1020	192	141	371
29	54	50	333	1360	---	1330	2230	2970	885	214	142	341
30	56	66	517	1200	---	1310	2160	3270	777	191	143	324
31	56	---	703	1110	---	1280	---	3660	---	148	142	---
TOTAL	1783	5918	12199	81186	16540	21884	38227	84830	52142	13692	4432	6532
MEAN	57.5	197	394	2619	591	706	1274	2736	1738	442	143	218
MAX	61	2440	3420	25100	1060	1330	2270	3760	3400	790	152	468
MIN	54	45	50	659	369	285	674	2070	777	148	135	116
AC-FT	3540	11740	24200	161000	32810	43410	75820	168300	103400	27160	8790	12960

PACIFIC SLOPE BASINS IN CALIFORNIA
BUENA VISTA LAKE BASIN

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11186000 KERN RIVER NEAR KERNVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.7	51.1	133	191	160	275	614	1519	1642	733	214	109
MAX	197	197	2488	2619	967	1480	2631	5874	6819	3482	1583	538
(WY)	1983	1997	1967	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	224466		339365			
ANNUAL MEAN	613		930		476	
HIGHEST ANNUAL MEAN					1727	
LOWEST ANNUAL MEAN					3.65	
HIGHEST DAILY MEAN	3920	May 16	25100	Jan 3	33600	Dec 6 1966
LOWEST DAILY MEAN	41	Jan 26	45	Nov 4	.20	Dec 16 1960
ANNUAL SEVEN-DAY MINIMUM	43	Jan 23	47	Nov 1	.26	Dec 12 1960
INSTANTANEOUS PEAK FLOW			46300	Jan 3	60000	Dec 6 1966
INSTANTANEOUS PEAK STAGE			16.69	Jan 3	22.77	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	445200		673100		344500	
10 PERCENT EXCEEDS	2160		2350		1540	
50 PERCENT EXCEEDS	116		497		79	
90 PERCENT EXCEEDS	48		56		27	

PACIFIC SLOPE BASINS IN CALIFORNIA
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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	270	428	1590	1640	900	1770	2860	3970	1200	683	337
2	232	273	409	11000	1590	914	1640	2750	3520	1080	639	365
3	233	268	389	25200	1510	892	1590	2710	3430	1060	604	553
4	226	264	379	7360	1460	873	1520	2740	3180	1120	650	500
5	221	267	408	3870	1400	866	1460	2760	2980	1160	640	435
6	217	256	549	2930	1340	871	1410	2920	2720	1170	660	405
7	214	253	466	2460	1300	883	1380	3100	2580	1170	655	379
8	211	258	438	2160	1260	899	1370	3180	2620	1160	654	365
9	209	263	476	1940	1210	930	1360	3160	2600	1150	647	357
10	208	265	806	1780	1180	993	1310	2990	2350	1180	606	350
11	209	265	3910	1650	1130	1080	1280	3010	2250	1160	565	342
12	209	261	2330	1570	1120	1120	1260	3240	2280	1100	526	339
13	209	260	1440	1530	1080	1140	1260	3580	2110	1070	504	329
14	213	253	1120	1370	1070	1170	1300	3650	1920	1070	485	323
15	211	250	924	1430	1070	1190	1330	4090	1790	1030	477	309
16	213	244	833	1340	1080	1240	1440	4320	1740	980	470	285
17	213	866	776	1280	1090	1210	1590	4060	1950	902	461	278
18	211	697	711	1260	1060	1200	1750	3980	2140	880	451	274
19	212	469	664	1250	1050	1300	1890	3730	2430	846	437	272
20	213	500	635	1270	1090	1420	2060	3420	2610	817	422	269
21	219	1140	597	1240	1070	1480	2330	3390	2470	823	414	268
22	220	2960	801	1350	1060	1480	2540	3360	2200	896	406	265
23	223	1260	709	2370	1050	1530	2640	3350	1970	1250	397	260
24	226	835	691	1810	1010	1540	2440	3160	1820	1360	394	254
25	255	688	684	3080	978	1610	2260	2840	1760	1030	386	269
26	247	598	667	3710	988	1770	2380	2630	1740	865	378	471
27	236	524	1540	2600	986	1860	2690	2670	1710	792	369	429
28	241	488	1170	2170	947	1910	2850	3020	1590	762	358	374
29	246	468	913	1940	---	1910	2810	3530	1460	784	352	344
30	284	425	1100	1780	---	1890	2740	3840	1350	762	346	327
31	272	---	1290	1700	---	1860	---	4230	---	718	339	---
TOTAL	6974	16088	28253	97990	32819	39931	55650	102270	69240	31347	15375	10327
MEAN	225	536	911	3161	1172	1288	1855	3299	2308	1011	496	344
MAX	284	2960	3910	25200	1640	1910	2850	4320	3970	1360	683	553
MIN	208	244	379	1240	947	866	1260	2630	1350	718	339	254
AC-FT	13830	31910	56040	194400	65100	79200	110400	202900	137300	62180	30500	20480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	245	267	370	481	524	710	1141	2085	2190	1154	513	311
MAX	634	715	2696	3161	1524	2075	3235	6475	7401	4059	2175	934
(WY)	1983	1984	1967	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1961 - 1997

ANNUAL TOTAL	384121	506264	
ANNUAL MEAN	1050	1387	833
HIGHEST ANNUAL MEAN			2264
LOWEST ANNUAL MEAN			228
HIGHEST DAILY MEAN	4500	May 16	25200
LOWEST DAILY MEAN	208	Oct 10	208
ANNUAL SEVEN-DAY MINIMUM	210	Oct 8	210
ANNUAL RUNOFF (AC-FT)	761900		1004000
10 PERCENT EXCEEDS	2740		2920
50 PERCENT EXCEEDS	688		1080
90 PERCENT EXCEEDS	240		259
			157

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 and concrete-lined channel with Ogee weir and AVM in syphon pipe 6 mi downstream. 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.—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. See schematic diagram of Kern River Basin.

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 ft³/s, Mar. 13, 14, 1952; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e566	303	575	e581	e559	584	576	e577	e557	546	554	554
2	e573	305	461	e582	e559	582	576	e577	e556	545	553	555
3	e574	308	366	e581	e558	581	575	e579	e555	546	552	552
4	e573	308	366	e580	e560	583	574	e580	e553	548	551	556
5	e573	336	365	e576	e559	583	573	e579	558	548	549	554
6	e573	457	340	e577	e558	582	575	e575	561	547	547	550
7	e571	500	286	e575	e559	580	572	e577	557	546	548	551
8	e573	529	308	e577	e560	581	572	e579	558	550	548	550
9	e573	526	366	e576	e559	581	573	e578	550	551	548	548
10	e572	536	397	e574	e559	580	573	e575	545	549	547	547
11	e570	542	524	e572	e559	578	572	e581	544	549	548	546
12	e568	527	524	e573	e558	576	573	e582	546	551	547	551
13	e572	518	e588	e572	e557	577	574	e582	543	553	548	557
14	e572	498	e590	e573	e553	580	e573	e584	542	554	548	556
15	573	516	e588	e575	e553	581	e572	e582	541	551	548	553
16	570	514	e587	e576	e559	580	e572	e582	540	552	549	555
17	575	515	e586	e575	e563	575	e572	e584	539	550	549	554
18	573	507	e589	e571	e566	577	e573	e581	540	550	551	554
19	572	496	e589	e569	e570	578	e574	e581	541	552	549	555
20	576	496	e588	e566	e572	576	e572	e581	540	552	550	558
21	576	496	e585	e569	e570	578	e570	e577	540	552	552	563
22	566	498	e584	e567	e570	578	e574	e564	544	554	550	565
23	560	499	e583	e565	e571	576	e575	e556	544	553	548	565
24	562	499	e587	e566	e568	576	e575	e560	546	555	550	566
25	545	497	e586	e560	e566	573	e575	e557	546	556	551	563
26	454	518	e587	e564	e567	574	e577	e558	544	556	552	558
27	438	569	e589	e567	e567	571	e575	e560	540	555	552	559
28	455	585	e585	e562	e566	568	e576	e561	541	554	554	560
29	455	580	e582	e568	---	571	e579	e559	542	553	554	559
30	430	578	e584	e564	---	575	e577	e556	544	554	555	558
31	354	---	e585	e562	---	575	---	e556	---	554	555	---
TOTAL	16837	14556	16020	17715	15745	17910	17219	17760	16397	17086	17057	16672
MEAN	543	485	517	571	562	578	574	573	547	551	550	556
MAX	576	585	590	582	572	584	579	584	561	556	555	566
MIN	354	303	286	560	553	568	570	556	539	545	547	546
AC-FT	33400	28870	31780	35140	31230	35520	34150	35230	32520	33890	33830	33070

e Estimated.

11187500 BOREL CANAL BELOW ISABELLA DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	245	242	269	309	386	463	507	519	536	484	392	297
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1910 - 1997

ANNUAL TOTAL	191269	200974		
ANNUAL MEAN	523	551		
HIGHEST ANNUAL MEAN			386	
LOWEST ANNUAL MEAN			585	1984
HIGHEST DAILY MEAN	590	Dec 14	590	Dec 14
LOWEST DAILY MEAN	286	Dec 7	286	Dec 7
ANNUAL SEVEN-DAY MINIMUM	335	Oct 30	335	Oct 30
ANNUAL RUNOFF (AC-FT)	379400		398600	
10 PERCENT EXCEEDS	583		581	
50 PERCENT EXCEEDS	545		560	
90 PERCENT EXCEEDS	409		522	

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 mi².

PERIOD OF RECORD.—September 1911 to August 1914, January 1919 to September 1942, October 1947 to June 1994, July 1995 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 ft³/s. See schematic diagram of Kern River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,700 ft³/s, Dec. 6, 1966, gage height, 18.9 ft, from floodmarks, present datum, from rating curve extended above 3,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 22	1400	312	5.01	Jan. 25	1930	1,050	6.70
Dec. 11	2030	633	5.81	Mar. 22	1315	529	6.03
Dec. 27	1315	385	5.23	Mar. 28	2015	683	6.35
Jan. 3	0615	4,190	9.61	Apr. 23	1745	643	6.27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	31	45	248	301	181	490	461	193	60	38	20
2	23	34	48	1010	299	194	434	451	169	52	35	27
3	23	38	42	3310	283	195	436	436	156	50	33	52
4	24	39	43	1640	272	188	416	422	152	47	32	33
5	25	38	47	911	265	195	391	393	149	44	44	27
6	24	37	53	565	254	188	380	393	166	42	33	24
7	24	35	52	428	246	197	377	405	182	41	21	25
8	23	35	49	383	248	203	389	412	170	37	17	24
9	23	37	54	351	241	198	428	405	183	34	24	22
10	23	38	96	322	232	218	396	383	117	33	27	21
11	23	38	477	304	229	256	367	354	107	34	26	21
12	24	38	388	289	215	278	369	338	101	35	24	20
13	24	37	209	279	218	298	366	352	100	34	22	19
14	25	37	160	226	216	319	378	338	108	33	21	18
15	25	37	120	250	211	335	382	340	135	32	20	18
16	25	36	102	239	216	344	393	330	149	30	19	18
17	18	40	95	233	223	335	402	327	111	29	19	16
18	17	62	85	233	241	345	418	316	97	29	18	15
19	20	55	76	236	216	364	436	327	98	28	19	15
20	20	56	72	242	224	416	459	340	93	27	20	15
21	23	76	70	229	215	444	482	301	89	24	19	16
22	26	282	88	230	219	487	513	278	88	25	19	15
23	28	237	74	293	214	462	554	267	86	41	18	13
24	24	126	61	259	202	444	530	257	82	53	17	10
25	23	91	56	510	190	461	490	258	79	53	19	19
26	25	79	59	605	216	509	466	238	76	47	21	40
27	25	70	234	404	215	536	476	234	72	42	20	41
28	23	57	211	346	205	596	477	222	70	39	20	32
29	25	54	126	326	---	583	470	210	66	52	20	33
30	30	48	145	306	---	551	475	201	65	44	20	34
31	32	---	198	298	---	530	---	193	---	42	20	---
TOTAL	739	1918	3635	15505	6526	10850	13040	10182	3509	1213	725	703
MEAN	23.8	63.9	117	500	233	350	435	328	117	39.1	23.4	23.4
MAX	32	282	477	3310	301	596	554	461	193	60	44	52
MTN	17	31	42	226	190	181	366	193	65	24	17	10
AC-FT	1470	3800	7210	30750	12940	21520	25860	20200	6960	2410	1440	1390

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.2	36.1	58.4	67.1	95.8	161	352	432	170	48.4	23.9	19.0
MAX	98.9	143	942	500	448	686	1583	2896	1311	349	184	90.2
(WY)	1984	1984	1967	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1912 - 1997	
ANNUAL TOTAL	62459.3		68545			
ANNUAL MEAN	171		188		125	
HIGHEST ANNUAL MEAN					605	
LOWEST ANNUAL MEAN					11.5	
HIGHEST DAILY MEAN	1340	Feb 20	3310	Jan 3	14000	Dec 6 1966
LOWEST DAILY MEAN	9.8	Sep 11	10	Sep 24	.00	Sep 1 1934
ANNUAL SEVEN-DAY MINIMUM	10	Sep 8	14	Sep 18	.00	Jul 23 1961
INSTANTANEOUS PEAK FLOW			4190	Jan 3	28700	Dec 6 1966
INSTANTANEOUS PEAK STAGE			9.61	Jan 3	18.90	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	123900		136000		90400	
10 PERCENT EXCEEDS	540		435		292	
50 PERCENT EXCEEDS	61		98		41	
90 PERCENT EXCEEDS	18		21		7.3	

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 mi².

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.—Kern River No. 1 Conduit (station 11192000) diverts up to about 420 ft³/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 downstream from station. Flow regulated by Isabella Lake 22 mi upstream beginning in 1954. Many diversions upstream from station for irrigation. See schematic diagram of Kern River Basin. For records of combined discharge of river and conduit, see station 11192501.

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 ft³/s, Nov. 19, 1950, gage height, 30.7 ft, from rating curve extended above 8,700 ft³/s on basis of computation of peak flow over dam (basic data for computation provided by Southern California Edison Co.); minimum daily, 0.7 ft³/s, Nov. 17–19, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft³/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 ft³/s, Nov. 19, 1950; minimum daily, 123 ft³/s, Sept. 22, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft³/s, Dec. 6, 1966; minimum daily, 10 ft³/s, Dec. 17, 1968.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482	15	1540	e1490	1380	2850	1410	1110	1760	1640	1570	839
2	454	16	1300	e1460	1370	2850	1530	1230	1930	1630	1570	890
3	450	16	195	e458	1390	2980	1550	1210	1600	1600	1550	866
4	432	16	176	e406	1570	3060	1400	1110	1570	1510	1640	818
5	366	16	204	e333	1560	3100	1340	1120	1880	1440	1740	781
6	331	21	42	469	1550	2750	1170	1150	1970	1500	1680	614
7	426	85	15	441	1550	2640	1240	1190	2180	1730	1630	609
8	500	126	14	330	1550	2620	1310	1230	2200	1640	1640	759
9	586	122	284	318	1540	2430	1420	1260	2410	1830	1650	768
10	637	139	333	273	1540	2460	1380	1200	1970	1920	1530	789
11	691	152	438	265	1890	2250	1230	1050	1770	1970	1580	809
12	626	125	871	266	2040	2300	1010	1140	1740	1830	1490	772
13	551	125	1320	297	2110	2190	929	1200	1810	1560	1380	539
14	590	82	e1590	272	2010	2070	1090	1210	1410	1580	1270	456
15	825	109	e1810	301	2160	1770	1140	1330	1290	1760	1260	520
16	545	109	e1860	310	2080	1750	1140	1370	1290	1900	1150	567
17	509	125	e1960	298	2180	1820	1140	1330	1680	1940	1180	555
18	456	141	e2050	292	1990	1930	1110	1290	1750	1820	1330	469
19	302	259	e2100	287	2080	1960	1050	1430	1710	1520	1330	481
20	262	272	e2010	289	2360	1990	1060	1640	1790	1460	1320	407
21	297	326	e1960	308	2530	2000	1100	2230	1640	1590	1250	388
22	191	323	e1200	345	2530	1910	1080	2480	1510	1770	1190	330
23	167	298	e518	408	2530	1710	1080	2370	1580	1900	1160	425
24	170	269	e592	549	2730	1520	1120	2100	1620	1650	1100	423
25	170	326	e597	583	2610	1520	1120	2000	1720	1560	1060	407
26	66	1070	e598	735	2810	1540	1040	2080	1730	1440	1020	378
27	18	1310	e618	715	2800	1460	977	2080	1710	1450	1010	357
28	41	1540	e674	627	2860	1450	1050	2020	1620	1510	1020	308
29	41	1540	e673	840	---	1280	1050	2020	1580	1460	899	391
30	46	1540	e755	1210	---	1230	1070	1900	1630	1510	788	438
31	15	---	e1210	1400	---	1430	---	2030	---	1530	745	---
TOTAL	11243	10613	29507	16575	57300	64820	35336	48110	52050	51150	40732	17153
MEAN	363	354	952	535	2046	2091	1178	1552	1735	1650	1314	572
MAX	825	1540	2100	1490	2860	3100	1550	2480	2410	1970	1740	890
MIN	15	15	14	265	1370	1230	929	1050	1290	1440	745	308
AC-FT	22300	21050	58530	32880	113700	128600	70090	95430	103200	101500	80790	34020

e Estimated.

BUENA VISTA LAKE BASIN

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	319	224	149	180	295	533	782	1019	1519	1491	1065	464
MAX	1455	1298	1052	1967	2046	3289	5306	5512	6446	5712	3435	2115
(WY)	1984	1983	1984	1967	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1961 - 1997			
ANNUAL TOTAL	352326				434589							
ANNUAL MEAN	963				1191				672			
HIGHEST ANNUAL MEAN									2837			
LOWEST ANNUAL MEAN									23.7			
HIGHEST DAILY MEAN	2790				May 20				3100			
LOWEST DAILY MEAN	14				Dec 8				Mar 5			
ANNUAL SEVEN-DAY MINIMUM	16				Oct 31				14			
INSTANTANEOUS PEAK FLOW									16			
INSTANTANEOUS PEAK STAGE									3320			
ANNUAL RUNOFF (AC-FT)	698800				862000				Mar 4			
10 PERCENT EXCEEDS	2220				2080				12.95			
50 PERCENT EXCEEDS	668				1240				Mar 4			
90 PERCENT EXCEEDS	56				264				18.55			

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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	869	306	1940	1880	1770	3250	1800	1480	2140	2040	1960	1210
2	840	304	1700	1850	1760	3250	1920	1600	2310	2030	1960	1260
3	836	307	596	845	1780	3380	1940	1580	1980	2000	1940	1240
4	816	308	578	795	1960	3460	1790	1490	1950	1900	2030	1190
5	749	308	606	720	1950	3500	1730	1500	2260	1830	2130	1150
6	713	401	443	853	1940	3150	1560	1530	2350	1890	2070	987
7	808	478	245	826	1940	3040	1630	1570	2570	2120	2020	981
8	882	520	219	715	1940	3020	1700	1600	2590	2030	2030	1130
9	964	515	670	703	1930	2830	1810	1630	2800	2220	2040	1140
10	1010	528	727	658	1930	2860	1770	1570	2360	2310	1920	1160
11	1070	544	832	650	2280	2650	1620	1420	2160	2360	1960	1180
12	1000	519	1260	652	2430	2700	1390	1520	2130	2220	1870	1150
13	926	520	1710	682	2500	2590	1310	1580	2200	1950	1760	915
14	964	480	1980	657	2400	2470	1470	1590	1800	1970	1650	833
15	1000	504	2200	686	2550	2170	1520	1710	1680	2150	1640	897
16	936	505	2250	695	2470	2150	1520	1750	1680	2290	1530	944
17	904	520	2350	684	2570	2220	1520	1710	2070	2330	1560	932
18	855	535	2440	678	2380	2330	1490	1670	2150	2210	1710	845
19	702	653	2490	673	2470	2360	1430	1810	2110	1910	1710	857
20	663	666	2400	675	2750	2390	1440	2020	2190	1850	1700	783
21	699	720	2360	694	2920	2400	1480	2610	2040	1980	1630	763
22	593	717	1600	731	2930	2310	1460	2860	1910	2160	1560	705
23	569	692	915	794	2930	2100	1460	2750	1980	2290	1530	800
24	573	667	990	934	3130	1910	1500	2480	2020	2040	1470	797
25	574	723	995	968	3010	1910	1500	2380	2120	1950	1430	781
26	469	1460	996	1120	3210	1930	1420	2460	2130	1830	1390	752
27	421	1700	1020	1100	3200	1850	1360	2460	2110	1840	1380	730
28	442	1930	1070	1010	3260	1840	1420	2400	2020	1900	1390	681
29	443	1930	1070	1230	---	1670	1430	2400	1980	1850	1270	763
30	448	1930	1150	1600	---	1620	1450	2280	2030	1900	1160	810
31	385	---	1600	1790	---	1820	---	2410	---	1920	1110	---
TOTAL	23123	21890	41402	28548	68290	77130	46840	59820	63820	63270	52510	28366
MEAN	746	730	1336	921	2439	2488	1561	1930	2127	2041	1694	946
MAX	1070	1930	2490	1880	3260	3500	1940	2860	2800	2360	2130	1260
MIN	385	304	219	650	1760	1620	1310	1420	1680	1830	1110	681
AC-FT	45860	43420	82120	56620	135500	153000	92910	118700	126600	125500	104200	56260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	557	455	405	468	615	850	1094	1357	1881	1806	1367	720
MAX	1835	1689	1432	2338	2439	3644	5695	5922	6850	6110	3824	2501
(WY)	1984	1983	1984	1967	1997	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 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1955 - 1997
ANNUAL TOTAL	492691	575009	
ANNUAL MEAN	1346	1575	966
HIGHEST ANNUAL MEAN			3173
LOWEST ANNUAL MEAN			246
HIGHEST DAILY MEAN	3190	May 20	7030
LOWEST DAILY MEAN	219	Dec 8	10
ANNUAL SEVEN-DAY MINIMUM	331	Oct 31	12
ANNUAL RUNOFF (AC-FT)	977300	1141000	700100
10 PERCENT EXCEEDS	2620	2460	2170
50 PERCENT EXCEEDS	1060	1630	603
90 PERCENT EXCEEDS	436	653	200

11192950 KERN RIVER BELOW KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA
(Formerly published as Kern River Fishwater Release at Kern Canyon Powerhouse Diversion Dam, near Bakersfield.)

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 right bank 100 ft downstream of diversion dam, 16.4 mi northeast of Bakersfield.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—October 1987 to June 1995, October 1995 to September 1996 (low-flow records only), October 1996 to September 1997 (full-range records). Prior to October 1, 1993, at site 100 ft upstream and did not include leakage through diversion dam radial gates. Bypass flow would enter the main channel immediately downstream from the gage.

GAGE.—Water-stage recorder. Elevation of gage is 975 ft above sea level, from topographic map.

REMARKS.—Flow regulated at diversion dam 100 ft upstream from gage. See schematic diagram of Kern 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, 2,590 ft³/s, March 20, 1997, gage height, 6.16 ft, from rating developed during 1997 water year; maximum daily, 6 ft³/s, Dec. 18, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	31	502	696	493	1730	1190	780	1490	1430	1360	496
2	129	31	1020	327	488	1800	1330	950	1610	1430	1370	633
3	117	31	1370	323	490	1740	1430	945	1400	1410	1330	538
4	99	31	1580	337	607	1740	1180	805	1360	1320	1410	495
5	82	31	1410	425	311	1880	1180	816	1570	1220	1480	461
6	48	31	1420	400	473	2050	1110	853	1640	1270	1450	325
7	59	32	1390	390	532	2120	967	911	1780	1500	1400	274
8	94	31	1220	449	415	1930	1050	956	1790	1430	1410	431
9	183	32	145	776	472	1690	1200	1000	1930	1550	1420	440
10	287	31	31	1190	708	1490	1150	945	1650	1620	1320	463
11	326	31	31	1500	1100	1070	1080	725	1520	1650	1370	487
12	396	31	31	1420	1230	1190	719	845	1490	1570	1270	452
13	341	31	40	512	1210	1290	607	926	1540	1370	1130	258
14	237	31	43	333	1200	1440	768	923	1210	1380	1010	116
15	285	31	336	242	1200	1540	854	1070	1040	1510	976	179
16	256	31	701	185	1420	1720	853	1130	1040	1600	866	244
17	327	31	760	112	1420	1910	850	1090	1440	1630	851	249
18	239	31	904	31	1410	2120	814	1030	1500	1560	1060	135
19	192	31	1270	31	1410	2320	739	1190	1470	1340	1080	146
20	132	31	1730	31	1400	2490	743	1360	1530	1240	1160	66
21	29	31	1920	31	1400	2250	787	1910	1430	1390	980	45
22	31	31	1980	31	1400	1950	774	1950	1310	1500	901	31
23	31	35	1970	46	1460	1490	773	1890	1390	1600	855	75
24	31	31	2060	469	1670	1330	819	1720	1420	1440	769	74
25	31	31	2150	861	1760	1330	826	1650	1490	1370	724	65
26	31	36	2210	1470	1800	1360	730	1700	1490	1210	682	41
27	31	44	2240	1040	1720	1240	651	1710	1480	1210	660	29
28	31	32	2190	621	1840	1230	728	1660	1430	1320	684	28
29	31	31	2140	585	---	1040	727	1670	1390	1220	577	39
30	31	31	1820	588	---	972	752	1580	1430	1300	468	80
31	32	---	963	566	---	1210	---	1690	---	1320	418	---
TOTAL	4341	955	37577	16018	31039	50662	27381	38380	44260	43910	32441	7395
MEAN	140	31.8	1212	517	1109	1634	913	1238	1475	1416	1046	247
MAX	396	44	2240	1500	1840	2490	1430	1950	1930	1650	1480	633
MIN	29	31	31	31	311	972	607	725	1040	1210	418	28
AC-FT	8610	1890	74530	31770	61570	100500	54310	76130	87790	87100	64350	14670

11192950 KERN RIVER BELOW KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA—Continued
(Formerly published as Kern River Fishwater Release at Kern Canyon Powerhouse Diversion Dam, near Bakersfield.)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.9	21.5	171	105	155	203	122	157	204	220	148	49.8
MAX	140	31.9	1212	517	1109	1634	913	1238	1475	1416	1046	247
(WY)	1997	1994	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	11.5	12.3	14.6	15.6	12.3	12.4	11.2	9.87	10.5	11.2	12.8	12.0
(WY)	1989	1988	1989	1991	1988	1988	1988	1988	1988	1988	1988	1988

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1988 - 1997

ANNUAL TOTAL	334359		
ANNUAL MEAN	916	470	
HIGHEST ANNUAL MEAN		916	1997
LOWEST ANNUAL MEAN		24.8	1994
HIGHEST DAILY MEAN	2490	Mar 20	2490 Mar 20 1997
LOWEST DAILY MEAN	28	Sep 28	6.0 Dec 18 1988
ANNUAL SEVEN-DAY MINIMUM	31	Oct 21	9.5 May 20 1988
INSTANTANEOUS PEAK FLOW	2590	Mar 20	2590 Mar 20 1997
INSTANTANEOUS PEAK STAGE	6.16	Mar 20	6.16 Mar 20 1997
ANNUAL RUNOFF (AC-FT)	663200		340800
10 PERCENT EXCEEDS	1720		38
50 PERCENT EXCEEDS	963		21
90 PERCENT EXCEEDS	31		13

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.—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 1 mi 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, 3,930 ft³/s, Aug. 17, 1995; minimum daily, 16 ft³/s, several days in January 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	189	939	850	844	1770	310	743	314	73	632	512
2	74	311	874	1200	835	1750	442	645	333	74	637	611
3	70	314	88	882	627	1890	578	55	218	75	609	592
4	70	312	302	151	770	1970	1120	53	174	75	690	533
5	67	311	597	99	774	2060	1140	53	325	75	760	494
6	65	134	515	30	763	1700	949	52	423	75	737	303
7	68	84	281	23	766	1580	1020	63	522	75	677	224
8	66	71	255	21	767	1570	1100	204	418	75	687	451
9	101	70	619	16	769	1410	1260	719	387	75	692	459
10	136	70	763	16	772	1450	1210	465	323	76	604	494
11	199	70	673	16	1020	1210	1040	378	272	77	649	523
12	141	69	836	16	1080	1030	793	498	216	77	554	484
13	77	69	1670	16	1110	965	681	865	311	76	428	160
14	80	69	2040	16	1020	910	838	825	83	77	316	65
15	107	67	2100	16	1160	672	891	804	82	77	270	65
16	74	67	1870	16	1100	634	893	1090	82	77	180	69
17	71	68	1300	16	1190	692	888	1110	76	77	150	65
18	71	64	1230	16	1040	795	860	1070	74	77	349	65
19	70	64	1100	17	1000	803	792	1320	74	77	345	65
20	69	64	1090	17	1180	820	734	1540	74	76	372	64
21	69	63	1080	17	1360	846	780	1800	74	76	278	64
22	68	60	970	17	1340	782	272	1870	73	77	169	68
23	68	78	91	18	1350	629	90	1870	73	440	153	76
24	67	77	136	29	1610	455	121	1540	73	701	119	76
25	67	67	113	40	1580	450	120	1210	74	569	252	76
26	68	503	111	159	1740	472	109	853	73	515	681	76
27	66	700	139	176	1760	374	68	705	73	514	764	76
28	58	935	177	174	1810	365	65	796	73	588	789	76
29	56	950	151	222	---	175	65	583	74	515	660	77
30	59	945	157	578	---	81	61	413	73	593	494	77
31	59	---	404	864	---	329	---	256	---	606	426	---
TOTAL	2452	6915	22671	5744	31137	30639	19290	24448	5514	6710	15123	7040
MEAN	79.1	231	731	185	1112	988	643	789	184	216	488	235
MAX	199	950	2100	1200	1810	2060	1260	1870	522	701	789	611
MIN	56	60	88	16	627	81	61	52	73	73	119	64
AC-FT	4860	13720	44970	11390	61760	60770	38260	48490	10940	13310	30000	13960
a	39,480	28,990	31,360	45,780	48,490	51,990	24,240	95,330	95,210	94,410	83,740	44,890

a Diversion, in acre-feet, through Rio Bravo Powerplant, provided by Rio Bravo Hydro Project.

11193031 KERN RIVER AT RIO BRAVO POWERPLANT, NEAR BAKERSFIELD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	132	175	259	187	307	343	376	457	568	499	579	218
MAX	258	261	731	348	1112	1004	2014	1555	1890	1764	2665	405
(WY)	1990	1990	1997	1995	1997	1995	1995	1995	1995	1995	1995	1995
MIN	60.5	63.1	77.0	62.9	59.2	59.8	49.5	51.5	51.6	52.1	63.1	61.0
(WY)	1994	1996	1996	1996	1994	1994	1991	1991	1991	1991	1994	1993

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1990 - 1997			
ANNUAL TOTAL	194789				177683							
ANNUAL MEAN	532				487				354			
HIGHEST ANNUAL MEAN									1056			
LOWEST ANNUAL MEAN									106			
HIGHEST DAILY MEAN	2610				Jul 10				3870			
LOWEST DAILY MEAN	46				Feb 22				16			
ANNUAL SEVEN-DAY MINIMUM	53				Feb 21				16			
INSTANTANEOUS PEAK FLOW					3130				3930			
ANNUAL RUNOFF (AC-FT)	386400				352400				256200			
TOTAL DIVERSION (AC-FT) a	560900				683900							
10 PERCENT EXCEEDS	1590				1180				1080			
50 PERCENT EXCEEDS	146				311				123			
90 PERCENT EXCEEDS	58				64				55			

a Diversion, in acre-feet, through Rio Bravo Powerplant, provided by Rio Bravo Hydro Project.

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 mi².

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 regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,300 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 22	0745	98	1.89	Jan. 15	2145	195	2.27
Dec. 11	1700	273	2.72	Jan. 26	1815	249	2.55
Dec. 22	1715	53	1.43	Feb. 17	2145	51	1.38
Dec. 27	1430	143	1.99	Feb. 27	2215	46	1.34
Jan. 3	0045	676	4.54				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	5.2	35	71	31	16	9.1	2.9	.47	.00	.00
2	.00	.00	5.0	105	68	29	16	8.9	3.0	.44	.00	.00
3	.00	.00	4.7	380	64	28	16	8.3	2.9	.28	.00	.00
4	.00	.00	4.6	157	60	27	15	7.8	2.7	.13	.00	.00
5	.00	.00	5.1	146	57	26	14	7.5	3.1	.00	.00	.00
6	.00	.00	10	103	55	25	13	7.3	3.7	.00	.00	.00
7	.00	.00	8.1	78	52	25	13	7.0	3.0	.00	.00	.00
8	.00	.00	5.5	64	50	24	13	6.5	2.3	.00	.00	.00
9	.00	.00	6.5	55	47	24	13	5.7	2.2	.00	.00	.00
10	.00	.00	23	50	45	23	14	5.3	2.2	.00	.00	.00
11	.00	.00	147	45	43	23	13	5.2	1.8	.00	.00	.00
12	.00	.00	104	45	42	22	12	5.2	1.8	.00	.00	.00
13	.00	.00	55	113	41	22	12	5.1	2.1	.00	.00	.00
14	.00	.00	36	66	39	21	12	4.8	2.3	.00	.00	.00
15	.00	.00	26	104	38	21	11	4.9	2.2	.00	.00	.00
16	.00	.00	21	116	37	20	10	5.2	1.8	.00	.00	.00
17	.00	.00	18	81	40	18	9.7	5.1	1.5	.00	.00	.00
18	.00	13	15	69	39	18	9.6	4.7	1.3	.00	.00	.00
19	.00	5.2	13	61	35	18	10	4.4	1.1	.00	.00	.00
20	.00	3.2	12	64	34	18	11	3.8	.87	.00	.00	.00
21	.00	8.0	11	81	33	18	11	3.6	.78	.00	.00	.00
22	.00	57	27	78	32	18	11	3.5	.69	.00	.00	.00
23	.00	27	40	107	31	18	11	3.7	.70	.00	.00	.00
24	.00	13	24	91	30	18	11	4.3	.74	.00	.00	.00
25	.00	8.0	20	97	29	18	10	4.4	.63	.00	.00	.00
26	.00	5.9	18	147	29	17	9.5	4.2	.44	.00	.00	.00
27	.00	5.1	63	122	33	17	9.0	3.9	.31	.00	.00	.00
28	.00	4.9	63	99	40	17	9.1	3.8	.27	.00	.00	.00
29	.00	5.8	41	88	---	16	9.1	3.3	.31	.00	.00	.00
30	.00	5.4	37	82	---	15	9.1	3.2	.41	.00	.00	.00
31	.00	---	42	77	---	15	---	2.9	---	.00	.00	---
TOTAL	0.00	161.50	910.7	3006	1214	650	353.1	162.6	50.05	1.32	0.00	0.00
MEAN	.000	5.38	29.4	97.0	43.4	21.0	11.8	5.25	1.67	.043	.000	.000
MAX	.00	57	147	380	71	31	16	9.1	3.7	.47	.00	.00
MIN	.00	.00	4.6	35	29	15	9.0	2.9	.27	.00	.00	.00
AC-FT	.00	320	1810	5960	2410	1290	700	323	99	2.6	.00	.00

11199500 WHITE RIVER NEAR DUCOR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.40	2.28	6.05	14.0	17.9	33.5	20.6	11.1	4.07	.84	.23	.20
MAX	8.05	20.6	36.5	97.0	103	260	131	55.3	31.2	12.6	8.30	5.35
(WY)	1984	1984	1984	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1943 - 1997

ANNUAL TOTAL	4034.17		6509.27									
ANNUAL MEAN	11.0		17.8							9.36		
HIGHEST ANNUAL MEAN										44.5		1943
LOWEST ANNUAL MEAN										.58		1977
HIGHEST DAILY MEAN	185	Feb 20				380	Jan 3			1320	Mar 9	1943
LOWEST DAILY MEAN	.00	Jul 4				.00	Oct 1			.00	Oct 1	1942
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 4				.00	Oct 1			.00	Oct 1	1942
INSTANTANEOUS PEAK FLOW						676	Jan 3			2300	Mar 9	1943
INSTANTANEOUS PEAK STAGE						4.54	Jan 3					
ANNUAL RUNOFF (AC-FT)	8000					12910				6780		
10 PERCENT EXCEEDS	30					56				21		
50 PERCENT EXCEEDS	3.3					4.4				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 mi².

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, 3,790 ft³/s, Jan. 3, 1997, gage height, 10.32 ft, from rating curve extended above 600 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 17	1645	660	5.87	Jan. 3	0030	3,790	10.32
Nov. 22	0600	1,130	6.83	Jan. 15	1830	1,150	6.83
Dec. 11	1630	3,140	9.61	Jan. 23	1130	1,320	7.13
Dec. 23	0215	255	4.62	Jan. 26	1815	1,370	7.22
Dec. 27	1145	928	6.45				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	11	24	142	285	98	61	41	18	12	6.2	3.6
2	2.8	9.7	23	790	266	97	61	40	21	12	5.6	4.6
3	1.9	8.9	22	2080	250	93	59	38	20	12	4.4	8.0
4	2.5	8.3	21	677	233	91	58	35	20	11	4.5	6.2
5	2.5	8.8	24	509	218	88	58	38	22	9.7	5.6	4.8
6	1.7	8.8	51	347	201	87	57	36	23	8.5	5.0	4.2
7	1.5	8.6	36	277	185	85	56	34	20	7.9	4.0	3.0
8	2.5	8.2	29	241	177	83	56	34	18	9.5	3.3	3.3
9	2.2	7.8	e35	205	165	82	55	32	20	9.0	3.4	4.3
10	1.2	7.6	e138	181	159	81	55	31	19	8.0	3.2	3.6
11	2.3	7.3	e1200	163	151	79	53	29	17	8.4	4.2	3.8
12	2.4	7.3	452	172	144	78	53	32	16	8.6	6.0	4.1
13	1.5	7.3	189	314	140	77	52	30	16	7.1	5.7	3.9
14	3.3	7.6	135	190	134	77	51	28	19	8.2	4.9	3.3
15	3.5	8.6	105	414	128	75	49	28	20	7.3	4.5	3.9
16	3.1	8.5	90	343	124	73	49	29	18	7.1	4.1	5.4
17	3.3	170	79	264	129	71	47	28	15	7.4	3.3	5.5
18	3.9	74	70	240	120	70	47	26	14	7.5	3.9	4.7
19	4.4	30	65	218	112	68	48	26	14	7.3	4.5	4.3
20	5.3	24	62	242	112	68	47	24	14	5.3	4.6	4.5
21	4.7	96	59	257	109	68	48	23	13	5.9	4.6	3.4
22	5.7	396	122	270	105	66	47	22	12	6.4	4.4	3.5
23	5.5	189	153	740	105	68	47	23	13	12	4.1	4.3
24	4.9	65	95	462	101	67	47	25	13	9.6	3.5	3.7
25	5.9	45	85	624	97	65	46	23	12	8.3	4.3	3.4
26	8.7	36	78	934	96	62	42	25	12	7.6	5.1	5.1
27	7.7	29	370	739	110	63	39	23	11	5.5	5.0	5.9
28	7.3	26	220	529	115	63	40	22	11	5.1	5.0	4.5
29	7.2	33	152	429	---	63	40	21	10	5.7	4.8	4.4
30	9.6	26	153	352	---	60	42	21	10	6.2	4.3	4.5
31	16	---	154	310	---	61	---	21	---	6.4	2.9	---
TOTAL	137.4	1373.3	4491	13655	4271	2327	1510	888	481	252.5	138.9	131.7
MEAN	4.43	45.8	145	440	153	75.1	50.3	28.6	16.0	8.15	4.48	4.39
MAX	16	396	1200	2080	285	98	61	41	23	12	6.2	8.0
MIN	1.2	7.3	21	142	96	60	39	21	10	5.1	2.9	3.0
AC-FT	273	2720	8910	27080	8470	4620	3000	1760	954	501	276	261

e Estimated.

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.74	13.3	24.5	57.8	68.8	81.3	63.3	39.8	20.7	8.36	3.73	3.26
MAX	23.5	62.8	145	440	353	443	254	182	120	53.5	32.1	19.6
(WY)	1984	1984	1997	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1968 - 1997

ANNUAL TOTAL	17021.37	29656.8	
ANNUAL MEAN	46.5	81.3	32.4
HIGHEST ANNUAL MEAN			143
LOWEST ANNUAL MEAN			4.29
HIGHEST DAILY MEAN	1200	Dec 11	2080
LOWEST DAILY MEAN	.74	Sep 3	1.2
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 31	1.9
INSTANTANEOUS PEAK FLOW			3790
INSTANTANEOUS PEAK STAGE			10.32
ANNUAL RUNOFF (AC-FT)	33760	58820	23450
10 PERCENT EXCEEDS	98	203	73
50 PERCENT EXCEEDS	22	24	11
90 PERCENT EXCEEDS	1.9	3.9	.80

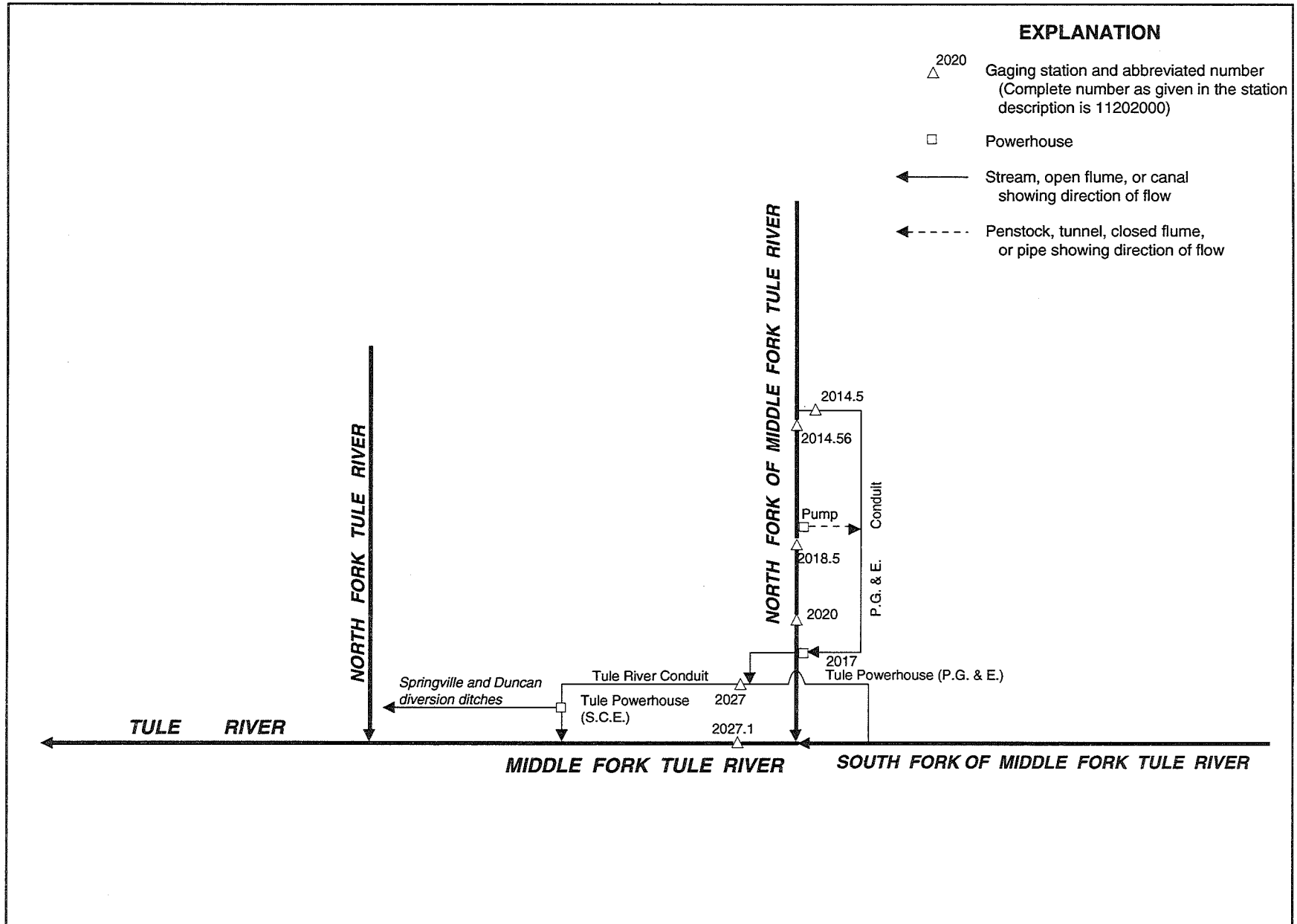


Figure 24. Diversions and storage in Tule River Basin.

11201450 PACIFIC GAS & ELECTRIC CO. TULE RIVER CONDUIT BELOW DIVERSION DAM, NEAR SPRINGVILLE, CA

LOCATION.—Lat 36°11'32", long 118°39'24", in SW 1/4 SE 1/4 sec. 7, T.20 S., R.31 E., Tulare County, Hydrologic Unit 18030006, on left bank 75 ft downstream from diversion dam and 11 mi east of Springville.

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 4,040 ft above sea level, from topographic map.

REMARKS.—Water is returned to river 3.6 mi downstream after passing through Tule River Powerplant (station 11201700). See schematic diagram of Tule 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, 63 ft³/s, many days in 1995, minimum daily, 0.17 ft³/s, Aug. 8, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	9.8	27	55	61	55	61	61	61	26	e14	e7.6
2	6.2	8.6	25	27	61	54	61	61	61	24	e14	e18
3	6.6	7.7	23	19	61	54	61	61	61	23	e13	e13
4	5.9	7.6	22	55	61	53	61	61	61	21	e18	e10
5	5.9	8.0	37	61	61	55	61	61	61	20	e17	e9.8
6	5.9	7.6	42	61	61	59	61	61	60	19	e17	e8.5
7	5.9	7.4	34	60	61	60	61	61	58	22	e12	e8.2
8	5.8	7.4	32	60	60	60	61	61	57	23	e12	e8.3
9	5.8	7.5	38	60	60	61	61	61	55	22	e12	e8.0
10	5.9	7.6	58	60	60	61	61	61	54	20	e12	e7.8
11	6.0	7.5	41	60	59	61	61	61	52	16	e18	e8.3
12	6.0	7.2	61	60	58	61	61	60	50	16	e17	e8.3
13	6.1	7.2	59	59	57	61	61	61	49	15	e17	e7.6
14	6.5	7.2	57	57	57	61	61	61	49	18	e11	e7.1
15	6.3	7.1	56	58	57	61	61	61	45	19	e9.6	e7.6
16	6.4	7.1	58	60	56	61	60	61	43	18	e9.6	e7.6
17	6.2	15	62	60	56	61	61	61	40	16	e9.6	5.9
18	6.0	13	61	59	56	61	61	61	37	13	e9.1	5.9
19	6.3	24	60	59	58	61	61	61	37	13	e9.4	6.1
20	6.6	34	59	60	59	61	61	61	37	12	e9.4	7.2
21	6.6	29	56	59	58	61	61	61	37	17	e8.6	8.9
22	6.4	31	61	60	58	61	61	61	35	e24	e8.5	8.7
23	6.4	56	61	61	57	61	61	61	34	e27	e8.6	8.4
24	6.6	55	57	61	56	61	61	61	32	e23	e8.9	8.3
25	9.6	50	52	55	57	61	61	61	31	e17	e8.5	9.9
26	7.9	42	52	22	57	61	61	61	29	e16	e8.5	10
27	7.4	37	61	58	58	61	61	61	29	e15	e8.3	9.8
28	7.3	33	59	61	56	61	61	61	28	e15	e8.2	9.2
29	7.3	31	61	45	---	61	61	61	27	e20	e8.3	8.9
30	9.3	28	62	51	---	61	61	61	28	e20	e8.2	8.7
31	9.0	---	56	61	---	61	---	61	---	e19	e7.6	---
TOTAL	205.2	600.5	1550	1704	1637	1853	1829	1890	1338	589	352.9	261.6
MEAN	6.62	20.0	50.0	55.0	58.5	59.8	61.0	61.0	44.6	19.0	11.4	8.72
MAX	9.6	56	62	61	61	61	61	61	61	27	18	18
MIN	5.1	7.1	22	19	56	53	60	60	27	12	7.6	5.9
AC-FT	407	1190	3070	3380	3250	3680	3630	3750	2650	1170	700	519

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
MEAN	5.15	10.3	22.5	33.1	50.2	58.4	60.8	61.5	51.9	33.2	14.7	11.4
MAX	6.62	20.0	50.0	55.0	58.5	59.8	61.1	62.4	62.8	59.3	29.2	16.5
(WY)	1997	1997	1997	1997	1997	1997	1996	1995	1995	1995	1995	1995
MIN	3.35	4.05	6.46	17.5	40.9	57.6	60.3	61.0	44.6	19.0	3.42	8.72
(WY)	1995	1995	1995	1996	1995	1995	1995	1997	1997	1997	1996	1997

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1995 - 1997

ANNUAL TOTAL	12401.40	13810.2	
ANNUAL MEAN	33.9	37.8	34.3
HIGHEST ANNUAL MEAN			37.8
LOWEST ANNUAL MEAN			29.4
HIGHEST DAILY MEAN	62	62	63
LOWEST DAILY MEAN	.17	5.1	.17
ANNUAL SEVEN-DAY MINIMUM	.43	5.9	.21
ANNUAL RUNOFF (AC-FT)	24600	27390	24870
10 PERCENT EXCEEDS	61	61	62
50 PERCENT EXCEEDS	32	50	32
90 PERCENT EXCEEDS	6.1	7.4	5.9

e Estimated.

11201456 NORTH FORK OF MIDDLE FORK TULE RIVER BELOW DIVERSION DAM, NEAR SPRINGVILLE, CA

LOCATION.—Lat 36°11'33", long 118°39'25", in SW 1/4 SE 1/4 sec. 7, T.20 S., R.31 E., Tulare County, Hydrologic Unit 18030006, on left bank 375 ft downstream from diversion dam, 0.3 mi upstream from Hossack Creek, and 11 mi east of Springville.

DRAINAGE AREA.—30.9 mi².

PERIOD OF RECORD.—October 1994 to current year (low flow records only).

GAGE.—Water-stage recorder and sharp-crested V-notch weir in concrete control. Elevation of gage is 4,000 ft above sea level, from topographic map.

REMARKS.—No records computed above 80 ft³/s. Most of the flow is diverted at the diversion dam to Pacific Gas and Electric Co. Tule River conduit (station 11201450). Water is returned to river 3.6 mi downstream after passing through Tule River Powerplant (station 11201700). See schematic diagram of Tule 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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	4.7	5.3	---	---	15	42	52	35	7.6	e8.0	e7.7
2	5.1	4.7	5.2	---	---	14	36	51	29	7.6	e8.0	e7.9
3	4.6	5.0	5.1	---	---	13	33	51	24	7.7	e8.0	e7.9
4	5.0	5.0	4.9	---	72	12	30	51	20	7.6	e3.0	e7.7
5	4.9	4.6	7.6	---	64	11	27	52	20	7.5	e3.0	e7.7
6	4.9	4.7	5.8	---	57	8.0	24	58	14	7.6	e3.0	e7.7
7	4.8	4.7	5.2	---	51	8.7	22	63	11	e3.0	e8.0	e7.7
8	4.8	4.7	5.0	---	47	11	21	68	11	e3.0	e8.0	e7.7
9	4.8	4.6	5.3	---	43	15	18	70	9.4	e3.0	e7.0	e7.7
10	4.7	4.6	---	---	40	21	e17	65	8.9	e8.0	e7.0	e7.7
11	4.7	4.5	---	---	37	25	e14	64	9.0	e8.0	e2.0	e7.7
12	4.7	4.6	---	63	35	25	e11	65	8.6	e8.0	e2.0	e7.7
13	4.7	4.5	---	59	33	26	e10	---	8.9	e8.0	e2.0	e7.7
14	4.7	4.6	e63	48	31	25	e9.5	---	9.4	e3.0	e7.0	e7.7
15	4.7	4.9	e46	52	32	26	e10	---	9.8	e3.0	e7.0	e7.7
16	4.7	4.8	e34	44	32	27	e15	---	12	e3.0	e7.0	e7.7
17	4.7	---	e26	41	31	25	e22	---	12	e3.0	e7.0	7.7
18	4.7	---	e18	40	29	27	e29	67	9.0	e8.0	e7.0	7.7
19	4.7	12	e12	40	27	32	e32	65	8.8	e8.0	e7.0	7.7
20	4.8	15	e7.7	42	28	35	e35	58	8.6	e8.0	e7.0	6.4
21	4.8	---	e5.1	38	27	34	e46	54	8.1	e3.0	e7.0	4.5
22	4.7	---	e27	44	26	34	e54	48	7.6	e3.0	e7.7	4.5
23	4.7	---	e9.9	---	25	40	e57	43	7.1	e3.0	e7.7	4.5
24	4.7	19	e4.9	---	23	43	e51	39	7.0	e3.0	e7.7	4.5
25	4.9	6.4	e5.2	---	20	49	e43	34	7.2	e8.0	e7.7	4.5
26	4.6	5.3	5.1	---	19	54	e45	31	7.8	e8.0	e7.7	4.6
27	4.6	5.3	---	---	19	56	e51	31	7.7	e8.0	e7.7	4.6
28	4.6	5.1	51	---	17	53	e56	33	7.6	e8.0	e7.7	4.5
29	4.6	4.8	34	---	---	51	e52	36	7.6	e3.0	e7.7	4.5
30	5.0	5.1	---	---	---	53	e52	39	7.6	e3.0	e7.7	4.5
31	4.8	---	---	---	---	50	---	39	---	e3.0	e7.7	---
TOTAL	148.8	---	---	---	---	918.7	964.5	---	353.7	175.6	202.0	198.3
MEAN	4.80	---	---	---	---	29.6	32.2	---	11.8	5.66	6.52	6.61
MAX	6.1	---	---	---	---	56	57	---	35	8.0	8.0	7.9
MIN	4.6	---	---	---	---	8.0	9.5	---	7.0	3.0	2.0	4.5
AC-FT	295	---	---	---	---	1820	1910	---	702	348	401	393

e Estimated.

11201850 NORTH FORK OF MIDDLE FORK TULE RIVER BELOW DOYLE SPRINGS DIVERSION, NEAR SPRINGVILLE, CA

LOCATION.—Lat 36°11'19", long 118°40'01", unsurveyed, in T.20 S., R.31 E., Tulare County, Hydrologic Unit 18030006, on right bank 600 ft downstream from diversion, 0.2 mi upstream from Meadow Creek, and 10 mi east of Springville.

DRAINAGE AREA.—34.1 mi².

PERIOD OF RECORD.—October 1994 to current year (low-flow records only).

GAGE.—Water-stage recorder and broad-crested weir in concrete control. Elevation of gage is 3,740 ft above sea level, from topographic map.

REMARKS.—No records computed above 5 ft³/s. Pacific Gas and Electric Co. pumps up to 5 ft³/s from river at Doyle Springs Diversion to Tule River Conduit (station 11201450); water is returned to river 2.6 mi downstream after passing through Tule River Powerplant (station 11201700). See schematic diagram of Tule River Basin.

COOPERATION.—Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with the Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	e4.7	---	---
8	---	---	---	---	---	---	---	---	---	e4.5	---	---
9	---	---	---	---	---	---	---	---	---	e4.4	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	e4.3	---	---
15	---	---	---	---	---	---	---	---	---	e4.4	---	---
16	---	---	---	---	---	---	---	---	---	e4.4	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	e4.5	---	---
22	---	---	---	---	---	---	---	---	---	e4.8	---	---
23	---	---	---	---	---	---	---	---	---	e4.7	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	e4.5	---	---
30	---	---	---	---	---	---	---	---	---	e4.6	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated.

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 mi².

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 near Springville (station 11201700).

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.—Pacific Gas and Electric Co. Conduit diverts 2.5 mi upstream from station; water is returned to river 1.1 mi downstream after passing through Tule River Powerplant (11201700). See schematic diagram of Tule River Basin. For records of combined discharge of river and powerplant, see station 11202001.

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 ft³/s, Dec. 6, 1966, gage height, 13.83 ft, from floodmarks, from rating curve extended above 1,820 ft³/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 ft³/s, Dec. 6, 1966; minimum daily, 6.4 ft³/s, Sept. 5–8, 1993.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	6.5	8.2	248	168	32	64	81	40	10	9.7	10
2	6.8	6.1	8.0	2290	151	31	57	79	33	10	9.7	11
3	5.6	6.6	7.6	2080	136	30	51	80	28	10	9.2	9.8
4	6.1	7.7	7.2	653	124	30	46	79	26	9.9	5.9	9.9
5	6.1	7.3	11	418	111	26	41	87	25	9.8	e9.7	9.7
6	6.4	6.3	12	304	102	26	38	94	20	9.2	e9.7	10
7	7.4	6.1	9.0	239	94	28	37	101	18	6.3	e9.7	10
8	7.3	6.1	8.2	196	85	31	34	108	17	5.9	e9.7	9.7
9	5.7	6.8	10	157	77	36	31	101	e12	5.7	e9.7	9.9
10	5.8	8.9	128	132	71	44	29	99	e9.8	9.2	e9.7	10
11	5.8	8.1	989	117	66	44	26	98	e9.8	9.7	e9.7	9.7
12	5.8	7.8	314	119	62	45	24	98	e9.8	9.6	e9.7	9.7
13	5.8	7.0	157	97	58	44	24	111	e9.8	8.6	e9.7	9.9
14	5.9	8.1	104	108	57	44	24	118	e9.8	5.5	e9.7	10
15	5.7	8.8	75	105	57	48	27	120	e9.8	5.7	e9.7	10
16	5.5	8.0	54	89	57	44	36	108	e11	5.7	e9.7	9.7
17	5.5	220	40	83	54	44	43	101	12	9.1	e9.7	10
18	5.5	84	31	83	48	50	47	100	13	10	e9.7	9.7
19	5.7	18	25	84	50	59	54	87	12	10	9.4	9.7
20	6.0	20	20	91	48	59	68	81	9.8	8.5	9.4	7.3
21	5.9	174	16	89	46	56	86	72	9.5	5.9	9.7	6.9
22	5.8	533	53	290	44	64	92	64	9.2	6.5	9.7	6.6
23	5.8	89	37	272	45	68	83	57	10	6.4	9.7	7.1
24	5.8	33	23	262	41	77	71	51	10	9.7	9.7	9.3
25	7.6	16	19	676	37	86	71	44	10	10	9.7	7.0
26	6.5	10	14	448	36	92	78	42	10	10	9.7	7.0
27	5.8	9.2	150	309	38	90	89	44	10	10	9.7	6.8
28	5.8	8.7	88	262	33	84	84	49	10	9.3	9.7	7.2
29	5.8	8.2	56	241	---	86	83	52	10	5.9	9.7	6.8
30	7.8	7.9	108	230	---	83	82	52	10	6.2	9.7	6.5
31	7.8	---	134	181	---	74	---	49	---	13	9.6	---
TOTAL	192.3	1347.2	2716.2	10953	1996	1655	1620	2507	434.3	261.3	295.7	266.9
MEAN	6.20	44.9	87.6	353	71.3	53.4	54.0	80.9	14.5	8.43	9.54	8.90
MAX	7.8	533	989	2290	168	92	92	120	40	13	9.7	11
MIN	5.5	6.1	7.2	83	33	26	24	42	9.2	5.5	5.9	6.5
AC-FT	381	2670	5390	21730	3960	3280	3210	4970	861	518	587	529

e Estimated.

11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.05	12.7	27.5	30.5	27.8	34.7	50.6	83.0	45.8	10.5	4.42	3.47
MAX	19.1	362	786	353	182	337	229	381	316	121	16.2	22.7
(WY)	1953	1951	1967	1997	1986	1943	1969	1969	1983	1983	1996	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1940 - 1997			
ANNUAL TOTAL	16522.6				24244.9							
ANNUAL MEAN	45.1				66.4				27.6			
HIGHEST ANNUAL MEAN									129			
LOWEST ANNUAL MEAN									1.25			
HIGHEST DAILY MEAN	989				2290				13300			
LOWEST DAILY MEAN	4.8				5.5				.06			
ANNUAL SEVEN-DAY MINIMUM	5.0				5.7				.20			
INSTANTANEOUS PEAK FLOW					7590				16900			
INSTANTANEOUS PEAK STAGE					10.78				13.83			
ANNUAL RUNOFF (AC-FT)	32770				48090				19960			
10 PERCENT EXCEEDS	128				117				79			
50 PERCENT EXCEEDS	15				20				5.0			
90 PERCENT EXCEEDS	5.7				6.4				.80			

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 NEAR SPRINGVILLE

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	22	40	315	236	98	133	148	106	42	25	21
2	17	20	40	2340	219	98	126	146	99	40	27	17
3	17	21	40	2100	204	97	120	147	94	38	26	19
4	16	20	37	721	192	94	115	146	92	36	25	22
5	16	21	50	482	179	91	110	154	91	35	28	22
6	16	18	72	372	170	94	104	161	86	34	27	22
7	17	19	50	306	162	96	105	168	84	34	24	22
8	15	19	48	264	153	99	102	175	83	34	24	20
9	15	20	55	225	145	104	99	168	78	35	22	20
10	15	22	194	199	139	111	97	166	71	38	22	20
11	16	16	1040	184	134	112	94	165	71	37	25	20
12	16	16	380	187	130	113	92	164	57	37	30	20
13	16	18	223	165	126	112	92	177	67	36	30	20
14	16	17	170	176	125	112	91	185	67	33	28	20
15	17	19	143	173	125	116	95	187	67	32	25	21
16	17	18	122	157	125	112	103	174	63	33	24	21
17	17	227	107	151	122	112	111	167	62	36	23	21
18	17	94	98	151	116	118	114	166	58	28	25	20
19	17	47	92	151	118	127	121	153	55	32	21	20
20	17	63	88	158	116	127	135	147	53	31	21	17
21	17	215	83	156	114	124	153	138	53	26	22	20
22	17	574	119	358	112	132	159	130	52	34	19	20
23	17	153	104	340	113	136	150	123	48	38	18	20
24	17	101	90	330	109	145	138	117	48	40	18	18
25	22	79	83	744	105	154	139	110	48	24	20	15
26	19	57	81	483	103	161	146	108	44	32	21	23
27	18	57	218	375	106	159	157	110	43	29	22	20
28	18	52	156	330	100	153	152	114	42	26	22	20
29	19	49	123	288	---	155	150	117	42	24	21	20
30	24	42	176	290	---	152	150	118	43	27	21	19
31	21	---	202	249	---	142	---	115	---	32	21	---
TOTAL	536	2116	4524	12920	3898	3756	3653	4564	1967	1033	727	600
MEAN	17.3	70.5	146	417	139	121	122	147	65.6	33.3	23.5	20.0
MAX	24	574	1040	2340	236	161	159	187	106	42	30	23
MIN	15	16	37	151	100	91	91	108	42	24	18	15
AC-FT	1060	4200	8970	25630	7730	7450	7250	9050	3900	2050	1440	1190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

MEAN	17.7	28.3	50.4	56.1	61.2	75.6	105	141	91.7	39.0	21.7	17.9
MAX	44.3	375	794	417	241	381	296	445	384	187	72.3	42.6
(WY)	1983	1951	1967	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1940 - 1997

ANNUAL TOTAL	30986	40294	
ANNUAL MEAN	84.7	110	58.7
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			15.1
HIGHEST DAILY MEAN	1040	Dec 11	2340
LOWEST DAILY MEAN	15	Oct 8	15
ANNUAL SEVEN-DAY MINIMUM	16	Oct 8	16
INSTANTANEOUS PEAK FLOW			7640
ANNUAL RUNOFF (AC-FT)	61460	79920	16900
10 PERCENT EXCEEDS	194	184	42550
50 PERCENT EXCEEDS	52	84	135
90 PERCENT EXCEEDS	17	18	29
			13

11202710 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA

LOCATION.—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 mi².

PERIOD OF RECORD.—October 1988 to September 1990, October 1991 to current year.

REVISED RECORD.—WDR CA-95-3: 1993(M).

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 above sea level, from topographic map.

REMARKS.—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 station 11202711.

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, 19,400 ft³/s, Jan. 2, 1997, gage height, 11.82 ft; minimum daily, 4.8 ft³/s, Oct. 3, 1996.

Combined flow, maximum daily discharge, 6,030 ft³/s, Jan. 3, 1997; minimum daily, 6.5 ft³/s, Dec. 12, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	7.9	21	528	460	151	200	200	138	41	16	10
2	5.0	7.8	21	5790	425	151	186	195	126	38	15	15
3	4.8	6.3	25	6030	389	148	177	191	118	35	15	19
4	5.0	6.2	25	1850	359	144	169	191	113	35	14	10
5	5.2	6.1	53	1060	329	142	163	190	116	30	12	11
6	5.2	6.2	74	750	311	142	156	200	113	27	11	11
7	5.3	6.2	53	612	284	144	152	208	102	27	11	11
8	5.3	6.1	51	522	272	146	154	211	97	25	11	11
9	5.4	6.0	87	441	251	150	154	216	92	24	11	11
10	5.4	6.0	528	379	238	161	140	209	87	23	11	11
11	5.4	6.0	2280	341	231	169	131	206	84	22	12	11
12	5.4	8.0	588	323	222	168	128	205	84	22	11	11
13	5.4	7.6	325	329	213	171	127	208	86	21	11	11
14	5.4	6.1	227	275	204	167	127	222	84	22	11	11
15	5.5	6.2	177	344	200	164	132	229	77	21	11	12
16	6.0	6.1	152	297	197	170	140	230	69	20	11	11
17	6.2	580	136	272	194	166	150	219	64	19	11	11
18	6.2	179	122	262	190	169	158	212	62	20	11	11
19	6.2	69	111	259	182	179	166	208	60	19	11	11
20	6.2	87	102	296	187	188	178	194	58	18	11	11
21	6.2	416	95	276	182	186	200	186	56	19	11	11
22	6.2	994	190	357	174	184	217	175	55	30	11	11
23	6.2	151	153	1190	170	201	221	166	52	37	11	10
24	6.1	72	120	628	165	207	206	159	51	22	11	11
25	12	46	108	1630	158	220	191	150	47	21	11	28
26	7.5	35	102	1760	159	230	191	141	45	19	11	35
27	6.1	28	403	1010	165	235	201	137	42	18	10	35
28	6.0	24	238	772	160	227	209	137	41	17	10	35
29	6.1	23	179	630	---	219	203	141	41	17	10	33
30	11	22	261	548	---	217	200	143	41	16	10	32
31	10	---	294	498	---	219	---	143	---	15	10	---
TOTAL	195.3	2830.8	7301	30259	6671	5535	5127	5822	2301	740	354	472
MEAN	6.30	94.4	236	976	238	179	171	188	76.7	23.9	11.4	15.7
MAX	12	994	2280	6030	460	235	221	230	138	41	16	35
MIN	4.8	6.0	21	259	158	142	127	137	41	15	10	10
AC-FT	387	5610	14480	60020	13230	10980	10170	11550	4560	1470	702	936

11202710 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	20.8	36.8	149	78.3	106	114	143	87.7	33.7	13.8	13.3
MAX	30.2	94.4	236	976	238	239	209	343	365	151	25.2	15.7
(WY)	1993	1997	1997	1997	1997	1995	1996	1995	1995	1995	1995	1997
MIN	6.30	6.04	5.75	6.41	8.21	15.5	32.9	22.6	12.1	11.2	10.8	10.4
(WY)	1997	1995	1995	1994	1990	1992	1990	1992	1992	1994	1996	1996

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1989 - 1997		
ANNUAL TOTAL	39560.8			67608.1					
ANNUAL MEAN	108			185			67.8		
HIGHEST ANNUAL MEAN							185		
LOWEST ANNUAL MEAN							15.6		
HIGHEST DAILY MEAN	2280			Dec 11			6030		
LOWEST DAILY MEAN	4.8			Oct 3			4.8		
ANNUAL SEVEN-DAY MINIMUM	5.1			Oct 2			5.1		
INSTANTANEOUS PEAK FLOW							19400		
INSTANTANEOUS PEAK STAGE							11.82		
ANNUAL RUNOFF (AC-FT)	78470			134100			49110		
10 PERCENT EXCEEDS	256			324			182		
50 PERCENT EXCEEDS	51			102			15		
90 PERCENT EXCEEDS	6.1			6.2			6.4		

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,
COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	37	53	560	496	188	235	236	172	74	46	36
2	29	37	52	5810	461	188	222	231	160	71	45	44
3	29	35	57	6030	425	185	213	227	152	69	45	53
4	31	36	57	1850	395	181	205	227	147	49	44	42
5	31	36	85	1060	365	179	199	226	150	48	43	40
6	31	35	105	750	347	179	193	236	147	61	42	38
7	29	34	84	612	320	180	189	244	136	61	41	37
8	26	34	82	522	308	182	191	247	131	59	41	37
9	25	34	118	456	287	186	191	252	126	58	41	37
10	25	34	559	415	274	197	178	245	121	57	41	36
11	26	34	2290	376	267	205	169	242	118	57	43	36
12	26	33	604	359	258	204	166	241	119	57	41	37
13	27	32	356	365	250	207	165	244	121	56	41	36
14	27	32	258	311	241	203	165	258	119	56	40	35
15	28	34	207	381	237	200	169	265	112	54	40	36
16	27	33	183	334	232	206	178	265	104	53	40	37
17	28	598	168	309	231	202	188	254	99	52	40	36
18	27	184	154	299	226	205	196	246	97	53	40	35
19	28	100	143	296	217	215	204	242	95	51	39	36
20	30	118	134	333	223	224	216	228	92	50	39	36
21	30	439	127	313	218	222	238	220	90	51	39	35
22	29	1000	223	392	210	220	255	209	89	63	38	35
23	29	179	185	1220	207	237	259	200	86	70	38	33
24	29	104	152	661	202	240	243	193	85	55	38	27
25	39	78	140	1660	195	248	228	184	81	53	38	28
26	35	67	134	1760	196	258	227	175	79	52	38	35
27	34	60	435	1010	202	263	237	171	76	50	37	35
28	32	56	269	772	197	261	245	171	75	49	37	35
29	32	55	211	643	---	253	239	175	75	49	37	33
30	39	54	293	584	---	251	236	177	74	48	37	32
31	39	---	326	534	---	250	---	177	---	46	36	---
TOTAL	925	3642	8244	30977	7687	6619	6239	6908	3328	1732	1245	1088
MEAN	29.8	121	266	999	275	214	208	223	111	55.9	40.2	36.3
MAX	39	1000	2290	6030	496	263	259	265	172	74	46	53
MIN	25	32	52	296	195	179	165	171	74	46	36	27
AC-FT	1830	7220	16350	61440	15250	13130	12380	13700	6600	3440	2470	2160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	MEAN	25.5	38.8	59.9	177	112	142	151	179	118	55.5	30.1	24.8
MAX	34.0	121	266	999	275	276	245	381	403	189	62.6	41.9	
(WY)	1996	1997	1997	1997	1997	1995	1996	1995	1995	1995	1995	1995	
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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1989 - 1997			
ANNUAL TOTAL	50895				78634							
ANNUAL MEAN	139				215				92.7			
HIGHEST ANNUAL MEAN									215			
LOWEST ANNUAL MEAN									34.0			
HIGHEST DAILY MEAN	2290				Dec 11				6030			
LOWEST DAILY MEAN	25				Oct 9				6.5			
ANNUAL SEVEN-DAY MINIMUM	26				Oct 8				13			
ANNUAL RUNOFF (AC-FT)	101000				156000				67150			
10 PERCENT EXCEEDS	292				357				218			
50 PERCENT EXCEEDS	87				134				40			
90 PERCENT EXCEEDS	29				34				19			

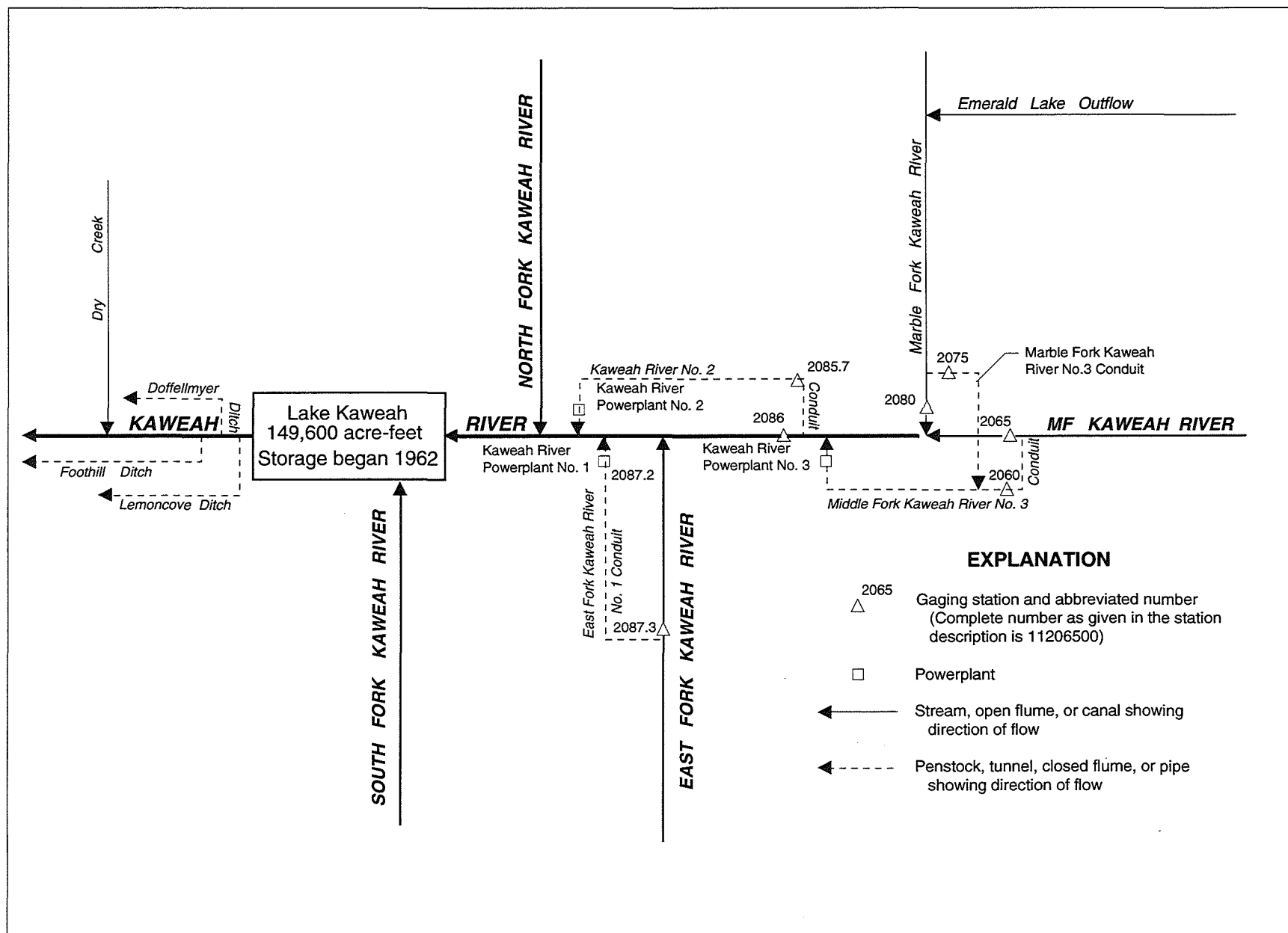


Figure 25. Diversions and storage in Kaweah River Basin.

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 mi².

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 Kaweah River 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 station 11206501.

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 ft³/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 ft³/s, Nov. 12–15, 1949. Combined flow, maximum discharge, 46,800 ft³/s, Dec. 23, 1955; minimum daily, 7.0 ft³/s, Sept. 16, 17, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	38	512	422	195	300	487	603	185	e60	e23
2	11	12	34	5480	401	193	272	468	545	183	e55	e19
3	11	12	23	e3290	371	190	261	478	495	183	e53	e30
4	11	12	19	e1270	350	188	247	488	431	188	e50	e21
5	11	12	75	e815	329	187	238	502	503	190	e50	14
6	12	12	86	e582	312	189	233	562	410	189	e48	13
7	12	12	57	e476	298	194	233	607	415	184	e45	13
8	12	12	55	e422	292	200	231	625	411	182	e45	12
9	12	12	92	368	277	211	223	617	396	e170	e43	12
10	12	12	449	335	269	227	214	581	368	e179	e43	12
11	12	12	1110	307	261	240	208	612	348	e158	e44	13
12	12	12	430	288	255	241	202	680	334	e141	e43	13
13	12	12	258	280	247	245	202	691	306	e134	e43	13
14	12	12	196	252	243	245	214	765	282	e134	43	14
15	12	12	159	303	244	249	234	780	266	e127	42	15
16	12	12	137	265	244	254	273	733	300	e115	42	15
17	12	464	124	249	248	245	313	667	340	e103	42	14
18	12	142	113	244	237	253	342	640	380	e103	35	13
19	12	63	103	241	235	277	366	598	412	e93	28	13
20	12	109	94	254	236	298	416	568	407	e91	26	13
21	12	453	87	247	231	296	473	556	370	e88	22	13
22	12	905	185	296	228	291	490	542	329	e103	22	13
23	12	265	142	600	223	314	471	489	299	e155	22	14
24	12	173	117	424	213	321	380	416	285	e141	22	14
25	12	132	104	1080	207	353	365	390	276	e96	e22	14
26	12	93	107	1240	206	379	440	390	270	e105	e20	14
27	12	71	428	798	208	366	502	444	260	e81	e20	14
28	12	61	208	624	199	363	504	556	240	e74	e21	14
29	12	51	182	551	---	361	482	624	223	e74	e21	14
30	13	42	306	487	---	356	481	710	209	e74	e20	14
31	12	---	273	450	---	341	---	700	---	e67	e20	---
TOTAL	368	3216	5791	23030	7486	8262	9810	17966	10713	4090	1112	443
MEAN	11.9	107	187	743	267	267	327	580	357	132	35.9	14.8
MAX	13	905	1110	5480	422	379	504	780	603	190	60	30
MIN	11	12	19	241	199	187	202	390	209	67	20	12
AC-FT	730	6380	11490	45680	14850	16390	19460	35640	21250	8110	2210	879

e Estimated.

11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.6	27.2	59.2	99.0	107	139	238	436	395	172	48.0	22.7
MAX	125	145	732	743	489	504	630	1178	1271	786	354	157
(WY)	1983	1983	1967	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1961 - 1997			
ANNUAL TOTAL	73462				92287							
ANNUAL MEAN	201				253				147			
HIGHEST ANNUAL MEAN									417			
LOWEST ANNUAL MEAN									25.2			
HIGHEST DAILY MEAN	1370				May 16				10500			
LOWEST DAILY MEAN	11				Sep 5				.30			
ANNUAL SEVEN-DAY MINIMUM	11				Sep 5				.30			
INSTANTANEOUS PEAK FLOW					18400				Jan 2			
INSTANTANEOUS PEAK STAGE					16.60				Jan 2			
ANNUAL RUNOFF (AC-FT)	145700				183100				29.00			
10 PERCENT EXCEEDS	619				524				431			
50 PERCENT EXCEEDS	125				202				34			
90 PERCENT EXCEEDS	12				12				10			

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,

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	33	89	567	422	198	302	490	606	188	e63	e35
2	27	38	80	5510	401	196	274	471	548	186	e58	e37
3	24	32	75	e3290	371	193	263	481	498	185	e56	e59
4	23	32	70	e1270	350	191	249	491	434	190	e53	e59
5	22	31	128	e815	329	190	240	505	506	192	e54	55
6	22	29	139	e582	312	192	235	565	413	191	e52	49
7	21	28	109	e476	298	197	235	610	418	186	e49	44
8	20	28	107	e422	292	202	233	628	414	185	e51	40
9	20	29	144	368	277	213	225	620	399	e173	e49	39
10	19	28	502	335	269	229	216	584	371	e182	e49	36
11	20	27	1140	307	261	242	210	615	351	e161	e49	36
12	20	26	462	288	255	243	204	683	337	e144	e52	36
13	20	26	312	280	248	247	204	694	309	e137	e60	35
14	20	25	250	252	244	247	216	768	285	e137	58	34
15	20	26	213	303	246	251	236	783	269	e130	56	33
16	20	26	190	265	246	256	275	736	303	e118	56	33
17	20	496	177	249	250	247	315	670	343	e106	56	32
18	19	173	166	244	239	255	344	643	383	e106	50	32
19	20	109	156	241	237	279	368	601	415	e96	42	33
20	21	157	147	254	238	300	418	571	410	e94	40	32
21	21	493	140	247	234	298	475	559	373	e91	39	32
22	20	932	239	296	231	293	492	545	332	e106	38	30
23	20	312	195	600	226	316	473	492	302	e158	38	29
24	20	207	171	424	216	323	382	419	288	e143	38	27
25	30	150	158	1080	210	355	367	393	279	e98	e38	29
26	26	117	161	1240	209	381	442	393	273	e107	e36	37
27	26	125	483	798	211	368	504	447	263	e83	e35	38
28	24	115	262	624	202	365	506	559	243	e76	e35	35
29	24	103	235	551	---	363	485	627	226	e76	e35	32
30	41	94	360	487	---	358	484	713	212	e76	e34	30
31	33	---	327	450	---	343	---	703	---	e70	e33	---
TOTAL	706	4047	7387	23115	7524	8331	9872	18059	10803	4171	1452	1108
MEAN	22.8	135	238	746	269	269	329	583	360	135	46.8	36.9
MAX	41	932	1140	5510	422	381	506	783	606	192	63	59
MIN	19	25	70	241	202	190	204	393	212	70	33	27
AC-FT	1400	8030	14650	45850	14920	16520	19580	35820	21430	8270	2880	2200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)

MEAN	32.5	50.5	99.5	129	145	183	284	482	441	203	70.9	39.6
MAX	177	201	743	746	540	556	683	1225	1318	826	395	202
(WY)	1983	1983	1956	1997	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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1955 - 1997

ANNUAL TOTAL	89110	96575	
ANNUAL MEAN	243	265	180
HIGHEST ANNUAL MEAN			468
LOWEST ANNUAL MEAN			53.5
HIGHEST DAILY MEAN	1420	May 16	5510
LOWEST DAILY MEAN	19	Oct 10	19
ANNUAL SEVEN-DAY MINIMUM	20	Oct 8	20
INSTANTANEOUS PEAK FLOW			18400
ANNUAL RUNOFF (AC-FT)	176700	191600	130400
10 PERCENT EXCEEDS	669	546	478
50 PERCENT EXCEEDS	176	211	86
90 PERCENT EXCEEDS	25	28	17

e Estimated.

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 mi².

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.—WP1930: 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.—Marble Fork Kaweah River No. 3 Conduit (station 11207500) 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 station 11208001.

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 ft³/s, Dec. 23, 1955, gage height, 13.4 ft, from rating curve extended above 1,100 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.10 ft³/s at times in 1961–64. Combined flow, maximum discharge, 12,500 ft³/s, Dec. 23, 1955; minimum daily, 0.82 ft³/s, Oct. 4, 5, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.0	e2.0	40	22	67	202	578	377	118	9.4	16
2	1.7	e2.0	e2.0	37	18	65	212	579	432	126	9.3	e1.9
3	1.7	e2.0	e2.0	39	16	67	155	541	486	126	8.9	e1.9
4	1.7	e2.0	e2.0	38	136	83	140	502	529	102	8.9	e1.9
5	1.7	e2.0	e2.0	24	592	94	148	496	552	94	8.9	e1.9
6	1.7	e2.0	e2.0	9.6	215	81	164	508	530	93	8.9	e1.9
7	1.7	e2.0	e2.0	9.4	134	79	190	508	512	86	8.9	e1.9
8	1.7	e2.0	e2.0	9.5	112	79	241	481	484	81	8.9	e1.9
9	1.7	e2.0	e2.0	9.4	105	90	288	450	479	75	9.0	e1.9
10	1.7	e2.0	e2.0	9.4	93	91	257	481	396	66	9.4	e1.9
11	1.7	e2.0	e5.0	9.4	88	92	220	530	324	112	9.6	e1.9
12	1.8	e2.0	128	9.4	83	96	191	572	303	103	10	e1.9
13	1.9	e2.0	95	9.4	75	89	174	602	305	71	12	e1.9
14	1.9	e2.0	28	9.4	77	80	197	552	295	93	13	e1.9
15	1.9	e2.0	18	9.4	78	77	258	552	266	56	12	e1.9
16	1.9	e2.0	6.2	57	83	81	308	1350	239	46	10	e1.9
17	1.9	e2.0	3.0	70	84	96	280	657	214	37	10	e1.9
18	1.9	e2.0	e2.0	36	71	124	298	564	202	31	11	e1.9
19	2.0	e2.0	e2.0	41	382	150	209	500	203	23	11	e1.9
20	2.0	e2.0	e2.0	25	407	163	178	457	187	21	12	e1.9
21	2.0	e2.0	e2.0	24	205	174	160	408	172	19	12	e1.9
22	2.0	e2.0	e2.0	18	153	178	161	325	149	16	12	e1.9
23	2.0	e2.0	e2.0	13	130	142	193	305	158	13	12	e1.9
24	2.0	e2.0	e2.0	12	118	119	251	253	149	14	12	e1.9
25	2.0	e2.0	e2.0	18	103	113	331	216	123	13	17	e1.9
26	2.0	e2.0	e2.0	13	88	110	436	206	87	12	25	e1.9
27	2.0	e2.0	e2.0	15	80	116	474	249	86	11	26	e1.9
28	2.0	e2.0	e5.3	24	76	130	501	281	77	12	25	e1.9
29	2.0	e2.0	e9.5	16	71	110	521	298	93	12	25	e1.9
30	2.0	e2.0	e9.5	14	---	111	567	279	115	11	25	e1.9
31	2.0	---	e26	22	---	121	---	313	---	9.5	25	---
TOTAL	58.4	60.0	373.5	690.3	3895	3268	7905	14593	8524	1702.5	417.1	71.1
MEAN	1.88	2.00	12.0	22.3	134	105	264	471	284	54.9	13.5	2.37
MAX	2.2	2.0	128	70	592	178	567	1350	552	126	26	16
MIN	1.7	2.0	2.0	9.4	16	65	140	206	77	9.5	8.9	1.9
AC-FT	116	119	741	1370	7730	6480	15680	28950	16910	3380	827	141

e Estimated.

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1996, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.22	9.42	30.5	36.2	45.0	62.5	138	285	250	93.3	19.6	9.37
MAX	60.5	72.5	385	262	259	278	396	812	784	472	135	103
(WY)	1983	1983	1956	1980	1986	1986	1982	1969	1983	1995	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 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1955 - 1996	
ANNUAL TOTAL	60586.6		41557.9			
ANNUAL MEAN	166		114		82.1	
HIGHEST ANNUAL MEAN					235	
LOWEST ANNUAL MEAN					10.9	
HIGHEST DAILY MEAN	883	Jun 28	1350	May 16	5700	Dec 23 1955
LOWEST DAILY MEAN	1.7	Sep 18	1.7	Oct 2	.10	Jan 10 1961
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 18	1.7	Oct 2	.10	Jan 10 1961
INSTANTANEOUS PEAK FLOW			2170	May 16	12500	Dec 23 1955
INSTANTANEOUS PEAK STAGE			7.89	May 16	13.40	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	120200		82430		59500	
10 PERCENT EXCEEDS	544		399		250	
50 PERCENT EXCEEDS	55		25		12	
90 PERCENT EXCEEDS	1.9		1.9		1.6	

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	14	6.4	249	214	102	204	374	408	80	25	8.9
2	9.0	14	5.2	2630	205	102	180	354	375	81	23	5.1
3	9.4	14	4.9	2190	190	101	169	365	344	83	22	16
4	9.4	14	3.7	835	180	101	161	383	291	83	21	1.8
5	9.7	15	28	529	171	100	157	377	275	83	21	1.7
6	11	15	39	373	163	101	151	434	237	82	20	1.7
7	11	15	21	309	157	106	152	462	266	77	19	1.7
8	11	16	17	262	155	112	151	519	278	75	19	1.8
9	11	16	30	235	146	119	145	508	249	71	18	1.9
10	11	17	95	218	143	134	136	469	236	75	17	2.0
11	11	17	388	203	136	147	131	499	224	66	10	2.0
12	11	18	193	191	130	147	127	547	206	59	6.0	2.1
13	11	18	111	182	126	151	127	527	180	56	6.1	1.8
14	10	18	88	166	126	150	137	619	140	56	6.2	1.6
15	10	19	74	173	128	149	159	596	140	53	6.1	1.6
16	10	20	65	161	129	160	193	538	185	48	6.5	1.6
17	10	151	57	155	130	147	232	490	225	43	6.7	1.6
18	10	89	52	151	123	156	252	474	238	43	6.7	1.6
19	10	44	48	151	123	183	256	438	263	39	6.7	1.7
20	10	59	45	152	127	205	291	412	244	38	6.7	1.7
21	11	205	42	148	124	197	348	408	206	37	6.7	1.7
22	11	496	57	152	122	186	349	407	177	43	6.7	1.8
23	11	117	54	341	119	215	340	362	160	65	6.4	1.8
24	11	70	47	237	113	223	275	274	151	59	6.2	2.4
25	12	52	43	657	110	256	258	274	145	40	6.2	3.1
26	12	43	43	549	110	272	345	276	139	44	6.4	3.2
27	12	31	108	342	110	252	396	331	133	34	6.4	3.2
28	12	24	68	281	105	249	383	435	119	31	6.4	3.4
29	13	15	60	256	---	254	361	461	107	31	6.4	3.5
30	14	8.0	140	234	---	258	362	528	99	31	6.1	3.5
31	14	---	140	223	---	239	---	518	---	28	6.9	---
TOTAL	337.3	1664.0	2173.2	12935	3915	5274	6928	13659	6440	1734	343.5	87.5
MEAN	10.9	55.5	70.1	417	140	170	231	441	215	55.9	11.1	2.92
MAX	14	496	388	2630	214	272	396	619	408	83	25	16
MIN	8.8	8.0	3.7	148	105	100	127	274	99	28	6.0	1.6
AC-FT	669	3300	4310	25660	7770	10460	13740	27090	12770	3440	681	174

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.32	10.5	31.4	45.0	47.2	65.0	140	288	250	92.4	19.4	9.22
MAX	60.5	72.5	385	417	259	278	396	812	784	472	135	103
(WY)	1983	1983	1956	1997	1986	1986	1982	1969	1983	1995	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1955 - 1997

ANNUAL TOTAL	45240.5	55490.5	
ANNUAL MEAN	124	152	83.8
HIGHEST ANNUAL MEAN			235
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	1350	May 16	5700
LOWEST DAILY MEAN	1.9	Sep 2	.10
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 2	.10
INSTANTANEOUS PEAK FLOW		6760	12500
INSTANTANEOUS PEAK STAGE		11.57	13.40
ANNUAL RUNOFF (AC-FT)	89730	110100	60680
10 PERCENT EXCEEDS	407	373	254
50 PERCENT EXCEEDS	57	106	13
90 PERCENT EXCEEDS	8.9	6.2	1.7

11208001 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA—Continued

MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER CONDUIT NO. 3 AT POTWISHA CAMP, CA

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	9.8	7.7	41	53	97	241	617	417	149	28	20
2	16	10	7.6	38	48	97	252	616	472	158	26	8.4
3	15	10	7.7	40	46	102	193	574	526	158	25	8.1
4	15	9.6	7.7	39	170	119	178	535	567	133	23	7.9
5	14	9.2	7.9	34	622	130	186	529	589	124	22	8.0
6	14	9.2	7.9	31	250	114	203	541	566	125	21	8.2
7	13	9.2	7.8	32	165	113	231	541	548	119	21	7.8
8	13	9.0	8.0	34	145	114	266	514	519	114	19	7.6
9	13	8.9	7.8	32	139	126	288	483	514	107	18	7.4
10	12	8.9	7.5	30	127	126	257	515	430	97	18	7.5
11	12	9.2	11	28	121	127	235	565	357	145	18	7.1
12	12	8.8	153	29	117	129	231	607	337	137	20	7.5
13	12	8.6	122	30	110	120	214	638	341	101	23	8.8
14	11	8.6	56	29	113	112	224	588	330	124	23	13
15	11	8.5	46	29	114	110	258	602	300	85	21	14
16	11	8.3	32	84	119	117	308	1390	273	73	18	14
17	11	8.3	27	102	121	132	297	683	247	63	17	14
18	11	8.2	26	66	107	161	328	597	235	58	17	12
19	11	8.0	24	72	424	189	236	533	235	54	17	11
20	10	7.9	22	54	449	202	208	490	217	51	18	9.8
21	10	7.7	20	53	238	213	192	440	199	49	18	8.5
22	10	7.7	21	47	184	216	192	356	174	45	17	7.4
23	10	7.7	23	41	160	178	225	337	187	43	16	6.5
24	10	7.7	21	41	149	154	285	286	180	44	16	6.6
25	9.9	7.7	21	48	134	148	366	250	153	42	20	6.8
26	9.9	7.8	21	42	120	145	473	243	115	39	28	6.6
27	9.9	8.0	21	45	112	151	511	287	114	34	29	6.8
28	9.9	8.0	22	56	107	166	539	320	105	37	28	6.5
29	9.7	8.0	24	46	101	145	559	337	121	33	27	6.2
30	9.5	7.8	30	43	---	147	605	318	145	31	27	6.2
31	9.5	---	37	53	---	157	---	352	---	30	27	---
TOTAL	362.3	256.3	857.6	1389	4865	4357	8781	15684	9513	2602	666	270.2
MEAN	11.7	8.54	27.7	44.8	168	141	293	506	317	83.9	21.5	9.01
MAX	17	10	153	102	622	216	605	1390	589	158	29	20
MIN	9.5	7.7	7.5	28	46	97	178	243	105	30	16	6.2
AC-FT	719	508	1700	2760	9650	8640	17420	31110	18870	5160	1320	536

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1996, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.1	20.8	43.8	51.9	67.8	90.1	168	314	279	113	30.8	17.0
MAX	88.8	103	385	300	295	315	426	840	840	512	184	134
(WY)	1983	1983	1956	1980	1986	1986	1982	1969	1983	1995	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 1995 CALENDAR YEAR				FOR 1996 WATER YEAR				WATER YEARS 1955 - 1996			
ANNUAL TOTAL	70930.2				49603.4							
ANNUAL MEAN	194				136				101			
HIGHEST ANNUAL MEAN									257			
LOWEST ANNUAL MEAN									24.7			
HIGHEST DAILY MEAN	924				1390				5700			
LOWEST DAILY MEAN	7.5				6.2				.82			
ANNUAL SEVEN-DAY MINIMUM	7.7				6.5				1.0			
ANNUAL RUNOFF (AC-FT)	140700				98390				72990			
10 PERCENT EXCEEDS	580				433				282			
50 PERCENT EXCEEDS	90				48				34			
90 PERCENT EXCEEDS	9.4				8.0				5.0			

11208001 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA—Continued

MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER CONDUIT NO. 3 AT POTWISHA CAMP, CA

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	22	41	285	214	106	206	375	409	81	28	10
2	14	23	36	2660	205	106	182	355	376	82	26	10
3	14	22	35	2190	190	105	171	366	345	84	25	35
4	14	23	33	835	180	105	163	384	292	84	23	19
5	14	25	66	529	171	104	159	378	276	84	23	15
6	16	25	81	373	163	105	153	435	238	83	22	12
7	16	24	60	309	157	110	154	463	267	78	21	11
8	16	26	55	262	155	116	153	520	279	76	21	9.8
9	15	29	67	235	146	123	147	509	250	72	20	9.3
10	15	30	130	218	143	138	138	470	237	76	19	9.0
11	15	30	405	203	139	151	132	500	225	67	15	8.7
12	15	31	214	191	135	151	128	548	207	60	13	8.9
13	15	31	142	182	131	155	128	528	181	57	12	8.4
14	15	30	118	166	131	154	138	620	141	57	11	7.8
15	15	31	103	173	133	153	160	597	141	53	11	7.5
16	15	32	97	161	134	164	194	539	186	48	11	7.6
17	15	165	93	155	135	151	233	491	226	43	11	7.4
18	15	110	88	151	127	161	253	475	239	54	10	7.1
19	15	81	83	151	128	186	257	439	264	53	9.7	7.2
20	15	100	80	152	132	207	292	413	245	47	9.5	7.4
21	17	235	76	148	129	199	349	409	207	40	9.4	7.2
22	17	515	93	152	127	188	350	408	178	46	9.0	6.9
23	17	155	89	341	124	217	341	363	161	68	8.6	6.6
24	16	110	81	237	118	225	276	275	152	62	8.3	6.0
25	20	90	76	657	114	258	259	275	146	43	8.2	6.9
26	20	79	76	549	114	274	346	277	140	47	8.3	9.1
27	18	66	147	342	114	254	397	332	134	37	8.2	8.7
28	18	61	104	281	109	251	384	436	120	34	8.1	8.2
29	19	51	95	256	---	256	362	462	108	34	8.0	7.4
30	25	43	177	234	---	260	363	529	100	34	7.7	7.0
31	22	---	174	223	---	241	---	519	---	31	8.4	---
TOTAL	507	2295	3215	13001	3998	5374	6968	13690	6470	1815	433.4	292.1
MEAN	16.4	76.5	104	419	143	173	232	442	216	58.5	14.0	9.74
MAX	25	515	405	2660	214	274	397	620	409	84	28	35
MIN	14	22	33	148	109	104	128	275	100	31	7.7	6.0
AC-FT	1010	4550	6380	25790	7930	10660	13820	27150	12830	3600	860	579

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.1	22.0	45.2	60.5	69.5	92.0	169	317	277	112	30.4	16.8
MAX	88.8	103	385	419	295	315	426	840	840	512	184	134
(WY)	1983	1983	1956	1997	1986	1986	1982	1969	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1955 - 1997	
ANNUAL TOTAL	54144.2		58058.5			
ANNUAL MEAN	148		159		102	
HIGHEST ANNUAL MEAN					257	
LOWEST ANNUAL MEAN					24.7	
HIGHEST DAILY MEAN	1390		2660		5700	
LOWEST DAILY MEAN	6.2		6.0		.82	
ANNUAL SEVEN-DAY MINIMUM	6.5		6.9		1.0	
ANNUAL RUNOFF (AC-FT)	107400		115200		73970	
10 PERCENT EXCEEDS	443		374		284	
50 PERCENT EXCEEDS	93		114		34	
90 PERCENT EXCEEDS	15		9.9		5.1	

11208600 KAWEAH RIVER BELOW NO. 2 CONDUIT, NEAR HAMMOND, CA

LOCATION.—Lat 36°29'04", long 118°50'06", in NW 1/4 NW 1/4 sec. 37, T.17 S., R.29 E., Tulare County, Hydrologic Unit 18030007, on right bank 0.4 mi upstream of confluence with East Fork Kaweah River, 1.9 mi northeast of Hammond, and 5.2 miles northeast of Three Rivers.

DRAINAGE AREA.—342 mi².

PERIOD OF RECORD.—October 1993 to current year.

GAGE.—Water-stage recorder on river, acoustic-flow meter on minimum release discharge pipe; water-stage recorder for conduit diversion. Elevation of gage is 1,360 ft above sea level, from topographic map.

REMARKS.—River discharge is the combined flow of river gage and flow through pipe intake to Kaweah Powerplant No. 2. Kaweah River No. 2 conduit (station 11208570) diverts up to 130 ft³/s from right bank of river near diversion dam. Water is returned to Kaweah River 3.8 mi downstream of diversion and 1.9 mi upstream of confluence with North Fork Kaweah River. For records of combined discharges of river and conduit, see station 11208601. See schematic diagram of Kaweah River Basin.

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

EXTREMES FOR PERIOD OF RECORD.—River only, maximum discharge, 29,000 ft³/s, Jan. 2, 1997; minimum daily, 5.5 ft³/s, for several days in December 1994.

Combined flow, maximum daily discharge, 9,810 ft³/s, Jan. 2, 1997; minimum daily 12 ft³/s, Oct. 23, 24, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	49	728	615	271	449	759	902	e210	46	26
2	12	13	40	e9800	585	249	393	733	815	e200	34	30
3	13	13	30	e6000	538	244	369	738	762	e190	30	64
4	12	12	23	e2250	501	247	347	768	665	e192	32	14
5	12	12	88	e1350	467	249	334	766	691	e180	35	13
6	12	12	143	e1000	438	251	320	865	607	e175	36	13
7	12	12	88	e800	415	258	320	926	618	e165	34	14
8	12	12	79	e690	406	270	319	989	639	e153	33	14
9	12	12	116	e620	379	287	304	979	594	e140	33	13
10	12	12	597	e560	366	318	286	914	567	154	32	13
11	12	12	1620	e530	350	350	279	946	528	139	30	13
12	12	12	659	e485	340	361	273	1100	489	123	32	13
13	12	12	402	e465	327	354	263	1090	445	119	e24	14
14	12	12	296	437	320	353	303	1210	365	120	26	17
15	12	12	234	490	323	353	326	1210	354	113	26	17
16	12	12	202	433	322	374	388	1130	410	107	26	16
17	12	592	182	403	330	346	467	1030	497	95	30	12
18	12	258	164	389	311	360	525	997	536	89	57	12
19	12	117	150	385	306	403	549	914	593	81	68	12
20	12	157	139	416	312	447	616	866	604	76	66	12
21	12	606	128	400	305	444	718	866	547	74	64	12
22	12	1380	260	456	299	423	742	840	462	110	45	12
23	12	408	217	969	293	474	732	780	412	212	27	14
24	12	232	170	701	276	483	604	636	e373	237	26	15
25	15	168	151	1640	265	540	550	615	e356	136	25	14
26	12	135	149	1910	262	590	681	589	e346	114	28	14
27	12	105	575	1230	270	560	783	659	e335	93	28	13
28	12	91	305	975	273	549	782	824	e300	81	27	12
29	12	72	248	850	---	549	746	931	e258	89	27	12
30	12	56	459	742	---	553	742	1030	e240	94	27	12
31	12	---	452	655	---	522	---	1060	---	66	27	---
TOTAL	376	4571	8415	38759	10194	12032	14510	27760	15310	4127	1081	482
MEAN	12.1	152	271	1250	364	388	484	895	510	133	34.9	16.1
MAX	15	1380	1620	9800	615	590	783	1210	902	237	68	64
MIN	12	12	23	385	262	244	263	589	240	66	24	12
AC-FT	746	9070	16690	76880	20220	23870	28780	55060	30370	8190	2140	956

e Estimated.

11208600 KAWEAH RIVER BELOW NO. 2 CONDUIT, NEAR HAMMOND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.0	44.9	82.6	371	249	340	468	838	742	360	80.5	15.6
MAX	27.0	152	271	1250	439	521	633	1051	1500	1131	252	26.3
(WY)	1994	1997	1997	1997	1996	1995	1996	1996	1995	1995	1995	1995
MIN	11.8	5.70	5.93	20.1	32.1	108	249	451	250	11.7	11.2	8.05
(WY)	1996	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1994 - 1997

ANNUAL TOTAL	117970	137617		
ANNUAL MEAN	322	377		301
HIGHEST ANNUAL MEAN				436
LOWEST ANNUAL MEAN				99.2
HIGHEST DAILY MEAN	2500	May 16	9800	Jan 2
LOWEST DAILY MEAN	11	Sep 4	12	Oct 1
ANNUAL SEVEN-DAY MINIMUM	11	Sep 2	12	Oct 4
INSTANTANEOUS PEAK FLOW			29000	Jan 2
ANNUAL RUNOFF (AC-FT)	234000		273000	218000
10 PERCENT EXCEEDS	998		806	854
50 PERCENT EXCEEDS	199		270	105
90 PERCENT EXCEEDS	12		12	8.3

11208601 KAWEAH RIVER BELOW NO. 2 CONDUIT, NEAR HAMMOND, CA—Continued

KAWEAH RIVER BELOW NO. 2 CONDUIT AND KAWEAH RIVER NO. 2 CONDUIT, NEAR HAMMOND

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	36	115	806	683	333	529	838	977	e282	e119	39
2	23	39	102	e9810	653	314	473	812	889	e275	e105	54
3	22	40	96	e6000	608	310	449	817	836	e266	e97	129
4	23	39	94	e2250	576	309	427	847	743	e269	e96	77
5	23	39	161	e1350	543	306	414	845	769	e257	e98	65
6	23	38	212	e1000	514	308	400	943	682	e251	e100	56
7	23	36	154	e800	492	315	400	1000	695	e240	e97	50
8	23	34	146	e690	483	327	399	1070	714	e229	e94	46
9	22	34	187	e620	456	344	384	1060	670	e221	e91	43
10	21	34	652	e560	443	375	366	991	645	e235	e88	41
11	21	34	1620	e530	424	407	359	1020	605	e219	e78	40
12	21	34	699	e485	415	404	353	1130	565	e201	79	41
13	21	34	474	e465	402	413	343	1120	520	e196	e63	39
14	21	34	368	472	395	414	357	1290	438	e197	64	40
15	21	34	308	562	398	414	394	1290	427	e189	64	39
16	21	34	276	510	396	435	468	1210	487	e182	66	39
17	21	607	257	481	403	410	547	1100	575	e170	61	33
18	21	276	241	467	386	428	605	1070	613	e165	68	32
19	22	173	227	463	381	473	629	989	668	e156	68	33
20	23	220	216	494	387	519	696	944	680	e152	66	32
21	18	656	205	474	380	516	795	944	622	e149	64	31
22	13	1400	337	530	374	495	817	918	537	e176	55	29
23	12	479	294	1030	368	545	810	857	487	e293	50	e29
24	12	306	247	765	350	556	679	712	e449	e298	49	e28
25	22	239	228	1700	338	618	627	693	e431	e212	49	e30
26	33	209	226	1910	334	670	761	667	e419	e187	48	e38
27	30	179	653	1230	340	640	863	737	e411	e162	47	e39
28	26	165	382	975	339	629	862	902	e375	e150	44	e36
29	25	144	324	850	---	629	826	1010	e332	e160	44	e33
30	34	122	536	763	---	633	821	1110	e312	e163	43	e31
31	38	---	529	723	---	602	---	1140	---	e136	41	---
TOTAL	702	5748	10566	39765	12261	14091	16853	30076	17573	6438	2196	1292
MEAN	22.6	192	341	1283	438	455	562	970	586	208	70.8	43.1
MAX	38	1400	1620	9810	683	670	863	1290	977	298	119	129
MIN	12	34	94	463	334	306	343	667	312	136	41	28
AC-FT	1390	11400	20960	78870	24320	27950	33430	59660	34860	12770	4360	2560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

MEAN	37.4	76.2	135	420	320	416	548	916	819	432	122	46.5
MAX	55.8	192	341	1283	514	600	710	1124	1583	1220	334	94.2
(WY)	1995	1997	1997	1997	1996	1995	1996	1996	1995	1995	1995	1995
MIN	22.6	30.7	46.6	44.6	86.4	188	330	532	324	55.5	20.8	19.7
(WY)	1997	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1994 - 1997	
ANNUAL TOTAL	139056		157561			
ANNUAL MEAN	380		432		357	
HIGHEST ANNUAL MEAN					508	
LOWEST ANNUAL MEAN					142	
HIGHEST DAILY MEAN	2550		9810		9810	
LOWEST DAILY MEAN	12		12		12	
ANNUAL SEVEN-DAY MINIMUM	17		17		14	
ANNUAL RUNOFF (AC-FT)	275800		312500		258900	
10 PERCENT EXCEEDS	1070		862		936	
50 PERCENT EXCEEDS	276		338		181	
90 PERCENT EXCEEDS	27		33		29	

e Estimated.

11208730 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CAM

LOCATION.—Lat 36°27'06", long 118°47'18", in NW 1/4 sec. 14, T.17 S., R.29 E. (corrected), Tulare County, Hydrologic Unit 18030007, 1.9 miles downstream of Grunigen Creek confluence, and 8.2 miles east of Three Rivers.

DRAINAGE AREA.—85.8 mi².

PERIOD OF RECORD.—May 1952 to September 1955, October 1957 to September 1977, October 1993 to current year. Prior to October 1962, combined, only.

CHEMICAL ANALYSES: July 1968 to September 1971.

WATER TEMPERATURE: August 1968 to September 1976.

SEDIMENT DATA: August 1968 to September 1971.

GAGE.—Water-stage recorder and acoustic-flow meter on river; water-stage recorder and Parshall flume for conduit diversion. Elevation of gage is 2,500 ft above sea level, from topographic map.

REMARKS.—East Fork Kaweah River No. 1 Conduit (station 11208720) diverts up to 30 ft³/s from left bank of river near diversion dam. Water is returned to Middle Fork Kaweah River, 1.9 mi downstream from mouth of East Fork. See schematic diagram of Kaweah River Basin. For records of combined discharges of river and conduit, see station 11208731.

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, 13,000 ft³/s, Dec. 6, 1966, gage height, 21 ft, from floodmarks, from rating curve extended above 850 ft³/s, on basis of critical-depth measurement of peak flow over diversion dam; minimum daily, no flow, Jan. 22, Oct. 18–20, 1962.

Combined flow, maximum discharge, 13,000 ft³/s, Dec. 6, 1966; minimum daily, 3.5 ft³/s, Sept. 28, 29, 1960.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.8	45	385	296	121	222	373	541	101	34	5.6
2	7.7	9.1	39	e4420	286	120	205	366	452	91	32	14
3	8.4	9.1	35	e3650	271	115	195	374	424	87	30	27
4	7.6	9.1	35	e1390	262	114	183	379	377	87	29	16
5	6.9	9.1	88	e881	257	114	170	384	377	83	28	9.9
6	6.9	9.1	82	e621	250	114	166	429	340	80	26	7.2
7	7.6	9.9	59	e515	242	117	163	451	347	76	24	6.8
8	8.3	9.9	51	e437	237	121	162	454	351	75	23	6.7
9	8.4	9.9	99	e392	223	126	158	447	331	71	22	5.0
10	8.4	10	408	e363	218	142	149	440	316	74	18	5.0
11	8.4	11	668	e338	212	152	173	449	300	72	15	5.0
12	8.4	11	357	e318	206	152	165	475	289	66	13	5.6
13	8.9	11	249	e303	187	150	158	536	269	62	11	5.6
14	9.1	11	189	e277	177	147	160	661	245	62	10	5.3
15	9.6	10	148	e288	174	152	170	761	220	60	9.5	5.0
16	9.9	11	130	e268	175	156	189	740	226	53	9.0	5.3
17	9.9	434	119	e258	179	147	219	633	234	50	8.1	5.0
18	9.9	161	109	e252	169	149	252	601	253	48	7.3	5.6
19	9.9	69	101	e252	160	171	279	537	291	46	6.7	6.3
20	9.9	143	87	e253	157	189	301	486	291	43	6.4	6.1
21	9.9	357	86	e247	146	192	337	474	272	46	6.3	5.7
22	9.9	469	184	270	144	192	353	457	247	54	5.4	5.5
23	9.9	202	124	398	147	211	342	426	222	87	5.9	5.7
24	11	122	103	307	136	217	313	373	204	56	5.1	5.6
25	11	97	90	967	130	249	303	341	187	47	5.4	6.3
26	11	79	94	1020	125	275	331	340	180	44	5.8	10
27	9.9	67	342	456	130	274	367	363	170	40	5.9	6.7
28	13	61	193	388	123	270	376	458	147	49	5.1	5.1
29	18	52	173	340	---	266	367	546	140	52	5.9	4.8
30	25	46	254	316	---	258	367	669	124	39	5.7	6.2
31	15	---	239	310	---	246	---	656	---	38	5.3	---
TOTAL	315.7	2518.0	4980	20880	5419	5419	7295	15079	8367	1939	423.8	219.6
MEAN	10.2	83.9	161	674	194	175	243	486	279	62.5	13.7	7.32
MAX	25	469	668	4420	296	275	376	761	541	101	34	27
MIN	6.9	8.8	35	247	123	114	149	340	124	38	5.1	4.8
AC-FT	626	4990	9880	41420	10750	10750	14470	29910	16600	3850	841	436

e Estimated.

11208730 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.08	9.25	41.0	66.9	55.7	74.1	151	357	350	120	25.2	9.48
MAX	22.4	83.9	594	674	219	251	350	944	966	661	148	73.9
(WY)	1970	1997	1967	1997	1969	1995	1969	1969	1969	1995	1967	1978
MIN	.32	.48	.23	.55	.37	2.28	45.2	54.8	21.3	.85	.34	.23
(WY)	1959	1963	1959	1961	1961	1977	1977	1977	1976	1959	1955	1953

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1952 - 1997			
ANNUAL TOTAL	57104.7				72855.1							
ANNUAL MEAN	156				200				104			
HIGHEST ANNUAL MEAN									300			
LOWEST ANNUAL MEAN									15.9			
HIGHEST DAILY MEAN	1040				May 16				8000			
LOWEST DAILY MEAN	6.0				Sep 10				.00			
ANNUAL SEVEN-DAY MINIMUM	6.2				Sep 5				.10			
INSTANTANEOUS PEAK FLOW					e11300				13000			
INSTANTANEOUS PEAK STAGE					unknown				21.00			
ANNUAL RUNOFF (AC-FT)	113300				144500				75560			
10 PERCENT EXCEEDS	460				427				321			
50 PERCENT EXCEEDS	94				142				21			
90 PERCENT EXCEEDS	7.7				6.8				.60			

11208731 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CA—Continued

EAST FORK KAWEAH RIVER AND EAST FORK KAWEAH RIVER NO. 1 CONDUIT NEAR THREE RIVERS, CA

COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	22	66	408	296	e139	238	373	541	121	54	23
2	9.6	23	59	e4420	286	e138	221	366	452	112	52	32
3	22	22	55	e3650	271	e135	211	374	424	107	50	45
4	20	21	55	e1390	262	e135	199	379	377	107	50	35
5	19	21	109	e881	257	e135	186	384	377	103	49	32
6	18	21	102	e621	250	e134	182	429	340	100	47	29
7	18	22	81	e515	242	e138	179	451	347	96	45	27
8	17	22	73	e437	237	e141	178	454	351	95	44	26
9	16	23	120	e392	223	e146	175	447	331	90	43	24
10	16	23	423	e363	218	e161	164	440	327	95	39	24
11	16	23	668	e338	212	e171	173	449	323	92	36	24
12	17	23	362	e318	206	e170	165	475	311	86	34	25
13	17	22	270	e303	e196	168	158	536	291	82	23	23
14	17	22	210	e277	e196	165	160	661	267	82	21	21
15	17	22	169	e288	e193	170	170	761	242	80	31	21
16	17	22	151	e268	e194	174	189	740	238	73	29	21
17	17	441	140	e258	e198	165	219	633	245	70	28	20
18	17	166	130	e252	e188	167	252	601	275	68	27	21
19	18	88	121	e252	e180	190	279	537	311	66	27	21
20	19	163	108	e253	e177	207	301	486	310	63	26	21
21	19	371	107	e247	e166	209	337	474	290	66	26	21
22	18	476	205	270	e164	209	353	457	265	74	25	20
23	18	221	146	398	e167	228	342	426	240	106	26	19
24	19	142	125	307	e156	234	313	373	224	75	25	18
25	25	117	112	967	e151	263	303	341	207	67	25	19
26	22	99	116	1020	e147	282	331	340	199	64	26	28
27	20	87	363	456	e151	290	367	363	190	60	26	26
28	17	81	214	388	e142	287	376	458	166	58	24	23
29	18	72	195	340	---	283	367	546	158	60	25	22
30	25	67	276	316	---	275	367	669	142	60	24	20
31	19	---	261	310	---	263	---	656	---	59	23	---
TOTAL	555.6	2945	5592	20903	5726	5972	7455	15079	8761	2537	1030	731
MEAN	17.9	98.2	180	674	205	193	249	486	292	81.8	33.2	24.4
MAX	25	476	668	4420	296	290	376	761	541	121	54	45
MIN	8.0	21	55	247	142	134	158	340	142	58	21	18
AC-FT	1100	5840	11090	41460	11360	11850	14790	29910	17380	5030	2040	1450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1997, BY WATER YEAR (WY)

MEAN	20.8	26.7	58.9	84.4	77.8	96.3	175	381	374	144	45.9	27.3
MAX	42.2	98.2	597	674	223	270	368	966	988	682	174	99.5
(WY)	1970	1997	1967	1997	1969	1995	1969	1969	1969	1995	1967	1978
MIN	10.2	9.37	10.2	14.5	17.8	22.9	68.1	79.5	47.4	18.4	10.8	10.2
(WY)	1960	1960	1960	1961	1961	1977	1977	1977	1976	1977	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1952 - 1997	
ANNUAL TOTAL	63623.6		77286.6			
ANNUAL MEAN	174		212		125	
HIGHEST ANNUAL MEAN					317	
LOWEST ANNUAL MEAN					34.0	
HIGHEST DAILY MEAN	1060	May 16	4420	Jan 2	8000	Dec 6 1966
LOWEST DAILY MEAN	8.0	Oct 1	8.0	Oct 1	3.5	Sep 28 1960
ANNUAL SEVEN-DAY MINIMUM	16	Oct 1	16	Oct 1	6.3	Sep 27 1960
ANNUAL RUNOFF (AC-FT)	126200		153300		90350	
10 PERCENT EXCEEDS	476		427		341	
50 PERCENT EXCEEDS	116		158		44	
90 PERCENT EXCEEDS	19		21		15	

e Estimated.

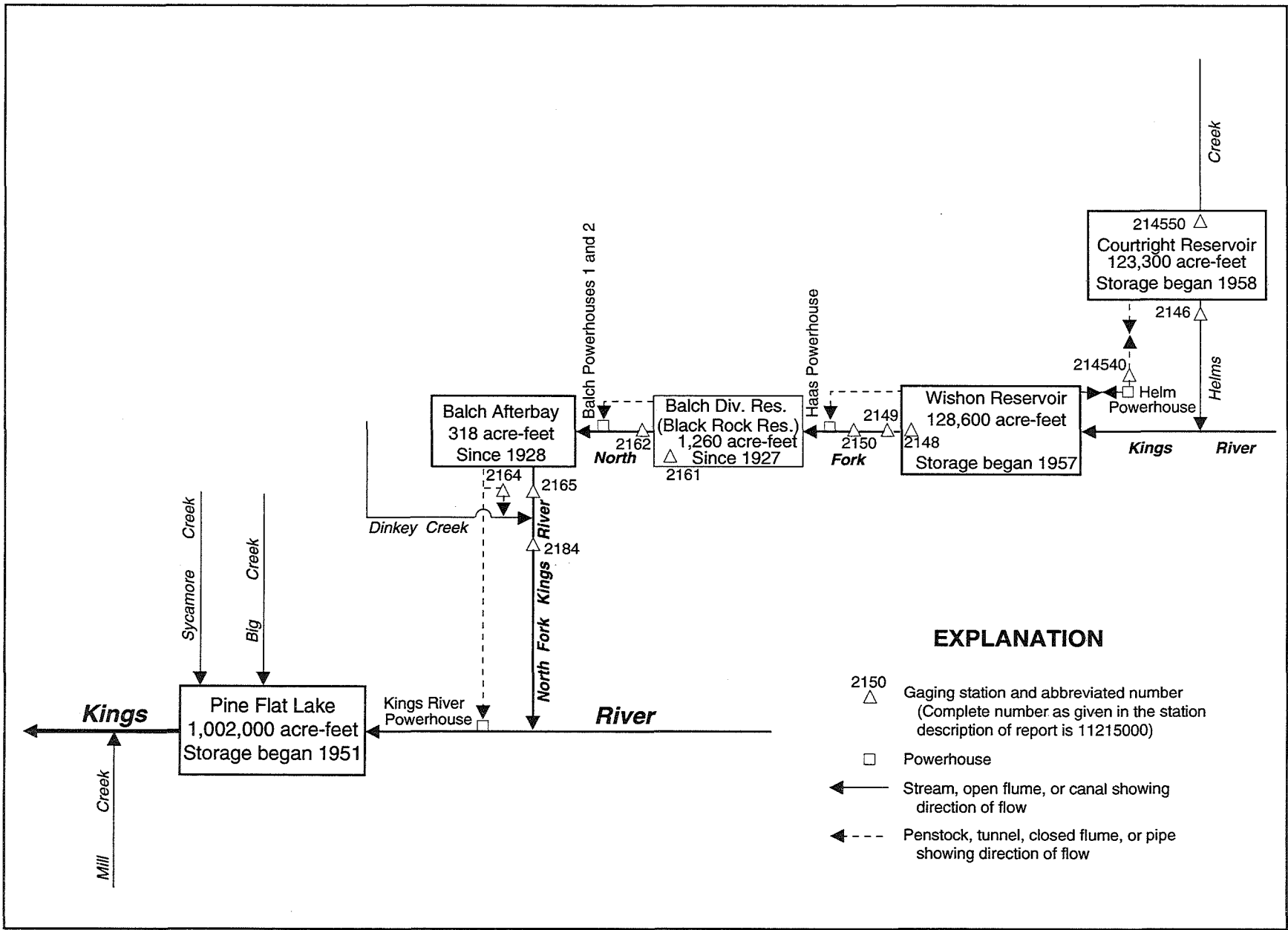


Figure 26. Diversions and storage in Kings River Basin.

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.—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 ft³/s and pump up to 7,200 ft³/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 ft³/s, Nov. 1, 1991; maximum daily pumpage, 6,860 ft³/s, Jan. 5, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	622	373	85	3450	-2370	.00	.00	-622	-1550	275	1140	-1990
2	123	845	-57	1880	.00	.00	.00	-207	-1220	509	1520	690
3	.00	632	-249	-3490	.00	.00	.00	.00	448	1620	-2160	2020
4	334	2180	729	-4920	.00	.00	-1.0	-1570	14	-331	-286	1690
5	.00	1200	761	-6860	.00	.00	309	-153	-367	-514	202	1530
6	-90	449	192	-2860	.00	.00	76	.00	370	-339	799	560
7	656	238	-1140	-194	.00	.00	1470	259	.00	229	1590	-1340
8	-13	38	-1490	803	.00	.00	2170	-635	.00	1.0	523	2200
9	-864	-375	-144	-186	.00	.00	1030	-953	.00	-521	-541	1290
10	-879	-825	471	-72	.00	.00	1080	-532	.00	12	-1740	1070
11	1240	192	517	-1790	.00	.00	280	-1380	.00	93	504	-206
12	-1280	70	785	-972	.00	.00	39	-1060	928	143	1150	695
13	-1500	148	268	2520	.00	.00	39	-1020	-250	-1220	1410	.00
14	-294	-424	-877	496	.00	.00	1470	-415	-442	-666	1650	.00
15	331	.00	-616	-95	.00	.00	.00	674	-626	304	1010	1090
16	199	.00	-160	-15	.00	.00	.00	-438	-187	-357	-110	992
17	-337	-117	-1550	133	.00	.00	.00	-105	-417	-442	-1810	682
18	-228	-121	258	-1330	.00	.00	.00	-1090	17	-491	-304	2080
19	205	38	745	-2150	.00	.00	.00	-1300	-166	-245	648	1020
20	-685	-118	-284	137	.00	.00	-617	-1190	-137	-1850	1350	-758
21	78	-1260	-31	-314	.00	.00	161	-1190	-52	-125	1130	-1840
22	.00	-515	-3350	-1280	.00	.00	-201	-864	-940	-156	355	195
23	39	-815	398	-1530	.00	.00	-102	-544	-329	-653	78	2060
24	354	.00	-268	-795	.00	.00	-307	-1480	-360	100	.00	2270
25	77	147	-146	-3150	.00	.00	-934	-2050	-78	147	1930	321
26	.00	598	2170	-2650	.00	.00	.00	-409	-410	-214	1200	521
27	864	645	-575	47	.00	.00	-1150	713	-68	-647	790	760
28	720	-235	-642	-237	.00	.00	-1050	832	-1010	-570	243	1150
29	653	-1130	-616	.00	---	.00	-596	860	-58	108	-686	1300
30	407	-117	760	-246	---	.00	-720	-659	-277	-318	-1340	-19
31	96	---	22	-486	---	.00	---	697	---	-346	-1560	---
TOTAL	828.00	1741.00	-4034	-26156.00	-2370.00	0.00	2446.00	-15831.00	-7167.00	-6464.0	8685.00	20033.00
MEAN	26.7	58.0	-130	-844	-84.6	.000	81.5	-511	-239	-209	280	668
MAX	1240	2180	2170	3450	.00	.00	2170	860	928	1620	1930	2270
MIN	-1500	-1260	-3350	-6860	-2370	.00	-1150	-2050	-1550	-1850	-2160	-1990
AC-FT	1640	3450	-8000	-51880	-4700	.00	4850	-31400	-14220	-12820	17230	39740

11214540 HELMS POWERPLANT NEAR WISHON RESERVOIR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157	-57.0	17.6	-56.5	109	43.2	64.6	-333	-33.4	211	287	379
MAX	499	247	220	245	433	371	370	194	242	627	418	894
(WY)	1996	1994	1989	1995	1989	1995	1995	1995	1992	1989	1994	1991
MIN	-110	-734	-203	-844	-84.6	-315	-311	-722	-239	-209	177	51.6
(WY)	1993	1992	1996	1997	1997	1989	1989	1992	1997	1997	1990	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1989 - 1997			
ANNUAL TOTAL	35455.50				-28289.00							
ANNUAL MEAN	96.9				-77.5				65.2			
HIGHEST ANNUAL MEAN									177			
LOWEST ANNUAL MEAN									-77.5			
HIGHEST DAILY MEAN	3260				Feb 15				4250			
LOWEST DAILY MEAN	-4730				May 18				-6860			
ANNUAL SEVEN-DAY MINIMUM	-1680				May 14				-2530			
ANNUAL RUNOFF (AC-FT)	70330								47210			
10 PERCENT EXCEEDS	1270				1010				1130			
50 PERCENT EXCEEDS	59				.00				.00			
90 PERCENT EXCEEDS	-1020				-1190				-926			

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 mi².

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. Records, including extremes, represent total 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, 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, 121,290 acre-ft, June 17, elevation, 8,182.77 ft; minimum, 19,010 acre-ft, Jan. 2, elevation, 8,077.73 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 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59695	53087	45747	19874	49585	51373	57700	69275	118806	118455	116795	92728
2	59329	51196	45525	19010	49672	51417	57942	70473	121000	117237	112656	91392
3	59270	49950	45912	26738	49742	51471	58155	71506	120405	114294	115760	87540
4	58799	45557	44382	34335	49820	51512	58184	74711	120437	114714	115650	84471
5	58769	43177	42915	44804	49898	51551	57816	76146	120742	115291	114636	81702
6	58966	42149	42614	49386	49959	51595	57825	77281	120340	115572	112502	80483
7	57623	41828	44147	49127	50011	51639	55700	78262	120517	114808	108924	82453
8	56712	41695	45953	47019	50107	51693	51542	80556	120694	114108	107410	77788
9	58165	42393	46111	47044	50159	51764	49846	83296	120854	114481	108098	75126
10	59359	43448	44633	46410	50220	51836	48066	85228	120984	113907	110635	73012
11	56588	42314	42930	48287	50299	51943	47719	88200	121113	113056	108984	73046
12	58330	41750	40116	48518	50350	52060	47879	91047	119875	112640	106755	71629
13	60331	41579	38657	42796	50404	52157	48015	93780	119843	114512	103844	71584
14	60621	42298	39150	39828	50456	52265	45525	95660	120324	115119	100592	71517
15	59438	42298	38993	38679	50518	52391	45953	95577	121097	114015	98531	69428
16	59074	42259	38553	37933	50588	52553	46468	97220	120935	114403	98503	67444
17	59497	42535	40475	36188	50676	52670	47120	97790	121290	114792	101262	65519
18	59933	42322	38524	37217	50728	52824	47795	100421	120630	114683	101420	61253
19	59804	42259	36388	39187	50781	53023	48595	103553	120196	114932	100124	58789
20	60811	42338	35890	37494	50843	53259	50483	106162	119811	117331	97720	59567
21	60641	44374	34401	36683	50904	53496	51037	108653	119587	117063	95140	61830
22	60611	45640	38724	38613	50966	53707	52328	110605	120373	117032	93969	60821
23	60451	46935	36986	40667	51028	53981	53341	111781	120308	117901	93793	56341
24	59695	46986	36993	41408	51090	54295	54655	114465	120292	117458	93739	51462
25	59547	46751	36971	46168	51134	54683	56845	117726	119651	116890	90267	50264
26	59497	45516	32643	49629	51187	55138	57913	118439	119443	117158	88213	48870
27	57690	44366	32999	48390	51274	55587	60381	117268	118885	118107	86295	47516
28	56171	44503	32396	47685	51311	56058	63024	116293	119955	118917	84962	44690
29	54905	46077	31597	46551	---	56531	65088	115259	119699	118313	85926	41400
30	54046	46218	28587	45771	---	56979	67208	116937	119859	118535	87838	39843
31	53807	---	27334	45813	---	57372	---	116355	---	118917	90095	---
MAX	60811	53087	46111	49629	51311	57372	67208	118439	121290	118917	116795	92728
MIN	53807	41579	27334	19010	49585	51373	45525	69275	118806	112640	84962	39843
a	8128.76	8120.05	8093.51	8119.56	8125.99	8132.56	8142.23	8179.67	8181.88	8181.29	8161.48	8112.02
b	-6654	-7589	-18884	18479	5498	6061	9836	49147	3504	-942	-28822	-50252

CAL YR 1996 b -40843

WTR YR 1997 b -20618

a Elevation, in feet, in 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 mi².

PERIOD OF RECORD.—October 1958 to February 12, 1986. May 8, 1986, to current year.

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. Water bypasses this gage through Helms Powerplant (station 11214540). 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 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	10	8.7	7.7	7.5	7.6	8.0	8.1	19	23	25	19
2	12	10	8.6	9.1	7.6	7.6	8.0	8.2	20	22	24	19
3	12	10	8.5	4.4	7.6	7.6	8.0	8.3	20	22	24	18
4	11	9.4	8.4	5.2	7.5	7.6	8.0	8.5	20	22	24	18
5	11	8.6	8.4	6.5	7.5	7.6	8.0	8.8	21	22	24	17
6	11	8.2	8.3	7.4	7.5	7.6	8.0	8.9	21	22	24	17
7	11	8.1	8.4	7.5	7.5	7.6	8.0	9.1	20	23	23	17
8	11	8.1	8.6	7.4	7.5	7.6	7.8	9.3	21	22	23	17
9	11	8.1	8.8	7.2	7.5	7.6	7.6	9.6	21	22	23	16
10	11	8.2	8.5	7.3	7.5	7.7	7.4	9.8	21	23	23	15
11	11	8.4	8.3	7.4	7.5	7.7	7.3	10	22	23	23	15
12	11	8.2	8.1	7.5	7.5	7.7	7.4	10	22	22	23	15
13	11	8.1	7.9	7.2	7.5	7.7	7.4	11	22	23	22	15
14	11	8.2	7.9	6.7	7.5	7.7	7.5	11	22	23	21	15
15	11	8.2	7.9	6.5	7.6	7.8	7.5	11	22	23	21	15
16	11	8.2	7.8	6.4	7.6	7.7	7.5	11	22	23	20	14
17	11	8.2	7.8	6.2	7.7	7.7	7.5	11	22	23	21	14
18	11	8.5	7.8	6.2	7.7	7.8	7.5	12	23	23	21	14
19	11	8.4	7.6	6.3	7.7	7.7	7.6	14	23	23	21	13
20	11	8.5	7.4	6.4	7.7	7.8	7.6	15	22	24	21	13
21	11	10	7.4	6.3	7.7	7.7	7.7	15	22	24	20	13
22	11	9.5	7.4	6.3	7.7	7.8	7.6	16	22	24	20	13
23	11	9.0	7.6	6.5	7.7	7.8	7.6	16	22	24	19	13
24	11	9.0	7.2	6.6	7.7	7.8	7.6	17	22	24	19	12
25	11	8.9	7.2	6.8	7.6	7.9	7.7	18	22	24	19	12
26	11	8.8	7.2	7.4	7.6	7.9	7.7	19	22	24	19	11
27	11	8.6	6.9	7.6	7.6	8.0	7.8	18	22	25	18	11
28	11	8.4	6.9	7.6	7.6	8.0	7.9	18	22	25	18	11
29	11	8.7	7.0	7.6	---	8.0	8.0	18	23	25	18	10
30	10	8.6	7.0	7.5	---	8.0	8.1	18	23	25	18	9.5
31	10	---	6.4	7.4	---	8.0	---	19	---	25	18	---
TOTAL	342	261.1	241.9	214.1	212.4	240.3	231.3	396.6	648	722	657	431.5
MEAN	11.0	8.70	7.80	6.91	7.59	7.75	7.71	12.8	21.6	23.3	21.2	14.4
MAX	12	10	8.8	9.1	7.7	8.0	8.1	19	23	25	25	19
MIN	10	8.1	6.4	4.4	7.5	7.6	7.3	8.1	19	22	18	9.5
AC-FT	678	518	480	425	421	477	459	787	1290	1430	1300	856

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1983, BY WATER YEAR (WY)

DAY	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
LOWEST ANNUAL MEAN	2.29
HIGHEST DAILY MEAN	986
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	1340
INSTANTANEOUS PEAK STAGE	7.70
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 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.8	6.21	5.01	5.07	5.39	5.50	6.05	8.76	13.8	14.5	12.0	8.82
MAX	58.3	8.88	7.80	7.46	10.9	7.75	8.27	12.8	21.6	23.3	21.2	14.4
(WY)	1985	1992	1997	1989	1995	1997	1989	1997	1997	1997	1997	1997
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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1985 - 1997

ANNUAL TOTAL	4286.2	4598.2	
ANNUAL MEAN	11.7	12.6	8.61
HIGHEST ANNUAL MEAN			12.6
LOWEST ANNUAL MEAN			5.65
HIGHEST DAILY MEAN	24	Jun 25	25
LOWEST DAILY MEAN	6.3	Jan 24	4.4
ANNUAL SEVEN-DAY MINIMUM	6.4	Jan 22	6.3
INSTANTANEOUS PEAK FLOW			25
INSTANTANEOUS PEAK STAGE			4.27
ANNUAL RUNOFF (AC-FT)	8500	9120	6230
10 PERCENT EXCEEDS	21	23	16
50 PERCENT EXCEEDS	8.6	9.3	6.5
90 PERCENT EXCEEDS	6.6	7.4	4.0

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 mi².

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 (station 11216050). 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, 127,209 acre-ft, June 12, elevation, 6,548.63 ft; minimum, 22,481 acre-ft, Mar. 20, elevation, 6,408.52 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105904	94339	89706	95829	79330	40694	28510	58346	122574	120450	104492	102576
2	105368	95651	89429	113195	78081	39377	28056	60141	121927	121044	108409	102978
3	104602	96381	88339	115384	77037	37937	27527	63153	123972	123092	104814	105673
4	104473	100232	89264	109997	75703	36505	27222	64149	124995	122365	104042	107717
5	103922	101911	80419	100784	74330	35043	27212	66885	125146	121699	104189	109254
6	103289	102239	90192	97453	72886	33619	26792	69923	125499	121282	105340	109207
7	103638	101774	88331	98125	71473	32228	28562	73401	125630	121361	107932	105673
8	104014	101183	86270	100151	70073	30885	32403	75638	126165	121302	108765	109066
9	101592	99843	85724	100105	68639	29596	33869	77258	126347	120282	107801	110261
10	99717	98430	87358	100685	67249	28441	35150	79413	126337	120184	105146	111122
11	101929	98951	89619	98484	65817	27390	35268	80868	126105	120243	105895	109395
12	99591	98861	91622	97847	64384	26770	34790	82802	127209	120688	107083	109526
13	97426	98295	92419	103155	62950	26102	35026	84762	126935	118834	109178	108138
14	96470	96997	90506	105580	61554	25284	37723	87986	126378	117345	111691	107065
15	97113	96247	89697	106405	60156	24635	37827	93034	125227	117706	112756	107979
16	96925	95651	88900	106442	58770	24032	38291	96060	125076	116440	112366	108765
17	95927	95891	85604	107382	57399	23263	39553	100151	124433	115259	109442	109705
18	94897	95634	86313	105349	55984	22859	40546	102339	124754	114575	108297	113367
19	94446	95261	87161	102184	54624	22551	42173	103629	124915	113903	108559	114671
20	93157	94729	86450	103125	53292	22481	43324	104777	124975	111444	109875	112709
21	92709	93810	84271	102969	51933	23494	45818	105932	124794	110942	111567	109310
22	92121	93960	81235	100286	50588	24468	47749	107074	123212	110233	111444	108906
23	91692	92419	81896	97024	49449	25667	49634	108615	122424	108690	110469	112061
24	91876	92288	80543	95110	47774	25849	50380	107951	121709	108419	109950	115616
25	91526	91832	79031	90062	46335	26272	50263	106433	121441	108166	112337	115162
26	90950	92533	82735	86142	44928	26827	52736	107419	120807	107773	113176	115153
27	92288	93237	81452	86355	43561	27427	54114	111065	120698	106842	114066	114979
28	93210	92630	80868	85894	42137	27862	54631	115133	119700	105349	114171	116605
29	94171	90314	80776	85826	---	28330	55652	119001	120243	105072	111681	118559
30	94605	89567	84228	85442	---	28747	57032	120371	119641	104069	108840	118765
31	94233	---	85102	84152	---	28906	---	123621	---	103097	106154	---
MAX	105904	102239	92419	115384	79330	40694	57032	123621	127209	123092	114171	118765
MIN	90950	89567	79031	84152	42137	22481	26792	58346	119641	103097	104042	102576
a	6513.76	6508.43	6503.23	6502.11	6444.48	6421.03	6467.04	6545.07	6541.07	6523.62	6526.94	6540.17
b	-11579	-4666	-4465	-950	-42015	-13231	28126	66589	-3980	-16544	3057	12611

CAL YR 1996 b +33182

WTR YR 1997 b +12953

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 mi².

PERIOD OF RECORD.—October 1986 to current year (since October 1990, low flow records only).

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 records computed above 25 ft³/s. Flow regulated by Wishon Reservoir (station 11214800) and Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas Powerplant (station 11216050). 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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	25	24	---	---	17	13	20	---	---	---	---
2	---	25	24	---	---	16	13	20	---	---	---	---
3	---	25	24	---	---	16	12	20	---	---	---	---
4	---	---	24	---	---	15	12	20	---	---	---	---
5	---	---	---	---	---	15	12	20	---	---	---	---
6	---	---	---	---	---	15	12	20	---	---	---	---
7	---	---	25	---	---	15	12	20	---	---	---	---
8	---	---	24	---	---	16	12	20	---	---	---	---
9	---	---	---	---	---	16	13	20	---	---	---	---
10	---	---	---	---	23	17	13	21	---	---	---	---
11	---	25	25	---	23	17	13	21	---	---	---	---
12	---	25	25	---	22	16	14	21	---	---	---	---
13	---	25	---	---	22	16	14	21	---	---	---	---
14	25	25	---	---	22	14	15	22	---	---	---	---
15	25	25	25	---	22	17	15	22	---	---	---	---
16	25	25	25	---	22	14	15	23	---	---	---	---
17	25	---	25	---	21	14	15	24	---	---	---	---
18	25	---	25	---	21	14	16	24	---	---	---	---
19	25	---	25	---	22	13	16	25	---	---	---	---
20	25	---	24	---	21	13	16	25	---	---	---	---
21	25	---	25	---	21	13	17	25	---	---	---	---
22	25	---	24	---	20	14	17	25	---	---	---	---
23	25	---	23	---	20	14	18	---	---	---	---	---
24	---	---	24	---	19	14	18	---	---	---	---	---
25	25	25	23	---	18	14	18	---	---	---	---	---
26	25	25	24	---	18	14	18	---	---	---	---	---
27	25	25	24	---	17	14	19	---	---	---	---	---
28	25	25	24	---	17	13	19	---	---	---	---	---
29	25	25	---	---	---	13	19	---	---	---	---	---
30	25	24	---	---	---	13	20	---	---	---	---	---
31	25	---	---	---	---	13	---	---	---	---	---	---
TOTAL	---	---	---	---	---	455	456	---	---	---	---	---
MEAN	---	---	---	---	---	14.7	15.2	---	---	---	---	---
MAX	---	---	---	---	---	17	20	---	---	---	---	---
MIN	---	---	---	---	---	13	12	---	---	---	---	---
AC-FT	---	---	---	---	---	902	904	---	---	---	---	---

11214900 NORTH FORK KINGS RIVER BELOW WISHON RESERVOIR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1990, BY WATER YEAR (WY)

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 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 mi².

PERIOD OF RECORD.—August 1921 to current year (since October 1990, high-flow records only). 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 records computed below 25 ft³/s. 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 (station 11216050) 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 ft³/s, Dec. 11, 1937, gage height, 18.0 ft, from floodmarks, from rating curve extended above 4,200 ft³/s on basis of velocity-area studies.
From 1957 to 1990.—Maximum discharge, 5,110 ft³/s, Sept. 5, 1978, gage height, 11.96 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	28	228	43	25	30	e26	30	30	28	28
2	27	27	28	520	42	25	30	e25	30	30	28	28
3	27	27	28	148	40	25	30	e25	30	30	28	28
4	27	27	28	67	38	24	30	e24	31	30	28	28
5	27	28	55	53	37	25	30	e24	31	30	28	29
6	27	28	43	45	36	26	30	e25	31	30	28	29
7	27	29	34	42	35	27	30	e25	31	30	28	29
8	27	29	32	43	35	29	30	e26	31	30	29	29
9	27	28	35	42	33	31	30	e27	31	30	29	29
10	27	28	40	41	33	33	29	e28	31	29	28	29
11	27	28	72	41	32	34	31	e28	31	29	28	29
12	27	28	56	40	32	35	32	e28	31	29	28	29
13	27	28	45	40	31	33	33	e27	32	29	29	29
14	26	28	40	40	32	e29	34	e27	32	29	29	29
15	26	28	38	40	32	e32	33	e27	31	29	29	29
16	26	27	37	40	33	e33	32	e25	31	29	29	29
17	26	46	37	40	33	e34	30	e25	30	29	29	29
18	26	43	35	40	32	e35	29	e25	30	29	29	29
19	26	36	34	40	34	e36	29	e26	30	29	29	29
20	26	36	33	40	35	e37	28	e27	30	29	29	29
21	26	102	33	40	34	e37	27	27	30	28	29	29
22	26	98	33	39	33	e38	27	27	30	28	29	29
23	26	42	32	44	32	e39	27	28	30	28	29	29
24	27	34	32	45	30	e39	27	28	30	28	29	29
25	27	32	32	159	28	e40	e27	28	30	28	29	29
26	26	31	33	73	28	39	e27	28	30	29	29	29
27	26	30	37	50	28	37	e27	28	30	29	29	29
28	26	29	35	46	26	35	e27	29	30	29	29	29
29	27	29	45	45	---	32	e27	29	30	28	29	30
30	27	29	99	43	---	30	e27	29	30	28	29	30
31	27	---	64	43	---	30	---	30	---	28	29	---
TOTAL	824	1062	1253	2257	937	1004	880	831	915	900	889	868
MEAN	26.6	35.4	40.4	72.8	33.5	32.4	29.3	26.8	30.5	29.0	28.7	28.9
MAX	27	102	99	520	43	40	34	30	32	30	29	30
MIN	26	27	28	39	26	24	27	24	30	28	28	28
AC-FT	1630	2110	2490	4480	1860	1990	1750	1650	1810	1790	1760	1720
a	17,790	18,910	33,240	41,370	46,490	37,640	30,090	17,380	40,380	21,270	25,530	38,190

e Estimated.

a Diversion, in acre-feet, to Haas Powerplant, provided by Pacific Gas and Electric Co.

11215000 NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1957, BY WATER YEAR (WY)

DAY	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
LOWEST ANNUAL MEAN	80.2
HIGHEST DAILY MEAN	7460
LOWEST DAILY MEAN	1.3
ANNUAL SEVEN-DAY MINIMUM	1.4
INSTANTANEOUS PEAK FLOW	14000
INSTANTANEOUS PEAK STAGE	18.00
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)

DAY	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
LOWEST ANNUAL MEAN	10.0
HIGHEST DAILY MEAN	3040
LOWEST DAILY MEAN	3.9
ANNUAL SEVEN-DAY MINIMUM	4.2
INSTANTANEOUS PEAK FLOW	5110
INSTANTANEOUS PEAK STAGE	11.96
ANNUAL RUNOFF (AC-FT)	32970
10 PERCENT EXCEEDS	29
50 PERCENT EXCEEDS	17
90 PERCENT EXCEEDS	8.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1990, BY WATER YEAR (WY)

DAY	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

FOR 1997 WATER YEAR

WATER YEARS 1960 - 1990

ANNUAL TOTAL	12620
ANNUAL MEAN	34.6
HIGHEST ANNUAL MEAN	45.5
LOWEST ANNUAL MEAN	10.0
HIGHEST DAILY MEAN	520
LOWEST DAILY MEAN	24
ANNUAL SEVEN-DAY MINIMUM	25
INSTANTANEOUS PEAK FLOW	5110
INSTANTANEOUS PEAK STAGE	11.96
ANNUAL RUNOFF (AC-FT)	32970
10 PERCENT EXCEEDS	40
50 PERCENT EXCEEDS	29
90 PERCENT EXCEEDS	27

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 mi².

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, 1,314 acre-ft, Feb. 19, 1996, elevation, 4,099.52 ft; minimum, 359 acre-ft, Nov. 3, 1986, elevation 4,064.51 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,297 acre-ft, Jan. 1, elevation, 4,099.05 ft; minimum, 528 acre-ft, July 7, elevation, 4,072.86 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	975	1198	996	1297	1274	1267	1046	959	1278	855	975	938
2	1081	1069	731	1295	1274	1267	1053	993	1121	858	838	938
3	1002	1157	890	1292	1274	1267	1027	812	1005	981	775	969
4	870	1127	846	1285	1274	1267	947	767	1274	835	835	840
5	911	1059	838	1171	1274	1267	965	861	1274	783	720	911
6	884	1015	990	852	1271	1267	981	890	1274	826	803	993
7	1124	1062	792	835	1271	1271	990	882	1242	878	929	999
8	996	1021	803	1069	1271	1278	1034	1072	1015	528	786	950
9	1044	1107	873	1043	1271	1271	965	1027	1027	778	720	1027
10	1127	1187	1121	920	1271	1271	1088	935	962	781	772	935
11	1107	1140	717	861	1271	1256	1018	908	996	870	792	1012
12	1107	1121	996	944	1271	1150	938	911	981	666	975	996
13	1160	1056	846	1059	1271	1094	981	969	990	672	786	969
14	1167	999	1114	905	1271	1147	990	953	938	778	673	947
15	1098	953	896	861	1271	1107	1157	1024	962	789	809	990
16	1184	926	867	887	1271	1101	1222	932	878	861	864	996
17	1104	820	938	1002	1271	1117	941	926	835	761	914	908
18	1037	896	881	1228	1271	935	1094	840	935	731	923	840
19	1164	935	941	1274	1271	890	1117	795	914	764	840	917
20	1208	885	818	1274	1271	783	1107	914	926	838	728	987
21	1194	920	753	1274	1271	962	1098	789	820	884	674	996
22	1147	761	852	1278	1271	956	969	781	896	792	803	818
23	1140	761	778	1278	1271	1065	999	744	1005	775	890	855
24	1130	1021	873	1272	1271	1088	1030	761	852	747	815	843
25	1127	1027	1069	1288	1271	1062	996	755	878	905	826	855
26	1121	981	704	1278	1271	1091	969	753	981	858	890	896
27	1104	1046	733	1278	1270	1049	938	750	1094	920	775	815
28	1174	980	747	1278	1270	1088	1021	861	911	873	815	935
29	1062	1059	739	1278	---	1056	1072	1130	1056	981	990	987
30	1137	993	595	1278	---	981	978	1024	849	981	775	932
31	1160	---	720	1278	---	920	---	1137	---	736	803	---
MAX	1208	1198	1121	1297	1274	1278	1222	1137	1278	981	990	1027
MIN	870	761	595	835	1270	783	938	744	820	528	673	815
a	4095.09	4089.90	4080.51	4098.51	4096.21	4087.50	4089.41	4094.40	4085.09	4081.10	4083.49	4087.90
b	-129	-167	-273	558	-8	-350	58	159	-298	-113	67	129

CAL YR 1996 b -151

WTR YR 1997 b -99

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 mi².

PERIOD OF RECORD.—October 1983 to current year.

GAGE.—Water-stage recorder and sharp-crested rectangular weir. Elevation of gage is 2,890 ft above sea level, from topographic map.

REMARKS.—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 (station 11216300) 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. 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, 7,690 ft³/s, Jan.2, 1997, gage height, 10.54 ft, from rating curve extended above 827 ft³/s on basis of computation of spill over Balch Diversion Dam; minimum daily, 0.89 ft³/s, Oct. 21, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	9.8	10	271	201	132	14	6.7	193	6.3	7.5	7.6
2	8.7	9.8	10	3550	286	63	14	6.4	57	6.2	8.9	8.9
3	8.9	9.6	9.2	2070	150	128	14	6.5	7.4	6.3	8.0	9.1
4	8.1	9.7	9.7	902	267	125	14	6.3	86	6.4	8.0	8.4
5	7.5	9.7	19	457	282	124	14	6.1	274	6.1	8.0	8.1
6	7.6	9.4	17	41	264	126	14	6.1	238	5.8	7.4	8.7
7	7.6	9.4	13	33	250	131	14	6.1	118	5.8	7.8	8.9
8	8.6	9.5	12	30	242	154	14	5.8	7.8	6.1	8.9	8.8
9	8.6	9.4	16	28	224	179	14	5.8	7.1	6.1	7.9	8.9
10	8.9	9.7	94	26	215	170	14	5.7	6.9	5.7	7.5	8.6
11	9.1	9.9	78	24	208	191	14	5.5	6.7	5.7	7.5	8.9
12	8.8	9.6	27	24	204	31	14	5.4	7.0	5.9	8.5	9.3
13	8.9	9.8	20	25	193	17	13	5.4	7.2	5.4	8.9	8.9
14	9.0	9.7	18	22	191	17	13	6.0	7.8	6.1	7.8	8.8
15	9.1	9.4	16	32	192	17	12	8.0	7.4	7.8	7.3	8.6
16	8.9	8.7	15	25	191	17	12	8.0	7.0	7.8	7.9	8.9
17	9.1	39	14	23	194	16	12	7.6	6.6	8.2	8.4	8.4
18	8.9	14	14	23	186	16	9.9	8.1	6.5	7.8	8.8	8.7
19	8.8	11	13	162	185	15	8.2	7.7	6.5	7.6	8.5	8.4
20	9.3	11	13	185	199	15	8.0	7.8	6.5	7.7	8.0	9.1
21	9.4	22	13	200	191	15	7.9	7.8	6.3	8.2	7.8	9.1
22	9.2	45	31	326	184	15	7.6	7.4	6.3	8.2	7.3	8.1
23	9.2	17	20	584	175	16	7.4	7.3	6.6	8.0	8.1	7.6
24	9.4	13	17	385	160	15	7.4	7.5	6.4	7.7	8.5	7.8
25	10	12	16	1420	151	15	7.3	7.2	6.3	7.8	7.8	7.9
26	9.6	11	19	720	149	15	6.9	7.2	6.3	8.6	8.0	8.2
27	9.5	11	52	496	153	15	6.7	7.1	6.6	8.4	8.0	7.8
28	9.4	11	24	447	141	15	6.7	7.1	6.8	8.3	7.6	8.0
29	11	11	24	405	---	15	6.9	7.5	6.5	8.8	8.6	8.7
30	13	10	41	352	---	14	6.9	7.5	6.7	9.1	8.5	8.8
31	10	---	33	355	---	15	---	7.2	---	8.7	7.5	---
TOTAL	283.0	391.1	727.9	13643	5628	1849	327.8	211.8	1129.2	222.6	249.2	256.0
MEAN	9.13	13.0	23.5	440	201	59.6	10.9	6.83	37.6	7.18	8.04	8.53
MAX	13	45	94	3550	286	191	14	8.1	274	9.1	8.9	9.3
MIN	7.5	8.7	9.2	22	141	14	6.7	5.4	6.3	5.4	7.3	7.6
AC-FT	561	776	1440	27060	11160	3670	650	420	2240	442	494	508
a	18,490	24,260	42,610	51,790	47,110	47,930	44,260	37,670	44,880	23,690	26,530	38,490

a Diversion, in acre-feet, to Balch Powerplant, provided by Pacific Gas and Electric Co.

11216200 NORTH FORK KINGS RIVER BELOW BALCH DIVERSION DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.95	8.14	7.46	39.5	38.0	59.0	85.1	194	256	96.5	6.28	6.01
MAX	9.13	26.4	23.5	440	201	441	541	1004	1654	1066	9.03	8.53
(WY)	1997	1984	1997	1997	1997	1986	1986	1995	1995	1995	1996	1997
MIN	3.48	3.54	3.18	3.16	4.69	4.61	3.59	3.25	2.84	3.10	3.14	3.06
(WY)	1988	1991	1987	1987	1985	1994	1987	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1984 - 1997		
ANNUAL TOTAL	33035.7			24918.6					
ANNUAL MEAN	90.3			68.3			66.8		
HIGHEST ANNUAL MEAN							353		
LOWEST ANNUAL MEAN							3.97		
HIGHEST DAILY MEAN	2490			May 16			3550		
LOWEST DAILY MEAN	6.3			Jan 11			.89		
ANNUAL SEVEN-DAY MINIMUM	6.4			Jan 9			2.5		
INSTANTANEOUS PEAK FLOW				7690			Jan 2		
INSTANTANEOUS PEAK STAGE				10.54			Jan 2		
ANNUAL RUNOFF (AC-FT)	65530			49430			48390		
10 PERCENT EXCEEDS	391			191			33		
50 PERCENT EXCEEDS	11			9.3			6.2		
90 PERCENT EXCEEDS	7.9			6.6			3.5		

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.—Ultra sonic flowmeter. Elevation of gage is 1,320 ft above sea level, from topographic map. Prior to August 1995, pressure-differential flowmeter at same site and datum.

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 ft³/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, 25 ft³/s, several days in June and July 1997; no flow many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
2	5.0	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
3	5.0	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
4	7.2	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
5	8.7	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
6	8.7	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
7	8.7	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	13
8	8.7	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	13
9	8.7	.00	.00	.00	.00	.00	.00	.00	.00	25	8.4	12
10	9.3	.00	.00	.00	.00	.00	.00	.00	.00	25	8.6	12
11	9.9	.00	.00	.00	.00	.00	.00	.00	.00	25	8.4	12
12	10	.00	.00	.00	.00	.00	.00	.00	.00	25	8.4	12
13	11	.00	.00	.00	.00	.00	.00	.00	.00	25	8.2	12
14	11	.00	.00	.00	.00	.00	.00	.00	.00	25	8.5	12
15	11	.00	.00	.00	.00	.00	.00	.00	.00	25	8.5	12
16	11	.00	.00	.00	.00	.00	.00	.00	.00	18	8.5	12
17	11	.00	.00	.00	.00	.00	.00	.00	.00	8.1	12	12
18	11	.00	.00	.00	.00	.00	.00	.00	.00	8.1	13	12
19	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
20	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
21	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
22	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
23	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
24	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	13	12
25	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	12	12
26	11	.00	.00	.00	.00	.00	.00	.00	.00	8.2	12	12
27	11	.00	.00	.00	.00	.00	.00	.00	16	8.2	12	12
28	11	.00	.00	.00	.00	.00	.00	.00	25	8.2	12	12
29	11	.00	.00	.00	---	.00	.00	.00	25	8.2	12	12
30	6.9	.00	.00	.00	---	.00	.00	.00	25	8.2	12	12
31	.00	---	.00	.00	---	.00	---	.00	---	8.2	12	---
TOTAL	288.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91.00	515.8	320.1	362
MEAN	9.32	.000	.000	.000	.000	.000	.000	.000	3.03	16.6	10.3	12.1
MAX	11	.00	.00	.00	.00	.00	.00	.00	25	25	13	13
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.1	8.2	12
AC-FT	573	.00	.00	.00	.00	.00	.00	.00	180	1020	635	718

11216400 DINKEY CREEK SIPHON FISH RELEASE AT BALCH CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.58	1.04	.48	.17	.13	.000	.000	.000	2.48	6.82	8.64	9.48
MAX	14.4	7.09	3.20	1.71	1.41	.000	.000	.000	5.63	16.6	14.4	15.0
(WY)	1991	1991	1991	1990	1991	1987	1987	1987	1992	1997	1994	1992
MIN	.15	.000	.000	.000	.000	.000	.000	.000	.000	.000	2.30	5.33
(WY)	1996	1987	1987	1987	1987	1987	1987	1987	1991	1993	1995	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1987 - 1997			
ANNUAL TOTAL	849.70				1577.70							
ANNUAL MEAN	2.32				4.32				2.92			
HIGHEST ANNUAL MEAN									4.76			
LOWEST ANNUAL MEAN									.73			
HIGHEST DAILY MEAN	11 Oct 13				25 Jun 28				25 Jun 28 1997			
LOWEST DAILY MEAN	.00 Jan 1				.00 Oct 31				.00 Oct 3 1986			
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1				.00 Oct 31				.00 Oct 3 1986			
ANNUAL RUNOFF (AC-FT)	1690				3130				2110			
10 PERCENT EXCEEDS	7.9				12				10			
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 mi².

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.—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 ft³/s, June 4, 1922, gage height, 12.18 ft, site and datum then in use; minimum, 4.0 ft³/s, Aug. 29 to Sept. 1, 1924. From 1960 to current year: Maximum discharge, 14,000 ft³/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 ft³/s; minimum daily, 0.30 ft³/s, Nov. 3, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	18	e18	e432	e195	e38	19	e17	46	17	17	17
2	19	18	e18	e3900	e201	e24	19	e17	57	17	17	17
3	18	18	e17	e3470	e121	e20	19	e17	16	17	17	24
4	18	18	e17	e821	e188	e29	19	e17	15	17	17	21
5	18	18	e19	e431	e196	e31	19	e17	129	17	17	18
6	18	18	e19	e31	e182	e33	19	e17	139	17	17	17
7	18	18	e18	e23	e167	34	19	17	81	17	17	17
8	18	18	e18	e22	e156	39	19	17	16	17	17	17
9	18	e18	e18	e21	e137	50	19	17	16	17	17	17
10	18	e18	e66	e21	e127	58	18	16	16	17	17	17
11	18	e17	e43	e20	e120	73	17	17	15	17	17	17
12	18	e18	e22	e20	e116	32	18	17	27	17	17	17
13	18	e18	e20	e21	e107	22	18	16	35	17	17	17
14	18	e18	e19	e19	e102	19	18	16	15	17	17	17
15	18	e18	e19	e22	e103	19	18	16	15	17	17	18
16	17	e18	e18	e21	e102	19	18	16	16	17	17	17
17	17	e18	e18	e20	e109	19	18	16	16	17	17	17
18	17	e23	e18	e20	e98	19	e18	16	16	17	17	17
19	17	e18	e18	e107	e94	19	e18	16	16	17	17	17
20	17	e18	e18	e118	e106	19	e18	16	17	17	17	17
21	17	e19	e18	e132	e98	19	e18	16	17	17	17	17
22	17	e38	e28	e269	e91	154	e18	16	17	17	17	17
23	17	e20	e22	e610	e82	186	e18	16	17	17	17	17
24	18	e18	e20	e362	e326	20	e18	16	17	17	17	18
25	19	e18	e20	e1660	e54	19	e17	16	17	17	17	18
26	19	e18	e20	e919	e53	19	e17	16	17	17	17	18
27	19	e18	e30	e523	e58	19	e17	16	17	17	17	17
28	19	e18	e22	e444	e47	19	e17	16	17	17	17	17
29	19	e18	e21	e386	---	19	e17	16	17	17	17	17
30	17	e18	e24	e315	---	19	e17	16	17	17	17	17
31	18	---	e22	e303	---	19	---	15	---	17	17	---
TOTAL	557	567	688	15483	3536	1128	542	506	889	527	527	526
MEAN	18.0	18.9	22.2	499	126	36.4	18.1	16.3	29.6	17.0	17.0	17.5
MAX	20	38	66	3900	326	186	19	17	139	17	17	24
MIN	17	17	17	19	47	19	17	15	15	17	17	17
AC-FT	1100	1120	1360	30710	7010	2240	1080	1000	1760	1050	1050	1040

e Estimated.

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)

DAY	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
LOWEST ANNUAL MEAN	102
HIGHEST DAILY MEAN	4890
LOWEST DAILY MEAN	4.0
ANNUAL SEVEN-DAY MINIMUM	4.2
INSTANTANEOUS PEAK FLOW	6080
INSTANTANEOUS PEAK STAGE	12.18
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 - 1997, BY WATER YEAR (WY)

MEAN	17.7	20.4	26.7	56.0	47.8	41.5	69.2	229	318	168	47.6	28.8
MAX	60.5	92.3	332	499	239	405	490	1838	2042	1176	822	331
(WY)	1962	1962	1967	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1960 - 1997

ANNUAL TOTAL	30116	25476	
ANNUAL MEAN	82.3	69.8	86.0
HIGHEST ANNUAL MEAN			406
LOWEST ANNUAL MEAN			8.47
HIGHEST DAILY MEAN	2600	May 16	3900
LOWEST DAILY MEAN	12	Jan 18	15
ANNUAL SEVEN-DAY MINIMUM	13	Mar 25	16
INSTANTANEOUS PEAK FLOW			14000
INSTANTANEOUS PEAK STAGE			13.24
ANNUAL RUNOFF (AC-FT)	59740	50530	62300
10 PERCENT EXCEEDS	285	107	188
50 PERCENT EXCEEDS	18	18	16
90 PERCENT EXCEEDS	14	17	8.3

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 mi².

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.—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 (station 11218700), beginning Mar. 1, 1962. Some water diverted from Balch Afterbay returns upstream from station at a release to Dinkey 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 ft³/s, Feb. 1, 1963, gage height, 19.20 ft, from rating curve extended above 10,100 ft³/s; minimum daily, 6.4 ft³/s, Oct. 3, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	45	129	3060	e635	e362	e625	e959	441	120	50	40
2	37	48	116	13100	e616	e356	e572	e926	426	113	49	40
3	36	48	110	6660	e579	e348	e546	e928	364	108	47	50
4	37	48	106	2750	e563	e342	e522	e961	357	103	47	52
5	38	48	334	1790	e542	e342	e512	e987	445	100	46	44
6	38	44	388	989	e513	e334	e500	e1030	437	97	45	39
7	37	42	223	822	e501	e340	e493	e1030	363	95	44	39
8	38	44	194	e713	e496	e350	e496	e1060	295	94	44	38
9	37	51	239	e760	e486	e364	e479	e1050	274	92	43	38
10	37	53	932	e619	e472	e383	e465	e1020	250	90	43	38
11	38	52	1160	e577	e461	e423	e452	e1070	234	89	42	38
12	38	51	758	e551	e452	e439	e445	e1130	238	88	43	38
13	39	49	458	e546	e441	e463	e447	e1180	249	86	42	38
14	39	46	370	e496	e432	e443	e430	e1210	234	84	42	38
15	40	45	316	e540	e428	e449	e542	e826	238	81	41	38
16	38	44	287	e513	e427	e477	e617	890	206	75	41	38
17	38	488	277	e491	e428	e465	e706	802	192	64	42	38
18	38	476	260	e475	e430	e463	e762	788	183	65	43	38
19	39	213	242	e479	e419	e494	e808	758	172	63	43	40
20	39	193	228	e493	e421	e543	e869	649	163	62	43	41
21	40	784	223	e503	e419	e561	e933	608	152	59	43	40
22	40	2310	353	e583	e414	e568	e925	553	141	58	42	39
23	40	508	298	e862	e408	e616	e927	502	133	61	42	38
24	41	339	262	e706	e449	e605	e841	451	126	64	42	38
25	48	262	242	e1990	e393	e641	e785	426	118	61	41	38
26	53	222	253	e1240	e380	e679	e871	417	111	59	41	39
27	49	179	537	e963	e376	e689	e967	421	117	57	41	40
28	46	168	332	e837	e376	e690	e977	463	122	54	41	40
29	48	145	308	e758	---	e691	e932	456	121	55	40	39
30	67	133	1230	e700	---	e694	e927	457	120	54	40	38
31	50	---	961	e672	---	e674	---	452	---	53	40	---
TOTAL	1281	7178	12126	46238	12957	15288	20373	24460	7022	2404	1333	1192
MEAN	41.3	239	391	1492	463	493	679	789	234	77.5	43.0	39.7
MAX	67	2310	1230	13100	635	694	977	1210	445	120	50	52
MIN	36	42	106	475	376	334	430	417	111	53	40	38
AC-FT	2540	14240	24050	91710	25700	30320	40410	48520	13930	4770	2640	2360

e Estimated.

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.3	90.4	143	249	284	366	621	1045	850	298	60.2	49.4
MAX	288	347	920	1492	1269	1329	2163	4253	4210	1894	422	233
(WY)	1983	1984	1967	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1961 - 1997			
ANNUAL TOTAL	155330				151852							
ANNUAL MEAN	424				416				342			
HIGHEST ANNUAL MEAN									1045			
LOWEST ANNUAL MEAN									49.2			
HIGHEST DAILY MEAN	6690				13100				14900			
LOWEST DAILY MEAN	36				36				6.4			
ANNUAL SEVEN-DAY MINIMUM	37				37				9.6			
INSTANTANEOUS PEAK FLOW					24900				27400			
INSTANTANEOUS PEAK STAGE					18.43				19.20			
ANNUAL RUNOFF (AC-FT)	308100				301200				247700			
10 PERCENT EXCEEDS	1240				879				862			
50 PERCENT EXCEEDS	188				274				95			
90 PERCENT EXCEEDS	40				39				29			

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 mi².

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. Minor diversion for irrigation and stock ponds.

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).—Maximum discharge, 5,700 ft³/s, Mar. 10, 1995, gage height, 12.77 ft, present datum, in gage well, 13.41 ft from floodmarks, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement at gage height 12.77 ft; maximum gage height, 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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	1815	114	4.44	Jan. 15	0930	69	4.78
Dec. 22	0500	49	4.12	Jan. 20	0630	632	6.40
Dec. 30	1415	136	4.61	Jan. 26	1315	580	6.31
Jan. 2	2215	1,680	7.77	Feb. 6	1045	73	4.28

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

1	.02	.89	.78	185	56	15	12	3.1	.95	.49	.07	.03
2	.02	.72	.78	504	51	14	13	3.3	.90	.42	.07	.04
3	.04	.61	.78	307	49	14	12	3.1	.93	.39	.06	.04
4	.04	.57	.75	98	46	14	12	2.9	1.4	.31	.06	.04
5	.04	.55	.73	47	46	15	11	2.7	1.7	.25	.06	.04
6	.04	.52	.84	35	46	15	10	2.5	1.3	.24	.05	.04
7	.04	.50	.90	25	43	14	9.2	2.4	1.0	.20	.05	.03
8	.04	.48	1.0	17	40	15	8.7	2.2	.95	.14	.04	.04
9	.04	.42	10	13	37	14	8.0	2.1	.97	.17	.04	.04
10	.05	.42	74	19	35	14	7.1	1.9	.94	.18	.04	.04
11	.08	.32	79	29	33	14	6.2	1.7	.86	.15	.04	.04
12	.08	.20	14	24	32	14	6.6	1.6	.78	.14	.04	.04
13	.10	.14	5.6	22	30	13	6.4	1.5	.98	.12	.04	.05
14	.11	.40	2.4	7.3	29	14	5.9	1.4	.95	.12	.04	.05
15	.12	.53	1.4	55	28	14	5.6	1.3	.85	.13	.04	.05
16	.12	.55	1.0	44	28	14	5.1	1.3	.73	.09	.04	.06
17	.15	1.1	.84	36	26	14	5.0	1.2	.63	.09	.04	.07
18	.16	.77	.62	31	25	13	4.9	1.2	.53	.10	.04	.08
19	.17	.65	.48	25	24	13	4.8	1.0	.45	.09	.03	.11
20	.16	.64	.44	167	22	14	5.0	.98	.38	.08	.03	.14
21	.17	.76	.59	134	21	14	4.6	1.0	.38	.08	.02	.12
22	.19	8.9	36	244	22	23	4.4	1.1	.40	.08	.03	.11
23	.22	2.2	17	249	20	21	3.7	1.3	.40	.08	.03	.11
24	.23	1.4	3.7	163	19	15	3.9	1.6	.37	.08	.03	.10
25	.24	1.1	1.8	179	19	14	3.6	1.6	.32	.08	.03	.12
26	.29	.94	1.2	246	19	14	3.2	1.4	.24	.08	.03	.14
27	.29	.87	2.1	155	18	14	3.0	1.3	.21	.08	.03	.14
28	.29	.87	1.2	124	17	14	3.1	1.1	.26	.08	.03	.13
29	8.9	.83	.91	101	---	13	3.2	1.1	.33	.08	.02	.11
30	6.9	.81	58	78	---	13	3.1	.96	.43	.08	.03	.11
31	1.6	---	43	63	---	13	---	.92	---	.07	.03	---
TOTAL	20.94	29.66	361.84	3426.3	881	449	194.3	52.76	21.52	4.77	1.23	2.26
MEAN	.68	.99	11.7	111	31.5	14.5	6.48	1.70	.72	.15	.040	.075
MAX	8.9	8.9	79	504	56	23	13	3.3	1.7	.49	.07	.14
MIN	.02	.14	.44	7.3	17	13	3.0	.92	.21	.07	.02	.03
AC-FT	42	59	718	6800	1750	891	385	105	43	9.5	2.4	4.5

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.27	.93	3.80	14.4	22.8	21.0	8.94	2.59	.92	.24	.078	.25
MAX	7.18	18.2	36.3	139	287	236	160	40.0	16.4	5.71	2.92	8.33
(WY)	1946	1966	1967	1969	1978	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1945 - 1997	
ANNUAL TOTAL	2071.24		5445.58			
ANNUAL MEAN	5.66		14.9		6.27	
HIGHEST ANNUAL MEAN					48.5	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	99	Feb 20	504	Jan 2	2940	Mar 10 1995
LOWEST DAILY MEAN	.00	Sep 1	.02	Oct 1	.00	Jul 5 1945
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 1	.03	Aug 19	.00	Jul 5 1945
INSTANTANEOUS PEAK FLOW			1680	Jan 2	5700	Mar 10 1995
INSTANTANEOUS PEAK STAGE			7.77	Jan 2	13.95	Jan 16 1978
ANNUAL RUNOFF (AC-FT)	4110		10800		4540	
10 PERCENT EXCEEDS	12		34		6.6	
50 PERCENT EXCEEDS	.97		.95		.00	
90 PERCENT EXCEEDS	.02		.04		.00	

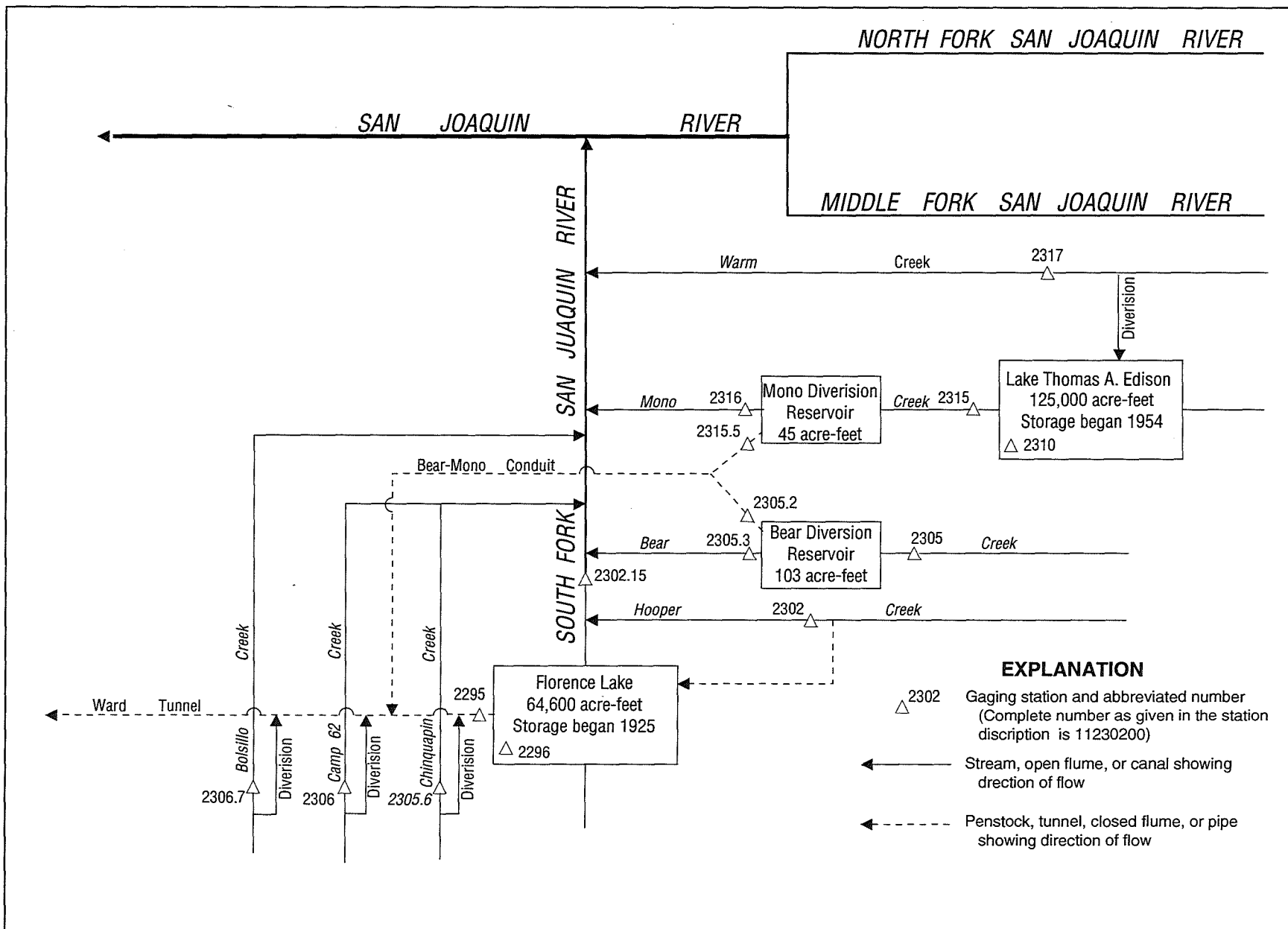


Figure 27. Diversions and storage in upper San Joaquin River Basin.

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 ft³/s, Apr. 30, 1926; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	e.90	57	411	2.4	2.4	275	745	1400	674	708	579
2	28	e1.0	48	e1260	2.4	2.4	275	748	1390	672	707	444
3	33	5.2	44	e777	2.4	2.4	275	749	1390	670	704	245
4	30	13	42	2.4	2.4	106	274	754	1390	669	703	242
5	27	15	61	2.4	2.5	304	272	759	1390	667	698	242
6	24	15	77	2.4	2.6	302	272	767	1380	665	694	240
7	22	18	78	2.4	2.6	301	272	772	1320	664	692	238
8	20	20	76	2.4	2.6	300	271	781	1090	595	688	238
9	18	22	79	2.4	2.6	299	271	789	1090	565	685	236
10	17	23	88	2.4	2.6	297	522	797	1100	600	681	236
11	16	23	114	2.4	2.6	296	761	808	1100	575	679	236
12	14	22	181	2.4	2.6	296	755	820	1090	573	674	235
13	12	22	190	2.4	2.6	296	748	832	1050	573	670	234
14	11	20	162	2.4	2.6	295	741	844	1030	661	665	233
15	10	18	134	2.4	2.6	294	734	856	1020	724	660	232
16	9.8	15	119	2.4	2.6	293	728	867	916	724	657	231
17	9.0	44	110	2.4	2.6	293	723	871	844	727	651	195
18	8.5	89	98	2.4	2.6	292	722	878	843	726	647	168
19	3.2	100	89	2.4	2.6	291	721	884	841	725	640	169
20	1.2	95	83	2.4	2.6	290	720	889	839	724	637	169
21	1.1	111	80	2.4	2.6	290	720	898	839	723	634	169
22	.90	291	68	2.4	2.6	290	723	987	838	722	629	169
23	.87	192	84	2.4	2.6	290	726	1120	875	721	620	169
24	2.3	148	132	2.4	2.5	275	729	1120	967	721	618	169
25	1.2	125	140	2.4	2.4	271	728	1120	888	720	613	169
26	e1.5	103	128	2.4	2.4	271	728	1120	766	718	610	168
27	e.90	82	121	2.4	2.4	272	728	1120	780	717	603	167
28	e.90	78	121	2.4	2.4	273	733	1080	815	715	599	166
29	e.90	68	124	2.4	---	274	738	997	841	713	595	165
30	e.90	59	176	2.4	---	274	740	972	766	711	588	165
31	e.90	---	194	2.4	---	274	---	1270	---	710	583	---
TOTAL	343.07	1838.10	3298	2515.2	71.0	7906.2	17625	28014	30888	21064	20232	6718
MEAN	11.1	61.3	106	81.1	2.54	255	588	904	1030	679	653	224
MAX	33	291	194	1260	2.6	304	761	1270	1400	727	708	579
MIN	.87	.90	42	2.4	2.4	2.4	271	745	766	565	583	165
AC-FT	680	3650	6540	4990	141	15680	34960	55570	61270	41780	40130	13330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1997, BY WATER YEAR (WY)

	MEAN	236	132	110	78.9	76.7	113	275	465	556	536	424	342
	MAX	634	745	1064	546	240	297	588	949	1161	1199	856	778
	(WY)	1996	1938	1946	1939	1986	1986	1997	1974	1974	1967	1995	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 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1925 - 1997
ANNUAL TOTAL	129433.27	140512.57	
ANNUAL MEAN	354	385	281
HIGHEST ANNUAL MEAN			460
LOWEST ANNUAL MEAN			98.1
HIGHEST DAILY MEAN	1220	Jun 13	1990
LOWEST DAILY MEAN	.87	Oct 23	.00
ANNUAL SEVEN-DAY MINIMUM	.91	Oct 27	.00
ANNUAL RUNOFF (AC-FT)	256700	278700	203500
10 PERCENT EXCEEDS	979	860	672
50 PERCENT EXCEEDS	189	271	166
90 PERCENT EXCEEDS	4.6	2.4	12

e Estimated.

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 mi².

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, 64,695 acre-ft, July 13, elevation, 7,327.80 ft; minimum, 1,042 acre-ft, several days during October and November, elevation, unknown.

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	4,66	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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1088	e1042	e1214	2627	27772	34295	30277	24120	63628	63312	56442	27171
2	e1122	e1042	e1205	9840	28103	34459	30097	24460	63618	63130	55621	26494
3	e1124	e1061	e1302	12637	28406	34584	29924	24945	63609	63092	54803	26328
4	e1115	e1071	e1291	14403	28687	34560	29707	25619	63561	63159	53988	26081
5	e1103	e1071	e1361	15609	29043	34054	29490	26610	63130	63216	53169	25807
6	e1095	e1076	e1339	16452	29282	33573	29252	27610	62805	63264	52347	25489
7	e1090	e1083	e1328	17178	29543	33094	29021	28650	62805	63302	51512	25152
8	e1084	e1090	e1330	17788	29774	32648	28828	30022	63475	63542	50682	24809
9	e1079	e1095	e1346	18338	30007	32226	28598	31297	63532	63820	49857	24446
10	e1076	e1095	e1353	18855	30232	31882	27809	32671	63590	64118	49037	24092
11	e1074	e1095	e1359	19322	30450	31601	26639	34552	63829	64406	48171	23703
12	e1068	e1091	e1377	19763	30654	31312	25489	36731	63820	64589	47224	23317
13	e1064	e1088	1509	20181	30881	31002	24404	38934	63657	64695	46276	22924
14	e1061	e1081	1481	20533	31093	30699	23485	41072	63542	64589	45335	22526
15	e1059	e1081	1462	20913	31343	30465	22694	43827	63341	64445	44410	22110
16	e1059	e1066	1443	21255	31594	30247	22151	46576	63618	64243	43424	21688
17	e1057	e1190	1430	21585	31852	29962	21819	48853	64127	63877	42438	21317
18	e1057	e1216	1423	21902	32073	29707	21585	51020	64031	63446	41467	21097
19	e1044	e1205	1412	22228	32311	29565	21571	52455	64455	62957	40505	20873
20	e1044	e1202	1408	22596	32541	29505	21805	54016	64233	62443	39502	20628
21	e1044	e1404	1400	22938	32771	29431	22214	55225	63954	62005	38482	20370
22	e1044	e1382	1378	23317	32994	29312	22512	56349	63772	61473	37487	20100
23	e1044	e1318	1441	23689	33202	29267	22833	56877	63781	61179	36478	19817
24	e1044	e1280	1475	24092	33387	29274	22617	56905	63954	60942	35445	19522
25	e1044	e1250	1464	24667	33573	29408	22352	56692	63877	60611	34529	19235
26	e1042	e1223	1458	25216	33767	29639	22631	56497	63915	60120	33395	18954
27	e1042	e1230	1455	25713	33953	29842	23345	56849	63973	59687	32380	18669
28	e1042	e1214	1466	26212	34124	30014	23907	58327	63820	59188	31312	18377
29	e1042	e1197	1475	26625	---	30172	24226	60451	63647	58636	30255	18076
30	e1042	e1219	1548	27018	---	30315	23654	63312	63532	58029	29245	17781
31	e1042	---	1537	27405	---	30360	---	64214	---	57266	28198	---
MAX	1124	1404	1548	27405	34124	34584	30277	64214	64455	64695	56442	27171
MIN	1042	1042	1205	2627	27772	29267	21571	24120	62805	57266	28198	17781
a			7233.78	7283.90	7292.80	7287.88	7278.68	7327.30	7326.59	7319.95	7284.98	7270.04
b	e-32	e+177	e+318	+25868	+6719	-3764	-6706	+40560	-682	-6266	-29068	-10417

CAL YR 1996 b e+378

WTR YR 1997 b e+16707

e Estimated.

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 mi².

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, 112 ft³/s, July 17, 1995; minimum daily, 1.2 ft³/s, Apr. 25, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.5	2.9	e16	6.0	4.9	13	e50	50	14	e2.8	3.3
2	2.7	3.3	3.0	e43	5.9	4.6	13	e54	47	8.0	e3.2	4.1
3	2.5	3.4	2.8	e34	5.6	4.5	13	e61	e44	6.0	3.7	4.2
4	2.4	2.9	2.8	19	5.5	4.6	12	e65	e42	5.8	3.6	4.2
5	2.3	2.8	3.2	14	5.3	4.5	12	e76	41	6.1	3.6	4.1
6	2.3	3.1	3.2	11	5.4	4.5	11	e86	38	6.0	3.6	4.2
7	2.3	2.8	3.0	10	5.2	4.6	11	e85	36	6.0	3.6	4.0
8	2.3	3.1	3.0	9.0	5.1	4.7	11	e79	e33	4.3	3.7	3.8
9	2.5	3.1	3.0	8.4	5.1	4.9	11	e73	e32	3.0	3.6	3.3
10	2.6	2.9	3.2	7.9	5.0	5.4	11	e72	33	3.0	3.6	3.1
11	2.6	2.9	e3.3	7.4	4.9	5.8	11	e74	32	3.0	3.6	3.1
12	2.6	2.9	3.6	7.1	4.9	5.9	10	e77	30	3.0	3.6	3.1
13	2.5	2.8	3.2	6.9	4.9	6.0	10	e72	28	3.0	3.5	3.0
14	2.5	2.6	3.1	8.0	5.0	6.4	11	e65	31	2.9	3.4	2.9
15	2.5	2.6	3.1	6.9	5.0	6.9	11	e71	29	2.9	3.4	2.9
16	2.6	2.5	2.9	6.4	5.1	7.1	11	e76	e30	2.5	3.0	2.9
17	2.5	4.8	2.9	6.1	5.1	6.9	12	e70	e29	2.5	3.0	2.8
18	2.5	4.2	2.8	6.0	5.1	7.2	13	e65	e30	2.7	3.0	3.9
19	2.7	3.4	2.8	5.9	5.1	8.0	16	e59	31	2.7	2.9	3.5
20	2.7	e4.5	2.8	5.9	5.1	9.0	18	e51	32	2.7	2.9	3.3
21	2.7	e4.2	2.4	6.2	5.0	9.2	22	46	30	2.7	2.9	3.1
22	2.8	e3.8	2.7	6.1	5.0	9.4	24	45	e29	2.7	2.9	3.0
23	2.8	3.8	2.9	6.9	4.9	9.9	25	44	e25	2.7	2.9	2.9
24	2.8	3.3	2.9	6.3	5.4	10	22	41	24	2.7	2.9	2.8
25	2.7	3.0	3.0	8.4	5.2	11	23	40	e23	2.7	2.9	3.0
26	2.6	2.7	3.0	9.5	4.7	12	31	40	e20	2.8	2.9	2.9
27	2.8	2.5	3.1	8.2	4.7	13	37	43	20	2.5	e2.6	2.8
28	2.9	3.0	3.0	6.7	4.6	14	44	e48	18	2.5	3.8	2.7
29	3.0	2.7	3.2	6.4	---	15	44	e50	18	2.5	3.9	2.7
30	3.3	3.5	4.1	6.2	---	15	e52	e54	18	2.5	3.8	2.6
31	3.6	---	3.8	6.1	---	14	---	56	---	2.5	3.7	---
TOTAL	82.4	96.6	94.7	315.9	143.8	248.9	565	1888	923	118.9	102.5	98.2
MEAN	2.66	3.22	3.05	10.2	5.14	8.03	18.8	60.9	30.8	3.84	3.31	3.27
MAX	3.6	4.8	4.1	43	6.0	15	52	86	50	14	3.9	4.2
MIN	2.3	2.5	2.4	5.9	4.6	4.5	10	40	18	2.5	2.6	2.6
AC-FT	163	192	188	627	285	494	1120	3740	1830	236	203	195

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

MEAN	2.65	2.49	2.34	2.91	2.66	3.78	6.58	10.2	13.1	12.1	4.64	2.67
MAX	4.75	3.58	3.56	10.2	5.14	8.03	18.8	60.9	43.2	68.3	18.8	3.82
(WY)	1996	1996	1996	1997	1997	1997	1997	1997	1995	1995	1995	1993
MIN	1.68	1.82	1.59	1.55	1.55	2.10	3.07	2.50	2.46	2.66	2.32	1.91
(WY)	1991	1991	1989	1991	1991	1990	1996	1991	1989	1989	1989	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	1330.4	4677.9	
ANNUAL MEAN	3.63	12.8	5.52
HIGHEST ANNUAL MEAN			15.6
LOWEST ANNUAL MEAN			2.42
HIGHEST DAILY MEAN	7.9 Mar 21	86 May 6	112 Jul 17 1995
LOWEST DAILY MEAN	2.0 Apr 1	2.3 Oct 5	1.2 Apr 25 1989
ANNUAL SEVEN-DAY MINIMUM	2.4 Oct 3	2.4 Oct 3	1.3 Oct 10 1990
ANNUAL RUNOFF (AC-FT)	2640	9280	4000
10 PERCENT EXCEEDS	4.7	41	6.2
50 PERCENT EXCEEDS	3.4	4.6	2.8
90 PERCENT EXCEEDS	2.6	2.7	1.8

e Estimated.

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 mi².

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 daily discharge, 5,950 ft³/s, Sept. 26, 1982, gage height, 11.42; minimum daily, 3.9 ft³/s, Oct. 24, 1979.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	8.0	18	18	17	19	26	31	33	e800	28	35
2	27	8.0	17	18	17	20	31	31	33	e750	28	34
3	16	7.8	17	16	17	22	25	29	33	310	28	34
4	16	7.6	18	16	29	24	21	29	33	253	28	33
5	16	7.4	18	16	92	23	20	29	35	309	28	33
6	15	8.4	17	15	43	21	20	29	235	288	28	32
7	15	26	18	15	30	18	20	29	472	304	30	32
8	15	23	18	15	26	21	21	29	591	e535	30	31
9	15	23	18	15	27	26	20	29	696	e550	30	30
10	14	19	18	16	28	28	19	29	738	e540	30	30
11	14	23	21	15	24	28	18	30	638	393	30	29
12	14	31	31	15	23	26	18	31	576	e700	30	29
13	14	31	19	15	21	24	17	31	548	590	30	33
14	14	31	16	15	20	22	16	31	531	538	30	31
15	13	31	17	15	19	22	16	32	622	400	29	30
16	13	31	15	24	21	25	27	40	612	86	29	30
17	13	31	16	24	21	31	32	34	675	134	27	30
18	13	31	15	19	19	37	32	34	584	179	27	30
19	12	31	17	19	35	37	27	31	399	138	28	30
20	12	31	17	19	54	35	23	30	e500	48	29	30
21	12	31	18	18	30	34	21	31	e600	34	29	30
22	12	31	18	20	25	31	20	35	e580	33	28	30
23	12	31	16	23	23	27	19	36	e550	31	28	30
24	12	31	17	23	21	23	19	36	384	31	28	29
25	12	31	16	22	19	22	19	35	261	29	28	29
26	9.1	32	16	19	19	21	20	34	55	29	27	29
27	8.4	31	16	19	19	20	20	34	51	30	27	29
28	8.2	31	17	19	19	20	21	33	40	30	28	29
29	8.2	31	18	20	19	18	21	33	299	30	28	29
30	8.1	28	19	19	---	17	24	33	e700	28	35	29
31	8.1	---	19	18	---	18	---	33	---	28	35	---
TOTAL	420.1	748.2	551	560	777	760	653	991	12104	8178	898	919
MEAN	13.6	24.9	17.8	18.1	26.8	24.5	21.8	32.0	403	264	29.0	30.6
MAX	29	32	31	24	92	37	32	40	738	800	35	35
MIN	8.1	7.4	15	15	17	17	16	29	33	28	27	29
AC-FT	833	1480	1090	1110	1540	1510	1300	1970	24010	16220	1780	1820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1996, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
MEAN	18.1	16.2	15.5	16.2	20.2	26.0	30.0	42.2	411	358	75.7	39.8						
MAX	30.5	24.9	25.3	20.5	42.6	49.0	53.1	164	2429	1799	661	268						
(WY)	1990	1996	1984	1984	1986	1995	1995	1983	1983	1995	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 1995 CALENDAR YEAR FOR 1996 WATER YEAR WATER YEARS 1979 - 1996

	1995	1996	1979-1996
ANNUAL TOTAL	87514.3	27559.3	
ANNUAL MEAN	240	75.3	89.2
HIGHEST ANNUAL MEAN			396
LOWEST ANNUAL MEAN			18.5
HIGHEST DAILY MEAN	5020	800	5200
LOWEST DAILY MEAN	7.4	7.4	3.9
ANNUAL SEVEN-DAY MINIMUM	7.9	7.9	4.4
INSTANTANEOUS PEAK FLOW		e1050	5950
INSTANTANEOUS PEAK STAGE		unknown	11.42
ANNUAL RUNOFF (AC-FT)	173600	54660	64630
10 PERCENT EXCEEDS	563	240	49
50 PERCENT EXCEEDS	31	28	22
90 PERCENT EXCEEDS	15	15	14

e Estimated.

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	79	16	154	32	25	36	56	e1100	37	27	28
2	18	21	16	366	32	25	35	56	e550	32	27	32
3	17	20	16	178	31	25	35	58	e490	30	27	30
4	19	20	16	66	30	25	34	63	e550	29	32	29
5	18	24	23	49	29	25	34	71	382	29	48	29
6	18	16	22	40	28	25	33	80	113	29	47	28
7	18	17	19	37	27	26	33	85	66	30	47	28
8	18	17	18	34	27	27	33	86	63	31	46	28
9	18	17	19	32	26	29	32	80	339	29	46	28
10	18	17	21	31	26	31	32	80	247	28	46	27
11	17	17	33	30	26	33	32	84	105	28	45	29
12	22	17	30	30	26	33	31	89	213	38	45	30
13	21	17	24	29	26	32	31	88	211	80	45	27
14	21	17	18	29	26	32	32	93	137	103	38	27
15	21	17	16	31	27	34	32	99	78	55	29	27
16	21	16	16	31	28	35	32	102	54	32	28	27
17	21	31	16	31	29	33	33	99	201	27	28	28
18	21	26	16	31	28	34	34	96	e600	27	28	31
19	26	21	15	26	28	36	36	92	e550	27	28	29
20	30	21	16	25	29	37	39	88	e900	27	28	29
21	33	27	19	25	28	36	43	86	e870	28	28	29
22	56	42	27	25	28	36	45	87	e650	28	29	29
23	45	29	22	26	27	39	48	83	371	28	29	28
24	33	24	22	26	26	37	44	73	152	28	29	28
25	33	21	22	45	26	38	44	69	280	28	29	29
26	33	20	22	46	26	39	49	69	341	29	29	28
27	33	18	21	37	26	39	55	76	307	29	28	28
28	33	17	19	34	25	39	55	87	290	28	29	28
29	34	16	19	33	---	39	55	91	127	28	29	28
30	35	16	34	32	---	38	55	97	42	28	29	28
31	86	---	31	33	---	38	---	e670	---	27	29	---
TOTAL	863	678	644	1642	773	1020	1162	3133	10379	1057	1052	854
MEAN	27.8	22.6	20.8	53.0	27.6	32.9	38.7	101	346	34.1	33.9	28.5
MAX	86	79	34	366	32	39	55	670	1100	103	48	32
MIN	17	16	15	25	25	25	31	56	42	27	27	27
AC-FT	1710	1340	1280	3260	1530	2020	2300	6210	20590	2100	2090	1690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1997, BY WATER YEAR (WY)

MEAN	18.6	16.5	15.8	18.2	20.6	26.4	30.5	45.3	407	341	73.5	39.2
MAX	30.5	24.9	25.3	53.0	42.6	49.0	53.1	164	2429	1799	661	268
(WY)	1990	1996	1984	1997	1986	1995	1995	1983	1983	1995	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 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1979 - 1997		
ANNUAL TOTAL	28025			23257			87.9		
ANNUAL MEAN	76.6			63.7			18.5		
HIGHEST ANNUAL MEAN							396		
LOWEST ANNUAL MEAN							18.5		
HIGHEST DAILY MEAN	800			1100			5200		
LOWEST DAILY MEAN	15			15			3.9		
ANNUAL SEVEN-DAY MINIMUM	15			16			4.4		
INSTANTANEOUS PEAK FLOW				e1320			5950		
INSTANTANEOUS PEAK STAGE				unknown			11.42		
ANNUAL RUNOFF (AC-FT)	55590			46130			63660		
10 PERCENT EXCEEDS	240			92			51		
50 PERCENT EXCEEDS	28			30			23		
90 PERCENT EXCEEDS	17			19			14		

e Estimated.

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 mi².

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 ft³/s, Sept. 26, 1982, gage height, 8.35 ft, from rating curve extended above 570 ft³/s; minimum daily, 1.2 ft³/s, Sept. 29 to Oct. 5, 1924.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	22	e25	128	e24	e20	73	239	638	162	98	29
2	22	19	e21	1060	e22	e19	60	242	530	151	89	41
3	22	17	e21	559	e21	e18	60	267	522	162	83	72
4	20	16	e21	240	e22	e18	57	292	539	191	85	58
5	18	14	e24	150	e21	e18	56	332	388	207	90	53
6	17	15	28	105	e21	e18	53	339	303	195	94	45
7	17	15	32	87	e20	e19	53	322	311	195	95	40
8	16	16	30	75	e23	e21	59	308	346	186	93	37
9	15	17	29	67	e23	e25	53	295	354	211	87	34
10	15	16	32	63	e24	e36	49	333	326	214	79	32
11	15	15	38	e52	e23	e43	51	415	330	210	71	31
12	14	16	47	54	e22	e38	50	497	306	196	64	30
13	14	15	53	49	e22	e44	54	483	275	186	59	28
14	13	14	43	45	e22	e48	67	521	285	191	56	26
15	13	13	e36	e39	e20	61	79	588	250	198	54	24
16	12	11	35	e35	e21	64	105	593	250	185	53	23
17	11	21	33	e31	e20	51	131	532	332	153	52	22
18	11	33	e32	e31	e19	54	148	459	394	143	49	27
19	11	42	e31	e34	e18	73	178	363	461	136	47	33
20	11	38	e30	e35	e18	86	208	356	485	139	44	32
21	11	52	27	e34	e19	79	228	369	466	137	43	30
22	11	71	e30	e38	e18	70	215	382	415	136	41	29
23	9.7	54	e41	e43	e16	80	227	354	354	151	39	27
24	9.1	48	e50	52	e17	84	155	277	319	169	38	25
25	11	39	e43	e41	e19	103	155	240	321	178	37	25
26	11	34	e38	e33	e18	116	231	248	310	139	36	27
27	13	34	e38	e34	e18	111	283	325	296	136	34	26
28	13	30	e40	e33	e19	108	263	469	270	127	31	25
29	12	27	e36	e31	---	107	232	569	238	132	30	24
30	15	e27	e43	e28	---	105	239	658	208	139	30	24
31	22	---	e43	e25	---	90	---	706	---	111	29	---
TOTAL	441.8	801	1070	3331	570	1827	3872	12373	10822	5166	1830	979
MEAN	14.3	26.7	34.5	107	20.4	58.9	129	399	361	167	59.0	32.6
MAX	22	71	53	1060	24	116	283	706	638	214	98	72
MIN	9.1	11	21	25	16	18	49	239	208	111	29	22
AC-FT	876	1590	2120	6610	1130	3620	7680	24540	21470	10250	3630	1940

e Estimated.

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.0	15.4	19.8	22.7	23.6	33.1	87.2	254	347	201	65.9	28.3
MAX	62.2	56.1	71.2	107	61.0	79.8	172	586	740	747	349	260
(WY)	1983	1951	1956	1997	1986	1986	1926	1969	1983	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1922 - 1997			
ANNUAL TOTAL	40853.8				43082.8							
ANNUAL MEAN	112				118				93.0			
HIGHEST ANNUAL MEAN									201			
LOWEST ANNUAL MEAN									29.2			
HIGHEST DAILY MEAN	658				1060				2610			
LOWEST DAILY MEAN	9.1				9.1				1.2			
ANNUAL SEVEN-DAY MINIMUM	11				11				1.2			
INSTANTANEOUS PEAK FLOW					1760				3660			
INSTANTANEOUS PEAK STAGE					6.84				8.35			
ANNUAL RUNOFF (AC-FT)	81030				85450				67350			
10 PERCENT EXCEEDS	317				331				292			
50 PERCENT EXCEEDS	43				47				30			
90 PERCENT EXCEEDS	16				17				7.0			

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, 465 ft³/s, June 4, 1996; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	20	23	126	.00	.00	.00	235	.00	159	95	26
2	20	17	19	457	.00	.00	.00	238	.00	148	86	38
3	20	15	19	381	.00	.00	.00	263	.00	159	80	69
4	18	14	19	238	.00	.00	.00	288	.00	188	82	55
5	16	12	22	148	.00	.00	.00	328	.00	204	87	50
6	15	13	25	103	.00	.00	.00	335	.00	192	91	42
7	15	13	30	85	.00	.00	.00	319	.00	192	92	37
8	14	14	28	38	.00	.00	.00	305	.00	183	90	34
9	13	15	27	.00	.00	.00	.00	292	.00	208	84	31
10	13	14	30	.00	.00	.00	.00	329	321	211	76	29
11	13	13	36	.00	.00	.00	.00	387	292	207	68	28
12	12	14	45	.00	.00	.00	.00	432	292	193	61	27
13	12	13	51	.00	.00	.00	.00	427	272	183	56	25
14	11	12	39	.00	.00	.00	.00	434	280	188	53	23
15	11	11	34	.00	.00	.00	.00	446	245	195	51	21
16	9.8	8.9	33	.00	.00	.00	.00	448	247	182	50	20
17	8.8	19	31	.00	.00	.00	.00	437	308	150	49	19
18	8.8	31	30	.00	.00	.00	.00	418	299	140	46	24
19	8.8	40	29	.00	.00	.00	.00	360	310	133	44	30
20	5.4	36	28	.00	.00	.00	.00	353	311	136	41	29
21	.00	50	26	.00	.00	.00	.00	366	305	134	40	27
22	.00	69	28	.00	.00	.00	149	379	299	133	38	26
23	.00	52	39	.00	.00	.00	223	349	297	148	36	24
24	.00	46	48	.00	.00	.00	151	274	294	166	35	22
25	.00	37	41	.00	.00	.00	151	237	295	175	34	22
26	.00	32	36	.00	.00	.00	227	245	307	136	33	24
27	.00	32	36	.00	.00	.00	279	317	293	133	31	23
28	.00	28	38	.00	.00	.00	259	413	267	124	28	22
29	.00	25	34	.00	---	.00	228	443	235	129	27	21
30	194	23	41	.00	---	.00	235	458	205	136	27	21
31	20	---	41	.00	---	.00	---	130	---	108	26	---
TOTAL	472.60	738.9	1006	1576.00	0.00	0.00	1902.00	10685	5974.00	5073	1737	889
MEAN	15.2	24.6	32.5	50.8	.000	.000	63.4	345	199	164	56.0	29.6
MAX	194	69	51	457	.00	.00	279	458	321	211	95	69
MIN	.00	8.9	19	.00	.00	.00	.00	130	.00	108	26	19
AC-FT	937	1470	2000	3130	.00	.00	3770	21190	11850	10060	3450	1760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

MEAN	13.8	12.7	12.0	18.2	16.8	31.5	91.5	195	167	76.5	44.0	19.9
MAX	45.3	26.5	32.5	50.8	41.3	52.4	138	345	326	168	181	84.1
(WY)	1995	1995	1997	1997	1996	1995	1989	1997	1991	1996	1995	1995
MIN	3.23	3.68	3.23	3.46	.000	.000	43.2	59.2	.000	.000	10.6	4.53
(WY)	1989	1991	1991	1991	1997	1997	1991	1995	1995	1995	1989	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	25265.50	30053.50	
ANNUAL MEAN	69.0	82.3	58.1
HIGHEST ANNUAL MEAN			82.3
LOWEST ANNUAL MEAN			49.2
HIGHEST DAILY MEAN	465 Jun 4	458 May 30	465 Jun 4 1996
LOWEST DAILY MEAN	.00 May 15	.00 Oct 21	.00 Oct 18 1988
ANNUAL SEVEN-DAY MINIMUM	.00 Jun 6	.00 Oct 21	.00 May 18 1995
ANNUAL RUNOFF (AC-FT)	50110	59610	42100
10 PERCENT EXCEEDS	215	292	190
50 PERCENT EXCEEDS	38	26	22
90 PERCENT EXCEEDS	.00	.00	3.1

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 mi².

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.—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 discharge, 1,730 ft³/s, July 9, 1995, gage height, 14.75 ft; minimum daily, 0.94 ft³/s, Oct. 15, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.1	2.1	2.3	24	20	76	3.6	625	3.4	3.2	3.1
2	2.3	2.1	2.1	603	22	19	62	3.6	537	3.4	3.2	3.1
3	2.2	2.1	2.1	178	21	18	61	3.6	530	3.4	3.2	3.2
4	2.2	2.1	2.2	2.3	22	18	60	3.6	545	3.4	3.2	3.2
5	2.2	2.1	2.2	2.2	21	18	57	3.6	404	3.5	3.2	3.2
6	2.2	2.1	2.2	2.1	21	18	52	3.6	304	3.4	3.2	3.2
7	2.2	2.1	2.2	2.0	20	19	53	3.5	314	3.4	3.2	3.1
8	2.2	2.1	2.2	11	23	21	61	3.3	358	3.4	3.2	3.1
9	2.2	2.1	2.1	e67	23	25	53	3.1	366	3.4	3.2	3.1
10	2.2	2.1	2.1	62	24	36	47	3.7	148	3.5	3.2	3.1
11	2.2	2.1	2.1	52	23	43	50	28	38	3.5	3.2	3.1
12	2.2	2.1	2.1	e54	22	38	e50	65	14	3.5	3.1	3.1
13	2.2	2.1	2.1	e49	22	44	e54	56	3.2	3.4	3.1	3.1
14	2.2	2.1	2.1	e45	22	48	e67	87	4.6	3.4	3.1	3.1
15	2.2	2.1	2.1	e39	20	58	e79	142	5.1	3.4	3.1	3.1
16	2.2	2.1	2.1	e35	21	64	e105	145	3.2	3.4	3.1	3.1
17	2.2	2.1	2.1	31	20	47	e131	95	24	3.3	3.1	3.1
18	2.2	2.1	2.2	31	19	51	e148	41	95	3.3	3.1	3.1
19	2.2	2.1	2.2	34	18	73	e178	3.2	151	3.3	3.1	3.1
20	2.2	2.1	2.2	35	18	84	e208	3.1	174	3.4	3.1	3.1
21	2.3	2.1	2.2	34	19	78	e228	3.2	161	3.4	3.1	3.1
22	2.3	2.1	2.2	38	18	71	103	3.5	116	3.3	3.1	3.1
23	2.3	2.1	2.2	43	16	80	4.3	5.3	57	3.2	3.1	3.1
24	2.3	2.1	2.2	53	17	85	4.1	3.1	25	3.2	3.1	3.1
25	9.3	2.1	2.2	41	19	109	3.6	3.1	26	3.2	3.1	3.1
26	11	2.1	2.2	33	18	122	3.7	3.1	3.5	3.2	3.1	3.1
27	13	2.1	2.2	34	18	119	3.7	8.3	3.5	3.2	3.1	3.1
28	14	2.1	2.2	33	19	114	3.7	56	3.5	3.1	3.1	3.1
29	14	2.1	2.2	31	---	114	3.6	126	3.4	3.2	3.1	3.1
30	8.2	2.1	2.2	28	---	111	3.6	200	3.4	3.2	3.1	3.1
31	2.1	---	2.2	25	---	90	---	575	---	3.2	3.1	---
TOTAL	125.5	63.0	67.0	1729.9	570	1855	2013.3	1687.1	5045.4	103.5	97.2	93.4
MEAN	4.05	2.10	2.16	55.8	20.4	59.8	67.1	54.4	168	3.34	3.14	3.11
MAX	14	2.1	2.2	603	24	122	228	575	625	3.5	3.2	3.2
MIN	2.1	2.1	2.1	2.0	16	18	3.6	3.1	3.2	3.1	3.1	3.1
AC-FT	249	125	133	3430	1130	3680	3990	3350	10010	205	193	185

e Estimated.

11230530 BEAR CREEK BELOW DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.28	2.13	2.75	6.77	3.54	7.19	10.1	29.3	107	83.0	13.7	3.97
MAX	4.11	6.16	12.5	55.8	20.4	59.8	67.1	121	555	747	109	11.1
(WY)	1996	1996	1996	1997	1997	1997	1997	1995	1995	1995	1995	1996
MIN	1.33	1.38	1.41	1.48	1.35	1.48	1.42	2.57	2.43	2.25	2.25	2.44
(WY)	1988	1990	1993	1995	1995	1988	1990	1991	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1987 - 1997			
ANNUAL TOTAL	15363.7				13450.3							
ANNUAL MEAN	42.0				36.9				22.9			
HIGHEST ANNUAL MEAN									131			
LOWEST ANNUAL MEAN									1.98			
HIGHEST DAILY MEAN	621				625				1420			
LOWEST DAILY MEAN	2.1				2.0				.94			
ANNUAL SEVEN-DAY MINIMUM	2.1				2.1				1.0			
INSTANTANEOUS PEAK FLOW					1260				1730			
INSTANTANEOUS PEAK STAGE					14.25				14.75			
ANNUAL RUNOFF (AC-FT)	30470				26680				16600			
10 PERCENT EXCEEDS	108				92				7.6			
50 PERCENT EXCEEDS	2.5				3.4				2.4			
90 PERCENT EXCEEDS	2.1				2.1				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 mi².

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.—Records of fishery release normally computed only during periods of diversion to Ward Tunnel. 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.

NOTE.—No diversion during 1997 water year.

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 mi².

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.—Records of fishery release normally are computed only during periods of diversion to Ward Tunnel. Flow over the spillway bypasses this station. Discharge represents the combined flow of spill and or release from diversion dam. 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.

NOTE.—No diversion during 1997 water year.

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 mi².

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 Jan. 1 to Aug. 14, Sept. 2–6, and Sept. 12–17. 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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	e8.6	e.90	e.50	e1.6	e7.9	e12	.42	.40	---
2	---	---	---	e27	e.80	e.48	e1.5	e7.6	e12	.42	.40	.27
3	---	---	---	e22	e.80	e.43	e1.4	e9.0	e11	.42	.40	.28
4	---	---	---	e12	e.80	e.43	e1.3	e10	e12	.42	.40	.24
5	---	---	---	e6.9	e.80	e.47	e1.3	e11	e10	.42	.39	.23
6	---	---	---	e5.3	e.70	e.43	e1.2	e11	e10	.42	.36	.22
7	---	---	---	e4.3	e.70	e.43	e1.3	e11	e10	.42	.36	---
8	---	---	---	e3.7	e.70	e.43	e1.3	e12	e10	.42	.34	---
9	---	---	---	e3.2	e.70	e.43	e1.2	e11	e10	.42	.32	---
10	---	---	---	e2.9	e.70	e.49	e1.1	e12	e9.7	.42	.32	---
11	---	---	---	e2.7	e.70	e.60	e1.1	e14	e9.7	.42	.32	---
12	---	---	---	e2.5	e.70	e.60	e1.1	e16	e9.6	.42	.30	.18
13	---	---	---	e2.3	e.70	e.70	e1.3	e16	e9.3	.42	.30	.08
14	---	---	---	e2.2	e.70	e.70	e1.6	e16	e9.4	.42	.30	.06
15	---	---	---	e2.0	e.70	e.70	e2.1	e16	e9.5	.42	---	.06
16	---	---	---	e1.9	e.70	e.80	e2.9	e16	e9.4	.42	---	.06
17	---	---	---	e1.6	e.70	e.80	e3.3	e15	e5.0	.40	---	.14
18	---	---	---	e1.6	e.60	e.80	e3.8	e16	e2.6	.40	---	---
19	---	---	---	e1.5	e.60	e1.0	e4.5	e16	e.40	.40	---	---
20	---	---	---	e1.4	e.60	e1.1	e5.0	e14	.49	.40	---	---
21	---	---	---	e1.5	e.60	e1.1	e6.3	e13	.49	.40	---	---
22	---	---	---	e1.6	e.60	e1.2	e6.6	e13	.49	.40	---	---
23	---	---	---	e1.8	e.60	e1.4	e6.4	e12	.48	.40	---	---
24	---	---	---	e1.4	e.60	e1.6	e5.1	e11	.44	.40	---	---
25	---	---	---	e1.5	e.60	e1.8	e5.2	e9.0	.44	.40	---	---
26	---	---	---	e1.5	e.60	e2.1	e7.0	e8.6	.44	.40	---	---
27	---	---	---	e1.3	e.60	e2.2	e8.4	e10	.42	.40	---	---
28	---	---	---	e1.1	e.50	e2.2	e7.6	e13	.42	.40	---	---
29	---	---	---	e1.0	---	e2.2	e7.4	e13	.42	.40	---	---
30	---	---	---	e.90	---	e2.1	e7.9	e13	.41	.40	---	---
31	---	---	---	e1.0	---	e1.9	---	e13	---	.40	---	---
TOTAL	---	---	---	130.20	19.00	32.12	107.8	386.1	176.54	12.72	---	---
MEAN	---	---	---	4.20	.68	1.04	3.59	12.5	5.88	.41	---	---
MAX	---	---	---	27	.90	2.2	8.4	16	12	.42	---	---
MIN	---	---	---	.90	.50	.43	1.1	7.6	.40	.40	---	---
AC-FT	---	---	---	258	38	64	214	766	350	25	---	---

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 mi².

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, 124,628 acre-ft, July 8, 10, elevation, 7,642.28 ft; minimum, 63,800 acre-ft, Apr. 14, 15, elevation, 7,606.88 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109838	96013	84651	71215	84972	87630	69469	73140	119306	124405	123112	102776
2	109011	96031	83974	74110	85091	87716	68837	74062	120902	124257	122780	102137
3	108257	95734	82961	76276	85159	87665	68241	75051	121803	124183	122189	101464
4	107414	95489	82271	77393	85261	87152	67647	76080	122688	124146	121693	100774
5	106608	95454	81816	78118	85397	86690	67038	77294	122964	124220	121215	100068
6	105803	95419	81129	78548	85482	86146	66435	78548	122854	124331	120718	99310
7	104911	95419	80461	78980	85584	85312	65832	79727	122761	124516	120204	98553
8	104091	95437	79776	79328	85703	84465	65218	80828	122706	124628	119727	97834
9	103273	95454	79212	79660	85805	83652	64622	81951	122706	124609	119159	97114
10	102491	95472	78714	79942	85891	82843	64241	83095	122891	124628	118609	96310
11	101624	95472	78217	80176	85993	82069	64118	84549	123149	124591	117951	95559
12	100756	95489	77624	80444	86095	81313	63981	86180	123518	124516	117293	94862
13	99874	95141	76948	80678	86214	80544	63875	87938	124035	124424	116690	94115
14	99046	94376	76276	80879	86316	79793	63800	89671	124257	124461	116071	93281
15	98255	93593	75623	81129	86418	79079	63800	91654	123961	124572	115378	92450
16	97412	93247	74921	81347	86520	78365	63830	93697	123998	124609	114669	91585
17	96590	92762	74305	81531	86639	77624	63966	95507	124128	124461	113979	90653
18	95821	92623	73673	81681	86707	76981	64180	97202	123980	124331	113288	89877
19	95769	92121	73284	81850	86810	76309	64470	98764	124072	124183	112474	89035
20	95734	91499	73236	82119	86878	75639	64821	100509	124091	124035	111768	88178
21	95699	90135	73365	82388	86981	75051	65203	102048	123851	123887	111082	87323
22	95664	89860	73494	82691	87083	74467	65632	103558	123666	123758	110343	86775
23	95681	89791	73494	82927	87133	73867	66234	104929	123574	123795	109568	85942
24	95699	89413	73478	83112	87186	73284	66883	106000	123611	123851	108814	85108
25	95734	88761	73365	83652	87288	72786	67584	107002	123869	123851	108077	84329
26	95734	88143	72802	83974	87425	72320	68428	108023	124109	123814	107324	83483
27	95699	87459	72239	84194	87511	71869	69421	109227	123980	123721	106537	82590
28	95699	86758	71614	84363	87562	71375	70370	110920	123961	123648	105821	81749
29	95856	86044	71072	84515	---	70912	71247	112763	124387	123611	105054	80895
30	95926	85346	70769	84668	---	70466	72223	114868	124461	123500	104269	80043
31	95978	---	70721	84803	---	70006	---	117147	---	123315	103504	---
MAX	109838	96031	84651	84803	87562	87716	72223	117147	124461	124628	123112	102776
MIN	95664	85346	70721	71215	84972	70006	63800	73140	119306	123315	103504	80043
a	7626.37	7620.20	7611.33	7619.88	7621.50	7610.88	7612.27	7638.21	7642.19	7641.57	7630.64	7617.05
b	-14743	-10632	-14625	+14082	+2759	-17556	+2217	+44924	+7314	-1146	-19811	-23461

CAL YR 1996 b -38955

WTR YR 1997 b -30678

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 mi².

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.—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 ft³/s, Sept. 26, 1982, gage height, 8.87 ft; minimum daily, 0.3 ft³/s, Nov. 11, 12, 1954.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431	14	389	98	26	25	475	29	29	328	247	417
2	429	35	389	67	26	25	475	29	125	361	310	417
3	426	182	389	30	26	104	473	29	465	342	442	417
4	426	135	389	27	26	301	470	29	466	337	412	417
5	426	26	389	26	26	301	470	29	611	317	412	417
6	426	26	389	26	26	344	468	29	712	248	412	415
7	422	26	387	25	26	471	465	29	745	240	412	412
8	421	26	385	25	26	485	465	29	771	290	412	412
9	421	26	385	25	26	485	465	28	672	335	412	412
10	421	26	387	25	26	485	349	28	511	317	412	412
11	421	26	387	25	26	485	207	28	485	363	412	412
12	421	26	382	25	26	485	207	28	365	363	412	412
13	421	204	380	25	25	485	207	28	270	338	412	412
14	421	394	380	25	25	485	207	28	492	286	421	421
15	420	394	380	25	25	481	207	28	652	286	426	433
16	417	394	380	25	25	480	207	28	497	334	426	440
17	417	394	378	25	25	480	207	28	595	313	426	450
18	305	394	376	25	25	480	207	28	771	309	426	450
19	21	394	217	25	25	480	210	28	736	309	426	450
20	15	394	75	25	25	480	210	29	838	309	426	450
21	15	394	75	25	25	480	211	29	917	309	426	450
22	15	291	75	25	25	480	213	29	820	286	426	450
23	15	120	74	25	25	480	130	29	655	233	426	450
24	15	271	74	25	25	477	30	29	559	235	426	450
25	15	389	132	26	25	475	29	29	431	236	423	450
26	15	389	376	26	25	475	29	29	433	237	421	450
27	15	389	376	26	25	475	30	29	559	238	421	450
28	14	389	376	26	25	475	30	29	455	220	421	448
29	14	389	376	26	---	475	29	29	187	247	421	445
30	14	389	255	26	---	475	29	29	343	247	421	445
31	14	---	98	26	---	475	---	29	---	247	421	---
TOTAL	7689	6946	9500	906	712	13089	7411	888	16167	9060	12749	12966
MEAN	248	232	306	29.2	25.4	422	247	28.6	539	292	411	432
MAX	431	394	389	98	26	485	475	29	917	363	442	450
MIN	14	14	74	25	25	25	29	28	29	220	247	412
AC-FT	15250	13780	18840	1800	1410	25960	14700	1760	32070	17970	25290	25720

11231500 MONO CREEK BELOW LAKE THOMAS A. EDISON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	95.0	157	202	211	213	187	130	67.3	86.7	209	223	177
MAX	265	423	437	467	472	479	647	515	577	684	414	450
(WY)	1994	1994	1968	1984	1973	1973	1983	1983	1969	1995	1983	1994
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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1956 - 1997

ANNUAL TOTAL	100504	98083	
ANNUAL MEAN	275	269	163
HIGHEST ANNUAL MEAN			366
LOWEST ANNUAL MEAN			53.2
HIGHEST DAILY MEAN	728	Jun 20	917
LOWEST DAILY MEAN	14	Oct 28	14
ANNUAL SEVEN-DAY MINIMUM	14	Oct 26	14
INSTANTANEOUS PEAK FLOW			1050
INSTANTANEOUS PEAK STAGE			7.39
ANNUAL RUNOFF (AC-FT)	199300	194500	118300
10 PERCENT EXCEEDS	488	476	426
50 PERCENT EXCEEDS	297	328	96
90 PERCENT EXCEEDS	17	25	14

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, 499 ft³/s, Apr. 7, 1995; minimum daily, -18 ft³/s, June 11, 1993 (reverse flow from Bear Creek Conduit).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	e4.4	381	e90	e.00	e.00	458	15	14	e250	234	403
2	420	e25	381	e59	e.00	e.00	458	15	59	e344	297	403
3	417	e172	381	e22	e.00	e85	456	15	172	e327	391	404
4	416	e126	381	e19	e.00	286	453	15	173	e323	399	404
5	416	e18	381	e18	e.00	285	453	15	212	e290	399	404
6	416	e18	381	e18	e.00	327	451	15	241	e232	399	401
7	e412	e18	379	e14	e.00	453	448	15	e251	e227	398	399
8	e411	e18	377	10	e.00	467	448	15	e262	e277	399	398
9	e411	e18	377	7.0	e.00	467	448	14	e225	e302	398	399
10	e411	e18	379	e.00	e.00	467	333	14	e194	e290	398	399
11	e411	e18	379	e.00	e.00	467	191	14	e198	e270	398	399
12	e411	e18	374	e.00	e.00	467	191	14	e124	e269	399	399
13	e411	e196	372	e.00	e.00	467	191	14	e146	e267	398	398
14	e411	e386	372	e.00	e.00	468	191	14	e330	e272	408	407
15	e410	e386	372	e.00	e.00	463	191	14	e195	e273	413	419
16	e407	e386	372	e.00	e.00	463	191	14	e155	e312	412	426
17	e407	e386	370	e.00	e.00	463	191	14	e349	e288	412	437
18	e295	e386	368	e.00	e.00	463	191	14	e293	e296	412	437
19	e11	e386	209	e.00	e.00	463	194	14	e253	e296	412	437
20	e5.4	e386	67	e.00	e.00	463	194	15	e375	e296	413	437
21	e5.4	e386	67	e.00	e.00	463	195	15	e313	e296	413	437
22	e5.4	283	67	e.00	e.00	463	198	15	e219	e273	412	436
23	e5.4	112	66	e.00	e.00	463	116	15	e151	e220	412	436
24	e3.0	263	66	e.00	e.00	460	16	15	e198	e222	412	436
25	e.00	381	124	e.00	e.00	458	15	15	e68	e223	409	437
26	e.00	381	e368	e.00	e.00	458	15	15	e236	223	407	436
27	e.00	381	e368	e.00	e.00	458	16	15	e243	224	408	436
28	e.00	381	e368	e.00	e.00	458	16	15	e126	206	408	434
29	e.00	381	e368	e.00	---	458	15	15	e.00	233	407	431
30	e4.4	381	e247	e.00	---	458	15	15	e327	234	408	431
31	e4.4	---	e90	e.00	---	458	---	15	---	234	408	---
TOTAL	7357.40	6699.4	9252	257.00	0.00	12539.00	6939	454	6102.00	8289	12293	12560
MEAN	237	223	298	8.29	.000	404	231	14.6	203	267	397	419
MAX	420	386	381	90	.00	468	458	15	375	344	413	437
MIN	.00	4.4	66	.00	.00	.00	15	14	.00	206	234	398
AC-FT	14590	13290	18350	510	.00	24870	13760	901	12100	16440	24380	24910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	MEAN	90.5	122	122	60.3	88.2	165	144	64.2	77.4	172	247	200
MAX	254	412	421	213	395	464	400	207	203	417	397	440	
(WY)	1994	1994	1987	1987	1996	1996	1996	1995	1997	1989	1997	1994	
MIN	13.8	12.6	1.39	4.08	.000	8.00	14.8	6.07	6.91	.000	93.0	11.8	
(WY)	1990	1989	1991	1991	1997	1990	1992	1989	1995	1995	1996	1989	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1987 - 1997			
ANNUAL TOTAL	90329.20				82741.80							
ANNUAL MEAN	247				227				130			
HIGHEST ANNUAL MEAN									227			
LOWEST ANNUAL MEAN									50.5			
HIGHEST DAILY MEAN	498				Feb 10				499			
LOWEST DAILY MEAN	.00				Oct 25				-18			
ANNUAL SEVEN-DAY MINIMUM	1.1				Oct 24				.00			
ANNUAL RUNOFF (AC-FT)	179200				164100				93880			
10 PERCENT EXCEEDS	472				437				408			
50 PERCENT EXCEEDS	279				250				31			
90 PERCENT EXCEEDS	8.0				.00				6.0			

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1986 to current year. Prior to October 1991, published as "at Diversion Dam."

GAGE.—Acoustic-velocity meter on low-flow discharge, and water-stage recorder on diversion reservoir. 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. Discharge, including extremes, represents the combined flow at Mono Creek and spill at diversion dam.

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, 1,300 ft³/s, July 11, 12, 1995; minimum daily, 4.1 ft³/s, Dec. 12–16, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e9.6	7.8	e7.8	e26	e25	17	14	15	e78	13	14
2	9.2	e9.6	7.7	e7.8	e26	e25	17	14	66	e17	13	14
3	9.5	e9.6	7.7	e7.8	e26	e19	17	14	293	e15	51	13
4	9.6	e8.7	7.7	e7.8	e26	15	17	14	293	e14	13	13
5	9.6	e7.8	7.7	e7.8	e26	16	17	14	399	e27	13	13
6	9.6	e7.8	7.6	e7.8	e26	17	17	14	471	e16	13	14
7	e9.6	e7.8	7.8	e11	e26	18	17	14	e494	e13	14	13
8	e9.6	e7.8	7.9	15	e26	18	17	14	e509	e13	13	14
9	e9.6	e7.8	7.9	18	e26	18	17	14	e447	e33	14	13
10	e9.6	e7.8	7.9	e25	e26	18	16	14	e317	e27	14	13
11	e9.6	e7.8	7.8	e25	e26	18	16	14	e287	e93	14	13
12	e9.6	e7.8	7.8	e25	e26	18	16	14	e241	e94	13	13
13	e9.6	e7.8	7.8	e25	e26	18	16	14	e124	e71	14	14
14	e9.6	e7.8	7.8	e25	e25	17	16	14	e162	e14	13	14
15	e9.6	e7.8	7.8	e25	e25	18	16	14	e457	e13	13	14
16	e9.6	e7.8	7.8	e25	e25	17	16	14	e342	e22	14	14
17	e9.6	e7.8	7.7	e25	e25	17	16	14	e246	e25	14	13
18	e9.6	e7.8	7.7	e25	e25	17	16	14	e478	e13	14	13
19	e9.6	e7.8	8.0	e25	e25	17	16	14	e483	e13	14	13
20	e9.6	e7.8	7.9	e25	e25	17	16	14	e463	e13	13	13
21	e9.6	e7.8	7.9	e25	e25	17	16	14	e604	e13	13	13
22	e9.6	7.8	8.0	e25	e25	17	15	14	e601	e13	14	14
23	e9.6	7.6	8.0	e25	e25	17	14	14	e504	e13	14	14
24	e12	7.7	8.0	e25	e25	17	14	14	e361	e13	14	14
25	e15	7.7	7.9	e25	e25	17	14	14	e363	e13	14	13
26	e15	7.7	e7.8	e26	e25	17	14	14	e197	14	14	14
27	e15	7.7	e7.8	e26	e25	17	14	14	e316	14	13	14
28	e14	7.7	e7.8	e26	e25	17	14	14	e329	14	13	14
29	e14	7.7	e7.8	e26	---	17	14	14	e192	14	14	14
30	e9.6	7.7	e7.8	e26	---	17	14	14	e16	13	13	14
31	e9.6	---	e7.8	e26	---	17	---	14	---	13	13	---
TOTAL	325.9	239.4	242.4	646.8	713	550	472	434	10070	771	456	406
MEAN	10.5	7.98	7.82	20.9	25.5	17.7	15.7	14.0	336	24.9	14.7	13.5
MAX	15	9.6	8.0	26	26	25	17	14	604	94	51	14
MIN	9.2	7.6	7.6	7.8	25	15	14	14	15	13	13	13
AC-FT	646	475	481	1280	1410	1090	936	861	19970	1530	904	805

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	MEAN	8.77	8.61	8.72	8.18	8.70	7.82	8.99	12.1	53.5	89.2	23.5	12.1
MAX		11.4	23.1	27.0	20.9	25.5	17.7	18.5	18.6	336	684	141	16.4
(WY)		1994	1996	1996	1997	1997	1997	1995	1995	1997	1995	1995	1995
MIN		6.72	5.62	5.69	5.66	5.69	5.84	5.88	9.45	9.98	9.91	9.85	9.67
(WY)		1995	1992	1993	1993	1993	1990	1992	1994	1990	1991	1994	1994

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1987 - 1997

ANNUAL TOTAL	10157.0	15326.5	
ANNUAL MEAN	27.8	42.0	
HIGHEST ANNUAL MEAN			20.9
LOWEST ANNUAL MEAN			79.4
HIGHEST DAILY MEAN	525	Jun 20	604
LOWEST DAILY MEAN	7.6	Nov 23	7.6
ANNUAL SEVEN-DAY MINIMUM	7.7	Nov 23	7.7
ANNUAL RUNOFF (AC-FT)	20150	30400	15170
10 PERCENT EXCEEDS	15	26	15
50 PERCENT EXCEEDS	9.9	14	9.6
90 PERCENT EXCEEDS	7.8	7.8	5.8

e Estimated.

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 mi².

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.—Records normally computed only in summer months or during periods of diversion to Lake Thomas A. Edison. Diversion occurred Nov. 21, 22, Dec. 22, Jan. 1–10, Mar. 23 to Apr. 1, and Apr. 13 to July 29. 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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	e2.1	---	---	e1.6	e2.1	.80	.49	---	---
2	---	---	---	e2.1	---	---	---	e2.1	.79	.47	---	---
3	---	---	---	e2.1	---	---	---	e2.1	.79	.46	---	---
4	---	---	---	e2.1	---	---	---	e2.1	.79	.46	---	---
5	---	---	---	e2.1	---	---	---	e2.1	.78	.45	---	---
6	---	---	---	e2.1	---	---	---	e2.1	.76	.44	---	---
7	---	---	---	e1.6	---	---	---	e2.1	.76	.44	---	---
8	---	---	---	e1.6	---	---	---	e2.1	.75	.43	---	---
9	---	---	---	e1.6	---	---	---	e2.1	.73	.42	---	---
10	---	---	---	e1.6	---	---	---	e2.1	.73	.42	---	---
11	---	---	---	---	---	---	---	e2.1	.71	.42	---	---
12	---	---	---	---	---	---	---	e2.1	.70	.41	---	---
13	---	---	---	---	---	---	e1.6	e2.1	.70	.40	---	---
14	---	---	---	---	---	---	e1.6	e2.1	.68	.40	---	---
15	---	---	---	---	---	---	e1.6	e2.1	.67	.40	---	---
16	---	---	---	---	---	---	e1.6	e2.1	.67	.40	---	---
17	---	---	---	---	---	---	e1.6	e2.1	.67	.40	---	---
18	---	---	---	---	---	---	e1.6	e2.1	.65	.40	---	---
19	---	---	---	---	---	---	e1.6	e2.1	.64	.40	---	---
20	---	---	---	---	---	---	e2.1	e2.1	.62	.40	---	---
21	---	e1.6	---	---	---	---	e2.1	e2.1	.61	e.40	---	---
22	---	e1.6	e1.6	---	---	---	e2.1	e1.6	.61	e.40	---	---
23	---	---	---	---	---	e1.6	e2.1	e1.6	.59	.40	---	---
24	---	---	---	---	---	e1.6	e2.1	e1.6	.59	.39	---	---
25	---	---	---	---	---	e1.6	e2.1	e1.6	.59	.38	---	---
26	---	---	---	---	---	e1.6	e2.1	e1.6	.57	.38	---	---
27	---	---	---	---	---	e1.6	e2.1	e1.6	.56	.38	---	---
28	---	---	---	---	---	e1.6	e2.1	e1.4	.54	.39	---	---
29	---	---	---	---	---	e1.6	e2.1	.92	.54	e.60	---	---
30	---	---	---	---	---	e1.6	e2.1	.87	.52	---	---	---
31	---	---	---	---	---	e1.6	---	.82	---	---	---	---
TOTAL	---	---	---	---	---	---	---	57.71	20.11	---	---	---
MEAN	---	---	---	---	---	---	---	1.86	.67	---	---	---
MAX	---	---	---	---	---	---	---	2.1	.80	---	---	---
MIN	---	---	---	---	---	---	---	.82	.52	---	---	---
AC-FT	---	---	---	---	---	---	---	114	40	---	---	---

e Estimated.

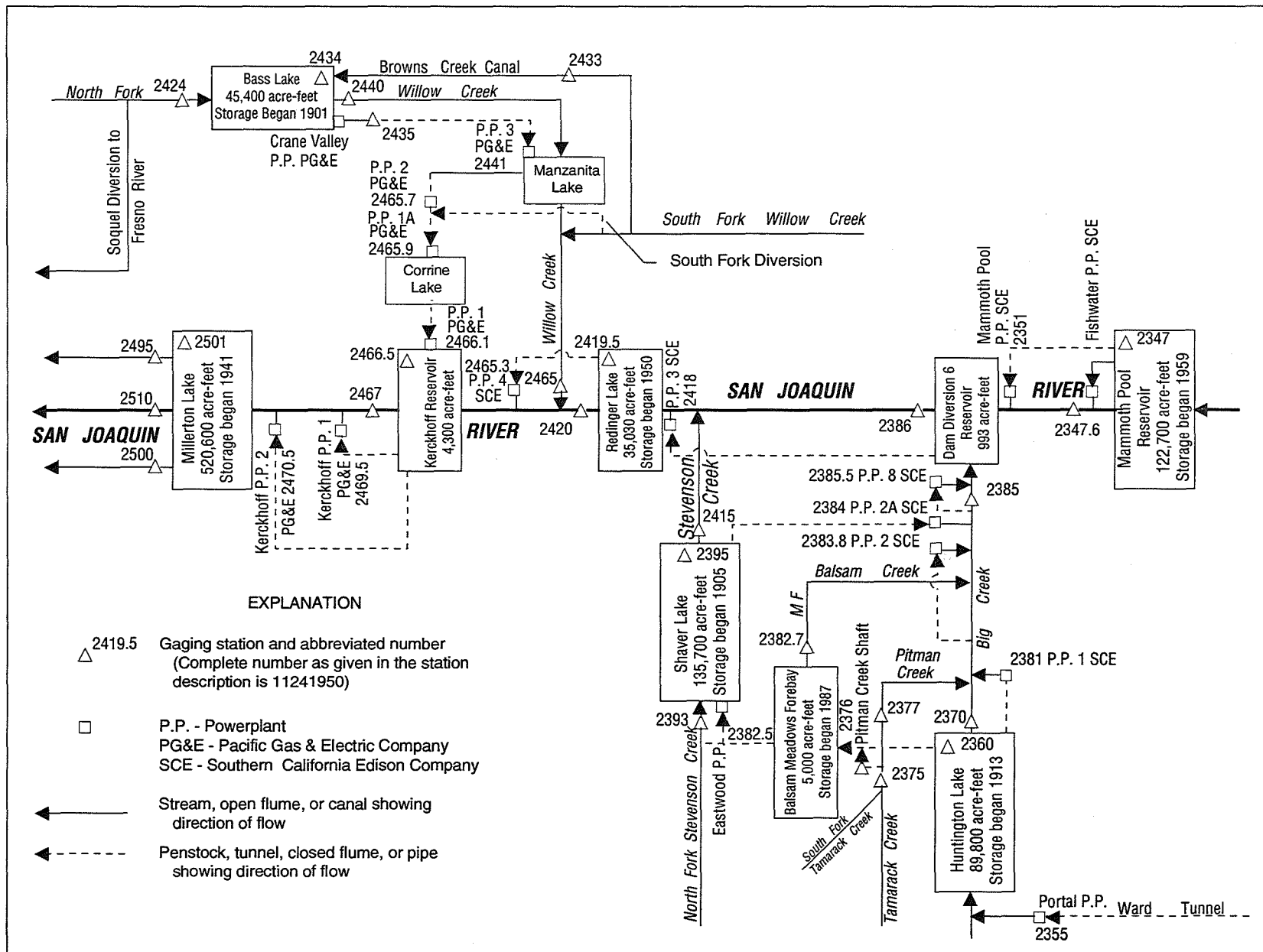


Figure 28. Diversions and storage in lower San Joaquin River Basin.

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 mi².

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 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. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 128,944 acre-ft, Jan. 2, 1997; elevation, 3,338.00 ft; 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, 128,944 acre-ft, Jan. 2, elevation, 3,338.00 ft; minimum, 12,255 acre-ft, Nov. 13, elevation, 3,173.90 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	3,340	131,255

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19914	13372	35870	59654	76234	91396	86456	121859	122697	115793	107448	78550
2	19736	13537	34768	e128944	74058	89123	86182	121759	122227	114035	106694	77488
3	19446	13443	33445	e124064	71342	86950	85664	121837	122138	113064	105469	76234
4	18778	13243	32736	e122641	66985	84711	84937	121993	122384	112527	104493	74866
5	18327	13101	33656	e121670	64519	82438	84321	122216	123121	112706	103951	73499
6	17716	12987	35162	121570	61964	80212	83554	122205	121526	112464	103821	72134
7	16747	12887	34936	121214	60289	78108	82717	122294	121659	112171	103349	70935
8	16249	12596	34382	120981	60774	76045	82116	122406	121782	111835	102690	69760
9	15766	12645	34197	120859	65374	74236	81606	122574	121737	111521	102490	68547
10	15277	12760	36822	121003	68278	72874	80565	122440	121314	111489	102190	66807
11	15051	12444	40603	120571	71101	72143	79335	122551	120981	111468	101434	63374
12	15116	12547	44241	120084	73948	71442	78177	122663	120859	113148	100770	61625
13	15212	12255	46882	119427	76646	70686	77186	122786	120560	114849	99920	59881
14	15139	12338	48998	118286	79475	69859	76826	122730	120637	114945	99134	58182
15	15034	12320	49982	119460	82349	69423	77531	122920	120770	115051	98248	56661
16	14807	12452	50618	116112	85327	69399	79265	122730	120870	115072	97360	55131
17	14717	14730	51600	112171	88504	68833	81686	122641	121181	114923	96642	53196
18	14490	18012	50196	109099	91303	68294	84077	122540	121770	114807	96202	51404
19	14404	19302	48573	103319	94129	68359	85973	122328	121793	114447	95344	50729
20	14271	20419	46888	100522	96862	69095	93098	122104	121949	113633	94527	49632
21	14195	22793	45169	95849	99290	69694	98666	121937	121804	112780	93428	48694
22	14132	34214	43831	92844	100443	69868	104031	121770	121470	112769	92157	47884
23	13986	37018	42410	90994	102001	71192	108605	121604	121014	112506	90788	46980
24	13597	38677	40867	88080	102131	72572	111762	121303	120361	112359	89577	46516
25	13543	39518	39160	88633	99979	74262	113919	121036	120195	112927	88209	46027
26	13413	40005	37510	91321	98045	76543	117286	120981	120261	112097	86859	45591
27	13380	40132	36396	90573	96030	78959	121704	121292	120062	111249	85418	45571
28	12972	39609	34147	88033	93816	81000	121893	121882	119601	110342	83987	45079
29	13092	38256	32066	84711	---	82906	121837	122227	118729	109440	82798	44685
30	13037	37106	34723	82915	---	84656	121893	122551	117478	108914	81588	44208
31	13107	---	35951	80653	---	86027	---	123010	---	107990	80160	---
MAX	19914	40132	51600	128944	102131	91396	121893	123010	123121	115793	107448	78550
MIN	12972	12255	32066	59654	60289	68294	76826	120981	117478	107990	80160	44208
a	3176.85	3230.69	3228.71	3289.95	3304.30	3295.92	3331.76	3332.76	3327.73	3318.69	3289.39	3242.23
b	-7140	+23999	-1155	+44702	+13163	-7789	+35866	+1117	-5532	-9488	-27830	-35952

CAL YR 1996 b -573

WTR YR 1997 b +23961

c 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.—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 mi².

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 for low flows of 60 ft³/s or less.

REMARKS.—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 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, 80,000 ft³/s, Jan. 2, 1997, gage height, 32.00 ft from floodmarks, from rating curve extended above 20,300 ft³/s; minimum daily, 0.3 ft³/s, Oct. 14, Dec. 5, 1959.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e27	e22	19	51	e1560	e34	e33	e3170	e5890	e37	e36	e37
2	e27	e12	19	e18500	e1550	e34	e33	e3010	e4520	e37	e36	e37
3	e27	e12	19	e26000	e1540	e34	e33	e2890	e3910	e37	e36	e37
4	e27	e12	19	e10000	e1530	e34	e33	e3380	e4270	e37	e36	e36
5	e27	e12	24	e3000	e1520	e33	e33	e3850	e3620	e37	e36	e36
6	e27	e12	21	e1880	e1000	e33	e33	e4080	e2800	e37	e35	e36
7	e27	e12	20	e1800	e30	e33	e33	e4060	e2330	e37	e36	e36
8	e27	e12	20	e1190	e30	e33	e33	e4230	e2800	e36	e38	e36
9	e27	e12	22	e897	e31	e32	e33	e4430	e2860	e36	e38	e36
10	e27	e12	37	e1020	e31	e32	e33	e4500	e2440	e36	e38	e36
11	e27	e12	33	e689	e31	e32	e33	e4620	e1300	e36	e38	e36
12	e27	e12	24	e253	e31	e32	e33	e4830	e1130	e36	e38	e36
13	e27	e12	22	e58	e32	e32	e33	e5100	e622	e35	e38	e36
14	e27	e12	21	e39	e32	e32	e32	e5390	e401	e35	e38	e36
15	e27	e12	21	e39	e32	e32	e32	e5430	e691	e35	e38	e36
16	e27	e12	21	e39	e32	e31	e32	e5790	e676	e36	e38	e35
17	e26	e12	20	e700	e33	e31	e32	e5010	e1140	e36	e38	e35
18	e27	e11	20	e1700	e33	e31	e33	e4960	e2140	e36	e38	e35
19	e27	e14	20	e1690	e34	e31	e33	e4370	e3070	e36	e37	e35
20	e22	e15	20	e1680	e34	e31	e33	e3710	e2870	e36	e37	e35
21	e26	e20	21	e1670	e34	e31	e34	e3680	e3300	e36	e37	e35
22	e28	39	34	e1660	e34	e31	e36	e3190	e2670	e36	e37	e35
23	e28	24	23	e1650	e35	e32	e38	e2640	e1660	e37	e37	e35
24	e28	22	21	e1640	e35	e32	e38	e2170	e586	e37	e37	e35
25	e28	21	21	e1630	e35	e32	e38	e1410	e268	e36	e37	e49
26	e28	21	22	e1620	e35	e32	e38	e1210	e209	e36	e37	e49
27	e28	20	27	e1610	e35	e32	e520	e1290	e176	e36	e37	e48
28	e28	19	22	e1600	e34	e33	e3280	e2540	e66	e36	e37	e39
29	e28	19	25	e1590	---	e33	e2990	e3530	e37	e36	e38	e43
30	e28	19	34	e1580	---	e33	e3050	e4210	e37	e36	e38	e50
31	e28	---	26	e1570	---	e33	---	e4970	---	e36	e38	---
TOTAL	840	478	718	89045	9423	1001	10718	117650	58489	1122	1153	1136
MEAN	27.1	15.9	23.2	2872	337	32.3	357	3795	1950	36.2	37.2	37.9
MAX	28	39	37	26000	1560	34	3280	5790	5890	37	38	50
MIN	22	11	19	39	30	31	32	1210	37	35	35	35
AC-FT	1670	948	1420	176600	18690	1990	21260	233400	116000	2230	2290	2250
a	18280	24570	86160	133100	56770	142200	133200	136700	131200	65530	50320	47290

e Estimated.

a Diversion, in acre-feet, to Mammoth Pool Powerplant, provided by Southern California Edison Co.

SAN JOAQUIN RIVER BASIN

11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.4	13.0	15.3	103	71.7	103	221	1483	2095	867	74.1	22.8
MAX	61.9	20.1	66.3	2872	754	1111	2489	9681	12400	7169	1184	45.3
(WY)	1960	1974	1967	1997	1980	1995	1995	1969	1983	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1960 - 1997			
ANNUAL TOTAL	166824				291773							
ANNUAL MEAN	456				799				425			
HIGHEST ANNUAL MEAN									2022			
LOWEST ANNUAL MEAN									13.2			
HIGHEST DAILY MEAN	18100				May 16				26000			
LOWEST DAILY MEAN	10				Apr 3				Jan 3 1997			
ANNUAL SEVEN-DAY MINIMUM	10				Apr 2				11			
INSTANTANEOUS PEAK FLOW									Nov 18			
INSTANTANEOUS PEAK STAGE									Nov 12			
ANNUAL RUNOFF (AC-FT)	330900				80000				Jan 2			
TOTAL DIVERSION (AC-FT) a	1030000				32.00				Jan 2			
10 PERCENT EXCEEDS	1820				578700				80000			
50 PERCENT EXCEEDS	28				3000				32.00			
90 PERCENT EXCEEDS	12				543				15			
					21				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.—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 11230520 and 11231550), and at times from several other small tributaries to South Fork San Joaquin River. See schematic diagram 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, 2,080 ft³/s, June 21, 1935; no flow at times many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	.00	560	686	40	12	812	1110	1510	1200	1090	1050
2	499	.00	467	1710	9.6	12	812	1100	1530	1250	1120	943
3	529	.00	509	1370	9.6	105	812	1120	1650	1260	1250	807
4	504	171	529	353	9.6	432	807	1220	1650	1250	1260	761
5	519	45	501	258	9.6	615	807	1200	1640	1250	1240	761
6	485	66	490	182	9.6	661	741	1290	1640	1190	1250	736
7	514	84	610	106	9.6	817	802	1250	1610	1150	1250	736
8	504	103	509	109	9.6	847	872	1250	1360	1140	1240	741
9	474	68	491	27	21	827	797	1230	1250	1140	1230	721
10	466	.00	580	.00	23	827	882	1250	1530	1190	1210	721
11	484	110	625	.00	23	827	1010	1370	1670	1140	1210	721
12	504	126	655	.00	22	832	1020	1440	1650	1110	1190	721
13	450	211	746	.00	22	832	993	1430	1510	1130	1170	711
14	451	453	605	27	22	933	973	1440	1510	1190	1170	701
15	437	456	595	61	21	817	973	1450	1570	1120	1170	751
16	470	434	620	42	12	852	978	1450	1410	1270	1180	721
17	435	502	565	9.6	12	802	978	1470	1440	1290	1180	726
18	454	534	555	9.6	12	802	978	1470	1410	1220	1160	635
19	196	625	366	9.6	12	842	983	1450	1440	1250	1160	711
20	.00	590	211	9.6	12	842	1010	1420	1430	1240	1120	711
21	.00	650	212	9.6	12	807	1010	1420	1440	1230	1160	706
22	.00	696	208	9.6	12	817	1140	1510	1430	1200	1130	701
23	.00	443	251	9.6	12	847	1250	1650	1440	1140	1120	650
24	.00	503	288	9.6	12	837	1000	1540	1540	1190	1120	701
25	.00	615	312	9.6	12	797	943	1480	1470	1190	1100	661
26	.00	585	620	9.6	12	802	872	1470	1320	1160	1110	650
27	.00	605	600	9.6	12	807	832	1550	1390	1120	1100	711
28	.00	519	555	9.6	12	807	1130	1610	1400	1120	1090	661
29	.00	539	580	9.6	---	812	1100	1490	1350	1140	1080	661
30	.00	464	580	9.6	---	812	1100	1500	1300	1150	1080	681
31	.00	---	353	18	---	812	---	1490	---	1120	1070	---
TOTAL	8821.00	10197.00	15348	5083.40	417.2	22493	28417	43120	44490	36740	36010	21869
MEAN	285	340	495	164	14.9	726	947	1391	1483	1185	1162	729
MAX	529	696	746	1710	40	933	1250	1650	1670	1290	1260	1050
MIN	.00	.00	208	.00	9.6	12	741	1100	1250	1110	1070	635
AC-FT	17500	20230	30440	10080	828	44610	56370	85530	88250	72870	71430	43380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

MEAN	328	265	273	252	258	295	527	855	915	833	653	494
MAX	757	908	1102	793	806	815	953	1459	1665	1321	1386	1104
(WY)	1996	1983	1946	1985	1985	1985	1936	1946	1974	1956	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1928 - 1997			
ANNUAL TOTAL	263189.00				273005.60							
ANNUAL MEAN	719				748				497			
HIGHEST ANNUAL MEAN									748			
LOWEST ANNUAL MEAN									196			
HIGHEST DAILY MEAN	1750				May 12				2080			
LOWEST DAILY MEAN	.00				Jan 13				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				Oct 20				.00			
ANNUAL RUNOFF (AC-FT)	522000				541500				359900			
10 PERCENT EXCEEDS	1250				1440				1090			
50 PERCENT EXCEEDS	724				761				464			
90 PERCENT EXCEEDS	81				9.6				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 mi².

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, 88,866 acre-ft, July 25, elevation, 6,949.79 ft; minimum, 37,902 acre-ft, Mar. 15, elevation, 6,907.68 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82055	72534	69168	62518	61308	42755	41487	61467	86402	88408	87722	88151
2	81752	72221	68579	70209	60155	41172	41609	62666	86984	88608	87523	88179
3	81697	71934	68120	76092	59013	39709	41711	63937	87765	88694	87594	88380
4	81353	71817	67713	77823	57869	38987	41762	64981	88079	88694	87808	88294
5	81201	71295	67916	79218	56699	38624	41802	66713	87908	88708	87779	88094
6	80912	70170	67993	80050	55552	38476	41843	68235	88008	88751	88122	87822
7	80597	70028	68299	80624	54393	38408	41884	69784	88451	88737	88408	87580
8	80378	69925	68069	81119	54485	38319	41945	70894	88322	88809	88508	87438
9	80037	69745	68235	80474	54682	38202	41955	71490	88151	88751	88537	87580
10	79804	69450	68515	79818	54532	38125	42128	72091	88294	88837	88565	87594
11	79463	69347	68796	78961	54173	38067	42518	72941	88051	88751	88508	87552
12	79164	69065	68988	78133	53955	38018	43219	74006	88337	88723	88451	87523
13	78974	68821	69540	77285	53668	37970	44229	75053	88508	88694	88380	87509
14	78554	68528	69579	77083	53416	37941	44396	76078	88737	88680	88351	87410
15	78934	68477	69322	77446	53175	37902	45515	77042	88451	88751	88322	87410
16	79340	68299	69014	76505	52924	37931	45771	77823	88365	88766	88237	87168
17	79682	69001	68745	75464	52708	37941	46091	78513	88437	88809	88136	86941
18	79996	69270	68350	74403	52436	37922	46551	79218	88565	88723	88022	86544
19	79873	69617	67649	73362	52129	38028	47305	79818	88565	88723	87908	86289
20	79327	69656	66612	72521	51880	38183	48218	80214	88523	88737	87793	86106
21	78825	70390	65570	71530	51610	38251	49326	80446	88480	88851	87922	85923
22	78323	71308	64807	70700	51352	38349	50645	80665	88408	88837	88008	85430
23	77769	71011	64037	69745	51082	38624	52095	81036	88294	88809	88036	84825
24	77325	71037	63184	68668	50000	38938	52890	81050	88308	88851	88094	84392
25	76854	71127	62298	67993	48545	39202	53554	80995	88194	88866	88108	83930
26	76332	71192	62261	67105	47111	39550	54682	81711	88136	88780	88122	83095
27	75851	70959	62017	66021	45707	39908	56277	82554	88308	88608	88108	83095
28	75291	70480	61650	64956	44260	40256	57667	83581	88351	88465	88022	82679
29	75106	70118	61540	63875	---	40628	58881	84336	88294	88380	87979	81325
30	74894	69540	61552	63467	---	40971	60168	85092	88480	88222	87979	81050
31	73401	---	60932	62372	---	41242	---	85768	---	88008	88051	---
MAX	82055	72534	69579	81119	61308	42755	60168	85768	88737	88866	88565	88380
MIN	73401	68299	60932	62372	44260	37902	41487	61467	86402	88008	87523	81050
a	6938.53	6935.56	6928.67	6929.85	6913.95	6911.02	6928.04	6947.61	6949.52	6949.19	6949.22	6944.22
b	-9306	-3861	-8608	+1440	-18112	-3018	+18926	+25600	+2712	-472	+43	-7001

CAL YR 1996 b +26772

WTR YR 1997 b -1657

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 mi².

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 ft³/s, June 23, 1925, gage height, 11.3 ft, present datum; minimum daily, 0.1 ft³/s, many days in 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.5	2.8	9.4	3.6	2.5	3.6	3.3	3.6	2.9	2.6	2.8
2	2.7	2.5	2.8	29	3.6	2.5	3.5	3.3	3.5	2.8	2.6	2.9
3	4.2	2.5	2.7	20	3.5	2.5	3.5	3.2	3.4	2.8	2.6	2.9
4	2.8	2.5	2.7	11	3.4	2.5	3.5	3.2	3.4	2.8	2.6	2.9
5	2.8	2.5	5.0	9.0	3.3	2.5	3.4	3.2	3.4	2.8	2.7	2.9
6	2.6	2.4	3.9	7.7	3.2	2.5	3.3	3.1	3.3	2.8	2.8	2.8
7	2.4	2.5	3.5	6.8	3.1	2.5	3.2	3.1	3.2	2.8	2.8	2.7
8	2.4	2.5	3.3	6.0	3.1	2.5	3.2	3.1	3.2	2.8	3.1	2.7
9	2.4	2.6	3.5	5.5	3.0	2.5	3.2	3.0	3.1	2.8	3.0	2.7
10	2.4	2.6	3.7	5.4	2.9	2.6	3.1	2.9	3.1	2.8	3.0	2.7
11	2.4	2.5	5.4	5.1	2.9	2.6	3.1	2.9	3.1	2.8	3.0	2.7
12	2.4	2.5	4.7	4.9	2.9	2.7	3.1	2.8	3.1	2.8	3.0	2.7
13	2.4	2.5	4.2	4.8	2.8	2.7	3.1	2.8	3.1	2.7	3.0	2.7
14	2.4	2.5	4.0	4.6	2.8	2.8	3.2	2.7	3.2	2.7	3.0	2.7
15	2.4	2.5	3.8	4.5	2.8	3.0	3.3	2.7	3.2	2.7	3.0	2.7
16	2.4	2.5	3.7	4.3	2.8	3.0	3.3	2.7	3.1	2.8	3.0	2.7
17	2.4	6.6	3.7	4.2	2.8	3.0	3.4	2.7	3.0	2.8	3.0	2.7
18	2.4	4.5	3.6	4.0	2.7	3.1	3.4	2.7	3.0	2.8	3.0	2.9
19	2.4	3.3	3.3	3.9	2.8	3.2	3.8	2.9	3.0	2.8	3.0	2.9
20	2.4	3.3	2.9	3.8	2.8	3.3	3.7	2.8	3.0	2.8	2.9	2.8
21	2.4	4.4	2.8	3.7	2.8	3.3	3.7	2.7	3.0	2.8	2.9	2.8
22	2.4	6.0	2.9	3.6	2.8	3.3	3.7	2.7	2.9	2.8	2.9	2.8
23	2.4	3.9	2.7	3.6	2.7	3.6	3.7	2.7	2.9	2.8	2.9	2.8
24	2.6	3.5	2.7	3.6	2.7	3.7	3.6	2.7	2.9	2.8	2.9	2.7
25	2.6	3.3	2.7	6.5	2.7	3.8	3.5	2.7	2.8	2.8	2.9	2.7
26	2.5	3.1	2.7	5.1	2.7	3.8	3.5	2.6	2.8	2.8	2.9	2.7
27	2.4	3.0	2.8	4.3	2.6	3.9	3.4	2.6	2.9	2.7	2.8	2.6
28	2.4	2.9	2.7	4.1	2.6	3.9	3.4	3.1	2.9	2.7	2.8	2.5
29	2.5	2.9	2.9	4.0	---	3.8	3.4	3.6	2.9	2.7	2.8	2.4
30	2.5	2.8	4.2	3.8	---	3.8	3.4	3.7	2.8	2.7	2.8	2.4
31	2.5	---	3.7	3.7	---	3.8	---	3.7	---	2.6	2.8	---
TOTAL	78.0	93.6	106.0	199.9	82.4	95.2	102.2	91.9	92.8	86.0	89.1	81.9
MEAN	2.52	3.12	3.42	6.45	2.94	3.07	3.41	2.96	3.09	2.77	2.87	2.73
MAX	4.2	6.6	5.4	29	3.6	3.9	3.8	3.7	3.6	2.9	3.1	2.9
MIN	2.1	2.4	2.7	3.6	2.6	2.5	3.1	2.6	2.8	2.6	2.6	2.4
AC-FT	155	186	210	397	163	189	203	182	184	171	177	162
a	12710	16610	30480	32130	16060	44250	42870	44450	43050	34780	34910	33290

a Diversion, in acre-feet, 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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.43	1.45	1.48	1.32	1.31	1.69	2.70	9.13	9.16	10.3	1.95	1.49
MAX	4.79	4.55	4.70	6.45	3.53	5.90	7.09	297	242	293	8.34	4.86
(WY)	1994	1994	1956	1997	1995	1995	1995	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 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1925 - 1997		
ANNUAL TOTAL	1070.39			1199.0					
ANNUAL MEAN	2.92			3.28			3.20		
HIGHEST ANNUAL MEAN							45.9		
LOWEST ANNUAL MEAN							.35		
HIGHEST DAILY MEAN	7.8 May 16			29 Jan 2			1160 May 23 1926		
LOWEST DAILY MEAN	.76 Feb 3			2.1 Oct 1			.10 Jan 18 1931		
ANNUAL SEVEN-DAY MINIMUM	1.2 Jan 28			2.4 Oct 7			.10 Aug 21 1931		
INSTANTANEOUS PEAK FLOW				58 Jan 2			2040 Jun 23 1925		
INSTANTANEOUS PEAK STAGE				3.32 Jan 2			11.30 Jun 23 1925		
ANNUAL RUNOFF (AC-FT)	2120			2380			2320		
TOTAL RUNOFF (AC-FT) a	336100			385600					
10 PERCENT EXCEEDS	4.3			3.9			4.0		
50 PERCENT EXCEEDS	2.6			2.9			1.4		
90 PERCENT EXCEEDS	2.1			2.5			.40		

a Diversion, in acre-feet, 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 mi².

PERIOD OF RECORD.—October 1927 to current year. Records for water year 1928 incomplete, yerly 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. 28, 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, 5,500 ft³/s, Jan. 2, 1997, gage height, 12.65 ft, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement at gage height 10.77 ft; no flow, Oct. 15–18, 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.89	.78	6.6	10	28	95	405	141	15	2.0	.45
2	1.4	.94	.76	5.8	9.2	28	111	388	145	13	1.9	.43
3	1.2	.90	.79	6.4	8.1	33	87	345	145	12	1.7	.43
4	1.2	.90	1.1	5.9	14	31	84	318	134	11	1.7	.41
5	1.1	.94	1.1	5.5	e150	31	99	306	119	10	1.7	.39
6	1.1	.93	1.0	5.3	e100	33	124	312	111	9.6	1.6	.39
7	1.1	.96	1.0	5.8	e75	32	146	302	99	8.7	1.5	.39
8	1.1	.95	1.0	5.9	e65	31	172	290	89	8.0	1.4	.39
9	1.1	.92	.96	5.8	e55	35	184	281	76	7.4	1.3	.37
10	1.1	.95	.91	5.6	53	38	172	290	63	6.5	1.2	.37
11	1.0	.95	2.1	5.6	48	37	156	317	55	7.0	1.1	.34
12	.99	.92	34	5.8	47	36	148	330	50	10	1.2	.31
13	.97	.93	13	6.1	41	33	136	317	48	8.3	1.1	.37
14	.93	.88	10	6.0	42	31	155	291	45	7.6	.97	.54
15	.91	.85	8.2	5.5	43	31	181	438	40	6.0	.89	.55
16	.89	.85	9.5	8.4	47	36	188	1650	36	5.6	.85	.54
17	.88	.83	11	18	53	45	154	425	33	5.2	.83	.52
18	.84	.84	8.1	15	45	61	131	408	30	5.1	.81	.52
19	.83	.84	6.7	13	48	75	113	317	27	5.0	.77	.49
20	.80	.83	4.9	12	57	84	104	262	26	4.8	.74	.47
21	.82	.83	3.3	10	54	96	98	232	24	4.6	.73	.46
22	.84	.85	3.1	10	40	96	109	204	23	4.1	.73	.45
23	.87	.83	3.9	9.4	44	75	147	187	21	3.7	.68	.44
24	.88	.83	3.1	8.5	40	65	195	155	20	3.5	.66	.43
25	.91	.81	2.6	9.0	35	64	254	148	25	3.2	.62	.41
26	.92	.90	2.4	9.3	37	62	320	152	35	2.9	.56	.41
27	.90	.85	2.3	8.8	37	67	344	156	32	2.8	.55	.39
28	.89	.87	2.6	10	33	70	358	145	26	3.4	.52	.39
29	.88	.85	3.4	9.4	29	63	369	142	20	2.9	.51	.37
30	.86	.89	12	8.9	---	65	391	134	17	2.4	.49	.37
31	.85	---	9.7	9.0	---	73	---	132	---	2.2	.49	---
TOTAL	30.46	26.51	165.30	256.3	1359.3	1585	5325	9779	1755	201.5	31.80	12.79
MEAN	.98	.88	5.33	8.27	46.9	51.1	178	315	58.5	6.50	1.03	.43
MAX	1.4	.96	34	18	150	96	391	1650	145	15	2.0	.55
MIN	.80	.81	.76	5.3	8.1	28	84	132	17	2.2	.49	.31
AC-FT	60	53	328	508	2700	3140	10560	19400	3480	400	63	25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1996, BY WATER YEAR (WY)

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
MEAN	1.94	5.35	10.6	9.64	14.1	27.1	92.1	201	117	19.4	2.38	1.39
MAX	42.0	110	135	91.1	91.1	136	264	550	648	180	21.4	18.9
(WY)	1983	1951	1951	1980	1986	1986	1982	1969	1983	1995	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 1995 CALENDAR YEAR	FOR 1996 WATER YEAR	WATER YEARS 1928 - 1996
ANNUAL TOTAL	39914.17	20527.96	
ANNUAL MEAN	109	56.1	42.1
HIGHEST ANNUAL MEAN			118
LOWEST ANNUAL MEAN			6.16
HIGHEST DAILY MEAN	787	1650	1650
LOWEST DAILY MEAN	.76	.31	.00
ANNUAL SEVEN-DAY MINIMUM	.83	.36	.04
INSTANTANEOUS PEAK FLOW		3540	3670
INSTANTANEOUS PEAK STAGE		11.04	11.20
ANNUAL RUNOFF (AC-FT)	79170	40720	30510
10 PERCENT EXCEEDS	384	156	127
50 PERCENT EXCEEDS	26	8.1	5.5
90 PERCENT EXCEEDS	.90	.60	.30

e Estimated.

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	1.1	17	352	e38	e24	123	242	69	7.8	1.6	.38
2	.37	1.2	22	e2200	e37	e23	108	228	60	6.7	1.5	.42
3	.37	1.2	19	e900	e36	e24	100	235	56	5.9	1.4	.74
4	.37	1.3	15	e500	e34	e25	100	244	59	5.6	1.3	.72
5	.35	1.2	25	e325	e35	e25	101	247	62	5.2	1.2	.60
6	.35	1.1	38	e220	e36	e27	98	238	52	5.0	1.1	.50
7	.35	1.2	23	e150	e35	e29	103	254	44	4.9	.97	.45
8	.33	1.4	21	e100	e30	e33	108	257	42	4.8	.89	.40
9	.31	1.6	23	e80	e31	e37	98	253	37	4.8	.81	.38
10	.31	1.8	18	e75	e29	e42	89	242	33	4.7	.75	.36
11	.31	1.8	38	e70	e28	e53	88	237	30	4.7	.74	.38
12	.31	1.9	82	e65	e27	e64	94	229	28	4.6	.72	.38
13	.31	1.8	55	e60	e27	e70	108	226	28	4.5	.68	.37
14	.33	1.7	43	e55	e27	e72	129	214	34	4.2	.65	.36
15	.33	1.6	34	e50	e28	e78	151	201	32	3.8	.63	.32
16	.33	1.6	30	e52	e27	e82	176	189	25	3.4	.58	.34
17	.33	12	29	e51	e28	e84	194	175	23	3.4	.54	.34
18	.33	39	26	e49	e28	e92	206	167	20	3.3	.50	.59
19	.33	17	25	e45	e26	e100	263	166	18	2.9	.48	.71
20	.39	14	25	e40	e27	110	266	148	17	2.6	.48	.67
21	.39	71	24	e44	e27	106	283	129	15	2.7	.48	.56
22	.41	230	28	e46	e26	105	259	115	14	4.6	.46	.50
23	.41	65	43	e50	e26	134	247	106	13	4.4	.44	.43
24	.59	48	32	e53	e27	153	215	96	12	4.2	.42	.40
25	2.6	36	27	e55	e26	168	220	89	11	4.0	.44	.39
26	1.2	29	26	e68	e24	176	257	84	9.7	2.9	.43	.49
27	.95	25	27	e69	e22	174	277	85	9.1	2.4	.41	.49
28	.91	21	24	e51	e23	170	255	90	8.4	2.2	.39	.48
29	.96	20	23	e47	---	170	246	87	8.1	2.2	.40	.43
30	1.1	24	104	e42	---	166	250	85	7.8	2.0	.39	.39
31	1.2	---	174	e38	---	151	---	80	---	1.8	.39	---
TOTAL	17.48	674.5	1140	6002	815	2767	5212	5438	877.1	126.2	22.17	13.97
MEAN	.56	22.5	36.8	194	29.1	89.3	174	175	29.2	4.07	.72	.47
MAX	2.6	230	174	2200	38	176	283	257	69	7.8	1.6	.74
MIN	.31	1.1	15	38	22	23	88	80	7.8	1.8	.39	.32
AC-FT	35	1340	2260	11900	1620	5490	10340	10790	1740	250	44	28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

MEAN	1.92	5.59	11.0	12.3	14.3	28.0	93.3	200	115	19.2	2.36	1.38
MAX	42.0	110	135	194	91.1	136	264	550	648	180	21.4	18.9
(WY)	1983	1951	1951	1997	1986	1986	1982	1969	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1928 - 1997	
ANNUAL TOTAL	22137.67		23105.42			
ANNUAL MEAN	60.5		63.3		42.4	
HIGHEST ANNUAL MEAN					118	
LOWEST ANNUAL MEAN					6.16	
HIGHEST DAILY MEAN	1650	May 16	2200	Jan 2	2200	Jan 2 1997
LOWEST DAILY MEAN	.31	Sep 12	.31	Oct 9	.00	Oct 15 1931
ANNUAL SEVEN-DAY MINIMUM	.32	Oct 8	.32	Oct 8	.04	Oct 13 1931
INSTANTANEOUS PEAK FLOW			5500	Jan 2	5500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			12.65	Jan 2	12.65	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	43910		45830		30730	
10 PERCENT EXCEEDS	172		191		128	
50 PERCENT EXCEEDS	20		25		5.5	
90 PERCENT EXCEEDS	.41		.40		.30	

e Estimated.

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. No records provided for Dec. 6, 1995, to Apr. 15, 1996, and Nov. 17, 1996, to Mar. 24, 1997. 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, Jan. 2, 1997, no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.16	---	---	---	---	400	40	4.0	.20	.10
2	.00	.00	.09	---	---	---	---	384	40	3.6	.20	.10
3	.00	.00	.18	---	---	---	---	343	39	3.5	.00	.10
4	.00	.00	.27	---	---	---	---	316	36	3.5	.00	.08
5	.00	.00	.29	---	---	---	---	304	29	2.9	.10	.03
6	.00	.00	---	---	---	---	---	310	26	3.1	.00	.01
7	.00	.00	---	---	---	---	---	190	22	2.8	.00	.03
8	.00	.00	---	---	---	---	---	63	19	2.6	.00	.03
9	.00	.00	---	---	---	---	---	58	16	2.6	.10	.03
10	.00	.00	---	---	---	---	---	60	14	1.8	.00	.04
11	.00	.00	---	---	---	---	---	68	13	2.3	.00	e.03
12	.00	.00	---	---	---	---	---	68	11	3.1	.25	.00
13	.00	.00	---	---	---	---	---	67	12	2.9	.59	.00
14	.00	.00	---	---	---	---	---	59	12	2.4	.47	.00
15	.00	.00	---	---	---	---	---	161	11	1.8	.44	.00
16	.00	.00	---	---	---	---	187	888	9.0	1.9	.43	.00
17	.00	.01	---	---	---	---	153	384	9.0	2.2	.41	.00
18	.00	.03	---	---	---	---	130	375	8.0	2.2	.40	.00
19	.00	.00	---	---	---	---	113	310	8.0	2.1	.37	.00
20	.01	.00	---	---	---	---	104	261	7.0	2.1	.34	.00
21	.01	.05	---	---	---	---	98	180	7.0	2.0	.33	.00
22	.02	.12	---	---	---	---	108	49	6.0	2.2	.34	.00
23	.01	.15	---	---	---	---	146	46	5.0	2.2	.30	.01
24	.00	.14	---	---	---	---	194	44	5.0	1.1	.28	.02
25	.00	.13	---	---	---	---	253	42	6.0	1.4	.24	.02
26	.00	.27	---	---	---	---	318	44	9.0	1.1	.18	.02
27	.00	.22	---	---	---	---	342	43	7.0	1.0	.17	.01
28	.00	.23	---	---	---	---	356	42	7.0	1.6	.14	.02
29	.00	.25	---	---	---	---	367	41	4.0	1.1	.13	.02
30	.00	.31	---	---	---	---	388	37	5.0	.60	.12	.03
31	.00	---	---	---	---	---	---	37	---	.40	.13	---
TOTAL	0.05	1.91	---	---	---	---	---	5674	442.0	68.10	6.66	0.73
MEAN	.002	.064	---	---	---	---	---	183	14.7	2.20	.21	.024
MAX	.02	.31	---	---	---	---	---	888	40	4.0	.59	.10
MIN	.00	.00	---	---	---	---	---	37	4.0	.40	.00	.00
AC-FT	.1	3.8	---	---	---	---	---	11250	877	135	13	1.4

e Estimated.

11237600 PITMAN CREEK SHAFT BELOW TAMARACK CREEK, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	---	---	---	---	105	31	65	5.1	.00	.00
2	.00	.00	---	---	---	---	101	28	56	4.0	.00	.00
3	.00	.00	---	---	---	---	98	33	52	3.2	.00	.00
4	.02	.00	---	---	---	---	98	33	56	2.9	.00	.00
5	.02	.00	---	---	---	---	98	33	59	2.6	.00	.00
6	.02	.00	---	---	---	---	97	30	48	2.4	.00	.00
7	.04	.00	---	---	---	---	61	37	40	2.3	.00	.00
8	.02	.00	---	---	---	---	32	36	39	2.3	.00	.00
9	.01	.00	---	---	---	---	31	33	34	2.3	.00	.00
10	.01	.00	---	---	---	---	30	32	30	2.2	.00	.00
11	.00	.00	---	---	---	---	31	29	27	2.3	.00	.00
12	.00	.00	---	---	---	---	31	27	25	2.2	.00	.00
13	.00	.00	---	---	---	---	33	27	25	2.1	.00	.00
14	.01	.00	---	---	---	---	35	24	31	1.8	.00	.00
15	.00	.00	---	---	---	---	37	23	29	1.4	.00	.00
16	.00	.00	---	---	---	---	33	23	22	1.0	.00	.00
17	.00	---	---	---	---	---	30	25	20	1.0	.00	.00
18	.00	---	---	---	---	---	28	25	17	1.0	.00	.00
19	.00	---	---	---	---	---	39	26	15	.60	.00	.00
20	.00	---	---	---	---	---	41	96	14	.40	.00	.00
21	.00	---	---	---	---	---	44	125	12	.50	.00	.00
22	.00	---	---	---	---	---	33	111	11	2.4	.00	.00
23	.00	---	---	---	---	---	30	102	10	2.2	.00	.00
24	.00	---	---	---	---	---	25	92	9.1	2.0	.00	.00
25	.00	---	---	---	---	e140	30	85	8.1	1.8	.00	.00
26	.00	---	---	---	---	113	38	80	6.8	.70	.00	.00
27	.00	---	---	---	---	115	43	81	6.2	.20	.00	.00
28	.00	---	---	---	---	114	33	86	5.6	.00	.00	.00
29	.14	---	---	---	---	116	33	83	5.4	.00	.00	.00
30	.19	---	---	---	---	115	36	81	5.1	.00	.00	.00
31	.00	---	---	---	---	112	---	76	---	.00	.00	---
TOTAL	0.49	---	---	---	---	---	1434	1653	783.3	52.90	0.00	0.00
MEAN	.016	---	---	---	---	---	47.8	53.3	26.1	1.71	.000	.000
MAX	.19	---	---	---	---	---	105	125	65	5.1	.00	.00
MIN	.00	---	---	---	---	---	25	23	5.1	.00	.00	.00
AC-FT	1.0	---	---	---	---	---	2840	3280	1550	105	.00	.00

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1986 to February 1989, March 1989 to current year.

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 flow is diverted upstream from station at Pitman Creek Shaft below Tamarack Creek (station 11237600) to Huntington-Shaver Conduit. No records provided for Dec. 6, 1995, to Apr. 15, 1996, and Nov. 17, 1996, to Mar. 24, 1997. 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, Jan. 2, 1997, no flow Feb. 15 to Apr. 4, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.89	.62	---	---	---	---	5.5	101	11	1.8	.35
2	1.4	.94	.67	---	---	---	---	3.6	105	9.4	1.7	.33
3	1.3	.90	.61	---	---	---	---	2.5	106	8.5	1.7	.33
4	1.2	.91	.83	---	---	---	---	2.4	98	7.5	1.7	.33
5	1.2	.96	.81	---	---	---	---	2.3	90	7.1	1.6	.36
6	1.1	.95	---	---	---	---	---	2.3	85	6.5	1.6	.38
7	1.1	.99	---	---	---	---	---	112	77	5.9	1.5	.36
8	1.1	.96	---	---	---	---	---	227	70	5.4	1.4	.36
9	1.1	.93	---	---	---	---	---	223	60	4.8	1.2	.34
10	1.1	.98	---	---	---	---	---	230	49	4.7	1.2	.33
11	1.0	.98	---	---	---	---	---	249	42	4.7	1.1	e.31
12	1.0	.93	---	---	---	---	---	262	39	6.9	.95	.31
13	.99	.96	---	---	---	---	---	250	36	5.4	.51	.38
14	.95	.96	---	---	---	---	---	232	33	5.2	.50	.66
15	.92	.92	---	---	---	---	---	277	29	4.2	.45	.67
16	.90	.91	---	---	---	---	.58	762	27	3.7	.42	.66
17	.88	.82	---	---	---	---	.52	41	24	3.0	.42	.62
18	.85	.81	---	---	---	---	.51	33	22	2.9	.41	.62
19	.83	.91	---	---	---	---	.44	7.2	19	2.9	.40	.57
20	.79	.91	---	---	---	---	.41	1.0	19	2.7	.40	.54
21	.81	.78	---	---	---	---	.40	52	17	2.6	.40	.49
22	.82	.73	---	---	---	---	.68	155	17	1.9	.39	.45
23	.86	.68	---	---	---	---	1.0	141	16	1.5	.38	.43
24	.89	.69	---	---	---	---	.65	111	15	2.4	.38	.41
25	.92	.68	---	---	---	---	.95	106	19	1.8	.38	.39
26	.93	.63	---	---	---	---	1.8	108	26	1.8	.38	.39
27	.91	.63	---	---	---	---	1.7	113	25	1.8	.38	.38
28	.89	.64	---	---	---	---	1.8	103	19	1.8	.38	.37
29	.88	.60	---	---	---	---	1.8	101	16	1.8	.38	.35
30	.87	.58	---	---	---	---	3.0	97	12	1.8	.37	.34
31	.86	---	---	---	---	---	---	95	---	1.8	.36	---
TOTAL	30.75	25.16	---	---	---	---	---	4106.8	1313	133.4	25.14	12.81
MEAN	.99	.84	---	---	---	---	---	132	43.8	4.30	.81	.43
MAX	1.4	.99	---	---	---	---	---	762	106	11	1.8	.67
MIN	.79	.58	---	---	---	---	---	1.0	12	1.5	.36	.31
AC-FT	61	50	---	---	---	---	---	8150	2600	265	50	25

e Estimated.

11237700 PITMAN CREEK NEAR TAMARACK MOUNTAIN, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	1.2	---	---	---	---	18	211	3.8	2.7	2.0	.47
2	.38	1.3	---	---	---	---	7.0	200	3.8	2.7	1.8	.61
3	.38	1.4	---	---	---	---	1.6	202	3.7	2.7	1.7	.79
4	.35	1.5	---	---	---	---	2.4	211	3.4	2.7	1.6	.75
5	.33	1.4	---	---	---	---	2.8	214	3.5	2.6	1.5	.62
6	.33	1.4	---	---	---	---	1.3	208	3.8	2.6	1.3	.52
7	.31	1.4	---	---	---	---	42	217	3.7	2.6	1.2	.45
8	.31	1.5	---	---	---	---	76	221	3.4	2.5	1.1	.41
9	.30	1.9	---	---	---	---	67	220	3.4	2.5	1.0	.39
10	.30	2.0	---	---	---	---	59	210	3.4	2.5	.97	.38
11	.31	2.1	---	---	---	---	57	208	3.4	2.4	.94	.40
12	.32	2.0	---	---	---	---	63	202	3.4	2.4	.94	.41
13	.32	2.1	---	---	---	---	75	199	3.4	2.4	.89	.39
14	.32	2.1	---	---	---	---	94	190	3.4	2.4	.85	.37
15	.33	1.9	---	---	---	---	114	178	3.4	2.4	.83	.35
16	.34	1.9	---	---	---	---	143	166	3.4	2.4	.79	.37
17	.34	---	---	---	---	---	164	150	3.4	2.4	.73	.36
18	.34	---	---	---	---	---	178	142	3.3	2.3	.69	.60
19	.44	---	---	---	---	---	224	140	3.0	2.3	.66	.74
20	.44	---	---	---	---	---	225	52	3.0	2.2	.65	.70
21	.42	---	---	---	---	---	239	4.3	2.9	2.2	.65	.59
22	.43	---	---	---	---	---	226	4.3	2.9	2.2	.59	.52
23	.44	---	---	---	---	---	217	4.3	2.9	2.2	.56	.46
24	.67	---	---	---	---	---	190	4.3	2.9	2.2	.55	.41
25	2.9	---	---	---	---	e28	190	4.0	2.9	2.2	.55	.42
26	1.4	---	---	---	---	63	219	3.8	2.9	2.2	.54	.51
27	1.0	---	---	---	---	59	234	3.8	2.9	2.2	.51	.51
28	.92	---	---	---	---	56	222	3.8	2.8	2.2	.49	.51
29	.82	---	---	---	---	54	213	3.8	2.7	2.2	.47	.44
30	.91	---	---	---	---	51	214	3.8	2.7	2.2	.45	.41
31	1.3	---	---	---	---	39	---	3.8	---	2.1	.45	---
TOTAL	18.04	---	---	---	---	---	3778.1	3785.0	97.5	73.8	27.95	14.86
MEAN	.58	---	---	---	---	---	126	122	3.25	2.38	.90	.50
MAX	2.9	---	---	---	---	---	239	221	3.8	2.7	2.0	.79
MIN	.30	---	---	---	---	---	1.3	3.8	2.7	2.1	.45	.35
AC-FT	36	---	---	---	---	---	7490	7510	193	146	55	29

e Estimated.

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.—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 ft³/s, May 24, 1993; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	792	509	756	716	488	655	761	867	1230	963	918	686
2	575	0	329	555	519	686	837	943	1240	812	933	655
3	529	0	590	580	550	575	847	867	1255	943	963	461
4	620	291	676	741	464	570	741	973	1261	998	756	560
5	580	229	610	782	445	403	746	988	1462	897	978	676
6	595	590	0	706	449	545	681	1266	1366	923	827	489
7	610	0	192	701	414	560	756	1029	933	872	872	519
8	560	0	272	386	519	671	494	1341	1069	802	792	484
9	539	0	504	595	432	635	534	1588	1018	807	736	408
10	519	0	514	500	448	812	620	1497	1008	963	928	585
11	570	271	478	488	610	741	666	1346	1276	872	897	447
12	625	119	731	640	671	625	257	1452	1109	892	867	297
13	676	201	650	431	590	711	529	1745	923	857	892	263
14	437	172	600	433	650	615	430	1487	1013	862	620	340
15	454	237	239	438	635	595	395	1376	1240	908	867	509
16	457	458	590	431	600	787	691	1397	993	716	903	469
17	437	615	620	519	545	706	726	1508	872	913	766	476
18	219	671	448	585	721	524	802	1452	1084	877	887	555
19	364	445	620	545	701	746	913	1371	1049	918	857	403
20	343	352	655	104	696	776	882	1679	1124	953	877	555
21	491	496	570	514	565	711	872	1518	1013	913	776	620
22	432	615	671	341	610	726	943	1563	1089	933	862	842
23	474	625	500	550	706	756	711	1503	1119	903	776	519
24	472	671	585	519	545	913	645	1563	1170	872	822	585
25	519	402	565	555	681	842	766	1422	1084	968	802	706
26	451	441	691	529	645	736	872	973	993	887	766	696
27	486	285	595	580	600	761	862	1261	933	887	842	807
28	407	570	595	539	570	807	892	1286	882	933	797	822
29	504	766	630	545	---	716	802	1366	958	938	847	751
30	122	590	575	489	---	681	973	1351	953	897	766	686
31	580	---	686	519	---	630	---	1235	---	847	746	---
TOTAL	15439	10621	16737	16556	16069	21217	21646	41213	32719	27726	25938	16871
MEAN	498	354	540	534	574	684	722	1329	1091	894	837	562
MAX	792	766	756	782	721	913	973	1745	1462	998	978	842
MIN	122	0	0	104	414	403	257	867	872	716	620	263
AC-FT	30620	21070	33200	32840	31870	42080	42930	81750	64900	54990	51450	33460

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	288	217	256	282	258	275	515	805	866	689
MAX	600	571	540	534	574	684	1081	1605	1503	1343
(WY)	1996	1996	1997	1997	1997	1997	1996	1993	1993	1995
MIN	.000	.000	21.4	6.19	.000	19.5	29.3	159	270	156
(WY)	1988	1988	1991	1990	1996	1991	1991	1991	1990	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1988 - 1997
ANNUAL TOTAL	240339	262752	
ANNUAL MEAN	657	720	451
HIGHEST ANNUAL MEAN			720
LOWEST ANNUAL MEAN			141
HIGHEST DAILY MEAN	1613	May 21	1745
LOWEST DAILY MEAN	0	Jan 13	0
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 13	84
ANNUAL RUNOFF (AC-FT)	476700	521200	326600
10 PERCENT EXCEEDS	1250	1100	1010
50 PERCENT EXCEEDS	671	681	384
90 PERCENT EXCEEDS	.00	408	.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.—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 ft³/s, Feb. 4, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.51	.56	.62	.67	e.65	.71	.85	1.3	1.2	1.1	1.2
2	1.2	.51	.55	.67	.67	e.65	.71	.88	1.3	1.3	1.1	1.2
3	1.1	.51	.57	.67	.67	e.65	.71	.83	1.3	1.3	1.0	1.2
4	1.2	.51	.59	.67	.67	e.65	.71	.79	1.3	1.4	1.1	1.2
5	1.2	.51	.68	.67	.67	e.65	.72	.78	1.3	1.3	1.1	1.2
6	1.2	.51	.63	.67	.67	e.64	.72	.76	1.3	1.3	1.1	1.2
7	1.2	.51	.61	.67	.67	e.64	.73	.78	1.3	1.3	1.4	1.2
8	.85	.51	.60	.67	.67	e.64	.72	.78	1.3	1.3	1.3	1.2
9	.56	.51	.63	.67	.65	e.64	.73	.78	1.3	1.2	1.3	1.2
10	.56	.51	.64	.67	.64	e.64	.73	.80	1.3	1.2	1.3	1.2
11	.56	.51	.69	.67	.64	e.64	.73	.79	1.3	1.2	1.3	1.2
12	.56	.51	.71	.67	.64	.64	.71	.85	1.3	1.2	1.3	1.2
13	.56	.52	.67	.67	.64	.64	.73	.85	1.3	1.2	1.3	1.2
14	.56	.54	.64	.67	.65	.63	.71	.86	1.3	1.2	1.3	1.2
15	.56	.54	.61	.67	.64	.65	.73	.86	1.3	1.1	1.3	1.2
16	.54	.54	.62	.67	.65	.65	.73	.86	1.3	1.1	1.3	1.2
17	.54	.69	.60	.67	.66	.65	.73	.86	1.4	1.1	1.3	1.2
18	.54	.66	.60	.67	.66	.66	.72	.88	1.4	1.1	1.2	1.2
19	.54	.59	.60	.67	.66	.67	.72	.87	1.4	1.1	1.2	1.2
20	.54	.59	.60	.67	.65	.67	.73	.87	1.4	1.1	1.2	1.3
21	.54	.67	.61	.67	.66	.67	.82	.82	1.4	1.1	1.3	1.3
22	.54	.71	.60	.67	.65	.70	.83	.73	1.3	1.1	1.3	1.2
23	.54	.66	.60	.67	.66	.72	.80	.67	1.4	1.1	1.3	1.2
24	.54	.60	.61	.67	e.65	.73	.79	.66	1.4	1.1	1.3	1.2
25	.56	.60	.61	.67	e.65	.74	.81	.69	1.4	1.1	1.4	1.2
26	.56	.59	.61	.67	e.65	.73	.82	.67	1.4	1.1	1.3	1.2
27	.54	.59	.61	.67	e.65	.72	.80	.67	1.3	1.1	1.2	1.2
28	.54	.59	.61	.67	e.65	.72	.78	.63	1.3	1.1	1.2	1.2
29	.54	.59	.61	.67	---	.73	.77	.86	1.3	1.1	1.3	1.2
30	.54	.57	.61	.67	---	.73	.83	1.3	1.3	1.1	1.3	1.2
31	.52	---	.61	.67	---	.72	---	1.3	---	1.1	1.2	---
TOTAL	21.73	16.96	19.09	20.72	18.36	20.86	22.48	25.58	39.9	36.3	38.6	36.2
MEAN	.70	.57	.62	.67	.66	.67	.75	.83	1.33	1.17	1.25	1.21
MAX	1.2	.71	.71	.67	.67	.74	.83	1.3	1.4	1.4	1.4	1.3
MIN	.52	.51	.55	.62	.64	.63	.71	.63	1.3	1.1	1.0	1.2
AC-FT	43	34	38	41	36	41	45	51	79	72	77	72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	MEAN	.80	.73	.80	.77	.78	.97	1.11	.87	1.31	1.32	1.34	1.34
MAX	.93	1.15	1.44	1.10	1.10	2.20	2.75	1.28	1.45	1.38	1.48	1.50	1.50
(WY)	1992	1992	1992	1993	1993	1992	1992	1995	1995	1990	1992	1992	1992
MIN	.70	.57	.58	.56	.57	.56	.57	.60	1.16	1.17	1.23	1.21	1.21
(WY)	1997	1997	1996	1996	1996	1996	1996	1996	1996	1994	1997	1996	1997

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1989 - 1997

ANNUAL TOTAL	294.30	316.78	
ANNUAL MEAN	.80	.87	1.01
HIGHEST ANNUAL MEAN			1.38
LOWEST ANNUAL MEAN			.81
HIGHEST DAILY MEAN	1.4 Jul 3	1.4 Jun 17	3.4 Apr 2 1992
LOWEST DAILY MEAN	.50 Mar 6	.51 Nov 1	.31 Feb 4 1989
ANNUAL SEVEN-DAY MINIMUM	.51 Nov 1	.51 Nov 1	.51 Nov 1 1996
INSTANTANEOUS PEAK FLOW		1.6 Jun 18	
INSTANTANEOUS PEAK STAGE		.97 Aug 7	
ANNUAL RUNOFF (AC-FT)	584	628	735
10 PERCENT EXCEEDS	1.3	1.3	1.4
50 PERCENT EXCEEDS	.60	.72	.87
90 PERCENT EXCEEDS	.54	.56	.62

e Estimated.

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 mi².

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, 7,400 ft³/s, Jan. 2, 1997, gage height, 10.34 ft, from rating curve extended above 900 ft³/s; no flow several days in 1925 and 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.4	467	e1560	702	425	8.6	7.8	6.5	6.6	6.0	5.5
2	3.5	3.5	473	3540	697	301	8.3	7.7	6.4	6.6	6.0	5.5
3	3.5	3.5	448	1100	686	35	8.2	7.6	6.4	6.6	6.0	5.5
4	3.5	3.4	393	934	679	35	8.2	7.6	6.4	6.6	6.0	5.6
5	3.5	3.5	307	335	661	35	8.1	7.5	6.4	6.5	6.0	5.4
6	3.5	3.5	337	170	700	35	7.9	7.4	6.4	6.4	6.0	2.8
7	3.5	3.5	238	170	972	35	7.9	7.2	6.4	6.6	6.0	3.0
8	3.5	3.5	310	398	185	280	7.9	7.3	6.4	6.6	6.0	32
9	3.5	10	226	1050	75	35	7.9	7.2	6.2	6.6	6.0	29
10	3.5	3.6	522	870	74	35	7.9	7.1	11	6.6	6.0	17
11	3.5	3.6	526	685	73	58	7.9	7.0	6.5	6.7	5.9	4.5
12	3.5	19	387	690	75	35	7.8	8.5	6.4	6.8	5.9	4.5
13	3.5	167	224	665	81	106	7.7	8.0	6.5	6.8	5.9	4.4
14	3.5	392	608	308	47	35	7.7	7.8	6.8	6.8	5.9	4.4
15	3.5	310	468	141	93	82	7.7	7.0	6.6	6.7	5.9	4.4
16	3.5	377	665	656	60	35	7.8	7.0	6.6	6.6	5.9	4.4
17	3.5	439	598	664	62	35	8.0	38	6.6	6.6	5.9	4.3
18	3.5	368	662	664	58	35	7.8	165	9.0	6.4	5.9	4.2
19	3.5	330	654	657	81	35	13	172	10	6.4	5.9	4.2
20	3.5	428	651	675	32	35	14	75	6.8	6.4	5.9	4.2
21	3.5	480	657	671	31	35	20	7.5	6.8	6.4	5.8	4.2
22	3.5	683	699	745	39	35	13	7.2	6.6	6.4	5.7	4.2
23	3.5	658	678	866	41	35	6.0	7.4	6.6	6.4	5.7	4.1
24	3.6	411	672	733	693	34	5.8	7.5	6.6	6.4	5.7	4.1
25	3.6	453	671	1090	803	22	6.1	7.2	6.6	6.2	6.1	4.1
26	3.6	467	720	979	521	9.2	11	7.2	6.6	6.2	5.7	4.1
27	3.6	474	782	811	517	9.0	13	7.0	6.6	6.2	5.7	4.1
28	3.5	448	714	722	541	8.9	11	7.0	6.6	6.4	5.7	4.1
29	4.2	425	770	733	---	8.9	8.0	7.0	6.6	6.2	5.7	4.1
30	4.2	466	871	371	---	8.9	7.9	7.0	6.6	6.0	5.7	4.1
31	3.6	---	781	712	---	8.9	---	6.6	---	6.0	5.6	---
TOTAL	110.4	7840.0	17179	24365	9279	1956.8	272.1	648.3	206.5	200.7	182.1	196.0
MEAN	3.56	261	554	786	331	63.1	9.07	20.9	6.88	6.47	5.87	6.53
MAX	4.2	683	871	3540	972	425	20	172	11	6.8	6.1	32
MIN	3.5	3.4	224	141	31	8.9	5.8	6.6	6.2	6.0	5.6	2.8
AC-FT	219	15550	34070	48330	18400	3880	540	1290	410	398	361	389
a	38470	28430	29640	20140	9240	61970	69620	80830	81160	76210	76330	71130

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.58	27.0	52.6	77.9	33.1	57.8	12.6	43.8	32.2	18.4	4.05	3.95
MAX	5.66	261	554	786	331	377	58.3	327	267	110	6.22	6.53
(WY)	1994	1997	1997	1997	1997	1995	1995	1995	1995	1995	1994	1997
MIN	2.44	1.97	1.28	1.61	1.69	2.03	2.35	2.23	2.23	2.20	2.27	2.33
(WY)	1988	1988	1995	1989	1988	1992	1989	1987	1987	1987	1988	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1987 - 1997			
ANNUAL TOTAL	33923.7				62435.9							
ANNUAL MEAN	92.7				171				30.7			
HIGHEST ANNUAL MEAN									171			
LOWEST ANNUAL MEAN									2.34			
HIGHEST DAILY MEAN	1030				3540				3540			
LOWEST DAILY MEAN	2.2				2.8				1.0			
ANNUAL SEVEN-DAY MINIMUM	2.3				3.5				1.1			
INSTANTANEOUS PEAK FLOW					7400				7400			
INSTANTANEOUS PEAK STAGE					10.34				10.34			
ANNUAL RUNOFF (AC-FT)	67290				123800				22230			
TOTAL DIVERSION (AC-FT) a	648700				643200				472300			
10 PERCENT EXCEEDS	442				671				15			
50 PERCENT EXCEEDS	4.5				7.7				3.1			
90 PERCENT EXCEEDS	3.0				3.6				1.8			

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.—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 mi².

PERIOD OF RECORD.—Water years 1987, 1993–94, October 1995 to current year. 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.—Acoustic-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, 72,500 ft³/s, Jan. 2, 1997; minimum daily, 3.0 ft³/s, at times in several years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.3	e3.3	e3.2	e2750	e5570	e1980	e3.2	e2280	e4760	e3.3	e3.3	e3.3
2	e3.3	e3.3	e3.2	e22500	e5540	e1750	e3.2	e2060	e3540	e3.3	e3.3	e3.3
3	e3.3	e3.3	e3.2	e32000	e5520	e1630	e137	e1950	e3060	e3.3	e3.3	e3.3
4	e3.3	e3.3	e3.2	e14400	e5490	e1650	e57	e2340	e3480	e3.3	e3.3	e3.3
5	e3.3	e3.3	e3.2	e6290	e5460	e1640	e3.3	e2750	e2950	e3.3	e3.3	e3.3
6	e3.3	e3.3	e3.2	e4480	e4880	e1530	e3.3	e3050	e2250	e3.3	e3.3	e3.3
7	e3.3	e3.3	e3.2	e4430	e3770	e1640	e3.5	e3020	e1860	e3.3	e3.3	e3.3
8	e3.3	e3.3	e3.2	e4030	e351	e1440	e48	e3160	e2190	e3.3	e3.3	e3.3
9	e3.3	e3.3	e3.2	e4480	e116	e1400	e4.4	e3190	e2250	e3.3	e3.3	e3.3
10	e3.3	e3.3	e673	e4210	e105	e1410	e3.2	e3300	e1970	e3.3	e3.3	e3.3
11	e3.3	e3.3	e1310	e4300	e104	e1430	e14	e3380	e1210	e3.3	e3.3	e3.3
12	e3.3	e3.3	e479	e3860	e106	e1190	e62	e3480	e1060	e3.3	e3.3	e3.3
13	e3.3	e3.3	e69	e3650	e113	e803	e81	e3710	e689	e3.3	e3.3	e3.3
14	e3.3	e3.3	e26	e2550	e79	e800	e108	e4080	e570	e3.3	e3.3	e3.3
15	e3.1	e3.3	e3.2	e1760	e125	e820	e139	e3910	e780	e3.3	e3.3	e3.3
16	e3.1	e3.3	e3.2	e3990	e92	e814	e3.2	e4330	e750	e3.3	e3.3	e3.3
17	e3.3	e3.3	e3.2	e4730	e95	e812	e47	e3750	e974	e3.3	e3.3	e3.3
18	e3.3	e3.2	e3.2	e5830	e91	e821	e130	e3810	e1880	e3.3	e3.3	e3.3
19	e3.3	e3.2	e3.2	e5790	e115	e709	e277	e3300	e3640	e3.2	e3.3	e3.3
20	e3.3	e3.2	e3.2	e5940	e170	e173	e271	e2670	e3210	e3.2	e3.3	e3.3
21	e3.3	e3.2	e3.2	e5610	e358	e167	e282	e3280	e2530	e3.3	e3.3	e3.3
22	e3.3	e3.2	e3.2	e5610	e935	e143	e251	e2680	e2130	e3.3	e3.3	e3.3
23	e3.3	e3.2	e3.2	e5790	e661	e30	e271	e1900	e1550	e3.3	e3.3	e3.3
24	e3.3	e3.2	e3.2	e5610	e1970	e3.1	e12	e1580	e1060	e3.3	e3.3	e3.3
25	e3.3	e3.2	e3.2	e6050	e3340	e111	e201	e1090	e718	e3.3	e3.3	e3.3
26	e3.2	e3.2	e3.2	e6050	e2640	e601	e232	e899	e317	e3.3	e3.3	e3.3
27	e3.3	e3.2	e581	e5910	e1870	e775	e290	e888	e302	e3.3	e3.3	e3.3
28	e3.0	e3.2	e317	e5900	e1880	e471	e2340	e2160	e305	e3.3	e3.3	e3.3
29	e3.3	e3.2	e480	e5750	---	e57	e2050	e2540	e276	e3.3	e3.3	e3.3
30	e3.3	e3.2	e1470	e4840	---	e53	e2270	e2880	e3.3	e3.3	e3.3	e3.3
31	e3.3	---	e729	e5680	---	e14	---	e3540	---	e3.3	e3.3	---
TOTAL	101.5	97.7	6201.2	204770	51546	26867.1	9597.3	86957	52264.3	102.1	102.3	99.0
MEAN	3.27	3.26	200	6605	1841	867	320	2805	1742	3.29	3.30	3.30
MAX	3.3	3.3	1470	32000	5570	1980	2340	4330	4760	3.3	3.3	3.3
MIN	3.0	3.2	3.2	1760	79	3.1	3.2	888	3.3	3.2	3.3	3.3
AC-FT	201	194	12300	406200	102200	53290	19040	172500	103700	203	203	196
a	57310	67170	147000	9900	7640	156400	197200	200100	190700	141400	126900	119400

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.40	3.42	42.8	1324	579	405	306	1870	1683	334	4.61	3.47
MAX	3.90	3.95	200	6605	1841	954	621	3726	4048	1437	9.02	4.04
(WY)	1987	1987	1997	1997	1997	1996	1996	1993	1993	1993	1996	1987
MIN	3.14	3.20	3.25	3.26	3.30	3.20	3.25	3.39	3.60	3.29	3.30	3.29
(WY)	1993	1993	1993	1993	1993	1994	1994	1994	1994	1997	1997	1993

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	257515.7		438705.5			
ANNUAL MEAN	704		1202		547	
HIGHEST ANNUAL MEAN					1202	
LOWEST ANNUAL MEAN					3.38	
HIGHEST DAILY MEAN	20500	May 16	32000	Jan 3	32000	Jan 3 1997
LOWEST DAILY MEAN	3.0	Feb 8	3.0	Oct 28	3.0	Dec 4 1993
ANNUAL SEVEN-DAY MINIMUM	3.2	Feb 8	3.2	Nov 18	3.1	Oct 6 1992
INSTANTANEOUS PEAK FLOW			72500	Jan 2	72500	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	510800		870200		396200	
TOTAL DIVERSION (AC-FT) a	1580000		1421000		1096000	
10 PERCENT EXCEEDS	2220		3880		1950	
50 PERCENT EXCEEDS	3.3		3.5		3.4	
90 PERCENT EXCEEDS	3.2		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 mi².

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, 3,220 ft³/s, May 16, 1996, gage height, 9.58 ft; minimum daily, 1.6 ft³/s, Feb. 14, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.4	e6.5	78	e14	e9.1	e22	e44	e12	5.5	5.0	4.8
2	4.5	5.0	e8.4	e836	e14	e8.7	e19	e41	e11	5.0	5.0	4.9
3	4.8	5.6	e7.2	e342	e14	e9.1	e18	e42	e10	4.8	4.9	4.7
4	4.8	5.7	e5.7	e190	e13	e9.5	e18	e44	e11	e4.8	4.8	4.7
5	4.8	5.5	e9.5	e124	e13	e9.5	e18	e45	9.2	e4.8	4.7	5.0
6	4.8	5.5	e14	e84	e14	e10	e18	e43	8.5	e4.8	5.2	4.9
7	4.8	e5.1	e8.7	e57	e13	e11	e19	e46	8.1	e4.8	5.2	4.8
8	4.7	e4.4	e8.0	e38	e11	e13	e19	e46	7.9	4.8	5.2	4.8
9	4.7	e4.5	e8.7	e30	e12	e14	e20	e46	7.8	4.9	5.2	4.7
10	4.7	e4.4	e6.8	e29	e11	e16	e20	e44	7.6	4.9	5.1	4.7
11	4.8	e4.4	e14	e27	e11	e16	e19	e43	7.6	4.9	5.2	4.8
12	4.9	e4.4	e31	e25	e10	19	e17	e41	7.6	5.2	5.2	5.5
13	4.8	e4.5	e21	e23	e10	19	e19	e41	7.8	4.8	5.7	5.6
14	4.7	e4.5	e16	e21	e10	19	e23	e39	8.1	5.1	5.2	5.4
15	4.8	e4.5	e13	e19	e11	20	e27	e36	7.7	5.6	5.2	5.4
16	4.8	e4.5	e11	e20	e10	21	e32	e34	7.3	5.5	5.3	5.5
17	4.8	e4.6	e11	e19	e11	20	e35	e32	7.0	5.1	5.2	5.5
18	4.8	e15	e9.9	e19	e11	21	e37	e30	6.7	5.2	5.3	5.7
19	4.9	e6.5	e9.5	e17	e9.9	22	e47	e30	6.6	5.1	5.2	5.6
20	4.9	e5.3	9.6	e15	e10	22	e48	e27	6.4	5.0	5.2	5.5
21	4.8	e27	9.3	e17	e10	22	e51	e23	e6.6	5.0	5.1	5.6
22	4.8	e87	9.5	e18	e9.9	23	e47	e21	e6.5	4.9	5.0	6.0
23	4.8	e25	9.8	e19	e9.9	24	e45	e19	e6.3	5.0	5.1	6.0
24	5.1	e18	9.3	e20	e10	25	e39	e17	e6.2	4.9	5.2	5.9
25	6.2	e14	9.0	e21	e9.9	25	e40	e16	e6.1	4.8	5.1	6.1
26	5.4	e11	9.7	e26	e9.1	26	e46	e15	e6.0	4.8	5.0	6.2
27	5.2	e9.5	13	e26	e8.4	e31	e50	e15	e5.9	4.8	5.0	6.2
28	5.1	e8.0	10	e19	e8.7	e31	e46	e16	e5.8	4.8	5.0	6.1
29	5.6	e7.6	13	e18	---	e31	e44	e16	e5.8	4.9	4.9	6.1
30	5.6	e9.1	29	e16	---	e30	e45	e15	e5.7	5.0	4.9	6.0
31	5.6	---	24	e14	---	e27	---	e14	---	4.9	4.8	---
TOTAL	153.3	325.5	375.1	2227	308.8	603.9	948	981	226.8	154.4	158.1	162.7
MEAN	4.95	10.9	12.1	71.8	11.0	19.5	31.6	31.6	7.56	4.98	5.10	5.42
MAX	6.2	87	31	836	14	31	51	46	12	5.6	5.7	6.2
MIN	4.3	4.4	5.7	14	8.4	8.7	17	14	5.7	4.8	4.7	4.7
AC-FT	304	646	744	4420	613	1200	1880	1950	450	306	314	323

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	MEAN	4.71	6.16	7.33	14.9	12.4	17.7	28.4	33.5	27.9	8.86	5.85	5.13
MAX	6.39	10.9	14.1	71.8	52.2	40.7	53.9	108	178	36.2	11.3	7.15	
(WY)	1994	1997	1992	1997	1996	1995	1992	1996	1995	1995	1996	1995	
MIN	3.65	3.80	4.29	4.59	3.89	7.15	8.99	5.80	4.66	4.00	4.08	4.14	
(WY)	1991	1993	1993	1992	1991	1991	1994	1990	1989	1989	1989	1991	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	8330.0		6624.6			
ANNUAL MEAN	22.8		18.1		15.3	
HIGHEST ANNUAL MEAN					34.7	
LOWEST ANNUAL MEAN					5.57	
HIGHEST DAILY MEAN	1750	May 16	836	Jan 2	1750	May 16 1996
LOWEST DAILY MEAN	3.6	Jan 12	4.3	Oct 1	1.6	Feb 14 1991
ANNUAL SEVEN-DAY MINIMUM	3.9	Jan 6	4.4	Nov 8	2.0	Feb 14 1991
INSTANTANEOUS PEAK FLOW			unknown		3220	May 16 1996
INSTANTANEOUS PEAK STAGE			unknown		9.58	May 16 1996
ANNUAL RUNOFF (AC-FT)	16520		13140		11080	
10 PERCENT EXCEEDS	40		36		28	
50 PERCENT EXCEEDS	8.0		9.1		5.9	
90 PERCENT EXCEEDS	4.7		4.8		4.1	

e Estimated.

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 mi².

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, 135,240 acre-ft, Aug. 21, elevation, 5,369.98 ft; minimum, 99,831 acre-ft, Apr. 16, elevation, 5,352.75 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130032	120475	112799	113408	113936	110415	104620	102759	130353	134087	134565	129391
2	129711	119812	112576	117457	113408	109852	104265	103013	130374	134065	134391	128792
3	129326	119108	112413	120143	112779	109451	104186	103131	130610	134130	134565	127772
4	128984	118922	112251	120913	112150	108970	104030	103424	130931	134283	134544	126816
5	128728	118652	112819	122060	111403	108389	103893	103580	131944	134370	134500	126223
6	128324	119046	112413	123191	110839	107850	103600	104443	132806	134391	134370	125294
7	128069	118300	112271	123631	110033	107432	104050	104916	132849	134283	134174	124724
8	127772	117621	112251	123359	109812	107233	103209	105903	133173	134370	133891	123841
9	127474	116942	112474	122834	109652	106895	102681	107532	133304	134152	134043	122960
10	127071	116243	113286	122185	109652	106716	102427	109010	133413	134348	134152	121956
11	126794	115997	114078	121476	109792	106318	102154	110455	134022	134174	133913	120809
12	126477	115589	114445	121143	110294	105942	101786	111887	134326	134130	133804	119916
13	126181	115242	114506	120559	110536	105903	100874	113834	134283	134217	133913	118859
14	125822	114690	114465	120081	110677	105784	100642	115568	134348	134130	133695	118033
15	125294	113956	114200	120081	111000	105232	99985	117292	134870	134130	133565	117066
16	124682	113773	114017	119419	111282	105133	99831	118880	134870	134109	133521	116181
17	124387	114302	113611	118756	111363	105133	100254	120496	134696	134130	133456	115385
18	124093	114058	113347	118012	111928	104739	100331	121497	134413	134130	133326	114669
19	123233	113631	113063	117354	112109	104857	100525	122435	134239	134261	133326	113916
20	123149	113246	112718	116880	112373	104719	100564	123506	134109	134500	133282	113104
21	122897	113733	112616	116284	112434	104680	100680	124660	133913	134565	135240	112474
22	122519	114424	112758	115977	112779	104344	100836	125759	133782	134696	132677	112231
23	122081	114261	112352	115548	112941	104128	100797	126879	133608	134478	132267	112008
24	121768	113956	112109	115037	112515	104482	100797	128112	133521	134565	132181	111787
25	121476	113408	111666	116222	112231	104384	100836	129070	133500	134696	131814	111787
26	121038	113225	111625	116633	111787	104324	100913	129198	133717	134609	131448	111585
27	120559	112982	111504	116366	111444	104147	101088	129412	133761	134544	131168	111303
28	120226	113144	111161	115936	110919	104108	101708	129455	133739	134565	130931	111081
29	120143	113063	111060	115446	---	103932	102447	129818	134087	134522	130653	110818
30	119833	112698	111565	115139	---	103835	102583	130118	134130	134565	130332	111282
31	120226	---	111565	114486	---	104285	---	130139	---	134565	129904	---
MAX	130032	120475	114506	123631	113936	110415	104620	130139	134870	134696	135240	129391
MIN	119833	112698	111060	113408	109652	103835	99831	102759	130353	134065	129904	110818
a	5362.92	5359.25	5358.69	5360.13	5358.37	5355.04	5354.17	5367.62	5369.47	5369.67	5367.51	5358.55
b	-9828	-7528	-1133	+2921	-3567	-6634	-1702	+27556	+3991	+435	-4661	-18622

CAL YR 1996 b -11395

WTR YR 1997 b -18772

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 mi².

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 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.6	2.2	6.1	305	302	288	309	320	3.0	3.0	3.6
2	3.1	3.6	2.2	8.3	303	295	287	308	317	3.0	3.0	3.6
3	3.1	3.5	2.2	6.2	293	296	294	311	317	3.0	3.0	5.2
4	3.1	3.5	2.2	4.0	293	309	304	309	318	3.0	3.0	8.9
5	3.2	3.5	2.8	3.5	292	301	298	305	320	3.0	3.0	3.4
6	3.2	3.5	2.5	93	274	302	288	303	319	3.0	3.0	5.6
7	3.2	3.5	2.4	325	273	296	285	301	317	3.0	3.0	37
8	3.2	3.4	2.3	340	277	303	290	308	313	3.0	3.0	3.5
9	3.1	3.1	2.5	339	277	305	282	313	313	3.1	3.0	3.3
10	3.2	3.0	4.6	319	275	300	282	312	310	3.1	3.0	3.3
11	3.2	3.0	4.1	322	275	296	285	310	306	3.1	3.0	3.2
12	3.2	3.0	2.9	323	273	314	283	311	311	3.1	3.0	3.2
13	3.2	3.0	2.6	313	271	317	280	317	320	3.1	3.0	3.3
14	3.2	3.0	2.5	287	271	312	281	318	339	3.0	3.0	3.2
15	3.2	3.1	2.5	295	274	309	283	317	331	3.1	3.0	3.2
16	3.2	3.1	2.4	289	274	305	279	320	334	3.1	3.0	3.3
17	3.2	4.7	2.4	304	273	306	292	322	324	3.1	3.0	3.6
18	3.2	3.7	2.4	316	273	307	291	320	338	3.0	3.0	3.6
19	3.2	3.2	2.4	316	274	308	287	319	349	3.0	3.1	3.6
20	3.2	2.4	2.3	311	273	311	290	317	351	3.0	3.2	3.6
21	3.2	3.0	2.4	303	276	310	286	315	352	3.0	3.6	3.6
22	3.2	4.3	2.4	303	276	306	279	318	353	3.0	3.6	3.6
23	3.2	2.8	2.4	306	274	305	276	321	355	3.0	3.6	3.6
24	3.3	2.5	2.3	309	271	303	276	323	351	3.0	3.6	3.6
25	3.2	2.4	2.4	310	273	307	287	324	239	3.0	3.6	3.6
26	3.2	2.4	2.5	313	287	307	306	324	3.7	3.0	3.6	3.6
27	3.2	2.3	3.2	309	292	306	305	321	3.3	3.0	3.6	3.6
28	3.3	2.3	2.6	303	298	308	307	317	3.1	3.0	3.6	3.6
29	3.8	2.3	2.9	292	---	300	305	316	3.0	3.0	3.6	3.6
30	4.1	2.2	4.5	291	---	282	307	321	3.0	3.0	3.6	3.5
31	3.7	---	3.2	294	---	282	---	322	---	3.0	3.6	---
TOTAL	101.1	92.9	83.2	7853.1	7840	9410	8683	9772	8133.1	93.8	99.9	147.1
MEAN	3.26	3.10	2.68	253	280	304	289	315	271	3.03	3.22	4.90
MAX	4.1	4.7	4.6	340	305	317	307	324	355	3.1	3.6	37
MIN	3.1	2.2	2.2	3.5	271	282	276	301	3.0	3.0	3.0	3.2
AC-FT	201	184	165	15580	15550	18660	17220	19380	16130	186	198	292
a	25600	24560	25330	15410	7120	18100	16420	28130	37740	39420	39580	37800

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.61	3.24	2.73	25.5	27.7	42.0	54.7	104	139	77.6	12.1	3.58
MAX	4.34	3.84	3.73	253	280	304	289	382	556	495	98.4	4.90
(WY)	1996	1988	1994	1997	1997	1997	1997	1996	1995	1995	1995	1997
MIN	3.26	2.92	2.22	2.21	2.39	2.53	3.43	3.45	3.23	3.03	3.16	3.16
(WY)	1997	1993	1990	1996	1990	1996	1989	1992	1994	1997	1996	1996

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1987 - 1997

ANNUAL TOTAL	29572.4	52309.2	
ANNUAL MEAN	80.8	143	41.3
HIGHEST ANNUAL MEAN			156 1995
LOWEST ANNUAL MEAN			3.06 1990
HIGHEST DAILY MEAN	650 May 18	355 Jun 23	688 Jun 25 1995
LOWEST DAILY MEAN	2.0 Jan 7	2.2 Nov 30	1.2 Dec 1 1991
ANNUAL SEVEN-DAY MINIMUM	2.0 Jan 4	2.2 Nov 28	1.9 Nov 26 1991
INSTANTANEOUS PEAK FLOW		364 Jun 21	816 Jun 13 1995
INSTANTANEOUS PEAK STAGE		6.16 Jun 21	7.64 Apr 26 1993
ANNUAL RUNOFF (AC-FT)	58660	103800	29910
TOTAL DIVERSION (AC-FT) a	332900	315200	228400
10 PERCENT EXCEEDS	350	317	247
50 PERCENT EXCEEDS	3.1	4.1	3.4
90 PERCENT EXCEEDS	2.2	3.0	2.5

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 mi².

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, 25,616 acre-ft, July 25, elevation, 1,401.91 ft; minimum, 7,459 acre-ft, Feb. 19, elevation, 1,352.37 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 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9538	24843	24399	25282	24466	14592	25015	25264	24229	24983	24811	24399
2	9278	24979	24127	24960	24834	14664	25137	24979	23764	24533	25060	24582
3	9307	25241	24278	20962	23786	14581	25137	24614	24744	24942	23985	24924
4	9958	25538	24082	20369	24038	14578	24296	25474	24385	24780	24443	25006
5	10657	25195	24114	23407	24025	14567	23812	24838	24587	24282	24834	25051
6	11439	23759	23333	24771	22702	14585	24282	24712	23958	24158	24843	25155
7	11513	22254	24672	24403	20262	14596	24988	24493	24304	24452	24300	25105
8	12071	21753	24676	24627	16214	14567	25269	24524	25150	24672	24717	24528
9	12794	20987	24658	24847	12746	14521	25255	24730	25497	25060	25182	23583
10	13577	20353	24122	23812	12672	14521	25060	24771	25064	25033	24938	23241
11	14260	21076	23918	23237	12278	14805	24847	24569	23645	25186	25241	23167
12	14884	21168	23132	23535	11484	15561	24793	24145	24645	24078	25378	23610
13	15450	21570	24461	25105	10591	16187	24771	24502	24739	24354	25291	23307
14	16391	21676	23816	23958	9402	16775	24834	25200	24771	25346	25150	23110
15	17508	21830	24627	20332	8264	17357	24979	24618	25232	25141	24992	22103
16	18123	21426	24207	22236	7830	17938	24938	24789	24753	24376	25200	e20080
17	18468	22598	24367	25241	8433	18520	24906	24256	25110	24816	25227	17601
18	19320	22426	25250	24816	7872	19037	25123	24354	24902	23945	24951	15380
19	20163	21583	24802	25273	7459	19620	25378	23746	25096	23777	24843	12449
20	20916	21749	24358	25214	7911	20187	24703	24367	24902	24807	25001	9464
21	21604	23407	24497	24242	8109	21067	24376	24247	24748	24969	25259	8588
22	22258	23878	24448	24309	8590	21647	24034	24634	24167	24924	25538	8955
23	23094	23825	23711	23315	7894	22069	23654	25019	24515	25001	25186	9792
24	24127	24596	23570	23442	8179	22572	23058	24363	24336	25092	24627	9248
25	24920	24825	24096	23250	9889	23023	23040	24109	24811	25616	24929	8737
26	24829	24118	24938	23346	11133	23671	23830	24992	24667	24847	25186	9213
27	24906	23381	24225	23329	12338	23755	24663	24965	24555	25119	25082	9666
28	24816	22672	21341	23315	13794	24515	25082	25291	24470	24974	24578	9263
29	24573	24811	20175	23005	---	24965	24403	24484	24969	25137	24318	9520
30	25087	24605	20340	22992	---	25223	24969	25078	25460	24884	24318	10019
31	25087	---	21286	23909	---	25073	---	24591	---	24942	24273	---
MAX	25087	25538	25250	25282	24834	25223	25378	25474	25497	25616	25538	25155
MIN	9278	20353	20175	20332	7459	14521	23040	23746	23645	23777	23985	8588
a	1400.75	1399.68	1392.05	1398.11	1372.70	1400.71	1400.48	1399.64	1401.56	1400.42	1398.93	1361.21
b	+15207	-482	-3319	+2623	-10115	+11279	-104	-378	+869	-518	-669	-14254

CAL YR 1996 b -3395

WTR YR 1997 b +139

e Estimated.

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 mi².

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, 99,200 ft³/s, Jan. 2, 1997, gage height, 65.17 ft, from floodmarks, from rating curve extended above 7,000 ft³/s on basis of computed flow over dam; no flow Sept. 25, 1951.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	23	24	2020	e2350	e212	e637	e2770	e5390	e23	e23	e23
2	21	23	27	e22100	e2390	e576	e640	e3180	e4880	e23	e23	e23
3	21	23	25	e33700	e3720	e486	e640	e2750	e3270	e23	e23	e23
4	21	23	24	e13100	e2310	e482	e630	e3980	e2140	e23	e23	e23
5	21	23	27	e3690	e2310	e471	e504	e4130	e1390	e23	e23	e32
6	22	23	27	e1330	e997	e490	e332	e3800	e2910	e23	e23	e41
7	22	23	27	e1690	e2030	e502	e340	e3760	e2060	e23	e23	e41
8	22	23	27	e945	e186	e471	e554	e3770	e2140	e23	e33	e41
9	22	23	27	e1290	e23	e423	e857	e3800	e2680	e23	e41	e41
10	22	23	681	e1510	e23	e423	e851	e3920	e2660	e23	e41	e41
11	22	23	1230	e1290	e23	e193	e844	e4100	e2350	e23	e31	e41
12	22	23	110	e1210	e23	e23	e842	e4030	e915	e23	e23	e41
13	22	23	25	e823	e23	e23	e841	e4090	e837	e23	e23	e41
14	22	23	25	e1220	e23	e23	e843	e4300	e1030	e23	e23	e41
15	22	23	25	e601	e23	e23	e848	e4470	e1030	e23	e23	e41
16	22	23	25	e22	e23	e23	e847	e4550	e1380	e23	e23	e41
17	22	24	25	e515	e23	e129	e846	e4440	e1230	e23	e23	e300
18	22	23	25	e2000	e23	e23	e853	e4470	e1900	e23	e23	e41
19	22	23	25	e1980	e23	e23	e933	e5000	e2650	e23	e23	e41
20	22	23	22	e2820	e23	e23	e1260	e3760	e2910	e23	e23	e41
21	22	23	16	e2990	e23	e23	e1240	e3250	e2900	e23	e23	e41
22	22	19	16	e3100	e23	e23	e1220	e2670	e2870	e23	e23	e41
23	23	66	13	e4930	e23	e23	e1080	e2440	e1950	e23	e23	e41
24	23	23	23	e2780	e23	e23	e584	e2380	e1360	e23	e23	e41
25	23	23	23	e5490	e23	e23	e526	e1900	e737	e23	e23	41
26	23	23	23	e3550	e23	e23	e23	e1170	e645	e23	e23	41
27	23	24	1350	e3230	e23	e127	e23	e1590	e521	e23	e23	41
28	23	24	1650	e2230	e23	e23	e2540	e2400	e163	e23	e23	41
29	24	24	912	e2200	---	e304	e3000	e3680	e23	e23	e23	41
30	23	24	1970	e2200	---	e642	e2500	e2850	e23	e23	e23	41
31	23	---	531	e2290	---	e638	---	e3850	---	e23	e23	---
TOTAL	687	734	8980	128846	16753	6914	27678	107250	56944	713	767	1408
MEAN	22.2	24.5	290	4156	598	223	923	3460	1898	23.0	24.7	46.9
MAX	24	66	1970	33700	3720	642	3000	5000	5390	23	41	300
MIN	21	19	13	22	23	23	23	1170	23	23	23	23
AC-FT	1360	1460	17810	255600	33230	13710	54900	212700	112900	1410	1520	2790
a	42880	76050	158400	218000	114500	213500	204500	214400	206900	140900	127400	132400

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.1	20.3	114	169	125	157	433	1713	2189	836	74.2	21.8
MAX	25.9	76.2	3501	4156	1255	1456	2739	10410	12700	7739	1343	46.9
(WY)	1990	1983	1956	1997	1986	1983	1951	1969	1983	1995	1983	1997
MIN	8.15	8.55	5.66	3.83	3.38	2.86	3.27	4.76	8.59	13.5	16.5	2.79
(WY)	1983	1985	1966	1965	1966	1968	1955	1971	1971	1979	1984	1951

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1951 - 1997			
ANNUAL TOTAL	193918.5				357674							
ANNUAL MEAN	530				980				484			
HIGHEST ANNUAL MEAN									2409			
LOWEST ANNUAL MEAN									11.4			
HIGHEST DAILY MEAN	20800				33700				47700			
LOWEST DAILY MEAN	9.5				13				.00			
ANNUAL SEVEN-DAY MINIMUM	13				19				.38			
INSTANTANEOUS PEAK FLOW					99200				99200			
INSTANTANEOUS PEAK STAGE					65.17				65.17			
ANNUAL RUNOFF (AC-FT)	384600				709400				350700			
TOTAL DIVERSION (AC-FT) a	1817000				1850000							
10 PERCENT EXCEEDS	1670				2940				1230			
50 PERCENT EXCEEDS	25				27				20			
90 PERCENT EXCEEDS	21				23				4.9			

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 mi².

PERIOD OF RECORD.—August 1965 to current year.

REVISED RECORDS.—WDR CA-72-2: 1970, 1971. WDR CA-85-3: 1983, 1984(P). WDR CA-93-3: 1992.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 5,200 ft above sea level, from topographic map.

REMARKS.—Records good. No storage upstream from station. Madera Irrigation District has water rights to divert up to 50 ft³/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 ft³/s, Jan. 13, 1980, gage height, 7.41 ft, from rating curve extended above 1,100 ft³/s on basis of a step-backwater survey; minimum daily, 0.27 ft³/s, Oct. 4, 1987.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 21	2015	1,390	5.69	Jan. 25	1000	603	4.86
Dec. 10	2030	262	4.30	May 15	1245	118	3.72
Jan. 02	1900	2,540	7.01				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	7.1	35	984	e93	60	66	e80	41	15	7.3	3.9
2	3.4	7.2	32	e1600	e87	60	62	e79	39	15	7.4	5.0
3	3.3	6.7	31	e853	e79	58	60	78	37	15	6.8	5.2
4	3.1	6.7	30	e409	e89	58	60	85	39	14	6.7	4.6
5	3.0	6.3	94	e314	e88	57	58	92	41	13	6.5	4.3
6	2.9	5.8	69	e266	e85	57	57	96	37	e12	6.3	4.2
7	2.9	5.8	50	e242	82	58	56	96	33	e12	6.1	3.8
8	2.8	6.4	45	e225	81	59	56	99	32	e12	5.9	3.8
9	2.8	6.9	57	e204	78	62	56	101	31	e11	5.9	3.7
10	3.2	6.9	135	e172	77	66	54	103	29	e11	5.6	3.7
11	3.4	6.5	187	e172	75	69	52	104	28	e11	5.7	3.8
12	3.4	6.1	139	e165	74	69	52	102	27	11	5.7	3.9
13	3.5	5.6	95	e156	73	68	52	104	28	11	5.5	3.8
14	3.5	5.4	75	e143	73	69	53	108	e29	11	5.4	3.6
15	3.5	5.4	65	e138	74	71	55	110	e25	11	5.3	3.6
16	3.5	5.4	60	e131	75	72	58	109	e24	10	5.2	3.6
17	3.5	106	57	e123	76	70	61	108	e25	10	5.0	3.4
18	3.6	58	54	e112	72	72	64	105	e27	10	4.9	3.4
19	5.4	20	51	e107	73	73	87	104	e24	9.8	4.8	3.6
20	4.5	19	50	e103	73	74	82	95	21	9.6	4.8	3.7
21	4.4	171	49	e106	72	74	85	90	20	9.3	4.8	3.4
22	4.3	189	57	e106	70	74	85	e85	19	9.5	4.7	3.4
23	4.1	75	52	e148	68	73	81	e83	19	10	4.5	3.4
24	4.3	55	50	e118	65	74	77	e80	18	10	4.3	3.3
25	6.8	47	48	e373	64	74	77	e70	17	9.2	4.4	3.5
26	5.5	42	55	e259	64	74	e78	e64	17	8.6	4.4	3.9
27	4.8	38	95	e154	64	74	e84	e54	16	8.4	4.3	4.0
28	4.6	37	64	e124	61	74	e89	48	16	8.4	4.2	3.8
29	6.2	35	87	e114	---	73	e84	47	16	8.4	4.2	3.6
30	8.9	34	282	e102	---	72	e82	45	16	8.2	4.2	3.6
31	7.3	---	175	e96	---	71	---	44	---	8.0	4.0	---
TOTAL	129.5	1026.2	2425	8319	2105	2109	2023	2668	791	332.4	164.8	114.5
MEAN	4.18	34.2	78.2	268	75.2	68.0	67.4	86.1	26.4	10.7	5.32	3.82
MAX	8.9	189	282	1600	93	74	89	110	41	15	7.4	5.2
MIN	2.8	5.4	30	96	61	57	52	44	16	8.0	4.0	3.3
AC-FT	257	2040	4810	16500	4180	4180	4010	5290	1570	659	327	227

e Estimated.

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.61	9.71	15.5	32.2	30.1	41.8	51.1	77.5	50.8	16.4	5.72	4.34
MAX	17.8	43.0	78.2	268	178	151	176	228	219	109	26.9	14.3
(WY)	1983	1984	1997	1997	1986	1986	1982	1995	1995	1983	1983	1978
MIN	.41	1.63	1.20	1.84	2.08	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	16420.8		22207.4			
ANNUAL MEAN	44.9		60.8		28.3	
HIGHEST ANNUAL MEAN					82.7	
LOWEST ANNUAL MEAN					1.57	
HIGHEST DAILY MEAN	368		May 16		1600	
LOWEST DAILY MEAN	2.8		Oct 8		.27	
ANNUAL SEVEN-DAY MINIMUM	3.0		Oct 4		.29	
INSTANTANEOUS PEAK FLOW			2540		2750	
INSTANTANEOUS PEAK STAGE			7.01		7.41	
ANNUAL RUNOFF (AC-FT)	32570		44050		20490	
10 PERCENT EXCEEDS	108		107		79	
50 PERCENT EXCEEDS	30		45		8.0	
90 PERCENT EXCEEDS	3.5		3.8		1.8	

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 (station 11243400) 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 ft³/s, Mar. 8, 1989; no flow at times in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.00	23	3.1	72	72	73	56	20	7.5	.98	.00
2	.00	.00	20	2.1	71	72	73	53	20	6.9	.88	.00
3	.00	.00	18	.69	71	72	72	51	20	6.5	.80	.00
4	.00	.00	17	.43	70	74	71	49	22	6.1	.73	.00
5	.00	.00	42	.38	70	75	71	48	23	5.8	.64	.00
6	.00	.00	56	.44	69	75	70	47	22	5.5	.57	.00
7	.00	.00	59	.41	69	76	68	46	20	5.4	.41	.00
8	.00	.00	49	.37	69	76	68	45	18	5.2	.21	.00
9	.00	.00	50	.33	71	76	67	43	18	4.9	.29	.00
10	.00	.00	64	.29	74	75	64	40	17	4.7	.26	.00
11	.00	.00	71	.22	76	76	61	36	17	4.7	.01	.00
12	.00	.00	76	.23	78	75	60	38	17	4.5	.00	.00
13	.00	1.0	75	.25	77	74	59	37	18	4.4	.00	.00
14	.00	3.1	75	18	77	74	60	36	20	4.0	.00	.00
15	.00	2.7	75	58	78	74	63	35	19	3.8	.00	.00
16	.00	2.2	74	59	81	74	66	34	17	3.5	.00	.00
17	.00	54	76	59	81	74	68	31	16	3.6	.00	.00
18	.00	74	70	61	79	75	69	30	14	3.5	.00	.00
19	.00	42	65	66	73	76	74	32	12	3.2	.00	.00
20	.00	37	59	67	72	75	72	30	12	3.2	.00	.00
21	.00	37	57	65	72	74	72	28	11	2.0	.00	.00
22	.00	70	55	64	73	73	73	27	11	1.9	.00	.00
23	.00	74	62	61	74	74	73	29	10	2.4	.00	.00
24	.00	70	58	58	61	75	70	30	10	2.6	.00	.00
25	.00	57	54	44	74	75	65	27	8.8	1.9	.00	.00
26	.00	43	59	1.6	74	76	64	26	7.7	1.6	.00	.00
27	.00	33	77	.55	74	75	64	25	7.4	1.5	.00	.00
28	.00	28	69	.43	73	75	63	24	7.4	1.5	.00	.00
29	.09	28	58	26	---	74	61	22	7.1	1.3	.00	.00
30	.05	25	50	72	---	74	59	22	7.4	1.1	.00	.00
31	.00	---	22	72	---	74	---	21	---	1.1	.00	---
TOTAL	0.24	681.00	1735	861.82	2053	2309	2013	1098	449.8	115.8	5.78	0.00
MEAN	.008	22.7	56.0	27.8	73.3	74.5	67.1	35.4	15.0	3.74	.19	.000
MAX	.10	74	77	72	81	76	74	56	23	7.5	.98	.00
MIN	.00	.00	17	.22	61	72	59	21	7.1	1.1	.00	.00
AC-FT	.5	1350	3440	1710	4070	4580	3990	2180	892	230	11	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

MEAN	1.99	5.33	10.7	19.3	35.9	52.0	57.1	40.9	21.6	7.63	2.21	1.03
MAX	6.53	22.7	56.0	53.5	73.3	74.5	77.2	76.3	76.4	37.4	12.1	4.50
(WY)	1990	1997	1997	1993	1997	1997	1993	1993	1995	1995	1995	1995
MIN	.000	.000	1.07	3.01	2.87	25.3	29.1	14.1	3.80	.032	.000	.000
(WY)	1989	1996	1991	1991	1991	1991	1994	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	13181.92	11322.44	
ANNUAL MEAN	36.0	31.0	21.2
HIGHEST ANNUAL MEAN			39.0
LOWEST ANNUAL MEAN			10.3
HIGHEST DAILY MEAN	80	81	86
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	26150	22460	15350
10 PERCENT EXCEEDS	75	74	72
50 PERCENT EXCEEDS	26	20	7.3
90 PERCENT EXCEEDS	.00	.00	.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 mi².

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 ft³/s from North Fork Willow Creek through Soquel Ditch into Nelder Creek (Fresno River Basin) from October through July each year. 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, 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, 44,839 acre-ft, June 18, 19, elevation, 3,375.89 ft; minimum, 27,823 acre-ft, Nov. 16, elevation, 3,359.68 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34714	31807	29711	37128	34642	33836	34000	40409	44279	43232	40037	38185
2	34714	31542	29522	38728	34600	33816	34042	40745	44244	43208	39775	38196
3	34703	31268	29324	36629	34528	33816	34135	41083	44196	43255	39536	38185
4	34693	30996	29154	35568	34528	33805	34248	41400	44161	43290	39275	38055
5	34682	30725	29607	35155	34476	33805	34341	41743	44172	43325	39012	37782
6	34651	30465	29758	34798	34445	33785	34434	42078	44161	43348	38750	37488
7	34642	30206	29758	34559	34393	33795	34517	42447	44101	43383	38489	37193
8	34642	29920	29683	34403	34362	33785	34590	42824	44042	43419	38337	36923
9	34620	29664	29834	34289	34331	33816	34663	43045	43971	43442	38326	36631
10	34620	29389	31590	34207	34300	33816	34725	43197	43995	43465	38326	36350
11	34610	29126	32600	34114	34155	33826	34777	43348	44101	43477	38315	36059
12	34599	28854	33122	34104	34083	33846	34819	43489	44196	43500	38315	35770
13	34578	28593	33427	34052	34042	33846	34861	43629	44303	43524	38315	35503
14	34568	28324	33570	34021	34021	33846	34902	43758	44434	43559	38360	35207
15	34558	28065	33652	34176	34021	33857	34976	43876	44553	43571	38360	34923
16	34547	27823	33734	34155	34021	33857	35039	43971	44660	43500	38338	34651
17	34526	28547	33723	34145	34000	33867	35123	44089	44756	43325	38327	34351
18	34526	28714	33713	34114	34000	33877	35229	44184	44839	43138	38316	34083
19	34526	28631	33693	34093	33990	33867	35600	44256	44839	42952	38305	33805
20	34526	28491	33652	34445	33959	33887	36037	44279	44720	42766	38305	33530
21	34361	29295	33857	34455	33949	33898	36467	44256	44589	42593	38294	33265
22	34083	30455	34062	35134	33939	33887	36922	44267	44470	42368	38283	32970
23	33805	30638	33939	35282	33898	33908	37345	44339	44339	42134	38273	32810
24	33606	30657	33836	34913	33908	33928	37747	44374	44208	41922	38262	32700
25	33407	30609	33754	35995	33877	33939	38130	44410	44089	41699	38251	32510
26	33173	30494	33887	36241	33867	33959	38522	44422	43947	41488	38247	32281
27	32670	30369	34207	35451	33887	33959	38936	44434	43805	41258	38240	32013
28	32580	30197	34062	35039	33846	33970	39340	44410	43653	41028	38218	31767
29	32520	30034	34155	34829	---	33949	39710	44374	43524	40789	38218	31503
30	32350	29872	34965	34767	---	33939	40069	44351	43372	40539	38207	31229
31	32073	---	34694	34704	---	33939	---	44327	---	40288	38207	---
MAX	34714	31807	34965	38728	34642	33970	40069	44434	44839	43571	40037	38196
MIN	32073	27823	29154	34021	33846	33785	34000	40409	43372	40288	38207	31229
a	3364.14	3361.87	3366.72	3363.73	3365.90	3365.99	3371.70	3375.47	3374.62	3371.90	3369.99	3363.28
b	-2661	-2201	+4822	+10	-858	+93	+6130	+4258	-955	-3084	-2081	-6978

CAL YR 1996 b +11907

WTR YR 1997 b -3505

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.—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 (station 11244100), and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverts to Powerplants No. 2 and No. 1A (stations 11246570 and 11246590), before it enters San Joaquin River at Kerckhoff Reservoir through San Joaquin Powerplant No. 1 (station 11246610). 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 ft³/s, June 23, 24, 1965; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	147	145	151	127	136	133	1.1	107	95	149	.94
2	.34	147	145	115	126	137	127	1.1	108	29	149	.93
3	.30	147	145	.83	125	134	131	1.1	108	.58	149	.87
4	.39	147	145	.60	125	133	132	1.1	109	.57	150	86
5	.39	147	145	.32	125	136	134	1.1	109	.56	150	147
6	.41	147	145	.61	125	136	135	1.1	109	.54	151	145
7	.43	147	145	.42	126	136	135	1.1	109	.51	152	145
8	.44	147	145	.47	125	136	136	1.1	110	1.5	77	145
9	.45	147	145	92	125	136	136	87	110	2.4	.05	144
10	.43	146	146	142	126	136	136	115	45	2.4	.01	144
11	.47	146	147	142	126	136	136	114	.98	1.5	.00	144
12	.47	146	147	140	127	136	136	113	1.4	.42	.00	143
13	.47	145	148	140	128	135	136	112	1.4	.43	.00	143
14	.53	145	148	139	128	135	137	112	1.4	.43	.00	143
15	.47	145	148	139	129	135	137	112	1.4	.43	.00	142
16	.40	145	148	138	129	134	137	112	1.4	57	.00	144
17	.14	145	148	137	130	134	137	96	1.4	106	.00	145
18	.35	144	148	136	131	134	137	91	1.4	106	2.9	146
19	.43	146	149	135	132	134	55	104	54	105	.04	146
20	.37	146	149	135	133	134	1.1	123	103	105	.49	147
21	72	146	149	134	134	133	1.1	130	99	105	3.3	148
22	141	140	126	133	135	133	1.1	107	95	132	3.0	149
23	139	146	146	133	136	133	1.1	92	92	147	1.7	73
24	137	146	149	132	124	132	1.1	92	91	147	1.4	63
25	134	146	149	132	144	132	1.1	93	92	147	1.2	99
26	132	146	149	132	137	133	1.1	94	92	147	1.1	131
27	140	146	149	130	138	133	1.1	94	93	147	1.1	145
28	148	145	149	129	136	133	1.1	100	94	147	1.0	142
29	148	145	149	129	---	133	1.1	105	94	148	.97	142
30	147	145	150	128	---	133	1.1	105	95	148	.94	142
31	147	---	150	127	---	133	---	106	---	148	.94	---
TOTAL	1493.02	4373	4546	3323.25	3632	4164	2495.1	2417.8	2128.78	2178.27	1147.14	3635.74
MEAN	48.2	146	147	107	130	134	83.2	78.0	71.0	70.3	37.0	121
MAX	148	147	150	151	144	137	137	130	110	148	152	149
MIN	.14	140	126	.32	124	132	1.1	1.1	.98	.42	.00	.87
AC-FT	2960	8670	9020	6590	7200	8260	4950	4800	4220	4320	2280	7210
a	2550	8270	8380	6460	7440	7550	4510	3810	3380	3580	1850	6420
b	1210	8660	9220	6930	8160	9180	5270	4360	3970	4010	2020	6860
c	3140	9890	10610	6960	9520	10350	6020	5490	5250	5040	2620	8550
d	3120	9450	11700	319	0	0	1030	4280	4530	4430	2220	7280

a Discharge, in acre-feet, to San Joaquin Powerplant No. 3, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to San Joaquin Powerplant No. 2, provided by Pacific Gas & Electric Co.

c Discharge, in acre-feet, to San Joaquin Powerplant No. 1A, provided by Pacific Gas & Electric Co.

d Discharge, in acre-feet, to San Joaquin Powerplant No. 1, provided by Pacific Gas & Electric Co.

11243500 PACIFIC GAS & ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.5	43.9	57.7	61.9	71.1	76.0	64.6	60.8	60.6	83.3	102	86.9
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	.23
(WY)	1988	1968	1954	1954	1977	1947	1947	1977	1942	1977	1977	1996

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1941 - 1997			
ANNUAL TOTAL	34386.12				35534.10							
ANNUAL MEAN	94.0				97.4				69.4			
HIGHEST ANNUAL MEAN									128			
LOWEST ANNUAL MEAN									14.4			
HIGHEST DAILY MEAN	160 Jun 21				152 Aug 7				167 Jun 23 1965			
LOWEST DAILY MEAN	.00 Jun 19				.00 Aug 11				.00 Nov 6 1940			
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 6				.00 Aug 11				.00 Feb 8 1941			
ANNUAL RUNOFF (AC-FT)	68200				70480				50280			
TOTAL DIVERSION (AC-FT) a	62400				64200							
TOTAL DIVERSION (AC-FT) b	68030				69840							
TOTAL DIVERSION (AC-FT) c	83200				83440							
TOTAL DIVERSION (AC-FT) d	87640				48350							
10 PERCENT EXCEEDS	153				147				151			
50 PERCENT EXCEEDS	129				132				67			
90 PERCENT EXCEEDS	.09				.48				.03			

a Discharge, in acre-feet, to San Joaquin Powerplant No. 3, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to San Joaquin Powerplant No. 2, provided by Pacific Gas & Electric Co.

c Discharge, in acre-feet, to San Joaquin Powerplant No. 1A, provided by Pacific Gas & Electric Co.

d Discharge, in acre-feet, to San Joaquin Powerplant No. 1, provided by Pacific Gas & Electric Co.

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 mi².

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.—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 ft³/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 discharge, 3,770 ft³/s, Jan. 2, 1997, gage height, 9.10 ft; minimum daily, 0.01 ft³/s, Dec. 4, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.5	4.5	863	235	70	58	6.1	1.7	1.2	1.1	1.1
2	4.5	4.5	4.5	2880	219	67	15	6.1	1.7	1.2	1.1	1.2
3	4.6	4.5	4.5	2560	203	66	5.0	5.7	1.7	1.1	1.1	1.2
4	5.0	4.5	4.5	1190	189	65	5.0	5.7	1.6	1.1	1.0	1.1
5	5.0	4.5	6.3	747	179	61	4.9	5.3	1.6	1.1	1.0	1.1
6	5.2	4.5	5.1	540	167	59	5.0	4.7	1.5	1.1	1.0	1.1
7	5.5	4.5	4.5	431	154	58	5.0	4.4	1.5	1.1	1.0	1.1
8	5.5	4.5	4.5	367	145	58	5.0	4.2	1.5	1.1	1.1	1.1
9	5.5	4.5	4.9	228	136	59	5.0	4.4	1.6	1.1	1.2	1.1
10	5.5	4.5	14	143	139	61	5.0	4.2	1.5	1.1	1.2	1.1
11	5.5	5.0	8.3	117	175	64	5.0	3.8	1.3	1.1	1.2	1.1
12	5.5	5.0	5.9	100	150	67	5.0	2.5	1.4	1.1	1.2	1.1
13	5.1	5.0	5.2	95	128	68	5.0	1.7	1.4	1.1	1.2	1.1
14	5.0	5.0	5.8	77	115	68	5.0	1.7	1.4	1.1	1.2	1.1
15	5.0	5.0	8.3	95	107	69	5.0	1.6	1.5	1.1	1.2	1.1
16	5.0	5.0	11	107	103	70	4.7	1.5	1.5	1.1	1.2	1.0
17	5.0	7.4	13	102	103	72	4.5	1.5	1.5	1.1	1.2	1.0
18	5.0	5.0	13	95	100	71	4.5	1.3	1.6	1.1	1.2	1.0
19	5.0	4.5	11	91	93	72	4.8	1.3	1.6	1.1	1.2	1.0
20	5.0	4.5	8.6	143	88	74	5.0	1.2	1.6	1.1	1.2	1.0
21	4.7	6.7	9.2	181	83	76	5.2	1.3	1.6	1.1	1.2	1.0
22	4.5	10	88	256	80	76	5.5	1.3	1.5	1.0	1.2	.99
23	4.5	5.5	97	568	78	77	5.9	1.3	1.5	1.0	1.2	.94
24	4.7	4.7	63	412	71	82	6.1	1.3	1.5	.98	1.2	.94
25	5.0	4.5	38	670	69	87	5.9	1.3	1.4	.93	1.2	.98
26	5.0	4.5	29	1050	72	90	5.6	1.3	1.3	.90	1.2	.97
27	5.5	4.5	141	789	72	92	5.7	1.3	1.3	.88	1.2	.97
28	5.3	4.5	138	465	73	94	6.1	1.4	1.2	.86	1.2	.96
29	4.8	4.5	108	334	---	93	6.1	1.5	1.3	.82	1.1	.96
30	4.8	4.5	367	289	---	90	6.1	1.6	1.2	.81	1.1	.94
31	4.5	---	454	258	---	90	---	1.7	---	.94	1.1	---
TOTAL	155.2	150.3	1679.6	16243	3526	2266	219.6	84.2	44.5	32.42	35.7	31.35
MEAN	5.01	5.01	54.2	524	126	73.1	7.32	2.72	1.48	1.05	1.15	1.04
MAX	5.5	10	454	2880	235	94	58	6.1	1.7	1.2	1.2	1.2
MIN	4.5	4.5	4.5	77	69	58	4.5	1.2	1.2	.81	1.0	.94
AC-FT	308	298	3330	32220	6990	4490	436	167	88	64	71	62

11244000 NORTH FORK WILLOW CREEK NEAR BASS LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.08	4.06	7.58	25.4	29.4	37.5	21.0	31.3	21.0	4.50	4.02	4.13
MAX	77.8	54.6	106	524	380	387	272	317	217	73.6	66.4	103
(WY)	1949	1958	1947	1997	1986	1995	1982	1995	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1941 - 1997			
ANNUAL TOTAL	10392.5				24467.87							
ANNUAL MEAN	28.4				67.0				16.0			
HIGHEST ANNUAL MEAN									92.4			
LOWEST ANNUAL MEAN									.26			
HIGHEST DAILY MEAN	454				2880				2880			
LOWEST DAILY MEAN	3.2				.81				.01			
ANNUAL SEVEN-DAY MINIMUM	3.4				.88				.11			
INSTANTANEOUS PEAK FLOW					3770				3770			
INSTANTANEOUS PEAK STAGE					9.10				9.10			
ANNUAL RUNOFF (AC-FT)	20610				48530				11600			
10 PERCENT EXCEEDS	84				138				26			
50 PERCENT EXCEEDS	5.0				4.7				.80			
90 PERCENT EXCEEDS	3.8				1.1				.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 mi².

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.—Flow regulated by Bass Lake (station 11243400) 10 mi upstream. Soquel Ditch diverts up to 50 ft³/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 ft³/s, Dec. 23, 1955, gage height, 28.5 ft, from floodmarks, from rating curve extended above 4,700 ft³/s; maximum gage height, 31.65 ft, Jan. 2, 1997 (backwater from San Joaquin River); no flow at times some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	11	54	1440	e680	179	e170	28	12	5.9	1.8	.75
2	6.4	7.1	55	e4200	e635	174	e105	27	11	5.5	1.6	.68
3	7.1	9.0	50	e3100	e590	170	e90	27	10	5.1	1.5	.79
4	4.1	7.6	48	e1500	516	167	e83	e27	11	4.7	1.4	1.3
5	1.7	7.3	475	e1050	488	e161	e85	e26	12	4.4	1.3	1.2
6	1.2	6.7	589	e800	453	e180	e79	e26	15	4.1	1.1	5.3
7	.99	5.3	194	e605	425	e154	e70	e26	11	4.0	.98	3.6
8	.85	4.4	114	e545	404	154	e68	e26	10	3.9	.88	1.5
9	.78	12	116	e502	379	160	e67	e34	9.6	3.7	.79	.80
10	.64	26	1320	e450	345	169	e65	36	9.1	3.6	.73	.61
11	.64	26	1910	e382	388	180	e63	33	8.9	3.5	.81	.51
12	.64	26	662	e375	363	182	e63	31	8.4	3.4	1.0	.42
13	.64	25	277	e360	324	181	e61	30	9.6	3.4	1.2	.42
14	.64	26	131	e355	303	177	e55	e25	11	3.2	1.1	.46
15	.82	26	73	e350	297	179	e53	e18	11	3.0	.85	.49
16	.87	25	51	e355	296	186	e60	e18	9.6	2.8	.76	.49
17	.92	461	38	e330	296	179	e48	e24	8.6	2.8	.73	.49
18	.92	609	29	e310	281	177	e60	38	7.8	2.9	1.3	.49
19	.92	103	24	e300	271	179	e56	e29	7.1	2.9	3.2	.49
20	.97	63	22	e500	291	186	50	e19	6.6	2.7	5.3	.66
21	1.1	72	22	e550	269	187	40	15	6.3	2.5	3.9	1.5
22	3.2	1700	199	e760	250	180	e47	15	6.1	2.3	3.8	1.1
23	3.6	597	124	e1850	235	192	e57	14	5.9	2.4	3.8	.71
24	2.2	191	51	e1100	221	202	39	15	5.9	2.7	3.9	.95
25	3.6	109	30	e2900	190	203	34	14	5.7	2.6	5.0	1.1
26	6.7	86	22	e3400	200	204	31	13	5.4	2.5	4.3	.75
27	5.3	72	289	e2050	199	203	30	13	5.1	2.3	4.0	.65
28	3.7	65	130	e1500	193	199	29	12	4.9	2.1	3.8	.86
29	3.6	61	76	e900	---	191	29	12	12	2.1	3.5	.89
30	16	56	741	e800	---	182	28	11	7.1	2.0	1.8	.80
31	20	---	479	e730	---	181	---	11	---	1.8	.99	---
TOTAL	106.84	4495.4	8395	34349	9782	5598	1815	693	263.7	100.8	67.12	30.76
MEAN	3.45	150	271	1108	349	181	60.5	22.4	8.79	3.25	2.17	1.03
MAX	20	1700	1910	4200	680	204	170	38	15	5.9	5.3	5.3
MIN	.64	4.4	22	300	190	154	28	11	4.9	1.8	.73	.42
AC-FT	212	8920	16650	68130	19400	11100	3600	1370	523	200	133	61

e Estimated.

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.46	17.0	59.0	128	134	151	143	151	53.3	8.87	2.36	2.65
MAX	24.6	150	652	1108	1255	1033	995	747	504	88.8	12.6	28.3
(WY)	1983	1997	1956	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1952 - 1997			
ANNUAL TOTAL	41278.11				65696.62							
ANNUAL MEAN	113				180				69.3			
HIGHEST ANNUAL MEAN									344			
LOWEST ANNUAL MEAN									1.71			
HIGHEST DAILY MEAN	1910				4200				7500			
LOWEST DAILY MEAN	.36				.42				.00			
ANNUAL SEVEN-DAY MINIMUM	.46				.47				.00			
INSTANTANEOUS PEAK FLOW					unknown				15700			
INSTANTANEOUS PEAK STAGE					a 31.65				a 31.65			
ANNUAL RUNOFF (AC-FT)	81880				130300				50210			
10 PERCENT EXCEEDS	281				467				173			
50 PERCENT EXCEEDS	25				25				8.2			
90 PERCENT EXCEEDS	.89				.89				.30			

a Backwater from San Joaquin River.

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 mi².

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, 5,700 acre-ft, Jan. 2, 1997, elevation, unknown; minimum, 2,104 acre-ft, Nov. 14–17, 1988, elevation, 970.10 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 5,700 acre-ft, Jan. 2, elevation, unknown; minimum, 2,614 acre-ft, Jan. 14, elevation, 974.30 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3845	3906	3664	4446	3953	3780	3815	3784	4172	3845	3906	3953
2	3922	3953	3906	e5700	3680	3770	3800	3769	4172	4015	3937	3968
3	3830	3922	3800	3694	3664	4046	3830	3984	3760	3925	4015	3968
4	3937	3956	3769	3830	3444	4156	3815	3830	4182	3970	3830	3953
5	3724	3590	3724	3953	3620	3784	3769	4180	3953	3910	3830	3984
6	3906	3532	3815	4156	3459	3830	3800	3990	3488	3940	3891	3860
7	3960	3679	3992	4150	3459	3984	3906	4020	3532	4062	3891	3984
8	3740	3922	4030	4150	3679	3984	3992	3953	3532	3754	3906	4046
9	3750	3906	3845	4172	3953	3830	3984	4077	3459	3739	3992	3500
10	3860	3650	3754	4140	4030	3784	3800	4170	3620	3984	3992	3830
11	3906	3815	3444	4156	3910	3770	3968	4178	3644	3937	3709	3620
12	4015	4062	3724	4156	3815	3876	3992	4188	3459	3984	3784	3922
13	4015	3561	3664	2782	3876	3860	3760	4172	3679	3937	3984	4030
14	4046	3754	3845	2614	3906	3830	3845	4172	3679	3876	3960	3992
15	3876	3605	3937	3532	3984	3784	3800	4172	3830	3830	3968	3576
16	3953	3650	3815	3830	3953	3769	3891	4172	3680	3620	3953	3754
17	3953	4109	3935	3784	3953	3830	4015	4172	3605	3725	3876	3860
18	3922	4172	3740	3845	3815	3845	3784	4172	3679	3769	3815	3876
19	3784	4188	3906	3830	3830	3754	4140	3891	3724	3876	3845	3724
20	3739	4015	3401	4156	3754	3830	3784	4062	3815	3906	3922	3784
21	3953	3502	3546	3620	4046	3784	3937	3830	3845	3906	3984	3694
22	3937	4172	3532	4140	3937	3906	3922	3895	3590	3650	3517	3800
23	3953	4172	3444	4093	3984	3830	3860	3984	3546	3845	3517	3694
24	3937	3876	3488	4093	3644	3770	3845	3845	3532	3937	3679	3605
25	3830	4093	3387	4140	3784	3920	3860	3953	3830	3876	3754	3625
26	3850	4172	3401	4140	3769	3910	3937	3815	3620	3754	3590	3920
27	3873	3860	3430	4140	3220	3800	3358	3830	3664	3769	3860	3488
28	3984	4093	3387	4140	3765	3845	3473	3860	3650	3880	3724	3784
29	3968	3473	3430	4140	---	3876	3387	3860	3694	3937	3815	3769
30	3922	3644	3740	3679	---	3830	3769	4172	3664	3644	3532	3922
31	3953	---	3430	3709	---	3830	---	4172	---	3906	3576	---
MAX	4046	4188	4030	5700	4046	4156	4140	4188	4182	4062	4015	4046
MIN	3724	3473	3387	2614	3220	3754	3358	3769	3459	3620	3517	3488
a	983.80	981.70	980.30	982.20	982.57	983.00	982.60	985.20	981.90	983.50	981.30	983.60
b	+274	-309	-214	+279	+56	+65	-61	+403	-508	+242	-330	+346

CAL YR 1996 b -264

WTR YR 1997 b +243

c Estimated.

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 mi².

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.—Flow regulated by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. Diversions to Kerckhoff Powerplant No. 1 and Kerckhoff Powerplant No. 2 (stations 11246950 and 11247050) bypass this station. 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, 80,600 ft³/s, Jan. 3, 1997, gage height, 35.62 ft; minimum daily, 16 ft³/s, May 9-18, 1987, Sept. 29, 30, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	31	e30	e100	e30	e30	e28	e30	e1470	e30	41	22
2	31	31	e30	e24000	e30	e30	e28	e30	e1470	e29	41	23
3	31	31	e30	e35200	e900	e30	e28	e30	e124	e29	42	23
4	31	32	e31	e12300	e38	e29	e28	e30	e321	e29	42	23
5	31	e29	e31	e870	e30	e29	e28	e30	e664	e29	42	23
6	31	e29	e31	e300	e31	e29	e28	e30	e328	e29	42	23
7	32	e29	e33	e30	e31	e29	e28	e30	e30	e29	42	23
8	32	e29	e33	e30	e31	e30	e28	e30	e29	e29	42	23
9	31	e29	e33	e30	e31	e30	e28	e30	e79	e30	42	24
10	32	e29	e33	e30	e30	e30	e28	e30	e341	e30	43	24
11	32	e29	e33	e30	e30	e31	e28	e30	e29	e30	43	25
12	32	e29	e33	e30	e30	e31	e28	e30	e29	e30	40	25
13	32	e29	e33	e33	e29	e31	e28	e30	e29	e30	43	26
14	32	e30	e32	e33	e29	e31	e28	e1200	e29	e30	43	26
15	32	e30	e32	e33	e29	e32	e28	e1640	e29	e29	43	26
16	32	e30	e32	e31	e29	e32	e28	e1810	e30	e29	71	25
17	32	e30	e32	e31	e29	e32	e28	e1760	e30	e29	22	25
18	32	e30	e31	e31	e29	e30	e28	e1530	e30	e29	22	26
19	32	e30	e31	e31	e29	e29	e28	e1790	e30	e29	22	26
20	31	e30	e31	e30	e30	e29	e28	e862	e30	e30	22	26
21	31	e30	e31	e170	e29	e29	e28	e30	e30	e30	22	26
22	32	e30	e30	e190	e29	e28	e28	e30	e30	e30	22	26
23	32	e30	e30	e2110	e29	e28	e28	e30	e30	e31	22	26
24	32	e30	e30	e45	e29	e28	e28	e30	e30	e30	22	25
25	32	e30	e30	e2670	e29	e28	e28	e30	e30	31	22	25
26	31	e30	e30	e729	e28	e28	e28	e30	e30	30	22	26
27	32	e30	e34	e409	e28	e28	e28	e30	e30	31	22	26
28	31	e30	e34	e85	e28	e28	e28	e358	e30	30	22	25
29	33	e30	e34	e30	---	e28	e150	e657	e30	30	22	25
30	32	e30	e34	e30	---	e28	e30	e502	e30	30	22	25
31	32	---	e35	e30	---	e28	---	e1300	---	37	22	---
TOTAL	982	896	987	79701	1704	913	964	14009	5451	928	1032	742
MEAN	31.7	29.9	31.8	2571	60.9	29.5	32.1	452	182	29.9	33.3	24.7
MAX	33	32	35	35200	900	32	150	1810	1470	37	71	26
MIN	31	29	30	30	28	28	28	30	29	29	22	22
AC-FT	1950	1780	1960	158100	3380	1810	1910	27790	10810	1840	2050	1470
a	0	42110	12280	45230	22790	8180	9110	81320	67410	758	3530	0
b	38150	33380	180600	240300	134900	227500	224300	266100	204600	131000	118700	131400

e Estimated.

a Discharge, in acre-feet, to Kerckhoff Powerplant No. 1, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Kerckhoff Powerplant No. 2, provided by Pacific Gas & Electric Co.

SAN JOAQUIN RIVER BASIN

11246700 SAN JOAQUIN RIVER NEAR AUBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.2	29.0	30.2	31.3	40.7	109	74.7	561	729	524	36.8	30.4
MAX	36.3	39.6	43.1	2571	144	881	534	2683	5452	5217	89.3	45.6
(WY)	1995	1996	1991	1997	1996	1995	1995	1995	1995	1995	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1987 - 1997			
ANNUAL TOTAL	62766				108309							
ANNUAL MEAN	171				297				210			
HIGHEST ANNUAL MEAN									1263			
LOWEST ANNUAL MEAN									18.2			
HIGHEST DAILY MEAN	16000				May 16				35200			
LOWEST DAILY MEAN	28				May 24				16			
ANNUAL SEVEN-DAY MINIMUM	28				May 24				16			
INSTANTANEOUS PEAK FLOW									80600			
INSTANTANEOUS PEAK STAGE									35.62			
ANNUAL RUNOFF (AC-FT)	124500				214800				152200			
TOTAL DIVERSION (AC-FT) a	239700				292700				135700			
TOTAL DIVERSION (AC-FT) b	1846000				1931000				1258000			
10 PERCENT EXCEEDS	41				44				41			
50 PERCENT EXCEEDS	32				30				30			
90 PERCENT EXCEEDS	30				26				18			

a Discharge, in acre-feet, to Kerckhoff Powerplant No. 1, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Kerckhoff Powerplant No. 2, provided by Pacific Gas & Electric Co.

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 megawatt meter reading, efficiency of the generator coefficient, and net head on the turbines. 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.—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 ft³/s, July 2, 3, 1973, and May 21, 1983; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	.00	.00	600	.00	800	712	693	982	900	607	650
2	220	.00	.00	600	.00	800	759	675	1030	900	570	650
3	230	.00	.00	596	.00	800	770	659	1040	900	534	624
4	259	.00	.00	598	.00	800	789	650	1040	919	551	610
5	293	.00	.00	592	.00	800	800	682	1040	898	588	610
6	300	.00	.00	588	.00	800	800	700	975	880	600	597
7	300	.00	.00	657	.00	800	800	732	940	919	600	564
8	300	.00	.00	700	.00	800	768	750	914	940	600	550
9	300	.00	.00	700	.00	800	750	766	900	940	632	569
10	300	.00	.00	763	.00	800	734	791	932	940	650	580
11	300	.00	.00	800	.00	832	693	800	969	940	634	554
12	261	.00	.00	800	.00	866	675	768	980	940	625	540
13	213	.00	.00	800	.00	891	675	795	980	940	625	527
14	200	.00	.00	800	.00	900	738	820	980	992	625	520
15	117	.00	.00	800	.00	900	807	896	896	1020	625	520
16	.00	.00	.00	800	.00	900	825	930	934	1020	625	649
17	.00	.00	.00	800	300	900	825	930	1080	1020	625	675
18	.00	.00	.00	800	629	932	825	943	1140	1020	625	650
19	.00	.00	.00	800	700	950	809	924	1130	994	602	637
20	.00	.00	.00	800	765	950	690	910	1120	980	552	630
21	.00	.00	.00	800	800	950	630	929	1090	980	535	578
22	.00	.00	.00	800	800	905	643	928	1070	980	551	550
23	.00	.00	.00	333	800	854	682	920	1070	993	560	550
24	.00	.00	.00	.00	800	840	700	901	1040	968	560	615
25	.00	.00	.00	.00	800	814	700	836	1020	937	560	650
26	.00	.00	.00	.00	800	800	700	800	1000	911	541	618
27	.00	.00	.00	.00	800	800	700	800	964	887	555	503
28	.00	.00	.00	.00	800	735	700	819	918	823	652	353
29	.00	.00	.00	.00	---	674	765	862	900	739	699	300
30	.00	.00	575	.00	---	634	752	899	900	698	710	316
31	.00	---	600	.00	---	646	---	936	---	641	671	---
TOTAL	3830.00	0.00	1175.00	16327.00	8794.00	25673	22216	25444	29974	28559	18689	16939
MEAN	124	.000	37.9	527	314	828	741	821	999	921	603	565
MAX	300	.00	600	800	800	950	825	943	1140	1020	710	675
MIN	.00	.00	.00	.00	.00	634	630	650	896	641	534	300
AC-FT	7600	.00	2330	32380	17440	50920	44070	50470	59450	56650	37070	33600

11249500 MADERA CANAL AT FRIANT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	110	14.9	1.81	29.9	111	316	352	499	794	977	730	347
MAX	599	143	49.0	527	659	1094	1258	1261	1277	1293	1234	1153
(WY)	1984	1987	1970	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1949 - 1997			
ANNUAL TOTAL	171438.00				197620.00							
ANNUAL MEAN	468				541				358			
HIGHEST ANNUAL MEAN									736			
LOWEST ANNUAL MEAN									43.8			
HIGHEST DAILY MEAN	1220				1140				1330			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
ANNUAL RUNOFF (AC-FT)	340000				392000				259600			
10 PERCENT EXCEEDS	969				941				1070			
50 PERCENT EXCEEDS	567				650				112			
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.—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 ft³/s, June 25, 1982; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	228	.00	.00	371	500	2280	1710	2690	3810	3050	1540
2	1310	177	.00	342	146	500	2240	1620	3390	3860	2600	1600
3	1400	178	.00	1990	.00	675	2170	1400	4570	3930	2660	1630
4	1280	221	.00	1230	.00	917	2130	1500	4970	3580	2890	1650
5	1020	310	.00	1060	.00	1090	2150	1790	4810	3380	3360	1640
6	1050	355	.00	1110	.00	1150	2210	1910	4130	3510	3440	1640
7	1200	354	.00	1260	.00	1400	2520	1950	3120	3790	3310	1630
8	1250	353	.00	1330	.00	1430	2540	1950	3070	4160	3120	1750
9	1400	323	.00	1310	.00	1450	2620	1900	3280	4280	2940	1890
10	1370	272	.00	1260	.00	1450	2700	1690	3500	4350	2900	2000
11	1230	252	.00	1210	.00	1630	2630	1750	3710	4200	2780	2010
12	1000	310	.00	1140	.00	1750	2500	1980	3720	3760	2640	1870
13	1090	353	.00	1090	.00	1810	2630	2190	3520	3890	2550	1690
14	1150	323	.00	1110	.00	1850	3050	2340	3400	4140	2550	1770
15	1150	272	.00	1310	.00	1790	3310	2290	3600	4380	2480	1890
16	1150	253	.00	1410	.00	1840	3350	1950	3750	4410	2190	2040
17	1130	255	.00	1390	.00	2060	3270	1790	3940	4220	2090	2200
18	1030	156	366	1340	.00	2250	3120	1810	4100	3780	2570	2210
19	950	.00	173	1130	.00	2410	2880	2060	4020	3290	2810	2030
20	950	.00	.00	1030	.00	2400	2920	2440	3820	3370	2900	1680
21	950	.00	.00	971	.00	2240	3000	2730	3700	3560	2720	1640
22	975	.00	.00	921	.00	2100	3000	2940	3810	3790	2500	1880
23	1050	.00	.00	871	.00	2110	3040	2880	3990	4120	2230	2160
24	1010	.00	.00	817	.00	2180	3100	2640	4030	4080	2000	2240
25	859	.00	.00	767	.00	2340	3100	2600	3910	3630	2090	2110
26	694	.00	.00	717	.00	2390	2980	2690	3850	3250	2150	1770
27	710	.00	.00	671	.00	2350	2870	2850	3750	3370	2120	1530
28	751	.00	.00	592	229	2300	2790	3180	3540	3590	2000	1530
29	689	.00	.00	521	---	2090	2550	3190	3610	3620	1750	1720
30	450	.00	.00	467	---	1960	2140	2950	3780	3600	1450	1810
31	321	---	.00	421	---	2180	---	2730	---	3450	1380	---
TOTAL	31999	4945.00	539.00	30788.00	746.00	54592	81790	69400	113080	118150	78220	54750
MEAN	1032	165	17.4	993	26.6	1761	2726	2239	3769	3811	2523	1825
MAX	1430	355	366	1990	371	2410	3350	3190	4970	4410	3440	2240
MIN	321	.00	.00	.00	.00	500	2130	1400	2690	3250	1380	1530
AC-FT	63470	9810	1070	61070	1480	108300	162200	137700	224300	234400	155100	108600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1997, BY WATER YEAR (WY)

	MEAN	835	320	72.7	218	1257	1264	1426	1673	2673	2932	2575	1516
MAX	3085	1364	629	1349	4507	3552	4476	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	142	87.5	598	262	384	1.33	
(WY)	1950	1950	1950	1950	1950	1991	1977	1977	1977	1949	1949	1950	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1949 - 1997
ANNUAL TOTAL	757155.00	638999.00	
ANNUAL MEAN	2069	1751	1408
HIGHEST ANNUAL MEAN			2356
LOWEST ANNUAL MEAN			270
HIGHEST DAILY MEAN	5150	Jul 4	5330
LOWEST DAILY MEAN	.00	Nov 19	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 19	.00
ANNUAL RUNOFF (AC-FT)	1502000	1267000	1020000
10 PERCENT EXCEEDS	4360	3700	3560
50 PERCENT EXCEEDS	1550	1750	985
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 mi².

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. See schematic diagram of lower San Joaquin River Basin.

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, (maximum instantaneous contents, 530,500 acre-ft, at 1300 hours, Jan. 3, 1997, elevation 580.01 ft); minimum since lake first filled, 133,600 acre-ft, Apr. 11, 1969, elevation, 467.81 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 527,200 acre-ft, Jan. 3, elevation, 579.36 ft; minimum, 197,800 acre-ft, Oct. 27, elevation, 493.78 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235700	201600	283900	452000	453600	268800	277000	307900	496900	494300	330500	246700
2	234400	202400	288200	499100	452600	268600	278300	314500	502900	491100	327300	245500
3	233100	203400	292400	527200	452300	267800	279700	321200	504200	486100	326000	244500
4	231500	204200	295900	512800	450600	266900	281900	327600	505100	481700	322600	243800
5	230400	206000	301500	503700	448200	265400	284200	334400	506200	477500	317700	243100
6	228900	208300	307200	494100	445300	264400	285100	342400	508300	473000	312700	242600
7	228200	210500	309800	487300	443100	264500	284900	349900	509800	467400	308500	242000
8	227100	211700	314200	478400	437000	265000	285200	357200	511700	461300	304100	241600
9	225000	213300	319100	469700	428300	265600	285900	364500	513900	454800	299400	241700
10	222700	215100	332700	461300	416400	266100	286900	372400	516000	448400	295400	240600
11	220600	215600	349600	452400	405700	266100	287800	381100	517300	442300	291900	241700
12	219000	216100	357800	443200	394000	265200	289100	389600	515900	436800	288600	240300
13	217200	217700	362200	433600	383000	264800	290400	397300	514700	429200	285500	240300
14	215300	218700	367000	424500	371900	265200	290600	405200	513700	422200	282700	240000
15	213400	220300	371500	416100	361100	265500	290000	414000	512100	415700	280200	240500
16	211200	222200	376700	405900	350800	265800	289100	423500	511700	409900	277800	241300
17	209600	225000	380400	396700	339300	265500	288200	432700	509800	403200	275700	242000
18	207900	228600	385300	390900	328300	264900	287700	441400	508800	398100	272500	242900
19	206400	232300	391400	385600	317900	264100	289300	449800	509400	393500	269000	243700
20	204900	235300	398400	384800	307400	263800	289000	455100	510700	388100	264900	245400
21	203100	238500	405000	386800	298100	264000	289800	460100	513000	383200	261400	245000
22	201700	246800	416000	389100	291000	264700	290500	463100	515100	378600	259000	242900
23	200100	253200	425200	405000	284400	265400	291000	465400	514600	372400	257500	239600
24	198800	256700	432600	407700	279200	266300	291000	469100	513300	366500	256300	237000
25	197900	259600	439200	422700	275700	266700	290700	471400	510500	359900	254400	234100
26	197900	263000	445300	444600	273800	267000	289900	472300	508100	357100	252400	231000
27	197800	268000	454100	452200	271500	268200	289700	473500	505700	352400	250600	229200
28	198000	272300	453000	455100	269700	269400	292600	474200	503800	347700	249900	228200
29	198300	275300	447800	457100	---	271100	297600	478700	500700	342900	248500	226300
30	199400	279500	450300	456700	---	273600	301800	481900	497100	338900	248000	224100
31	200300	---	448500	455300	---	275500	---	488400	---	334300	247600	---
MAX	235700	279500	454100	527200	453600	275500	301800	488400	517300	494300	330500	246700
MIN	197800	201600	283900	384800	269700	263800	277000	307900	496900	334300	247600	224100
a	494.66	520.05	562.69	564.20	517.15	518.87	526.39	571.33	573.17	535.17	510.42	502.84
b	-36,900	+79,200	+169,000	+6,800	-185,600	+5,800	+26,300	+186,600	+8,700	-162,800	-86,700	-23,500

CAL YR 1996 b +144,300

WTR YR 1997 b - 13,100

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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.—Records good. 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 ft³/s, Dec. 11, 1937, gage height, 23.8 ft, site and datum then in use; minimum, 38 ft³/s, regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 60,300 ft³/s, Jan. 3, 1997, gage height, 22.97 ft (provided by U.S. Bureau of Reclamation); minimum, 5.5 ft³/s, Oct. 20, 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	137	72	7210	7540	3030	229	218	282	279	341	249
2	160	137	74	e7850	7570	3020	228	212	286	278	317	261
3	161	137	71	e36800	7630	3020	230	209	285	277	318	281
4	164	137	72	e23100	7750	3020	233	214	284	278	318	281
5	164	135	89	e12400	7850	3010	231	213	286	274	318	281
6	164	129	76	e9300	7740	2550	233	212	285	275	318	281
7	165	122	48	e8140	7620	1810	234	209	285	274	319	281
8	165	119	57	e8120	7610	1670	234	234	286	279	329	279
9	164	110	81	e8110	7710	1670	234	273	286	279	341	277
10	164	109	327	e8110	7810	1670	235	270	288	276	345	307
11	162	110	222	e8100	7760	1670	237	274	286	274	331	343
12	161	110	143	e8100	7760	1670	225	262	289	274	307	345
13	160	110	111	e8130	7730	1390	185	238	289	278	307	305
14	161	110	86	e8080	7680	976	150	260	288	266	304	281
15	160	110	76	8160	7530	976	147	280	289	257	303	281
16	159	111	70	7950	7020	976	166	280	287	254	303	281
17	159	120	66	7710	6790	976	221	291	286	259	303	274
18	159	105	70	7620	6730	976	225	291	287	258	315	247
19	159	85	84	7080	6270	979	226	288	286	260	336	214
20	159	84	72	6420	5740	659	156	286	289	260	336	194
21	158	77	59	5860	5360	477	110	284	288	262	337	208
22	157	73	233	5930	4650	476	141	288	288	261	336	232
23	156	48	141	5700	4620	478	219	286	284	264	334	260
24	157	50	109	6770	4270	479	220	283	281	276	334	274
25	157	74	113	7760	4040	479	215	284	279	274	334	274
26	156	73	343	7510	4040	481	214	285	280	274	334	274
27	156	72	1950	7560	4040	354	212	282	279	274	318	273
28	151	72	7140	7470	3540	228	218	282	278	274	286	274
29	140	72	8370	7410	---	227	215	285	278	274	275	272
30	139	72	7630	7450	---	229	210	285	277	315	249	271
31	137	---	7490	7560	---	229	---	283	---	368	247	---
TOTAL	4905	3010	35545	283470	182400	39855	6233	8141	8541	8525	9793	8155
MEAN	158	100	1147	9144	6514	1286	208	263	285	275	316	272
MAX	171	137	8370	36800	7850	3030	237	291	289	368	345	345
MIN	137	48	48	5700	3540	227	110	209	277	254	247	194
AC-FT	9730	5970	70500	562300	361800	79050	12360	16150	16940	16910	19420	16180

e Estimated.

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	361	265	412	783	1078	1234	1750	1923	1668	1013	604	474
MAX	1663	1623	3798	9144	7100	7705	7701	9107	9438	5322	2807	2392
(WY)	1946	1983	1983	1997	1969	1969	1983	1941	1941	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1941 - 1997			
ANNUAL TOTAL	231602				598573							
ANNUAL MEAN	633				1640				962			
HIGHEST ANNUAL MEAN									4385			
LOWEST ANNUAL MEAN									66.9			
HIGHEST DAILY MEAN	8370				Dec 29				36800			
LOWEST DAILY MEAN	39				Feb 2				11			
ANNUAL SEVEN-DAY MINIMUM	48				Feb 12				20			
INSTANTANEOUS PEAK FLOW									77200			
INSTANTANEOUS PEAK STAGE									23.80			
ANNUAL RUNOFF (AC-FT)	459400				1187000				696900			
10 PERCENT EXCEEDS	1550				7530				2890			
50 PERCENT EXCEEDS	208				279				149			
90 PERCENT EXCEEDS	66				110				51			

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 mi².

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. Some small dams for stock use upstream from station. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,420 ft³/s, Mar. 1, 1983, gage height, 5.72 ft; maximum gage height, 7.38 ft, from floodmarks, Mar. 10, 1995; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	1200	123	2.01	Jan. 20	0745	137	2.11
Dec. 22	1330	56	1.64	Jan. 26	1330	202	2.54
Jan. 2	2115	190	2.47				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.04	73	15	6.0	4.2	2.0	.66	.15	.00	.00
2	.02	.00	.04	73	14	6.0	4.2	2.0	.68	.17	.00	.00
3	.04	.00	.04	43	13	5.6	4.3	2.0	.67	.12	.00	.00
4	.03	.00	.04	11	13	5.5	4.3	1.9	.85	.10	.00	.00
5	.00	.00	.04	8.5	13	5.2	4.2	1.6	1.3	.09	.00	.00
6	.00	.00	.04	8.4	12	4.9	4.0	1.5	1.0	.11	.00	.00
7	.00	.00	.04	8.2	11	4.9	4.2	1.5	.82	.08	.00	.00
8	.00	.00	.04	7.0	11	4.9	3.8	1.4	.71	.07	.00	.00
9	.00	.00	.16	5.6	10	4.6	3.6	1.4	.66	.07	.00	.00
10	.00	.00	46	4.3	9.6	4.5	3.6	1.4	.64	.07	.00	.00
11	.00	.00	20	3.8	9.1	4.5	3.3	1.3	.60	.07	.00	.00
12	.00	.00	4.2	4.0	8.7	4.1	2.7	1.2	.56	.07	.00	.00
13	.00	.00	1.7	5.5	8.4	4.0	2.7	1.2	.56	.07	.00	.00
14	.00	.03	1.1	3.8	8.1	4.1	2.6	1.2	.61	.06	.00	.00
15	.00	.06	.87	18	8.0	4.1	1.7	1.1	.64	.06	.00	.00
16	.00	.06	.69	9.9	7.7	3.9	1.7	1.1	.59	.07	.00	.00
17	.00	.07	.63	7.3	7.6	4.0	1.7	1.1	.46	.06	.00	.00
18	.00	.06	.59	6.1	7.6	3.6	1.9	1.0	.31	.06	.00	.00
19	.00	.06	.51	5.5	6.8	3.5	2.0	.90	.29	.04	.00	.00
20	.00	.06	.46	46	6.8	3.3	2.1	.84	.24	.04	.00	.00
21	.00	.13	.46	16	6.8	3.3	2.1	.83	.20	.03	.00	.00
22	.00	.10	16	61	6.8	7.6	2.0	.88	.20	.02	.00	.00
23	.00	.06	11	98	6.7	9.7	2.0	1.0	.19	.01	.00	.00
24	.00	.06	5.0	25	6.4	4.5	2.1	1.5	.19	.00	.00	.00
25	.00	.06	3.5	24	6.3	3.2	2.3	1.2	.15	.00	.00	.00
26	.00	.06	2.7	76	6.2	2.7	2.1	1.0	.12	.00	.00	.00
27	.00	.06	2.4	51	6.4	2.6	2.0	.94	.10	.00	.00	.00
28	.00	.06	2.2	28	6.4	2.9	2.0	.85	.12	.00	.00	.00
29	e.19	.04	1.8	22	---	3.2	2.3	.79	.11	.00	.00	.00
30	e.01	.04	13	19	---	3.2	2.2	.71	.13	.00	.00	.00
31	.00	---	12	17	---	4.0	---	.65	---	.00	.00	---
TOTAL	0.29	1.07	147.29	788.9	252.4	138.1	83.9	37.99	14.36	1.69	0.00	0.00
MEAN	.009	.036	4.75	25.4	9.01	4.45	2.80	1.23	.48	.055	.000	.000
MAX	.19	.13	46	98	15	9.7	4.3	2.0	1.3	.17	.00	.00
MIN	.00	.00	.04	3.8	6.2	2.6	1.7	.65	.10	.00	.00	.00
AC-FT	.6	2.1	292	1560	501	274	166	75	28	3.4	.00	.00

e Estimated.

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.084	.34	1.43	7.48	9.69	13.6	4.87	2.41	1.01	.36	.092	.13
MAX	1.40	2.82	11.2	44.0	53.9	101	23.2	17.4	7.64	3.83	1.83	1.41
(WY)	1984	1973	1984	1969	1969	1995	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 1996 CALENDAR YEAR					FOR 1997 WATER YEAR				WATER YEARS 1967 - 1997		
ANNUAL TOTAL	849.73					1465.99						
ANNUAL MEAN	2.32					4.02				3.43		
HIGHEST ANNUAL MEAN										18.9		
LOWEST ANNUAL MEAN										.003		
HIGHEST DAILY MEAN	46					98				1070		
LOWEST DAILY MEAN	.00					.00				.00		
ANNUAL SEVEN-DAY MINIMUM	.00					.00				.00		
INSTANTANEOUS PEAK FLOW						202				3420		
INSTANTANEOUS PEAK STAGE						2.54				7.38		
ANNUAL RUNOFF (AC-FT)	1690					2910				2490		
10 PERCENT EXCEEDS	6.4					8.9				6.3		
50 PERCENT EXCEEDS	.41					.59				.07		
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 ft³/s, June 7, 1969; no flow for all or most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	126	4780	2070	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	137	4830	2030	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	142	4790	1880	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	1070	4790	1720	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	1370	4820	1610	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	627	4800	1590	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	395	4820	1580	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	660	4810	1110	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	1610	4850	909	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	2120	4810	943	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	2330	4810	783	.00	.00	.00	.00	.00	.00
12	.00	.00	137	2650	4810	520	.00	.00	.00	.00	.00	.00
13	.00	.00	510	2800	4780	507	.00	.00	.00	.00	.00	.00
14	.00	.00	370	2820	4680	416	.00	.00	.00	.00	.00	.00
15	.00	.00	248	2890	4650	249	.00	.00	.00	.00	.00	.00
16	.00	.00	136	2850	4650	302	.00	.00	.00	.00	.00	.00
17	.00	.00	120	2940	4590	349	.00	.00	.00	.00	.00	.00
18	.00	.00	104	2970	4470	300	.00	.00	.00	.00	.00	.00
19	.00	.00	82	3020	4280	294	.00	.00	.00	.00	.00	.00
20	.00	.00	64	3100	3730	52	.00	.00	.00	.00	.00	.00
21	.00	.00	51	3470	2940	219	.00	.00	.00	.00	.00	.00
22	.00	.00	39	3640	2560	107	.00	.00	.00	.00	.00	.00
23	.00	.00	28	4150	2400	46	.00	.00	.00	.00	.00	.00
24	.00	.00	22	4450	2440	16	.00	.00	.00	.00	.00	.00
25	.00	.00	45	4680	2450	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	70	4680	2230	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	99	4750	2120	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	103	4840	2050	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	107	4840	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	111	4770	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	115	4620	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	2561.00	85517	112740	19602.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	82.6	2759	4026	632	.000	.000	.000	.000	.000	.000
MAX	.00	.00	510	4840	4850	2070	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	126	2050	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	5080	169600	223600	38880	.00	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.5	156	240	390	380	569	690	831	476	195	39.7	29.0
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1948 - 1997

ANNUAL TOTAL	40129.00	220420.00		
ANNUAL MEAN	110	604	338	
HIGHEST ANNUAL MEAN			3189	1983
LOWEST ANNUAL MEAN			.000	1954
HIGHEST DAILY MEAN	3780	May 21	4850	Feb 9
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1
ANNUAL RUNOFF (AC-FT)	79600	437200	244700	
10 PERCENT EXCEEDS	138	2910	970	
50 PERCENT EXCEEDS	.00	.00	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

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.—Water years 1986–94, October 1995 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is sea level.

REMARKS.—Records good except for estimated daily discharges 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 ft³/s, Feb. 20, 1986; minimum daily, 24 ft³/s, Sept. 6, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	277	203	253	545	e354	212	117	164	219	193	111
2	110	263	e196	247	521	e376	169	111	168	192	227	113
3	88	257	184	265	504	e403	176	141	163	139	262	115
4	82	250	171	304	489	e410	161	146	135	115	268	104
5	84	234	161	320	478	e406	179	136	130	126	192	119
6	88	222	e160	364	417	371	157	163	176	129	125	134
7	105	203	155	439	389	379	171	139	175	147	130	160
8	124	192	152	478	360	372	196	125	151	145	162	185
9	135	185	142	479	326	341	174	127	168	127	184	163
10	161	184	e155	463	314	351	148	143	141	124	206	120
11	154	178	e175	438	307	345	159	145	131	136	222	91
12	141	170	e220	440	304	325	170	169	151	132	220	103
13	132	161	e289	448	304	288	172	134	177	145	192	119
14	117	162	e301	419	280	282	208	126	208	165	176	100
15	118	164	e280	406	279	309	178	128	204	169	203	104
16	103	174	e270	391	273	362	155	124	224	145	256	98
17	102	185	e252	378	278	424	159	115	218	143	306	100
18	102	226	e227	365	282	463	149	130	156	162	329	111
19	105	243	e196	367	270	449	171	135	117	168	297	100
20	111	229	160	355	e266	433	193	130	122	160	234	112
21	133	165	136	326	e263	426	186	134	134	193	175	131
22	133	190	e155	341	e283	445	160	133	117	176	151	125
23	127	215	e237	386	e296	429	144	128	113	136	143	104
24	125	237	e314	415	e294	367	127	158	111	113	165	72
25	113	239	e310	473	e292	332	124	184	124	145	181	68
26	96	229	e260	555	e306	281	100	190	132	167	171	76
27	116	234	e232	621	e339	258	100	201	129	183	121	90
28	117	232	e240	668	e346	256	110	197	138	210	92	104
29	133	219	e242	629	---	250	126	213	145	233	98	118
30	195	209	e243	591	---	241	131	203	179	254	108	137
31	257	---	e208	567	---	222	---	184	---	214	104	---
TOTAL	3828	6328	6626	13191	9605	10950	4765	4609	4601	5012	5893	3387
MEAN	123	211	214	426	343	353	159	149	153	162	190	113
MAX	257	277	314	668	545	463	212	213	224	254	329	185
MIN	82	161	136	247	263	222	100	111	111	113	92	68
AC-FT	7590	12550	13140	26160	19050	21720	9450	9140	9130	9940	11690	6720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	MEAN	162	178	146	165	260	348	260	216	220	239	259	176
MAX	255	273	237	426	501	512	419	355	339	376	411	289	
(WY)	1990	1990	1996	1997	1996	1996	1986	1987	1987	1986	1986	1986	1986
MIN	41.3	65.2	63.4	60.6	83.4	231	159	75.2	72.0	61.7	57.1	39.4	
(WY)	1993	1993	1991	1991	1991	1992	1997	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1986 - 1997

ANNUAL TOTAL	102996	78795		
ANNUAL MEAN	281	216		
HIGHEST ANNUAL MEAN			219	
LOWEST ANNUAL MEAN			289	1996
HIGHEST DAILY MEAN	692	Mar 7	810	Feb 20 1986
LOWEST DAILY MEAN	82	Oct 4	24	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	97	Oct 1	31	Dec 25 1992
INSTANTANEOUS PEAK FLOW			unknown	Feb 20 1986
INSTANTANEOUS PEAK STAGE			unknown	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	204300	156300	158600	
10 PERCENT EXCEEDS	487	382	372	
50 PERCENT EXCEEDS	261	176	204	
90 PERCENT EXCEEDS	135	111	80	

e Estimated.

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1985–94. October 1995 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: Water years 1985–88, 1993–94.

SEDIMENT DATA: Water years 1983–88, 1993–94.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Water years 1985–94. October 1995 to current year.

WATER TEMPERATURE: Water years 1985–94. October 1995 to current year.

INSTRUMENTATION.—Water-quality monitor.

REMARKS.—Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 4,330 microsiemens, Jan. 16, 1991; minimum recorded, 450 microsiemens, July 24, 1986.

WATER TEMPERATURE: Maximum recorded, 32.5°C, July 15, 1992; minimum recorded, 0.5°C, Dec. 26, 1985, Dec. 23, 1990.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 2,210 microsiemens, Feb. 6; minimum recorded, 679 microsiemens, Aug. 19.

WATER TEMPERATURE: Maximum recorded, 31.0°C, Aug. 7, 8; minimum recorded, 5.5°C, Jan. 14.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1200	897	1000	955	1410	1340	1680	1630	2180	2040	1040	984
2	1250	861	1090	989	1380	1330	1710	1670	2040	1930	1000	939
3	1450	1250	1070	990	1410	1350	1720	1680	1950	1930	1000	956
4	1520	1400	1040	1010	1410	1370	1680	1520	1960	1930	993	968
5	1480	1370	1100	1030	1440	1380	1670	1570	2160	1880	1060	983
6	1380	1270	1190	1090	1380	1290	1690	1660	2210	1980	1180	1060
7	1300	1130	1270	1180	1330	1280	1700	1660	1980	1790	1180	1090
8	1130	985	1330	1210	1350	1310	1660	1270	1840	1700	1210	1100
9	1050	954	1340	1280	1380	1330	1270	970	1700	1620	1250	1180
10	1060	813	1380	1270	1350	1270	1010	966	1620	1480	1190	1050
11	1040	813	1430	1360	1340	1250	1070	1010	1540	1470	1110	1070
12	1070	999	1540	1400	1310	1240	1060	1020	1570	1530	1130	1040
13	1090	1010	1530	1450	1370	1310	1240	1030	1640	1520	1330	1060
14	1230	1090	1500	1420	1460	1360	1320	1240	1660	1610	1350	1210
15	1270	1220	1450	1370	1500	1440	1320	1290	1660	1590	1240	983
16	1410	1260	1450	1290	1470	1400	1370	1320	1640	1610	1220	1040
17	1470	1400	1400	1320	1520	1370	1380	1340	1620	1490	1210	1130
18	1420	1380	1380	1170	1560	1430	1420	1380	1600	1530	1180	1110
19	1410	1330	1210	1180	1560	1510	1440	1400	1620	1520	1210	1150
20	1330	1270	1230	1130	1570	1490	1440	1430	1520	1310	1230	1170
21	1350	1050	1260	1220	1590	1500	1430	1400	1360	1260	1230	1190
22	1170	1030	1290	1210	1550	1510	1420	1360	1330	1130	1360	1230
23	1250	1120	1210	1170	1590	1520	1610	1410	1190	1100	1460	1290
24	1370	1230	1220	1160	1660	1590	1610	1580	1160	1090	1470	1340
25	1420	1220	1290	1190	1750	1660	1620	1590	1120	1070	1520	1340
26	1510	1420	1290	1200	1730	1620	1610	1570	1120	1080	1670	1520
27	1440	1280	1210	1130	1690	1580	1650	1550	1110	1020	1830	1670
28	1410	1330	1250	1170	1640	1570	1700	1500	1080	1030	1800	1680
29	1340	1120	1290	1220	1680	1610	2060	1700	---	---	1750	1670
30	1210	1070	1400	1280	1670	1630	2100	2060	---	---	1740	1620
31	1070	942	---	---	1670	1630	2180	2100	---	---	1680	1620
MONTH	1520	813	1540	955	1750	1240	2180	966	2210	1020	1830	939

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1810	1640	1530	1420	1570	1350	---	---	1100	949	1200	1050
2	2080	1740	1700	1480	1420	1310	---	---	949	836	1070	986
3	2050	1820	1700	1390	1480	1310	---	---	928	801	1100	1010
4	2040	1800	1510	1400	1550	1390	1400	1230	948	880	1170	1030
5	1840	1690	1580	1470	1580	1440	1280	1120	1080	886	1130	972
6	1930	1840	1490	1290	1440	1200	1240	1110	1200	1080	1040	904
7	1910	1640	1580	1330	1330	1240	1240	1040	1220	1060	973	831
8	1640	1370	1560	1490	1420	1250	1160	1040	1090	909	840	771
9	1660	1460	1540	1400	1460	1300	1290	1160	989	932	905	781
10	1800	1660	1510	1350	1550	1330	1320	1210	946	900	1030	866
11	1770	1630	1460	1350	1620	1370	1230	1110	930	816	1340	1020
12	1750	1560	1360	1250	1420	1240	1240	1200	916	761	1300	1060
13	1750	1540	1550	1270	1280	1090	1200	1040	974	898	1100	960
14	1560	1360	1620	1450	1180	1080	1040	948	982	925	1190	997
15	1780	1420	1610	1400	1180	1090	999	908	997	859	1150	1030
16	1820	1590	1590	1390	1140	1040	1060	980	870	791	1140	1070
17	1650	1540	1590	1480	1150	1010	1080	936	859	712	1160	1070
18	1770	1650	1560	1390	1240	1150	1010	922	738	685	1160	960
19	1680	1540	1460	1350	1480	1220	995	916	827	679	1150	1050
20	1550	1380	1400	1340	1570	1370	990	938	899	810	1060	988
21	1450	1360	1380	1260	1430	1230	978	866	997	899	998	876
22	1600	1450	1360	1290	1460	1340	991	840	1060	956	936	872
23	1670	1530	1440	1290	1430	1290	1110	933	1080	1030	1050	936
24	1770	1560	1480	1240	1430	1310	1140	1040	1050	904	1180	1050
25	1760	1660	1260	1120	1350	1240	1130	964	938	888	1420	1180
26	1950	1750	1240	1130	1330	1180	979	893	951	840	1230	1090
27	1860	1660	1170	1100	1330	1240	997	920	1150	951	1220	1120
28	1750	1500	1150	1090	1280	1140	948	821	1250	1130	1130	952
29	1510	1380	1180	1110	---	---	967	834	1250	1050	1040	925
30	1480	1380	1300	1110	---	---	983	872	1150	1030	983	846
31	---	---	1420	1250	---	---	1060	943	1190	1120	---	---
MONTH	2080	1360	1700	1090	---	---	---	---	1250	679	1420	771

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	16.0	13.0	21.0	18.0	28.0	23.5	---	---	27.5	23.0	27.5	22.5
2	14.5	10.5	22.0	17.0	27.0	23.0	---	---	27.5	23.5	26.0	23.0
3	16.5	12.0	23.5	18.5	25.0	22.5	---	---	27.5	24.0	28.0	22.5
4	18.0	14.0	24.0	20.0	23.0	21.5	30.0	24.0	28.0	24.5	29.0	23.5
5	17.5	14.5	24.5	19.5	25.0	20.0	29.0	24.5	29.0	25.0	29.5	25.0
6	18.5	14.5	24.0	21.0	25.0	21.0	28.5	23.5	30.5	25.0	28.0	24.5
7	19.5	15.5	25.0	20.0	27.0	22.0	28.5	24.0	31.0	26.0	25.5	22.5
8	20.0	16.5	26.0	20.5	27.0	22.5	29.5	25.0	31.0	27.0	26.0	22.5
9	18.0	15.5	26.0	21.0	26.5	22.5	30.0	25.5	29.0	25.5	27.0	23.0
10	18.5	14.5	26.5	22.0	27.5	22.5	28.5	24.5	27.5	24.0	26.5	22.5
11	18.0	14.5	26.5	22.0	27.0	22.5	28.0	23.0	27.0	23.5	25.5	21.0
12	18.5	15.0	27.0	22.5	26.0	22.0	27.0	22.0	27.5	23.5	26.5	21.0
13	21.0	16.5	27.5	23.0	23.0	19.5	29.0	23.5	27.5	24.0	26.0	22.0
14	21.5	18.0	28.0	22.5	25.5	21.0	29.0	25.0	28.0	24.0	26.0	21.0
15	23.5	18.5	27.0	23.0	27.0	22.5	29.5	25.0	28.0	24.5	24.0	20.0
16	24.0	20.0	28.0	23.0	28.5	24.0	28.5	26.0	27.0	23.5	23.5	19.0
17	24.0	19.5	29.0	24.0	29.5	25.5	28.0	24.0	25.5	22.5	23.0	19.5
18	23.5	20.0	29.0	25.0	29.5	25.0	27.5	23.0	26.0	22.5	25.0	20.5
19	23.0	20.5	29.0	24.5	30.0	25.0	29.0	24.0	26.0	24.0	24.0	20.5
20	24.0	20.5	27.0	23.5	28.5	24.0	29.0	24.5	27.0	23.5	24.0	19.5
21	24.0	21.0	27.0	22.0	27.0	22.5	29.0	25.0	28.5	24.0	24.5	20.0
22	22.5	20.5	25.0	22.5	26.0	21.0	30.0	25.5	28.0	25.0	25.0	21.0
23	22.0	19.5	23.0	21.5	26.0	21.0	28.5	24.5	27.0	23.5	26.0	21.0
24	20.0	17.0	24.5	19.5	26.5	21.0	30.0	24.5	27.0	23.0	27.0	21.5
25	22.0	16.5	24.0	20.5	28.5	23.0	29.5	25.0	26.5	23.0	26.5	22.0
26	24.5	18.5	24.0	20.5	28.0	24.0	30.0	25.5	26.5	22.5	26.0	21.0
27	25.5	20.5	25.5	21.5	27.5	22.5	28.0	---	27.0	22.5	23.0	20.0
28	22.5	19.5	26.5	23.0	26.0	21.5	28.0	24.0	27.0	22.0	24.0	19.0
29	22.0	18.0	27.5	23.5	---	---	27.5	24.0	27.5	22.0	25.0	20.5
30	22.5	18.0	28.5	24.5	---	---	26.5	23.5	26.5	22.5	25.5	21.5
31	---	---	28.5	24.5	---	---	27.0	23.0	27.0	23.0	---	---
MONTH	25.5	10.5	29.0	17.0	---	---	---	---	31.0	22.0	29.5	19.0

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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 718 ft³/s, Jan. 28, 1997; gage height, 12.03; minimum daily, 0.01 ft³/s, Sept. 24, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	160	157	510	650	209	107	94	130	69	93	56
2	48	155	153	577	637	234	102	90	116	65	94	49
3	44	142	147	609	625	248	118	94	100	79	95	40
4	47	146	134	619	675	227	122	69	78	82	84	37
5	58	146	131	612	659	188	124	59	82	86	73	35
6	56	149	139	627	616	167	120	57	84	107	62	22
7	58	154	153	619	558	164	112	53	69	101	69	37
8	67	153	160	619	513	167	109	68	75	98	76	39
9	74	151	189	580	457	157	114	78	71	84	77	44
10	79	146	280	534	420	151	104	77	74	75	77	51
11	90	146	351	494	384	161	106	84	83	75	80	52
12	98	143	368	464	365	155	112	88	78	72	83	50
13	100	148	360	445	348	159	106	89	89	68	76	56
14	105	151	347	416	300	163	103	83	89	69	74	55
15	111	144	334	420	281	166	107	95	87	76	87	48
16	110	144	322	431	265	180	137	96	80	67	103	48
17	108	165	312	441	258	199	143	93	85	66	84	41
18	111	182	309	438	254	212	122	105	85	82	73	31
19	111	185	308	446	221	225	119	125	76	102	62	32
20	115	185	302	447	208	232	125	152	80	102	53	34
21	132	198	285	443	183	212	125	153	109	105	66	36
22	144	242	284	460	190	196	123	159	98	104	63	34
23	130	282	346	507	203	172	112	174	82	93	60	31
24	136	292	446	529	199	164	95	164	79	71	63	27
25	127	273	477	569	173	164	91	151	70	78	59	25
26	117	254	466	632	168	156	102	162	65	103	59	27
27	107	218	459	681	170	134	98	170	65	117	51	36
28	98	209	441	709	193	135	94	183	62	131	42	53
29	102	190	419	688	---	145	80	182	68	122	44	59
30	130	167	426	669	---	141	71	179	65	106	50	64
31	147	---	448	660	---	123	---	147	---	104	54	---
TOTAL	3013	5420	9453	16895	10173	5506	3303	3573	2474	2759	2186	1249
MEAN	97.2	181	305	545	363	178	110	115	82.5	89.0	70.5	41.6
MAX	147	292	477	709	675	248	143	183	130	131	103	64
MIN	44	142	131	416	168	123	71	53	62	65	42	22
AC-FT	5980	10750	18750	33510	20180	10920	6550	7090	4910	5470	4340	2480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	MEAN	33.4	52.8	77.8	131	138	137	70.4	37.2	37.0	35.0	31.0	14.4
MAX	97.2	181	305	545	363	359	229	115	130	92.7	100	41.6	
(WY)	1997	1997	1997	1997	1997	1995	1986	1997	1986	1986	1987	1997	
MIN	3.35	7.53	5.86	6.17	6.96	28.0	19.2	1.76	3.79	7.42	3.36	2.67	
(WY)	1993	1991	1991	1991	1991	1990	1992	1992	1994	1994	1994	1990	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1986 - 1997

ANNUAL TOTAL	40698.7	66004	
ANNUAL MEAN	111	181	65.9
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			17.6
HIGHEST DAILY MEAN	477	Dec 25	709
LOWEST DAILY MEAN	1.4	Sep 11	22
ANNUAL SEVEN-DAY MINIMUM	2.3	Aug 23	31
INSTANTANEOUS PEAK FLOW			718
INSTANTANEOUS PEAK STAGE			12.03
ANNUAL RUNOFF (AC-FT)	80730	130900	47780
10 PERCENT EXCEEDS	307	446	148
50 PERCENT EXCEEDS	67	120	33
90 PERCENT EXCEEDS	6.0	55	4.4

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 1985 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: Water years 1985–88, 1993–94.

SEDIMENT DATA: Water years 1985-94.

PERIOD OF DAILY RECORD,—

SPECIFIC CONDUCTANCE: October 1985 to current year.

WATER TEMPERATURE: October 1985 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1985.

REMARKS.—Maximum and minimum values are affected by the drainage of holding ponds located immediately upstream from the station.

Specific conductance values for water years 1987 and 1988 are republished here due to corrections applied to the stored data.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 15,900 microsiemens, Feb. 25, 1991; minimum recorded, 470 microsiemens, Oct. 15, 1986.

WATER TEMPERATURE: Maximum recorded, 34.5°C, July 22, 1988, Aug. 6, 1990, July 2, 25, Aug. 13, 1996; minimum recorded, 2.5°C, Jan. 17, 1987, Dec. 24, 1990.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 4,690 microsiemens, Apr. 27; minimum recorded, 1,010 microsiemens, Jan. 29, 30.

WATER TEMPERATURE: Maximum recorded, 30.0°C, Aug. 7, 8; minimum recorded, 4.0°C, Jan. 14.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

[illegible]

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3110	2970	---	---	2680	2480	2240	1380	2090	1920	2180	2030
2	3180	2970	---	---	2620	2520	1830	1390	2040	1970	2190	1600
3	3270	3090	6650	5230	2630	2100	1720	1350	2050	1950	1600	1320
4	3360	2670	6850	4820	2170	1900	2350	1320	2340	2000	1540	1460
5	2750	2560	4780	1510	2040	1950	2110	1890	2320	2080	1940	1550
6	2760	2630	4290	3890	1970	1910	1980	890	2250	2070	1860	1540
7	2780	2660	4650	4160	2140	1900	1840	940	2210	2050	1710	1550
8	2770	2500	5900	4720	2230	2050	2120	1680	2330	2040	1650	1490
9	2810	2530	6150	5480	2360	2200	2490	2140	2320	2120	---	---
10	2870	2760	6370	5770	2360	2280	2500	2240	2390	2210	1650	1480
11	2900	2770	6280	5880	2560	2320	2360	2220	2390	2100	1650	1550
12	2950	2830	6200	3000	2780	2450	2340	2210	2480	2280	1630	1300
13	3050	2840	3610	3200	2650	2530	2300	2180	2380	2240	1700	1290
14	3010	2860	3410	3230	2900	2640	2280	2190	2410	2190	2130	1790
15	3090	2960	3500	3260	2930	2740	2260	2170	2440	2290	2230	1970
16	3140	2930	3400	2780	2890	2720	2430	2160	2520	2320	2170	1970
17	---	---	2780	2430	3010	2670	2440	2340	2440	2330	1970	1430
18	---	---	2460	1890	2880	2730	2380	2320	2610	2450	1430	1260
19	4040	1350	2320	1880	2940	2600	2320	2250	2600	2310	1320	1180
20	---	---	---	---	3230	2830	2280	2190	2580	2350	1150	990
21	3270	3060	2270	1940	2970	2750	2280	2190	2430	2210	1060	1020
22	---	---	2360	2200	2810	2720	2400	2200	2330	2160	1030	1000
23	---	---	2860	2310	2880	2830	2410	2180	2280	2200	990	940
24	---	---	2930	2520	2930	960	2300	2020	2430	2240	1050	960
25	---	---	2560	2470	---	---	2040	1940	2600	2420	1220	1050
26	---	---	2660	2530	---	---	2280	1940	2560	2310	1380	1140
27	---	---	2900	2640	---	---	2200	1980	2440	2220	2420	1380
28	---	---	2940	2810	---	---	2170	2000	2460	2220	2870	1800
29	---	---	2840	2600	---	---	2190	1920	2460	2330	2110	1610
30	---	---	2740	2600	2260	1310	2090	2040	2370	2180	1920	1600
31	---	---	2750	2460	---	---	2090	1960	2200	2150	---	---
MONTH	---	---	---	---	---	---	2500	890	2610	1920	---	---

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1820	1730	1530	1480	3340	2840	---	---	2520	2040	2460	2050
2	1730	1600	1580	1520	2860	2790	---	---	2100	1990	2220	1690
3	1680	1630	1600	1570	---	---	---	---	2120	2020	---	---
4	1640	1360	1650	1600	---	---	---	---	2220	2070	---	---
5	1360	1260	1660	1350	---	---	---	---	2340	2110	---	---
6	1230	1100	1580	1470	---	---	---	---	2510	2140	---	---
7	1550	1250	1590	1550	---	---	---	---	2390	2140	---	---
8	1440	1190	1730	1590	---	---	3160	3050	2250	2110	---	---
9	1280	1210	1760	1630	---	---	3390	3160	2270	2120	---	---
10	1380	1280	1800	1710	---	---	3560	3200	2340	2120	---	---
11	1490	1370	1820	1720	---	---	3470	3350	2730	1990	---	---
12	1670	1500	1910	1780	---	---	3320	3260	2570	2320	---	---
13	1910	1390	1930	1870	---	---	3350	3220	3050	2460	---	---
14	1920	1370	1960	1880	---	---	3410	2780	2980	1900	---	---
15	2000	1340	1900	1310	---	---	2860	2780	3290	2100	---	---
16	1440	1300	1840	1770	---	---	2790	2610	3400	3080	---	---
17	1300	1190	2210	1840	---	---	2610	2380	3140	2160	---	---
18	1220	880	1940	1820	---	---	2530	2320	3310	3030	---	---
19	1210	1170	2170	1960	---	---	2390	1710	3650	2470	---	---
20	1230	1150	2180	2050	---	---	2420	2360	3700	3560	---	---
21	1230	1170	2390	1970	---	---	2710	2380	3680	3270	---	---
22	1230	1200	2000	1840	---	---	2890	2710	3260	3050	---	---
23	1260	1180	2170	2030	---	---	2950	2880	3160	1750	---	---
24	1330	1200	2040	1450	---	---	2990	2850	2800	2750	---	---
25	1380	1330	1680	1590	---	---	3000	2970	2840	2380	---	---
26	1630	1390	1800	1710	---	---	3080	2290	2760	2300	---	---
27	1650	1160	2160	1810	---	---	3080	2100	3020	2310	---	---
28	1570	1510	3450	2190	---	---	2480	2390	2580	2240	---	---
29	1520	1480	3300	3220	---	---	2540	2300	2430	2120	---	---
30	1530	1380	3290	3230	---	---	2840	2480	---	---	---	---
31	1560	1470	---	---	---	---	2620	2470	---	---	---	---
MONTH	2000	880	3450	1310	---	---	---	---	3700	1750	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	2300	2110	2030	1900	2320	2200	---	---
2	---	---	---	---	2620	2280	1890	1710	2200	2140	---	---
3	---	---	---	---	2650	2550	1780	1690	2300	2100	---	---
4	---	---	---	---	2710	2650	1870	1770	2390	2190	7260	2100
5	---	---	---	---	2830	2550	1750	1660	2620	2160	---	---
6	---	---	---	---	2810	2610	1760	1660	2500	2330	---	---
7	---	---	---	---	2730	2470	1770	1060	2400	2280	---	---
8	---	---	---	---	2800	2680	1400	1110	2400	2230	---	---
9	---	---	---	---	2750	2600	1520	1330	2400	2200	---	---
10	---	---	---	---	2830	2570	1580	1380	5310	2170	---	---
11	---	---	---	---	3150	2710	1490	1390	8100	4290	---	---
12	---	---	---	---	2660	1970	1640	1240	4630	2210	---	---
13	---	---	---	---	2010	1940	2920	1910	6940	4630	---	---
14	---	---	---	---	2030	1920	2810	2230	7130	3310	---	---
15	---	---	---	---	2060	1880	2510	1990	4770	3750	---	---
16	---	---	---	---	1950	1680	2220	2000	---	---	---	---
17	---	---	---	---	1830	1630	3100	2290	---	---	---	---
18	---	---	---	---	1940	1800	3300	2460	---	---	5170	1620
19	---	---	2800	1570	2150	1950	3450	3020	---	---	6540	4610
20	---	---	1740	740	2230	1980	3310	3040	---	---	7190	2630
21	---	---	1910	1420	2130	1710	3170	2500	---	---	---	---
22	---	---	1770	1450	2330	1660	2690	2350	---	---	---	---
23	---	---	1900	1520	2280	1660	2630	2470	---	---	---	---
24	---	---	1900	1470	2190	1680	2780	1860	---	---	---	---
25	---	---	2030	1570	2420	2200	2860	2590	6950	4930	---	---
26	---	---	2200	1950	2420	1990	2610	2410	---	---	---	---
27	---	---	2210	2200	2170	2000	2450	2340	---	---	---	---
28	---	---	2350	2190	2170	2040	2530	2380	---	---	1980	1450
29	---	---	2390	2100	2110	2030	2590	2360	---	---	2300	1710
30	---	---	2210	2130	2040	1990	2500	2330	8830	1580	1680	1280
31	---	---	2190	2020	---	---	2380	2300	1860	1670	---	---
MONTH	---	---	---	---	3150	1630	3450	1060	---	---	---	---

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3460	2960	1760	1680	1600	1550	1670	1460	1270	1160	2500	2180
2	3800	3270	1780	1670	1660	1600	1640	1540	1270	1230	2480	2240
3	3570	2620	1780	1650	1730	1610	1580	1350	1270	1210	2310	2200
4	2640	1820	1650	1540	1800	1710	1350	1270	1250	1130	3100	2260
5	1850	1820	1620	1490	1820	1730	1300	1170	1280	1110	3480	3100
6	1920	1840	1580	1520	1770	1700	1270	1120	1800	1280	3680	3400
7	1980	1910	1520	1440	1750	1610	1120	1090	1990	1800	3740	3390
8	1970	1810	1440	1310	1740	1670	1180	1110	2170	1970	3520	3280
9	1890	1710	1430	1340	1760	1420	1250	1170	2200	2110	3750	3370
10	1870	1690	1400	1330	1500	1320	1270	1180	2140	2030	3830	3490
11	1900	1720	1410	1330	1440	1380	1300	1240	2180	2030	3620	3430
12	2010	1890	1550	1390	1660	1370	1550	1300	2230	2160	3490	3380
13	1980	1890	1570	1490	1430	1320	1840	1550	2710	2200	3490	3200
14	1900	1680	1590	1500	1390	1300	1950	1830	2730	2570	3470	3170
15	1790	1680	1750	1590	1450	1370	1970	1900	2810	2670	3570	3230
16	1860	1720	1760	1680	1380	1330	1910	1750	2920	2720	3460	3250
17	1840	1680	1720	1610	1370	1330	1810	1660	3080	2830	3410	3180
18	1680	1470	1630	1570	1420	1360	1690	1580	3100	2870	3350	3070
19	1480	1410	1620	1570	1440	1380	1590	1460	3040	2890	3340	2870
20	1460	1390	1670	1570	1500	1390	1530	1480	3300	2870	3150	2820
21	1410	1260	1650	1550	1860	1500	1610	1510	3480	3220	3000	2770
22	1340	1260	1580	1480	1870	1800	1610	1520	3570	3280	3000	2840
23	1390	1330	1670	1480	1830	1420	1600	1530	3410	3000	3090	2810
24	1440	1360	1640	1370	1470	1290	1590	1540	3120	2910	3370	2860
25	1540	1440	1380	1330	1300	1200	1560	1430	3240	3080	3730	3190
26	1670	1500	1440	1350	1220	1170	1440	1280	3410	3220	3650	3360
27	1680	1630	1480	1400	1200	1100	1290	1220	3310	2970	3550	3430
28	1740	1610	1510	1440	1320	1130	1260	1050	3210	2150	3660	3210
29	1900	1740	1540	1440	1350	1300	1100	1010	---	---	3510	3260
30	1830	1730	1620	1530	1360	1310	1110	1010	---	---	3750	3400
31	1740	1690	---	---	1480	1350	1170	1020	---	---	3930	3680
MONTH	3800	1260	1780	1310	1870	1100	1970	1010	3570	1110	3930	2180

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4240	3760	4060	3490	2900	2530	3530	2860	2800	2430	2150	2040
2	4340	3930	4130	3920	3220	2890	3520	3050	2830	2210	2150	2090
3	4350	3970	4110	3640	3590	3060	3230	2770	2520	2270	2120	2000
4	4400	4120	4040	3680	3630	3440	3200	2810	2640	2250	2020	1840
5	4350	4090	4040	3830	3730	3330	3110	2810	2630	2140	1860	1670
6	4330	4030	4130	3620	3820	3210	3000	2700	2910	2530	1760	1610
7	4240	4020	4530	4090	3670	3240	3190	2750	2940	2450	1860	1760
8	4450	3880	4450	3370	3590	3230	2970	2660	3280	2690	1810	1710
9	4160	3750	4320	3370	3740	3320	3390	2840	3300	2900	1770	1540
10	4390	4010	4460	4090	3530	3200	3500	2960	3060	2650	1540	1340
11	4440	3720	4420	3950	3590	3350	3610	3300	2930	2470	1380	1320
12	4400	3720	4350	4010	3680	3400	3540	3030	2980	2650	1400	1300
13	4500	4190	4410	4000	3840	3550	3490	2900	3030	2650	1330	1270
14	4430	4030	4080	3650	3940	3670	3500	3060	3150	2920	1350	1290
15	4400	4070	3800	3280	4070	3790	3430	2870	3010	2580	1340	1290
16	4140	3310	3480	3220	4130	3880	3720	3130	2830	2350	1290	1190
17	3640	3380	3570	3250	4140	3720	3830	3290	2820	2550	1190	1080
18	3720	3500	3840	3170	3880	3010	3660	2800	3210	2470	1190	1100
19	3700	3520	3300	2780	3750	3240	2990	2430	3340	3000	1440	1180
20	3830	3580	2890	2250	3710	2950	2680	2490	3490	2640	2090	1440
21	3870	3570	2500	2170	3100	2480	2590	2030	3010	2420	2360	2090
22	3790	3580	2260	1770	3290	2510	2550	2120	2840	2330	2090	1610
23	4010	3500	2080	1760	3690	3080	2650	2350	2560	2030	2030	1590
24	4250	3930	2000	1760	3690	3250	3260	2650	2140	1910	2210	2030
25	4350	3990	2400	1970	3400	2840	3420	2870	1960	1770	2220	2080
26	4200	3900	2210	1990	3430	3060	2990	2620	2000	1870	2250	1900
27	4690	4020	2110	1970	3260	2840	2620	2190	2070	1920	2260	1750
28	4520	4190	2070	1900	3420	2960	2210	1940	2180	2020	1850	1730
29	4470	4160	2220	1940	3530	3100	2310	2080	2220	2110	1840	1630
30	4260	3860	2400	2080	3230	2860	2770	2290	2240	2010	1710	1460
31	---	---	2680	2380	---	---	2710	2420	2060	1950	---	---
MONTH	4690	3310	4530	1760	4140	2480	3830	1940	3490	1770	2360	1080

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	12.5	20.0	18.0	27.5	23.5	25.0	21.0	26.5	23.5	27.0	24.5
2	14.0	10.5	21.0	17.0	27.0	23.5	24.5	21.5	27.0	23.5	27.0	24.0
3	15.5	11.0	23.0	18.0	25.0	22.5	27.0	21.5	27.5	23.5	28.0	24.0
4	16.5	13.0	23.0	19.0	23.5	21.5	28.0	24.0	28.0	24.0	28.0	24.5
5	16.5	13.5	24.0	19.0	24.5	20.5	28.5	23.5	28.5	24.5	29.0	25.5
6	18.0	14.0	23.5	20.0	24.5	20.5	28.5	24.5	29.5	25.5	28.0	24.5
7	19.0	15.0	24.5	20.0	27.0	21.5	28.5	24.5	30.0	26.0	27.5	24.5
8	20.0	16.0	25.5	21.0	27.0	21.5	29.0	25.0	30.0	27.0	28.0	24.0
9	17.5	15.5	25.5	21.5	27.0	22.0	29.5	25.5	29.5	26.5	28.5	23.5
10	18.0	14.0	25.0	22.0	27.5	22.5	28.5	25.0	28.0	25.5	27.5	23.5
11	18.0	14.0	25.5	22.0	26.5	22.5	27.5	24.5	27.5	24.0	26.5	23.0
12	18.5	14.0	26.0	22.0	26.5	22.5	26.5	23.5	27.5	24.5	27.5	23.0
13	20.5	16.0	26.5	22.5	24.0	20.0	27.5	24.0	27.5	24.0	27.5	23.0
14	21.0	17.0	27.0	22.5	25.0	20.5	27.5	24.0	27.5	24.5	27.0	22.5
15	22.5	18.0	26.5	23.0	26.5	21.5	28.5	24.5	27.5	24.5	25.0	21.5
16	23.5	20.0	28.0	23.0	27.5	23.0	28.0	25.5	27.5	24.5	24.0	20.5
17	24.0	20.0	28.0	23.5	28.5	24.5	28.0	25.0	26.5	23.5	24.0	20.5
18	24.0	20.0	28.0	24.5	29.5	24.5	27.5	24.0	26.5	23.0	25.5	21.0
19	23.5	20.5	28.5	24.0	29.5	24.5	27.5	23.5	26.0	23.5	25.0	21.5
20	24.0	20.0	27.0	23.5	29.0	24.5	28.0	24.5	27.5	23.5	25.0	20.5
21	24.0	21.0	26.5	22.0	27.5	23.5	28.5	25.0	28.0	24.5	25.5	21.0
22	23.0	20.5	25.5	22.0	26.5	22.0	29.5	25.5	28.0	25.5	26.0	21.5
23	22.0	20.0	23.5	21.5	25.0	21.5	27.5	25.5	27.5	24.5	26.5	21.5
24	20.0	17.5	24.5	20.0	25.5	21.5	29.0	24.5	27.5	24.5	26.5	21.5
25	21.0	16.5	24.0	20.5	27.5	22.5	29.5	25.5	27.0	24.0	27.0	22.5
26	23.0	18.5	24.0	20.0	27.5	23.5	29.5	25.5	27.5	24.0	26.5	21.5
27	23.5	19.5	25.0	21.0	27.0	23.0	28.0	25.5	27.0	24.0	24.0	20.0
28	22.0	19.5	26.0	21.5	26.5	22.0	27.5	24.5	26.5	23.5	24.5	20.0
29	21.5	18.5	27.0	23.0	25.5	22.0	27.5	24.5	27.0	23.5	26.5	21.5
30	22.0	18.5	28.0	24.0	24.5	21.5	27.5	24.0	27.0	24.0	26.5	22.5
31	---	---	28.0	24.0	---	---	26.5	23.5	27.0	24.0	---	---
MONTH	24.0	10.5	28.5	17.0	29.5	20.0	29.5	21.0	30.0	23.0	29.0	20.0

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA

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 mi².

PERIOD OF RECORD.—August 1915 to current year.

CHEMICAL DATA: Water years 1968–96.

BIOLOGICAL DATA: Water years 1973–81.

WATER TEMPERATURE: Water years 1966–77, 1979–93.

SEDIMENT DATA: Water years 1970–71, 1973–96.

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. Up to 5 ft³/s can be diverted upstream from station for Yosemite Valley water supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,100 ft³/s, Jan. 2, 1997, gage height, 13.27 ft, from rating curve extended above 4,000 ft³/s on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum daily, 1.5 ft³/s, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,900 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 21	2345	1,900	5.91	May 14	0200	2,720	6.68
Jan. 2	2030	10,100	13.27	May 31	0300	2,520	6.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	39	126	2840	327	187	542	1140	1980	364	186	45
2	17	42	110	9030	317	188	459	1130	1640	301	165	47
3	17	39	103	6180	294	183	423	1210	1570	304	150	57
4	16	39	101	2310	283	182	407	1440	1660	351	148	74
5	15	36	208	1510	268	181	400	1610	1210	401	161	74
6	14	32	189	1050	252	182	385	1640	987	400	168	67
7	13	32	162	855	251	189	379	1680	1110	399	172	59
8	13	34	164	714	246	201	407	1630	1280	412	171	54
9	12	41	189	630	234	225	398	1740	1230	418	163	48
10	12	47	212	569	231	268	364	1960	1080	446	149	44
11	11	48	302	510	221	330	354	2090	1020	428	138	41
12	11	51	323	472	219	339	360	2070	1020	375	122	40
13	11	50	295	429	215	324	378	2200	826	339	110	40
14	11	47	249	371	227	335	460	2370	821	340	104	38
15	11	44	218	405	237	386	588	2280	787	367	100	35
16	11	40	204	363	243	417	719	2370	856	373	98	32
17	11	261	194	346	251	366	887	2110	1060	310	96	30
18	11	462	182	334	235	373	913	2060	1120	262	94	28
19	19	328	174	325	235	449	1100	1770	1180	240	87	26
20	16	341	166	299	237	531	1180	1580	1140	244	80	26
21	15	504	166	333	233	501	1370	1640	1070	263	75	25
22	13	985	157	321	227	467	1370	1510	972	426	77	23
23	13	416	194	317	214	552	1240	1350	810	386	75	20
24	13	300	195	319	204	660	963	1100	690	469	70	18
25	20	241	183	493	201	747	900	940	700	366	68	17
26	20	201	193	456	203	837	1220	948	691	285	69	17
27	17	169	216	405	203	831	1560	1050	638	254	64	16
28	17	159	187	383	190	775	1510	1490	581	275	58	16
29	23	134	218	358	---	773	1260	1740	512	267	53	15
30	30	127	444	339	---	759	1200	2010	452	241	49	15
31	33	---	459	336	---	666	---	2200	---	203	46	---
TOTAL	483	5289	6483	33602	6698	13404	23696	52058	30693	10509	3366	1087
MEAN	15.6	176	209	1084	239	432	790	1679	1023	339	109	36.2
MAX	33	985	459	9030	327	837	1560	2370	1980	469	186	74
MIN	11	32	101	299	190	181	354	940	452	203	46	15
AC-FT	958	10490	12860	66650	13290	26590	47000	103300	60880	20840	6680	2160

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.0	62.7	85.7	91.7	109	190	541	1259	1220	470	113	43.3
MAX	267	818	736	1084	401	575	1007	2675	3317	2393	775	360
(WY)	1919	1951	1965	1997	1986	1986	1926	1969	1983	1995	1983	1978
MIN	2.58	4.89	4.49	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1916 - 1997			
ANNUAL TOTAL	168532				187368							
ANNUAL MEAN	460				513				352			
HIGHEST ANNUAL MEAN									802			
LOWEST ANNUAL MEAN									84.9			
HIGHEST DAILY MEAN	4380				9030				9030			
LOWEST DAILY MEAN	11				11				1.5			
ANNUAL SEVEN-DAY MINIMUM	11				11				1.9			
INSTANTANEOUS PEAK FLOW					10100				10100			
INSTANTANEOUS PEAK STAGE					13.27				13.27			
ANNUAL RUNOFF (AC-FT)	334300				371600				255300			
10 PERCENT EXCEEDS	1390				1360				1130			
50 PERCENT EXCEEDS	261				268				100			
90 PERCENT EXCEEDS	20				22				11			

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 mi².

PERIOD OF RECORD.—October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A.

CHEMICAL DATA: Water years 1971–72, 1981–82, 1994, and 1995.

WATER TEMPERATURE: Water year 1995.

SEDIMENT DATA: Water year 1995.

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.—Records good except for estimated daily discharges which are fair. No diversions between stations at Happy Isles Bridge and Pohono Bridge.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24,600 ft³/s, Jan. 3, 1997, gage height, 23.43 ft, from floodmarks in gagehouse, from rating curve extended above 17,000 ft³/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 ft³/s, Oct. 26, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,900 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 22	0245	3,530	7.57	May 14	0315	4,580	8.55
Jan. 3	unknown	24,600	23.43	May 31	0445	3,670	7.70

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	53	265	5730	821	407	1180	2240	3040	539	243	62
2	32	57	228	e21000	795	425	1010	2220	2520	460	219	63
3	32	56	214	e10300	726	406	957	2270	2380	443	198	70
4	32	55	e210	e6000	707	390	920	2680	2660	476	187	85
5	32	53	e460	e4700	651	394	917	2950	2190	516	198	90
6	31	48	e400	e3000	609	394	873	3030	1720	515	204	85
7	30	46	e380	e2000	603	407	855	3040	1770	505	208	77
8	29	46	e400	e1700	597	441	924	3020	1950	514	207	72
9	29	50	433	e1500	555	498	898	3200	1840	514	200	67
10	28	57	497	e1300	553	586	810	3460	1600	540	186	62
11	28	59	726	e1200	522	718	787	3680	1470	524	174	59
12	28	62	963	e1100	519	753	810	3750	1470	471	155	58
13	28	63	839	e980	500	718	849	3850	1260	429	139	57
14	27	62	649	e840	516	731	998	4060	1260	418	129	55
15	27	60	533	e880	534	849	1230	3840	1220	435	124	53
16	27	58	476	e840	543	928	1390	3900	1250	440	120	50
17	27	459	e450	792	570	808	1710	3590	1450	393	117	e49
18	27	1200	e420	778	523	823	1840	3500	1530	342	115	e46
19	31	667	e390	745	520	995	2560	3220	1570	314	108	e44
20	34	695	e375	698	525	1150	2560	2780	1520	307	101	e42
21	31	799	e370	743	508	1100	2780	2790	1410	317	94	e43
22	30	2150	e360	768	498	1040	2730	2570	1280	447	94	e44
23	29	938	e435	736	473	1230	2470	2350	1110	444	92	e43
24	30	669	e440	755	442	1440	2040	2040	968	553	88	e40
25	35	526	389	1270	443	1570	1890	1690	947	445	86	e37
26	38	436	445	1280	459	1740	2410	1690	928	360	85	34
27	35	363	501	1050	459	1760	2970	1750	867	310	82	33
28	34	340	434	957	416	1650	2920	2360	792	335	77	32
29	39	291	e750	917	---	1630	2440	2700	712	328	72	31
30	51	265	e1000	873	---	1590	2380	3050	637	303	68	31
31	50	---	e1500	848	---	1440	---	3320	---	267	65	---
TOTAL	993	10683	15932	76280	15587	29011	49108	90590	45321	13204	4235	1614
MEAN	32.0	356	514	2461	557	936	1637	2922	1511	426	137	53.8
MAX	51	2150	1500	21000	821	1760	2970	4060	3040	553	243	90
MIN	27	46	210	698	416	390	787	1690	637	267	65	31
AC-FT	1970	21190	31600	151300	30920	57540	97410	179700	89890	26190	8400	3200

e Estimated.

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.0	124	188	205	248	418	1102	2324	1908	634	149	64.5
MAX	436	1587	1666	2461	1035	1459	2136	5305	6279	3460	1045	426
(WY)	1983	1951	1951	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1917 - 1997			
ANNUAL TOTAL	311649				352558							
ANNUAL MEAN	852				966				620			
HIGHEST ANNUAL MEAN									1466			
LOWEST ANNUAL MEAN									127			
HIGHEST DAILY MEAN	9760				May 16				21000			
LOWEST DAILY MEAN	27				Oct 14				5.4			
ANNUAL SEVEN-DAY MINIMUM	27				Oct 12				5.6			
INSTANTANEOUS PEAK FLOW					24600				Jan 3			
INSTANTANEOUS PEAK STAGE					23.43				Jan 3			
ANNUAL RUNOFF (AC-FT)	618200				699300				449100			
10 PERCENT EXCEEDS	2250				2540				1890			
50 PERCENT EXCEEDS	462				516				182			
90 PERCENT EXCEEDS	38				41				26			

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 those 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 ft³/s, June 1, 2, 1975; no flow for several days in summer months of most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	2.1	25	26	.28	.15	9.1	30	25	11	.21	.17
2	.25	2.2	23	4.3	.25	.15	8.8	30	24	10	.21	.17
3	.25	2.0	32	1.8	.25	.15	21	30	23	9.7	.19	.15
4	.25	2.0	23	1.0	.24	.13	31	30	26	6.3	.18	.15
5	.25	1.9	47	.55	.21	.13	31	30	26	3.8	.18	.15
6	.25	1.8	36	.36	.21	.13	30	30	25	3.8	.18	.15
7	.25	1.8	23	.28	.21	.13	30	30	22	3.6	.18	.15
8	.25	1.8	19	.25	.21	.13	30	30	21	3.5	.18	.15
9	.25	1.8	28	.23	.18	.13	30	29	20	3.4	.18	.15
10	.25	1.9	42	.21	.18	.13	30	29	19	3.5	.17	.15
11	.25	1.8	42	.21	.18	5.2	30	30	19	3.4	.15	.15
12	.25	1.8	39	.19	.18	11	30	29	18	3.2	.15	.15
13	.25	1.8	37	.18	.18	11	30	29	18	3.1	.15	.17
14	.25	1.8	35	.17	.18	11	30	32	20	3.0	.15	.17
15	.25	1.8	34	.17	.18	e11	30	35	19	1.6	.15	.17
16	.24	1.8	33	.15	.18	e11	31	35	17	.64	.15	.18
17	.23	1.7	32	.15	.18	e11	31	35	16	.63	.15	.18
18	.22	1.3	30	.14	.18	e11	31	34	15	.60	.16	.18
19	.21	1.3	28	.13	.18	e11	33	34	15	.50	.15	.18
20	.21	7.9	26	.55	.18	e11	32	33	14	.48	.15	.17
21	.21	28	20	1.8	.17	e11	33	33	14	.43	.17	.17
22	.21	50	22	6.6	.15	e11	33	32	13	.39	.17	.17
23	.98	43	31	14	.15	e11	32	32	13	.38	.18	.17
24	1.7	34	29	.30	.15	e11	32	32	12	.33	.18	.15
25	2.1	33	23	.86	.15	e10	31	30	12	.29	.15	.15
26	2.0	29	27	.67	.15	e10	32	29	11	.29	.15	.15
27	1.9	26	36	.48	.15	e10	32	29	11	.29	.15	.15
28	2.0	24	30	.40	.15	e9.4	31	28	11	.25	.15	.15
29	2.1	23	33	.38	---	9.5	31	27	11	.23	.16	.15
30	2.6	26	44	.32	---	9.5	31	26	11	.21	.18	.15
31	2.3	---	40	.29	---	9.4	---	25	---	.21	.18	---
TOTAL	22.96	358.3	969	63.12	5.24	217.36	876.9	947	521	79.05	5.19	4.80
MEAN	.74	11.9	31.3	2.04	.19	7.01	29.2	30.5	17.4	2.55	.17	.16
MAX	2.6	50	47	26	.28	11	33	35	26	11	.21	.18
MIN	.21	1.3	19	.13	.15	.13	8.8	25	11	.21	.15	.15
AC-FT	46	711	1920	125	10	431	1740	1880	1030	157	10	9.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1997, BY WATER YEAR (WY)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	1.62	3.84	6.29	7.31	8.28	15.5	22.3	26.7	15.7	3.34	1.08	.90																
MAX	7.61	11.9	31.3	35.8	32.7	37.3	43.3	56.2	46.1	11.2	3.14	3.46																
(WY)	1970	1977	1997	1970	1970	1972	1993	1975	1975	1993	1973	1995																
MIN	.026	1.10	.75	.76	.19	.32	3.21	2.65	.025	.52	.025	.000																
(WY)	1989	1991	1991	1996	1997	1996	1995	1995	1995	1995	1988	1987																

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1970 - 1997			
ANNUAL TOTAL	4345.59				4069.92							
ANNUAL MEAN	11.9				11.2							
HIGHEST ANNUAL MEAN									10.0			
LOWEST ANNUAL MEAN									19.3			
HIGHEST DAILY MEAN	50 Nov 22				50 Nov 22				3.67			
LOWEST DAILY MEAN	.05 Feb 17				.13 Jan 19				66 Jun 1 1975			
ANNUAL SEVEN-DAY MINIMUM	.06 Feb 12				.13 Mar 4				.00 Jul 1 1973			
ANNUAL RUNOFF (AC-FT)	8620				8070				.00 Aug 1 1987			
10 PERCENT EXCEEDS	36				32				7250			
50 PERCENT EXCEEDS	.99				1.9				32			
90 PERCENT EXCEEDS	.25				.15				3.5			
									.24			

e Estimated.

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 mi².

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.

COOPERATION.—Records were provided by Pacific Gas and Electric Company 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, 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, 1,009,000 acre-ft, Jan. 5, elevation, 864.81 ft; minimum, 626,400 acre-ft, Nov. 14, elevation, 800.02 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700000	631100	670600	794800	927600	670500	653100	722600	870900	873000	785800	698100
2	697800	630900	671200	908600	919300	663700	653500	724100	873600	867300	783000	695300
3	696200	630500	671800	991500	910600	657200	653500	725500	875800	865300	779900	693300
4	694000	630000	672200	1006000	900800	652000	654300	728600	879200	863200	776800	691000
5	691700	629500	680800	1009000	891300	650000	655200	732900	882000	856500	773700	688300
6	690400	628900	687300	1006000	881100	647200	656200	737300	883600	859200	770400	686400
7	688500	628400	689800	1001000	870700	644200	656900	742100	884800	856500	767400	684100
8	685800	627600	691600	1001000	859800	641800	658200	747500	886500	853900	764200	682000
9	683000	627300	693900	994400	848800	640400	659000	752400	888200	851000	761100	679200
10	680500	627500	714000	986600	837800	638800	659800	757500	889300	848700	758200	677500
11	677500	626800	734700	978000	827700	637700	660600	764900	889700	845500	755000	675200
12	674800	627000	746000	968900	818000	636200	661400	772500	889700	843400	751900	672600
13	672300	626700	754100	960200	809500	635400	662200	779900	889200	840400	749100	670500
14	669100	626400	754100	950300	801600	634900	662900	788100	889000	837600	746100	668400
15	665700	626600	752400	939700	792900	634200	663600	796200	889000	834800	743100	666000
16	661400	627200	750500	930400	784800	633700	664500	804100	888600	831800	740200	664000
17	657300	627800	747700	920400	776000	633200	665900	811500	888700	829000	737700	662100
18	653500	633400	744500	910200	767800	632800	667300	818400	888800	825800	735200	660200
19	650300	635600	741100	899600	759700	632200	669700	824400	888600	822900	732100	658600
20	647700	637300	737500	889200	749900	632000	673600	828900	888500	820000	729700	656600
21	645900	639500	740000	884600	741200	632400	678000	833300	888100	816500	726200	654800
22	643500	653600	755600	880500	732400	632600	684600	837400	887400	813800	723200	652600
23	642300	660700	759300	883000	723700	633000	689400	841100	886100	811000	720400	650700
24	640100	664200	756800	910600	714700	635300	693100	843800	884900	808400	717900	649000
25	638500	665800	752000	909700	705600	636700	696400	845700	883400	805800	715400	647000
26	636600	667300	747100	920200	695900	640200	701300	847500	881600	803700	712600	645000
27	634900	668200	746500	943300	686600	643000	707200	849200	879600	800200	710100	643300
28	633000	669100	743500	949500	677600	645300	714100	852000	877500	797200	707500	641300
29	632100	669300	739300	947300	---	647800	717400	856400	875400	794600	704800	639400
30	631900	670200	753600	941800	---	650000	720200	861100	873700	792000	702300	637300
31	631600	---	764300	935200	---	651800	---	866200	---	788800	699800	---
MAX	700000	670200	764300	1009000	927600	670500	720200	866200	889700	873000	785800	698100
MIN	631600	626400	670600	794800	677600	632000	653100	722600	870900	788800	699800	637300
a	801.09	808.80	826.20	853.98	810.24	805.16	818.27	843.29	844.48	830.96	814.48	802.24
b	-70500	+38600	+94100	+170900	-257600	-25800	+68400	+146000	+7500	-84900	-89000	-62500

CAL YR 1996 b +132000

WTR YR 1997 b -64800

a Elevation, in feet, at end of month..

b Change in contents, in acre-feet.

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 mi².

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.

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.—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.

COOPERATION.—Records were provided by Pacific Gas and Electric Company, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD (water years 1901–13, 1916–96).—Maximum discharge observed, 47,700 ft³/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 ft³/s, Dec. 4, 1950, gage height, 22.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft³/s on basis of computation of peak flow over dam; minimum daily, 3.4 ft³/s, Mar. 5, 1966.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	333	287	4200	7810	4670	1740	2730	1800	1760	1720	1220
2	1080	333	287	3510	7780	4670	1720	2830	1800	1760	1710	1220
3	1010	333	285	6070	7780	3690	1720	2630	1800	1730	1670	1160
4	1030	333	287	8020	7630	2660	1450	2490	1690	1720	1680	1170
5	1010	333	310	7990	7840	2660	1190	2420	1590	1750	1740	1190
6	988	314	293	7930	7840	2640	1230	2410	1540	1810	1800	1180
7	985	297	287	7910	7860	2430	1220	2430	1540	1840	1780	1180
8	1150	290	285	7770	7920	2070	1220	2490	1600	1850	1720	1180
9	1390	298	317	7960	7830	2060	1210	2490	1660	1890	1700	1180
10	1400	290	406	7960	7380	2070	1170	2500	1680	1920	1660	1180
11	1370	290	316	7900	6350	2070	1140	2070	1740	1950	1650	1170
12	1350	290	294	7880	6130	2080	1130	1750	1810	1890	1670	1150
13	1330	290	1220	7860	6120	2060	1130	1820	1820	1830	1630	1140
14	1620	290	2050	7860	6110	2050	1340	1840	1770	1830	1590	1120
15	2000	290	2760	7880	6100	2050	1570	1810	1760	1830	1590	1060
16	2020	290	2960	7840	6090	2060	1970	1790	1760	1890	1520	1050
17	2020	290	2950	7810	6070	2060	2290	1760	1760	1940	1460	1000
18	1990	290	2950	7800	6090	2060	2440	1710	1840	1900	1450	975
19	1560	290	2940	7840	6120	2060	2590	1680	1900	1840	1450	978
20	1200	293	2990	7430	6150	2060	2590	1690	1890	1810	1450	973
21	1200	297	3060	7190	6140	2010	2080	1700	1860	1800	1470	973
22	1100	329	3020	7250	6150	1970	1670	1720	1850	1840	1490	955
23	934	301	2920	5620	6150	1930	1610	1730	1790	1870	1460	947
24	948	292	3640	7610	6140	1840	1530	1620	1800	1880	1390	941
25	958	290	4490	7540	6140	1720	1500	1550	1880	1850	1380	957
26	951	288	4480	7210	6160	1730	1550	1550	1930	1780	1360	936
27	954	289	4480	7380	6110	1800	1650	1550	1940	1750	1330	979
28	957	296	4460	7640	5210	1810	1670	1560	1870	1690	1340	998
29	758	288	4460	7870	---	1770	2130	1650	1810	1660	1320	998
30	442	289	4170	7850	---	1770	2550	1740	1770	1700	1310	945
31	333	---	3930	7830	---	1780	---	1790	---	1740	1250	---
TOTAL	37138	9016	67584	228410	187200	70360	50000	61500	53250	56300	47740	32105
MEAN	1198	301	2180	7368	6686	2270	1667	1984	1775	1816	1540	1070
MAX	2020	333	4490	8020	7920	4670	2590	2830	1940	1950	1800	1220
MIN	333	288	285	3510	5210	1720	1130	1550	1540	1660	1250	936
AC-FT	73660	17880	134100	453100	371300	139600	99180	122000	105600	111700	94690	63680

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
LOWEST ANNUAL MEAN	348
HIGHEST DAILY MEAN	37200
LOWEST DAILY MEAN	1.0
ANNUAL SEVEN-DAY MINIMUM	20
INSTANTANEOUS PEAK FLOW	47700
INSTANTANEOUS PEAK STAGE	23.30
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
LOWEST ANNUAL MEAN	360
HIGHEST DAILY MEAN	24000
LOWEST DAILY MEAN	4.5
ANNUAL SEVEN-DAY MINIMUM	8.7
INSTANTANEOUS PEAK FLOW	46200
INSTANTANEOUS PEAK STAGE	22.60
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	873	394	583	817	1038	1315	1801	2257	2300	2087	1728	1367
MAX	3143	1396	2451	7368	6686	4680	5278	5701	6975	5177	2761	3049
(WY)	1984	1970	1983	1997	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1968 - 1997

ANNUAL TOTAL	645956	900603	
ANNUAL MEAN	1765	2467	1382
HIGHEST ANNUAL MEAN			3779
LOWEST ANNUAL MEAN			363
HIGHEST DAILY MEAN	4490	Dec 25	8020
LOWEST DAILY MEAN	262	Jan 19	285
ANNUAL SEVEN-DAY MINIMUM	267	Jan 18	288
INSTANTANEOUS PEAK FLOW			8080
INSTANTANEOUS PEAK STAGE			11.75
ANNUAL RUNOFF (AC-FT)	1281000	1786000	1001000
10 PERCENT EXCEEDS	3120	7200	2840
50 PERCENT EXCEEDS	1960	1750	1170
90 PERCENT EXCEEDS	290	331	182

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 mi².

PERIOD OF RECORD.—October 1965 to current year (low-flow records only).

GAGE.—Water-stage recorder. Datum of gage is 116.79 ft above sea level.

REMARKS.—No records computed above 200 ft³/s. 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.

COOPERATION.—Records were provided by Pacific Gas and 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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	---	---	---	---	---	---	---	162	112	76	126
2	171	---	---	---	---	---	---	---	150	113	72	110
3	148	---	---	---	---	---	---	---	130	110	85	113
4	116	---	---	---	---	---	---	---	133	105	83	115
5	92	---	---	---	---	---	---	---	108	110	67	91
6	110	---	---	---	---	---	---	---	81	112	72	89
7	108	---	---	---	---	---	---	---	78	113	60	122
8	87	---	---	---	---	---	---	---	97	90	58	122
9	---	---	---	---	---	---	---	---	115	97	56	93
10	---	---	---	---	---	---	194	---	100	96	73	85
11	---	---	---	---	---	---	171	---	96	90	80	79
12	---	---	---	---	---	---	165	---	98	95	58	72
13	---	---	---	---	---	---	160	---	94	102	82	76
14	---	---	---	---	---	---	150	---	93	99	94	88
15	---	---	---	---	---	---	---	---	98	85	70	116
16	---	---	---	---	---	---	---	---	103	82	75	94
17	---	---	---	---	---	---	---	---	102	79	89	92
18	---	---	---	---	---	---	---	---	98	104	84	100
19	---	---	---	---	---	---	---	---	95	116	64	111
20	---	---	---	---	---	---	---	---	119	128	64	113
21	---	---	---	---	---	---	---	188	114	110	69	132
22	---	---	---	---	---	---	---	191	93	88	72	127
23	---	---	---	---	---	---	---	178	89	94	67	133
24	---	---	---	---	---	---	---	180	76	78	74	132
25	---	---	---	---	---	---	---	194	48	59	98	133
26	---	---	---	---	---	---	---	200	57	65	81	125
27	---	---	---	---	---	---	---	200	68	74	98	94
28	---	---	---	---	---	---	---	177	84	81	87	90
29	---	---	---	---	---	---	---	164	110	69	73	80
30	---	---	---	---	---	---	---	157	126	51	71	67
31	---	---	---	---	---	---	---	162	---	59	118	---
TOTAL	---	---	---	---	---	---	---	---	3015	2866	2370	3120
MEAN	---	---	---	---	---	---	---	---	101	92.5	76.5	104
MAX	---	---	---	---	---	---	---	---	162	128	118	133
MIN	---	---	---	---	---	---	---	---	48	51	56	67
AC-FT	---	---	---	---	---	---	---	---	5980	5680	4700	6190

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA

LOCATION.—Lat 37°21'04", long 120°57'39", in NE 1/4 SE 1/4 sec. 4, T.7 S., R.9 E, Merced County, Hydrologic Unit 1804002, on upstream side of River Road Bridge, near right bank just downstream of Hatfield State Park and 1.1 river miles upstream of confluence with the San Joaquin River.

DRAINAGE AREA.—1,276 mi².

PERIOD OF RECORD.—April 1992 to current year. Published as Merced River near Stevenson (11272500) water years 1985–94.

CHEMICAL DATA: Water years 1994–95, February 1997 to September 1997.

SEDIMENT DATA: Water years 1994–95, February 1997 to September 1997.

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 and water-temperature values are affected by irrigation return flow. Discharge data provided by Pacific Gas and Electric (not reviewed by U.S. Geological Survey).

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 910 microsiemens, Aug. 7, 1992; minimum recorded, 22 microsiemens, June 23, 1995.

WATER TEMPERATURE: Maximum recorded, 32.5°C, July 14, 15, 1992, Aug. 12, 1992; minimum recorded, 6.0°C, January 4, 5, 1993.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 513 microsiemens, July 31; minimum recorded, 28 microsiemens, Jan. 10.

WATER TEMPERATURE: Maximum recorded, 30.0°C, Aug. 7, 8; minimum recorded, 7.0°C, Jan. 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		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 WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION) (00301)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	
FEB													
04...	1150	9780	55	7.0	10.0	766	9.7	85	5.2	1.8	2.6	21	
MAR													
04...	1330	--	60	7.4	10.5	767	10.8	96	6.0	2.0	2.7	19	
APR													
07...	1230	616	208	7.3	16.0	764	8.8	89	15	5.1	16	36	
MAY													
06...	1350	1230	75	7.6	18.0	764	9.0	95	6.5	2.1	4.3	27	
JUN													
10...	1120	301	318	7.7	24.0	762	7.6	90	22	7.6	26	39	
30...	1140	280	387	7.8	21.5	763	8.5	9	27	9.1	37	43	
JUL													
08...	1040	254	319	7.6	26.0	759	7.4	92	22	7.7	28	40	
30...	1230	208	472	7.9	26.0	765	8.4	104	31	11	45	44	
AUG													
27...	1150	248	313	7.7	24.0	762	8.4	100	22	7.1	28	41	
SEP													
04...	0930	213	317	7.6	24.0	762	7.2	86	20	7.1	27	42	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
FEB													
04...	1.1	18	3.0	1.4	<.10	11	45	47	.06	.040	1.40	.410	
MAR													
04...	.90	22	3.0	1.4	<.10	11	45	44	.06	<.010	.120	.020	
APR													
07...	1.7	53	13	15	<.10	15	135	123	.18	.020	1.80	.120	
MAY													
06...	.90	23	3.9	3.5	<.10	10	53	49	.07	<.010	.347	<.015	
JUN													
10...	2.9	77	20	26	<.10	16	192	182	.26	.111	3.17	.162	
30...	2.5	84	26	37	.19	19	242	240	.33	.042	4.87	.046	
JUL													
08...	2.3	72	19	27	<.10	15	194	168	.26	.039	3.17	<.015	
30...	2.5	110	29	46	.15	19	285	274	.39	.040	4.60	.020	
AUG													
27...	2.2	70	16	27	<.10	16	191	177	.26	.039	2.98	<.015	
SEP													
04...	2.5	71	19	28	<.10	16	188	184	.26	.033	3.35	.028	

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDEDED TOTAL (MG/L AS C) (00689)
FEB 04...	1.0	.70	.290	.210	.230	6.7	54	9.0	<1.0	<1	8.8	.50
MAR 04...	<.20	<.20	.050	<.010	.020	8.1	58	26	1.1	<1	2.2	.50
APR 07...	.30	<.20	.050	.030	.030	23	43	70	1.2	<1	2.1	.30
MAY 06...	<.20	<.20	.052	.022	.014	13	31	6.9	<1.0	<1	1.9	.70
JUN 10...	.41	.41	.061	.048	.064	38	31	56	1.6	<1	2.5	.50
30...	.24	.25	.101	.064	.073	44	36	44	1.5	<1	4.0	1.6
JUL 08...	.33	.31	.098	.064	.048	39	35	49	1.8	<1	1.9	.30
30...	.26	.20	.055	.048	.048	59	15	109	2.3	<1	2.1	<.20
AUG 27...	.28	<.20	.068	.044	.048	43	29	56	1.7	<1	2.5	.30
SEP 04...	.24	.28	.069	.061	.054	45	21	45	1.5	<1	2.2	.20

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
FEB 04...N	1150	9780	10.0	35	924
MAR 04...N	1330	--	10.5	35	--
APR 07...N	1230	616	16.0	14	23
MAY 06...N	1350	1230	18.0	--	--
JUN 10...N	1120	301	24.0	15	12
30...	1140	280	21.5	13	9.8
JUL 08...N	1040	254	26.0	9	6.2
30...N	1230	208	26.0	4	2.2
AUG 27...N	1150	248	24.0	6	4.0
SEP 04...N	0930	213	24.0	14	8.1

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	20.0	14.5	13.0	12.5	11.0	13.0	12.0	10.5	10.0	11.0	9.5
2	23.0	19.0	14.5	13.0	11.5	10.0	13.0	12.5	10.5	10.0	11.5	10.0
3	23.0	20.0	15.0	13.0	10.5	8.5	13.5	13.0	10.5	10.0	11.0	10.0
4	23.5	20.5	15.0	13.5	10.5	8.5	13.5	11.5	10.5	10.0	11.0	9.5
5	24.0	20.0	14.5	13.0	11.0	10.5	11.5	10.5	11.0	10.0	11.5	10.0
6	26.0	20.0	14.0	12.0	11.5	10.5	10.5	9.0	10.5	10.0	11.5	10.5
7	26.5	20.0	14.0	11.5	11.0	10.0	9.0	8.5	11.0	9.5	12.0	11.0
8	27.5	20.5	14.5	12.0	12.5	10.5	9.0	8.5	11.0	10.0	12.0	11.5
9	25.5	21.0	14.0	12.0	12.5	12.0	9.5	8.5	10.5	10.0	13.0	11.5
10	23.0	20.0	14.5	12.5	12.5	12.0	9.0	9.0	11.0	10.0	13.5	12.0
11	22.5	20.0	14.5	12.5	12.5	12.0	9.0	9.0	11.0	10.0	13.5	13.0
12	21.5	20.0	14.5	12.5	13.5	12.5	9.0	9.0	11.0	10.0	14.0	13.0
13	21.5	19.0	15.5	13.0	14.0	13.0	9.0	8.0	10.0	9.0	13.5	12.5
14	20.0	18.5	14.5	13.5	13.0	12.0	8.0	7.0	10.5	9.0	13.5	12.0
15	19.5	17.0	14.5	12.5	13.0	11.5	8.5	7.5	10.5	9.5	14.0	12.5
16	18.5	16.0	13.5	12.0	11.5	11.0	8.5	8.5	11.0	9.5	14.0	13.5
17	16.0	15.0	14.0	12.5	11.5	11.5	8.5	8.5	11.0	10.0	15.0	13.5
18	15.5	14.5	16.0	13.5	11.5	11.0	9.0	8.5	11.0	10.0	15.0	14.0
19	15.0	14.0	15.0	14.5	11.0	10.5	9.0	8.5	11.0	10.0	15.5	14.5
20	14.5	13.5	15.5	14.0	11.0	10.0	9.5	8.5	11.0	10.0	15.5	15.0
21	14.0	13.0	15.5	15.0	10.5	10.0	9.5	9.0	11.0	10.0	16.0	15.0
22	14.5	12.5	16.0	14.5	10.5	10.0	10.0	9.5	11.5	10.0	16.0	15.0
23	15.0	13.0	15.0	14.0	10.0	9.5	10.0	9.5	11.0	10.0	16.0	15.0
24	15.0	14.0	15.0	13.5	10.5	10.0	10.5	9.5	10.5	9.5	17.0	15.5
25	15.0	13.5	15.0	14.0	10.0	9.5	10.5	10.0	10.5	9.0	17.5	16.0
26	14.0	12.0	14.0	13.0	10.5	10.0	11.0	10.5	11.0	9.5	17.5	16.0
27	14.5	12.5	13.5	12.0	11.0	10.5	11.0	10.5	11.0	10.0	17.5	16.0
28	14.5	12.5	13.0	12.0	11.5	11.0	10.5	10.0	10.5	10.0	17.0	16.0
29	14.0	13.0	12.0	10.5	11.5	11.0	11.0	10.0	---	---	17.0	15.5
30	14.0	13.0	12.0	10.0	11.5	11.0	10.0	10.0	---	---	17.0	15.5
31	14.5	13.0	---	---	12.0	11.5	10.5	10.0	---	---	16.5	15.5
MONTH	27.5	12.0	16.0	10.0	14.0	8.5	13.5	7.0	11.5	9.0	17.5	9.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.5	14.0	18.5	16.5	---	---	---	---	27.5	23.0	---	---
2	14.5	13.0	16.5	15.5	---	---	---	---	27.5	22.5	---	---
3	14.5	12.5	16.5	15.0	---	---	---	---	28.0	23.0	---	---
4	15.5	13.5	18.0	15.5	---	---	---	---	28.0	23.5	---	---
5	16.0	14.0	18.5	16.5	---	---	---	---	29.0	24.0	---	---
6	17.0	14.0	18.5	17.0	---	---	---	---	29.5	24.0	---	---
7	17.5	14.5	19.0	17.0	---	---	---	---	30.0	25.5	---	---
8	18.0	15.0	19.0	17.0	---	---	---	---	30.0	26.0	---	---
9	16.5	14.5	19.5	17.5	---	---	---	---	28.5	24.0	---	---
10	---	---	20.0	18.0	---	---	---	---	27.0	23.5	---	---
11	---	---	20.0	18.0	---	---	---	---	27.0	22.5	---	---
12	---	---	21.0	19.0	---	---	---	---	27.0	23.0	---	---
13	---	---	22.0	19.0	---	---	---	---	27.0	23.5	---	---
14	---	---	24.0	19.5	---	---	---	---	27.0	23.5	---	---
15	---	---	24.0	20.0	---	---	---	---	27.0	23.5	---	---
16	---	---	25.0	20.0	---	---	---	---	26.5	23.5	---	---
17	---	---	26.0	20.5	---	---	---	---	26.0	22.5	---	---
18	20.5	18.5	25.5	22.5	---	---	27.5	22.5	26.0	22.0	---	---
19	18.5	18.0	26.0	22.5	---	---	28.5	23.0	25.5	23.5	---	---
20	18.5	17.0	25.5	22.5	---	---	28.5	24.5	26.5	22.0	---	---
21	18.5	17.0	25.0	22.0	---	---	29.0	24.5	27.5	23.5	---	---
22	18.0	17.0	---	---	---	---	29.0	25.5	27.0	23.5	---	---
23	19.0	17.0	---	---	---	---	27.5	25.5	---	---	---	---
24	18.5	17.0	---	---	---	---	28.5	23.5	---	---	---	---
25	19.5	17.0	---	---	---	---	28.5	24.0	---	---	---	---
26	21.0	17.5	---	---	---	---	29.5	24.0	---	---	---	---
27	21.0	18.5	---	---	---	---	28.0	23.5	---	---	---	---
28	20.5	18.5	---	---	---	---	28.5	23.5	---	---	---	---
29	20.5	18.0	---	---	---	---	28.5	23.5	---	---	24.0	20.5
30	20.5	18.0	---	---	---	---	29.0	23.5	---	---	24.0	21.0
31	---	---	---	---	---	---	28.0	22.5	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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 mi².

PERIOD OF RECORD.—April 1912 to current year. Water years 1938 to 1943 include flows through Merced River Slough.

CHEMICAL DATA: Water year 1993.

SPECIFIC CONDUCTANCE: Water years 1989, 1992–95.

TEMPERATURE: Water years 1989, 1992–95.

SEDIMENT DATA: Water year 1993.

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.—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), 36,200 ft³/s, Jan. 28, 1997, elevation, 66.14 ft; minimum daily, 15 ft³/s, Aug. 9, 10, 1924. Maximum discharge (including flow in Merced River Slough in water years 1938–43), 33,000 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	540	1210	1020	10800	32500	10900	1590	1250	534	368	460	348
2	550	1220	989	16500	31700	9850	1540	1370	546	378	456	352
3	569	1180	964	21900	31100	9400	1470	1490	510	387	458	351
4	580	1110	933	24500	30600	8790	1450	1480	505	410	464	349
5	569	1040	925	25600	29900	7630	1370	1370	490	454	472	348
6	556	979	926	25800	28700	6680	1200	1290	483	458	461	346
7	541	940	1110	27200	27200	6140	1140	1270	471	456	431	339
8	528	897	1430	27300	25600	5910	1090	1230	480	455	409	348
9	523	868	1510	25500	24100	5360	1060	1240	488	442	401	387
10	532	856	1490	23100	22800	4800	1010	1630	471	407	396	421
11	588	854	2150	21400	21800	4360	924	1740	458	381	403	418
12	692	850	3170	20800	20700	3770	882	1740	451	367	425	404
13	802	845	3540	20600	19600	3220	877	1360	450	365	439	399
14	877	835	3790	20800	19100	2790	850	911	448	368	428	405
15	875	829	4510	21300	18500	2530	859	821	452	370	419	412
16	1060	823	4940	21500	18200	2430	980	784	476	372	415	420
17	1250	824	5310	21700	17900	2370	1120	739	487	363	429	408
18	1330	843	5330	21600	17600	2340	1340	707	471	344	489	389
19	1390	899	5180	22000	17300	2290	1450	705	458	346	534	410
20	1480	936	5020	22600	16600	2230	1650	681	442	355	504	442
21	1280	994	4790	22400	16200	2210	1750	651	424	367	472	464
22	1160	1060	5150	22800	15900	2150	1680	618	424	381	451	480
23	1130	1160	6530	24700	15400	2090	1340	643	423	393	437	485
24	1070	1420	6980	26700	14600	2030	1190	691	425	397	415	472
25	1060	1520	7310	28800	13700	1980	1110	706	415	392	395	435
26	1030	1480	8070	32200	12900	1930	1000	710	397	390	391	417
27	970	1340	8190	34600	12400	1850	959	697	380	393	385	420
28	964	1210	8100	36000	11600	1780	984	685	361	403	364	426
29	966	1130	7950	35000	---	1730	945	649	356	418	330	436
30	1040	1070	7990	33700	---	1730	967	640	359	434	329	442
31	1140	---	8680	33100	---	1710	---	606	---	449	344	---
TOTAL	27642	31222	133977	772500	584200	124980	35777	31104	13535	12263	13206	12173
MEAN	892	1041	4322	24920	20860	4032	1193	1003	451	396	426	406
MAX	1480	1520	8680	36000	32500	10900	1750	1740	546	458	534	485
MIN	523	823	925	10800	11600	1710	850	606	356	344	329	339
AC-FT	54830	61930	265700	1532000	1159000	247900	70960	61690	26850	24320	26190	24150

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	689	659	1232	2435	3076	3037	2841	2743	2091	917	504	612
MAX	5831	4039	10880	24920	21100	24170	18860	14050	15280	11320	2683	3786
(WY)	1984	1984	1983	1997	1983	1983	1983	1983	1983	1983	1983	1983
MIN	25.2	123	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1944 - 1997

ANNUAL TOTAL	758769	1792579	
ANNUAL MEAN	2073	4911	1729
HIGHEST ANNUAL MEAN			11620
LOWEST ANNUAL MEAN			200
HIGHEST DAILY MEAN	8680	Dec 31	36000
LOWEST DAILY MEAN	511	Sep 28	329
ANNUAL SEVEN-DAY MINIMUM	536	Sep 26	343
INSTANTANEOUS PEAK FLOW			36200
INSTANTANEOUS PEAK STAGE			66.14
INSTANTANEOUS LOW FLOW			15
ANNUAL RUNOFF (AC-FT)	1505000	3556000	1252000
10 PERCENT EXCEEDS	5540	21300	3980
50 PERCENT EXCEEDS	1070	967	581
90 PERCENT EXCEEDS	586	392	215

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 mi².

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, WDR CA-95-3: 1986 (M).

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.—Records good except for discharges below 10 ft³/s which are fair. No storage or diversion upstream from station except for minor stock ponds.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,000 ft³/s, Mar. 10, 1995, gage height, 9.51, from rating curve extended above 4,000 ft³/s on basis of critical depth measurement; no flow for all or parts of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	1600	1,480	5.37	Jan. 15	1330	171	4.17
Dec. 22	0100	1,230	5.16	Jan. 23	0230	3,320	6.88
Jan. 02	1645	3,090	6.75				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	1330	49	23	10	2.4	.00	.00	.00	.00
2	.00	.00	.00	1940	49	22	11	2.4	.00	.00	.00	.00
3	.00	.00	.00	857	58	22	15	2.7	.00	.00	.00	.00
4	.00	.00	.00	249	56	19	22	2.1	.00	.00	.00	.00
5	.00	.00	.00	177	54	16	19	1.7	.00	.00	.00	.00
6	.00	.00	.00	122	53	16	12	1.5	.00	.00	.00	.00
7	.00	.00	.00	89	51	15	6.9	.99	.00	.00	.00	.00
8	.00	.00	.00	68	51	13	7.7	.75	.00	.00	.00	.00
9	.00	.00	.00	60	49	41	6.0	.58	.00	.00	.00	.00
10	.00	.00	426	50	48	41	9.8	.45	.00	.00	.00	.00
11	.00	.00	286	46	47	40	5.2	.36	.00	.00	.00	.00
12	.00	.00	84	44	45	36	5.6	.29	.00	.00	.00	.00
13	.00	.00	76	36	42	32	5.8	.24	.00	.00	.00	.00
14	.00	.00	59	26	39	31	6.0	.18	.00	.00	.00	.00
15	.00	.00	39	90	39	16	5.3	.15	.00	.00	.00	.00
16	.00	.00	29	54	39	7.1	5.2	.10	.00	.00	.00	.00
17	.00	.00	22	35	39	7.0	5.6	.08	.00	.00	.00	.00
18	.00	.00	18	31	38	6.1	6.9	.06	.00	.00	.00	.00
19	.00	.00	e17	26	37	6.8	7.3	.02	.00	.00	.00	.00
20	.00	.00	e11	75	38	5.6	8.5	.00	.00	.00	.00	.00
21	.00	.00	59	229	36	19	8.0	.00	.00	.00	.00	.00
22	.00	.00	709	903	34	21	10	.00	.00	.00	.00	.00
23	.00	.00	285	1770	34	28	7.8	.00	.00	.00	.00	.00
24	.00	.00	103	504	30	22	5.4	.00	.00	.00	.00	.00
25	.00	.00	67	1390	33	18	4.5	.00	.00	.00	.00	.00
26	.00	.00	54	1540	28	17	3.9	.00	.00	.00	.00	.00
27	.00	.00	55	841	28	15	4.1	.00	.00	.00	.00	.00
28	.00	.00	62	406	27	13	3.4	.00	.00	.00	.00	.00
29	.00	.00	56	203	---	12	3.1	.00	.00	.00	.00	.00
30	.00	.00	88	117	---	12	2.6	.00	.00	.00	.00	.00
31	.00	---	111	72	---	11	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	2716.00	13380	1171	603.6	233.6	17.05	0.00	0.00	0.00	0.00
MEAN	.000	.000	87.6	432	41.8	19.5	7.79	.55	.000	.000	.000	.000
MAX	.00	.00	709	1940	58	41	22	2.7	.00	.00	.00	.00
MIN	.00	.00	.00	26	27	5.6	2.6	.00	.00	.00	.00	.00
AC-FT	.00	.00	5390	26540	2320	1200	463	34	.00	.00	.00	.00

e Estimated.

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.96	11.9	47.0	77.3	49.3	22.3	3.17	.61	.11	.001	.000
MAX	.000	31.0	181	432	482	345	362	46.9	15.1	5.32	.045	.000
(WY)	1933	1951	1956	1997	1980	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1932 - 1997	
ANNUAL TOTAL	15029.66		18121.25			
ANNUAL MEAN	41.1		49.6		17.4	
HIGHEST ANNUAL MEAN					89.4	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1190	Feb 20	1940	Jan 2	4260	Mar 10 1995
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			3320	Jan 23	12000	Mar 10 1995
INSTANTANEOUS PEAK STAGE			6.88	Jan 23	9.51	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	29810		35940		12630	
10 PERCENT EXCEEDS	97		57		19	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 good except for period of estimated daily discharge which is fair. Flows during summer and fall consist mainly of return water from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,650 ft³/s, Mar. 10, 1995, gage height 18.40 ft, from rating curve extended above 2,470 ft³/s, maximum gage height, 19.60 ft, Jan. 23, 1997 (backwater from San Joaquin River); no flow for many days during winter months.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	58	15	285	e655	187	45	9.4	16	17	22	17
2	33	63	12	1160	e646	184	17	26	19	17	16	7.1
3	45	51	24	e1090	e515	190	61	24	17	25	17	7.6
4	15	46	26	e550	e340	191	70	13	24	16	16	5.8
5	6.2	30	23	e220	e225	140	23	15	27	15	14	6.2
6	5.0	19	15	e230	e278	105	18	14	17	17	14	8.0
7	8.5	17	14	e280	e280	54	17	35	18	18	14	30
8	12	5.3	12	e305	e284	40	19	32	41	20	13	32
9	5.4	16	14	e275	e286	76	17	18	33	22	11	35
10	8.4	24	57	e212	e265	38	16	18	11	21	14	9.0
11	13	22	212	e200	e264	13	19	13	9.4	26	14	14
12	6.2	20	136	e180	e265	3.2	17	22	11	26	19	3.3
13	24	16	71	e168	e245	1.6	24	35	16	35	20	10
14	65	6.7	26	e155	e240	11	59	25	34	18	18	9.0
15	49	4.5	16	e210	e233	42	18	26	22	20	22	31
16	34	37	9.2	e205	e191	7.9	14	24	11	17	14	14
17	30	62	11	e196	e154	17	18	31	13	21	34	4.2
18	44	67	12	e180	e124	16	21	19	16	21	47	5.4
19	43	27	13	e170	e112	10	22	17	18	21	20	5.7
20	28	34	12	e300	e76	11	29	17	15	20	13	5.2
21	40	41	13	e450	e97	10	21	20	15	27	12	13
22	69	47	294	e900	113	12	15	28	15	20	10	23
23	64	31	162	e1760	130	33	15	29	17	20	8.2	15
24	50	28	80	e1490	143	93	12	32	19	22	7.6	5.3
25	58	28	35	e1440	145	73	14	15	18	21	22	4.2
26	30	19	80	e1150	154	21	24	18	23	17	28	11
27	44	15	109	e1140	169	40	15	29	23	25	8.6	4.8
28	49	14	75	e1080	177	36	11	7.9	18	25	6.1	4.4
29	53	14	43	e985	---	146	9.8	39	17	16	9.0	8.3
30	80	15	21	e790	---	107	8.8	13	27	17	14	6.1
31	55	---	35	e710	---	66	---	7.4	---	21	15	---
TOTAL	1079.7	877.5	1677.2	18466	6806	1974.7	689.6	671.7	580.4	644	512.5	354.6
MEAN	34.8	29.3	54.1	596	243	63.7	23.0	21.7	19.3	20.8	16.5	11.8
MAX	80	67	294	1760	655	191	70	39	41	35	47	35
MIN	5.0	4.5	9.2	155	76	1.6	8.8	7.4	9.4	15	6.1	3.3
AC-FT	2140	1740	3330	36630	13500	3920	1370	1330	1150	1280	1020	703

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	16.5	19.3	20.7	189	141	133	29.3	29.2	18.7	23.9	22.7	13.6
MAX	34.8	29.4	54.1	596	243	318	44.0	58.8	30.5	36.4	46.1	21.1
(WY)	1997	1996	1997	1997	1997	1995	1995	1996	1995	1995	1993	1993
MIN	2.19	3.82	1.01	11.4	6.15	12.5	12.2	11.7	7.38	14.1	11.2	4.04
(WY)	1995	1995	1995	1994	1995	1994	1994	1994	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1992 - 1997

ANNUAL TOTAL	21397.80	34333.9	
ANNUAL MEAN	58.5	94.1	55.5
HIGHEST ANNUAL MEAN			94.1
LOWEST ANNUAL MEAN			15.7
HIGHEST DAILY MEAN	1100	Feb 20	1760
LOWEST DAILY MEAN	.00	Jan 2	1.6
ANNUAL SEVEN-DAY MINIMUM	.02	Jan 19	6.3
INSTANTANEOUS PEAK FLOW			2090
INSTANTANEOUS PEAK STAGE			19.60
ANNUAL RUNOFF (AC-FT)	42440	68100	40200
10 PERCENT EXCEEDS	135	222	86
50 PERCENT EXCEEDS	23	22	17
90 PERCENT EXCEEDS	4.6	9.0	1.6

e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—April 1992 to current year.

CHEMICAL DATA: Water years 1992–95, February 1997 to September 1997.

SEDIMENT DATA: Water years 1992–95, February 1997 to September 1997.

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, 31.0°C, July 29, 1996; minimum recorded, 4.0°C, Dec. 28, 1992.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,260 microsiemens, Dec. 20; minimum recorded, 292 microsiemens, Jan. 23.

WATER TEMPERATURE: Maximum recorded, 29.5°C, July 13, 22, Aug. 7; minimum recorded, 5.0°C, Jan. 13, 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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 WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	CALCIUM DIS- SOLVED AS CA (00915)	MAGNE- SIUM, DIS- SOLVED AS MG (00925)	SODIUM, DIS- SOLVED AS NA (00930)	SODIUM PERCENT (00932)
FEB												
04...	1300	e400	780	8.0	12.5	766	10.5	98	60	32	53	29
MAR												
04...	1040	198	584	8.3	10.0	767	10.6	93	40	20	47	36
APR												
07...	1000	21	832	8.2	14.5	766	9.6	94	60	30	58	31
MAY												
06...	1030	15	787	8.2	17.0	764	9.0	93	54	28	60	34
JUN												
10...	1330	11	720	8.0	24.5	762	7.7	93	46	22	59	37
30...	1310	23	493	8.0	22.5	764	8.1	93	30	15	42	39
JUL												
08...	1310	18	601	8.0	25.0	759	8.0	98	44	21	44	32
30...	1100	18	598	8.0	22.5	765	8.0	92	43	21	43	32
AUG												
27...	1150	6.7	585	8.0	23.5	762	7.8	92	37	18	51	39
SEP												
04...	1130	6.0	717	8.0	23.0	762	6.7	78	49	26	53	33

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
FEB												
04...	4.3	180	190	24	.30	15	517	490	.70	.020	.210	.020
MAR												
04...	2.7	100	120	31	.20	10	357	349	.49	.040	2.40	.160
APR												
07...	4.3	170	120	72	.20	15	521	493	.71	.040	5.30	.050
MAY												
06...	4.4	150	110	80	.15	15	481	463	.65	.062	4.63	<.015
JUN												
10...	6.3	87	110	75	.18	15	441	425	.60	.080	3.75	.063
30...	3.1	65	53	52	.15	15	303	268	.41	.190	3.77	.313
JUL												
08...	3.3	120	77	52	.16	15	367	331	.50	.041	4.06	<.015
30...	3.4	110	69	53	.18	16	372	350	.51	.197	6.27	.483
AUG												
27...	2.5	100	72	60	.13	15	351	332	.48	.019	1.87	<.015
SEP												
04...	5.0	160	90	63	.14	15	435	418	.59	.057	3.56	.051

e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
FEB												
04...	<.20	<.20	.050	<.010	.020	352	5.0	9.0	2.4	2	7.1	1.2
MAR												
04...	.60	.40	.150	.070	.110	290	5.0	9.0	2.3	3	3.5	1.1
APR												
07...	.60	.30	.280	.140	.140	269	<3.0	16	<1.0	1	2.5	.80
MAY												
06...	.79	.37	.377	.221	.231	283	6.3	16	<1.0	1	4.1	.80
JUN												
10...	.79	.33	.403	.238	.251	304	<3.0	12	2.2	2	3.8	1.1
30...	.98	.67	.230	.173	.160	226	5.2	4.6	2.3	<1	2.3	0.3
JUL												
08...	1.1	.31	.558	.163	.156	201	3.3	7.6	2.2	<1	3.1	2.9
30...	1.6	.96	.407	.122	.121	192	9.3	5.0	2.5	<1	2.6	3.5
AUG												
27...	.46	<.20	.173	.089	.087	267	<3.0	9.8	2.4	1	2.8	.70
SEP												
04...	.70	.49	.256	.199	.181	282	5.5	14	1.6	<1	4.8	.80

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
FEB					
04...N	1300	e400	12.5	71	77
MAR					
04...N	1040	198	10.0	74	40
APR					
07...N	1000	21	14.5	138	7.8
MAY					
06...N	1030	15	17.0	--	--
JUN					
10...N	1330	11	24.5	156	4.6
30...N	1310	23	22.5	345	21
JUL					
08...N	1310	18	25.0	426	21
30...N	1100	18	22.5	424	21
AUG					
27...N	1150	6.7	23.5	115	2.1
SEP					
04...N	1130	6.0	23.0	86	1.4

e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	717	696	503	460	692	497	651	557	705	682	591	583
2	697	578	476	440	649	524	563	547	726	701	595	587
3	632	563	460	430	654	470	559	549	---	---	595	591
4	658	581	460	438	580	502	580	559	---	---	591	582
5	695	618	450	438	715	580	598	580	773	745	582	574
6	877	671	498	440	633	525	611	598	745	704	576	559
7	875	626	494	457	598	526	630	611	704	684	559	547
8	1190	676	622	478	600	580	652	630	692	686	553	544
9	1180	1050	655	622	660	592	672	650	690	673	554	548
10	1050	722	648	538	592	347	675	659	673	662	548	530
11	1020	723	560	478	470	318	660	627	664	655	533	527
12	1050	1020	518	478	513	469	627	593	657	650	---	---
13	1080	914	506	474	532	480	593	555	654	644	---	---
14	914	602	476	469	572	521	555	541	647	640	---	---
15	619	574	481	472	583	538	541	534	644	633	---	---
16	600	554	566	474	640	548	538	517	634	627	---	---
17	787	559	553	486	731	628	517	439	630	622	---	---
18	766	588	633	455	942	705	440	421	623	615	---	---
19	613	557	712	543	1080	924	430	419	618	612	---	---
20	654	542	773	440	1260	1080	444	429	618	608	---	---
21	663	537	478	405	1250	621	478	444	611	605	844	707
22	538	506	499	413	689	390	476	418	611	606	853	680
23	541	521	520	478	454	387	418	292	608	598	680	433
24	579	541	526	480	493	454	443	367	603	595	461	404
25	598	496	524	476	524	492	474	374	597	591	487	425
26	578	502	477	447	547	524	424	377	596	590	534	477
27	533	460	632	457	581	547	468	394	597	593	531	455
28	482	467	567	527	621	581	520	468	595	588	568	481
29	506	480	555	528	671	621	569	520	---	---	549	473
30	511	497	654	547	704	671	620	569	---	---	567	503
31	542	460	---	---	699	650	682	620	---	---	565	531
MONTH	1190	460	773	405	1260	318	682	292	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	578	563	800	763	899	855	506	493	630	606	696	684
2	606	577	840	800	909	894	522	504	633	612	695	687
3	744	606	820	692	907	900	549	514	653	628	726	688
4	709	599	699	692	909	898	562	538	649	632	725	713
5	656	612	765	698	902	781	593	559	654	625	734	717
6	762	656	793	765	807	780	615	591	675	648	736	722
7	893	762	794	739	827	805	636	602	699	667	728	682
8	897	856	741	639	828	675	631	601	716	688	685	603
9	856	810	661	644	705	648	625	608	711	675	621	597
10	874	824	690	661	728	702	639	608	675	652	613	602
11	859	822	695	686	746	724	647	633	670	653	638	608
12	831	809	694	685	784	740	642	607	667	647	651	636
13	814	780	685	622	860	777	610	549	684	654	791	639
14	783	752	656	635	838	764	557	536	710	683	767	753
15	752	704	665	650	765	652	592	557	724	702	753	679
16	729	707	705	657	690	658	626	588	740	700	688	664
17	736	724	705	631	690	659	641	574	747	734	686	669
18	730	706	645	631	708	674	646	628	734	677	760	651
19	711	701	668	636	710	672	645	615	708	682	783	750
20	718	666	687	660	678	659	675	644	721	703	793	696
21	667	649	725	687	663	652	675	611	754	719	780	669
22	662	652	735	622	658	641	640	613	837	752	728	573
23	689	660	678	615	654	641	657	640	781	685	603	552
24	724	689	647	595	647	622	668	653	741	605	581	542
25	771	724	669	602	625	590	662	613	610	594	611	580
26	801	771	799	669	593	571	613	585	594	582	825	600
27	779	737	810	681	572	537	622	609	598	584	839	825
28	783	738	807	726	549	521	611	585	612	593	848	820
29	793	782	874	804	523	504	601	578	657	609	897	802
30	787	756	821	803	507	493	619	595	678	652	887	828
31	---	---	856	820	---	---	632	608	691	676	---	---
MONTH	897	563	874	595	909	493	675	493	837	582	897	542

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	22.5	20.5	14.0	11.5	11.0	9.5	15.5	14.0	13.0	12.0	13.0	9.5
2	22.5	19.0	14.0	12.0	10.0	8.5	15.5	14.5	13.5	11.5	13.0	11.0
3	22.0	19.5	14.5	12.5	9.5	8.0	14.5	12.5	---	---	13.0	11.0
4	23.5	19.5	14.0	13.0	10.0	8.0	12.5	10.5	---	---	12.5	10.0
5	22.5	18.0	13.5	12.5	10.5	10.0	10.5	9.5	13.5	11.5	13.5	10.0
6	23.5	18.0	12.5	11.0	11.0	10.0	10.0	7.0	13.0	11.0	14.5	11.0
7	21.5	18.5	12.0	10.5	11.0	9.5	8.0	7.0	14.0	11.5	15.0	12.0
8	22.0	19.5	12.0	11.0	12.0	10.5	8.5	7.0	13.5	11.5	16.0	12.5
9	22.0	19.0	13.0	10.0	12.0	11.5	9.5	7.0	13.0	11.5	16.5	13.5
10	20.0	18.0	14.0	12.0	12.0	11.5	9.5	8.0	14.0	11.5	17.5	14.0
11	20.0	18.0	14.5	12.5	14.0	12.0	9.0	8.5	14.0	11.5	17.5	15.0
12	20.5	17.0	14.0	12.5	15.5	14.0	9.0	8.5	13.5	11.5	---	---
13	20.5	16.5	14.5	13.0	15.5	13.0	8.5	5.0	12.5	9.5	---	---
14	20.5	18.5	14.0	12.0	13.0	10.5	6.5	5.0	13.0	10.0	---	---
15	20.0	17.0	12.0	11.0	10.5	8.0	7.0	6.0	13.0	11.0	---	---
16	19.5	16.5	12.0	10.5	10.5	8.5	7.5	7.0	14.0	11.0	---	---
17	17.0	14.5	13.5	12.0	10.5	8.5	8.0	7.5	14.0	12.5	---	---
18	17.0	15.0	15.5	13.5	10.0	9.0	8.5	8.0	13.0	10.5	---	---
19	17.0	14.5	15.0	14.0	9.0	8.0	8.5	8.0	14.5	11.5	---	---
20	15.0	13.0	15.0	14.5	8.0	7.5	9.5	8.0	14.0	11.5	---	---
21	14.0	11.5	15.5	15.0	8.0	7.5	10.0	9.5	14.0	11.0	19.0	15.5
22	15.0	12.5	15.5	14.5	10.0	7.5	11.0	10.0	14.0	12.0	20.5	15.0
23	15.5	13.5	15.0	14.5	10.0	8.5	12.0	10.5	14.0	11.0	21.0	16.0
24	15.5	14.0	15.0	13.5	10.0	8.0	11.5	10.0	12.0	9.5	20.5	17.5
25	15.0	13.5	14.5	13.5	8.5	7.5	13.0	11.0	11.5	8.5	21.0	17.0
26	13.5	11.0	14.0	12.5	8.5	7.0	14.0	12.0	13.5	10.5	21.5	18.0
27	13.0	10.0	12.5	11.0	11.0	8.5	13.0	11.5	13.5	12.0	20.0	17.5
28	13.5	11.0	11.5	10.5	11.5	10.0	14.0	12.0	13.0	10.0	18.5	16.0
29	13.0	12.0	11.0	9.5	11.5	11.0	13.5	12.0	---	---	19.0	14.5
30	12.5	12.0	10.0	8.0	12.5	11.0	12.5	11.0	---	---	19.5	16.5
31	13.0	11.0	---	---	14.0	12.0	12.0	11.0	---	---	18.5	16.5
MONTH	23.5	10.0	15.5	8.0	15.5	7.0	15.5	5.0	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	17.0	15.0	16.5	15.5	25.5	20.5	25.0	19.0	27.5	21.0	25.5	22.5
2	15.0	13.5	16.0	15.0	24.5	20.0	24.5	20.0	26.5	20.5	24.5	22.5
3	14.0	12.5	17.5	16.0	23.0	20.5	27.5	20.5	26.0	21.5	24.0	22.5
4	14.5	13.5	17.5	17.0	22.0	19.5	27.0	23.0	27.5	22.5	26.5	22.0
5	14.5	14.0	17.0	16.5	23.5	18.5	26.5	22.5	28.0	22.5	26.5	23.0
6	14.5	13.5	18.0	17.0	23.5	19.5	27.0	21.5	29.0	23.0	25.5	21.5
7	16.0	14.0	18.5	17.5	25.0	21.0	28.0	22.5	29.5	24.5	25.5	22.0
8	16.5	15.0	19.0	18.5	26.5	22.0	28.0	24.0	28.5	24.5	26.0	22.5
9	16.0	14.0	20.0	18.5	26.0	22.5	28.5	24.0	27.0	24.0	26.0	22.5
10	14.5	13.0	20.5	19.0	26.0	22.5	28.5	23.0	25.5	21.5	25.0	20.5
11	15.0	14.0	20.5	19.5	25.0	22.0	28.5	23.0	26.0	21.5	25.0	18.5
12	15.5	14.0	21.0	19.5	26.0	20.5	29.0	22.0	26.0	22.0	25.0	20.0
13	17.0	15.0	21.5	20.5	23.5	19.5	29.5	23.0	27.0	22.0	23.0	20.5
14	18.0	16.5	21.5	20.5	26.0	20.5	28.5	23.0	26.5	22.5	23.0	20.0
15	18.0	17.0	22.0	21.5	26.0	22.0	29.0	23.5	27.5	22.0	22.5	20.5
16	19.0	17.5	23.0	21.5	27.0	24.0	28.0	24.5	26.0	21.0	22.0	19.0
17	19.5	17.5	23.0	22.0	27.5	25.5	28.5	23.5	26.5	21.5	21.5	18.0
18	19.5	18.5	23.5	22.5	28.0	22.5	27.5	21.5	27.0	22.5	22.0	18.5
19	19.5	19.0	23.5	23.0	27.5	22.0	28.5	21.5	26.0	23.0	22.0	17.5
20	19.5	18.5	23.5	22.0	28.5	22.0	29.0	23.0	26.5	23.0	21.5	17.5
21	19.5	19.0	23.0	21.5	27.5	21.0	28.5	24.0	27.0	22.5	22.5	17.5
22	19.5	18.5	23.5	21.0	25.0	19.5	29.5	24.0	26.0	23.5	23.0	20.0
23	18.5	18.0	22.0	19.0	24.0	20.0	29.0	24.0	24.5	22.5	25.0	20.0
24	18.0	16.0	22.5	18.0	25.0	20.0	28.0	22.5	25.0	21.5	23.0	19.5
25	16.5	15.5	21.0	18.5	27.5	21.5	28.0	23.0	27.0	22.5	24.0	21.5
26	18.5	16.5	21.5	18.5	27.5	21.5	29.0	23.0	27.0	22.5	23.0	21.0
27	19.0	18.0	23.5	20.5	25.5	21.0	29.0	21.5	26.0	23.0	21.5	18.5
28	19.0	17.5	24.0	21.5	24.5	19.5	28.5	22.5	26.5	21.0	20.0	18.0
29	17.5	16.5	26.5	21.5	24.0	18.5	27.5	22.5	27.0	20.5	23.5	18.5
30	16.5	15.5	26.5	22.5	24.0	20.0	27.5	22.0	24.5	21.5	23.5	19.5
31	---	---	25.5	21.5	---	---	27.5	21.0	25.0	22.0	---	---
MONTH	19.5	12.5	26.5	15.0	28.5	18.5	29.5	19.0	29.5	20.5	26.5	17.5

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA

LOCATION.—Lat 37°25'42", long 121°00'12", in NE 1/4 NE 1/4 sec.7, T.6 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 50 ft downstream from bridge on Crows Landing Road, and 4.2 miles northeast of Crows Landing.

DRAINAGE AREA.—9,694 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1995 to current year.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Records good except for estimated daily discharges which are fair. 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, 38,000 ft³/s, Jan. 28, 1997, gage height, 59.23 ft, from rating curve extended above 32,100 ft³/s; minimum daily, 432 ft³/s, Sept. 18, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	677	1330	952	e11100	e33800	13200	1810	1340	740	613	667	499
2	660	1340	908	e17700	e33000	11400	1740	1560	706	614	610	477
3	718	1280	900	e23000	e32500	9700	1690	1710	714	609	617	464
4	681	1190	863	e25100	e32000	9140	1670	1740	713	554	655	459
5	587	1110	822	e25800	e31400	8190	1550	1650	731	571	649	507
6	556	1020	798	e26100	e30200	7380	1410	1550	683	590	552	477
7	561	963	990	e27500	e29100	7140	1280	1570	660	627	504	487
8	545	893	1320	e27600	28100	6770	1210	1560	666	607	525	557
9	502	839	1450	e25800	26900	6330	1150	1540	675	589	555	625
10	569	804	1490	e23400	25700	5690	1100	1800	618	538	569	555
11	766	779	2420	e21600	24900	5180	1030	2030	541	538	633	518
12	819	757	e3400	e21000	e23800	4580	982	2120	566	540	675	476
13	903	736	e3720	e20800	e22600	4000	982	1860	532	566	638	478
14	1040	713	e3890	e21000	e22100	3490	1000	1270	581	552	584	512
15	1000	705	e4580	e21500	21700	3140	941	1090	677	579	597	543
16	1170	711	e4960	e21700	21300	2920	992	1010	645	580	603	550
17	1400	788	e5300	e22000	21000	2840	1180	960	640	538	719	463
18	1520	847	e5350	e21800	20500	2720	1450	894	626	506	824	432
19	1560	867	e5210	e22200	20400	2660	1610	880	576	543	772	448
20	1640	888	e5060	e22900	19700	2560	1830	845	516	590	736	464
21	1470	963	e4830	e22900	19200	2530	1980	820	485	660	649	517
22	1330	1110	e5460	e23800	18800	2450	1950	805	542	631	632	569
23	1310	1190	e6700	e26500	18200	2400	1660	823	565	615	612	552
24	1280	1410	e7070	e28200	17400	2350	1460	899	574	606	603	504
25	1260	1530	e7350	e30300	16300	2210	1340	906	512	522	610	438
26	1180	1460	e8140	e33500	15400	2160	1200	920	520	515	626	472
27	1070	1320	e8310	e36000	14800	2060	1100	875	522	586	594	483
28	1070	1180	e8210	e37600	14100	1970	1130	831	497	619	528	495
29	1070	1080	e8020	e36300	---	1940	1090	872	546	624	491	530
30	1200	1010	e8050	e34800	---	1980	1060	857	573	615	460	484
31	1290	---	e8760	e34200	---	1960	---	782	---	638	483	---
TOTAL	31404	30813	135283	793700	654900	143040	40577	38369	18142	18075	18972	15035
MEAN	1013	1027	4364	25600	23390	4614	1353	1238	605	583	612	501
MAX	1640	1530	8760	37600	33800	13200	1980	2120	740	660	824	625
MIN	502	705	798	11100	14100	1940	941	782	485	506	460	432
AC-FT	62290	61120	268300	1574000	1299000	283700	80480	76100	35980	35850	37630	29820

e Estimated.

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1676	1011	2680	13280	13680	5324	1672	2019	868	692	712	649
MAX	2338	1027	4364	25600	23390	6034	1991	2800	1132	800	812	797
(WY)	1996	1997	1997	1997	1997	1996	1996	1996	1996	1996	1996	1996
MIN	1013	996	995	960	4299	4614	1353	1238	605	583	612	501
(WY)	1997	1996	1996	1996	1996	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1996 - 1997			
ANNUAL TOTAL	793350				1938310							
ANNUAL MEAN	2168				5310				3649			
HIGHEST ANNUAL MEAN									5310			
LOWEST ANNUAL MEAN									1992			
HIGHEST DAILY MEAN	8810				Mar 8				37600			
LOWEST DAILY MEAN	502				Oct 9				432			
ANNUAL SEVEN-DAY MINIMUM	572				Oct 4				476			
INSTANTANEOUS PEAK FLOW					38000				Jan 28			
INSTANTANEOUS PEAK STAGE					59.23				Jan 28			
ANNUAL RUNOFF (AC-FT)	1574000				3845000				2644000			
10 PERCENT EXCEEDS	5490				21900				8040			
50 PERCENT EXCEEDS	1150				1040				1070			
90 PERCENT EXCEEDS	699				524				582			

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 1996 to current year.

SPECIFIC CONDUCTANCE: January 1996 to current year.

WATER TEMPERATURE: January 1996 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: January 1996 to current year.

WATER TEMPERATURE: January 1996 to current year.

INSTRUMENTATION.—Water-quality monitor since January 1996.

REMARKS.—Interruptions in record were due to malfunction of the recording instruments. Specific-conductance and water-temperature values are affected by irrigation return flow.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,660 microsiemens, Jan. 15, 1996; minimum recorded 125 microsiemens, Jan. 30, 1997.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 30, 31, Aug. 13, 14, 1996; minimum recorded, 6.5°C, Jan. 14, 15, 1997.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,630 microsiemens, June 21; minimum recorded, 125 microsiemens, Jan. 30.

WATER TEMPERATURE: Maximum recorded, 29.0°C, Aug. 7–9; minimum recorded, 6.5°C, Jan. 14, 15.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	864	787	680	659	1010	957	249	228	185	165	---	---
2	894	793	701	671	1040	1000	239	195	197	175	---	---
3	883	726	755	700	1030	1010	195	167	214	184	---	---
4	807	742	778	754	1110	1020	169	156	216	196	---	---
5	932	807	807	773	1100	1080	167	150	221	204	---	---
6	1000	931	854	802	1140	1090	164	153	229	177	---	---
7	1040	1000	882	853	1120	825	165	143	239	215	---	---
8	1130	1040	925	882	825	559	146	129	265	231	---	---
9	1190	913	945	923	668	591	148	130	281	252	538	469
10	923	836	992	943	703	658	181	145	290	264	525	478
11	840	662	996	985	658	468	196	175	286	263	586	501
12	674	624	1030	990	468	341	198	178	289	260	670	578
13	703	642	1050	1020	397	340	201	173	288	259	729	650
14	703	590	1090	1050	407	390	193	171	281	241	754	710
15	659	590	1100	1070	395	332	185	164	---	---	802	750
16	664	492	1110	1060	332	299	179	164	---	---	815	785
17	493	479	1080	1010	303	285	182	167	---	---	814	779
18	498	461	1010	989	301	281	186	170	---	---	827	808
19	472	435	1010	966	299	292	187	170	---	---	835	816
20	435	400	971	952	303	293	182	165	---	---	880	827
21	503	413	968	926	319	301	180	166	---	---	892	845
22	536	502	951	874	340	273	191	170	---	---	892	865
23	539	518	900	847	273	224	190	170	---	---	907	864
24	559	538	847	699	234	212	179	164	---	---	896	855
25	603	558	735	697	244	231	182	163	---	---	906	878
26	640	578	763	719	238	231	168	144	---	---	933	877
27	674	640	831	763	250	237	156	136	---	---	944	923
28	681	663	864	831	250	239	153	134	---	---	955	929
29	680	671	924	857	243	237	157	132	---	---	962	896
30	680	632	960	917	241	231	172	125	---	---	921	891
31	670	632	---	---	237	226	175	132	---	---	914	891
MONTH	1190	400	1110	659	1140	212	249	125	---	---	---	---

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	951	898	1060	702	1480	1390	---	---	---	---	1310	1160
2	948	911	743	694	1530	1460	---	---	---	---	1240	1150
3	991	912	695	642	1480	1370	---	---	---	---	1330	1180
4	999	936	687	654	1490	1280	1400	1290	---	---	1210	1120
5	1080	991	704	662	1320	1190	1450	1270	---	---	1120	957
6	1220	1080	719	660	1320	1250	1360	1260	---	---	1140	1020
7	1290	1210	728	695	1430	1320	1260	1150	---	---	1070	984
8	1330	1270	759	692	1380	1300	1250	1160	---	---	1010	954
9	1370	1290	774	736	1320	1220	1220	1160	---	---	993	848
10	1360	1310	797	644	1370	1300	1310	1200	---	---	999	892
11	1450	1330	689	659	1480	1370	1290	1190	---	---	1010	922
12	1530	1420	675	643	1520	1360	1300	1200	---	---	1010	957
13	1540	1430	787	675	1580	1480	1220	1150	---	---	1100	1010
14	1560	1410	991	755	1510	1440	1200	1110	---	---	1100	955
15	1560	1490	1140	987	1480	1250	1200	1100	---	---	1010	905
16	1490	1290	1240	1110	1440	1320	1110	1020	---	---	913	841
17	1300	1190	1220	1140	1430	1360	1170	1060	---	---	965	871
18	1200	945	1220	1150	1410	1320	1260	1100	---	---	1050	965
19	957	901	1260	1200	1480	1410	1290	1150	---	---	1040	923
20	906	768	1240	1210	1510	1410	1280	1120	---	---	969	881
21	771	717	1330	1220	1630	1510	1150	1030	---	---	926	852
22	794	726	1320	1240	1620	1380	1060	1010	---	---	856	819
23	962	793	1280	1220	1400	1310	1070	1020	---	---	822	767
24	993	942	1250	1110	1340	1280	1170	1030	---	---	836	767
25	1020	979	1240	1150	1440	1280	1360	1160	---	---	1120	836
26	1100	1020	1270	1130	---	---	1390	1280	---	---	1100	965
27	1150	1080	1270	1220	---	---	---	---	---	---	969	951
28	1150	1060	1310	1250	---	---	---	---	---	---	961	906
29	1140	1060	1300	1240	---	---	---	---	---	---	926	891
30	1120	1040	1330	1280	---	---	---	---	1370	1260	955	886
31	---	---	1420	1310	---	---	---	---	1380	1290	---	---
MONTH	1560	717	1420	642	---	---	---	---	---	---	1330	767

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	20.5	13.5	12.0	12.0	10.5	14.0	12.5	11.5	11.0	11.5	10.0
2	22.0	20.0	14.0	12.5	11.0	10.0	14.0	14.0	11.5	11.0	11.5	11.0
3	22.5	20.0	14.5	13.0	10.0	9.0	14.0	13.5	11.5	11.5	12.0	11.0
4	23.0	20.5	14.5	13.5	10.5	9.0	13.5	12.5	11.5	11.5	11.5	11.0
5	23.0	20.5	14.0	13.0	11.0	10.0	12.5	11.0	11.5	11.0	12.0	11.0
6	23.5	20.5	13.0	11.5	11.5	10.5	11.0	9.0	11.5	11.0	12.5	11.5
7	23.5	21.0	13.0	11.5	11.5	10.5	9.0	8.5	11.5	11.0	13.0	12.5
8	23.5	21.0	13.5	12.0	11.5	11.0	8.5	8.5	12.0	11.5	13.5	13.0
9	24.0	21.5	14.0	12.5	12.0	11.5	9.0	8.5	11.5	11.0	14.5	13.5
10	23.0	21.0	14.5	12.5	12.0	11.5	9.0	9.0	11.5	11.0	15.0	14.0
11	21.5	20.0	15.0	13.5	13.0	12.0	9.0	8.5	11.5	11.0	15.5	15.0
12	21.5	19.5	15.0	13.5	14.0	13.0	9.0	8.5	12.0	11.5	15.5	15.0
13	21.0	19.5	15.5	14.0	14.0	13.5	8.5	7.0	11.5	10.5	15.0	14.0
14	20.0	18.5	15.0	14.0	14.0	12.5	7.0	6.5	11.0	10.0	14.0	13.5
15	19.5	17.5	14.5	13.0	12.5	11.0	7.0	6.5	11.5	11.0	15.0	13.5
16	18.5	16.5	13.5	12.5	11.0	10.5	7.5	7.0	11.5	11.0	15.0	14.5
17	16.5	15.0	13.5	12.5	11.0	11.0	8.0	7.5	12.0	11.5	16.0	14.5
18	16.0	15.0	15.5	13.5	11.0	10.5	8.5	8.0	11.5	11.0	16.5	15.5
19	15.5	14.0	15.5	15.0	10.5	10.0	9.0	8.5	12.0	11.0	17.0	16.0
20	14.5	13.5	15.5	14.5	10.0	9.5	9.0	8.5	11.5	11.0	17.5	16.5
21	14.0	12.5	15.5	15.0	9.5	9.5	9.5	9.0	12.0	11.0	17.5	16.5
22	14.0	12.5	15.5	15.0	10.0	9.0	10.5	9.5	12.0	11.0	18.0	16.5
23	15.0	13.0	15.5	14.5	10.0	9.0	10.5	10.5	12.0	11.0	18.0	17.0
24	14.5	14.0	14.5	14.0	10.0	9.5	11.0	10.5	11.0	10.0	18.5	17.5
25	14.5	13.5	14.5	14.0	9.5	9.0	11.5	11.0	11.0	10.0	19.0	17.5
26	13.5	11.5	14.0	13.5	9.5	9.0	12.0	11.5	11.0	10.5	19.5	18.5
27	13.5	11.5	13.5	12.5	10.0	9.5	12.5	12.0	12.0	11.0	19.5	18.5
28	13.5	12.0	12.5	11.5	10.5	10.0	12.0	12.0	11.5	10.5	18.5	17.5
29	13.5	12.5	11.5	10.5	11.0	10.5	12.0	11.5	---	---	17.5	16.0
30	13.0	12.5	11.0	9.5	11.5	11.0	12.0	11.5	---	---	18.0	16.5
31	13.5	12.0	---	---	12.5	11.5	11.5	11.0	---	---	17.5	16.5
MONTH	24.0	11.5	15.5	9.5	14.0	9.0	14.0	6.5	12.0	10.0	19.5	10.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	14.5	---	---	26.0	24.0	24.5	22.0	26.5	24.0	25.5	23.0
2	14.5	13.0	18.5	17.0	25.5	23.0	24.5	22.0	26.5	23.5	25.5	23.5
3	15.0	13.0	19.0	17.0	25.0	22.5	26.0	22.5	27.0	24.0	26.0	23.5
4	15.5	14.0	19.5	17.5	22.5	21.5	27.0	24.0	27.5	24.5	27.0	24.0
5	16.0	14.5	20.0	18.0	23.0	20.5	27.0	24.0	28.0	25.0	27.0	25.0
6	---	---	20.5	18.5	23.5	21.0	27.0	24.0	28.5	26.0	27.0	24.5
7	---	---	20.5	18.5	25.5	22.0	27.5	24.5	29.0	26.5	25.5	23.0
8	---	---	21.0	19.0	26.0	23.5	28.0	25.5	29.0	26.5	25.0	23.0
9	---	---	21.5	19.5	26.0	24.0	28.0	26.0	29.0	25.5	25.0	23.0
10	---	---	22.0	20.0	26.5	24.0	28.0	25.5	27.5	24.5	25.0	22.5
11	---	---	22.0	20.5	26.5	24.0	27.5	25.0	26.5	24.0	24.5	22.0
12	---	---	22.5	20.5	25.5	23.0	27.5	25.0	27.0	24.5	24.5	22.0
13	---	---	23.5	21.5	25.0	22.0	27.5	25.0	27.5	24.5	24.5	22.5
14	---	---	---	---	25.5	22.0	27.5	25.0	27.5	25.0	24.5	22.0
15	---	---	---	---	26.5	23.5	28.0	25.5	27.5	25.0	24.0	21.5
16	---	---	---	---	28.0	24.5	28.0	25.5	27.0	24.5	22.5	20.5
17	---	---	25.5	23.5	28.5	26.0	27.0	24.5	26.5	24.0	22.5	20.0
18	---	---	26.0	24.0	28.0	25.5	27.0	24.0	26.0	23.5	22.5	20.5
19	21.0	19.5	26.5	24.0	28.0	25.5	28.0	24.5	26.0	24.5	22.5	20.5
20	20.0	19.0	26.0	24.0	27.5	25.0	28.0	25.0	26.5	24.0	22.5	20.5
21	20.0	18.5	25.0	23.5	27.0	24.5	28.0	25.5	27.5	24.5	23.0	21.0
22	19.5	18.5	24.5	22.5	26.0	23.5	28.5	25.5	27.0	25.5	23.5	21.5
23	19.5	18.5	23.0	21.5	25.5	23.0	28.5	26.0	26.5	24.5	24.0	21.5
24	19.5	18.0	23.0	20.5	25.0	22.5	27.5	24.5	25.5	23.5	24.5	22.5
25	19.5	17.0	23.0	21.0	26.5	23.0	28.0	25.0	25.5	23.0	25.0	23.0
26	---	---	23.5	21.0	26.5	24.0	28.0	25.5	25.5	23.5	25.0	22.5
27	---	---	24.5	22.0	25.5	23.0	28.0	25.0	25.5	23.5	24.0	21.5
28	---	---	25.5	23.0	25.5	22.5	27.5	24.5	25.0	23.0	23.0	20.5
29	---	---	26.0	23.5	24.5	22.0	27.5	25.0	25.0	---	24.0	21.5
30	---	---	26.5	24.0	24.5	22.0	27.0	25.0	25.0	22.5	24.5	22.5
31	---	---	26.5	24.5	---	---	27.0	24.5	25.0	22.5	---	---
MONTH	---	---	---	---	28.5	20.5	28.5	22.0	29.0	---	27.0	20.0

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 mi².

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.—Records good except for estimated daily discharges and those below 0.1 ft³/s, which are poor. Some stock ponds and small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,400 ft³/s, Mar. 10, 1995, gage height, 11.62, from rating curve extended above 690 ft³/s on basis of computation of peak flow through culvert; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	1815	135	3.09	Jan. 1	2000	718	5.29
Dec. 21	2345	472	4.46	Jan. 23	0200	1,860	8.53

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.55	2.0	238	63	17	8.1	7.2	1.6	.16	.06	.10
2	.02	.61	2.0	512	58	17	8.1	6.6	1.3	.14	.06	.10
3	.02	.68	2.0	245	52	17	7.6	6.5	1.0	.12	e.04	.10
4	.02	.68	1.9	84	50	16	7.7	6.4	1.4	.12	.04	.13
5	.02	.83	2.0	60	45	16	7.9	5.9	1.5	.12	e.04	.15
6	.01	.83	2.7	42	41	16	7.7	5.4	1.1	.11	.03	.10
7	.01	.83	2.3	33	39	16	8.1	5.0	.79	.09	.03	.14
8	.01	.83	2.1	28	39	15	8.0	4.8	.63	.07	.04	.14
9	.01	.83	2.2	25	37	15	8.0	4.6	.63	.05	.04	.10
10	.01	.83	41	21	36	14	8.3	4.2	4.1	.02	.04	.10
11	.02	.83	43	19	34	15	7.9	3.9	1.7	.02	.05	.10
12	.02	.83	15	19	32	15	8.2	3.5	.92	.01	e.06	.10
13	.03	.83	13	18	31	14	8.8	2.7	.72	.03	e.06	.10
14	.03	.83	9.4	15	29	14	12	2.3	.58	.06	e.06	.12
15	.04	.88	7.1	27	28	14	11	2.1	.59	.06	e.06	.16
16	.04	.88	5.7	25	28	14	11	2.1	.62	.06	.06	.16
17	.04	8.0	5.1	20	27	14	11	2.1	.42	.07	.06	.16
18	.04	9.7	4.5	18	26	13	11	2.1	.28	.06	.06	.16
19	.04	4.1	4.7	16	23	13	11	1.6	.19	.06	e.06	.19
20	.04	3.5	4.4	20	22	13	12	1.5	.16	.06	e.06	.21
21	.04	3.5	59	35	21	12	11	1.3	.14	.06	e.04	.21
22	.05	4.1	190	200	21	12	11	1.1	.14	.06	.06	.21
23	.06	4.8	68	735	20	12	10	1.9	.14	e.06	.06	.17
24	.06	3.4	36	167	19	12	9.9	3.6	.11	e.06	.06	.10
25	.06	2.8	19	368	19	12	9.7	2.0	.09	e.10	.06	.08
26	.06	2.4	15	464	19	12	8.6	1.4	.07	e.10	.06	.06
27	.06	2.3	13	220	19	11	8.1	1.6	.06	.10	.06	.08
28	.06	2.2	11	127	19	11	7.9	2.1	.06	.10	.07	.08
29	.09	2.0	9.6	96	---	10	7.8	1.7	.06	.10	.07	.07
30	.19	2.0	11	79	---	9.4	7.4	1.7	.07	.10	.08	.06
31	.18	---	16	69	---	9.0	---	1.5	---	.06	.10	---
TOTAL	1.40	67.38	619.7	4045	897	420.4	274.8	100.4	21.17	2.39	1.73	3.74
MEAN	.045	2.25	20.0	130	32.0	13.6	9.16	3.24	.71	.077	.056	.12
MAX	.19	9.7	190	735	63	17	12	7.2	4.1	.16	.10	.21
MIN	.01	.55	1.9	15	19	9.0	7.4	1.1	.06	.01	.03	.06
AC-FT	2.8	134	1230	8020	1780	834	545	199	42	4.7	3.4	7.4

e Estimated.

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.096	1.00	3.61	20.2	27.3	25.7	9.30	3.85	1.78	.28	.074	.18
MAX	2.15	9.38	31.8	130	122	218	54.1	31.5	31.3	5.56	2.06	4.48
(WY)	1984	1983	1984	1997	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 1996 CALENDAR YEAR					FOR 1997 WATER YEAR					WATER YEARS 1965 - 1997	
ANNUAL TOTAL	5693.78					6455.11						
ANNUAL MEAN	15.6					17.7					7.69	
HIGHEST ANNUAL MEAN											47.7	
LOWEST ANNUAL MEAN											.030	
HIGHEST DAILY MEAN	328 Feb 20					735 Jan 23					1230 Mar 10 1995	
LOWEST DAILY MEAN	.01 Sep 21					.01 Oct 6					.00 Jul 1 1965	
ANNUAL SEVEN-DAY MINIMUM	.01 Oct 4					.01 Oct 4					.00 Jul 1 1965	
INSTANTANEOUS PEAK FLOW						1860 Jan 23					3400 Mar 10 1995	
INSTANTANEOUS PEAK STAGE						8.53 Jan 23					11.62 Mar 10 1995	
ANNUAL RUNOFF (AC-FT)	11290					12800					5570	
10 PERCENT EXCEEDS	42					31					14	
50 PERCENT EXCEEDS	2.6					2.0					.10	
90 PERCENT EXCEEDS	.06					.05					.00	

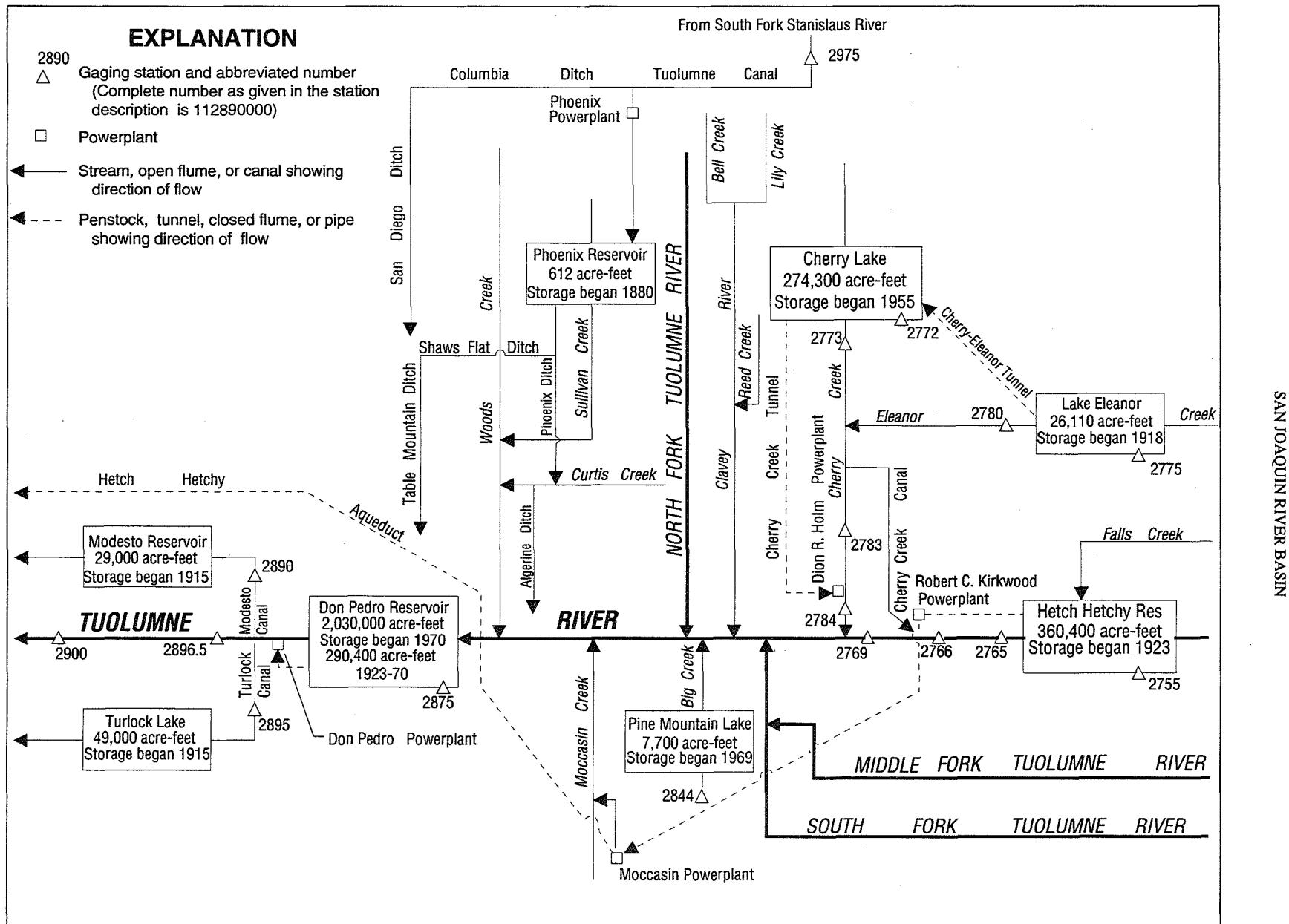


Figure 29. Diversions and storage in Tuolumne River Basin.

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 mi².

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.—Water-stage recorder installed March 1995. 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 2400 hours.

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, 363,300 acre-ft, June 17, gage height, 3,807.5 ft; minimum, 212,900 acre-ft, Apr. 15, gage height, 3,724.3 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312000	286500	300500	279300	288800	240700	e225500	e264300	e351300	e360200	e359000	e333300
2	311100	285900	300600	339900	287500	238800	e225300	e266800	e356400	e359200	e358400	e332400
3	310200	285400	300300	347400	286000	236900	e224700	e269800	e358400	e357800	e358000	e331400
4	309300	284400	299600	340300	284500	234900	e223700	e273900	e358200	e357400	e357600	e330400
5	308500	283600	302500	331200	282900	233000	e222700	e278700	e360000	e357400	e357000	e329500
6	307700	283000	303300	324200	281200	231100	e221400	e284700	e357400	e357600	e356400	e328500
7	306800	282300	303000	324100	279400	229200	e220600	e291100	e356800	e357800	e356000	e327600
8	305900	281800	302900	324600	277700	227400	e219700	e297400	e357400	e357600	e355600	e326800
9	305000	281500	303300	325900	276200	226100	e218800	e303100	e358200	e357800	e355200	e325700
10	304200	280800	305800	326600	274300	224700	e217600	e308900	e359400	e358000	e354500	e324700
11	303500	280100	308600	326500	272500	223800	e216500	e315100	e359600	e358600	e353900	e323400
12	302700	279600	310500	325900	270700	222800	e215200	e321300	e359600	e359000	e353300	e322100
13	302000	278800	310500	325400	268800	221800	e214000	e325100	e360200	e358800	e352700	e320900
14	301100	277900	309400	324700	267000	220800	e213100	e330300	e360400	e358800	e351700	e319800
15	300200	277200	308800	323800	265400	220000	e212900	e332200	e361000	e358800	e350900	e318800
16	299300	276600	307100	322700	264000	219300	e213400	e333500	e361900	e358800	e349600	e317700
17	298300	278200	305400	321600	262300	218200	e214700	e334700	e363300	e358800	e348800	e316800
18	297600	283700	303500	320400	260900	e217300	e216500	e334900	e362100	e358600	e347800	e315600
19	296800	285900	301500	319200	259200	e216500	e219700	e334300	e361200	e358000	e346800	e314300
20	295900	287900	299400	318200	257300	e216500	e224700	e334900	e361900	e357800	e345900	e313200
21	295000	291200	297700	317100	255900	e216500	e228800	e334600	e361900	e357400	e344900	e312600
22	294100	296800	296000	316400	254100	e215800	e235200	e334300	e361400	e357400	e343900	e311900
23	293400	299000	294100	313200	252200	e215700	e238200	e332200	e361500	e357800	e343000	e310600
24	292500	300200	292200	306400	250600	e216500	e241100	e329700	e361500	e358600	e341800	e309400
25	291700	300500	290300	304000	248300	e217000	e242800	e325900	e361700	e359200	e340800	e308300
26	290700	299900	289900	299600	246300	e218300	e244700	e321900	e361900	e359600	e340100	e307000
27	289800	299500	288200	295000	244500	e220200	e248500	e318100	e361900	e359400	e339100	e306100
28	289200	299900	286400	292700	242600	e221900	e253800	e318300	e361700	e359400	e338100	e305200
29	288900	300000	277900	291900	---	e223000	e258200	e324300	e361200	e359600	e337200	e303900
30	287800	300200	268700	291000	---	e224300	e261300	e332000	e360800	e359400	e335800	e302900
31	287200	---	261300	289900	---	e225300	---	e341400	---	e359400	e334500	---
MAX	312000	300500	310500	347400	288800	240700	261300	341400	363300	360200	359000	333300
MIN	287200	276600	261300	279300	242600	215700	212900	264300	351300	357400	334500	302900
a	3767.47	3774.55	3753.01	3768.95	3742.15	3731.9	3753.0	3796.3	3806.2	3805.5	3792.7	3776.0
b	-25600	+13000	-38900	+28600	-47300	-17300	+36000	+80100	+19400	-1400	-24900	-31600

CAL YR 1996 b -31100

WTR YR 1997 b -9900

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 mi².

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. 3 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, 16,400 ft³/s, Jan. 3, 1997, gage height, 15.08 ft; no flow at times in 1968–70.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	60	62	3750	117	125	139	171	1740	226	138	119
2	60	60	62	5200	125	125	139	173	2570	201	139	105
3	60	60	61	13800	125	125	140	173	3510	207	138	104
4	59	60	60	10500	122	125	140	175	3700	207	135	104
5	59	60	89	8150	121	125	140	176	4140	207	135	104
6	59	57	74	6120	118	125	140	180	3830	207	136	103
7	59	56	66	1560	125	130	140	182	2730	207	135	103
8	59	55	53	114	133	130	140	264	2740	209	133	103
9	59	57	51	111	133	129	143	1020	2190	209	134	102
10	59	58	100	115	130	129	146	1940	1830	173	135	102
11	62	58	80	119	126	128	146	1970	1780	123	136	102
12	62	58	96	119	122	128	146	2970	1440	123	136	102
13	62	58	116	119	131	128	146	3810	1190	124	135	101
14	62	58	131	119	136	128	146	4490	1020	124	135	101
15	62	58	128	119	132	128	146	5080	867	124	139	93
16	62	59	128	119	127	128	146	5060	1080	124	140	75
17	62	69	125	119	124	128	146	4960	2550	124	140	75
18	62	66	124	118	120	128	146	4940	3600	125	137	75
19	62	63	123	117	135	130	149	4630	2510	124	141	75
20	62	64	119	117	137	132	150	4390	2280	124	143	75
21	62	75	119	119	129	132	153	4300	2280	124	142	75
22	62	91	126	188	129	132	156	4190	1730	124	140	74
23	62	71	120	1370	128	132	158	3880	1040	125	139	74
24	61	68	117	3060	128	132	159	3690	753	128	138	74
25	61	65	116	3100	127	132	161	3660	752	129	137	74
26	60	62	123	3040	e140	132	161	3610	812	129	135	74
27	59	61	125	2300	126	135	163	2660	805	131	135	74
28	60	62	221	1120	125	135	166	1550	701	128	131	74
29	61	62	4420	116	---	136	168	1220	512	110	126	74
30	61	62	6700	114	---	137	170	1250	319	109	123	74
31	60	---	5110	113	---	139	---	1300	---	119	128	---
TOTAL	1893	1873	19145	65245	3571	4028	4489	78064	57001	4648	4214	2664
MEAN	61.1	62.4	618	2105	128	130	150	2518	1900	150	136	88.8
MAX	71	91	6700	13800	140	139	170	5080	4140	226	143	119
MIN	59	55	51	111	117	125	139	171	319	109	123	74
AC-FT	3750	3720	37970	129400	7080	7990	8900	154800	113100	9220	8360	5280

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
LOWEST ANNUAL MEAN	516
HIGHEST DAILY MEAN	11400
LOWEST DAILY MEAN	1.3
ANNUAL SEVEN-DAY MINIMUM	1.4
INSTANTANEOUS PEAK FLOW	12900
INSTANTANEOUS PEAK STAGE	13.90
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.5	63.0	80.9	130	71.4	75.8	234	1135	1760	845	167	74.3
MAX	164	561	618	2105	305	489	1371	3327	5885	5149	1263	125
(WY)	1987	1987	1997	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1968 - 1997

ANNUAL TOTAL	201120	246835	
ANNUAL MEAN	550	676	391
HIGHEST ANNUAL MEAN			1433
LOWEST ANNUAL MEAN			49.5
HIGHEST DAILY MEAN	9640	May 17	13800
LOWEST DAILY MEAN	38	Jan 4	51
ANNUAL SEVEN-DAY MINIMUM	38	Jan 4	57
INSTANTANEOUS PEAK FLOW			16400
INSTANTANEOUS PEAK STAGE			15.08
ANNUAL RUNOFF (AC-FT)	398900	489600	283500
10 PERCENT EXCEEDS	1900	2560	1020
50 PERCENT EXCEEDS	128	128	63
90 PERCENT EXCEEDS	58	61	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. Interruptions in record were due to malfunction of the recording instrument. Water temperature can be affected by releases from O'Shaughnessy Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 19.5°C, July 12, 1996; minimum recorded, 4.0°C, Mar. 25, 1991.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 15.0°C, June 26, 27; minimum recorded, 5.0°C, several days in January, February, and March.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.5	10.5	11.5	10.0	---	---	9.0	9.0	6.0	5.5	6.0	5.0
2	12.0	10.5	11.0	10.0	---	---	9.0	8.0	6.0	5.5	6.0	5.5
3	12.5	10.5	11.0	10.0	---	---	8.0	7.5	6.0	5.5	5.5	5.0
4	12.5	11.0	11.0	10.5	---	---	7.5	7.0	6.0	5.5	6.0	5.0
5	12.5	10.5	11.0	10.0	---	---	---	---	6.0	5.5	6.0	5.0
6	12.0	10.5	11.0	9.5	---	---	---	---	6.0	5.0	6.0	5.5
7	12.5	10.5	11.5	10.0	---	---	7.0	---	6.0	5.5	6.5	5.5
8	12.5	10.5	11.5	10.5	---	---	6.5	6.0	6.0	5.5	6.5	5.5
9	12.5	10.5	11.5	10.5	---	---	6.5	6.0	6.0	5.0	6.5	5.5
10	12.5	11.0	12.0	10.5	---	---	6.5	6.0	6.0	5.5	6.5	5.5
11	12.0	10.5	12.0	10.5	---	---	6.5	6.0	6.0	5.5	6.5	6.0
12	12.0	10.0	12.0	10.5	---	---	6.0	5.5	6.0	5.5	6.5	5.5
13	12.0	10.5	12.0	10.5	10.5	---	5.5	5.0	6.0	5.0	6.5	5.5
14	11.5	10.0	11.5	11.0	10.5	10.0	6.0	5.0	6.0	5.5	6.5	5.5
15	11.5	10.0	11.0	10.5	10.5	10.0	6.0	6.0	6.0	5.5	6.5	5.5
16	11.5	10.0	11.0	10.0	10.5	10.0	6.0	5.5	6.0	5.5	6.0	5.5
17	11.0	9.5	11.5	10.5	10.5	10.0	6.0	5.5	5.5	5.5	6.5	5.5
18	11.5	10.0	12.0	11.0	10.0	9.5	6.5	6.0	6.5	5.5	7.0	5.5
19	11.0	10.0	11.5	11.0	10.0	9.5	6.0	5.5	6.0	5.5	7.0	6.0
20	11.0	9.5	11.5	11.0	10.0	9.5	5.5	5.0	6.0	5.5	6.5	5.5
21	11.0	9.5	11.5	11.0	9.5	9.0	6.0	5.5	6.0	5.0	6.5	6.0
22	11.0	9.5	11.0	10.5	9.5	9.0	6.0	5.5	6.0	5.5	6.5	6.0
23	11.0	10.0	11.5	10.5	9.5	9.5	6.0	5.5	6.0	5.0	7.0	6.0
24	11.0	10.0	---	---	9.5	9.0	6.0	6.0	5.5	5.0	7.5	6.0
25	10.5	10.0	---	---	9.5	9.0	6.0	6.0	6.0	5.0	7.0	6.0
26	10.5	9.5	---	---	9.5	9.0	6.0	6.0	6.0	5.5	7.0	6.0
27	11.0	9.5	---	---	9.5	9.0	6.0	6.0	5.5	5.5	7.0	6.0
28	11.0	10.0	---	---	9.5	9.0	6.5	6.0	6.0	5.0	7.0	6.0
29	10.5	10.0	---	---	9.5	9.5	6.5	5.5	---	---	7.0	6.0
30	11.0	10.5	---	---	9.5	9.5	6.0	5.5	---	---	7.0	6.0
31	11.0	10.0	---	---	9.5	9.0	6.0	5.5	---	---	6.5	5.5
MONTH	12.5	9.5	---	---	---	---	---	---	6.5	5.0	7.5	5.0

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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 mi².

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, 17,700 ft³/s, Jan. 3, 1997, gage height, 22.98 ft; minimum daily, 25 ft³/s, Oct. 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of June 1, 1943, reached a stage of 22.1 ft, discharge, 12,900 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	62	83	5100	276	181	171	195	1680	282	155	146
2	66	61	83	5680	281	180	169	196	2570	235	156	121
3	59	61	79	14500	263	180	169	197	3630	243	155	119
4	59	61	78	11600	250	176	172	198	4030	241	154	119
5	58	61	357	9300	238	174	171	199	4400	239	153	119
6	58	59	252	6690	226	171	170	201	3740	240	152	119
7	58	57	149	2300	219	171	170	203	2920	240	151	118
8	58	57	121	282	234	176	169	216	2930	239	150	118
9	58	58	104	250	225	174	169	729	2440	239	150	118
10	58	62	653	237	217	172	174	2020	1870	229	153	118
11	58	63	526	236	209	171	173	2060	1860	154	153	117
12	61	63	366	237	203	169	172	2880	1580	150	152	117
13	60	63	297	241	202	168	171	3980	1200	150	150	117
14	60	63	252	218	210	169	170	4620	1080	149	149	117
15	61	63	219	242	204	168	170	5460	916	149	150	115
16	61	65	203	243	199	167	169	5420	973	149	154	92
17	61	170	192	224	208	166	170	5320	2290	149	152	90
18	61	138	182	220	196	164	171	5330	3840	149	151	89
19	62	83	174	217	197	165	185	5020	2830	148	153	88
20	61	94	168	279	237	169	180	4640	2400	148	161	88
21	61	106	208	289	194	169	181	4570	2430	147	159	88
22	61	406	331	485	191	169	183	4450	1970	148	157	87
23	61	216	264	1450	188	168	187	4220	1100	149	155	86
24	62	115	220	3440	185	168	187	3910	776	150	153	85
25	65	98	205	4280	182	167	187	3900	739	151	152	85
26	64	90	267	3990	213	167	187	3840	801	151	150	85
27	61	83	430	2850	194	167	189	3040	810	151	149	84
28	61	82	292	1490	185	168	190	1640	727	149	146	83
29	65	81	4110	363	---	169	193	1230	565	133	145	82
30	68	79	7910	315	---	169	194	1260	371	129	137	81
31	63	---	6060	292	---	173	---	1300	---	128	145	---
TOTAL	1915	2820	24835	77540	6026	5285	5313	82444	59468	5508	4702	3091
MEAN	61.8	94.0	801	2501	215	170	177	2659	1982	178	152	103
MAX	85	406	7910	14500	281	181	194	5460	4400	282	161	146
MIN	58	57	78	217	182	164	169	195	371	128	137	81
AC-FT	3800	5590	49260	153800	11950	10480	10540	163500	118000	10930	9330	6130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY)

MEAN	51.6	76.5	116	200	138	156	285	1145	1750	868	181	82.8
MAX	142	552	801	2501	341	814	1564	3339	6142	5424	1319	132
(WY)	1987	1987	1997	1997	1974	1983	1983	1982	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1971 - 1997	
ANNUAL TOTAL	224396		278947			
ANNUAL MEAN	613		764		422	
HIGHEST ANNUAL MEAN					1584	
LOWEST ANNUAL MEAN					53.5	
HIGHEST DAILY MEAN	10100	May 17	14500	Jan 3	14500	Jan 3 1997
LOWEST DAILY MEAN	44	Jan 11	57	Nov 7	25	Oct 11 1988
ANNUAL SEVEN-DAY MINIMUM	44	Jan 9	58	Oct 5	27	Oct 11 1988
INSTANTANEOUS PEAK FLOW			17700	Jan 3	17700	Jan 3 1997
INSTANTANEOUS PEAK STAGE			22.98	Jan 3	22.98	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	445100		553300		305400	
10 PERCENT EXCEEDS	1960		2840		1050	
50 PERCENT EXCEEDS	186		171		82	
90 PERCENT EXCEEDS	61		63		41	

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, 22.0°C, July 21; minimum recorded, 4.0°C, Jan. 14.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.5	14.5	9.5	8.0	7.5	6.0	10.0	9.5	8.0	7.0	7.5	5.5
2	16.5	13.5	10.0	8.0	6.5	6.0	10.5	9.0	8.0	7.5	7.0	6.0
3	16.5	14.0	9.5	8.0	6.5	6.0	9.0	8.5	8.0	7.0	8.0	6.5
4	17.0	14.0	10.0	8.5	6.5	5.5	8.5	8.0	7.5	7.0	8.5	6.0
5	17.0	14.5	10.0	8.5	8.5	6.5	8.0	7.0	7.5	6.5	8.0	6.0
6	17.0	14.5	9.0	7.5	9.0	8.5	8.0	7.0	7.0	6.0	8.5	6.0
7	17.5	14.5	9.0	7.5	8.5	8.0	7.5	7.0	7.0	6.0	9.0	6.5
8	17.5	15.0	9.0	7.5	9.5	8.5	7.0	7.0	7.0	6.5	9.5	7.0
9	17.5	15.0	9.5	8.0	9.0	9.0	7.0	6.5	7.5	6.5	10.0	7.5
10	17.5	15.0	10.0	8.5	9.5	7.5	7.0	6.5	7.5	6.5	10.5	8.0
11	16.5	14.5	10.5	9.0	9.0	8.0	6.5	6.0	7.5	6.0	10.5	8.5
12	16.0	14.0	10.5	9.0	10.0	9.0	6.5	6.0	7.5	6.5	10.5	8.5
13	16.0	14.0	10.5	9.5	10.0	9.5	6.0	5.0	7.5	6.5	10.5	8.0
14	15.0	13.0	11.0	9.5	9.5	8.5	5.0	4.0	7.5	6.0	10.5	8.0
15	14.5	12.5	10.0	9.0	8.5	8.0	5.5	4.5	7.5	6.5	11.0	8.5
16	14.0	12.0	9.5	8.5	8.5	8.0	6.0	5.0	8.5	7.0	10.0	9.0
17	13.5	11.5	9.5	9.0	8.5	8.0	6.5	5.5	8.5	7.5	11.0	8.5
18	13.0	11.0	10.5	9.5	8.5	8.0	6.5	6.0	8.5	7.0	11.5	8.5
19	13.0	11.5	10.5	9.5	8.0	7.5	7.0	6.0	8.0	7.0	12.0	9.0
20	12.0	10.0	10.5	10.0	8.5	7.5	6.5	6.0	8.5	7.5	11.5	9.5
21	11.5	9.5	11.0	10.5	8.0	6.5	6.0	5.5	8.0	7.0	11.0	9.5
22	11.0	9.0	11.0	10.5	6.5	6.0	6.0	6.0	8.5	6.5	11.5	9.0
23	11.5	9.0	10.5	9.0	6.0	6.0	7.0	5.5	8.0	6.0	12.5	9.5
24	11.0	9.5	10.0	8.5	6.5	6.0	7.5	6.5	7.0	5.5	13.0	10.0
25	10.5	9.5	9.0	8.5	6.5	6.0	7.0	6.5	7.0	5.0	13.5	10.5
26	10.0	8.5	9.0	8.0	7.5	6.5	7.0	6.5	7.5	5.5	13.0	10.5
27	10.0	8.0	8.0	7.5	7.5	7.0	7.0	6.5	7.5	6.5	13.0	10.5
28	9.5	8.0	8.5	7.5	7.5	7.0	7.5	7.0	7.5	6.0	12.5	10.0
29	9.0	8.5	7.5	6.5	10.0	7.5	7.5	7.0	---	---	12.5	9.5
30	9.5	8.5	6.5	6.0	10.0	10.0	7.5	7.0	---	---	12.0	9.5
31	9.5	8.5	---	---	10.0	10.0	8.0	7.0	---	---	10.5	9.0
MONTH	17.5	8.0	11.0	6.0	10.0	5.5	10.5	4.0	8.5	5.0	13.5	5.5

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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 mi².

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, 18,200 ft³/s, Jan. 3, 1997, gage height, 12.33 ft; minimum daily, 12 ft³/s, Nov. 28–30, 1976.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	57	77	5110	1050	881	809	906	2680	1230	138	128
2	65	56	78	5620	1060	877	813	902	3440	1160	139	104
3	60	56	109	14400	1040	880	818	897	4450	921	137	101
4	59	60	78	12200	1030	867	821	806	4890	708	138	135
5	53	55	335	8960	1020	854	822	930	5180	603	135	105
6	51	54	290	6310	999	848	736	918	4500	710	134	105
7	55	51	165	2270	965	853	839	924	3670	800	133	104
8	55	51	148	456	967	848	844	932	3700	674	133	104
9	55	51	120	429	818	738	840	1420	3280	569	131	104
10	55	55	644	442	973	839	849	2640	2800	453	134	105
11	55	56	595	712	948	838	837	2680	2810	396	134	107
12	58	56	843	920	919	838	826	3380	2560	411	133	107
13	57	56	991	822	908	826	826	4280	2200	398	133	103
14	57	57	1010	728	915	814	818	4780	2100	392	131	103
15	57	56	650	848	909	820	808	5410	1950	333	131	102
16	57	57	960	917	761	830	806	5370	2010	281	137	81
17	57	163	945	947	892	835	804	5330	3220	284	136	78
18	57	134	896	908	880	826	795	5420	4660	296	133	79
19	56	78	903	887	872	821	814	5250	3700	137	135	78
20	57	88	936	952	928	825	825	5010	3260	158	143	76
21	54	97	978	977	888	820	829	5200	3290	132	141	76
22	53	554	1090	1180	895	814	816	5290	2940	129	138	76
23	52	491	1030	2080	897	812	821	5070	2140	130	136	76
24	57	411	966	3820	897	821	826	4800	1790	131	134	75
25	60	249	945	4570	898	816	835	4780	1740	131	134	76
26	59	88	1000	4210	904	804	836	4690	1810	131	133	76
27	55	79	1150	3330	881	796	846	3950	1790	131	131	75
28	55	76	1030	2180	880	791	881	2620	1690	132	128	75
29	61	76	4130	1120	---	791	927	2250	1530	115	128	75
30	65	74	7340	1070	---	798	917	2280	1320	111	117	74
31	58	---	5800	1050	---	811	---	2340	---	110	126	---
TOTAL	1787	3542	36232	90425	25994	25632	24884	101455	87100	12297	4144	2763
MEAN	57.6	118	1169	2917	928	827	829	3273	2903	397	134	92.1
MAX	82	554	7340	14400	1060	881	927	5420	5180	1230	143	135
MIN	51	51	77	429	761	738	736	806	1320	110	117	74
AC-FT	3540	7030	71870	179400	51560	50840	49360	201200	172800	24390	8220	5480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

	MEAN	84.3	109	168	281	276	340	465	1356	1989	984	243	123
MAX	247	313	1169	2917	1039	990	1694	3727	6260	5530	1726	370	
(WY)	1984	1984	1997	1997	1996	1996	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 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1968 - 1997		
ANNUAL TOTAL	363205			416255					
ANNUAL MEAN	992			1140			535		
HIGHEST ANNUAL MEAN							1778		
LOWEST ANNUAL MEAN							49.2		
HIGHEST DAILY MEAN	10200			14400			14400		
LOWEST DAILY MEAN	36			51			12		
ANNUAL SEVEN-DAY MINIMUM	37			53			13		
INSTANTANEOUS PEAK FLOW				18200			18200		
INSTANTANEOUS PEAK STAGE				12.33			12.33		
ANNUAL RUNOFF (AC-FT)	720400			825600			387800		
10 PERCENT EXCEEDS	2670			3400			1380		
50 PERCENT EXCEEDS	899			812			135		
90 PERCENT EXCEEDS	56			58			44		

11277100 LAKE ELEANOR DIVERSION TUNNEL TO CHERRY LAKE, NEAR HETCH HETCHY, CA

LOCATION.—Lat 37°58'47", long 119°52'51", in SW 1/4 SW 1/4 sec.34, T.2 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on west side of Lake Eleanor, 0.5 mi northwest of Eleanor Dam, and 6.0 mi northwest of Hetch Hetchy.

PERIOD OF RECORD.—July 1996 to August 1996, October 1996 to September 1997.

GAGE.—Ultrasonic-velocity meter system. Elevation of gage is 4,670 ft above sea level, from topographic map.

REMARKS.—Estimated records fair. Instrumentation damaged by forest fire on Aug. 26, 1996. Flow is gravity flow or regulated by pump station at Cherry Lake (11277200). Diversion from Lake Eleanor (station 11277500) to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 550 ft³/s, July 3, 1997; no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	e.00	e.00	e335	e389	e244	e187	e.00	e.00
2	e.00	e.00	e.00	e.00	e.00	e.00	e339	e388	e.00	e188	e.00	e.00
3	e.00	e.00	e.00	e.00	e.00	e.00	e353	e386	e229	e550	e.00	e.00
4	e.00	e.00	e.00	e.00	e.00	e.00	e370	e384	e224	e144	e.00	e.00
5	e.00	e.00	e.00	e.00	e.00	e.00	e377	e382	e216	e192	e.00	e.00
6	e.00	e.00	e.00	e.00	e.00	e.00	e387	e378	e210	e192	e.00	e.00
7	e.00	e.00	e.00	e.00	e.00	e220	e398	e374	e207	e189	e.00	e.00
8	e.00	e.00	e.00	e.00	e.00	e240	e406	e370	e202	e190	e.00	e.00
9	e.00	e.00	e.00	e.00	e.00	e251	e414	e365	e199	e192	e.00	e.00
10	e.00	e.00	e.00	e.00	e.00	e266	e409	e360	e197	e194	e.00	e.00
11	e.00	e.00	e.00	e.00	e.00	e284	e433	e354	e194	e195	e.00	e.00
12	e.00	e.00	e.00	e.00	e.00	e293	e438	e349	e192	e195	e.00	e.00
13	e.00	e.00	e417	e.00	e.00	e308	e444	e344	e192	e197	e.00	e.00
14	e.00	e.00	e401	e.00	e.00	e317	e447	e339	e194	e196	e.00	e.00
15	e.00	e.00	e389	e.00	e.00	e304	e453	e332	e194	e.00	e.00	e.00
16	e.00	e.00	e389	e.00	e.00	e333	e456	e329	e194	e.00	e.00	e.00
17	e.00	e.00	e384	e.00	e.00	e339	e.00	e325	e194	e209	e.00	e.00
18	e.00	e.00	e384	e.00	e.00	e347	e444	e317	e192	e.00	e.00	e.00
19	e.00	e.00	e387	e.00	e.00	e355	e435	e310	e191	e.00	e.00	e.00
20	e.00	e.00	e386	e.00	e.00	e360	e412	e305	e192	e.00	e.00	e.00
21	e.00	e.00	e380	e.00	e.00	e360	e389	e299	e192	e.00	e.00	e.00
22	e.00	e.00	e.00	e.00	e.00	e362	e364	e293	e194	e.00	e.00	e.00
23	e.00	e.00	e.00	e.00	e.00	e366	e347	e289	e192	e.00	e.00	e.00
24	e.00	e.00	e379	e.00	e.00	e366	e343	e287	e193	e.00	e.00	e.00
25	e.00	e.00	e.00	e.00	e.00	e362	e399	e284	e194	e.00	e.00	e.00
26	e.00	e.00	e.00	e.00	e.00	e359	e398	e280	e194	e.00	e.00	e.00
27	e.00	e.00	e.00	e.00	e.00	e349	e396	e277	e194	e.00	e.00	e.00
28	e.00	e.00	e380	e.00	e.00	e347	e393	e274	e194	e.00	e.00	e.00
29	e.00	e.00	e380	e.00	---	e339	e391	e269	e190	e.00	e.00	e.00
30	e.00	e.00	e398	e.00	---	e333	e390	e261	e186	e.00	e.00	e.00
31	e.00	---	e406	e.00	---	e331	---	e255	---	e.00	e.00	---
TOTAL	0.00	0.00	5460.00	0.00	0.00	8091.00	11560.00	10148	5780.00	3210.00	0.00	0.00
MEAN	.000	.000	176	.000	.000	261	385	327	193	104	.000	.000
MAX	.00	.00	417	.00	.00	366	456	389	244	550	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	255	.00	.00	.00	.00
AC-FT	.00	.00	10830	.00	.00	16050	22930	20130	11460	6370	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	1996	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MEAN	.000	.000	176	.000	.000	261	385	327	193	104	.000	.000
MAX	.000	.000	176	.000	.000	261	385	327	193	104	.000	.000
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	.000	.000	176	.000	.000	261	385	327	193	104	.000	.000
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	44249.00											
ANNUAL MEAN	121								121			
HIGHEST ANNUAL MEAN									121		1997	
LOWEST ANNUAL MEAN									121		1997	
HIGHEST DAILY MEAN	550	Jul 3							550	Jul 3	1997	
LOWEST DAILY MEAN	.00	Oct 1							.00	Oct 1	1996	
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1							.00	Oct 1	1996	
INSTANTANEOUS PEAK FLOW									358	Aug 4	1996	
ANNUAL RUNOFF (AC-FT)	87770								87830			
10 PERCENT EXCEEDS	383								380			
50 PERCENT EXCEEDS	.00								.00			
90 PERCENT EXCEEDS	.00								.00			

e Estimated.

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 mi².

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, 273,500 acre-ft, June 18, 19, gage height, 4,702.60 ft, June 19; minimum, 160,600 acre-ft, Sept. 30, gage height, 4,633.99 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212900	191200	182000	212800	241200	199700	185800	192600	256400	272400	237200	201500
2	212200	190200	180700	255800	240000	198100	184800	193200	258700	271800	235900	200300
3	211600	189600	179300	265700	238700	196600	183700	193900	260300	270900	234900	199100
4	210900	189100	178100	269800	237200	194700	182600	195100	264400	270600	233500	198000
5	210200	188500	178700	270100	235800	193300	181700	196700	267200	270100	232100	196600
6	209600	187800	178100	269800	234400	191900	180900	198300	267900	270300	230800	195100
7	209000	187100	177100	269600	232900	190600	180000	200000	268600	269700	229500	193600
8	208500	186500	176200	269300	231500	189800	179400	202000	269600	268800	228200	192000
9	207800	186000	175400	268500	230000	188800	178600	204200	270200	268000	227400	190400
10	207100	185400	175200	268000	228500	188300	177700	206600	270800	267200	226500	188800
11	206300	184800	176400	267300	227000	187700	176800	210000	271300	266300	225000	187000
12	205700	184300	180600	266300	225400	187200	176100	212600	272000	265800	223700	185500
13	205100	183700	181600	265100	223900	186400	175700	215500	272100	265200	222400	184100
14	204500	183100	181600	263800	222400	186000	175400	218000	272400	264100	221100	182600
15	203600	182500	181400	262500	221000	185600	175600	220400	272600	262700	219800	181000
16	202800	181900	181000	260900	219500	185600	176200	223000	273000	261500	219000	179400
17	201900	184200	180500	259700	218200	185000	177000	225900	273300	260200	218200	177800
18	201100	188200	179900	258300	216700	184600	177900	228900	273500	258800	217000	176200
19	200300	189000	179300	257000	215300	184400	181200	231000	273500	257400	215800	174600
20	200200	189400	178700	255800	214000	184400	182800	232900	273400	255900	214500	172800
21	199300	190400	178500	254600	212500	184100	184700	234800	273200	254300	213200	171200
22	198700	192500	178500	253800	211000	183600	186000	236300	273200	252800	212000	169300
23	197900	191800	178000	252300	209500	183900	186700	238000	272800	251200	211200	167800
24	197300	191000	177500	250100	207800	184100	186900	239400	272500	249700	210400	166200
25	196400	189700	176800	250100	206100	184700	187200	240700	272300	248200	209100	164800
26	195900	188800	176800	248500	204600	185200	188300	242000	272100	246600	207900	163700
27	195400	187900	176900	246700	203000	186100	189900	242800	272000	245100	206600	163200
28	194800	186300	176400	245700	201200	186400	191300	244800	272800	243600	205300	162700
29	193900	184900	177200	244700	---	186600	191800	247100	273400	242000	204000	161500
30	192900	183300	180600	243500	---	186600	192100	249600	273100	240400	203200	160600
31	192100	---	185200	242400	---	186500	---	253100	---	238800	202400	---
MAX	212900	192500	185200	270100	241200	199700	192100	253100	273500	272400	237200	201500
MIN	192100	181900	175200	212800	201200	183600	175400	192600	256400	238800	202400	160600
a	4654.32	4648.76	4650.02	4684.84	4660.07	4650.85	4654.35	4691.06	4702.34	4682.73	4660.80	4633.99
b	-21600	-8800	+1900	+57200	-41200	-14700	+5600	+61000	+20000	-34300	-36400	-41800

CAL YR 1996 b -61900

WTR YR 1997 b -53100

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 mi².

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, 5,120 ft³/s, May 16, 1996, from rating curve extended above 4,000 ft³/s, gage height, 11.15 ft; minimum daily, 0.77 ft³/s, Dec. 1–4, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	7.0	6.7	131	18	10	9.3	6.3	5.9	10	15	e15
2	18	6.9	6.5	862	17	10	9.3	6.2	5.9	14	15	e15
3	18	6.9	6.3	1350	16	10	9.3	6.2	6.0	12	14	e15
4	14	6.9	6.2	83	15	10	9.3	6.2	6.4	13	14	e15
5	7.1	6.9	15	1100	15	10	9.5	6.2	6.2	14	14	e15
6	3.1	6.2	9.5	957	15	10	9.7	6.2	6.2	14	14	e15
7	2.9	4.3	8.2	776	14	10	9.7	6.2	6.1	14	14	e15
8	4.6	5.1	7.4	765	14	9.7	9.7	6.2	6.1	14	14	e15
9	6.6	5.8	8.0	762	13	9.5	9.6	7.3	6.1	14	14	e15
10	6.4	5.8	26	e330	13	9.3	9.3	5.9	6.1	14	14	e15
11	6.5	5.8	27	e15	13	9.6	9.3	5.7	6.0	15	14	e15
12	6.5	5.8	31	e17	13	9.5	9.3	5.5	6.1	15	14	e15
13	6.5	5.6	19	e15	12	9.3	9.3	5.5	6.2	15	14	e15
14	6.5	5.5	15	e13.5	12	9.3	9.3	5.5	6.2	15	14	e15
15	6.5	5.5	13	e13.5	12	9.3	9.3	5.5	6.2	15	14	e15
16	6.6	5.7	12	12	12	9.2	9.3	5.5	6.1	15	14	e15
17	6.9	13	12	11	13	9.1	9.3	5.5	6.0	15	14	e15
18	7.0	8.7	11	11	12	8.9	9.3	5.7	19	15	14	e14
19	7.3	7.1	11	10	12	9.0	9.8	5.7	38	15	14	e15
20	7.3	7.0	10	12	12	9.3	9.1	5.9	28	15	14	e15
21	7.2	7.7	11	11	12	9.3	8.0	6.2	9.3	15	14	e15
22	7.3	12	11	18	12	9.2	6.9	6.2	6.4	15	e13	e15
23	7.3	9.1	10	388	12	9.3	6.5	6.5	6.0	15	e15	e15
24	7.3	7.7	9.7	856	12	9.1	6.4	6.5	6.0	15	e15	e15
25	7.4	7.3	9.5	935	12	8.9	6.4	6.4	5.9	15	e15	e14
26	7.2	7.0	13	944	11	8.9	6.2	6.4	5.8	15	e15	13
27	7.3	6.9	19	e446	11	8.9	6.2	6.4	5.8	15	e15	13
28	7.3	6.6	14	e14	10	9.3	6.2	6.4	5.8	15	e15	13
29	7.7	6.5	21	21	---	9.3	6.2	6.3	5.8	15	e15	13
30	7.5	6.5	38	19	---	9.3	6.5	6.3	11	15	e15	13
31	7.3	---	36	18	---	9.3	---	6.1	---	15	e14	---
TOTAL	246.1	208.8	453.0	10916.0	365	291.8	253.5	188.6	256.6	448	443	438
MEAN	7.94	6.96	14.6	352	13.0	9.41	8.45	6.08	8.55	14.5	14.3	14.6
MAX	18	13	38	1350	18	10	9.8	7.3	38	15	15	15
MIN	2.9	4.3	6.2	10	10	8.9	6.2	5.5	5.8	10	13	13
AC-FT	488	414	899	21650	724	579	503	374	509	889	879	869

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	MEAN	10.3	12.6	11.7	21.1	11.9	15.8	14.3	41.3	135	103	28.9	22.3
MAX	166	135	155	352	134	171	167	359	1198	993	176	139	
(WY)	1978	1977	1977	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1961 - 1997

ANNUAL TOTAL	13958.2	14508.4	
ANNUAL MEAN	38.1	39.7	35.7
HIGHEST ANNUAL MEAN			195
LOWEST ANNUAL MEAN			7.08
HIGHEST DAILY MEAN	2680	May 17	2830
LOWEST DAILY MEAN	2.9	Oct 7	.77
ANNUAL SEVEN-DAY MINIMUM	5.0	Jan 20	.79
INSTANTANEOUS PEAK FLOW			5120
INSTANTANEOUS PEAK STAGE			11.15
ANNUAL RUNOFF (AC-FT)	27690	28780	25870
10 PERCENT EXCEEDS	17	16	17
50 PERCENT EXCEEDS	8.8	10	7.3
90 PERCENT EXCEEDS	5.8	6.1	5.0

e Estimated.

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 mi².

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, maximum gage height, 4,663.87 ft, Jan. 1, 1997; no usable contents at times in many years.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 29,900 acre-ft, Jan. 1 gage height, 4,663.87 ft; minimum, 0 acre ft, gage height, 4,605.00 ft, many days in October and November.

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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	e16600	e29900	25400	23800	25500	25600	26900	25900	23300	22100
2	0	0	e16700	29400	25300	23700	25300	25600	26700	25900	23300	22100
3	0	0	e16700	27800	25300	23800	25300	25600	26600	25800	23200	22000
4	0	0	e16600	27100	25100	24000	25300	25700	27200	25500	23200	22000
5	0	0	e17400	26600	25100	24300	25300	25800	27100	25300	23200	22000
6	0	0	e19000	26300	25000	24300	25300	25800	26600	25100	23200	21900
7	0	0	e19200	26100	24900	24100	25300	25800	26200	24800	23100	21900
8	0	0	e19300	26000	24900	24100	25400	25900	26100	24600	23100	21800
9	0	0	e19400	25900	24800	24100	25400	25900	26200	24300	23100	21800
10	0	0	e20400	25900	24700	24200	25300	25900	26100	24100	23000	21700
11	0	0	e22100	25900	24700	24400	25200	26100	26200	23800	23000	21700
12	0	0	26900	25900	24600	24600	25200	26100	26300	23600	22900	21600
13	0	0	26000	25900	24500	24700	25200	25900	26500	23300	22900	21600
14	0	0	25400	25800	24400	24800	25300	25800	26600	23200	22900	21500
15	0	0	25100	25800	24500	25000	25600	26200	26800	23200	22800	21500
16	0	0	24900	25800	24500	25200	25800	26900	27000	23300	22800	21500
17	0	0	24600	25700	24600	25300	25900	27100	27100	23300	22700	21400
18	0	e3690	24200	25800	24600	25400	26000	27000	27000	23300	22700	21400
19	0	e6020	23800	25800	24600	25500	26800	27100	27000	23300	22700	21300
20	0	e7540	23300	25800	24600	25500	26500	27200	27000	23300	22600	21300
21	0	e8360	23100	25800	24600	25500	26400	27000	26900	23300	22600	21200
22	0	e11000	22900	26000	24500	25400	26200	26800	26800	23400	22500	21200
23	0	e13400	22600	25800	24500	25600	26100	26900	26700	23400	22500	21200
24	0	e14300	22200	25600	24400	25800	25800	27100	26700	23400	22400	21100
25	0	e14900	21800	26800	24300	25800	25600	27000	26600	23400	22400	21100
26	0	e15400	21700	26400	24200	25900	25700	27000	26500	23400	22400	21100
27	0	e15700	22000	26000	24100	25900	25900	27000	26500	23400	22300	21000
28	0	e16000	21800	25700	24000	25800	25900	27200	26400	23400	22300	21000
29	0	e16200	22500	25600	---	25700	25700	27100	26200	23400	22200	20900
30	0	e16400	25600	25500	---	25700	25700	27000	26100	23300	22200	20900
31	0	---	27200	25400	---	25600	---	27000	---	23300	22100	---
MAX	0	16400	27200	29900	25400	25900	26800	27200	27200	25900	23300	22100
MIN	0	0	16600	25400	24000	23700	25200	25600	26100	23200	22100	20900
a	4605.0	e4649.3	4661.0	4659.2	4657.7	4659.4	4659.5	4660.9	4659.9	4657.0	4655.7	4654.4
b	0	+16400	+10800	-1800	-1400	+1600	+100	+1300	-900	-2800	-1200	-1200

CAL YR 1996 b +18420

WTR YR 1997 b +20900

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 mi².

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 which was destroyed January 1996. 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. Prior to Jan. 2, 1997, datum of gage 10 ft lower.

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. Since March 1960, water is diverted at Lake Eleanor via Lake Eleanor diversion tunnel (station 11277100) to Cherry Lake (station 11277200). See schematic diagram of Tuolumne River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 19,500 ft³/s, Jan. 2, 1997, gage height, 26.74 ft, from rating curve extended above 2,600 ft³/s on basis of slope-area measurements at gage heights 9.94 and 12.24 ft, datum then in use; no flow at times in 1910, 1930–31, 1933, 1956.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	5.4	7.1	8640	419	246	243	317	447	e11	e20	e20
2	20	5.6	7.2	15100	411	243	161	292	409	e27	e20	e20
3	18	5.9	7.2	4510	386	e100	113	273	326	e25	e20	e20
4	16	6.2	7.2	1620	354	e8.4	100	322	268	e23	e20	e20
5	14	6.5	16	1090	324	e8.4	102	401	696	e22	e20	e20
6	13	6.9	8.2	757	302	e8.4	104	452	656	e20	e20	e20
7	9.3	7.3	7.3	613	287	e8.4	102	459	561	e20	e20	e20
8	6.2	7.8	7.2	527	280	e8.4	106	499	364	e20	e20	e20
9	4.5	8.1	8.1	464	277	e8.4	112	530	212	e20	e20	e20
10	9.1	8.2	19	426	276	e8.4	101	563	192	e20	e20	e20
11	9.5	8.5	15	394	276	e8.4	81	592	e116	e20	e20	e20
12	8.7	8.5	1080	385	276	e8.4	73	678	e52	e20	e20	e20
13	7.9	8.5	1220	379	265	e8.4	72	717	e53	e20	e20	e20
14	7.0	8.7	486	325	260	e8.4	80	654	e54	e20	e20	e20
15	6.5	8.9	160	327	260	e8.4	132	309	e55	e20	e20	e20
16	6.0	9.0	37	305	259	e57	220	118	e58	e20	e20	e10
17	5.4	30	11	284	258	70	366	406	119	e20	e20	e10
18	5.2	138	10	276	258	80	458	516	237	e20	e20	e10
19	5.2	6.3	8.9	279	258	109	864	409	168	e20	e20	e10
20	4.9	5.8	7.9	317	256	234	1000	513	117	e20	e20	e10
21	4.6	7.2	7.8	337	254	238	809	507	117	e20	e20	e10
22	4.4	12	7.6	397	253	173	801	430	115	e20	e20	e10
23	4.0	6.8	7.4	540	253	200	673	242	e92	e20	e20	e10
24	3.7	6.1	7.5	510	251	348	568	201	e53	e20	e20	e10
25	4.4	5.9	7.4	949	248	440	362	207	e51	e20	e20	e10
26	4.6	6.4	10	1250	247	481	347	157	e46	e20	e20	e10
27	4.4	6.7	12	844	247	520	457	132	e45	e20	e20	e10
28	3.5	6.7	8.7	621	246	489	542	160	e44	e20	e20	e10
29	3.8	6.7	15	531	---	426	444	370	e20	e20	e20	e10
30	4.8	6.7	47	473	---	378	371	473	e11	e20	e20	e10
31	5.1	---	1040	438	---	352	---	460	---	e20	e20	---
TOTAL	246.7	371.3	4300.7	43908	7941	5284.8	9964	12359	5754	628	620	450
MEAN	7.96	12.4	139	1416	284	170	332	399	192	20.3	20.0	15.0
MAX	23	138	1220	15100	419	520	1000	717	696	27	20	20
MIN	3.5	5.4	7.1	276	246	8.4	72	118	11	11	20	10
AC-FT	489	736	8530	87090	15750	10480	19760	24510	11410	1250	1230	893

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
LOWEST ANNUAL MEAN	144
HIGHEST DAILY MEAN	5000
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
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
LOWEST ANNUAL MEAN	86.2
HIGHEST DAILY MEAN	8270
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	11700
INSTANTANEOUS PEAK STAGE	14.95
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.3	39.2	34.7	76.2	60.1	24.8	87.4	275	324	110	26.1	26.6
MAX	333	565	314	1416	586	198	916	1029	1605	677	176	137
(WY)	1983	1984	1984	1997	1986	1986	1982	1995	1983	1983	1983	1982
MIN	.15	2.55	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1961 - 1997

ANNUAL TOTAL	75294.1	91827.5	
ANNUAL MEAN	206	252	91.9
HIGHEST ANNUAL MEAN			320
LOWEST ANNUAL MEAN			4.73
HIGHEST DAILY MEAN	5200	May 16	15100
LOWEST DAILY MEAN	3.5	Oct 28	3.5
ANNUAL SEVEN-DAY MINIMUM	4.1	Oct 23	4.1
INSTANTANEOUS PEAK FLOW			19500
INSTANTANEOUS PEAK STAGE			26.74
ANNUAL RUNOFF (AC-FT)	149300	182100	66580
10 PERCENT EXCEEDS	648	511	272
50 PERCENT EXCEEDS	21	20	7.6
90 PERCENT EXCEEDS	6.2	7.1	4.6

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 mi².

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, 33,200 ft³/s, Jan. 2, 1997, gage height, 18.46 ft, from rating curve extended above 4,600 ft³/s; minimum daily, 0.30 ft³/s, Apr. 5, 6, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	15	34	14200	671	341	310	339	435	e63	e45	e40
2	40	15	34	25200	651	341	233	311	405	e62	e45	e40
3	37	15	31	8090	608	262	183	295	348	e59	e45	e40
4	35	16	29	2380	563	113	158	326	269	e58	e44	e39
5	29	16	265	2580	524	110	157	395	640	e56	e44	e38
6	21	16	160	2020	490	108	160	444	675	e54	e44	e38
7	18	16	89	1500	466	107	157	453	550	e52	e43	e38
8	14	15	66	1370	e449	107	160	488	404	e50	e43	e38
9	13	16	67	1270	e442	105	167	524	237	e49	e43	e37
10	14	17	458	950	e438	104	161	554	215	e49	e43	e37
11	17	17	623	555	e434	102	133	583	e180	e48	e43	e36
12	17	17	1380	539	e428	102	117	680	e95	e48	e43	e36
13	17	17	1530	531	e412	101	112	725	e94	e47	e43	e35
14	16	17	657	470	e402	101	116	668	e94	e48	e43	e35
15	15	17	310	482	e398	101	169	396	e94	e48	e43	e34
16	15	18	160	458	e393	106	252	132	e94	e47	e42	e31
17	14	109	105	429	e389	128	369	358	108	e47	e42	e30
18	14	248	92	421	e385	142	458	514	256	e47	e42	e29
19	16	36	84	423	e382	171	853	422	237	e47	e42	e29
20	14	42	78	473	e378	283	1070	479	168	e46	e42	e28
21	14	50	97	491	e374	308	847	505	145	e46	e42	e28
22	14	228	117	634	e370	257	838	427	136	e46	e42	e27
23	13	122	98	1200	e367	255	705	300	129	e47	e44	e27
24	14	51	91	1640	e362	375	601	214	e83	e47	e43	e27
25	17	39	87	2900	e352	458	393	236	e76	e46	e43	e27
26	16	34	134	3250	352	500	356	200	e74	e45	e43	e27
27	14	32	307	1850	354	542	445	165	e72	e45	e42	e27
28	14	31	196	962	347	519	541	184	e69	e45	e42	e26
29	16	30	256	835	---	458	460	334	e68	e45	e41	e26
30	22	29	650	750	---	414	386	463	e65	e45	e40	e24
31	17	---	1440	700	---	394	---	446	---	e45	e40	---
TOTAL	591	1341	9725	79553	12181	7515	11067	12560	6515	1527	1326	974
MEAN	19.1	44.7	314	2566	435	242	369	405	217	49.3	42.8	32.5
MAX	44	248	1530	25200	671	542	1070	725	675	63	45	40
MIN	13	15	29	421	347	101	112	132	65	45	40	24
AC-FT	1170	2660	19290	157800	24160	14910	21950	24910	12920	3030	2630	1930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	MEAN	24.2	53.9	64.8	159	136	112	158	339	461	205	41.6	38.8
MAX	341	610	390	2566	922	399	1298	1342	2845	1699	229	164	
(WY)	1983	1984	1965	1997	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1961 - 1997

ANNUAL TOTAL	106844	144875	
ANNUAL MEAN	292	397	149
HIGHEST ANNUAL MEAN			634
LOWEST ANNUAL MEAN			8.08
HIGHEST DAILY MEAN	8080	May 16	25200 Jan 2
LOWEST DAILY MEAN	13	Oct 9	13 Oct 9
ANNUAL SEVEN-DAY MINIMUM	14	Oct 17	14 Oct 17
INSTANTANEOUS PEAK FLOW			33200 Jan 2
INSTANTANEOUS PEAK STAGE			18.46 Jan 2
ANNUAL RUNOFF (AC-FT)	211900	287400	108100
10 PERCENT EXCEEDS	727	636	372
50 PERCENT EXCEEDS	61	105	31
90 PERCENT EXCEEDS	16	17	9.8

e Estimated.

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 mi².

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 except those for estimated daily discharges, which are fair. 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, 33,500 ft³/s, Jan. 2, 1997, gage height, unknown, on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm Powerplant, maximum gage height (from floodmark) 25.4 ft, Jan. 3, 1997, caused by backwater from Tuolumne River; minimum daily, 1.6 ft³/s, June 4, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	483	529	881	e14800	e1650	e1310	1460	1500	649	e720	902	e440
2	378	603	1020	e25500	e1620	e1310	1370	1470	850	e560	687	e660
3	370	360	951	e8300	e1580	e1240	1330	1450	1010	e760	572	e620
4	390	337	911	e2500	e1530	e1200	1300	1480	884	e530	808	e610
5	372	358	1320	e2660	e1490	e1200	1300	1560	1440	e670	798	e680
6	342	401	1100	e2100	e1460	e1200	1300	1620	1810	e310	e690	e800
7	354	388	1080	e1530	e1440	e1200	1300	1630	1670	e680	e690	831
8	360	342	1050	e1390	e1420	e1200	1310	1670	1500	e870	e680	904
9	356	324	1050	e1480	e1410	e1200	1320	1710	1310	873	e480	901
10	361	331	1530	e1460	e1420	e1200	1310	1740	904	871	e500	923
11	367	336	e1760	e1280	e1390	1230	1280	1340	e840	868	e790	928
12	338	329	e2500	e1480	e1400	1220	1260	1870	e720	604	e680	911
13	336	355	2840	e1480	e1390	1220	1090	1840	e910	597	e680	767
14	351	353	1870	e1440	e1380	1210	1270	1770	1020	868	e670	842
15	445	352	1420	e1460	e1370	1210	1320	1470	1040	877	e650	897
16	465	363	1210	e1430	e1370	1060	1410	1140	1010	e740	e430	893
17	470	538	1120	e1400	e1360	1250	1540	1260	1190	e760	e430	903
18	448	e622	1080	e1390	e1360	1270	1660	1120	1370	842	e700	901
19	446	531	1070	e1400	e1350	1300	2150	1280	1340	891	e640	905
20	86	541	1070	e1400	e1350	1420	2420	1320	1270	868	e650	997
21	473	811	1090	e1460	e1340	1450	2110	1240	1250	921	e660	915
22	332	1230	895	e1610	e1340	1390	2090	1170	891	925	e650	991
23	413	1090	1100	e1960	e1340	1390	1930	1120	997	927	e440	950
24	401	954	1090	e2200	e1330	1530	1810	674	857	920	e420	931
25	496	1010	1080	e3890	e1330	1620	1570	468	687	925	e650	e700
26	281	733	1140	e4240	e1330	1670	1520	431	690	929	e650	e600
27	278	663	1350	e2850	e1330	1720	1630	929	651	922	e640	e230
28	324	949	1210	e1950	e1320	1690	1740	823	e120	926	e650	e240
29	578	965	1430	e1820	---	1630	1650	969	e190	927	e650	e580
30	624	994	2070	e1720	---	1580	1560	1160	662	931	e440	e500
31	519	---	2650	e1670	---	1550	---	738	---	932	e430	---
TOTAL	12237	17692	41938	101250	39400	41870	46310	39962	29732	24944	19407	22950
MEAN	395	590	1353	3266	1407	1351	1544	1289	991	805	626	765
MAX	624	1230	2840	25500	1650	1720	2420	1870	1810	932	902	997
MIN	86	324	881	1280	1320	1060	1090	431	120	310	420	230
AC-FT	24270	35090	83180	200800	78150	83050	91860	79260	58970	49480	38490	45520

e Estimated.

11278400 CHERRY CREEK BELOW DION R. HOLM POWERPLANT, NEAR MATHER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	420	458	489	669	654	697	807	1041	1144	755	526	482
MAX	962	1445	1394	3266	1528	1351	2199	2310	3728	2643	1161	765
(WY)	1983	1984	1984	1997	1986	1997	1982	1996	1983	1983	1983	1997
MIN	12.7	14.9	5.56	4.22	3.84	3.71	2.63	2.67	4.08	11.3	25.8	20.4
(WY)	1994	1994	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1963 - 1997			
ANNUAL TOTAL	378849				437692							
ANNUAL MEAN	1035				1199				678			
HIGHEST ANNUAL MEAN									1437			
LOWEST ANNUAL MEAN									47.9			
HIGHEST DAILY MEAN	9140				May 16				25500			
LOWEST DAILY MEAN	25				Jan 7				86			
ANNUAL SEVEN-DAY MINIMUM	186				Jan 10				339			
INSTANTANEOUS PEAK FLOW									33500			
INSTANTANEOUS PEAK STAGE									25.40			
ANNUAL RUNOFF (AC-FT)	751400				868200				491300			
10 PERCENT EXCEEDS	1790				1670				1240			
50 PERCENT EXCEEDS	888				1040				618			
90 PERCENT EXCEEDS	342				397				82			

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 mi².

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.—Records good except flows below 1 ft³/s, which are fair, and flows below 0.10 ft³/s, which are poor. No storage or diversion from station. See schematic diagram of Tuolumne River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,620 ft³/s, Feb. 17, 1986, gage height, 7.03 ft, from rating curve extended above 1,100 ft³/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 Jan. 6, 1965, reached a stage of 6.4 ft from floodmarks, discharge, 1,850 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	1730	2,100	6.62	Jan. 23	0100	1,530	6.11
Jan. 2	1315	2,500	6.94				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.6	1050	33	8.2	4.4	2.5	1.1	.34	.00	.00
2	.00	.00	1.7	1370	29	8.2	4.4	2.4	1.1	.31	.00	.00
3	.00	.00	1.5	346	26	8.1	4.4	2.4	1.1	.29	.00	.00
4	.00	.00	1.4	104	23	7.8	4.3	2.3	1.4	.27	.00	.00
5	.00	.00	161	63	20	7.6	4.2	2.3	1.6	.28	.00	.00
6	.00	.00	39	44	19	7.4	3.9	2.2	1.4	.26	.00	.00
7	.00	.00	12	35	17	7.3	3.9	2.2	1.3	.25	.00	.00
8	.00	.00	6.9	29	20	7.1	3.9	2.1	1.2	.24	.00	.00
9	.00	.00	10	24	17	6.9	3.9	2.0	1.1	.24	.00	.00
10	.00	.00	705	22	15	6.8	3.9	1.9	1.1	.23	.00	.00
11	.00	.00	e290	19	14	6.7	3.8	1.8	1.1	.21	.00	.00
12	.00	.00	e120	21	14	6.5	3.8	1.8	1.0	.18	.00	.00
13	.00	.00	e54	22	13	6.1	3.8	1.6	1.1	.16	.00	.00
14	.00	.00	30	17	12	6.0	3.7	1.5	1.1	.15	.00	.00
15	.00	.00	18	24	12	6.0	3.6	1.5	1.1	.11	.00	.00
16	.00	.00	13	20	11	6.0	3.5	1.5	1.1	.07	.00	.00
17	.00	6.0	11	17	14	5.9	3.4	1.4	1.1	.04	.00	.00
18	.00	8.0	9.2	16	12	5.6	3.2	1.3	.94	.01	.00	.00
19	.00	2.8	8.2	15	11	5.5	4.2	1.3	.83	.00	.00	.00
20	.00	3.2	7.7	101	11	5.4	3.9	1.2	.77	.00	.00	.00
21	.00	3.1	92	95	10	5.4	3.5	1.2	.73	.00	.00	.00
22	.00	21	510	303	9.8	5.4	3.3	1.2	.73	.00	.00	.00
23	.00	15	140	569	9.6	5.3	3.6	1.3	.70	.00	.00	.00
24	.00	4.7	50	123	8.8	5.2	3.4	1.6	.67	.00	.00	.00
25	.00	2.7	31	333	8.8	5.0	3.2	1.5	.64	.00	.00	.00
26	.00	2.0	47	522	8.9	4.8	2.8	1.5	.62	.00	.00	.00
27	.00	1.7	172	164	9.2	4.7	2.8	1.4	.56	.00	.00	.00
28	.00	1.6	73	88	8.9	4.6	2.9	1.3	.50	.00	.00	.00
29	.00	1.6	62	62	---	4.6	2.8	1.3	.45	.00	.00	.00
30	.00	1.4	358	48	---	4.4	2.6	1.2	.40	.00	.00	.00
31	.00	---	165	39	---	4.5	---	1.2	---	.00	.00	---
TOTAL	0.00	74.80	3201.2	5705	417.0	189.0	109.0	51.9	28.54	3.64	0.00	0.00
MEAN	.000	2.49	103	184	14.9	6.10	3.63	1.67	.95	.12	.000	.000
MAX	.00	21	705	1370	33	8.2	4.4	2.5	1.6	.34	.00	.00
MIN	.00	.00	1.4	15	8.8	4.4	2.6	1.2	.40	.00	.00	.00
AC-FT	.00	148	6350	11320	827	375	216	103	57	7.2	.00	.00

e Estimated.

11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.085	3.48	11.4	29.0	29.7	25.3	10.4	3.64	.99	.22	.034	.017
MAX	1.05	43.2	103	184	173	126	74.1	26.2	6.41	2.42	.82	.42
(WY)	1983	1983	1997	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1969 - 1997			
ANNUAL TOTAL	7596.73				9780.08							
ANNUAL MEAN	20.8				26.8				9.43			
HIGHEST ANNUAL MEAN									38.2			
LOWEST ANNUAL MEAN									.011			
HIGHEST DAILY MEAN	705				1370				1370			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					2500				2620			
INSTANTANEOUS PEAK STAGE					6.94				7.03			
ANNUAL RUNOFF (AC-FT)	15070				19400				6830			
10 PERCENT EXCEEDS	39				32				15			
50 PERCENT EXCEEDS	1.6				1.5				.31			
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 mi².

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, 2,044,000 acre-ft, Jan. 2, 1997, elevation, 831.11 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, 2,044,000 acre-ft, Jan. 2, elevation, 831.11 ft; minimum, 1,541,000 acre-ft, Mar. 18, 19, elevation 788.20.

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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1689000	1624000	1679000	1896000	1874000	e1622000	e1597000	1626000	1764000	1862000	1742000	1630000
2	1687000	1625000	1680000	2044000	1867000	e1612000	e1599000	1626000	1767000	1858000	1738000	1626000
3	1685000	1625000	1681000	2028000	1859000	e1601000	e1601000	1625000	1772000	1853000	1734000	1623000
4	1682000	1626000	1679000	1999000	1849000	e1593000	e1603000	1624000	1780000	1848000	1730000	1619000
5	1680000	1626000	1690000	1971000	1839000	e1586000	e1605000	1623000	1790000	1845000	1726000	1616000
6	1678000	1627000	1692000	1943000	1827000	e1578000	e1606000	1623000	1800000	1839000	1721000	1613000
7	1674000	1627000	1691000	1912000	1812000	e1571000	e1608000	1623000	1807000	1835000	1717000	1611000
8	1672000	1627000	1689000	1879000	1807000	e1564000	e1609000	1623000	1810000	1831000	1712000	1609000
9	1669000	1627000	1689000	1853000	1795000	e1556000	e1611000	1623000	1817000	1826000	1709000	1608000
10	1667000	1628000	1710000	1836000	1786000	e1551000	1611000	1627000	1823000	1821000	1705000	1608000
11	1664000	1628000	1728000	1818000	1780000	e1547000	1611000	1630000	1831000	1816000	1701000	1608000
12	1662000	1628000	1740000	1811000	1775000	e1546000	1612000	1635000	1835000	1811000	1696000	1608000
13	1659000	1629000	1748000	1807000	1768000	e1545000	1613000	1643000	1837000	1810000	1692000	1607000
14	1656000	1629000	1749000	1798000	1762000	e1544000	1614000	1651000	1840000	1809000	1688000	1606000
15	1653000	1629000	1746000	1787000	1756000	e1543000	1614000	1660000	1843000	1807000	1685000	1606000
16	1649000	1629000	1744000	1777000	1749000	e1542000	1614000	1670000	1845000	1804000	1682000	1604000
17	1646000	1633000	1741000	1766000	1743000	e1542000	1614000	1679000	1846000	1801000	1679000	1604000
18	1642000	1637000	1738000	1757000	1735000	e1541000	1614000	1688000	1851000	1797000	1675000	1602000
19	1639000	1639000	1734000	1747000	1726000	e1541000	1616000	1697000	1858000	1791000	1670000	1601000
20	1635000	1641000	1730000	1741000	e1716000	e1543000	1619000	1706000	1864000	1787000	1666000	1601000
21	1632000	1644000	1738000	1743000	e1706000	e1574000	1622000	1716000	1870000	1783000	1662000	1599000
22	1630000	1654000	1751000	1752000	e1696000	e1551000	1625000	1724000	1874000	1779000	1659000	1597000
23	1630000	1660000	1752000	1777000	e1686000	e1565000	1625000	1732000	1877000	1774000	1657000	1596000
24	1628000	1663000	1750000	1785000	e1676000	e1559000	1627000	1740000	1878000	1770000	1654000	1594000
25	1628000	1666000	1745000	1809000	e1665000	e1564000	1627000	1747000	1877000	1765000	1652000	1592000
26	1627000	1669000	1745000	1863000	e1655000	e1569000	1627000	1754000	1876000	1762000	1648000	1592000
27	1625000	1671000	1749000	1880000	e1644000	e1575000	1627000	1759000	1875000	1759000	1644000	1592000
28	1624000	1673000	1745000	1886000	e1633000	e1581000	1627000	1762000	1872000	1756000	1641000	1591000
29	1623000	1675000	1746000	1886000	---	e1585000	1627000	1762000	1869000	1752000	1638000	1589000
30	1623000	1677000	1774000	1884000	---	e1594000	1627000	1763000	1864000	1749000	1636000	1588000
31	1624000	---	1799000	1880000	---	e1597000	---	1764000	---	1746000	1634000	---
MAX	1689000	1677000	1799000	2044000	1874000	1622000	1627000	1764000	1878000	1862000	1742000	1630000
MIN	1623000	1624000	1679000	1741000	1633000	1541000	1597000	1623000	1764000	1746000	1634000	1588000
a	795.91	800.71	811.31	818.07	796.75	793.20	796.17	808.31	816.79	806.77	796.81	792.57
b	-66000	+53000	+122000	+81000	-247000	-36000	+30000	+137000	+100000	-118000	-112000	-46000

CAL YR 1996 b +165000

WTR YR 1997 b -102000

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.—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 ft³/s, July 1, 1935; no flow at times most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	545	3.7	.19	.04	.00	595	487	1010	1230	804	729	740
2	590	.11	.19	191	.00	591	424	1130	1300	1300	798	857
3	858	.20	.13	.46	.00	595	591	1100	1300	1390	1010	634
4	853	.23	.11	.38	.00	518	708	901	581	1260	883	833
5	661	.23	.27	.34	.00	321	680	900	564	915	994	779
6	789	.23	.19	.30	.00	321	682	870	527	918	948	656
7	1090	.23	.13	.30	.00	320	684	847	466	1220	866	742
8	817	.23	.13	.30	.00	320	742	803	551	1070	846	860
9	737	.23	.27	.30	.00	320	671	424	536	1030	647	590
10	650	.23	1.0	.23	244	318	1220	100	556	665	1070	233
11	340	.20	.51	.11	119	315	834	161	546	757	939	231
12	275	.19	.30	.11	124	316	577	324	541	740	955	479
13	350	.27	.23	.11	124	586	614	267	533	733	961	554
14	333	.27	.16	.04	346	1030	703	622	532	796	951	564
15	464	.23	.13	.07	508	1210	747	1060	502	1150	741	650
16	509	.19	.11	.09	507	1200	444	948	531	1160	790	633
17	697	.46	.16	.09	506	1210	492	846	1020	975	683	604
18	707	.27	.16	.07	327	1210	406	931	1050	1050	848	701
19	762	.30	.13	.04	127	1070	302	882	529	1100	960	574
20	822	.27	.13	.11	128	833	463	557	528	1040	959	564
21	688	.42	.57	.11	128	740	444	691	510	995	1060	596
22	609	.46	.76	.11	128	809	355	1050	531	1160	736	885
23	543	.27	.27	.16	128	768	434	1190	446	993	696	707
24	546	.23	.19	.11	128	793	439	991	368	1040	735	516
25	630	.19	.16	.04	128	819	459	1130	676	1310	561	297
26	605	.19	.09	.11	128	621	692	1010	787	796	852	125
27	781	.19	.04	.07	277	378	688	1000	626	558	695	94
28	612	.23	.04	.00	599	351	682	1080	874	697	458	86
29	736	.23	.02	.00	---	580	683	1430	1080	804	656	330
30	247	.23	.07	.00	---	404	686	1480	1210	645	574	394
31	42	---	.04	.00	---	431	---	1300	---	746	595	---
TOTAL	18888	10.91	6.88	195.20	4704.00	19893	18033	27035	21031	29817	25196	16508
MEAN	609	.36	.22	6.30	168	642	601	872	701	962	813	550
MAX	1090	3.7	1.0	191	599	1210	1220	1480	1300	1390	1070	885
MIN	42	.11	.02	.00	.00	315	302	100	368	558	458	86
AC-FT	37460	22	14	387	9330	39460	35770	53620	41710	59140	49980	32740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1997, BY WATER YEAR (WY)

MEAN	241	104	76.7	51.0	87.8	302	660	831	894	789	635	430
MAX	633	579	416	465	407	799	1198	1349	1244	1194	977	902
(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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1909 - 1997

ANNUAL TOTAL	171584.10	181317.99	
ANNUAL MEAN	469	497	428
HIGHEST ANNUAL MEAN			570
LOWEST ANNUAL MEAN			198
HIGHEST DAILY MEAN	1690	1480	1820
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	340300	359600	310000
10 PERCENT EXCEEDS	1050	1040	1010
50 PERCENT EXCEEDS	466	543	380
90 PERCENT EXCEEDS	.19	.11	.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 except for period of estimated discharge which is fair. 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 ft³/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 most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	399	e32	e.00	e9.0	339	766	1380	1740	2120	2510	1960	1300
2	607	e.00	e.00	e275	201	702	1350	2040	2020	2150	1850	1610
3	443	e.00	e.00	e.00	620	769	1410	1950	1810	2700	1700	1830
4	429	e.00	e.00	e.00	1120	1350	1530	1000	1270	2550	2000	1620
5	428	e.00	e.00	e.00	1020	2010	1720	1010	1400	2170	1800	1630
6	475	e.00	e.00	e.00	1100	1960	1540	1050	1270	2720	1920	1530
7	950	e.00	e.00	e.00	1000	2020	1710	1180	1190	2020	2170	825
8	751	e.00	e.00	e375	902	2120	1700	1240	1130	2480	2270	825
9	625	e.00	e.00	e1020	923	2220	1700	1600	1070	2180	1370	381
10	335	e.00	e.00	e1020	682	2270	1600	1940	986	2090	1170	526
11	521	e.00	e.00	e1000	1040	2340	1930	2480	951	2450	2050	375
12	397	e.00	e.00	e1540	1120	1540	2080	2580	1120	1910	1910	509
13	618	e.00	e.00	e1660	1210	2010	1950	1640	1030	2060	1760	387
14	736	e2.0	e.00	e850	918	1990	2130	1620	1170	1810	1450	413
15	653	e2.0	e.00	e1120	657	1760	1250	2240	1100	2040	1560	311
16	979	e2.0	e.00	e906	646	1750	552	2620	1120	1660	1170	626
17	1260	e2.0	e.00	598	832	1780	528	2440	2170	1610	1200	535
18	1310	e2.0	e.00	470	747	2440	645	2450	2240	2270	1780	636
19	946	e1.0	e.00	444	359	2650	1020	2390	1200	2240	1840	565
20	1050	e.00	e.00	731	88	2060	1770	1830	956	2040	1840	658
21	1160	e1.0	e.00	535	133	1050	1770	1580	793	1910	1680	760
22	157	e.00	e.00	585	188	728	338	1320	823	2140	1150	810
23	147	e1.0	e.00	374	80	523	359	1210	833	2130	1050	918
24	125	e1.0	e.00	256	95	758	339	744	2200	2120	815	835
25	e146	e.00	e.00	387	70	692	439	748	2280	2000	1370	1170
26	e191	e.00	e.00	236	120	797	647	1030	1890	1920	1530	534
27	e183	e.00	e.00	462	103	702	651	2050	1910	1740	2010	355
28	e80	e.00	e.00	415	460	472	682	1700	1400	1570	1810	354
29	e10	e.00	e172	610	---	903	819	1880	1850	1760	1440	856
30	e.00	e.00	e428	618	---	976	1110	1730	2060	1680	633	672
31	e28	---	e3.0	379	---	1070	---	1980	---	1870	934	---
TOTAL	16139.00	46.00	603.00	16875.00	16773	45178	36649	53012	43362	64500	49192	24356
MEAN	521	1.53	19.5	544	599	1457	1222	1710	1445	2081	1587	812
MAX	1310	32	428	1660	1210	2650	2130	2620	2280	2720	2270	1830
MIN	.00	.00	.00	.00	70	472	338	744	793	1570	633	311
AC-FT	32010	91	1200	33470	33270	89610	72690	105100	86010	127900	97570	48310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1997, BY WATER YEAR (WY)

	MEAN	293	148	133	77.9	127	470	1023	1253	1342	1272	1061	685
MAX	883	1008	1210	544	855	1457	1874	1829	1883	2098	1991	1604	
(WY)	1996	1976	1984	1997	1976	1997	1949	1984	1981	1980	1983	1967	
MIN	.000	.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 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1899 - 1997
ANNUAL TOTAL	323447.00	366685.00	
ANNUAL MEAN	884	1005	662
HIGHEST ANNUAL MEAN			1082
LOWEST ANNUAL MEAN			54.3
HIGHEST DAILY MEAN	2450	Jul 1	3400
LOWEST DAILY MEAN	.00	Oct 30	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 2	.00
ANNUAL RUNOFF (AC-FT)	641600	727300	479600
10 PERCENT EXCEEDS	1910	2080	1670
50 PERCENT EXCEEDS	792	923	450
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

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 mi².

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.—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 311 ft³/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 station 11289651.

EXTREMES FOR PERIOD OF RECORD.—River only, maximum discharge, 58,900 ft³/s, Jan. 3, 1997, gage height, 28.43 ft; no flow for several days during September and October 1977.

Combined flow, maximum daily discharge, 50,100 ft³/s, Jan. 3, 1997; minimum daily, 0.45 ft³/s, Nov. 2, 1970.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	452	387	6420	9170	7490	367	1420	171	290	293	286
2	354	410	606	12800	9320	7520	378	975	163	284	299	285
3	354	390	1490	50100	9310	7320	354	986	166	284	289	290
4	352	390	2590	34700	9320	6130	325	2200	180	285	300	287
5	352	391	3060	29300	9260	4980	324	2210	155	297	295	291
6	352	384	3250	26700	9260	4980	321	2230	223	291	294	291
7	352	386	3500	22700	9250	4950	324	2160	281	294	287	291
8	352	388	3480	20800	9330	4950	331	2140	285	286	300	284
9	352	388	3500	16400	9300	4930	328	2210	271	286	286	283
10	352	387	e3030	12600	8470	4300	328	2210	279	293	288	288
11	942	387	e3360	10300	6580	3500	331	1440	277	291	286	282
12	844	389	4960	7420	6210	2340	315	1150	294	285	286	287
13	869	388	5580	8300	6180	1820	313	2020	276	283	285	282
14	876	389	5660	9540	6230	1370	314	1840	290	291	284	282
15	861	389	e5540	9080	6230	1230	1630	776	282	286	284	280
16	870	390	e5580	8870	6200	1210	2690	246	291	288	284	282
17	447	400	5720	9060	6190	1150	2730	219	324	294	284	280
18	349	391	5510	9700	7480	e690	2660	228	298	284	286	290
19	350	392	5460	9700	8430	420	2000	231	299	280	285	281
20	349	390	5630	8460	8440	364	1340	227	299	285	284	274
21	349	396	5710	5670	8510	356	1420	221	295	291	278	275
22	348	397	5960	6610	8480	370	2860	221	299	294	276	287
23	347	391	4650	6120	8540	369	2800	224	291	286	268	299
24	344	389	e6090	8250	8560	375	2800	223	302	294	290	289
25	346	389	e6430	8310	8520	395	2800	224	295	286	280	277
26	356	389	e4830	6470	8460	389	2780	225	300	302	279	281
27	355	388	e4840	7940	8330	375	2750	225	298	293	279	280
28	356	388	e7130	7590	7700	372	2740	216	302	293	285	290
29	357	388	7840	8160	---	367	2690	212	287	314	290	278
30	355	388	5770	8450	---	359	2360	210	292	282	290	291
31	354	---	6240	8770	---	360	---	208	---	289	296	---
TOTAL	14156	11774	143383	405290	227260	75731	43703	29527	8065	8981	8890	8543
MEAN	457	392	4625	13070	8116	2443	1457	952	269	290	287	285
MAX	942	452	7840	50100	9330	7520	2860	2230	324	314	300	299
MIN	344	384	387	5670	6180	356	313	208	155	280	268	274
AC-FT	28080	23350	284400	803900	450800	150200	86680	58570	16000	17810	17630	16950

e Estimated.

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	725	383	980	1704	1799	1706	1512	1418	643	385	209	508
MAX	4187	905	4625	13070	8116	6636	8900	9744	5161	3808	1747	3491
(WY)	1984	1984	1997	1997	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1971 - 1997			
ANNUAL TOTAL	707750				985303							
ANNUAL MEAN	1934				2699				994			
HIGHEST ANNUAL MEAN									4786			
LOWEST ANNUAL MEAN									84.3			
HIGHEST DAILY MEAN	7840				50100				50100			
LOWEST DAILY MEAN	153				155				.00			
ANNUAL SEVEN-DAY MINIMUM	159				179				.00			
INSTANTANEOUS PEAK FLOW					58900				58900			
INSTANTANEOUS PEAK STAGE					28.43				28.43			
ANNUAL RUNOFF (AC-FT)	1404000				1954000				720200			
10 PERCENT EXCEEDS	5210				8430				3130			
50 PERCENT EXCEEDS	458				372				225			
90 PERCENT EXCEEDS	187				280				12			

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	488	387	6430	9510	8860	2230	4170	3520	3600	2980	2330
2	1550	410	606	13300	9520	8810	2150	4150	3480	3730	2950	2750
3	1650	390	1490	50100	9930	8690	2360	4040	3280	4370	3000	2750
4	1640	390	2590	34700	10400	8000	2560	4100	2030	4100	3180	2740
5	1440	391	3060	29300	10300	7310	2720	4120	2120	3380	3090	2700
6	1620	384	3250	26700	10400	7260	2540	4150	2020	3930	3160	2480
7	2390	386	3500	22700	10300	7290	2720	4190	1940	3530	3320	1860
8	1920	388	3480	21200	10200	7390	2770	4180	1970	3840	3420	1970
9	1720	388	3500	17400	10200	7470	2700	4230	1880	3500	2300	1250
10	1340	387	3030	13600	9390	6890	3150	4250	1820	3050	2530	1050
11	1800	387	3360	11300	7740	6160	3100	4080	1770	3500	3280	888
12	1520	389	4960	8960	7450	4200	2970	4050	1960	2940	3150	1280
13	1840	388	5580	9960	7510	4420	2880	3930	1840	3080	3010	1220
14	1950	391	5660	10400	7500	4390	3150	4080	1990	2900	2690	1260
15	1980	391	5540	10200	7400	4200	3630	4080	1880	3480	2590	1240
16	2360	392	5580	9780	7360	4160	3680	3810	1940	3110	2240	1540
17	2400	402	5720	9660	7530	4140	3750	3510	3510	2880	2170	1420
18	2370	393	5510	10200	8560	4340	3720	3610	3590	3600	2910	1630
19	2060	393	5460	10100	8920	4140	3320	3500	2030	3620	3090	1420
20	2220	390	5630	9190	8660	3260	3570	2610	1780	3370	3080	1500
21	2200	397	5710	6210	8770	2150	3630	2490	1600	3200	3020	1630
22	1110	397	5960	7200	8800	1910	3560	2590	1650	3590	2160	1980
23	1040	392	4650	6490	8750	1660	3590	2620	1570	3410	2010	1930
24	1020	390	6090	8510	8790	1930	3580	1950	2870	3450	1850	1640
25	1120	389	6430	8700	8720	1900	3700	2100	3250	3600	2210	1740
26	1150	389	4830	6710	8710	1810	4120	2270	2980	3020	2660	940
27	1320	388	4840	8400	8710	1460	4090	3280	2830	2590	2980	729
28	1050	388	7130	8010	8760	1200	4100	3000	2580	2560	2550	730
29	1100	388	8010	8770	---	1850	4190	3520	3220	2880	2390	1460
30	602	388	6200	9070	---	1740	4160	3420	3560	2610	1500	1360
31	424	---	6240	9150	---	1860	---	3490	---	2910	1830	---
TOTAL	49206	11824	143983	422400	248790	140850	98390	109570	72460	103330	83300	49417
MEAN	1587	394	4645	13630	8885	4544	3280	3535	2415	3333	2687	1647
MAX	2400	488	8010	50100	10400	8860	4190	4250	3590	4370	3420	2750
MIN	424	384	387	6210	7360	1200	2150	1950	1570	2560	1500	729
AC-FT	97600	23450	285600	837800	493500	279400	195200	217300	143700	205000	165200	98020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY)

	MEAN	1361	852	1393	1884	2002	2537	3166	3299	2868	2989	2484	1783
MAX	4693	2383	5327	13630	8885	6677	9873	11840	7644	6670	4715	5429	
(WY)	1984	1983	1983	1997	1997	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 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1971 - 1997		
ANNUAL TOTAL	1202619			1533520					
ANNUAL MEAN	3286			4201			2232		
HIGHEST ANNUAL MEAN							6186		
LOWEST ANNUAL MEAN							442		
HIGHEST DAILY MEAN	8010			50100			50100		
LOWEST DAILY MEAN	384			384			.45		
ANNUAL SEVEN-DAY MINIMUM	387			387			.61		
ANNUAL RUNOFF (AC-FT)	2385000			3042000			1617000		
10 PERCENT EXCEEDS	5660			8780			4570		
50 PERCENT EXCEEDS	3050			3080			1850		
90 PERCENT EXCEEDS	506			825			238		

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.—Water temperature can be affected by releases from La Grange Dam. Interruption in record was due to malfunction of the recording instrument.

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, 14.0°C, July 19; minimum recorded, 8.5°C, several days in March and April.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	12.0	12.5	12.0	11.5	11.0	11.0	11.0	---	---	---	---
2	13.0	12.0	12.5	11.5	11.5	11.0	12.5	11.0	---	---	---	---
3	13.0	12.0	12.5	11.5	11.5	11.0	13.0	11.0	---	---	---	---
4	13.0	12.0	12.0	11.5	12.0	11.5	---	---	---	---	---	---
5	13.0	12.0	12.0	11.5	12.0	12.0	---	---	---	---	---	---
6	13.5	12.0	12.0	11.0	12.0	12.0	---	---	---	---	---	---
7	13.5	12.0	12.0	11.5	12.5	12.0	---	---	---	---	---	---
8	13.5	12.5	12.0	11.5	12.5	12.0	---	---	---	---	---	---
9	13.5	12.5	12.0	11.5	12.0	12.0	---	---	---	---	---	---
10	13.0	12.5	12.0	11.5	12.0	12.0	---	---	---	---	---	---
11	13.0	12.0	12.5	11.5	12.0	12.0	---	---	---	---	---	---
12	13.0	12.0	12.0	11.5	12.0	12.0	---	---	---	---	---	---
13	13.0	12.0	12.5	11.5	12.0	12.0	---	---	---	---	---	---
14	13.0	12.0	12.0	11.5	12.0	11.5	---	---	---	---	---	---
15	13.0	12.0	12.0	11.0	12.0	11.5	---	---	---	---	---	---
16	13.0	12.0	11.5	11.0	11.5	11.5	---	---	---	---	---	---
17	13.0	12.0	12.0	11.0	11.5	11.5	---	---	---	---	---	---
18	13.0	12.0	12.0	12.0	11.5	11.0	---	---	---	---	---	---
19	13.0	12.0	12.0	11.5	11.5	11.0	---	---	---	---	---	---
20	13.0	12.0	12.0	11.5	11.5	11.0	---	---	---	---	10.0	8.5
21	13.0	12.0	12.0	12.0	11.5	11.0	---	---	---	---	10.0	9.0
22	13.0	12.0	12.0	12.0	11.5	11.0	---	---	---	---	10.5	9.0
23	12.5	12.0	12.0	11.5	11.5	11.0	---	---	---	---	10.5	9.0
24	12.5	12.0	12.0	11.5	11.5	11.0	---	---	---	---	10.5	9.0
25	12.5	12.0	11.5	11.0	11.0	11.0	---	---	---	---	10.5	9.0
26	12.5	11.5	11.5	11.0	11.0	11.0	---	---	---	---	10.5	9.0
27	12.5	11.5	11.5	11.0	11.0	11.0	---	---	---	---	10.5	9.0
28	12.5	12.0	11.0	11.0	11.0	10.5	---	---	---	---	10.5	9.0
29	12.0	12.0	11.5	10.5	11.0	10.5	---	---	---	---	10.5	8.5
30	12.5	12.0	11.5	10.5	11.0	11.0	---	---	---	---	10.5	9.0
31	12.5	11.5	---	---	11.0	11.0	---	---	---	---	10.5	9.0
MONTH	13.5	11.5	12.5	10.5	12.5	10.5	13.0	11.0	---	---	10.5	8.5

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

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 mi².

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. Water-quality data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Water-quality data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

CHEMICAL DATA: Water years 1993–95.

SPECIFIC CONDUCTANCE: Water years 1989–95.

WATER TEMPERATURE: Water years 1989–95.

SEDIMENT: Water years 1993–95.

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 period of estimated daily discharges which is fair. 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, 1941–97).—Maximum discharge observed, 57,000 ft³/s, Dec. 9, 1950, elevation, 69.19 ft, maximum gage height, 71.21 ft, Jan. 4, 1997 (backwater caused by debris on railroad trestle 1,500 ft downstream of gage); minimum daily, 56 ft³/s, Aug. 6, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	478	556	472	6790	e9750	8120	671	2270	399	487	461	445
2	500	555	467	8340	10100	7850	702	1610	416	477	474	418
3	512	528	590	24800	10100	7860	696	1140	362	436	453	417
4	515	492	1350	52900	10100	7440	665	1240	351	436	444	415
5	517	489	2430	43200	10000	6110	659	2130	393	453	433	412
6	526	484	3330	38100	9970	5390	644	2250	358	459	433	444
7	580	486	3760	31300	9950	5120	656	2210	370	476	453	486
8	548	484	3690	27500	9970	5090	654	2150	429	468	459	498
9	511	484	3740	24000	10000	5060	652	2120	449	455	481	423
10	498	486	4030	18900	10000	5020	640	2250	452	431	490	410
11	555	483	5590	14500	9050	4360	648	2160	454	467	545	424
12	863	480	5110	11300	7250	3640	620	1470	465	482	473	420
13	903	480	5720	8940	6820	2540	601	1290	477	507	460	410
14	921	481	6080	9270	6750	2140	608	1890	518	505	480	424
15	909	482	5890	9920	6770	1680	579	1690	531	479	468	467
16	879	482	5840	9570	6730	1510	1660	879	490	485	443	478
17	855	573	5750	9350	6690	1440	2680	550	454	477	e473	479
18	646	530	5560	9390	6680	1330	2830	515	506	454	e450	477
19	557	535	5530	9780	8150	989	2690	502	475	474	e425	489
20	540	513	5650	9910	8950	907	1950	441	471	449	e408	550
21	541	531	5970	8730	9090	912	1560	456	473	459	428	546
22	534	560	8800	7510	9090	786	1690	455	468	430	429	504
23	540	596	8150	8810	9070	778	2970	435	462	451	452	527
24	577	552	6060	9840	9080	750	2950	423	460	490	491	533
25	646	511	6570	9800	9070	716	2940	435	477	554	474	489
26	604	499	6750	10300	9040	705	2960	441	442	561	446	477
27	533	490	5110	10600	8990	692	2960	420	439	580	465	508
28	514	485	5730	9410	8680	675	2970	415	461	538	420	510
29	532	476	7030	8980	---	709	2880	424	498	496	419	478
30	567	473	7350	9260	---	680	2790	417	490	510	438	419
31	535	---	6770	e9450	---	675	---	415	---	463	445	---
TOTAL	18936	15256	154869	480450	245890	91674	48175	35493	13490	14889	14113	13977
MEAN	611	509	4996	15500	8782	2957	1606	1145	450	480	455	466
MAX	921	596	8800	52900	10100	8120	2970	2270	531	580	545	550
MIN	478	473	467	6790	6680	675	579	415	351	430	408	410
AC-FT	37560	30260	307200	953000	487700	181800	95560	70400	26760	29530	27990	27720

e Estimated.

11290000 TUOLUMNE RIVER AT MODESTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	874	1023	1606	1984	2064	1999	1880	1927	1580	617	354	549
MAX	4760	4124	8677	15500	8782	7658	9268	10420	7665	4244	2225	4041
(WY)	1984	1951	1951	1997	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1940 - 1997			
ANNUAL TOTAL	816050				1147212							
ANNUAL MEAN	2230				3143							
HIGHEST ANNUAL MEAN									1360			
LOWEST ANNUAL MEAN									5518			1983
HIGHEST DAILY MEAN	8800			Dec 22	52900		Jan 4		185			1989
LOWEST DAILY MEAN	307			Jul 19	351		Jun 4		52900		Jan 4	1997
ANNUAL SEVEN-DAY MINIMUM	326			Jul 13	378		Jun 1		56		Aug 6	1977
INSTANTANEOUS PEAK FLOW					55800		Jan 4		62		Aug 2	1977
INSTANTANEOUS PEAK STAGE					71.21		Jan 4		57000		Dec 9	1950
ANNUAL RUNOFF (AC-FT)	1619000				2275000				71.21		Jan 4	1997
10 PERCENT EXCEEDS	5780				9080				985500			
50 PERCENT EXCEEDS	623				557				3600			
90 PERCENT EXCEEDS	388				435				604			
									180			

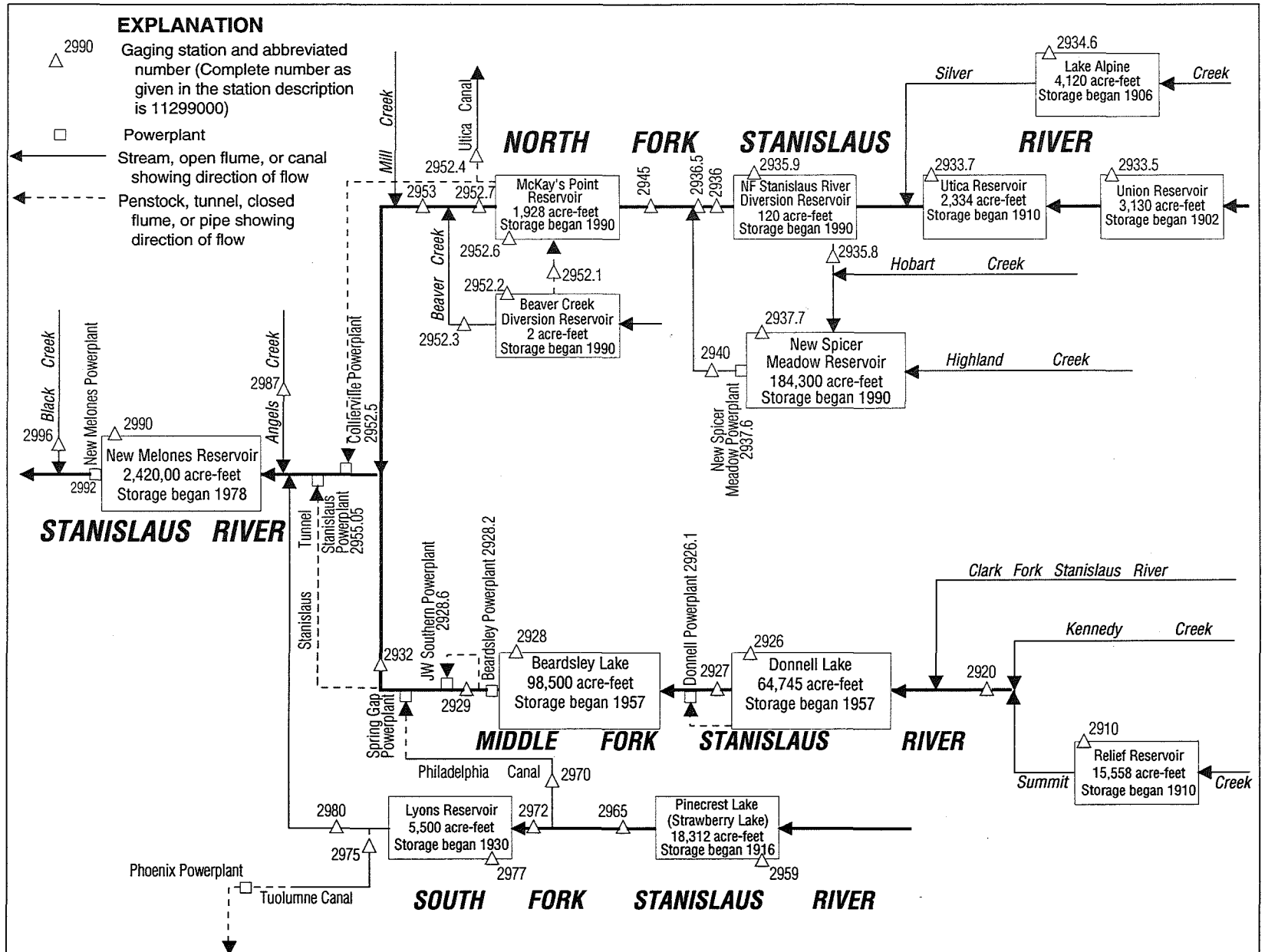


Figure 30. Diversions and storage in Stanislaus River Basin.

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 mi².

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, 15,650 acre-ft, June 7, 1996, gage height, 138.43 ft; minimum observed, 33 acre-ft, Jan. 12, 1987, gage height, 6.1 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 15,592 acre-ft, July 10, gage height, 138.18 ft; minimum, 1,311 acre-ft, Nov. 16, gage height, 46.62 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4620	1390	2544	4966	11799	9827	10554	13461	15457	15484	14730	11375
2	4403	1385	2536	11601	11748	9750	10571	13688	15416	15478	14639	11231
3	4188	1380	2487	12976	11703	9671	10580	13960	15418	15505	14550	11072
4	3979	1376	2441	12875	11647	9597	10584	14367	15474	15533	14462	e10981
5	3772	1367	2428	12750	11591	9527	10584	14816	15337	15559	14380	e10843
6	3569	1356	2393	12657	11536	9448	10580	15154	15276	15559	e14290	e10637
7	3370	1347	2359	12609	11475	9372	10580	15241	15349	15578	e14200	e10419
8	3178	1340	2324	12561	11410	9313	10590	15261	15320	15590	e14110	e10211
9	2990	1336	2301	12540	11349	9249	10590	15278	15293	15590	e14020	e9886
10	2802	1334	2291	12516	11287	9199	10588	15305	15301	15592	e13930	e9518
11	2625	1331	2290	12499	11219	9168	10582	15345	15322	15571	e13840	e9242
12	2424	1329	2332	12493	11145	9137	10580	15362	15289	15531	e13750	e9002
13	2234	1322	2341	12460	11086	9096	10597	15353	15205	15524	e13660	e8652
14	2045	1319	2325	12440	11012	9068	10667	15222	15297	15522	e13580	e8357
15	1870	1313	2301	12414	10942	9059	10827	15203	15326	15514	e13500	e8086
16	1759	1311	2271	12375	10875	9061	11061	15237	15433	15491	e13420	e8086
17	1708	1397	2241	12326	10807	9055	11317	15195	15459	15473	e13340	8073
18	1658	1683	2204	12286	10731	9041	11598	15150	15433	15437	e13260	8065
19	1612	1777	2168	12229	10665	9067	12048	15020	15410	15410	13183	8053
20	1552	1849	2135	12211	10586	9109	12546	15115	15400	15385	13081	8051
21	1498	2022	2118	12170	10504	9133	12955	15364	15347	15366	12959	8048
22	1456	2204	2091	12166	10431	9160	12935	15372	15264	15320	12848	8040
23	1443	2286	2066	12139	10340	9229	12873	15364	15150	15295	12723	8035
24	1443	2343	2034	12098	10242	9337	12805	15299	15174	15263	12609	8027
25	1443	2387	1992	12107	10161	9468	12823	15284	15318	15214	12488	8026
26	1434	2420	1966	12109	10063	9647	12927	15303	15471	15168	12359	8019
27	1422	2454	1934	12066	9978	9833	13101	15402	15564	15110	12229	8015
28	1417	2481	1900	12018	9894	10026	13093	15442	15583	15051	12054	8010
29	1409	2505	1897	11949	---	10218	13055	15476	15564	14972	11855	7860
30	1404	2527	1955	11892	---	10390	13227	15539	15520	14891	11702	7573
31	1396	---	2134	11842	---	10502	---	15529	---	14820	11541	---
MAX	4620	2527	2544	12976	11799	10502	13227	15539	15583	15592	14730	11375
MIN	1396	1311	1897	4966	9894	9041	10554	13461	15150	14820	11541	7573
a	47.65	59.11	55.54	119.66	109.71	112.34	126.21	137.89	137.84	134.23	117.79	96.69
b	-3438	+1131	-393	+9708	-1948	+608	+2725	+2302	-9	-700	-3279	-3968

WTR YR 1997 MAX 15592 MIN 1311 b +2739

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 mi².

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.—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, 3,310 ft³/s, May 16, 1996, gage height, 8.37 ft; minimum daily, 7.1 ft³/s, Jan. 14, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	25	33	749	102	82	144	183	708	173	127	123
2	138	24	44	2200	101	83	131	181	549	154	126	122
3	137	24	63	843	100	82	130	180	509	157	123	121
4	135	24	63	687	99	82	127	202	727	182	125	138
5	134	23	83	458	98	81	122	227	667	199	126	170
6	133	23	73	327	97	82	118	285	474	205	118	170
7	131	23	68	250	96	82	116	467	460	203	105	170
8	129	23	69	205	96	83	116	574	515	224	105	169
9	128	23	73	175	94	86	115	605	456	233	103	169
10	127	24	71	155	94	89	112	669	387	243	101	168
11	125	24	77	142	94	95	111	713	377	238	100	167
12	124	24	97	134	93	99	111	747	383	207	100	166
13	122	23	89	129	92	99	111	778	344	184	101	164
14	121	23	79	124	92	102	113	776	360	186	101	160
15	120	23	74	121	92	113	122	688	351	192	99	31
16	88	22	72	115	92	118	143	702	409	183	97	27
17	49	50	71	113	92	118	166	754	505	168	96	26
18	49	75	68	111	91	118	188	649	537	161	102	29
19	51	49	67	110	91	124	224	673	503	150	125	27
20	49	44	66	110	90	132	240	557	488	151	125	26
21	48	56	65	110	91	133	346	359	461	157	125	25
22	38	77	65	108	90	131	491	453	395	158	124	25
23	24	52	66	108	88	138	422	445	344	148	124	25
24	25	44	66	107	86	149	347	376	264	145	124	25
25	26	40	65	117	87	157	293	300	201	143	123	25
26	25	38	66	115	86	172	310	289	205	140	127	25
27	24	35	68	109	83	185	372	333	224	141	129	25
28	23	35	65	107	82	180	437	486	240	139	127	24
29	25	34	78	104	---	171	378	572	232	134	125	91
30	26	33	102	102	---	164	266	679	216	130	124	177
31	26	---	119	102	---	157	---	784	---	129	124	---
TOTAL	2533	1037	2225	8447	2589	3687	6422	15686	12491	5357	3581	2810
MEAN	81.7	34.6	71.8	272	92.5	119	214	506	416	173	116	93.7
MAX	138	77	119	2200	102	185	491	784	727	243	129	177
MIN	23	22	33	102	82	81	111	180	201	129	96	24
AC-FT	5020	2060	4410	16750	5140	7310	12740	31110	24780	10630	7100	5570

11292000 MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	79.8	47.0	40.1	34.0	30.7	44.3	94.5	315	438	240	121	126
MAX	226	372	266	272	92.5	155	247	626	949	767	328	272
(WY)	1983	1951	1951	1997	1997	1980	1943	1969	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1939 - 1997	
ANNUAL TOTAL	57973		66865			
ANNUAL MEAN	158		183		135	
HIGHEST ANNUAL MEAN					256	
LOWEST ANNUAL MEAN					36.4	
HIGHEST DAILY MEAN	2350	May 16	2200	Jan 2	2350	May 16 1996
LOWEST DAILY MEAN	22	Nov 16	22	Nov 16	7.1	Jan 14 1977
ANNUAL SEVEN-DAY MINIMUM	23	Nov 3	23	Nov 3	7.5	Feb 21 1991
INSTANTANEOUS PEAK FLOW			2890	Jan 2	3310	May 16 1996
INSTANTANEOUS PEAK STAGE			7.99	Jan 2	8.37	May 16 1996
ANNUAL RUNOFF (AC-FT)	115000		132600		97450	
10 PERCENT EXCEEDS	392		459		360	
50 PERCENT EXCEEDS	103		122		60	
90 PERCENT EXCEEDS	27		27		15	

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 mi².

PERIOD OF RECORD.—October 1957 to current year. Prior to October 1960, published as Donnell's 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, 64,300 acre-ft, May 27, June 4, maximum gage height, 4,916.04 ft, May 27; minimum, 16,100 acre-ft, Sept. 30, gage height, 4,779.50 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32300	23800	17100	60100	54900	42100	43300	62600	63700	63500	54600	34300
2	32100	23300	17300	59500	54700	41500	43500	63100	63100	63100	54100	33700
3	32000	23000	17600	58200	54600	40800	43600	63500	63500	62700	53700	32900
4	31800	22400	17900	57900	54600	40100	43600	64100	64300	62300	53200	32300
5	32100	22000	19400	57700	54200	39400	43700	63900	63500	62300	52600	31500
6	32400	21400	20200	57500	53800	38700	43600	63900	63100	62400	52100	30800
7	32200	21000	20700	57500	53300	38000	43600	64200	63300	62400	51500	30300
8	32000	20500	21200	57400	53200	37400	43700	64200	63500	62400	50900	29600
9	31700	20000	21900	57300	52800	36800	43600	64200	63500	62400	50300	29000
10	31500	19500	22700	57100	52300	36300	43500	64100	63600	62500	49800	28300
11	31100	19100	24300	56900	51800	36000	43400	64100	63500	62600	49200	27700
12	31400	18500	27600	56900	51300	35700	43300	64200	63500	62400	48500	27100
13	31700	17400	29300	56800	50700	35300	43200	64200	63500	62300	47900	26400
14	31500	17300	30400	56800	50200	35000	43300	63900	63900	62100	47200	25900
15	31200	17200	31200	56700	49700	34800	43600	63700	64000	61900	46500	25100
16	31000	16800	31900	56500	49300	34800	44200	63900	64100	61700	45900	24200
17	30600	17100	32500	56300	48900	34600	45100	63900	63800	61400	45300	23400
18	30300	17900	33100	56100	48400	34500	46200	63600	63600	61000	44700	22600
19	30000	17900	33600	55800	47900	34700	48500	63900	63500	60700	43900	21700
20	29700	17800	34100	55600	47400	35000	50600	63700	63600	60400	43200	21500
21	29200	17800	34700	55300	46900	35200	53300	63200	63600	60000	42500	21300
22	28800	18500	35200	55100	46400	35300	56000	63500	63600	59600	41700	20700
23	28300	18700	35700	54800	45800	35900	58300	63900	63700	59100	41100	19900
24	27700	18800	36200	54500	45200	36600	59000	63900	63800	58700	40400	19100
25	27200	18500	36700	55400	44600	37300	58800	63600	63800	58300	39600	18400
26	26600	18300	37300	55800	44000	38400	59300	63900	63800	57800	38800	17700
27	26400	18000	38000	55800	43400	39600	60200	64300	63900	57400	38000	17500
28	25900	17600	38600	55600	42800	40600	60900	64000	64100	56900	37200	17300
29	25400	17300	39500	55500	---	41500	61200	63900	64000	56400	36500	16500
30	24900	17200	41700	55200	---	42400	62000	64000	63900	55900	35800	16100
31	24400	---	44400	55000	---	43000	---	64100	---	55300	35100	---
MAX	32400	23800	44400	60100	54900	43000	62000	64300	64300	63500	54600	34300
MIN	24400	16800	17100	54500	42800	34500	43200	62600	63100	55300	35100	16100
a	4807.35	4783.33	4865.64	4893.32	4861.35	4861.89	4910.37	4915.35	4915.00	4894.10	4839.68	4779.50
b	-8000	-7200	+27200	+10600	-12200	+200	+19000	+2100	-200	-8600	-20200	-19000

CAL YR b +13100
WTR YR b -16300

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 mi².

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.—Records good. Flow regulated by Relief Reservoir (station 11291000), Donnell Lake (station 11292600) since April 1957, and diversion around station through Donnell Powerplant (station 11292610). See schematic diagram of Stanislaus River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,000 ft³/s, Jan. 2, 1997, gage height, 18.02 ft, from rating curve extended above 5,200 ft³/s on basis of slope-area measurement at gage height 12.20 ft; minimum daily, 3.3 ft³/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 ft³/s by slope-area measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	38	64	7730	378	e157	e207	421	1660	50	39	40
2	36	38	59	17300	369	e159	e188	493	1470	49	39	40
3	36	23	55	6930	341	e155	e176	556	862	47	38	40
4	36	21	54	4220	319	e150	e172	688	906	46	38	40
5	39	21	423	3110	300	e148	e167	1170	1710	46	37	39
6	39	21	241	2450	280	e146	e160	1280	1060	45	37	39
7	39	20	165	2060	267	e146	e157	1310	738	44	36	39
8	39	20	155	1760	259	e150	e160	1660	744	44	36	39
9	39	20	167	1530	246	e157	163	1860	739	44	35	39
10	39	20	252	1340	236	e171	157	2050	641	43	35	38
11	39	20	638	664	226	e189	155	2120	527	43	35	38
12	38	20	1430	475	220	e188	155	2120	449	43	34	38
13	39	19	707	393	210	e180	157	2390	351	43	34	38
14	39	19	433	306	210	e183	162	2360	313	42	33	38
15	39	19	312	285	213	e200	174	2140	337	42	33	38
16	38	28	260	268	217	e218	183	1970	424	41	33	37
17	38	107	231	258	225	e212	200	2020	738	42	33	37
18	39	198	206	253	209	e217	209	1900	752	49	32	37
19	39	83	190	246	203	e236	374	1620	648	49	32	39
20	38	95	177	248	201	e245	302	1640	531	48	33	39
21	38	79	179	237	195	e237	308	1390	414	48	41	39
22	38	238	180	256	190	e240	273	955	352	47	41	39
23	38	162	173	312	184	e275	301	815	234	48	42	39
24	39	107	162	292	176	e291	590	838	67	49	42	38
25	41	84	157	1180	e157	e289	1050	691	116	48	41	39
26	40	72	211	1010	e151	e312	916	430	53	47	41	38
27	38	64	372	637	e164	e307	959	341	51	47	41	38
28	38	62	267	519	e163	e276	1090	1080	50	47	40	38
29	40	58	439	465	---	e254	938	1260	49	47	40	42
30	41	54	1320	415	---	e247	566	1470	49	46	41	41
31	39	---	1740	391	---	e241	---	1670	---	45	40	---
TOTAL	1194	1830	11419	57540	6509	6576	10769	42708	17035	1419	1152	1163
MEAN	38.5	61.0	368	1856	232	212	359	1378	568	45.8	37.2	38.8
MAX	41	238	1740	17300	378	312	1090	2390	1710	50	42	42
MIN	36	19	54	237	151	146	155	341	49	41	32	37
AC-FT	2370	3630	22650	114100	12910	13040	21360	84710	33790	2810	2280	2310
a	14220	17250	867	27490	35190	40860	40270	42800	40270	31240	30620	25670

e Estimated.

a Diversion, in acre-feet, through Donnell Powerplant (station 11292610), provided by Oakdale and South San Joaquin Irrigation District.

11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.5	46.3	88.6	165	161	208	292	861	964	268	46.4	34.7
MAX	184	305	814	1856	986	738	808	3144	4512	2016	320	72.8
(WY)	1983	1984	1965	1997	1986	1986	1986	1969	1983	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1958 - 1997			
ANNUAL TOTAL	138756				159314							
ANNUAL MEAN	379				436				264			
HIGHEST ANNUAL MEAN									868			
LOWEST ANNUAL MEAN									18.4			
HIGHEST DAILY MEAN	9290				May 16				17300			
LOWEST DAILY MEAN	19				Nov 13				3.3			
ANNUAL SEVEN-DAY MINIMUM	20				Nov 9				3.7			
INSTANTANEOUS PEAK FLOW					21000				21000			
INSTANTANEOUS PEAK STAGE					18.02				18.02			
ANNUAL RUNOFF (AC-FT)	275200				316000				191500			
TOTAL DIVERSION (AC-FT) a	340200				346700							
10 PERCENT EXCEEDS	938				1170				618			
50 PERCENT EXCEEDS	160				162				47			
90 PERCENT EXCEEDS	37				37				20			

a Diversion, in acre-feet, through Donnell Powerplant (station 11292610), provided by Oakdale and South San Joaquin Irrigation District.

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 mi².

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, then diverted 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, 97,800 acre-ft, July 1–3, gage height, 3,396.97 ft, July 1, 2; minimum, 61,600 acre-ft, Dec. 29, gage height, 3,342.14 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87000	73400	75200	82200	78400	78200	78600	96700	96900	97800	93600	91200
2	86500	73200	74400	85100	78500	78200	79200	96700	96600	97800	93400	91200
3	86100	73200	73600	81300	78400	78200	79700	96700	96400	97800	93100	91200
4	85600	73600	72800	80200	78400	78200	80200	96700	96800	97700	92900	91100
5	84700	73900	72800	79600	78400	78200	80700	96800	97100	97600	92600	91100
6	83800	74300	72100	79300	78400	78200	81200	96700	96800	97300	92400	91100
7	83400	74600	71200	79000	78400	78200	81600	96700	96800	97200	92300	90900
8	83000	75000	70300	78800	78200	78200	82100	96800	96900	97100	92300	90800
9	82500	75400	69500	78700	78300	78200	82600	96700	97100	96900	92200	90800
10	82100	75800	69000	78800	78300	78200	83000	96800	97000	96800	92000	90900
11	81900	76100	69200	78600	78300	78200	83400	96800	96900	96600	92000	91000
12	81000	76500	71000	78500	78200	78200	83800	96800	96900	96500	91900	91000
13	80100	77000	71300	78400	78200	78200	84300	96800	96900	96300	91800	91100
14	79700	77500	71000	78300	78200	78200	84700	96600	97000	96100	91800	91200
15	79300	77300	70500	78300	78300	78200	85200	96500	97200	96000	91700	91200
16	78800	77000	69900	78300	78300	78300	85600	96400	97300	95900	91600	91300
17	78400	77000	69200	78200	78300	78300	86200	96600	97400	95700	91500	91200
18	77900	77200	68400	78200	78300	78300	86800	96500	97400	95600	91500	91100
19	77500	77100	67700	78200	78200	78300	87700	96400	97400	95400	91500	91000
20	77100	77000	66900	78300	78200	78300	88500	96600	97300	95200	91500	90400
21	76700	76900	66300	78200	78200	78300	89300	96600	97200	95100	91400	89600
22	76400	77200	65500	78400	78200	78300	90000	96700	97300	94900	91400	89400
23	76100	77200	64700	78400	78200	78400	90800	96800	97400	94900	91200	89300
24	75800	76900	63900	78300	78200	78400	92000	96800	97500	94800	91200	89100
25	75600	76800	63100	79300	78200	78400	94100	96800	97700	94600	91200	88900
26	75400	76600	62500	79000	78200	78400	95900	96800	97700	94500	91300	88800
27	74800	76400	62200	78700	78200	78400	97000	96700	97700	94200	91300	88100
28	74500	76200	61700	78600	78200	78400	97100	96900	97500	94100	91300	87400
29	74200	76000	61600	78600	---	78400	97000	96900	97700	94000	91300	87200
30	74000	75600	63400	78500	---	78300	96800	97000	97700	93800	91300	87100
31	73700	---	66500	78500	---	78300	---	97000	---	93600	91200	---
MAX	87000	77500	75200	85100	78500	78400	97100	97000	97700	97800	93600	91300
MIN	73700	73200	61600	78200	78200	78200	78600	96400	96400	93600	91200	87100
a	3361.60	3364.53	3350.15	3369.02	3368.54	3368.69	3395.67	3395.87	3396.92	3391.14	3387.75	3381.75
b	-13700	+1900	-9100	+12000	-300	+100	+18500	+200	+700	-4100	-2400	-4100

CAL YR 1996 b +12800

WTR YR 1997 b -300

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 mi².

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 (station 11292860) 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 station 11292901.

COOPERATION.—Records of diversion to J.W. Southern Powerplant provided by Oakdale–South San Joaquin Irrigation District.

EXTREMES FOR PERIOD OF RECORD.—River only, maximum discharge, 28,200 ft³/s, from rating curve extended above 5,400 ft³/s, on basis of spillway computation at Beardsley Dam, Jan. 2, 1997, gage height, 19.31 ft; minimum daily, 3.0 ft³/s, Oct. 10, 11, 1958. Combined flow, maximum daily discharge, 23,100 ft³/s, Jan. 2, 1997; minimum daily 25 ft³/s, Oct. 25, 1986.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	148	151	901	604	308	264	637	1890	155	150	149
2	152	147	150	23100	612	311	171	669	1800	159	152	149
3	148	147	150	10700	467	311	170	724	1150	157	151	149
4	148	147	147	5280	430	302	171	815	883	153	150	149
5	148	147	151	3670	495	296	171	1270	1790	153	150	149
6	149	150	147	2650	487	293	168	1450	1410	154	151	149
7	148	151	150	2140	467	294	168	1480	923	153	153	149
8	149	150	148	1820	347	295	172	1780	848	152	151	149
9	149	149	148	1580	384	300	159	2010	850	152	149	149
10	149	149	148	1470	410	310	144	2180	833	153	150	149
11	149	149	148	1490	401	330	144	2290	738	153	149	149
12	149	149	149	1260	391	340	144	2300	651	155	149	149
13	149	149	146	904	373	335	143	2570	553	151	149	149
14	150	149	147	479	372	333	143	2670	573	152	150	148
15	150	149	148	438	375	343	143	2390	452	153	149	153
16	149	148	147	412	378	366	144	2130	558	152	149	151
17	149	150	148	394	375	372	144	2120	896	152	149	152
18	150	148	148	385	378	371	153	2090	959	153	149	152
19	151	148	149	379	368	381	151	1830	873	153	149	152
20	151	148	148	405	363	402	151	1700	806	152	149	152
21	151	148	149	398	356	383	146	1510	637	152	149	152
22	151	149	150	447	351	392	145	1090	514	154	149	152
23	151	148	148	553	348	403	148	937	352	155	149	152
24	151	148	149	519	330	444	162	955	162	153	149	152
25	151	146	147	1240	306	445	199	869	165	153	149	152
26	150	146	148	1750	317	461	196	617	160	153	149	150
27	150	147	148	1190	328	479	573	505	144	153	149	149
28	151	147	150	900	323	463	1140	1160	151	155	149	151
29	151	149	150	802	---	435	1150	1400	152	159	149	151
30	151	151	148	722	---	418	829	1600	155	155	149	151
31	151	---	149	670	---	429	---	1850	---	150	149	---
TOTAL	4647	4451	4604	69048	11136	11345	7906	47598	22028	4759	4637	4509
MEAN	150	148	149	2227	398	366	264	1535	734	154	150	150
MAX	152	151	151	23100	612	479	1150	2670	1890	159	153	153
MIN	148	146	146	379	306	293	143	505	144	150	149	148
AC-FT	9220	8830	9130	137000	22090	22500	15680	94410	43690	9440	9200	8940
a	31000	17300	36950	37140	36150	40210	38680	37490	35930	37610	35510	32300

a Diversion, in acre-feet, through Beardsley Powerplant (station 11292820), provided by Oakdale–South San Joaquin Irrigation District.

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	39.5
(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
LOWEST ANNUAL MEAN	111
HIGHEST DAILY MEAN	8630
LOWEST DAILY MEAN	3.0
ANNUAL SEVEN-DAY MINIMUM	5.0
INSTANTANEOUS PEAK FLOW	9080
INSTANTANEOUS PEAK STAGE	12.30
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	104	107	106	295	156	208	224	696	693	302	119	106
MAX	150	158	154	2227	398	625	607	1973	3266	1960	269	150
(WY)	1997	1994	1990	1997	1997	1996	1995	1995	1995	1995	1995	1997
MIN	54.8	54.4	53.9	53.1	55.1	58.7	135	59.1	57.6	57.3	55.8	56.8
(WY)	1991	1991	1995	1995	1991	1991	1991	1994	1994	1994	1988	1990

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1987 - 1997

ANNUAL TOTAL	154161	196668	
ANNUAL MEAN	421	539	260
HIGHEST ANNUAL MEAN			735
LOWEST ANNUAL MEAN			76.6
HIGHEST DAILY MEAN	10600	May 16	23100
LOWEST DAILY MEAN	140	Feb 6	143
ANNUAL SEVEN-DAY MINIMUM	141	Feb 6	144
INSTANTANEOUS PEAK FLOW			28200
INSTANTANEOUS PEAK STAGE			19.31
ANNUAL RUNOFF (AC-FT)	305800	390100	188600
TOTAL DIVERSION (AC-FT) a	396900	416300	275500
10 PERCENT EXCEEDS	848	1250	465
50 PERCENT EXCEEDS	150	153	143
90 PERCENT EXCEEDS	148	148	57

a Diversion, in acre-feet, through Beardsley Powerplant (station 11292820), provided by Oakdale-South San Joaquin Irrigation District.

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 1996 TO SEPTEMBER 1997
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	522	508	507	1500	1220	919	856	1250	2510	695	637	579
2	527	492	511	23100	1220	921	639	1290	2420	712	624	583
3	528	304	507	10700	1080	922	505	1340	1760	742	638	584
4	527	147	508	5280	1040	911	713	1430	1490	733	651	582
5	526	147	582	3670	1100	907	692	1890	2400	672	638	585
6	527	150	703	2650	1100	906	717	2070	2020	621	648	585
7	526	151	680	2140	1080	906	740	2100	1530	648	585	583
8	527	150	683	1820	958	909	716	2400	1460	613	583	575
9	527	149	696	1580	998	914	710	2630	1460	629	582	551
10	529	149	694	1470	1020	923	711	2790	1370	626	583	543
11	529	149	709	1490	1020	943	715	2900	1350	626	580	540
12	529	149	717	1260	1000	952	699	2910	1270	608	580	549
13	530	149	693	1180	983	944	715	3190	1170	625	580	549
14	532	149	701	1080	982	945	736	3290	1100	642	582	472
15	530	203	692	1050	985	955	715	3000	1070	627	581	541
16	526	516	697	1020	988	977	716	2750	1180	623	581	551
17	525	488	689	998	984	983	714	2740	1520	630	531	549
18	527	497	685	988	989	983	705	2710	1580	624	581	550
19	528	507	675	982	978	992	717	2450	1500	610	581	552
20	528	508	669	1010	975	1010	715	2320	1430	626	581	551
21	528	506	586	1000	967	994	723	2130	1260	642	581	552
22	530	474	648	1050	962	1000	715	1710	1140	628	583	552
23	528	433	681	1160	959	1010	704	1550	957	631	582	552
24	526	501	661	1120	943	1050	732	1570	766	632	407	550
25	525	504	635	1850	918	1050	813	1490	731	632	456	552
26	526	511	677	2360	929	1070	810	1230	749	621	586	552
27	541	514	677	1800	940	1080	1190	1120	726	637	584	552
28	527	508	651	1510	885	1070	1760	1780	724	653	584	553
29	525	512	679	1410	---	1040	1770	2020	676	637	584	553
30	523	512	717	1330	---	1020	1440	2220	685	635	584	553
31	523	---	722	1280	---	1040	---	2470	---	633	581	---
TOTAL	16352	10637	20332	80838	28203	30246	24803	66740	40004	19913	18039	16675
MEAN	527	355	656	2608	1007	976	827	2153	1333	642	582	556
MAX	541	516	722	23100	1220	1080	1770	3290	2510	742	651	585
MIN	522	147	507	982	885	906	505	1120	676	608	407	472
AC-FT	32430	21100	40330	160300	55940	59990	49200	132400	79350	39500	35780	33070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

MEAN	338	245	376	453	396	537	600	1123	1230	766	558	462
MAX	655	538	656	2608	1007	1560	1448	2554	3838	2504	805	635
(WY)	1996	1987	1997	1997	1997	1986	1986	1995	1995	1995	1995	1995
MIN	57.6	58.1	55.8	55.3	55.1	58.7	147	72.7	208	444	471	124
(WY)	1989	1989	1989	1989	1991	1991	1988	1990	1987	1994	1994	1988

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1986 - 1997

ANNUAL TOTAL	326590	372782	
ANNUAL MEAN	892	1021	
HIGHEST ANNUAL MEAN			1165
LOWEST ANNUAL MEAN			221
HIGHEST DAILY MEAN	11100	May 16	23100
LOWEST DAILY MEAN	147	Nov 4	147
ANNUAL SEVEN-DAY MINIMUM	149	Nov 4	149
ANNUAL RUNOFF (AC-FT)	647800	739400	428500
10 PERCENT EXCEEDS	1460	1760	1200
50 PERCENT EXCEEDS	670	703	492
90 PERCENT EXCEEDS	492	513	61

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 mi².

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 records computed above 70 ft³/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 (station 11295505). 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 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	45	28	---	---	---	---	---	---	---	---	55
2	58	28	28	---	---	---	---	---	---	---	62	55
3	58	---	29	---	---	---	---	---	---	---	66	54
4	58	---	30	---	---	---	---	---	---	---	---	53
5	58	---	---	---	---	---	---	---	---	---	---	53
6	58	---	---	---	---	---	---	---	---	---	---	53
7	58	---	---	---	---	---	---	---	---	---	54	53
8	58	---	---	---	---	---	---	---	---	---	55	53
9	58	---	---	---	---	---	---	---	---	---	55	55
10	58	---	---	---	---	---	---	---	---	---	55	54
11	58	---	---	---	---	---	---	---	---	---	55	54
12	58	---	---	---	---	---	---	---	---	61	58	54
13	58	---	---	---	---	---	---	---	---	60	65	54
14	58	---	---	---	---	---	---	---	---	---	65	54
15	58	29	---	---	---	---	---	---	---	---	65	54
16	57	34	---	---	---	---	---	---	---	---	65	54
17	58	37	---	---	---	---	---	---	---	---	56	54
18	59	31	---	---	---	---	---	---	---	---	54	54
19	59	31	---	---	---	---	---	---	---	56	54	54
20	59	31	---	---	---	---	---	---	---	56	54	54
21	59	31	---	---	---	---	---	---	---	---	54	54
22	59	32	---	---	---	---	---	---	---	---	54	54
23	59	31	---	---	---	---	---	---	---	---	54	54
24	58	32	---	---	---	---	---	---	---	---	55	54
25	59	32	---	---	---	---	---	---	---	---	55	54
26	59	31	---	---	---	---	---	---	---	57	55	54
27	59	28	---	---	---	---	---	---	---	57	55	54
28	59	28	---	---	---	---	---	---	---	---	55	54
29	59	29	---	---	---	---	---	---	---	---	55	54
30	58	30	---	---	---	---	---	---	---	---	55	54
31	58	---	---	---	---	---	---	---	---	---	55	---
TOTAL	1808	---	---	---	---	---	---	---	---	---	---	1618
MEAN	58.3	---	---	---	---	---	---	---	---	---	---	53.9
MAX	59	---	---	---	---	---	---	---	---	---	---	55
MIN	57	---	---	---	---	---	---	---	---	---	---	53
AC-FT	3590	---	---	---	---	---	---	---	---	---	---	3210
a	30490	17630	31400	29440	28200	31170	29980	31500	29940	31180	28870	29930

CAL YR 1996 a 352700

WTR YR 1997 a 349700

a Diversion, in acre-feet, through Stanislaus Powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 intermittently 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 Northern California Power Association, 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 1996 TO SEPTEMBER 1997
DAILY INSTANTANEOUS VALUES[illegible]

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.

GAGE.—Nonrecording gage, observed intermittently during summer months. Datum of gage is 6,776.75 ft above sea level (levels by Pacific Gas & Electric Co.).

COOPERATION.—Records were collected by the Northern California Power Association, 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.

0.7	0	30	356
10	19	35	858
20	65	40	1,763
25	127	43	2,456

[illegible]

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 mi².

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 intermittently 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 Northern California Power Association, 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 1996 TO SEPTEMBER 1997
DAILY INSTANTANEOUS VALUES[illegible]

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 Sept. 10–30, 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, 1,440 ft³/s, Jan. 2, 1997; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	12	24	811	46	35	119	257	132	.00	.00	.00
2	21	12	19	1440	48	36	92	272	112	.00	.00	.00
3	34	11	11	440	45	35	77	273	95	.00	.00	.00
4	26	11	29	323	42	34	90	325	215	.00	.00	.00
5	26	11	35	190	39	34	109	353	269	.00	.00	.15
6	25	11	40	118	39	35	108	336	138	.00	.00	10
7	25	11	32	100	39	39	116	335	101	.00	.00	13
8	25	12	37	96	38	45	132	330	88	.00	.00	17
9	25	12	46	88	38	55	113	368	68	.00	.00	24
10	25	12	41	83	37	69	96	413	61	.00	.00	28
11	25	12	54	74	37	79	103	386	45	.00	.00	28
12	25	12	209	68	38	73	118	390	e46	.00	.00	27
13	24	12	130	62	37	66	144	416	e46	.00	.00	27
14	24	11	84	55	38	77	187	367	e45	.00	.00	27
15	24	12	56	54	43	96	287	325	e45	.00	.00	27
16	24	15	47	49	46	99	300	319	e44	.00	.00	28
17	24	39	45	47	48	87	337	310	e43	.00	.00	28
18	24	182	40	47	43	100	322	285	33	.00	.00	27
19	24	63	38	48	43	127	491	227	25	.00	.00	27
20	24	71	37	53	42	128	432	223	21	.00	.00	27
21	24	88	34	59	42	108	546	201	16	.00	.00	27
22	22	116	34	63	40	123	441	156	12	.00	.00	27
23	15	49	34	79	39	168	359	178	6.8	.00	.00	27
24	15	40	32	55	36	160	294	199	3.9	.00	.00	27
25	15	31	33	79	35	276	280	115	1.5	.00	.00	28
26	13	28	36	90	37	361	384	118	.54	.00	.00	27
27	12	26	38	63	40	339	385	116	.11	.00	.00	27
28	11	26	34	53	38	276	335	142	.00	.00	.00	28
29	12	24	44	52	---	251	239	160	.00	.00	.00	28
30	12	23	162	48	---	242	261	171	.00	.00	.00	29
31	12	---	250	45	---	194	---	175	---	.00	.00	---
TOTAL	658	995	1785	4932	1133	3847	7297	8241	1712.85	0.00	0.00	640.15
MEAN	21.2	33.2	57.6	159	40.5	124	243	266	57.1	.000	.000	21.3
MAX	34	182	250	1440	48	361	546	416	269	.00	.00	29
MIN	11	11	11	45	35	34	77	115	.00	.00	.00	.00
AC-FT	1310	1970	3540	9780	2250	7630	14470	16350	3400	.00	.00	1270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	10.9	8.19	8.64	23.5	20.0	66.6	188	256	127	34.2	4.24	11.1
MAX	21.2	33.2	57.6	159	86.4	145	301	561	554	257	14.3	21.3
(WY)	1997	1997	1997	1997	1996	1995	1989	1993	1995	1995	1993	1997
MIN	.33	.14	.002	.000	.001	7.28	39.3	33.0	.021	.000	.000	.013
(WY)	1990	1991	1994	1994	1994	1991	1991	1992	1992	1997	1997	1989

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	32562.90		31241.00			
ANNUAL MEAN	89.0		85.6		63.9	
HIGHEST ANNUAL MEAN					144	
LOWEST ANNUAL MEAN					22.0	
HIGHEST DAILY MEAN	860	May 16	1440	Jan 2	1440	Jan 2 1997
LOWEST DAILY MEAN	.00	Aug 4	.00	Jun 28	.00	Dec 15 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 4	.00	Jun 28	.00	Dec 15 1988
ANNUAL RUNOFF (AC-FT)	64590		61970		46270	
10 PERCENT EXCEEDS	311		276		212	
50 PERCENT EXCEEDS	25		37		11	
90 PERCENT EXCEEDS	.02		.00		.01	

e Estimated.

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-ft 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, 212 acre-ft, Jan. 1, 1997, elevation, 6,699.6 ft; minimum observed, 5 acre-ft, Feb. 1, 28, Mar. 1, 1990, elevation, 6,676.8 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 212 acre-ft, Jan. 1, elevation, 6,699.6 ft; minimum, 11 acre-ft, July 4–27, elevation, 6,678.9 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

6,679	11	6,690	65	6,696	140
6,685	32	6,695	120		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	34	40	212	64	61	69	89	64	14	12	20
2	49	34	34	165	64	61	65	86	60	12	13	20
3	35	34	45	122	63	60	67	101	60	12	13	14
4	35	34	48	99	62	61	75	118	104	11	13	16
5	35	34	56	84	62	61	76	101	77	11	13	30
6	35	34	54	76	61	62	77	108	63	11	13	32
7	35	35	54	74	61	63	86	109	61	11	13	32
8	35	35	57	73	61	66	85	121	58	11	13	38
9	35	35	58	71	61	70	80	111	58	11	13	35
10	35	36	56	70	61	75	79	121	55	11	14	35
11	36	36	68	68	61	74	84	119	54	11	14	35
12	36	36	86	67	61	71	92	112	53	11	15	35
13	36	35	71	64	61	72	101	117	51	11	15	35
14	36	35	62	64	62	77	100	110	61	11	15	36
15	36	37	59	64	63	81	113	95	58	11	15	36
16	36	38	58	63	64	76	117	92	55	11	15	36
17	36	56	57	63	63	77	122	92	53	11	15	36
18	37	50	56	63	63	82	100	82	51	11	15	36
19	37	53	56	63	63	87	131	80	50	11	17	37
20	37	48	56	65	63	69	125	77	48	11	19	37
21	37	87	55	66	62	67	128	70	46	11	20	38
22	34	47	55	72	62	76	93	66	44	11	21	38
23	33	46	55	67	62	83	108	80	41	11	21	38
24	35	41	55	65	61	78	94	66	38	11	21	38
25	34	41	56	75	61	101	107	63	34	11	21	38
26	34	40	56	72	62	110	129	62	30	11	21	38
27	33	40	56	65	62	106	131	65	27	11	21	40
28	34	40	56	65	61	107	86	71	24	12	21	40
29	34	40	68	64	---	110	86	71	20	12	20	40
30	34	40	90	64	---	103	84	75	16	12	20	41
31	34	---	91	64	---	80	---	70	---	12	20	---
MAX	49	87	91	212	64	110	131	121	104	14	21	41
MIN	33	34	34	63	61	60	65	62	16	11	12	14
a	6685.4	6686.2	6692.4	6689.7	6689.4	6691.4	6691.7	6690.4	6680.9	6679.5	6681.8	6686.3
b	-14	+6	+51	-27	-3	+19	+4	-14	-54	-4	+8	+21

WTR YR 1997 MAX 212 MIN 11 b -7

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 mi².

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 good. Low and medium flow regulated by Union and Utica Reservoirs and Lake Alpine (stations 11293350, 11293370, and 11293460). Diversion upstream from station at North Fork Stanislaus River Diversion Reservoir (station 11293590) through North Fork Stanislaus River Diversion Tunnel (station 11293580) and into New Spicer Meadow Reservoir (station 11293770), for hydroelectric power generation. See schematic diagram of Stanislaus River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,220 ft³/s, May 16, 1996, gage height 7.92 ft, from rating curve extended above 120 ft³/s on basis of computation of peak flow over diversion dam; minimum daily, 2.3 ft³/s, Oct. 18–20, 22, 23, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	17	288	20	23	27	23	21	10	6.9	7.0
2	19	17	17	195	20	23	26	23	21	9.1	6.8	7.0
3	18	17	113	127	20	23	25	23	20	8.4	6.5	9.3
4	17	17	98	19	20	23	26	25	23	7.6	6.4	8.6
5	17	17	20	17	20	23	27	44	24	7.2	6.2	12
6	17	17	19	49	20	24	27	24	22	6.8	6.0	14
7	17	17	19	18	20	24	28	25	21	6.5	6.0	13
8	17	17	19	44	20	24	29	26	20	6.2	5.9	13
9	17	17	20	44	20	25	28	51	18	6.1	6.0	22
10	17	17	19	18	20	26	28	26	18	6.0	6.0	19
11	17	17	21	18	21	26	28	35	18	5.9	6.0	19
12	17	17	25	18	21	26	29	32	18	5.8	6.0	19
13	17	17	22	18	21	26	30	25	19	5.8	6.0	19
14	17	17	21	18	21	26	36	26	20	5.7	6.1	19
15	17	17	20	18	21	27	32	32	20	5.6	6.2	19
16	17	17	20	18	21	27	43	24	20	5.5	6.2	19
17	17	21	20	18	21	27	32	24	19	5.5	6.0	19
18	17	22	19	18	22	27	51	23	19	5.7	6.0	19
19	17	19	19	e19	22	28	189	23	19	5.7	6.1	19
20	17	19	19	19	22	27	52	23	19	5.6	6.5	19
21	17	20	19	19	22	26	123	22	19	5.6	7.0	19
22	17	21	19	19	22	26	42	22	18	5.6	7.3	19
23	17	19	19	20	22	27	26	23	18	5.6	7.3	19
24	17	18	19	19	22	27	25	22	17	5.8	7.4	19
25	17	18	19	20	22	29	24	21	17	6.7	7.2	19
26	17	18	19	20	22	30	40	21	16	6.4	7.3	19
27	17	17	20	20	23	30	85	21	15	6.3	7.2	18
28	17	17	19	20	22	30	67	21	14	6.4	7.1	17
29	17	17	22	20	---	30	23	22	13	7.4	7.1	17
30	17	17	24	20	---	31	23	22	11	7.2	7.1	17
31	17	---	27	20	---	29	---	22	---	7.1	7.0	---
TOTAL	532	535	793	1218	590	820	1271	796	557	200.8	202.8	497.9
MEAN	17.2	17.8	25.6	39.3	21.1	26.5	42.4	25.7	18.6	6.48	6.54	16.6
MAX	19	22	113	288	23	31	189	51	24	10	7.4	22
MIN	17	17	17	17	20	23	23	21	11	5.5	5.9	7.0
AC-FT	1060	1060	1570	2420	1170	1630	2520	1580	1100	398	402	988

e Estimated.

11293600 NORTH FORK STANISLAUS RIVER BELOW DIVERSION DAM, NEAR BIG MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	16.8	12.6	16.3	16.8	22.9	35.3	45.1	26.0	15.2	13.2	16.4
MAX	20.2	42.2	25.6	39.3	25.3	42.5	99.6	106	98.7	28.1	22.8	26.5
(WY)	1989	1990	1997	1997	1996	1988	1988	1996	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1988 - 1997	
ANNUAL TOTAL	9713.3		8013.5		21.0	
ANNUAL MEAN	26.5		22.0		32.6	
HIGHEST ANNUAL MEAN					13.0	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	1840	May 16	288	Jan 1	1840	May 16 1996
LOWEST DAILY MEAN	6.1	Aug 28	5.5	Jul 16	2.3	Oct 18 1992
ANNUAL SEVEN-DAY MINIMUM	6.2	Aug 23	5.6	Jul 15	2.3	Oct 17 1992
INSTANTANEOUS PEAK FLOW			981	Jan 1	3220	May 16 1996
INSTANTANEOUS PEAK STAGE			5.73	Jan 1	7.92	May 16 1996
ANNUAL RUNOFF (AC-FT)	19270		15890		15240	
10 PERCENT EXCEEDS	30		28		27	
50 PERCENT EXCEEDS	19		19		17	
90 PERCENT EXCEEDS	6.7		6.5		6.7	

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 mi².

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, 188,616 acre-ft, July 8, 1995, elevation, 6,613.8 ft; minimum, 30,198 acre-ft, Mar. 5, 1993, elevation, 6,491.2 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 135,561 acre-ft, June 16, elevation, 6,585.8 ft; minimum, 64,835 acre-ft, Mar. 22, elevation, 6,535.0 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116891	96396	90941	107690	118814	76060	71447	89018	127849	131643	116068	97192
2	115971	95894	90111	121744	117255	75136	71112	89983	128152	131579	115594	96522
3	115384	95643	89075	124753	115664	74097	70512	91253	128633	131290	115315	95379
4	114380	95308	88868	126107	113962	72970	70339	92730	129993	130970	114800	94215
5	113292	94607	89075	127356	112026	72175	70915	94250	131178	130489	113920	93456
6	112790	94261	89075	127928	110128	70997	71066	95713	132284	129962	113012	92996
7	112040	93915	89283	128120	108455	70051	70997	97430	132924	129577	112082	92234
8	111119	93915	89283	127644	106393	70074	70893	99086	133560	129112	111258	91369
9	109779	93777	89557	127741	104328	70258	70466	100983	133847	128408	110799	90203
10	109026	93638	89557	127832	102183	69639	70085	103198	134055	127612	110366	89386
11	108105	92672	90042	128504	100202	68983	69912	105206	134376	126973	109752	88868
12	107690	92188	91565	128600	98057	68404	69901	107440	134536	126684	109249	88233
13	107272	91842	92464	128216	95881	67736	69958	109431	134440	126332	108846	87760
14	106686	91495	92741	127164	93985	67220	69797	111064	134792	126075	108231	87021
15	105514	91357	92880	125915	92153	66739	69739	112737	135160	125499	107704	86341
16	104593	91011	93018	124836	90504	66276	70016	114408	135561	124656	107090	85891
17	103839	91357	92049	124934	89111	65681	70696	115914	135432	123722	106756	85499
18	103253	91980	91288	124796	88533	65271	71690	117310	135225	123177	106393	85168
19	102923	92188	90249	124600	87137	65156	74051	118241	134632	122787	105877	84707
20	102839	92326	89626	124154	86214	65049	76070	119162	134055	122316	105137	84176
21	102086	91980	89972	123567	86329	64844	78086	120321	133784	121744	104454	83784
22	101834	92603	89903	123874	86398	64835	79725	121200	133720	121171	103686	82790
23	101667	92672	89834	123763	86526	64978	81052	122274	133751	120572	103156	81798
24	100830	92880	89695	123454	85465	65164	82006	123093	133591	120182	102518	80614
25	100244	92741	89626	124237	83460	65833	82940	123790	133562	119748	101848	79147
26	99742	91980	89834	124935	81545	66570	84544	124418	133449	119287	100830	77972
27	99239	91634	90042	124851	79644	67691	86157	125228	133003	118562	99951	77418
28	98653	91357	90180	123861	77648	68645	87494	125611	132684	118046	98989	77074
29	98318	91357	90941	122456	---	69550	88222	126187	132300	117435	98541	76197
30	97653	91357	92257	121269	---	70547	88591	126780	131834	116892	97947	74698
31	96731	---	94607	120013	---	71181	---	127325	---	116474	97485	---
MAX	116891	96396	94607	128600	118814	76060	88591	127325	135561	131643	116068	97192
MIN	96731	91011	88868	107690	77648	64835	69739	89018	127849	116474	97485	74698
a	6561.2	6557.2	6559.8	6576.5	6546.3	6541.2	6555.0	6581.1	6583.7	6574.2	6561.7	6544.0
b	-21077	-5374	+3250	+25406	-42365	-6467	+17410	+38734	+4509	-15360	-18989	-22787

CAL YR 1996 MAX 184670 MIN 88868 b -5103

WTR YR 1997 MAX 135561 MIN 64835 b -43110

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 mi².

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.—Low and medium flows regulated by New Spicer Meadow Reservoir since 1988 and, prior to 1988, by Spicer Meadows Reservoir, capacity 4,060 acre-ft. 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 ft³/s, Jan. 31, 1963, gage height, 11.88 ft, site and datum then in use, from rating curve extended above 1,200 ft³/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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	496	348	230	29	855	905	264	389	339	167	203	170
2	505	168	436	30	856	605	416	135	258	134	222	301
3	501	185	569	30	998	604	502	31	151	160	160	552
4	520	210	441	30	1080	602	349	30	104	236	278	591
5	425	216	182	30	1110	600	40	106	60	253	483	450
6	300	229	91	98	1030	598	176	123	38	238	497	341
7	472	179	91	412	952	561	311	124	53	237	470	351
8	531	96	64	443	1150	126	386	126	96	296	429	518
9	582	92	66	341	1140	84	486	109	149	341	197	634
10	524	145	277	105	1140	521	445	42	149	350	196	453
11	343	478	177	30	1110	598	331	42	123	279	275	349
12	255	385	33	68	1130	597	325	39	123	211	263	373
13	254	165	31	411	1130	596	325	106	198	154	293	323
14	382	157	31	777	1130	594	526	179	219	152	272	351
15	447	183	45	675	1130	593	595	180	101	300	240	400
16	449	183	211	725	1030	592	553	130	119	447	252	284
17	407	170	503	182	941	591	477	82	255	445	166	244
18	258	41	638	191	443	590	295	95	406	351	195	215
19	166	47	693	257	912	485	73	185	465	249	278	246
20	225	162	410	483	629	438	44	190	406	210	323	271
21	284	516	177	549	82	480	254	31	252	316	329	334
22	215	63	237	302	35	430	165	32	129	319	362	529
23	215	39	185	248	83	454	149	32	131	273	271	581
24	283	51	78	378	622	403	283	33	129	224	228	644
25	316	165	167	67	1140	331	200	33	120	256	355	769
26	216	424	149	33	1140	370	96	33	127	294	424	686
27	216	332	23	235	1140	191	97	68	152	294	460	311
28	276	126	22	698	1130	103	141	285	208	293	390	198
29	328	125	22	881	---	103	259	342	208	293	290	534
30	329	125	25	802	---	104	464	340	206	290	278	680
31	384	---	28	799	---	155	---	339	---	220	171	---
TOTAL	11104	5805	6332	10339	25268	14004	9027	4011	5474	8282	9250	12683
MEAN	358	194	204	334	902	452	301	129	182	267	298	423
MAX	582	516	693	881	1150	905	595	389	465	447	497	769
MIN	166	39	22	29	35	84	40	30	38	134	160	170
AC-FT	22020	11510	12560	20510	50120	27780	17910	7960	10860	16430	18350	25160

11294000 HIGHLAND CREEK BELOW NEW SPICER MEADOW RESERVOIR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1997, BY WATER YEAR (WY)

MEAN	53.3	46.5	68.4	69.5	97.6	120	228	402	289	118	68.6	60.9
MAX	358	244	399	334	902	509	456	1047	1097	787	403	423
(WY)	1997	1994	1965	1997	1997	1996	1995	1969	1983	1995	1996	1997
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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1953 - 1997	
ANNUAL TOTAL	100357		121579			
ANNUAL MEAN	274		333		135	
HIGHEST ANNUAL MEAN					333 1997	
LOWEST ANNUAL MEAN					25.3 1977	
HIGHEST DAILY MEAN	854	Mar 26	1150	Feb 8	5040	Dec 23 1955
LOWEST DAILY MEAN	22	Dec 28	22	Dec 28	.00	Sep 28 1964
ANNUAL SEVEN-DAY MINIMUM	28	Apr 15	26	Dec 27	.00	Sep 28 1964
INSTANTANEOUS PEAK FLOW			1180	Feb 25	9860	Jan 31 1963
INSTANTANEOUS PEAK STAGE					11.88	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	199100		241200		97900	
10 PERCENT EXCEEDS	543		636		393	
50 PERCENT EXCEEDS	252		273		48	
90 PERCENT EXCEEDS	31		57		2.8	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—July 1914 to September 1925, October 1928 to current year. Water-year estimates for 1923–25 and 1929 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.—Records good except estimated daily discharges, which are fair. Low and medium flows regulated by Union and Utica Reservoirs, Lake Alpine, North Fork Stanislaus River Diversion Reservoir beginning 1990, and New Spicer Meadow Reservoir beginning 1990 (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 ft³/s, Jan. 31, 1963, gage height, 15.00 ft, from floodmarks, from rating curve extended above 14,000 ft³/s on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 ft³/s, Dec. 6, 7, 1929.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	451	265	16400	1510	1330	727	1050	486	232	177	177
2	520	232	466	e21600	1500	923	779	714	457	162	276	192
3	516	203	629	e5260	1520	903	905	536	288	156	168	530
4	521	236	587	e2330	1600	891	858	573	318	226	200	679
5	517	240	1510	e1700	1580	886	487	658	328	273	435	565
6	331	257	622	e1100	1570	886	419	678	188	273	612	382
7	415	264	398	e940	1330	890	680	672	166	244	456	380
8	522	156	378	e890	1570	575	739	676	157	286	566	470
9	580	128	441	e840	1550	319	895	710	229	364	257	749
10	586	123	993	e800	1530	727	856	621	242	390	186	577
11	438	360	1400	605	1500	1030	689	606	218	357	276	397
12	286	512	3150	565	1510	1020	689	568	195	273	259	420
13	283	250	1450	726	1500	988	715	569	198	169	302	415
14	331	173	889	1270	1510	1010	890	660	383	164	308	307
15	462	214	585	1130	1520	1060	1120	625	221	198	245	514
16	463	219	537	1260	1460	1110	1170	576	173	466	307	337
17	465	479	860	755	1440	1090	1160	453	224	513	176	296
18	343	855	921	530	848	1100	1090	448	476	438	172	236
19	217	281	1040	649	1260	1110	1420	428	504	346	247	256
20	199	357	801	823	1180	1010	1060	570	565	160	330	296
21	338	757	471	1030	560	1060	1250	306	405	318	352	307
22	246	924	497	993	351	999	1160	235	190	341	381	529
23	244	429	494	832	339	1130	973	236	172	334	363	644
24	262	278	348	1020	656	1190	1040	321	174	250	216	670
25	388	228	366	2080	1420	1020	887	233	159	232	311	808
26	273	474	541	2010	1450	1210	784	203	159	311	442	910
27	245	535	941	1280	1470	1070	921	187	160	311	503	459
28	240	267	539	1470	1440	822	952	333	221	311	495	226
29	379	226	925	1730	---	755	738	517	239	310	309	384
30	345	216	2690	1540	---	743	1000	509	238	319	347	795
31	381	---	3520	1490	---	718	---	497	---	285	192	---
TOTAL	11782	10324	29254	75648	36674	29575	27053	15968	8133	9012	9866	13907
MEAN	380	344	944	2440	1310	954	902	515	271	291	318	464
MAX	586	924	3520	21600	1600	1330	1420	1050	565	513	612	910
MIN	199	123	265	530	339	319	419	187	157	156	168	177
AC-FT	23370	20480	58030	150000	72740	58660	53660	31670	16130	17880	19570	27580

e Estimated.

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.1	136	231	269	343	505	976	1466	777	170	81.5	76.8
MAX	482	2103	1957	2440	2105	1785	2026	3299	3651	1231	437	464
(WY)	1983	1951	1965	1997	1986	1986	1982	1969	1983	1983	1995	1997
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 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1915 - 1997		
ANNUAL TOTAL	236180			277196					
ANNUAL MEAN	645			759			426		
HIGHEST ANNUAL MEAN							1019		
LOWEST ANNUAL MEAN							54.3		
HIGHEST DAILY MEAN	7660			May 16			23400		
LOWEST DAILY MEAN	107			Jan 10			5.5		
ANNUAL SEVEN-DAY MINIMUM	146			Jan 7			7.4		
INSTANTANEOUS PEAK FLOW				35600			Jan 2		
INSTANTANEOUS PEAK STAGE				14.94			Jan 2		
ANNUAL RUNOFF (AC-FT)	468500			549800			15.00		
10 PERCENT EXCEEDS	1090			1420			308400		
50 PERCENT EXCEEDS	506			509			1200		
90 PERCENT EXCEEDS	217			215			129		
							35		

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.—Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 23.0°C, July 5, 27–30, 1991; minimum recorded, 0.0°C, Nov. 26, 27, 1994. Jan. 25, 24, 1996, Dec. 21–23, 1996.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 20.0°C, several days in June to August; minimum recorded, 0.0°C, Dec. 21–23.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.0	13.0	8.0	7.0	4.5	3.5	3.0	2.0	5.5	4.5	4.5	2.5
2	14.5	12.5	8.0	7.0	4.0	3.0	4.0	3.0	5.0	4.0	4.5	3.5
3	14.5	12.5	8.0	7.0	4.5	3.5	4.0	3.0	5.0	3.5	4.5	3.5
4	14.5	13.0	7.5	6.0	5.0	4.0	3.5	2.5	5.0	4.0	4.5	2.5
5	14.0	12.5	8.0	6.5	5.5	3.5	4.0	3.0	5.0	3.5	5.0	3.0
6	14.5	13.0	7.0	6.0	3.5	3.0	3.0	1.5	4.5	2.5	5.5	3.5
7	14.5	13.0	7.0	5.0	4.5	3.0	3.5	2.0	5.0	3.5	6.0	3.5
8	14.5	12.5	7.5	6.0	5.0	4.0	4.0	3.0	5.0	3.5	6.5	4.0
9	14.5	12.5	7.5	6.5	5.0	4.5	4.5	3.0	5.0	3.0	7.5	5.0
10	14.5	13.0	7.5	6.5	4.5	2.5	4.5	3.5	5.0	3.5	7.0	5.0
11	14.5	12.5	8.0	6.5	4.5	3.5	4.5	3.0	5.5	3.5	6.5	4.5
12	13.5	12.0	8.0	7.0	4.0	3.5	3.5	2.5	5.0	4.0	6.0	4.0
13	13.5	11.5	8.5	7.5	4.5	3.5	2.5	1.0	5.5	3.0	6.0	3.5
14	13.5	11.0	8.0	7.0	4.0	3.0	3.0	1.0	6.0	3.5	6.5	4.0
15	12.5	11.0	7.5	6.0	3.5	2.5	4.0	3.0	5.5	4.0	7.0	4.5
16	12.5	11.0	6.0	5.0	4.0	3.0	4.0	3.0	5.5	4.0	6.5	5.0
17	11.5	10.5	6.0	4.5	4.5	3.5	4.5	3.5	5.0	4.5	7.0	4.5
18	11.5	11.0	6.0	5.0	4.5	3.5	5.0	3.5	5.5	3.5	7.0	4.5
19	11.5	10.5	6.0	5.5	4.5	3.5	4.5	4.0	5.5	3.5	7.0	4.5
20	11.5	8.0	6.0	5.5	4.5	3.5	4.0	1.5	5.0	3.5	6.5	4.5
21	9.5	7.5	7.5	6.0	4.5	.0	3.5	2.0	5.0	3.5	6.5	5.0
22	10.0	8.0	7.5	5.5	.0	.0	3.5	2.5	6.0	3.5	7.5	5.0
23	10.0	8.5	5.5	4.5	2.5	.0	3.5	2.5	5.0	3.0	7.5	5.0
24	10.5	8.5	5.0	4.0	2.0	1.5	4.0	3.0	3.0	2.0	7.5	4.5
25	10.5	9.5	5.0	4.0	2.0	1.0	5.0	4.0	5.5	2.5	7.5	5.0
26	9.5	7.0	5.5	4.5	3.0	2.0	5.0	3.5	5.5	3.5	8.0	5.0
27	8.0	6.0	5.5	4.5	3.0	2.0	4.5	3.5	5.0	3.5	7.5	4.5
28	7.5	6.0	5.5	4.5	3.0	2.5	5.5	3.5	4.5	2.5	7.5	5.0
29	8.0	6.5	4.5	3.0	3.5	2.0	5.0	3.5	---	---	7.0	5.0
30	8.0	7.5	3.5	2.0	2.5	2.0	5.0	3.5	---	---	7.0	5.5
31	7.5	7.0	---	---	3.0	2.5	5.0	4.0	---	---	6.5	4.0
MONTH	14.5	6.0	8.5	2.0	5.5	.0	5.5	1.0	6.0	2.0	8.0	2.5

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

11295210 BEAVER CREEK DIVERSION TO MCKAYS 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.—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 ft³/s, Apr. 4, 1993; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	7.9	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	3.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	68	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	108	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	79	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	60	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	114	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	165	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	55	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	61	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	150	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	165	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	197	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	178	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	82	164	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	46	137	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	57	81	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	24	96	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	186	20	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	105	.2	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	40	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	6.7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	8.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	4.5	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	2.9	6.5	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	594.30	1929.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	19.8	62.2	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	186	197	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	1180	3830	.00	.00	.00	.00	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

MEAN	.059	2.98	10.5	18.0	43.0	60.8	82.5	63.7	23.9	2.18	.021	.006
MAX	.41	19.8	62.2	52.9	122	157	177	173	80.7	13.2	.17	.043
(WY)	1993	1997	1997	1995	1996	1996	1996	1993	1995	1995	1995	1996
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1991	1991	1991	1991	1991	1997	1997	1997	1992	1990	1990	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1990 - 1997	
ANNUAL TOTAL	21787.70		2523.80			
ANNUAL MEAN	59.5		6.91		26.7	
HIGHEST ANNUAL MEAN					54.6	
LOWEST ANNUAL MEAN					6.74	
HIGHEST DAILY MEAN	206	Mar 22	197	Dec 16	232	Apr 4 1993
LOWEST DAILY MEAN	.00	Jan 12	.00	Oct 1	.00	Feb 5 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 16	.00	Oct 1	.00	Feb 5 1990
ANNUAL RUNOFF (AC-FT)	43220		5010		19320	
10 PERCENT EXCEEDS	172		.08		104	
50 PERCENT EXCEEDS	18		.00		.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 mi².

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, 3.5 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. At times, during some years, reservoir is drained below minimum fishwater release elevation 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, 15 acre-ft, Jan. 1, 1997, maximum elevation, 4,195.5 ft; minimum, no storage Jan. 3 to Sept. 30, 1997.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 15 acre-ft, Jan. 1; maximum elevation, 4,195.5 ft; minimum, no storage Jan. 3 to Sept. 30.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

4,180	6	4,186	9	4,192	13
4,182	7	4,188	11	4,193	14
4,184	8	4,190	12		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	12	15	.0	.0	.0	.0	.0	.0	.0	.0
2	10	10	11	e9.9	.0	.0	.0	.0	.0	.0	.0	.0
3	10	10	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	10	7.3	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	10	7.3	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	10	7.3	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	10	7.3	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	10	10	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	10	10	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	10	10	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	10	10	14	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	10	10	14	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	10	10	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	10	10	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	10	10	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	10	10	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	10	13	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	10	12	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	10	11	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	10	12	12	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	10	12	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	10	12	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	10	11	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	10	11	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	10	12	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	10	11	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	10	12	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	10	11	13	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	10	12	14	.0	---	.0	.0	.0	.0	.0	.0	.0
30	10	11	14	.0	---	.0	.0	.0	.0	.0	.0	.0
31	10	---	14	.0	---	.0	---	.0	---	.0	.0	---
MAX	10	13	14	15	.0	.0	.0	.0	.0	.0	.0	.0
MIN	10	7.3	11	.0	.0	.0	.0	.0	.0	.0	.0	.0
a	4187.4	4189.3	4193.5	4192.2	4191.9	4190.8	4191.9	4191.5	4187.9	4187.3	4187.2	4187.2
b	0	+1	+3	-14	0	0	0	0	0	0	0	0

CAL YR 1996 MAX 14 MIN 7.3 b +3

WTR YR 1997 MAX 15 MIN .0 b -10

e Estimated.

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 mi².

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.—Entire flow of Beaver Creek in excess of 16.5 ft³/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 ft³/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, 6,020 ft³/s, Jan. 1, 1997; minimum daily, 1.2 ft³/s, Dec. 22, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	12	21	e3500	e215	e80	e65	e70	e39	e21	e12	e9.6
2	9.1	12	21	e3570	e206	e81	e69	e66	e30	e20	e12	e9.9
3	8.8	12	21	e1950	e187	e77	e80	e64	e33	e19	e12	e10
4	8.5	12	21	e1010	e175	e75	e81	e64	e68	e18	e12	e9.8
5	8.5	11	201	e807	e163	e74	e78	e63	e69	e18	e12	e9.5
6	8.4	11	49	e555	e150	e75	e73	e62	e52	e18	e12	e9.4
7	8.1	11	21	e454	e145	e75	e73	e60	e44	e17	e11	e9.3
8	8.0	10	21	e427	e142	e77	e73	e60	e38	e17	e11	e9.1
9	8.0	10	21	e417	e134	e82	e71	e58	e35	e17	e11	e9.1
10	8.0	10	127	e403	e128	e89	e67	e57	e32	e16	e11	e9.0
11	8.1	10	302	e382	e125	e95	e66	e52	e30	e16	e11	e9.2
12	8.3	10	774	e365	e121	e93	e66	e44	e26	e16	e11	e9.3
13	8.3	10	339	e278	e115	e83	e67	e35	e25	e16	e11	e9.2
14	8.4	10	136	e190	e178	e79	e67	e33	e46	e16	e11	e9.2
15	8.3	10	68	e165	e117	e76	e71	e29	e52	e15	e10	e9.2
16	8.3	10	32	e210	e119	e74	e73	e29	e34	e15	e10	e9.1
17	8.4	88	28	e399	e125	e94	e79	e27	e27	e15	e10	e9.1
18	9.5	121	21	e276	e115	e90	e83	e28	e24	e15	e10	e9.1
19	12	21	21	e246	e111	e77	e136	e25	e24	e15	e10	e9.4
20	9.8	22	21	e258	e108	e75	e119	e32	e24	e14	e10	e9.4
21	9.6	21	23	e266	e104	e73	e119	e24	e24	e14	e10	e9.0
22	9.5	21	334	e267	e101	e71	e108	e24	e23	e14	e10	e8.8
23	9.5	21	384	e270	e97	e69	e122	e23	e22	e15	e9.9	e8.7
24	11	21	297	e273	e91	e67	e102	e23	e22	e16	e10	e8.6
25	16	21	138	e320	e90	e66	e91	e24	e22	e14	e10	e9.5
26	13	22	88	e365	e90	e65	e90	e23	e21	e14	e10	e10
27	12	21	194	e306	e91	e65	e91	e23	e20	e13	e10	e9.6
28	11	21	125	e265	e83	e65	e88	e23	e20	e13	e9.9	e9.1
29	14	21	287	e244	---	e64	e78	e23	e20	e13	e9.8	e8.8
30	18	21	667	e238	---	e64	e73	e25	e20	e13	e9.7	e8.7
31	14	---	899	e225	---	e63	---	e30	---	e12	e9.6	---
TOTAL	310.9	634	5702	18901	3626	2353	2519	1223	966	485	328.9	277.7
MEAN	10.0	21.1	184	610	130	75.9	84.0	39.5	32.2	15.6	10.6	9.26
MAX	18	121	899	3570	215	95	136	70	69	21	12	10
MIN	8.0	10	21	165	83	63	65	23	20	12	9.6	8.6
AC-FT	617	1260	11310	37490	7190	4670	5000	2430	1920	962	652	551

e Estimated.

11295230 BEAVER CREEK BELOW DIVERSION DAM, NEAR ARNOLD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.47	8.81	34.9	115	44.5	73.1	57.2	65.4	26.4	11.8	7.53	5.80
MAX	10.0	21.1	184	610	130	280	185	291	87.8	19.5	16.3	10.4
(WY)	1997	1997	1997	1997	1997	1995	1995	1995	1995	1996	1995	1995
MIN	3.28	4.48	4.53	5.00	6.32	17.6	17.2	16.3	6.93	4.77	2.61	2.48
(WY)	1991	1991	1991	1991	1991	1990	1990	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1990 - 1997	
ANNUAL TOTAL	17205.7		37326.5			
ANNUAL MEAN	47.0		102		40.5	
HIGHEST ANNUAL MEAN					102	
LOWEST ANNUAL MEAN					9.86	
HIGHEST DAILY MEAN	899	Dec 31	3570	Jan 2	3570	Jan 2 1997
LOWEST DAILY MEAN	8.0	Sep 25	8.0	Oct 8	1.2	Dec 22 1994
ANNUAL SEVEN-DAY MINIMUM	8.1	Oct 7	8.1	Oct 7	2.0	Oct 1 1991
INSTANTANEOUS PEAK FLOW			6020	Jan 1	6020	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	34130		74040		29360	
10 PERCENT EXCEEDS	81		230		67	
50 PERCENT EXCEEDS	21		24		14	
90 PERCENT EXCEEDS	9.5		9.4		3.5	

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.—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 ft³/s, Oct. 17, 1989; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	12	12	.00	.00	.00	23	34	42	49	49	50
2	23	13	12	.00	.00	.00	18	34	45	47	49	50
3	.00	13	12	.00	.00	.00	15	35	45	47	49	50
4	.00	13	12	.00	.00	.00	15	36	45	47	49	50
5	.00	12	4.0	.00	.00	.00	24	36	45	47	49	50
6	.00	12	.00	.50	.00	3.1	28	37	45	47	49	50
7	.00	12	.00	.00	.00	10	29	36	46	47	51	50
8	.00	13	.00	.00	.00	11	30	46	47	47	51	50
9	.00	10	.00	.00	.00	11	30	47	48	47	51	50
10	17	13	.00	.00	.00	4.1	29	41	45	47	51	50
11	26	18	.00	.00	.00	.00	33	42	44	47	51	50
12	26	14	.00	.00	.00	.00	30	36	44	48	51	50
13	26	13	.00	.00	.00	.00	30	32	46	48	51	50
14	26	13	.00	.20	.00	.00	30	31	45	48	51	50
15	26	13	.00	.00	.00	.00	31	32	45	48	50	50
16	26	12	.00	.00	.00	.00	32	32	45	48	50	50
17	26	13	.00	.00	.00	.00	31	33	45	48	51	50
18	26	13	5.7	.00	.00	.00	32	36	46	48	51	50
19	26	13	11	.00	.00	.20	30	36	46	48	50	50
20	26	6.4	11	.00	.00	.00	30	36	46	48	50	50
21	26	4.9	8.6	.00	.00	.00	31	36	46	48	50	50
22	26	12	48	.00	.00	.00	30	35	46	48	50	50
23	26	12	.00	.00	.00	.00	30	35	34	48	50	50
24	26	13	.00	.00	.00	.00	30	34	3.6	48	50	50
25	26	12	.00	.00	.00	.00	30	34	30	48	50	50
26	26	11	.00	.00	.00	.00	32	35	39	48	50	50
27	3.6	12	.00	.00	.00	15	33	35	51	48	50	50
28	.00	13	.00	.00	.00	6.5	33	35	52	48	50	30
29	.00	13	.00	.00	---	46	30	35	52	48	50	53
30	.00	12	.00	.00	---	.30	33	35	52	48	50	50
31	7.8	---	.00	.00	---	17	---	36	---	48	50	---
TOTAL	502.40	366.3	136.30	0.70	0.00	124.20	862	1113	1310.6	1479	1554	1483
MEAN	16.2	12.2	4.40	.023	.0000	4.01	28.7	35.9	43.7	47.7	50.1	49.4
MAX	35	18	.48	.50	.00	.46	33	47	52	49	51	53
MIN	.00	4.9	.00	.00	.00	.00	15	31	3.6	47	49	30
AC-FT	997	727	270	1.4	.00	246	1710	2210	2600	2930	3080	2940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	47.0	46.8	52.5	46.8	46.5	47.8	50.5	63.1	65.5	53.4	43.7	42.3
MAX	74.7	59.3	70.2	77.7	79.0	75.8	81.5	85.2	86.0	81.9	56.0	51.3	
(WY)	1990	1992	1994	1990	1991	1990	1990	1992	1992	1993	1995	1993	
MIN	16.2	12.2	4.40	.023	.000	4.01	22.7	24.6	43.7	36.2	30.4	33.9	
(WY)	1997	1997	1997	1997	1997	1997	1995	1995	1997	1990	1990	1994	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	14178.30	8931.50	
ANNUAL MEAN	38.7	24.5	50.5
HIGHEST ANNUAL MEAN			59.8
LOWEST ANNUAL MEAN			24.5
HIGHEST DAILY MEAN	76	Jan 13	89
LOWEST DAILY MEAN	.00	Oct 3	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 3	.00
ANNUAL RUNOFF (AC-FT)	28120	17720	36590
10 PERCENT EXCEEDS	65	50	79
50 PERCENT EXCEEDS	49	26	51
90 PERCENT EXCEEDS	5.1	.00	15

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.—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, 1,430 ft³/s, May 12, 1995, Feb. 6, Dec. 13, 1996, Feb. 5, 7, 1997; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	604	370	109	296	1390	1010	775	829	110	309	179	3.8
2	505	120	660	3.4	1390	943	649	593	444	228	98	475
3	507	56	604	3.1	1380	884	611	315	252	320	3.8	496
4	603	296	665	3.0	1390	614	583	442	215	40	375	552
5	210	372	1020	842	1430	825	454	582	280	3.6	399	521
6	.00	326	882	1240	1410	854	229	556	154	48	456	171
7	637	283	303	888	1430	818	664	653	95	442	388	3.7
8	554	348	450	923	1220	366	756	528	3.6	262	296	597
9	487	127	662	937	1240	245	672	692	344	247	12	526
10	507	44	966	807	1410	818	666	317	225	131	3.8	456
11	401	11	1040	624	1360	879	666	410	220	226	352	359
12	66	190	1410	377	1410	976	500	643	138	105	323	508
13	43	325	1430	798	1410	950	509	451	192	29	278	57
14	388	165	1050	969	1240	981	904	584	51	456	232	3.9
15	434	192	604	898	1350	836	881	472	45	313	147	298
16	430	237	840	812	1270	859	871	700	314	311	25	285
17	438	185	950	871	1150	989	1070	304	381	288	3.6	369
18	275	727	1060	550	1010	1110	960	180	349	448	286	370
19	.00	659	936	224	983	928	1020	482	332	3.9	319	244
20	58	527	804	860	1320	933	1040	274	455	3.8	272	126
21	348	436	553	835	881	965	921	175	71	363	438	3.9
22	284	896	178	940	314	736	1150	262	56	411	253	636
23	226	476	634	934	193	794	919	327	168	174	3.7	604
24	257	218	486	990	506	1040	921	154	213	330	3.5	600
25	332	497	112	1180	1130	1090	782	44	302	320	361	592
26	.00	490	705	673	1120	993	485	59	121	66	452	622
27	83	486	900	1390	1170	825	592	293	106	3.8	432	107
28	407	.00	433	1340	1240	806	1000	354	56	249	467	29
29	381	259	771	1380	---	741	905	494	69	306	224	700
30	414	133	1410	1420	---	398	714	486	139	314	4.0	615
31	452	---	1370	1410	---	817	---	279	---	179	3.9	---
TOTAL	10331.00	9451.00	23997	25417.5	32747	26023	22869	12934	5900.6	6930.1	7090.3	10930.3
MEAN	333	315	774	820	1170	839	762	417	197	224	229	364
MAX	637	896	1430	1420	1430	1110	1150	829	455	456	467	700
MIN	.00	.00	109	3.0	193	245	229	44	3.6	3.6	3.5	3.7
AC-FT	20490	18750	47600	50420	64950	51620	45360	25650	11700	13750	14060	21680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	182	128	220	320	443	581	661	598
MAX	333	315	774	820	1170	1101	1240	1339
(WY)	1997	1997	1997	1997	1997	1995	1995	1995
MIN	49.5	40.2	25.3	32.3	9.79	140	309	50.6
(WY)	1993	1992	1992	1992	1991	1991	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1990 - 1997
ANNUAL TOTAL	210171.00	194620.80	
ANNUAL MEAN	574	533	374
HIGHEST ANNUAL MEAN			696
LOWEST ANNUAL MEAN			115
HIGHEST DAILY MEAN	1430	1430	1430
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	90	144	.00
ANNUAL RUNOFF (AC-FT)	416900	386000	270900
10 PERCENT EXCEEDS	1140	1080	990
50 PERCENT EXCEEDS	494	452	220
90 PERCENT EXCEEDS	112	56	.00

11295260 MCKAYS 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 mi².

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, 2,572 acre-ft, Jan. 1, 1997, elevation, 3,379.9 ft; minimum, 313 acre-ft, Jan. 28, 1994, elevation, 3,279.2 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 2,572 acre-ft, Jan. 1, elevation, 3,379.9 ft; minimum, 351 acre-ft, Nov. 9, elevation, 3,283.8 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1449	1341	1594	2572	1622	2100	1063	1345	2033	1639	1412	2098
2	1357	1490	1126	2460	1549	1852	1104	1363	1879	1408	1624	1396
3	1272	1704	1070	2355	1522	1648	1457	1624	1819	966	1815	1224
4	956	1498	828	2325	1626	2001	1764	1697	1906	1192	1328	1185
5	1471	1182	1872	1962	1611	1919	1677	1626	1850	1604	1231	1015
6	1990	984	1404	1192	1628	1790	1881	1622	1819	1919	1282	1261
7	1396	862	1688	1555	1033	1682	1690	1412	1837	1379	1214	1817
8	1177	394	1598	1815	1551	1988	1386	1475	1999	1297	1504	1302
9	1221	351	1224	1779	1951	2079	1598	1221	1659	1351	1835	1453
10	1258	408	1282	1565	1863	1737	1724	1602	1573	1699	2045	1434
11	1212	1013	2036	1355	1846	1824	1534	1788	1465	1788	1746	1321
12	1516	1569	2297	1604	1719	1682	1697	1414	1465	1981	1461	930
13	1806	1334	2139	1239	1549	1522	1877	1475	1361	2104	1351	1447
14	1584	1278	1861	1518	1799	1324	1506	1394	1839	1434	1361	1886
15	1541	1243	1965	1675	1843	1549	1626	1484	2056	1092	1414	2086
16	1514	1116	1494	2217	1906	1773	1841	987	1671	1212	1812	2040
17	1461	1635	1321	1455	2187	1659	1622	1123	1231	1441	2029	1764
18	1496	1886	999	1258	1644	1319	1512	1498	1283	1231	1684	1336
19	1799	1102	1141	1946	1944	1402	1988	1206	1436	1746	1398	1228
20	1951	761	1109	1619	1316	1270	1679	1586	1424	1930	1359	1414
21	1817	1353	1015	1759	460	1180	2017	1737	1908	1673	1012	1857
22	1602	1453	1551	1563	469	1477	1628	1592	2045	1371	1133	1386
23	1514	1436	1209	1143	750	1881	1377	1302	1967	1553	1662	1182
24	1416	1551	867	918	929	1883	1381	1508	1857	1246	1944	1004
25	1418	965	1328	2299	1241	1437	1294	1775	1496	951	1682	1084
26	1835	874	903	2281	1644	1559	1684	1949	1473	1302	1439	1314
27	2043	927	915	1693	1981	1717	2075	1659	1463	1759	1334	1784
28	1611	1383	1084	1637	2077	1543	1637	1494	1662	1730	1135	2066
29	1592	1255	1385	2017	---	1312	989	1330	1859	1594	1151	1192
30	1432	1353	2334	1914	---	1855	1229	1214	1933	1453	1646	1294
31	1228	---	2368	1737	---	1439	---	1479	---	1535	1886	---
MAX	2043	1886	2368	2572	2187	2100	2075	1949	2056	2104	2045	2098
MIN	956	351	828	918	460	1180	989	987	1231	951	1012	930
a	3335.9	3341.0	3373.7	3354.2	3364.8	3344.1	3336.0	3345.5	3360.4	3347.5	3358.9	3338.7
b	-691	+125	+1015	-631	+340	-638	-210	+250	+454	-398	+351	-592

CAL YR 1996 MAX 2370 MIN 351 b +626

WTR YR 1997 MAX 2572 MIN 351 b -625

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAYS 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 mi².

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.—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 (station 11295240) and Collierville Powerplant (station 11295250). Discharge, including extremes, represents flow through dam's release valve, mini-hydro generator, 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, 28,000 ft³/s, Jan. 2, 1997; minimum daily, 3.4 ft³/s, Nov. 25, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	20	17500	20	319	19	20	21	20	19	20
2	18	20	20	21600	19	19	19	19	21	20	19	20
3	19	19	19	5260	23	18	20	19	21	19	20	19
4	19	19	19	2330	20	20	21	20	20	19	20	19
5	19	18	22	812	20	20	22	20	21	20	19	20
6	20	18	20	18	20	20	20	20	20	20	19	19
7	20	18	19	20	19	20	22	19	20	19	19	21
8	19	21	19	25	19	20	19	19	21	19	20	21
9	20	18	19	28	21	20	19	19	21	19	20	21
10	20	19	20	28	21	18	19	20	20	19	21	20
11	20	20	20	27	19	19	19	21	20	20	21	19
12	21	24	2060	26	18	19	19	20	19	20	20	19
13	22	20	232	25	18	19	19	20	19	19	19	20
14	22	19	19	26	18	19	19	20	20	19	18	22
15	19	19	19	27	19	19	19	20	21	19	18	21
16	20	19	19	25	19	20	20	19	21	19	19	19
17	19	20	19	257	19	19	20	19	19	20	20	19
18	19	19	19	24	18	19	20	20	19	20	20	20
19	20	18	19	26	19	18	20	19	19	20	20	19
20	20	19	20	27	18	20	20	20	20	20	19	19
21	20	20	19	25	18	20	20	20	20	20	18	20
22	20	23	19	24	23	20	20	20	21	19	19	20
23	19	23	19	24	25	21	19	22	21	19	20	20
24	19	23	19	24	23	21	20	25	21	20	19	20
25	19	21	21	143	19	20	19	24	20	19	19	20
26	21	19	22	1800	19	19	20	21	19	20	19	20
27	21	19	20	40	20	20	21	21	19	21	19	20
28	19	19	21	27	19	20	20	19	20	20	19	20
29	18	20	20	29	---	19	19	19	20	20	19	20
30	18	19	1140	27	---	20	20	20	21	20	19	21
31	20	---	2560	22	---	20	---	20	---	19	20	---
TOTAL	609	592	6523	50296	553	905	593	624	605	607	600	598
MEAN	19.6	19.7	210	1622	19.8	29.2	19.8	20.1	20.2	19.6	19.4	19.9
MAX	22	24	2560	21600	25	319	22	25	21	21	21	22
MIN	18	18	19	18	18	18	19	19	19	19	18	19
AC-FT	1210	1170	12940	99760	1100	1800	1180	1240	1200	1200	1190	1190

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAYS POINT DAM, NEAR AVERY, CA—Continued'

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.2	20.2	43.1	225	29.8	51.4	40.7	98.1	25.6	20.5	20.3	22.5
MAX	27.6	25.9	210	1622	102	253	189	338	63.5	23.1	24.5	27.5
(WY)	1992	1994	1997	1997	1996	1995	1995	1995	1995	1994	1994	1991
MIN	19.1	6.06	5.55	7.93	17.4	15.8	18.9	18.4	19.1	19.0	10.6	18.9
(WY)	1996	1990	1990	1990	1990	1990	1990	1992	1996	1995	1989	1989

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1989 - 1997

ANNUAL TOTAL	24858		63105									
ANNUAL MEAN	67.9		173						52.2			
HIGHEST ANNUAL MEAN									173			1997
LOWEST ANNUAL MEAN									16.9			1990
HIGHEST DAILY MEAN	6530	May 16	21600	Jan 2					21600	Jan 2		1997
LOWEST DAILY MEAN	18	Jan 4	18	Oct 2					3.4	Nov 25		1989
ANNUAL SEVEN-DAY MINIMUM	18	May 22	18	Feb 12					4.2	Nov 15		1989
INSTANTANEOUS PEAK FLOW			28000	Jan 2					28000	Jan 2		1997
ANNUAL RUNOFF (AC-FT)	49310		125200						37790			
10 PERCENT EXCEEDS	21		24						25			
50 PERCENT EXCEEDS	19		20						20			
90 PERCENT EXCEEDS	18		19						18			

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 mi².

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.—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 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, 25,200 ft³/s, Jan. 2, 1997; minimum daily, 5.1 ft³/s, December 22, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	31	41	21000	235	399	84	90	60	41	31	30
2	27	32	41	25200	225	100	88	85	51	40	31	30
3	28	31	40	7220	210	95	100	83	54	38	32	29
4	28	31	40	3340	195	95	102	84	88	37	32	29
5	28	29	223	1620	183	94	100	83	90	38	31	30
6	28	29	69	573	170	95	93	82	72	38	31	28
7	28	29	40	474	164	95	95	79	64	36	30	30
8	27	31	40	452	161	97	92	79	59	36	31	30
9	28	28	40	445	155	102	90	77	56	36	31	30
10	28	29	147	431	149	107	86	77	52	35	32	29
11	28	30	322	409	144	114	85	73	50	36	32	28
12	29	34	2840	391	139	112	85	64	45	36	31	28
13	30	30	571	303	133	102	86	55	44	35	30	29
14	30	29	155	216	196	98	86	53	66	35	29	31
15	27	29	87	192	136	95	90	49	73	34	28	30
16	28	29	51	235	138	94	93	48	55	34	29	28
17	27	108	47	656	144	113	99	46	46	35	30	28
18	29	140	40	300	133	109	103	48	43	35	30	29
19	32	39	40	272	130	95	156	44	43	35	30	28
20	30	41	41	285	126	95	139	52	44	34	29	28
21	30	41	42	291	122	93	139	44	44	34	28	29
22	30	44	353	291	124	91	128	44	44	33	29	29
23	29	44	403	294	122	90	141	45	43	34	30	29
24	30	44	316	297	114	88	122	48	43	36	29	29
25	35	42	159	463	109	86	110	48	42	33	29	30
26	34	41	110	2160	109	84	110	44	40	34	29	30
27	33	40	214	346	111	85	112	44	39	34	29	30
28	30	40	146	292	102	85	108	42	40	33	29	29
29	32	41	307	273	---	83	97	42	40	33	29	29
30	36	40	1800	265	---	84	93	45	41	33	29	30
31	34	---	3460	247	---	83	---	50	---	31	30	---
TOTAL	921	1226	12225	69233	4179	3258	3112	1847	1571	1092	930	876
MEAN	29.7	40.9	394	2233	149	105	104	59.6	52.4	35.2	30.0	29.2
MAX	36	140	3460	25200	235	399	156	90	90	41	32	31
MIN	27	28	40	192	102	83	84	42	39	31	28	28
AC-FT	1830	2430	24250	137300	8290	6460	6170	3660	3120	2170	1840	1740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

MEAN	28.9	31.0	83.4	370	74.3	124	97.9	164	52.0	32.3	29.0	28.7
MAX	33.5	40.9	394	2233	223	533	374	629	151	38.8	35.4	32.1
(WY)	1992	1997	1997	1997	1996	1995	1995	1995	1995	1996	1995	1995
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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	42063	100470	
ANNUAL MEAN	115	275	97.7
HIGHEST ANNUAL MEAN			275
LOWEST ANNUAL MEAN			31.7
HIGHEST DAILY MEAN	7240	May 16	25200
LOWEST DAILY MEAN	27	Oct 2	27
ANNUAL SEVEN-DAY MINIMUM	28	Oct 2	28
ANNUAL RUNOFF (AC-FT)	83430	199300	70800
10 PERCENT EXCEEDS	101	268	88
50 PERCENT EXCEEDS	40	44	34
90 PERCENT EXCEEDS	29	29	27

11295900 PINECREST LAKE AT PINECREST, CA

LOCATION.—Lat 38°11'59", long 119°59'20", 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 mi².

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, 18,582 acre-ft, June 5, 1997, elevation, 5,618.39 ft; minimum observed, 3,157 acre-ft, Mar. 3, 4, 1991, elevation, 5,546.6 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 18,582 acre-ft, June 5, elevation, 5,618.39 ft; minimum, 8,741 acre-ft, Nov. 16, elevation, 5,580.71 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13560	9378	9751	14473	15895	13310	11784	16532	18413	17935	17234	16537
2	13453	9263	9648	17871	15799	13199	10782	16620	18346	17914	17205	16512
3	13334	9214	9526	17104	15673	13091	10602	16689	18315	17914	17169	16518
4	13215	9199	9409	16921	15589	12975	10506	16872	18292	17899	17142	16501
5	13099	9183	9540	16784	15500	12861	10399	17188	18582	17895	17115	16478
6	12972	9164	9483	16737	15404	12761	10308	17413	18208	17886	17084	16424
7	12848	9147	9389	16709	15310	12661	10240	17431	18138	17874	17098	16357
8	12732	9131	9318	16691	15225	12536	12051	17522	18153	17871	17068	16222
9	12617	9124	9287	16671	15116	12415	11959	17566	18102	17857	17020	16010
10	12479	9105	9320	16660	15038	12320	11860	17601	18111	17846	16989	e15869
11	12323	9091	9476	16647	14942	12251	11753	17612	18208	17832	16958	e15646
12	12162	9070	9853	16633	14852	12147	11660	17609	18132	17813	16924	e15574
13	12005	9053	9950	16610	14759	12035	11604	17647	18085	17788	16892	e15449
14	11842	8980	9790	16582	14674	11954	11569	17615	18179	17765	16855	e15315
15	11677	8853	9569	16558	14600	11911	11662	17793	18155	17751	16828	e15202
16	11499	8741	9512	16527	14538	11822	11827	17810	18182	17726	16799	e15068
17	11335	9027	9802	16491	14490	11731	12046	17802	18167	17692	16755	e14949
18	11166	9471	9705	16412	14410	11672	12305	17804	18144	17667	16725	e14846
19	10997	9562	9624	16330	14335	11672	12817	17743	18114	17641	16710	e14736
20	10827	9602	9526	16258	14255	11685	13352	17751	18108	17604	16699	e14584
21	10681	9899	9502	16152	14147	11647	13816	17732	18067	17578	16687	e14503
22	10550	10340	9421	16156	14022	11609	14381	17695	18049	17549	16678	e14364
23	10414	10370	9332	16061	13926	11677	14494	17821	18040	17519	16670	e14284
24	10289	10355	9244	15968	13819	11801	14619	17968	18028	17496	16657	e14130
25	10178	10298	9159	16274	13709	11946	14718	17899	18025	17458	16630	e13981
26	10054	10218	9154	16365	13613	12139	14947	17886	18016	17434	16621	e13850
27	9933	10132	9133	16306	13518	12325	15321	17914	17995	17398	16608	e13720
28	9809	10045	9063	16242	13414	12454	15768	18135	17980	17372	16587	e13563
29	9698	9945	9195	16152	---	12551	16086	18358	17971	17338	16572	e13432
30	9595	9841	9643	16078	---	12633	16377	18398	17944	17296	16564	e13328
31	9488	---	10271	15985	---	12653	---	18447	---	17266	16549	---
MAX	13560	10370	10271	17871	15895	13310	16377	18447	18582	17935	17234	16537
MIN	9488	8741	9063	14473	13414	11609	10240	16532	17944	17266	16549	13328
a	5583.87	5585.34	5587.11	5608.77	5599.53	5596.58	5609.73	5617.94	5616.25	5613.91	5610.51	5599.20
b	-4187	+353	+430	+5714	-2571	-761	+3724	+2070	-503	-678	-717	-3221

CAL YR 1996 MAX 18531 MIN 4760 b +4106
WTR YR 1997 MAX 18582 MIN 8741 b -347

e Estimated.

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 mi².

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.—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, 7,820 ft³/s, Jan. 2, 1997, gage height, 12.34 ft, from rating curve extended above 1,100 ft³/s on basis of contracted-opening measurement of peak flow at bridge 0.3 mi downstream from station; minimum daily, 1.3 ft³/s, Nov. 22, 1946.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	80	85	1110	132	109	196	280	516	40	17	15
2	62	65	75	4680	130	109	185	285	434	35	16	15
3	62	36	85	2090	127	108	178	295	388	33	16	15
4	64	13	100	786	126	107	177	326	666	30	16	15
5	63	13	121	477	125	107	178	383	852	29	17	15
6	63	13	104	319	124	107	175	545	425	27	17	15
7	63	13	94	274	122	108	176	570	372	26	17	15
8	63	13	92	237	120	134	180	601	359	25	17	48
9	62	13	97	205	118	152	175	660	286	25	17	72
10	68	13	97	184	117	157	169	715	202	24	17	64
11	79	13	110	166	116	165	167	735	222	23	16	61
12	83	13	161	154	115	164	170	728	260	22	17	60
13	83	13	142	146	114	162	175	809	207	22	16	60
14	82	36	119	138	115	165	179	753	276	22	16	60
15	84	63	108	143	116	174	197	689	260	21	16	60
16	86	63	103	136	118	179	221	706	237	21	16	59
17	85	80	101	134	119	171	243	703	267	20	16	60
18	85	127	99	132	116	177	251	646	234	20	16	61
19	85	94	97	130	116	189	378	569	203	20	16	61
20	84	95	96	128	115	196	334	568	177	20	16	61
21	77	105	94	128	114	191	346	509	151	19	16	60
22	66	158	94	127	113	190	315	364	124	19	16	63
23	66	103	94	128	112	209	309	384	97	19	16	64
24	66	95	93	129	111	223	280	399	84	20	16	63
25	66	92	93	166	111	230	281	309	80	19	16	63
26	66	89	95	161	111	245	312	311	75	19	16	63
27	65	87	98	144	111	251	340	292	68	18	15	63
28	66	86	93	139	109	240	320	358	59	18	15	62
29	66	84	106	137	---	233	287	504	50	18	15	62
30	66	84	161	134	---	229	286	572	45	18	15	62
31	65	---	206	132	---	215	---	604	---	18	16	---
TOTAL	2204	1852	3313	13294	3293	5396	7180	16172	7676	710	500	1517
MEAN	71.1	61.7	107	429	118	174	239	522	256	22.9	16.1	50.6
MAX	86	158	206	4680	132	251	378	809	852	40	17	72
MIN	62	13	75	127	109	107	167	280	45	18	15	15
AC-FT	4370	3670	6570	26370	6530	10700	14240	32080	15230	1410	992	3010

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.0	53.1	59.1	57.5	54.3	67.7	134	419	376	109	50.1	60.2
MAX	121	344	338	429	229	212	386	874	1066	683	127	99.2
(WY)	1983	1951	1951	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1938 - 1997	
ANNUAL TOTAL	54274		63107			
ANNUAL MEAN	148		173		125	
HIGHEST ANNUAL MEAN					259	
LOWEST ANNUAL MEAN					26.6	
HIGHEST DAILY MEAN	2560		May 16		4680	
LOWEST DAILY MEAN	13		Nov 4		1.3	
ANNUAL SEVEN-DAY MINIMUM	13		Nov 4		2.3	
INSTANTANEOUS PEAK FLOW			7820		7820	
INSTANTANEOUS PEAK STAGE			12.34		12.34	
ANNUAL RUNOFF (AC-FT)	107700		125200		90640	
10 PERCENT EXCEEDS	423		361		324	
50 PERCENT EXCEEDS	79		107		61	
90 PERCENT EXCEEDS	21		16		21	

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 mi².

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 records computed above 50 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.2	41	---	---	---	---	---	---	24	e17	8.4
2	7.2	7.6	35	---	---	---	---	---	---	24	e16	8.9
3	7.5	12	---	---	---	---	---	---	---	22	e16	11
4	7.7	12	36	---	---	---	---	---	---	22	e16	10
5	7.4	8.3	---	---	---	---	---	---	---	22	e17	9.7
6	7.4	4.8	---	---	---	---	---	---	---	22	e17	9.2
7	7.2	4.8	---	---	---	---	---	---	---	22	e17	9.2
8	7.2	4.7	49	---	---	---	---	---	---	22	e17	18
9	7.1	4.8	---	---	---	---	---	---	---	22	e17	23
10	7.3	4.8	---	---	---	---	---	---	---	22	e17	11
11	21	10	---	---	---	---	---	---	---	22	e16	7.2
12	32	8.4	---	---	---	---	---	---	---	24	e17	7.8
13	32	5.8	---	---	---	---	---	---	---	25	e16	7.4
14	32	7.1	---	---	---	---	---	---	---	24	e16	7.3
15	32	9.3	---	---	---	---	---	---	---	23	e16	7.1
16	31	9.7	---	---	---	---	---	---	---	22	e16	7.0
17	31	---	---	---	---	---	---	---	---	21	e16	7.8
18	31	---	---	---	---	---	---	---	---	21	e16	7.8
19	30	---	---	---	---	---	---	---	---	21	e16	7.0
20	30	---	---	---	---	---	---	---	---	20	e16	6.8
21	23	---	---	---	---	---	---	---	---	20	e16	7.0
22	10	---	---	---	---	---	---	---	---	20	16	7.9
23	9.9	---	---	---	---	---	---	---	---	20	16	8.0
24	10	---	50	---	---	---	---	---	---	21	16	6.7
25	10	50	50	---	---	---	---	---	---	21	15	6.9
26	9.8	---	---	---	---	---	---	---	36	21	11	6.5
27	9.4	46	---	---	---	---	---	---	25	20	8.1	7.3
28	9.4	43	---	---	---	---	---	---	25	20	8.3	6.9
29	11	40	---	---	---	---	---	---	27	e19	8.2	6.6
30	10	38	---	---	---	---	---	---	25	e18	8.3	6.5
31	9.3	---	---	---	---	---	---	---	---	e18	8.4	---
TOTAL	497.4	---	---	---	---	---	---	---	---	665	459.3	261.9
MEAN	16.0	---	---	---	---	---	---	---	---	21.5	14.8	8.73
MAX	32	---	---	---	---	---	---	---	---	25	17	23
MIN	7.1	---	---	---	---	---	---	---	---	18	8.1	6.5
AC-FT	987	---	---	---	---	---	---	---	---	1320	911	519
a	3460	2190	3350	1090	821	2570	3360	3490	3230	330	733	2600

CAL YR 1996 a 34460

WTR YR 1997 a 27210

e Estimated.

a Diversion, in acre-feet, to Philadelphia Canal, provided by Pacific Gas & Electric Co.

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 mi².

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, 4,847 acre-ft between gage heights 0.0 ft, invert of outlet, and 86.0 ft, top of spillway gates. Dead storage, 2.5 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, 832 acre-ft, Nov. 27, 1995, gage height, 48.51 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 5,612 acre-ft, June 4, gage height, 90.62 ft; minimum, 1,006 acre-ft, Nov. 16, gage height, 51.79 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1996)

20	34.2	40	474	70	2,598
25	94.4	50	908	80	3,913
30	186	60	1,592	90	5,507

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1388	1282	2405	4626	4068	3973	4011	4100	5531	5347	4487	3132
2	1352	1271	2441	5052	4062	3973	4005	4105	5510	5320	4456	3075
3	1319	1262	2484	4448	4055	3973	4020	4107	5487	5292	4423	3021
4	1287	1262	2529	4273	4050	3973	4018	4123	5612	5262	4388	2968
5	1256	1257	2901	4199	4046	3973	4018	4154	5330	5229	4354	2910
6	1226	1240	3097	4145	4033	3973	4018	4231	5196	5203	4316	2853
7	1193	1222	3210	4113	4033	3973	4018	4145	5302	5170	4276	2798
8	1156	1205	3295	4091	4033	3973	4021	4151	5379	5143	4235	2743
9	1117	1183	3428	4076	4018	4005	4020	4167	5522	5117	4192	2715
10	1080	1158	3951	4065	4018	4008	4015	4181	5549	5090	4148	2672
11	1069	1135	4055	4058	4018	4009	4014	4187	5561	5062	4105	2626
12	1072	1116	4081	4053	4018	3988	4017	4186	5565	5037	4062	2580
13	1076	1085	4027	4046	4018	3988	4020	4204	5555	5017	4020	2530
14	1124	1054	4003	4041	4003	3988	4021	4184	5575	4999	3979	2480
15	1177	1028	3991	4039	4003	3990	4026	4172	5563	4978	3939	2460
16	1229	1006	3981	4033	4003	3993	4064	4173	5558	4957	3893	2410
17	1280	1084	3976	4030	4003	4006	4082	4173	5563	4934	3853	2364
18	1334	1233	3973	4029	4003	4020	4093	4158	5558	4908	3807	2317
19	1384	1319	3972	4024	4003	4123	4167	4149	5553	4882	3764	2269
20	1393	1394	3967	4033	3988	4473	4133	4136	5548	4858	3731	2222
21	1386	1479	3982	4036	3988	4393	4143	4222	5544	4811	3688	2173
22	1361	1825	3975	4155	3988	4154	4125	4318	5538	4784	3648	2125
23	1330	1951	3970	4100	3988	4125	4125	4456	5526	4757	3607	2082
24	1314	2025	3967	4082	3988	4024	4104	4622	5519	4732	3568	2036
25	1311	2085	3966	4225	3988	4018	4099	4759	5512	4704	3527	1991
26	1303	2142	4029	4219	3988	4023	4116	4884	5497	4677	3485	1950
27	1292	2197	4030	4148	3988	4024	4136	4949	5466	4645	3427	1906
28	1282	2250	4012	4116	3988	4021	4128	5163	5431	4613	3369	1863
29	1287	2299	4122	4097	---	4020	4108	5572	5401	4580	3311	1820
30	1294	2347	4154	4084	---	4017	4105	5551	5372	4550	3250	1778
31	1290	---	4166	4074	---	4014	---	5551	---	4517	3189	---
MAX	1393	2347	4166	5052	4068	4473	4167	5572	5612	5347	4487	3132
MIN	1069	1006	2405	4024	3988	3973	4005	4100	5196	4517	3189	1778
a	56.18	67.76	81.67	81.07	80.50	80.67	81.27	90.26	89.20	83.93	74.79	62.08
b	-133	+1057	+1819	-92	-86	+26	+91	+1446	-179	-855	-1328	-1411

CAL YR 1996 MAX 5566 MIN 1006 b +1992

WTR YR 1997 MAX 5612 MIN 1006 b +355

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 mi².

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.—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, 12,900 ft³/s, Jan. 2, 1997, gage height, 13.03 ft, from rating curve extended above 2,400 ft³/s, on basis of computation of peak flow over Lyons Dam; no flow at times in 1937–39, 1952.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.8	2.5	1660	246	87	131	183	421	4.8	3.3	2.7
2	2.4	2.7	2.6	6040	234	85	118	188	333	4.8	3.0	2.7
3	2.3	2.7	2.7	2280	219	82	104	186	295	4.8	3.0	2.8
4	2.3	2.7	2.8	867	209	76	113	208	397	4.8	3.0	3.0
5	2.3	2.7	3.6	667	199	74	111	235	891	4.8	3.1	3.0
6	2.3	2.7	3.0	498	189	60	109	356	415	4.8	3.1	2.8
7	2.3	2.7	2.9	385	182	50	107	498	223	4.8	2.8	2.8
8	2.4	2.7	2.8	308	179	54	111	461	232	4.8	2.6	2.8
9	2.4	2.7	2.9	271	171	78	110	511	133	4.8	2.6	2.8
10	2.4	2.8	3.9	247	166	83	105	569	130	4.8	2.5	2.8
11	2.4	2.8	184	225	159	88	101	590	109	4.8	2.4	3.0
12	2.4	4.7	254	212	155	92	101	583	169	4.7	2.4	3.3
13	2.4	2.7	205	198	151	87	105	643	140	4.7	2.4	3.2
14	2.9	2.7	115	176	149	87	107	633	157	4.7	2.3	3.3
15	3.2	2.7	78	183	147	87	120	548	182	4.7	2.3	6.9
16	3.2	2.7	59	174	147	90	121	560	153	3.6	2.3	3.3
17	3.3	3.3	48	168	154	92	148	561	168	2.1	2.3	3.2
18	3.4	2.9	40	164	148	125	164	531	157	2.5	2.3	3.1
19	3.1	2.9	36	161	144	104	227	450	129	2.5	2.2	3.2
20	2.8	2.8	32	176	142	5.4	254	456	106	2.4	2.2	3.3
21	2.5	2.7	45	172	139	191	237	353	81	2.3	2.1	3.5
22	2.7	3.1	42	256	134	277	233	244	56	2.3	2.1	3.3
23	2.7	2.7	47	370	121	198	210	188	31	2.2	2.1	3.1
24	2.5	2.6	57	274	114	220	196	231	6.0	2.1	2.1	3.1
25	2.6	2.6	54	633	114	158	178	152	2.4	3.0	2.0	6.2
26	2.5	2.5	79	820	121	160	195	150	2.9	3.1	2.0	2.9
27	2.5	2.4	213	539	117	169	222	173	4.5	2.6	2.6	2.8
28	2.5	2.4	153	388	111	163	235	113	4.7	2.2	2.9	2.8
29	2.6	2.4	215	318	---	156	197	165	4.8	2.2	2.8	2.9
30	2.5	2.4	497	283	---	154	192	437	4.8	2.6	2.8	e2.9
31	2.6	---	531	261	---	149	---	485	---	3.3	2.8	---
TOTAL	80.8	83.2	3013.7	19374	4461	3581.4	4662	11641	5138.1	112.6	78.4	97.5
MEAN	2.61	2.77	97.2	625	159	116	155	376	171	3.63	2.53	3.25
MAX	3.4	4.7	531	6040	246	277	254	643	891	4.8	3.3	6.9
MIN	2.3	2.4	2.5	161	111	5.4	101	113	2.4	2.1	2.0	2.7
AC-FT	160	165	5980	38430	8850	7100	9250	23090	10190	223	156	193
a	1110	938	1000	485	629	2100	2430	2660	2420	1940	2120	1950

e Estimated.

a Diversion, in acre-feet, to Tuolumne Canal, provided by Pacific Gas & Electric Co.

11298000 SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.43	10.9	25.4	40.0	40.0	54.2	99.5	356	311	58.1	3.29	2.14
MAX	14.7	324	399	625	306	291	501	875	950	583	37.7	5.45
(WY)	1983	1951	1951	1997	1982	1938	1982	1969	1983	1995	1983	1995
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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1938 - 1997	
ANNUAL TOTAL	43216.8		52323.7			
ANNUAL MEAN	118		143		82.8	
HIGHEST ANNUAL MEAN					234	
LOWEST ANNUAL MEAN					1.50	
HIGHEST DAILY MEAN	3260	May 16	6040	Jan 2	6040	Jan 2 1997
LOWEST DAILY MEAN	2.3	Oct 3	2.0	Aug 25	.00	Oct 1 1937
ANNUAL SEVEN-DAY MINIMUM	2.3	Oct 1	2.1	Aug 20	.00	Oct 1 1937
INSTANTANEOUS PEAK FLOW			12900	Jan 2	12900	Jan 2 1997
INSTANTANEOUS PEAK STAGE			13.03	Jan 2	13.03	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	85720		103800		60000	
ANNUAL DIVERSION (AC-FT) a	19830		19780			
10 PERCENT EXCEEDS	390		341		285	
50 PERCENT EXCEEDS	8.1		56		2.5	
90 PERCENT EXCEEDS	2.6		2.4		1.4	

a Diversion, in acre-feet, to Tuolumne Canal, provided by Pacific Gas & Electric Co.

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 mi².

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 records computed above 2.5 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1	1.3	1.2	---	---	.8	1.1	.9	1.1	1.5	1	1
2	1	1	1.2	---	---	.8	1.2	1	1.2	1	1	1
3	1	1.1	1.2	---	---	.8	1.6	1	1.1	.9	.9	.9
4	1.1	1	1.2	---	---	.9	1.3	1	1.8	.9	.9	.9
5	1.2	.9	---	---	---	1.3	1.1	1	---	1.1	.9	.9
6	1	.7	---	---	---	1.5	1.2	.9	---	1.1	.9	.9
7	1.1	1.2	---	---	---	1.3	1.1	.8	1.3	1.2	1	.9
8	---	1.2	---	---	---	1.3	1	1.5	1.4	1.1	1	1
9	1.2	1.1	---	---	---	1.4	.9	1.7	---	.9	1	1.2
10	1.1	1.1	---	---	---	1.3	.8	1	1.9	1	1	1.2
11	1	1.1	---	---	---	1.5	.9	1	1.1	1	1.1	1.2
12	.9	1	---	---	---	1.3	1	.9	1	1	1	1.1
13	1.1	1.1	---	---	---	1.1	1.2	.9	1	1	1	1.1
14	1.3	1.1	---	---	---	1.4	1.3	1.1	1	1	1	.9
15	.9	.8	---	---	---	1.5	1.3	1	1	1	.9	1
16	.7	.9	---	---	---	1.5	1.3	1	1.2	.9	.9	1.1
17	.7	---	2.3	---	---	1.5	.9	.9	1.3	.9	.9	1.1
18	.7	2.4	1.5	---	---	1.3	.9	1	1.2	1	.9	1.1
19	1.5	---	1.1	2.5	---	1	1	1.1	1.1	1.1	.9	1.1
20	1.4	2.2	2.1	---	---	1.1	.9	1.2	.9	1.1	.9	1
21	1.1	2.2	---	---	---	1.3	.9	1.1	1.1	1.1	.9	1.1
22	.9	---	---	---	2.5	1.2	1	1.1	1.2	1.1	1	1.1
23	.8	---	---	---	---	1.2	1	1.1	1.9	1.1	1	1.1
24	.9	.9	---	---	2.4	1.2	1	1	1.6	1.2	1.1	1.1
25	.7	1	1.4	---	.8	1.3	1	1.1	2.3	1.1	1.1	1
26	1.8	.8	---	---	.8	1.2	1.1	1.2	1	1	.9	.9
27	2	1	---	---	.8	1.2	1.3	1.1	1.1	1	1	1.1
28	.7	1.2	---	---	.8	1.2	1.3	1	.8	1	1	1.2
29	.8	1.3	---	---	---	1.1	1.3	1	1	1	1	1.1
30	.8	1.1	---	---	---	1.2	1.1	1	1.1	.9	1	1
31	1	---	---	---	---	1.2	---	1	---	.9	1	---
TOTAL	---	---	---	---	---	37.9	33.0	32.6	---	32.1	30.1	31.3
MEAN	---	---	---	---	---	1.22	1.10	1.05	---	1.04	.97	1.04
MAX	---	---	---	---	---	1.5	1.6	1.7	---	1.5	1.1	1.2
MIN	---	---	---	---	---	.80	.80	.80	---	.90	.90	.90
AC-FT	---	---	---	---	---	75	65	65	---	64	60	62

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 mi².

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 New Melones Powerplant (station 11299200) 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, 2,291,000 acre-ft, Jan. 6, 7, elevation, 1,077.53 ft, Jan. 6; minimum, 1,818,000 acre-ft, Sept. 24, 28, elevation, 1,035.33, Sept. 24.

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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1988000	1985000	1990000	2074000	2237000	2049000	2023000	1993000	2006000	1964000	1894000	1826000
2	1989000	1986000	1990000	2215000	2232000	2042000	2022000	1992000	2006000	1963000	1891000	1825000
3	1989000	1987000	1990000	2265000	2225000	2035000	2022000	1991000	2006000	1962000	1888000	1825000
4	1989000	1987000	1989000	2279000	2219000	2027000	2021000	1990000	2004000	1960000	1886000	1825000
5	1989000	1988000	1994000	2288000	2212000	2022000	2020000	1990000	2005000	1957000	1884000	1825000
6	1989000	1989000	1992000	2291000	2205000	2017000	2019000	1991000	2005000	1954000	1882000	1825000
7	1990000	1988000	1988000	2291000	2197000	2015000	2019000	1992000	2005000	1953000	1880000	1824000
8	1990000	1988000	1985000	2287000	2189000	2014000	2019000	1994000	2004000	1951000	1877000	1824000
9	1989000	1988000	1983000	2282000	2181000	2012000	2019000	1996000	2003000	1949000	1874000	1824000
10	1990000	1989000	1989000	2276000	2176000	2014000	2020000	1997000	2002000	1946000	1871000	1823000
11	1989000	1988000	1992000	2268000	2175000	2013000	2019000	2000000	2001000	1943000	1869000	1823000
12	1986000	1988000	2005000	2261000	2173000	2014000	2017000	2002000	1999000	1941000	1866000	1823000
13	1983000	1987000	2010000	2257000	2172000	2015000	2015000	2005000	1998000	1938000	1864000	1822000
14	1980000	1986000	2011000	2250000	2168000	2018000	2013000	2009000	1997000	1936000	1862000	1821000
15	1978000	1985000	2010000	2243000	2166000	2018000	2012000	2011000	1995000	1934000	1859000	1821000
16	1977000	1984000	2008000	2234000	2161000	2019000	2010000	2014000	1994000	1931000	1855000	1821000
17	1976000	1987000	2005000	2228000	2155000	2019000	2009000	2016000	1994000	1929000	1852000	1820000
18	1976000	1988000	2002000	2219000	2147000	2019000	2007000	2017000	1994000	1928000	1850000	1820000
19	1975000	1989000	1999000	2211000	2139000	2020000	2006000	2018000	1994000	1925000	1848000	1820000
20	1975000	1990000	1996000	2207000	2131000	2018000	2005000	2018000	1993000	1922000	1845000	1820000
21	1976000	1992000	2001000	2205000	2123000	2017000	2002000	2018000	1991000	1920000	1844000	1819000
22	1976000	1995000	2007000	2211000	2112000	2017000	2001000	2017000	1990000	1918000	1841000	1819000
23	1976000	1995000	2007000	2215000	2101000	2016000	1999000	2014000	1988000	1915000	1838000	1819000
24	1977000	1994000	2005000	2215000	2091000	2017000	1997000	2013000	1985000	1913000	1835000	1818000
25	1979000	1994000	2001000	2223000	2082000	2018000	1996000	2011000	1983000	1911000	1834000	1819000
26	1979000	1994000	2000000	2247000	2072000	2020000	1994000	2009000	1979000	1908000	1834000	1819000
27	1980000	1993000	2001000	2254000	2063000	2021000	1993000	2007000	1976000	1905000	1833000	1819000
28	1980000	1993000	1997000	2253000	2057000	2021000	1994000	2005000	1972000	1903000	1832000	1818000
29	1982000	1992000	1995000	2250000	---	2022000	1995000	2004000	1969000	1901000	1830000	1819000
30	1983000	1991000	2002000	2247000	---	2022000	1994000	2005000	1966000	1899000	1828000	1819000
31	1985000	---	2011000	2243000	---	2022000	---	2005000	---	1896000	1827000	---
MAX	1990000	1995000	2011000	2291000	2237000	2049000	2023000	2018000	2006000	1964000	1894000	1826000
MIN	1975000	1984000	1983000	2074000	2057000	2012000	1993000	1990000	1966000	1896000	1827000	1818000
a	1050.88	1051.43	1053.24	1073.44	1057.34	1054.28	1051.74	1052.70	1049.20	1042.75	1036.18	1035.47
b	-3000	+6000	+20000	+232000	-186000	-35000	-28000	+11000	-39000	-70000	-69000	-8000
c	3766	1670	966	1219	1793	3150	4628	7040	7346	9127	7380	5658
d	59850	52380	193800	368000	371200	185800	150700	183800	147600	122900	117300	64690

CAL YR 1996 b +185000

WTR YR 1997 b -169000

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.

d Discharge, in acre-feet, through New Melones Powerplant, provided by U.S. Bureau of Reclamation.

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 mi².

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.—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 ft³/s, Feb. 19, 1986, gage height, 9.10 ft, from rating curve extended above 2,500 ft³/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 ft³/s, or maximim:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 22	1710	460	4.11	Dec. 21	2000	1,520	5.17
Dec. 05	1000	789	4.52	Jan. 02	0830	1,940	5.50
Dec. 10	1645	1,000	4.73	Jan. 22	1827	1,530	5.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.5	573	38	5.1	1.8	.72	.11	.00	.00	.00
2	.00	.00	1.4	768	32	6.1	1.8	.70	.11	.00	.00	.00
3	.00	.00	1.2	211	28	5.4	1.8	.69	.12	.00	.00	.00
4	.00	.00	1.1	99	26	4.9	1.8	.64	.33	.00	.00	.00
5	.00	.00	225	66	23	4.5	1.7	.60	.32	.00	.00	.00
6	.00	.00	29	44	21	4.4	1.7	.55	.24	.00	.00	.00
7	.00	.00	11	34	20	4.2	1.7	.52	.16	.00	.00	.00
8	.00	.00	6.3	29	20	3.9	1.6	.50	.11	.00	.00	.00
9	.00	.00	71	24	17	3.7	1.6	.46	.09	.00	.00	.00
10	.00	.00	456	21	15	3.7	1.6	.43	.07	.00	.00	.00
11	.00	.00	104	19	14	3.6	1.5	.38	.05	.00	.00	.00
12	.00	.00	231	23	13	3.3	1.4	.34	.05	.00	.00	.00
13	.00	.00	108	18	12	3.0	1.5	.33	.07	.00	.00	.00
14	.00	.00	39	16	12	3.0	1.4	.30	.04	.00	.00	.00
15	.00	.00	22	20	11	2.9	1.3	.29	.02	.00	.00	.00
16	.00	.00	15	17	11	2.8	1.3	.28	.01	.00	.00	.00
17	.00	4.8	11	16	12	2.8	1.2	.27	.00	.00	.00	.00
18	.00	2.0	9.0	15	9.8	2.5	1.2	.22	.00	.00	.00	.00
19	.00	1.6	7.7	14	9.0	2.5	1.6	.18	.00	.00	.00	.00
20	.00	1.9	6.8	84	8.3	2.5	1.3	.16	.00	.00	.00	.00
21	.00	22	565	149	8.0	2.6	1.1	.16	.00	.00	.00	.00
22	.00	70	387	482	7.6	2.6	1.1	.17	.00	.00	.00	.00
23	.00	13	108	358	6.9	2.5	1.2	.25	.00	.00	.00	.00
24	.00	3.4	48	149	6.2	2.4	1.1	.42	.00	.00	.00	.00
25	.00	2.3	30	363	6.3	2.4	.98	.31	.00	.00	.00	.00
26	.00	1.8	35	449	6.2	2.3	.90	.28	.00	.00	.00	.00
27	.00	1.5	33	142	6.3	2.2	.83	.25	.00	.00	.00	.00
28	.00	1.6	25	92	5.7	2.2	.82	.23	.00	.00	.00	.00
29	.00	1.5	67	67	---	2.1	.82	.22	.00	.00	.00	.00
30	.00	1.2	252	52	---	2.1	.77	.17	.00	.00	.00	.00
31	.00	---	155	43	---	1.9	---	.14	---	.00	.00	---
TOTAL	0.00	128.60	3062.0	4457	405.3	100.1	40.42	11.16	1.90	0.00	0.00	0.00
MEAN	.000	4.29	98.8	144	14.5	3.23	1.35	.36	.063	.000	.000	.000
MAX	.00	70	565	768	38	6.1	1.8	.72	.33	.00	.00	.00
MIN	.00	.00	1.1	14	5.7	1.9	.77	.14	.00	.00	.00	.00
AC-FT	.00	255	6070	8840	804	199	80	22	3.8	.00	.00	.00

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.16	5.25	12.5	30.7	32.2	22.6	3.67	1.74	.28	.030	.000	.008
MAX	1.80	53.1	98.8	144	170	96.6	9.34	13.4	2.07	.35	.000	.11
(WY)	1992	1984	1997	1997	1986	1995	1995	1995	1995	1995	1995	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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1983 - 1997

ANNUAL TOTAL	8147.69	8206.48	
ANNUAL MEAN	22.3	22.5	8.99
HIGHEST ANNUAL MEAN			22.5 1997
LOWEST ANNUAL MEAN			.32 1988
HIGHEST DAILY MEAN	565 Dec 21	768 Jan 2	1400 Feb 17 1986
LOWEST DAILY MEAN	.00 Jul 9	.00 Oct 1	.00 Sep 16 1983
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 9	.00 Oct 1	.00 Jun 28 1984
INSTANTANEOUS PEAK FLOW		1940 Jan 2	5200 Feb 19 1986
INSTANTANEOUS PEAK STAGE		5.50 Jan 2	9.10 Feb 19 1986
ANNUAL RUNOFF (AC-FT)	16160	16280	6520
10 PERCENT EXCEEDS	48	33	11
50 PERCENT EXCEEDS	1.2	.30	.18
90 PERCENT EXCEEDS	.00	.00	.00

1129995 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 mi².

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, 65,900 acre-ft, June 28, Aug. 24, maximum elevation, 509.17 ft, Aug. 24; minimum, 53,400 acre-ft, Feb. 19, elevation, 498.25.

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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60300	56300	55300	56300	54800	56200	56900	61500	64200	65700	64700	64700
2	60300	55800	55300	56200	55200	56700	57000	61500	64400	65600	64800	65100
3	60100	54900	55300	54800	55200	56700	57100	61500	64200	65000	64600	65200
4	60100	55900	55600	56400	55200	56700	57200	61800	64700	65200	65100	65300
5	60000	55000	55900	55200	55300	56400	57600	61800	64900	65200	64900	65100
6	59300	54200	56400	54400	55600	56900	58000	61300	64900	65400	64700	64900
7	59400	55600	56500	54500	55600	55900	58000	60900	64600	65000	64900	64700
8	59900	55900	55900	54800	55700	55400	57800	60900	64400	65400	65300	64800
9	60400	55100	56300	55200	55600	56400	58000	61100	65100	65400	65100	64800
10	59000	54500	58600	55800	57100	56500	57400	61300	65000	65400	64800	65000
11	57800	54800	58400	56300	55100	55600	58100	61500	65200	65700	64600	65300
12	57800	54900	58200	56400	56400	56300	58200	61800	65300	64900	64800	65200
13	57800	54600	57300	56000	56400	56000	58400	62100	65000	65200	64700	65200
14	58600	54400	55900	55700	56600	55700	59300	63100	64700	65100	64700	65100
15	58600	54900	55200	56100	55900	55300	59200	63100	64700	65200	65000	65100
16	58300	55500	54800	56400	55900	55100	59600	62900	64800	65400	65100	65000
17	58600	54800	55500	56000	54500	55900	59600	63000	64800	65000	65100	65100
18	58700	55500	55600	56100	54400	55800	59800	63100	64700	64900	65100	65200
19	58600	55500	56000	57000	53400	55300	59300	63000	64900	64800	65100	64800
20	57800	55200	55800	56600	53800	55600	59300	62900	65300	64800	65600	64400
21	57800	55100	58200	56500	53900	55700	59600	62800	65100	64900	65600	64600
22	58000	55300	56800	56600	53900	55900	59800	62800	64900	64700	65500	64400
23	57500	55600	56500	56500	54000	56400	60000	63800	64800	65000	65400	63900
24	57100	55500	56100	55100	54300	56500	60700	64200	64600	64800	65900	64500
25	56300	55700	55900	56900	54800	56400	60700	64000	64600	65400	65700	62900
26	57200	55700	55800	56100	55100	56100	60400	64200	65000	65300	64900	61700
27	56300	55600	54600	54000	55900	55800	60000	63800	65200	65100	64600	60900
28	56200	55100	54500	55100	55400	56700	60000	63500	65900	64900	64600	59900
29	56200	55100	54800	55300	---	56900	60600	63900	65700	64600	64700	59300
30	56200	55300	56200	54700	---	56800	60900	64200	65600	64500	64800	59300
31	56100	---	56700	54600	---	57000	---	64700	---	64500	64900	---
MAX	60400	56300	58600	57000	57100	57000	60900	64700	65900	65700	65900	65300
MIN	56100	54200	54500	54000	53400	55100	56900	60900	64200	64500	64600	59300
a	500.75	499.95	501.32	499.38	500.05	501.53	505.01	508.21	508.93	507.97	508.33	503.58
b	-4000	-800	+1400	-2100	+800	+1600	+3900	+3800	+900	-1100	+400	-5600

CAL YR 1996 b +700

WTR YR 1997 b -800

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 mi².

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, 12.5°C, Aug. 31, Sept. 14, 24–26; minimum recorded, 8.5°C, many days during January, February, and March.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	12.0	12.0	11.5	11.0	11.0	10.5	10.0	9.0	8.5	8.5	8.5
2	12.0	12.0	12.0	11.5	11.0	11.0	10.5	10.5	9.0	8.5	8.5	8.5
3	12.0	11.5	12.0	11.5	11.0	11.0	10.5	10.5	8.5	8.5	9.0	8.5
4	12.0	11.5	11.5	11.5	11.0	11.0	10.5	10.5	9.0	8.5	8.5	8.5
5	12.0	12.0	12.0	11.5	11.0	11.0	10.5	10.0	9.0	8.5	8.5	8.5
6	12.0	12.0	12.0	11.5	11.0	11.0	10.0	10.0	9.0	8.5	8.5	8.5
7	12.0	12.0	12.0	11.5	11.0	11.0	10.0	9.5	9.0	8.5	8.5	8.5
8	12.0	12.0	12.0	11.5	11.0	11.0	9.5	9.0	8.5	8.5	8.5	8.5
9	12.0	12.0	12.0	11.5	11.0	11.0	9.0	9.0	9.0	8.5	8.5	8.5
10	12.0	12.0	12.0	11.5	11.0	11.0	9.0	9.0	8.5	8.5	9.0	8.5
11	12.0	12.0	12.0	11.5	11.0	11.0	9.0	9.0	9.0	8.5	9.0	8.5
12	12.0	12.0	12.0	11.5	11.0	11.0	9.0	9.0	9.0	8.5	9.0	8.5
13	12.0	12.0	12.0	11.5	11.0	11.0	9.0	8.5	9.0	8.5	9.0	8.5
14	12.0	12.0	12.0	11.5	11.0	11.0	8.5	8.5	9.0	8.5	9.0	9.0
15	12.0	12.0	12.0	11.5	11.0	11.0	8.5	8.5	9.0	8.5	9.0	9.0
16	12.0	11.5	12.0	11.5	11.0	11.0	8.5	8.5	9.0	8.5	9.0	9.0
17	12.0	11.5	12.0	11.5	11.0	11.0	8.5	8.5	9.0	8.5	9.0	9.0
18	11.5	11.5	11.5	11.5	11.0	10.5	8.5	8.5	8.5	8.5	9.0	9.0
19	11.5	11.5	11.5	11.5	10.5	10.5	8.5	8.5	8.5	8.5	9.0	9.0
20	12.0	11.5	11.5	11.5	10.5	10.5	8.5	8.5	8.5	8.5	9.0	9.0
21	12.0	11.5	11.5	11.5	10.5	10.5	8.5	8.5	8.5	8.5	9.0	9.0
22	12.0	11.5	11.5	11.5	10.5	10.5	8.5	8.5	8.5	8.5	9.0	9.0
23	12.0	11.5	11.5	11.5	10.5	10.0	9.0	8.5	9.0	8.5	9.0	9.0
24	12.0	11.5	11.5	11.5	10.0	10.0	9.0	8.5	9.0	8.5	9.0	9.0
25	12.0	11.5	11.5	11.5	10.0	10.0	9.0	8.5	8.5	8.5	9.0	9.0
26	12.0	11.5	11.5	11.5	10.0	10.0	9.0	9.0	8.5	8.5	9.0	9.0
27	12.0	11.5	11.5	11.5	10.0	10.0	9.0	9.0	8.5	8.5	9.0	9.0
28	12.0	11.5	11.5	11.5	10.0	10.0	9.0	9.0	8.5	8.5	9.0	9.0
29	12.0	11.5	11.5	11.0	10.0	10.0	9.0	9.0	---	---	9.5	9.0
30	12.0	11.5	11.5	11.0	10.0	10.0	9.0	9.0	---	---	9.5	9.0
31	12.0	11.5	---	---	10.0	10.0	9.0	8.5	---	---	9.5	9.0
MONTH	12.0	11.5	12.0	11.0	11.0	10.0	10.5	8.5	9.0	8.5	9.5	8.5

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	11.5	12.0	12.0
2	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	11.5	12.0	12.0
3	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	12.0	12.0
4	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	11.5	12.0	12.0
5	9.5	9.0	9.5	9.5	10.5	10.5	11.0	11.0	12.0	12.0	12.0	12.0
6	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	12.0	12.0
7	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	12.0	12.0
8	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	12.0	12.0
9	9.5	9.0	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	12.0	12.0
10	9.5	9.5	10.0	9.5	10.5	10.5	11.0	11.0	12.0	12.0	12.0	12.0
11	9.5	9.5	10.0	9.5	10.5	10.5	11.0	11.0	12.0	12.0	12.0	12.0
12	9.5	9.5	10.0	9.5	10.5	10.5	11.0	11.0	12.0	12.0	12.0	12.0
13	9.5	9.5	10.0	10.0	10.5	10.5	11.0	11.0	12.0	12.0	12.0	12.0
14	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.0	12.0	12.0	12.5	12.0
15	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.0	12.0	12.0	12.0	12.0
16	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.0	12.0	12.0	12.0	12.0
17	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.5	12.0	12.0	12.0	12.0
18	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.5	12.0	12.0	12.0	12.0
19	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.0	12.0	12.0	12.0	12.0
20	9.5	9.5	10.0	10.0	10.5	10.5	11.5	11.5	12.0	12.0	12.0	12.0
21	9.5	9.5	10.0	10.0	11.0	10.5	11.5	11.5	12.0	12.0	12.0	12.0
22	9.5	9.5	10.0	10.0	11.0	10.5	11.5	11.5	12.0	12.0	12.0	12.0
23	9.5	9.5	10.0	10.0	11.0	10.5	11.5	11.5	12.0	12.0	12.0	12.0
24	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.5	12.0
25	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.5	12.0
26	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.5	12.0
27	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.0	12.0
28	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.0	12.0
29	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.0	12.0
30	9.5	9.5	10.0	10.0	11.0	11.0	11.5	11.5	12.0	12.0	12.0	12.0
31	---	---	10.0	10.0	---	---	11.5	11.5	12.5	12.0	---	---
MONTH	9.5	9.0	10.0	9.5	11.0	10.0	11.5	11.0	12.5	11.5	12.5	12.0

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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	4.8	509	1.6	.88	.00	1070	747	912	984	1070	297
2	234	4.8	506	3.3	.76	.00	1080	735	890	985	1070	293
3	252	4.8	507	2.9	1.6	.00	1080	725	881	988	1070	269
4	262	4.8	511	1.2	1.8	.62	1050	720	868	990	1080	286
5	262	4.8	514	.80	1.6	2.1	1020	847	858	996	1080	288
6	262	4.8	506	.66	1.6	2.1	910	910	856	997	1080	275
7	262	4.8	507	.66	1.8	2.6	827	896	871	1070	1080	270
8	262	4.8	505	.59	2.4	3.1	828	873	884	1090	1080	266
9	261	4.6	511	.51	3.1	3.4	832	843	898	1090	1080	276
10	510	4.5	522	.46	3.0	3.6	1010	879	898	1100	1080	287
11	665	4.5	265	.53	3.0	3.4	1070	903	901	1100	1080	289
12	649	302	5.0	.57	3.0	3.4	1080	891	903	1100	1080	280
13	639	509	3.8	.56	1.1	158	1070	862	904	1110	1080	278
14	634	508	2.6	.59	.00	211	1080	847	902	1100	1090	270
15	633	508	2.4	.60	.00	221	1110	854	904	1090	1090	266
16	633	622	2.3	.74	.00	237	1130	859	838	1090	1080	277
17	394	699	.73	.76	.00	536	1140	874	814	1090	1080	281
18	241	699	.00	1.8	.00	760	1160	885	820	1080	1060	283
19	230	697	.39	3.1	.00	860	1160	954	819	1080	1080	287
20	211	699	3.0	3.2	.00	918	1130	993	820	1080	1080	287
21	173	705	4.5	1.4	.00	1010	1010	1010	820	1070	1080	287
22	141	702	3.9	2.6	1.7	1060	955	1030	820	1070	1060	523
23	47	705	3.4	5.3	2.0	1060	948	1020	915	1070	1050	702
24	6.5	703	3.4	3.6	3.2	1050	765	1020	978	1070	823	700
25	6.5	601	3.4	1.2	1.1	1030	691	1020	995	1060	690	708
26	5.7	498	3.3	2.9	.00	1020	710	1020	993	1070	690	703
27	5.1	508	3.4	1.7	.00	999	729	1030	987	1070	692	701
28	4.8	506	3.2	1.5	.00	1010	751	1030	991	1080	692	702
29	4.8	507	2.2	1.2	---	1030	746	1030	994	1080	680	429
30	4.8	506	.79	1.0	---	1040	744	951	988	1080	678	282
31	4.8	---	.68	.89	---	1060	---	918	---	1070	420	---
TOTAL	8139.0	11236.0	5415.39	48.42	33.64	15294.32	28886	28176	26922	33000	30125	11342
MEAN	263	375	175	1.56	1.20	493	963	909	897	1065	972	378
MAX	665	705	522	5.3	3.2	1060	1160	1030	995	1110	1090	708
MIN	4.8	4.5	.00	.46	.00	.00	691	720	814	984	420	266
AC-FT	16140	22290	10740	96	67	30340	57300	55890	53400	65460	59750	22500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	153	49.8	26.7	75.6	125	248	691	900	936	869	752	474
MAX	490	375	238	363	456	1087	1160	1265	1259	1260	1251	1031
(WY)	1981	1997	1969	1987	1985	1972	1984	1975	1978	1967	1978	1967
MIN	.000	.000	.000	.000	.000	.000	41.9	84.0	147	78.2	70.9	5.55
(WY)	1920	1920	1920	1916	1916	1930	1995	1977	1924	1924	1924	1977

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1914 - 1997

ANNUAL TOTAL	199244.50	198617.77	
ANNUAL MEAN	544	544	447
HIGHEST ANNUAL MEAN			684
LOWEST ANNUAL MEAN			114
HIGHEST DAILY MEAN	1200	1160	1320
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	395200	394000	324000
10 PERCENT EXCEEDS	1110	1080	1070
50 PERCENT EXCEEDS	633	639	334
90 PERCENT EXCEEDS	.31	.96	.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. 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 ft³/s, July 8–11, 1967; maximum discharge, 595 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	.00	.00	2.1	e.00	.35	e347	350	410	406	442	363
2	307	.00	.00	8.3	e.00	.27	e336	321	412	405	446	352
3	307	.00	.00	3.2	e.00	.16	e328	310	412	405	447	334
4	307	.00	.00	.47	e.00	.23	e327	323	412	418	447	330
5	307	.00	.43	.11	e.00	.32	e327	337	407	426	447	331
6	307	.00	.06	.01	e.00	e.00	e326	345	392	427	448	330
7	307	.00	.00	.00	e.00	e.00	e318	359	386	427	448	330
8	307	.00	.00	.00	e.00	e.00	310	361	385	426	449	330
9	312	.00	.53	.00	e.00	e.00	294	360	385	427	450	322
10	322	.00	3.2	.00	e.00	e.00	297	368	385	433	448	301
11	323	.00	.77	.00	.00	e.00	308	377	393	435	447	285
12	323	.00	.58	.00	.00	e.00	309	373	404	448	447	282
13	323	.00	.42	.00	.00	e140	168	368	404	461	447	282
14	323	.00	.19	.00	.00	e250	.00	376	404	461	442	282
15	306	.00	.08	e.00	.00	e289	.00	382	404	461	433	282
16	296	.00	.01	e.00	.00	e306	.00	386	400	462	428	290
17	296	.29	.00	e.00	.00	e320	.00	396	397	462	428	303
18	289	.03	.00	e.00	.00	e351	73	400	397	454	423	312
19	284	.13	.00	e.00	.00	e375	279	400	397	449	417	326
20	256	.00	.00	e.00	.00	e375	315	399	394	449	417	327
21	225	.15	2.2	e.00	.00	e375	338	397	387	449	417	327
22	225	.29	2.5	e.00	.00	e362	353	399	387	449	428	327
23	179	.03	.61	e.00	.04	e344	359	398	387	449	432	327
24	78	.00	.17	e.00	.13	e329	360	406	388	450	431	327
25	.69	.00	.02	e.00	.20	e303	360	410	395	453	425	327
26	.59	.00	.00	e.00	.26	e292	369	409	398	458	417	327
27	.31	.00	.00	e.00	.26	e324	375	411	404	459	410	316
28	.21	.00	.00	e.00	.26	e348	364	411	409	446	406	307
29	.15	.00	.00	e.00	---	e358	360	411	409	438	403	307
30	.13	.00	.11	e.00	---	e376	361	410	408	438	398	308
31	.00	---	.12	e.00	---	e361	---	410	---	439	376	---
TOTAL	6829.08	0.92	12.00	14.19	1.15	6179.33	8261.00	11763	11952	13670	13344	9494
MEAN	220	.031	.39	.46	.041	199	275	379	398	441	430	316
MAX	323	.29	3.2	8.3	.26	376	375	411	412	462	450	363
MIN	.00	.00	.00	.00	.00	.00	.00	310	385	405	376	282
AC-FT	13550	1.8	24	28	2.3	12260	16390	23330	23710	27110	26470	18830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	MEAN	95.6	5.02	1.05	1.66	2.17	49.3	228	360	373	368	333	249
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	.000	.000	.000	.000	.000	.000	.004	97.5	49.8	25.8	.62	1.20	
(WY)	1995	1915	1916	1916	1915	1918	1983	1915	1924	1924	1977	1977	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1914 - 1997		
ANNUAL TOTAL	85293.67			81520.67					
ANNUAL MEAN	233			223			175		
HIGHEST ANNUAL MEAN							277		
LOWEST ANNUAL MEAN							52.8		
HIGHEST DAILY MEAN	498			462			556		
LOWEST DAILY MEAN	.00			.00			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			.00			.00		
ANNUAL RUNOFF (AC-FT)	169200			161700			126700		
10 PERCENT EXCEEDS	479			433			475		
50 PERCENT EXCEEDS	315			308			77		
90 PERCENT EXCEEDS	.00			.00			.00		

e Estimated.

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 mi².

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.—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 ft³/s, Dec. 24, 1964, gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks; minimum daily, 0.12 ft³/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 ft³/s, by computation of flow over Goodwin Dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	328	390	703	4600	6590	5560	554	1590	1370	400	306	307
2	348	390	702	4080	6650	5550	543	1580	1590	342	302	311
3	353	388	778	5330	6690	5440	532	1560	1590	316	299	317
4	351	392	1190	5080	6670	4870	536	1560	1580	317	297	317
5	350	390	2200	5020	6640	4330	537	1550	1590	322	297	317
6	347	389	3240	5010	6680	3850	526	1540	1460	325	294	320
7	346	387	3260	5470	6720	3180	536	1560	1120	321	292	320
8	346	390	e3490	6090	6730	2380	543	1550	900	310	293	322
9	348	390	e3540	6340	6730	1930	548	1560	890	312	294	324
10	350	389	e3590	6670	5750	1930	541	1550	895	316	295	328
11	835	390	3270	6780	3960	1960	530	1540	901	315	300	332
12	1100	386	3330	6090	3610	1650	729	1540	889	305	298	334
13	1100	386	3460	6270	3640	1540	1270	1410	894	300	297	334
14	1100	387	3470	6650	3670	1520	1640	1090	884	310	295	335
15	965	389	3530	6350	4170	1540	1620	1540	885	319	292	337
16	658	388	3540	6550	5270	1550	1580	1550	894	321	288	337
17	393	381	3530	6770	6140	1550	1590	1540	892	320	285	339
18	343	378	3520	6710	6600	1570	1600	1550	888	319	282	338
19	344	383	3530	6240	6580	1540	1590	1560	893	305	284	341
20	342	413	3550	5730	6530	1560	1600	1560	925	304	283	341
21	340	487	3580	5670	6640	1570	1590	1550	918	305	290	344
22	340	596	3630	5510	6660	1430	1580	1560	919	304	310	342
23	342	675	3580	5880	6670	1230	1590	1370	936	303	288	342
24	341	677	3530	6460	6740	1020	1590	1180	937	304	283	343
25	341	685	3490	6070	6800	656	1590	1190	932	307	296	346
26	338	690	3500	5620	6840	478	1600	1180	871	305	312	346
27	340	695	4060	6520	6660	558	1620	1430	800	301	316	348
28	342	700	4820	6590	5990	524	1600	1570	815	301	324	351
29	343	703	4840	6700	---	529	1590	1580	826	303	319	355
30	371	702	4930	6730	---	543	1590	1410	656	304	315	364
31	392	---	4910	6590	---	556	---	1380	---	308	322	---
TOTAL	14477	14386	102293	186170	169020	64094	35085	45880	30540	9744	9248	10032
MEAN	467	480	3300	6005	6036	2068	1170	1480	1018	314	298	334
MAX	1100	703	4930	6780	6840	5560	1640	1590	1590	400	324	364
MIN	328	378	702	4080	3610	478	526	1090	656	300	282	307
AC-FT	28720	28530	202900	369300	335300	127100	69590	91000	60580	19330	18340	19900

e Estimated.

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
LOWEST ANNUAL MEAN	6.47
HIGHEST DAILY MEAN	29400
LOWEST DAILY MEAN	.14
ANNUAL SEVEN-DAY MINIMUM	.15
INSTANTANEOUS PEAK FLOW	40200
INSTANTANEOUS PEAK STAGE	28.85
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	413	423	838	1062	989	1272	809	812	597	494	455	353
MAX	1228	2246	4581	6005	6036	4905	1593	1480	1080	1314	1152	1097
(WY)	1984	1984	1984	1997	1997	1986	1996	1997	1986	1985	1985	1986
MIN	172	161	140	132	141	143	236	275	185	229	157	155
(WY)	1991	1991	1992	1990	1990	1991	1991	1991	1984	1984	1991	1991

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1984 - 1997

ANNUAL TOTAL	440494	690969	
ANNUAL MEAN	1204	1893	710
HIGHEST ANNUAL MEAN			1893
LOWEST ANNUAL MEAN			185
HIGHEST DAILY MEAN	4930	Dec 30	6840
LOWEST DAILY MEAN	263	Feb 9	282
ANNUAL SEVEN-DAY MINIMUM	270	Jan 2	286
INSTANTANEOUS PEAK FLOW			7350
INSTANTANEOUS PEAK STAGE			15.59
ANNUAL RUNOFF (AC-FT)	873700	1371000	514000
10 PERCENT EXCEEDS	3470	6110	1320
50 PERCENT EXCEEDS	688	893	343
90 PERCENT EXCEEDS	294	306	156

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.—Temperature recorder located 2,300 ft upstream from gaging station. Water temperature is affected by regulation from Goodwin Dam. Interruptions in record were due to malfunction of the recording instrument.

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, 13.5°C, several days during September; minimum recorded, 9.0°C, many days during January and February.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	12.0	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.5	9.5
2	12.0	12.0	12.0	12.0	11.5	11.0	10.0	9.5	9.0	9.0	9.5	9.5
3	12.0	12.0	12.0	12.0	11.5	11.0	10.0	9.5	9.0	9.0	9.5	9.5
4	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
5	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
6	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
7	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
8	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
9	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
10	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
11	12.0	12.0	12.0	12.0	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.5
12	12.0	12.0	12.0	12.0	11.0	10.5	9.5	9.0	9.0	9.0	9.5	9.5
13	12.0	12.0	12.0	12.0	10.5	10.5	9.5	9.0	9.0	9.0	9.5	9.5
14	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
15	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
16	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
17	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
18	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
19	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
20	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
21	12.0	12.0	12.0	12.0	10.5	10.5	9.0	9.0	9.0	9.0	9.5	9.5
22	12.0	12.0	12.0	11.5	10.5	10.5	9.0	9.0	9.0	9.0	10.0	9.5
23	12.0	12.0	11.5	11.5	10.5	10.0	9.0	9.0	9.0	9.0	9.5	9.5
24	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.0	9.0	9.5	9.5
25	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.0	9.0	10.0	9.5
26	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.0	9.0	10.0	10.0
27	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.5	9.0	10.0	9.5
28	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	9.5	9.0	10.0	10.0
29	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	---	---	10.0	9.5
30	12.0	12.0	11.5	11.5	10.0	10.0	9.0	9.0	---	---	10.0	10.0
31	12.0	12.0	---	---	10.0	9.5	9.0	9.0	---	---	10.0	10.0
MONTH	12.0	12.0	12.0	11.5	11.5	9.5	10.0	9.0	9.5	9.0	10.0	9.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

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 mi².

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: August 1985 to current year.

INSTRUMENTATION.—Water-temperature recorder since Aug. 28, 1985.

REMARKS.—Interruptions in record were due to malfunction of the recording instrument. Water temperature can be affected by releases from Goodwin Dam.

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, 19.5°C, many days in July and August; minimum recorded, 8.5°C, many days in January, February, and March.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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

11302500 STANISLAUS RIVER AT OAKDALE, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.5	11.0	14.5	12.5	16.5	14.0	18.5	16.0	18.0	16.0
2	---	---	12.5	11.0	14.0	12.0	17.5	14.5	19.0	16.0	18.0	16.0
3	---	---	13.5	11.0	13.5	12.0	18.0	15.0	19.0	16.0	18.0	16.0
4	---	---	13.5	11.5	13.5	12.0	19.0	16.0	19.5	16.5	18.0	16.0
5	12.5	10.5	13.5	11.0	14.0	12.0	18.5	16.0	19.5	16.5	18.5	16.5
6	12.2	10.2	13.5	11.5	14.5	12.0	18.5	16.0	19.5	17.0	18.0	16.0
7	13.0	10.5	13.5	11.5	14.5	12.5	19.0	16.0	19.5	17.0	17.5	15.5
8	13.0	10.5	13.5	11.5	15.0	13.0	19.5	16.5	19.5	17.0	17.5	15.5
9	12.5	10.5	14.0	11.5	15.0	13.0	19.5	17.0	19.0	16.5	17.5	15.5
10	13.0	10.5	14.0	11.5	15.0	13.0	19.5	17.0	18.5	16.5	18.0	16.0
11	13.0	10.5	14.0	12.0	14.5	13.0	19.0	16.5	19.0	16.0	17.5	15.5
12	13.0	11.0	14.0	12.0	15.0	12.5	19.0	16.0	19.0	16.5	17.5	15.5
13	13.0	11.0	14.0	12.0	14.5	12.5	19.5	16.5	19.0	16.0	17.5	15.5
14	13.0	11.0	15.0	12.5	15.0	13.0	19.5	16.5	19.0	16.5	17.5	15.5
15	13.0	11.0	14.5	12.0	15.5	13.0	19.5	16.5	18.5	16.5	17.0	15.5
16	13.5	11.5	14.0	12.0	15.5	13.0	18.5	16.5	19.0	16.5	16.5	15.0
17	13.5	11.5	14.5	12.0	15.5	13.5	18.5	15.5	18.5	16.5	16.0	14.5
18	13.0	11.5	14.5	12.0	15.5	13.0	19.0	16.0	18.5	16.0	17.0	15.0
19	13.0	11.5	14.5	12.0	15.5	13.0	19.5	16.5	17.5	16.5	16.5	15.0
20	13.5	11.5	14.0	12.0	15.5	13.0	19.5	17.0	18.5	16.0	16.5	14.5
21	13.5	12.0	14.0	12.0	15.0	12.5	19.5	17.0	19.5	17.0	16.5	14.5
22	13.0	11.5	13.5	12.0	15.0	12.5	19.5	17.0	18.5	16.5	16.5	14.5
23	13.0	11.5	13.0	12.0	15.5	13.0	18.5	16.5	17.5	16.0	16.5	15.0
24	13.0	11.0	14.5	12.0	15.5	13.0	18.5	15.5	19.0	16.0	16.5	15.0
25	13.0	11.0	14.0	12.0	16.0	13.0	19.5	17.0	18.5	16.0	17.0	15.5
26	13.0	11.0	14.0	12.0	15.5	13.5	19.5	17.0	18.0	16.0	17.0	15.0
27	13.0	11.5	14.5	12.5	15.5	13.0	19.0	16.5	18.0	16.0	16.5	15.0
28	12.5	11.0	14.5	12.5	15.5	13.0	19.0	16.5	18.0	15.5	16.0	14.5
29	13.0	11.0	15.0	12.5	15.5	13.0	19.0	16.5	18.0	15.5	16.5	14.5
30	13.0	11.0	15.0	12.5	15.5	13.5	19.0	16.5	17.5	15.5	16.5	15.0
31	---	---	15.0	12.5	---	---	19.0	16.0	18.0	15.5	---	---
MONTH	---	---	15.0	11.0	16.0	12.0	19.5	14.0	19.5	15.5	18.5	14.5

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 mi².

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. 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 ft³/s, Dec. 24, 1955, gage height, 63.25 ft; minimum daily, 0.11 ft³/s, Aug. 4–6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Feb. 12, 1938, reached a stage of 64.4 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	429	486	1130	4900	6920	6670	796	1700	1480	853	430	461
2	436	484	1140	5170	6890	6200	776	1700	1470	700	407	446
3	449	478	1130	5630	6610	e6120	760	1690	1610	613	404	438
4	455	468	1180	5490	6970	e6100	742	1670	1640	593	410	437
5	472	479	1490	5650	7010	5710	742	1680	1660	556	406	434
6	457	475	2050	5430	7010	5230	740	1670	1650	536	418	434
7	470	478	2920	5320	7020	4810	708	1670	1560	548	432	455
8	458	469	3180	5440	7040	4260	720	1680	1310	513	405	431
9	454	466	3290	5950	7090	3480	695	1680	1150	507	409	456
10	440	465	3440	6170	7120	2850	689	1680	1090	502	424	457
11	473	464	3800	6430	6740	2580	689	1670	1110	495	422	447
12	719	465	3890	6640	5400	2460	669	1680	1080	496	430	455
13	1000	701	3560	6340	4620	2180	846	1660	1070	477	414	431
14	1060	834	3460	6120	4440	2030	1280	1540	1070	481	407	446
15	1060	817	3380	6520	4380	1980	1650	1320	1060	485	410	448
16	969	821	3340	6540	4570	2000	1680	1590	1030	492	467	444
17	786	896	3360	6480	5370	1940	1660	1620	1050	477	416	435
18	609	904	3350	6750	6200	1900	1670	1630	1020	466	476	441
19	568	852	3350	6790	6830	1900	1710	1650	1010	479	442	454
20	526	607	3360	6640	7000	1860	1710	1650	1030	468	416	457
21	507	568	3420	6230	6910	1880	1730	1640	1060	450	431	453
22	492	742	3830	6320	7020	1860	1710	1670	1050	443	437	442
23	488	1040	4320	6570	7060	1740	1690	1680	1020	451	433	451
24	487	1120	3980	6900	7060	1550	1710	1560	1020	447	453	480
25	535	1100	3680	6970	7110	1390	1720	1400	1010	432	451	451
26	497	1110	3530	7000	7150	1120	1690	1380	1010	426	463	450
27	468	1110	3480	6660	7240	891	1710	1350	963	439	440	463
28	462	1120	3620	6510	7190	908	1740	1520	923	444	456	473
29	459	1130	4160	6850	---	846	1730	1620	924	420	450	474
30	485	1130	4480	7000	---	830	1700	1620	921	429	477	465
31	476	---	4710	7050	---	836	---	1520	---	443	446	---
TOTAL	17646	22279	99010	194460	181970	86111	38062	49790	35051	15561	13382	13509
MEAN	569	743	3194	6273	6499	2778	1269	1606	1168	502	432	450
MAX	1060	1130	4710	7050	7240	6670	1740	1700	1660	853	477	480
MIN	429	464	1130	4900	4380	830	669	1320	921	420	404	431
AC-FT	35000	44190	196400	385700	360900	170800	75500	98760	69520	30870	26540	26800

e Estimated.

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	361	469	918	1238	1219	1402	1523	2046	1437	494	345	330
MAX	1775	4518	7602	6273	6499	5094	5047	7703	5531	3633	2834	2041
(WY)	1984	1951	1951	1997	1997	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 1996 CALENDAR YEAR					FOR 1997 WATER YEAR				WATER YEARS 1941 - 1997		
ANNUAL TOTAL	485309					766831						
ANNUAL MEAN	1326					2101				981		
HIGHEST ANNUAL MEAN										2548		
LOWEST ANNUAL MEAN										44.9		
HIGHEST DAILY MEAN	4710					7240				47000		
LOWEST DAILY MEAN	322					404				.11		
ANNUAL SEVEN-DAY MINIMUM	327					412				.13		
INSTANTANEOUS PEAK FLOW						7320				62500		
INSTANTANEOUS PEAK STAGE						56.04				63.25		
ANNUAL RUNOFF (AC-FT)	962600					1521000				710400		
10 PERCENT EXCEEDS	3500					6510				2660		
50 PERCENT EXCEEDS	882					1080				380		
90 PERCENT EXCEEDS	440					441				137		

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 1985–88, 1993 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: Water year 1985–88, 1994.

SEDIMENT DATA: Water year 1985–88, 1994.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Water years 1986–89. July to September 1997.

WATER TEMPERATURE: Water years 1986–89. October 1994 to current year.

INSTRUMENTATION.—Temperature recorder since October 1994.

REMARKS.—Interruption in temperature record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 226 microsiemens, Feb. 26, 1988; minimum recorded, 38 microsiemens, Mar. 2, 1989.

WATER TEMPERATURE: Maximum recorded, 27.5°C, July 21, 1989; minimum recorded, 5.0°C, Feb. 7, 1989.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 128 microsiemens, July 9; minimum recorded, 81 microsiemens, Sept. 27, 29.

WATER TEMPERATURE: Maximum recorded, 24°C, Aug. 6–8; minimum recorded, 7.5°C, Jan. 14.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	112	104	89	84
2	---	---	---	---	---	---	121	102	111	105	93	86
3	---	---	---	---	---	---	125	119	111	107	94	89
4	---	---	---	---	---	---	124	117	109	106	91	87
5	---	---	---	---	---	---	124	119	111	107	92	89
6	---	---	---	---	---	---	120	116	109	105	93	88
7	---	---	---	---	---	---	119	111	106	102	93	88
8	---	---	---	---	---	---	122	116	109	105	91	89
9	---	---	---	---	---	---	128	119	109	103	91	86
10	---	---	---	---	---	---	121	113	104	100	90	87
11	---	---	---	---	---	---	119	113	105	100	92	89
12	---	---	---	---	---	---	117	109	106	99	92	87
13	---	---	---	---	---	---	117	102	107	100	95	88
14	---	---	---	---	---	---	112	101	103	100	96	91
15	---	---	---	---	---	---	109	100	107	99	93	88
16	---	---	---	---	---	---	110	103	103	96	93	88
17	---	---	---	---	---	---	108	101	103	96	92	90
18	---	---	---	---	---	---	108	101	102	95	90	88
19	---	---	---	---	---	---	108	103	101	96	91	87
20	---	---	---	---	---	---	111	105	103	98	91	85
21	---	---	---	---	---	---	115	108	100	95	88	85
22	---	---	---	---	---	---	115	108	102	98	88	86
23	---	---	---	---	---	---	112	106	99	96	87	83
24	---	---	---	---	---	---	112	108	98	94	86	82
25	---	---	---	---	---	---	114	110	100	95	86	82
26	---	---	---	---	---	---	114	109	97	94	87	82
27	---	---	---	---	---	---	110	106	95	91	87	81
28	---	---	---	---	---	---	114	108	98	88	88	82
29	---	---	---	---	---	---	113	111	88	86	88	81
30	---	---	---	---	---	---	111	106	89	82	87	82
31	---	---	---	---	---	---	110	103	91	85	---	---
MONTH	---	---	---	---	---	---	128	100	112	82	96	81

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	18.0	17.0	13.0	11.5	11.0	10.5	11.5	11.0	10.0	9.5	10.0	9.0
2	18.0	16.5	12.5	12.0	11.0	10.5	12.0	11.5	10.0	9.0	10.0	9.5
3	17.5	16.5	12.5	11.5	10.5	9.5	12.5	11.5	9.5	9.0	---	---
4	18.0	16.5	12.5	12.0	10.5	9.5	12.0	11.0	10.0	9.0	---	---
5	18.0	17.0	12.5	11.5	10.5	10.5	11.0	10.5	10.0	9.0	---	---
6	18.0	16.5	11.5	10.5	11.0	10.5	10.5	10.0	9.5	9.0	---	---
7	18.5	17.0	11.5	10.5	11.0	11.0	10.0	9.5	10.0	9.0	---	---
8	19.0	17.0	12.0	10.5	11.5	11.0	9.5	9.0	10.0	9.0	---	---
9	18.5	17.0	12.0	11.0	11.5	11.0	9.5	9.0	9.5	9.0	---	---
10	18.0	16.5	12.5	11.5	11.5	11.0	9.5	9.0	10.0	9.0	---	---
11	17.0	16.5	12.5	11.5	12.0	11.5	9.0	8.5	10.0	9.0	---	---
12	16.5	14.5	13.0	12.0	12.0	12.0	9.0	8.5	10.0	9.5	---	---
13	15.5	14.5	13.0	12.5	12.0	11.5	8.5	8.0	9.5	9.0	---	---
14	15.5	14.5	13.0	12.5	11.5	11.0	8.0	7.5	9.5	9.0	---	---
15	14.5	14.0	12.5	12.0	11.0	10.5	8.5	8.0	10.0	9.5	---	---
16	14.5	13.5	12.5	11.5	11.0	10.5	8.5	8.5	10.0	9.5	---	---
17	14.0	13.0	12.5	12.0	11.0	10.5	8.5	8.5	10.5	9.5	---	---
18	14.0	13.0	14.0	12.5	11.0	10.5	8.5	8.5	10.0	9.5	---	---
19	14.0	13.0	14.0	13.5	10.5	10.0	8.5	8.5	10.0	9.5	---	---
20	13.5	12.5	13.5	13.5	10.0	10.0	9.0	8.5	10.5	9.5	---	---
21	13.0	12.0	13.5	13.5	10.0	10.0	9.0	8.5	10.0	9.0	---	---
22	13.0	11.5	14.0	13.5	10.0	9.5	9.5	9.0	10.0	9.0	---	---
23	13.5	12.0	14.0	13.0	10.0	9.5	9.5	9.0	10.0	9.0	---	---
24	13.5	13.0	13.0	12.5	10.0	9.5	9.5	9.0	9.5	8.5	---	---
25	13.5	12.5	13.0	12.5	9.5	9.0	10.0	9.0	10.0	9.0	---	---
26	12.5	11.5	12.5	11.5	9.5	9.5	10.5	9.5	10.0	9.0	---	---
27	12.5	11.0	12.0	11.0	10.0	9.5	10.5	10.0	10.0	9.0	---	---
28	12.5	11.5	11.5	11.5	10.5	10.0	10.5	9.5	10.0	9.0	---	---
29	12.5	12.0	11.5	10.5	10.5	10.0	10.5	10.0	---	---	---	---
30	13.0	12.0	11.0	10.0	10.5	10.5	10.0	9.5	---	---	---	---
31	13.0	12.0	---	---	11.0	10.5	10.0	9.5	---	---	---	---
MONTH	19.0	11.0	14.0	10.0	12.0	9.0	12.5	7.5	10.5	8.5	10.0	9.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	---	---	---	---	---	---	---	---	22.5	20.0	21.5	19.5
2	---	---	---	---	---	---	19.5	17.0	22.5	20.0	21.5	20.0
3	---	---	---	---	---	---	20.5	18.5	22.5	20.5	22.0	20.0
4	---	---	---	---	---	---	22.0	20.0	23.0	20.5	22.0	20.0
5	---	---	---	---	---	---	22.0	20.0	23.5	21.5	22.0	20.5
6	---	---	---	---	---	---	22.0	20.0	24.0	21.5	22.0	20.0
7	---	---	---	---	---	---	22.0	20.0	24.0	22.0	21.0	19.5
8	---	---	---	---	---	---	22.5	20.5	24.0	22.0	21.0	19.0
9	---	---	---	---	---	---	23.0	21.5	23.5	21.0	21.0	19.5
10	---	---	---	---	---	---	23.0	21.0	22.5	21.0	21.0	19.5
11	---	---	---	---	---	---	23.0	21.0	22.5	20.0	21.0	19.0
12	---	---	---	---	---	---	22.5	20.5	22.5	20.5	21.0	19.0
13	---	---	---	---	---	---	23.0	20.5	23.0	20.5	20.5	19.0
14	---	---	---	---	---	---	23.0	21.0	23.0	20.5	20.5	18.5
15	---	---	---	---	---	---	23.0	21.0	23.0	20.5	20.0	18.5
16	---	---	---	---	---	---	22.5	21.0	22.5	20.5	20.0	18.0
17	---	---	---	---	---	---	22.0	20.0	22.0	20.0	19.5	17.5
18	---	---	---	---	---	---	22.0	20.0	22.5	20.0	19.5	18.0
19	---	---	---	---	---	---	22.5	20.5	22.0	20.5	19.5	18.0
20	---	---	---	---	---	---	23.0	21.0	22.0	20.0	19.5	17.5
21	---	---	---	---	---	---	23.5	21.0	22.5	20.5	19.5	17.5
22	---	---	---	---	---	---	23.5	21.5	23.0	21.0	19.0	17.5
23	---	---	---	---	---	---	22.5	21.0	22.0	20.5	19.5	17.5
24	---	---	---	---	---	---	22.5	19.5	22.5	20.0	20.0	18.5
25	---	---	---	---	---	---	22.5	20.0	22.0	20.0	20.0	18.5
26	---	---	---	---	---	---	23.0	20.5	22.5	20.5	20.0	18.0
27	---	---	---	---	---	---	22.5	21.0	22.0	20.0	19.0	18.0
28	---	---	---	---	---	---	22.5	20.5	21.5	20.0	19.0	17.0
29	---	---	---	---	---	---	22.5	20.0	21.5	19.5	19.0	17.5
30	---	---	---	---	---	---	22.5	20.5	21.0	19.5	19.0	17.5
31	---	---	---	---	---	---	22.5	20.5	21.0	19.5	---	---
MONTH	---	---	---	---	---	---	23.5	17.0	24.0	19.5	22.0	17.0

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 mi², includes about 2,100 mi² 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.—Records good except for periods of estimated record which are fair. 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. See schematic diagram of Sacramento–San Joaquin Delta.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge recorded, 79,000 ft³/s, Dec. 9, 1950, elevation, 32.81 ft, present datum, including flow through breaks in levee; maximum elevation, 34.88 ft, Jan. 5, 1997; minimum discharge, 19 ft³/s, Aug. 10, 1961.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2110	2810	3030	21100	33600	31300	4270	5940	3270	2200	1760	2020
2	2120	2810	2980	21800	33800	29900	4010	5780	3190	2090	1820	2010
3	2160	2750	2950	24700	34100	28500	3980	5630	3200	1990	1780	1920
4	2140	2630	3180	44900	34500	27400	3830	5540	3230	1900	1750	1870
5	2140	e2550	4190	e54300	35600	26300	3740	5930	3270	1850	1670	1830
6	2130	e2500	5190	41400	37600	24300	3670	6110	3280	1870	1660	1930
7	2140	e2400	6580	37900	39700	22000	3550	5990	3200	1900	1660	1980
8	2080	e2370	7570	33700	40800	20000	3410	6000	2990	1800	1630	2070
9	2000	e2310	8090	32700	41000	18400	3340	5940	2920	1790	1620	2050
10	1930	e2260	8520	31700	40500	16800	3290	5990	2680	1710	1760	2050
11	2030	e2240	9460	29800	39900	15300	3330	6250	2510	1660	1870	1970
12	2330	e2190	11300	28100	38600	13500	3290	6240	2490	1700	1860	2040
13	3090	e2240	11700	26700	35300	11700	3250	5860	2480	1750	1810	2020
14	3380	e2490	12400	25600	32600	10200	3510	5680	2540	1770	1820	1980
15	3490	e2540	12800	25400	31500	9170	3820	5270	2670	1680	1810	2110
16	e3500	2480	13200	25700	30900	8420	4010	4860	2730	1670	1840	2150
17	e3500	2580	13700	25900	30700	8050	5000	4410	2550	1690	1990	2120
18	3460	2750	14100	25900	30800	7740	5590	4120	2490	1600	2100	1990
19	3210	2730	14300	26100	31600	7390	5990	3980	2430	1560	2070	2070
20	3170	2600	14400	26400	33700	7000	5980	3810	2380	1620	1970	2210
21	3130	2420	14600	26700	35300	6840	5930	3660	2350	1660	2020	2230
22	2920	2530	15500	26700	35400	6590	5790	3640	2410	1640	2060	2250
23	2840	2960	18100	26900	35400	6410	6080	3690	2440	1600	2020	2200
24	2850	3300	18700	28000	35100	6140	6350	3790	2310	1680	2040	2170
25	2970	3450	18100	29000	34700	5740	6260	3610	2260	1680	2110	2160
26	3010	3500	18100	30000	33800	5410	6150	3590	2190	1670	2020	2070
27	2830	3450	18400	31500	32900	5020	6140	3440	2260	1710	1960	2100
28	2620	3330	17700	32600	32200	4780	6160	3340	2200	1840	1930	2170
29	2570	3190	18500	33300	---	4590	6110	3430	2230	1780	1880	2220
30	2740	3090	19900	33600	---	4590	6020	3430	2260	1680	1880	2120
31	2820	---	20700	33600	---	4590	---	3380	---	1690	1940	---
TOTAL	83410	81450	377940	941700	981600	404070	141850	148330	79410	54430	58110	62080
MEAN	2691	2715	12190	30380	35060	13030	4728	4785	2647	1756	1875	2069
MAX	3500	3500	20700	54300	41000	31300	6350	6250	3280	2200	2110	2250
MIN	1930	2190	2950	21100	30700	4590	3250	3340	2190	1560	1620	1830
AC-FT	165400	161600	749600	1868000	1947000	801500	281400	294200	157500	108000	115300	123100

e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2232	2313	3684	5265	7031	7420	7095	7691	6544	2524	1368	1723
MAX	13320	10680	25130	30380	35060	40040	36450	31770	36650	19230	9035	11310
(WY)	1984	1984	1951	1997	1997	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1924 - 1997			
ANNUAL TOTAL	2212750				3414380							
ANNUAL MEAN	6046				9354				4558			
HIGHEST ANNUAL MEAN									21280			
LOWEST ANNUAL MEAN									575			
HIGHEST DAILY MEAN	20700				Dec 31				70000			
LOWEST DAILY MEAN	1790				Jan 14				30			
ANNUAL SEVEN-DAY MINIMUM	1820				Jan 10				59			
INSTANTANEOUS PEAK FLOW					75600				79000			
INSTANTANEOUS PEAK STAGE					34.88				34.88			
ANNUAL RUNOFF (AC-FT)	4389000				6772000				3302000			
10 PERCENT EXCEEDS	15100				31500				12400			
50 PERCENT EXCEEDS	3220				3330				2060			
90 PERCENT EXCEEDS	2040				1830				652			

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.

SEDIMENT DATA: Water years 1957 to current year.

TURBIDITY: Water years 1972–84.

PERIOD OF DAILY RECORD.—

CHEMICAL DATA: March 1951 to May 1963.

SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981, June 1985 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.

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, 804 microsiemens, Apr. 10; minimum recorded, 65 microsiemens, Jan. 5.

WATER TEMPERATURE: Maximum recorded, 28.5°C, Aug. 7; minimum recorded, 7.0°C, Jan. 14, 15.

SEDIMENT CONCENTRATION: Maximum daily mean, 359 mg/L, Jan. 4; minimum daily mean, 27 mg/L, Mar. 4.

SEDIMENT LOAD: Maximum daily, 45,600 tons, Jan. 4; minimum daily, 149 tons, Sept. 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (000061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (000095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
JAN												
09...	1120	32800	136	7.3	9.5	769	10.1	88	8.9	3.7	11	38
FEB												
04...	1620	34600	168	7.1	11.5	765	9.3	85	12	4.8	16	40
MAR												
05...	1030	26500	162	7.5	10.5	766	10.9	97	10	4.0	14	41
APR												
08...	1030	3400	769	8.0	15.5	764	8.9	89	39	19	86	51
MAY												
07...	1100	6000	284	7.8	16.5	767	9.8	100	15	7.0	28	47
JUN												
11...	1050	2530	594	8.3	22.0	760	9.2	106	--	--	--	--
JUL												
09...	1040	1810	677	8.1	25.5	758	8.1	100	36	18	71	48
AUG												
07...	1020	1700	573	7.9	26.5	759	7.4	92	31	15	61	48
SEP												
03...	1100	1910	643	8.2	24.0	765	10.0	119	33	16	68	49

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JAN												
09...	1.9	38	12	9.6	<.10	11	100	84	.14	.030	.460	.110
FEB												
04...	2.1	32	19	14	<.10	13	120	110	.16	.030	.560	.040
MAR												
05...	1.4	31	18	15	.10	9.4	102	97	.14	<.010	.300	<.015
APR												
08...	3.1	110	120	100	.10	15	463	458	.63	.030	2.40	.020
MAY												
07...	1.4	43	37	31	<.10	11	172	165	.23	.013	.920	.017
JUN												
11...	--	79	--	--	--	--	--	--	--	.030	1.69	<.015
JUL												
09...	2.7	96	90	86	<.10	14	400	382	.54	--	--	--
AUG												
07...	2.9	88	67	68	.11	16	322	327	.44	.041	1.99	.026
SEP												
03...	2.6	100	79	80	<.10	15	383	366	.52	.030	1.95	<.015
DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
JAN												
09...	<.20	.40	.190	.100	.100	--	39	15	--	--	4.0	.70
FEB												
04...	.40	.40	.130	.080	.100	88	39	15	1.0	<1	22	.60
MAR												
05...	.30	<.20	.080	.030	.030	79	23	13	<1.0	<1	3.2	.40
APR												
08...	.60	<.20	.330	.140	.120	415	6.0	66	2.9	3	3.4	.50
MAY												
07...	.46	<.20	.108	.056	.064	140	14	11	<1.0	1	5.6	.50
JUN												
11...	.84	<.20	.189	.090	.084	302	--	--	2.5	<1	2.8	1.0
JUL												
09...	--	--	--	--	--	364	4.4	14	2.5	1	4.2	1.2
AUG												
07...	.75	.40	.242	.119	.119	292	8.8	20	2.5	1	3.2	1.1
SEP												
03...	.64	.30	.178	.075	.077	317	9.1	15	2.6	<1	3.2	.90

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)
OCT						
28...	1430	2630	13.5	52	369	73
DEC						
23...	1430	18500	10.5	176	8790	63
JAN						
04...	1415	49900	12.5	496	66800	95
09...N	1120	32800	9.5	68	6020	--
FEB						
04...N	1620	34600	11.5	56	5230	--
13...	1515	34700	11.5	44	4120	81
MAR						
05...N	1030	26500	10.5	30	2150	--
APR						
04...	1450	3810	14.5	58	597	79
08...N	1030	3400	15.5	51	468	--
MAY						
07...N	1100	6000	16.5	--	--	--
09...	1530	5920	18.0	52	831	86
JUN						
11...N	1050	2530	22.0	61	417	--
16...	1515	2690	23.0	69	501	95
JUL						
09...N	1040	1810	25.5	84	411	--
22...	1400	1630	26.0	89	392	99
AUG						
07...N	1020	1700	26.5	70	321	--
22...	1415	2080	25.0	74	416	97
SEP						
03...N	1100	1910	24.0	48	248	--

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	BED	BED	BED		
		CHARGE,	MAT.	MAT.	MAT.		
		OF INST.	SIEVE	SIEVE	SIEVE		
		SAM-	DIAM.	DIAM.	DIAM.		
		PLING	% FINER	% FINER	% FINER		
POINTS	THAN	THAN	THAN				
(COUNT)	PER	WATER	PER	PER			
(00063)	SECOND	(DEG C)	.062 MM	.125 MM	.250 MM		
(00063)	(00061)	(00010)	(80164)	(80165)	(80166)		
JAN							
04...	1430	1	50700	12.5	--	--	3
04...	1432	1	47600	12.5	--	--	11
04...	1434	1	47600	12.5	--	--	2
04...	1436	1	47600	12.5	--	--	9
04...	1438	1	47600	12.5	--	8	76
JUL							
22...	1435	1	1630	26.0	21	55	94
22...	1440	1	1630	26.0	16	53	92
22...	1445	1	1630	26.0	17	53	95
22...	1450	1	1630	26.0	10	43	91
22...	1455	1	1630	26.0	13	41	87
DATE	BED	BED	BED	BED	BED	BED	
	MAT.	MAT.	MAT.	MAT.	MAT.	MAT.	
	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE	
	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	
	% FINER	% FINER	% FINER	% FINER	% FINER	% FINER	
THAN	THAN	THAN	THAN	THAN	THAN		
.500 MM	1.00 MM	2.00 MM	4.00 MM	8.00 MM	16.0 MM		
(80167)	(80168)	(80169)	(80170)	(80171)	(80172)		
JAN							
04...	11	67	85	100	--	--	
04...	26	91	100	--	--	--	
04...	25	84	98	100	--	--	
04...	42	91	99	100	--	--	
04...	99	100	--	--	--	--	
JUL							
22...	94	96	97	97	99	100	
22...	97	99	100	--	--	--	
22...	96	99	100	--	--	--	
22...	96	98	100	--	--	--	
22...	95	98	100	--	--	--	

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	571	539	497	481	521	510	176	168	163	161	143	136
2	544	516	503	488	533	514	180	171	163	160	154	141
3	542	522	517	498	544	524	185	177	165	161	163	151
4	552	523	549	516	548	469	196	77	171	164	164	158
5	525	433	571	549	469	350	159	65	174	170	172	159
6	547	512	580	565	354	297	145	118	170	157	193	172
7	553	526	595	579	297	273	128	118	168	146	216	192
8	570	526	617	595	283	238	140	126	165	147	234	216
9	589	564	635	615	241	186	138	130	172	144	259	228
10	624	583	645	633	206	187	138	128	175	156	288	255
11	623	578	660	641	248	206	148	135	178	157	302	274
12	578	403	671	658	240	212	163	148	191	168	332	302
13	403	324	672	637	212	167	170	163	194	181	391	332
14	333	323	637	602	182	166	170	165	188	184	415	390
15	343	322	608	597	192	182	165	155	185	177	445	415
16	336	321	606	592	190	176	155	148	177	172	459	441
17	357	330	595	570	177	169	148	145	173	166	472	456
18	331	310	571	561	170	167	147	145	167	156	473	457
19	357	331	568	560	177	166	147	146	159	151	492	468
20	367	357	598	562	177	174	148	146	153	142	511	480
21	367	341	607	597	175	172	148	146	143	140	517	487
22	394	347	612	582	189	174	159	146	152	136	514	494
23	421	394	582	509	187	165	176	158	142	136	527	502
24	421	403	513	494	173	164	179	171	141	134	549	519
25	410	389	514	467	164	156	171	163	140	133	558	526
26	416	384	467	414	165	160	172	163	139	133	581	545
27	449	415	467	438	181	162	169	158	147	134	595	541
28	501	449	494	464	198	181	158	148	147	135	611	541
29	515	501	511	494	183	169	150	145	---	---	610	600
30	512	494	511	503	169	162	148	142	---	---	608	579
31	500	490	---	---	175	164	161	148	---	---	606	565
MONTH	624	310	672	414	548	156	196	65	194	133	611	136
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	633	567	358	325	551	538	619	593	613	595	653	622
2	635	617	394	338	566	537	663	615	623	593	654	641
3	645	609	359	324	561	530	663	641	608	579	654	637
4	654	624	364	342	555	530	685	650	621	582	659	637
5	685	654	351	300	566	549	679	647	627	616	661	639
6	699	668	308	292	565	527	684	657	621	600	651	638
7	733	694	296	280	530	509	687	667	600	561	648	601
8	794	728	308	290	597	521	692	673	599	562	630	601
9	796	782	309	297	603	578	692	664	610	596	628	615
10	804	775	316	301	632	594	698	652	608	581	626	616
11	793	750	331	302	608	586	702	658	608	581	629	603
12	753	711	349	308	612	574	673	641	618	595	624	602
13	760	729	369	341	622	584	674	629	630	615	613	604
14	760	675	374	354	631	601	652	623	627	602	616	604
15	675	608	394	346	652	621	653	609	608	589	619	602
16	676	605	428	388	648	622	671	628	608	596	608	587
17	664	450	480	428	624	600	667	611	606	583	588	577
18	450	401	497	474	652	596	658	596	599	586	587	579
19	412	357	496	470	648	626	676	591	595	572	588	575
20	373	342	504	479	633	596	702	658	599	573	581	568
21	381	365	515	492	615	587	716	684	600	573	571	551
22	372	359	511	498	620	590	721	673	579	565	559	552
23	366	295	515	492	636	596	673	650	588	566	564	552
24	327	287	507	493	645	612	656	631	603	581	560	550
25	338	323	551	504	632	600	640	628	606	589	552	543
26	344	331	546	523	616	594	629	593	604	591	555	546
27	350	327	547	537	644	600	599	576	634	596	555	543
28	350	325	564	539	639	601	615	588	635	602	556	540
29	353	325	552	515	614	586	610	590	617	597	550	540
30	334	323	540	514	618	588	608	585	631	616	556	543
31	---	---	549	514	---	---	615	595	627	611	---	---
MONTH	804	287	564	280	652	509	721	576	635	561	661	540

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	19.5	14.0	12.5	11.5	10.5	13.0	12.0	11.5	11.5	11.0	10.0
2	21.0	19.5	13.5	12.5	11.0	10.0	13.5	13.0	11.5	11.0	11.0	10.0
3	21.0	19.5	13.5	13.0	10.0	9.5	14.0	13.5	11.5	11.0	11.0	10.5
4	22.0	19.5	14.0	13.0	10.0	9.5	13.5	12.5	11.5	11.0	11.0	10.0
5	22.0	20.0	13.5	13.0	10.5	10.0	12.5	12.0	11.5	11.0	11.0	10.0
6	22.5	20.0	13.0	12.0	11.0	10.5	12.0	11.0	11.5	11.0	11.5	10.5
7	22.5	20.0	13.0	11.5	11.5	11.0	11.0	10.0	11.5	11.0	12.0	11.5
8	22.5	20.0	13.5	11.5	12.0	11.5	10.5	10.0	11.5	11.0	12.5	11.5
9	22.5	20.5	13.5	12.0	12.0	12.0	10.0	9.5	11.5	11.0	13.0	12.0
10	21.5	20.0	14.0	12.5	12.0	12.0	10.0	9.5	11.5	11.0	13.5	12.5
11	21.0	19.0	14.0	13.0	12.5	12.0	10.0	9.5	11.5	11.0	14.0	13.0
12	20.0	18.5	14.5	13.5	13.0	12.5	9.5	9.0	11.5	11.5	14.0	13.5
13	19.0	18.0	15.0	13.5	13.0	13.0	9.0	8.0	11.5	11.0	13.5	13.0
14	18.5	17.5	14.0	13.5	13.0	12.0	8.0	7.0	11.5	11.0	13.5	12.5
15	18.0	16.5	14.0	13.0	12.0	11.5	7.5	7.0	11.5	11.0	14.0	13.0
16	17.0	16.0	13.5	12.5	11.5	11.0	8.0	7.5	12.0	11.5	14.0	13.5
17	16.0	15.0	13.0	12.0	11.0	11.0	8.0	8.0	12.0	12.0	14.5	13.5
18	15.5	15.0	14.0	13.0	11.0	10.5	8.5	8.0	12.0	11.5	15.0	14.0
19	15.5	14.5	14.0	14.0	10.5	10.5	8.5	8.5	12.0	11.5	15.5	14.5
20	15.0	13.5	15.0	14.0	10.5	10.0	9.0	8.5	12.0	11.5	16.0	15.5
21	14.0	13.0	15.0	14.5	10.0	10.0	9.5	9.0	12.0	11.0	16.0	15.5
22	14.0	12.5	15.5	14.5	10.0	10.0	10.0	9.5	12.0	11.5	16.5	15.5
23	15.0	13.5	15.0	14.5	10.0	9.5	10.0	10.0	12.0	11.0	17.0	16.0
24	15.0	14.0	14.5	14.0	10.0	9.5	10.5	10.0	11.5	10.5	17.5	16.5
25	14.0	13.5	14.0	13.5	10.0	9.5	11.0	10.5	11.0	10.5	18.0	17.0
26	13.5	12.5	13.5	12.5	9.5	9.5	12.0	11.0	11.0	10.5	18.5	17.5
27	13.0	12.0	12.5	12.0	10.0	9.5	12.0	11.5	11.5	11.0	18.5	18.0
28	13.5	12.0	12.0	11.5	11.0	10.0	12.5	12.0	11.0	10.5	18.0	17.0
29	13.5	12.5	11.5	11.0	11.0	10.5	12.5	12.0	---	---	17.5	16.5
30	13.0	12.5	11.0	10.0	11.5	11.0	12.0	11.5	---	---	17.5	16.5
31	13.5	12.5	---	---	12.0	11.5	11.5	11.5	---	---	17.0	16.0
MONTH	22.5	12.0	15.5	10.0	13.0	9.5	14.0	7.0	12.0	10.5	18.5	10.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	14.5	15.5	15.0	22.5	21.0	22.5	20.5	25.5	24.0	24.0	22.5
2	14.5	13.5	16.5	15.0	22.0	20.5	23.0	21.0	26.0	24.0	24.5	23.0
3	14.5	13.5	17.0	15.5	21.0	19.0	24.5	22.0	26.0	24.0	25.0	23.0
4	15.5	14.0	18.0	16.5	19.0	18.0	25.0	23.0	26.5	24.5	25.5	23.5
5	15.5	14.5	18.0	17.0	19.5	18.0	25.0	23.5	27.5	25.0	26.0	24.5
6	15.5	14.5	17.5	16.5	20.5	18.5	25.5	23.5	28.0	25.5	25.0	23.5
7	16.5	14.5	18.0	16.5	21.0	19.5	26.0	24.0	28.5	26.0	24.0	23.0
8	16.5	15.5	18.0	16.5	22.5	20.5	26.5	24.5	28.0	26.5	24.0	22.5
9	16.0	15.0	18.5	17.0	23.5	21.5	27.0	25.0	27.5	26.0	24.0	22.5
10	16.0	14.5	19.0	17.5	24.0	22.0	26.5	25.0	26.5	25.0	24.0	22.5
11	16.0	14.5	19.5	18.5	23.0	22.0	26.5	24.5	26.0	24.0	23.5	22.0
12	16.5	15.0	20.5	19.0	22.5	21.0	26.0	24.0	26.0	24.0	24.0	22.0
13	17.0	15.5	21.0	19.5	22.0	20.5	26.5	24.5	26.5	24.5	23.5	22.0
14	17.5	16.0	21.5	20.0	23.0	20.5	26.5	25.0	26.5	24.5	23.5	21.5
15	18.0	16.0	21.0	19.5	24.0	22.0	26.5	24.5	26.0	24.5	23.0	21.0
16	18.0	17.0	21.0	19.5	24.5	22.5	26.0	25.0	25.5	24.0	22.0	21.0
17	18.0	16.5	21.5	20.0	24.5	23.0	26.0	24.0	25.0	23.5	22.0	20.5
18	17.0	16.0	22.5	21.0	24.5	23.0	26.0	24.0	25.0	23.5	22.5	21.0
19	17.0	16.5	22.5	21.0	25.0	23.0	26.5	24.0	24.5	23.5	22.0	20.5
20	17.5	16.5	22.0	21.0	24.5	22.5	26.5	24.5	25.0	23.0	21.5	20.0
21	18.0	16.5	22.0	20.0	23.5	22.0	27.0	24.5	26.0	23.5	22.0	20.5
22	18.0	17.0	20.5	20.0	23.0	21.0	27.0	25.5	25.5	24.0	22.5	20.5
23	17.5	16.0	20.0	19.0	23.0	21.0	26.5	25.0	24.5	23.5	23.0	21.0
24	16.0	14.5	20.5	18.5	23.0	21.0	26.0	24.0	25.0	23.0	23.0	21.5
25	15.5	14.5	20.5	19.0	23.5	21.5	27.0	25.0	24.5	22.5	23.5	22.0
26	16.0	15.0	21.0	19.5	23.0	22.0	26.5	25.0	24.5	22.5	23.0	22.0
27	16.5	15.5	21.5	19.5	23.0	21.0	26.5	24.5	24.5	22.5	22.0	21.0
28	16.5	15.5	22.0	20.5	22.5	21.0	26.5	24.5	24.5	22.5	22.0	20.0
29	15.5	15.0	22.5	20.5	22.0	20.5	26.5	24.5	24.0	22.5	22.5	20.5
30	16.0	14.5	22.5	21.0	22.0	20.5	26.5	24.5	24.0	22.5	22.5	21.0
31	---	---	22.5	21.0	---	---	26.0	24.0	24.0	22.5	---	---
MONTH	18.0	13.5	22.5	15.0	25.0	18.0	27.0	20.5	28.5	22.5	26.0	20.0

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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	2110	64	364	2810	76	579	3030	55	446
2	2120	65	372	2810	76	576	2980	54	433
3	2160	62	363	2750	76	565	2950	62	491
4	2140	64	367	2630	71	508	3180	67	578
5	2140	66	379	e2550	71	486	4190	128	1480
6	2130	61	351	e2500	64	441	5190	154	2170
7	2140	60	350	e2400	58	377	6580	198	3520
8	2080	56	312	e2370	55	353	7570	179	3670
9	2000	54	290	e2310	52	326	8090	239	5210
10	1930	59	308	e2260	49	298	8520	194	4470
11	2030	58	318	e2240	43	262	9460	246	6310
12	2330	80	513	e2190	45	266	11300	238	7260
13	3090	122	1020	e2240	47	287	11700	217	6840
14	3380	97	888	e2490	58	387	12400	227	7580
15	3490	93	881	e2540	57	388	12800	180	6240
16	e3500	87	820	2480	46	305	13200	144	5110
17	e3500	91	859	2580	55	385	13700	134	4970
18	3460	86	803	2750	63	464	14100	141	5360
19	3210	89	771	2730	65	475	14300	121	4690
20	3170	72	620	2600	71	499	14400	121	4700
21	3130	67	569	2420	88	576	14600	123	4860
22	2920	66	524	2530	100	684	15500	136	5740
23	2840	68	525	2960	110	878	18100	173	8450
24	2850	72	556	3300	120	1070	18700	124	6270
25	2970	79	638	3450	122	1130	18100	103	5040
26	3010	68	554	3500	113	1060	18100	101	4940
27	2830	58	443	3450	95	887	18400	87	4310
28	2620	54	383	3330	75	676	17700	88	4180
29	2570	63	435	3190	67	578	18500	95	4770
30	2740	66	491	3090	62	516	19900	85	4560
31	2820	78	591	---	---	---	20700	79	4420
TOTAL	83410	---	16658	81450	---	16282	377940	---	139068
JANUARY			FEBRUARY			MARCH			
1	21100	80	4570	33600	67	6120	31300	31	2600
2	21800	98	5760	33800	60	5490	29900	29	2320
3	24700	135	9080	34100	58	5370	28500	30	2310
4	44900	359	45600	34500	60	5550	27400	27	1990
5	e54300	233	34200	35600	51	4920	26300	31	2190
6	41400	99	10900	37600	52	5230	24300	34	2230
7	37900	67	6880	39700	62	6600	22000	39	2310
8	33700	57	5190	40800	49	5380	20000	46	2480
9	32700	58	5150	41000	46	5150	18400	54	2700
10	31700	60	5090	40500	44	4850	16800	60	2730
11	29800	58	4630	39900	43	4690	15300	55	2280
12	28100	55	4200	38600	47	4910	13500	69	2530
13	26700	55	3970	35300	45	4260	11700	78	2460
14	25600	56	3880	32600	47	4130	10200	89	2430
15	25400	50	3430	31500	55	4720	9170	89	2210
16	25700	49	3420	30900	41	3410	8420	85	1930
17	25900	53	3720	30700	44	3610	8050	75	1630
18	25900	50	3480	30800	42	3500	7740	67	1390
19	26100	53	3760	31600	34	2920	7390	65	1300
20	26400	50	3570	33700	32	2930	7000	62	1170
21	26700	52	3770	35300	29	2770	6840	58	1080
22	26700	60	4320	35400	29	2810	6590	62	1090
23	26900	62	4550	35400	28	2660	6410	60	1050
24	28000	69	5190	35100	31	2890	6140	54	888
25	29000	75	5910	34700	28	2640	5740	49	765
26	30000	76	6150	33800	28	2540	5410	53	778
27	31500	75	6420	32900	29	2550	5020	53	713
28	32600	79	6960	32200	28	2470	4780	51	659
29	33300	82	7320	---	---	---	4590	51	629
30	33600	71	6470	---	---	---	4590	57	711
31	33600	67	6050	---	---	---	4590	64	795
TOTAL	941700	---	233590	981600	---	115070	404070	---	52348

e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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	4270	74	857	5940	42	681	3270	55	489
2	4010	66	711	5780	46	717	3190	55	471
3	3980	68	727	5630	48	724	3200	57	492
4	3830	56	580	5540	46	686	3230	54	474
5	3740	48	481	5930	48	775	3270	49	432
6	3670	48	475	6110	53	870	3280	54	477
7	3550	50	479	5990	51	819	3200	52	452
8	3410	47	430	6000	48	776	2990	56	452
9	3340	49	444	5940	48	766	2920	64	501
10	3290	47	420	5990	51	818	2680	68	491
11	3330	46	412	6250	58	980	2510	70	478
12	3290	44	387	6240	54	916	2490	73	489
13	3250	48	421	5860	54	847	2480	75	502
14	3510	47	449	5680	55	836	2540	83	569
15	3820	46	473	5270	52	734	2670	82	593
16	4010	52	565	4860	49	640	2730	76	564
17	5000	66	901	4410	49	588	2550	76	523
18	5590	68	1020	4120	49	543	2490	71	477
19	5990	75	1220	3980	51	553	2430	79	518
20	5980	68	1100	3810	51	525	2380	77	495
21	5930	62	992	3660	50	494	2350	73	462
22	5790	67	1050	3640	47	465	2410	62	406
23	6080	66	1090	3690	49	488	2440	62	411
24	6350	69	1190	3790	54	557	2310	65	408
25	6260	60	1020	3610	58	569	2260	67	409
26	6150	53	888	3590	58	561	2190	63	370
27	6140	52	863	3440	53	489	2260	61	374
28	6160	50	835	3340	50	446	2200	62	369
29	6110	46	761	3430	50	460	2230	69	415
30	6020	42	684	3430	50	463	2260	79	482
31	---	---	---	3380	49	447	---	---	---
TOTAL	141850	---	21925	148330	---	20233	79410	---	14045
JULY			AUGUST			SEPTEMBER			
1	2200	79	467	1760	85	406	2020	56	303
2	2090	77	433	1820	85	418	2010	47	255
3	1990	81	437	1780	88	425	1920	39	204
4	1900	86	438	1750	88	415	1870	35	178
5	1850	86	432	1670	84	379	1830	30	149
6	1870	88	441	1660	79	354	1930	35	184
7	1900	86	438	1660	69	308	1980	48	254
8	1800	82	399	1630	64	283	2070	45	251
9	1790	84	408	1620	67	292	2050	42	232
10	1710	87	401	1760	65	309	2050	46	256
11	1660	80	360	1870	67	338	1970	46	246
12	1700	95	437	1860	64	320	2040	47	260
13	1750	90	425	1810	64	314	2020	55	300
14	1770	83	398	1820	68	336	1980	50	270
15	1680	93	423	1810	69	336	2110	50	285
16	1670	90	408	1840	59	296	2150	52	300
17	1690	95	433	1990	58	312	2120	47	268
18	1600	78	340	2100	78	440	1990	44	235
19	1560	73	306	2070	65	362	2070	45	254
20	1620	82	357	1970	61	327	2210	49	290
21	1660	86	384	2020	67	364	2230	44	266
22	1640	90	400	2060	70	386	2250	40	244
23	1600	92	397	2020	57	310	2200	40	240
24	1680	92	415	2040	58	322	2170	41	242
25	1680	90	408	2110	56	317	2160	35	207
26	1670	80	360	2020	59	319	2070	35	194
27	1710	78	360	1960	55	292	2100	40	229
28	1840	93	463	1930	52	268	2170	40	233
29	1780	78	377	1880	46	235	2220	38	230
30	1680	91	415	1880	54	276	2120	38	217
31	1690	80	364	1940	60	313	---	---	---
TOTAL	54430	---	12524	58110	---	10372	62080	---	7276
YEAR	3414380		659391						

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.—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. See schematic diagram of Sacramento-San Joaquin Delta.

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 ft³/s, Aug. 11, 1969; no flow for many days in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4120	4210	4060	3880	.00	3720	4530	983	4500	4440	4510	4290
2	4370	4230	4100	3870	.00	3720	4520	990	4540	4460	4500	4330
3	4250	4210	4070	3920	.00	4320	4520	986	4530	4530	4480	4320
4	4260	4190	4090	3910	.00	3820	4530	987	4530	4480	4490	4350
5	4250	4180	4100	3760	.00	4230	4520	989	4530	4470	4490	4360
6	4250	4200	4100	3760	.00	3720	4320	970	4530	4420	4500	4340
7	4150	4180	4100	3760	.00	4140	4520	936	4530	4280	4500	4360
8	3430	4200	4130	3920	2560	4140	4520	1020	4530	4230	4360	4360
9	4370	4200	4130	3770	3780	4220	4540	969	4530	4240	4550	4320
10	4320	4190	3910	3770	1090	4310	4510	1780	4500	4250	4520	4350
11	4310	4190	4140	3750	.00	4390	4510	1770	4500	4450	4540	4350
12	4240	4180	4190	3750	.00	4360	4500	1760	4510	4460	4550	4290
13	4240	3270	4140	2610	.00	4350	4500	1210	4460	4690	4550	4340
14	4290	4300	4110	3600	.00	4430	4420	842	4400	4120	4470	4330
15	4320	4260	4100	3640	.00	4560	1780	767	4420	4290	4460	4310
16	4270	4220	4130	3080	.00	4450	752	920	4340	4280	4450	4310
17	4290	4150	4070	2290	.00	4410	753	977	4320	4280	4450	4320
18	4310	4140	3840	1330	.00	4410	756	981	4320	4460	4460	4310
19	4220	4170	4240	298	.00	4490	921	895	4300	4360	4430	4330
20	4180	4170	4110	.00	.00	4540	990	722	4360	4390	4430	4310
21	4260	4170	3950	.00	.00	4550	1490	816	4420	4400	4420	4290
22	4170	4160	4130	.00	.00	4360	1690	979	4430	4400	4410	4320
23	4220	4150	4110	.00	.00	4550	1700	1020	4400	4390	4400	4340
24	4230	4120	4100	.00	.00	4560	1700	1020	4400	4390	4390	4330
25	4240	4140	4090	.00	616	4550	1190	2350	4390	4440	4310	4330
26	4260	3390	4090	.00	892	4550	985	3960	4380	4390	4430	4320
27	4400	4310	4110	.00	2940	4550	986	4420	4430	4400	4400	4300
28	4260	4080	4100	.00	3720	4540	980	4490	4420	4520	3810	4300
29	4180	4080	4050	.00	---	4530	990	4510	4380	4440	4400	4290
30	3080	4080	3870	.00	---	4530	983	4510	4390	4520	4330	4300
31	4320	---	4110	.00	---	4530	---	4560	---	4430	4330	---
TOTAL	130060	123720	126570	62668.00	15598.00	134530	81606	54089	133220	136300	137320	129700
MEAN	4195	4124	4083	2022	557	4340	2720	1745	4441	4397	4430	4323
MAX	4400	4310	4240	3920	3780	4560	4540	4560	4540	4690	4550	4360
MIN	3080	3270	3840	.00	.00	3720	752	722	4300	4120	3810	4290
AC-FT	258000	245400	251100	124300	30940	266800	161900	107300	264200	270400	272400	257300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)

	MEAN	2338	1758	1566	1844	2302	2594	2718	2596	2937	3669	3649	2850
MAX	4333	4239	4273	4271	4584	4563	4400	4540	4591	4740	4703	4591	
(WY)	1996	1994	1996	1996	1976	1976	1976	1976	1973	1989	1989	1988	
MIN	368	.000	.000	.000	.000	.000	.000	99.6	58.3	113	354	977	539
(WY)	1952	1973	1953	1952	1952	1952	1952	1952	1952	1951	1977	1952	1952

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1951 - 1997
ANNUAL TOTAL	1310635.00	1265381.00	
ANNUAL MEAN	3581	3467	2589
HIGHEST ANNUAL MEAN			4144
LOWEST ANNUAL MEAN			230
HIGHEST DAILY MEAN	4610	Jun 14	4940
LOWEST DAILY MEAN	.00	Mar 5	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 5	.00
ANNUAL RUNOFF (AC-FT)	2600000	2510000	1876000
10 PERCENT EXCEEDS	4460	4520	4430
50 PERCENT EXCEEDS	4260	4240	2860
90 PERCENT EXCEEDS	905	740	105

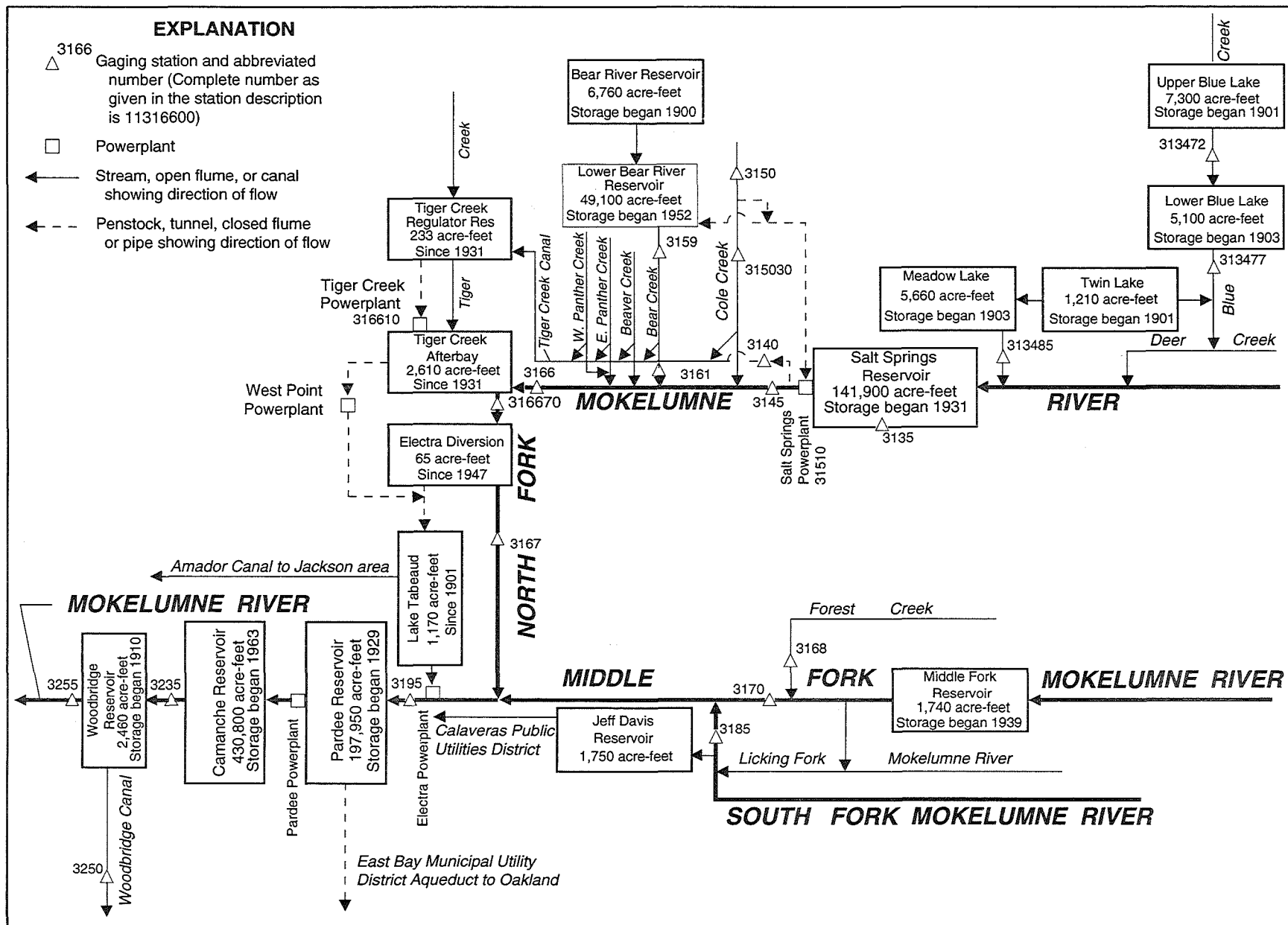


Figure 31. Diversions and storage in Mokelumne River Basin.

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 mi².

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.—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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	19	7.2	11	12	---	---	---	9.8	7.1	5.0	34
2	26	19	7.2	15	12	---	---	---	9.6	7.1	4.9	34
3	26	18	7.2	13	12	---	---	---	9.2	7.1	5.0	33
4	26	18	7.2	13	12	---	---	---	10	7.1	5.0	33
5	25	18	7.2	13	---	---	---	---	9.5	7.1	4.9	36
6	25	18	7.2	13	---	---	---	---	9.2	7.1	4.9	39
7	25	17	7.2	13	---	---	---	---	9.2	7.1	4.9	38
8	25	17	7.2	13	---	---	---	---	9.1	7.1	9.3	38
9	24	17	7.2	13	---	---	---	---	8.8	7.1	16	38
10	24	17	7.4	12	---	---	---	---	8.6	7.1	16	37
11	24	16	7.5	12	---	---	---	---	8.6	7.1	29	37
12	24	16	7.7	12	---	---	---	---	8.6	6.0	39	36
13	24	16	7.8	12	---	---	---	---	8.5	4.9	39	36
14	23	15	7.9	12	---	---	---	---	9.6	4.9	38	36
15	23	12	7.9	12	---	---	---	---	9.2	4.9	38	35
16	23	6.3	7.9	12	---	---	---	9.1	8.9	4.9	38	35
17	23	6.8	7.9	12	---	---	---	9.2	9.1	4.9	37	35
18	23	7.5	7.9	12	---	---	---	9.1	9.1	4.9	37	34
19	22	7.1	7.9	12	---	---	---	9.3	8.9	4.9	37	34
20	22	7.0	7.9	12	---	---	---	9.3	8.7	4.9	37	34
21	22	7.1	7.9	12	---	---	---	9.0	8.2	4.9	36	33
22	22	7.2	7.9	12	---	---	---	8.9	7.9	4.9	36	33
23	21	7.2	7.9	12	---	---	---	9.0	7.7	5.0	36	33
24	21	7.2	7.9	12	---	---	---	9.1	7.5	5.0	35	32
25	21	7.2	7.9	13	---	---	---	8.8	7.3	5.0	35	32
26	20	7.2	8.1	13	---	---	---	8.8	7.3	5.0	35	32
27	20	7.2	8.1	13	---	---	---	9.2	7.1	5.0	35	31
28	20	7.2	8.1	13	---	---	---	9.5	7.1	5.0	34	31
29	20	7.2	8.1	13	---	---	---	9.7	7.1	5.0	34	31
30	19	7.2	8.2	12	---	---	---	9.9	7.1	5.0	34	30
31	19	---	8.5	12	---	---	---	9.8	---	5.0	34	---
TOTAL	708	359.6	239.1	386	---	---	---	---	256.5	178.1	828.9	1030
MEAN	22.8	12.0	7.71	12.5	---	---	---	---	8.55	5.75	26.7	34.3
MAX	26	19	8.5	15	---	---	---	---	10	7.1	39	39
MIN	19	6.3	7.2	11	---	---	---	---	7.1	4.9	4.9	30
AC-FT	1400	713	474	766	---	---	---	---	509	353	1640	2040

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 mi².

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.—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 1996 TO SEPTEMBER 1997

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	38	25	17	27	---	---	---	22	18	17	34
2	48	38	25	31	26	---	---	---	22	18	17	34
3	48	37	24	31	26	---	---	---	22	19	17	34
4	47	37	24	31	26	---	---	---	22	20	17	34
5	47	36	23	31	---	---	---	---	22	20	17	34
6	47	36	23	31	---	---	---	---	22	20	17	34
7	47	35	22	31	---	---	---	---	22	20	17	34
8	46	35	21	31	---	---	---	---	22	20	25	34
9	46	35	20	31	---	---	---	---	22	19	33	34
10	46	34	20	31	---	---	---	---	22	19	33	34
11	45	34	20	31	---	---	---	---	22	19	33	40
12	45	34	19	31	---	---	---	---	22	18	33	56
13	45	33	19	31	---	---	---	---	22	17	33	56
14	44	33	18	31	---	---	---	---	22	17	33	56
15	44	33	18	32	---	---	---	---	22	17	33	56
16	44	32	17	32	---	---	---	21	22	17	33	56
17	44	32	16	32	---	---	---	22	22	17	33	55
18	43	32	16	32	---	---	---	22	20	18	33	55
19	43	32	16	32	---	---	---	22	17	18	33	54
20	43	31	15	32	---	---	---	22	17	18	33	54
21	42	31	15	32	---	---	---	22	17	18	34	54
22	42	31	14	32	---	---	---	22	17	17	34	53
23	41	30	6.0	32	---	---	---	22	17	17	34	52
24	41	29	6.0	32	---	---	---	22	17	18	34	52
25	41	29	6.0	32	---	---	---	22	17	18	34	52
26	41	28	6.0	32	---	---	---	22	17	18	34	51
27	40	28	6.0	32	---	---	---	22	18	18	34	51
28	40	27	6.4	32	---	---	---	22	18	18	34	50
29	40	26	7.1	30	---	---	---	22	18	18	34	50
30	39	26	8.2	27	---	---	---	22	18	18	34	50
31	39	---	10	27	---	---	---	22	---	17	34	---
TOTAL	1356	972	491.7	952	---	---	---	---	602	564	914	1393
MEAN	43.7	32.4	15.9	30.7	---	---	---	---	20.1	18.2	29.5	46.4
MAX	48	38	25	32	---	---	---	---	22	20	34	56
MIN	39	26	6.0	17	---	---	---	---	17	17	17	34
AC-FT	2690	1930	975	1890	---	---	---	---	1190	1120	1810	2760

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 mi².

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 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	19	37	---	---	---	---	---	---	28	25	26
2	21	19	38	---	---	---	---	---	---	27	26	26
3	20	19	37	---	---	---	---	---	---	26	25	26
4	20	18	36	---	---	---	---	---	---	26	25	26
5	20	19	35	---	---	---	---	---	---	25	25	25
6	20	19	35	---	---	---	---	---	---	26	25	25
7	19	18	34	---	---	---	---	---	---	26	25	25
8	19	17	33	---	---	---	---	---	---	25	27	25
9	19	17	32	---	---	---	---	---	---	25	29	24
10	19	17	32	---	---	---	---	---	33	25	29	24
11	20	17	32	---	---	---	---	---	33	26	29	24
12	20	17	32	---	---	---	---	---	33	26	29	23
13	20	17	32	---	---	---	---	---	35	25	29	23
14	20	17	30	---	---	---	---	---	---	25	29	23
15	20	17	30	---	---	---	---	---	---	25	29	23
16	20	18	28	---	---	---	---	13	---	25	29	23
17	20	18	27	---	---	---	---	14	---	25	29	23
18	20	19	---	---	---	---	---	14	---	26	29	23
19	20	18	---	---	---	---	---	15	---	25	28	23
20	21	18	---	---	---	---	---	15	38	25	28	23
21	20	18	---	---	---	---	---	15	35	25	28	22
22	20	19	---	---	---	---	---	15	31	25	28	21
23	19	18	---	---	---	---	---	16	30	25	27	21
24	19	18	---	---	---	---	---	19	29	25	28	21
25	20	18	---	---	---	---	---	28	28	25	28	21
26	21	18	---	---	---	---	---	28	27	25	27	21
27	20	26	---	---	---	---	---	30	27	25	27	21
28	20	39	---	---	---	---	---	---	27	25	27	21
29	20	39	---	---	---	---	---	---	27	26	27	21
30	20	38	---	---	---	---	---	30	28	26	27	20
31	19	---	---	---	---	---	---	31	---	26	26	---
TOTAL	616	609	---	---	---	---	---	---	---	790	849	693
MEAN	19.9	20.3	---	---	---	---	---	---	---	25.5	27.4	23.1
MAX	21	39	---	---	---	---	---	---	---	28	29	26
MIN	19	17	---	---	---	---	---	---	---	25	25	20
AC-FT	1220	1210	---	---	---	---	---	---	---	1570	1680	1370

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 mi².

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 (station 11313510) 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, 141,568 acre-ft, May 31, elevation, 3,957.70 ft; minimum, 45,361, acre-ft, Dec. 4, elevation, 3,834.10 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 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e71963	56296	47123	e134819	130692	112401	111100	130815	e141290	136401	117724	91129
2	e72071	55444	46548	e134343	130376	111645	111100	130983	e141088	135629	117111	90390
3	e72179	54616	45895	e133970	130047	e110676	110868	131301	e140608	135225	116054	89804
4	e72287	53953	45361	e133318	129613	109701	110660	132283	e140897	134781	115165	89210
5	e72395	53354	47065	e132942	129038	108880	110466	133952	e140897	134277	112754	88604
6	e72323	52640	47071	e132470	128509	108118	110245	135064	e140608	133822	111286	87683
7	e72107	51938	46863	e132191	127916	107328	110031	135863	e140800	133327	110660	e86848
8	e72323	51182	46595	e132099	127308	106611	109962	136430	e141184	132876	110065	86052
9	e72251	50523	46636	e132007	126662	105938	109745	137191	140816	132432	109065	85440
10	71833	49750	47387	e131914	125954	105473	109368	137116	140778	132007	108075	84835
11	71283	49009	48316	e131822	125293	105103	108979	e137770	140893	131367	107364	84241
12	70845	48187	51163	e131637	124629	104725	108696	138789	140941	130385	106822	83672
13	70531	47764	52379	131367	123941	104243	108417	139066	140826	129512	106252	82865
14	69857	47025	52708	131105	123225	103795	108349	138865	141476	128860	105638	81842
15	68919	46286	52640	130927	122600	103553	e109300	137418	141286	128373	105028	81119
16	68026	45678	52379	130551	121931	103463	e110340	136678	141228	127769	103969	80559
17	67196	46484	52126	130193	121364	103191	e111380	136554	141238	127668	102938	79975
18	66433	49437	51750	129826	120682	102947	e112420	136334	141190	126992	102130	79412
19	65639	49520	51298	129419	120034	102767	e113390	136659	141027	126082	101550	78856
20	64810	49484	50835	129131	119368	102955	e117010	137097	140749	125154	100958	77987
21	63955	49585	50625	128747	118642	103048	e120300	137645	140325	124340	100352	76964
22	63185	51121	51194	128841	117884	103274	e123640	138281	139777	124032	99758	76277
23	62417	51194	51323	128719	117173	103827	e126806	139456	139104	123502	98804	75434
24	61755	50925	50990	128500	116317	104674	128127	140006	e138890	122975	97778	74877
25	61122	50493	50655	130312	115525	105464	129205	140074	138693	122312	96631	74326
26	60455	49949	50541	131367	114740	106611	130248	140547	138405	121658	95996	73799
27	59633	49378	50889	131497	114023	107953	133542	e140570	138021	120709	95386	72977
28	58887	48835	50733	131423	113268	108971	134610	e140820	137645	119916	94825	71963
29	58191	48228	51653	131301	---	109771	133383	e141070	137258	119359	94177	71269
30	57533	47628	54074	131115	---	110474	131664	e141320	136878	118954	93345	70702
31	56899	---	58165	130899	---	110491	---	e141568	---	118382	92175	---
MAX	72395	56296	58165	134819	130692	112401	134610	141568	141476	136401	117724	91129
MIN	56899	45678	45361	128500	113268	102767	108349	130815	136878	118382	92175	70702
a	3853.22	3838.05	3855.18	3946.41	3926.86	3923.68	3947.23	3957.70	3952.78	3932.65	3901.74	3873.45
b	-15568	-9271	+10537	+72734	-17631	-2777	+21173	+9904	-4690	-18496	-26207	-21473
CAL YR 1996	MAX 141476	MIN 41941	b +16378									
WTR YR 1997	MAX 141568	MIN 45361	b -1765									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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.—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, 17,000 ft³/s, May 16, 1996, gage height, 17.66 ft, from rating curve extended above 3,900 ft³/s on basis of computations of flow over dam and discharge through powerplant; minimum daily, 0.3 ft³/s, Mar. 17, 23, 31, and Apr. 1, 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	257	90	263	641	328	288	301	1430	1230	34	34	33
2	199	104	206	823	327	287	307	851	1250	33	33	33
3	198	110	174	5900	317	286	303	850	1160	33	33	33
4	203	108	189	2730	309	285	303	852	1360	33	68	33
5	209	105	259	1650	308	284	304	670	1850	33	843	33
6	217	103	250	1010	307	283	304	909	993	33	476	33
7	224	102	215	731	306	282	304	1130	665	33	33	33
8	209	100	166	608	306	282	307	1310	652	33	33	33
9	258	98	230	502	305	281	309	1550	681	33	33	33
10	218	114	256	441	304	260	309	1810	429	33	33	33
11	152	115	258	384	303	279	309	1960	319	32	33	33
12	50	82	301	405	302	279	309	1980	328	33	33	33
13	43	101	313	250	301	279	309	2150	333	33	33	33
14	122	108	297	130	300	278	309	2170	351	33	33	33
15	192	105	191	238	300	278	310	2350	579	34	33	33
16	180	73	190	211	299	278	311	2250	434	34	32	33
17	150	77	189	125	299	279	313	2000	372	34	32	33
18	139	229	187	134	296	278	314	1800	350	34	33	33
19	148	346	185	149	294	278	318	1490	338	33	33	33
20	157	279	193	253	294	279	322	1410	337	34	33	33
21	155	274	283	252	295	280	327	1090	337	33	34	33
22	131	279	11	257	295	281	331	822	336	34	33	33
23	106	215	146	249	295	283	334	1010	335	34	33	33
24	119	169	284	292	294	285	337	675	335	34	33	33
25	85	167	68	456	291	287	338	646	214	34	33	33
26	92	168	322	458	290	290	340	448	34	34	33	33
27	117	166	552	391	290	292	343	370	34	34	33	33
28	113	165	549	327	289	294	901	876	34	35	33	33
29	111	165	555	241	---	296	1590	1120	34	34	33	33
30	84	178	566	175	---	297	1800	1300	33	34	33	33
31	69	---	580	213	---	299	---	1310	---	34	33	---
TOTAL	4707	4495	8428	20626	8444	8787	12816	40589	15737	1039	2311	990
MEAN	152	150	272	665	302	283	427	1309	525	33.5	74.5	33.0
MAX	258	346	580	5900	328	299	1800	2350	1850	35	843	33
MIN	43	73	11	125	289	260	301	370	33	32	32	33
AC-FT	9340	8920	16720	40910	16750	17430	25420	80510	31210	2060	4580	1960
a	20190	28760	21580	24420	30490	33230	31450	30590	31310	31890	33630	32550

a Diversion, in acre-feet, to Tiger Creek Powerplant Conduit, provided by Pacific Gas & Electric Co.

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	42.7	54.3	83.6	81.5	104	126	242	758	909	177	63.1	50.3
MAX	320	802	1390	665	710	969	1502	2473	3267	1887	406	330
(WY)	1996	1951	1951	1997	1942	1928	1938	1982	1983	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1927 - 1997	
ANNUAL TOTAL	135270		128969			
ANNUAL MEAN	370		353		224	
HIGHEST ANNUAL MEAN					710	
LOWEST ANNUAL MEAN					4.27	
HIGHEST DAILY MEAN	11400	May 16	5900	Jan 3	11400	May 16 1996
LOWEST DAILY MEAN	11	Dec 22	11	Dec 22	.30	Mar 17 1931
ANNUAL SEVEN-DAY MINIMUM	25	Feb 6	33	Aug 11	.39	Mar 19 1931
INSTANTANEOUS PEAK FLOW			7910	Jan 3	17000	May 16 1996
INSTANTANEOUS PEAK STAGE			13.04	Jan 3	17.66	May 16 1996
ANNUAL RUNOFF (AC-FT)	268300		255800		162500	
ANNUAL DIVERSION (AC-FT) a	313700		350100			
10 PERCENT EXCEEDS	611		851		595	
50 PERCENT EXCEEDS	204		257		20	
90 PERCENT EXCEEDS	26		33		4.4	

a Diversion, in acre-feet, to Tiger Creek Powerplant Conduit, provided by Pacific Gas & Electric Co.

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 mi².

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 ft³/s, Dec. 23, 1964, gage height, 10.21 ft, site and datum then in use, from rating curve extended above 900 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	.45	38	2670	71	36	103	179	139	8.5	.48	.17
2	.46	.41	38	3320	73	33	82	180	118	7.3	.45	.18
3	.18	.36	28	633	62	31	73	196	101	6.2	.44	.18
4	.15	.32	25	244	55	31	76	240	318	5.6	.45	.18
5	.15	.31	550	171	50	32	86	238	191	5.1	.48	.18
6	.15	.27	115	134	51	35	84	226	125	4.6	.35	.17
7	.14	.26	68	112	47	40	88	240	108	4.2	.32	.17
8	.14	.26	77	97	47	50	102	268	93	3.8	.60	.15
9	.13	.26	116	87	45	65	87	289	79	3.5	.77	.15
10	.13	.26	94	85	43	86	73	303	69	3.3	.26	.15
11	.13	.26	168	78	43	104	70	272	60	3.0	.26	.15
12	.14	.26	576	73	44	93	87	294	58	2.8	.26	.16
13	.14	.26	266	81	42	75	93	301	52	2.4	.26	.16
14	.14	.24	154	81	45	89	121	271	87	2.1	.24	.15
15	.14	.24	101	62	52	113	163	254	81	1.8	.24	.16
16	.14	.25	80	54	56	117	191	257	56	1.6	.25	.17
17	.14	253	73	52	57	91	215	264	52	1.4	.33	.16
18	.19	780	60	52	49	110	216	228	46	1.3	.28	.15
19	.28	153	55	55	50	144	552	228	38	1.1	.22	.19
20	.21	151	52	56	47	150	303	211	31	1.0	.22	.18
21	.18	173	40	52	46	137	382	175	26	.88	.22	.16
22	.18	304	75	47	43	145	246	152	22	.78	.19	.15
23	.18	110	67	52	42	183	343	188	18	.77	.18	.15
24	.51	73	61	49	43	195	210	157	15	.86	.18	.14
25	.86	52	51	151	41	201	196	124	14	.77	.19	.15
26	.47	45	52	140	38	229	247	122	13	.68	.18	.18
27	.32	34	79	90	42	221	285	133	11	.63	.18	.18
28	.27	33	56	73	41	186	226	162	9.5	.59	.18	.15
29	.32	31	108	72	---	167	163	165	8.5	.59	.18	.14
30	.46	27	460	68	---	165	170	176	8.1	.54	.18	.14
31	.49	---	690	69	---	145	---	160	---	.51	.18	---
TOTAL	7.98	2223.67	4473	9060	1365	3499	5333	6653	2047.1	78.20	9.20	4.85
MEAN	.26	74.1	144	292	48.8	113	178	215	68.2	2.52	.30	.16
MAX	.86	780	690	3320	73	229	552	303	318	8.5	.77	.19
MIN	.13	.24	25	47	38	31	70	122	8.1	.51	.18	.14
AC-FT	16	4410	8870	17970	2710	6940	10580	13200	4060	155	18	9.6

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.28	22.6	38.6	38.6	42.6	64.5	144	253	147	20.3	1.41	.92
MAX	88.3	368	361	292	228	212	242	509	564	263	25.2	15.6
(WY)	1983	1951	1965	1997	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1928 - 1997	
ANNUAL TOTAL	33766.13		34754.00			
ANNUAL MEAN	92.3		95.2		64.9	
HIGHEST ANNUAL MEAN					131	
LOWEST ANNUAL MEAN					16.6	
HIGHEST DAILY MEAN	1530	May 16	3320	Jan 2	3760	Dec 23 1964
LOWEST DAILY MEAN	.10	Sep 5	.13	Oct 9	.00	Aug 1 1931
ANNUAL SEVEN-DAY MINIMUM	.10	Sep 5	.14	Oct 7	.00	Aug 1 1931
INSTANTANEOUS PEAK FLOW			4980	Jan 2	6140	Dec 23 1964
INSTANTANEOUS PEAK STAGE			7.00	Jan 2	10.21	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	66980		68930		46990	
10 PERCENT EXCEEDS	253		227		200	
50 PERCENT EXCEEDS	40		46		15	
90 PERCENT EXCEEDS	.14		.18		.16	

11315030 COLE CREEK BELOW DIVERSION 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 mi².

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 records computed above 3.9 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.47	2.7	---	---	---	---	---	3.0	2.8	.51	.16
2	.15	.42	2.7	---	---	---	---	---	3.0	2.8	.47	.15
3	.14	.36	2.7	---	---	---	---	---	3.0	2.8	.43	.15
4	.14	.35	2.7	---	---	---	---	---	---	2.8	.43	.17
5	.13	.33	---	---	---	---	---	---	---	2.8	.41	.16
6	.12	---	---	---	---	---	---	---	---	2.8	.36	.16
7	.12	.27	---	---	---	---	---	---	3.0	2.8	.34	.16
8	.12	.25	---	---	---	---	---	---	3.0	2.8	.31	.14
9	.13	.20	---	---	---	---	---	---	3.0	2.8	.29	.14
10	.13	.12	---	---	---	---	---	---	3.0	2.8	.28	.14
11	.12	.12	---	---	---	---	---	---	3.0	2.7	.27	.14
12	.13	.22	---	---	---	---	---	---	3.0	2.5	.26	.13
13	.13	.24	---	---	---	---	---	---	3.0	2.2	.26	.13
14	.11	.22	---	---	---	---	---	---	---	1.9	.25	.14
15	.11	.23	---	---	---	---	---	---	3.0	1.7	.24	.13
16	.11	.15	---	---	---	---	---	---	2.9	1.5	.23	.12
17	.12	2.3	---	---	---	---	---	---	2.9	1.4	.20	.12
18	.15	2.8	---	---	---	---	---	---	2.9	1.3	.21	.12
19	.26	---	---	---	---	---	---	---	2.9	1.2	.20	.14
20	.25	---	---	---	---	---	---	---	2.9	1.1	.20	.17
21	.24	---	---	---	---	---	---	---	2.9	.95	.20	.16
22	.24	---	---	---	---	---	---	3.0	2.8	.85	.20	.14
23	.25	---	---	---	---	---	---	---	2.8	.83	.18	.13
24	.41	---	---	---	---	---	---	---	2.9	.92	.18	.12
25	1.1	2.7	---	---	---	---	---	3.0	2.8	.81	.17	.12
26	.66	2.7	---	---	---	---	---	3.0	2.8	.75	.17	.15
27	.43	2.7	---	---	---	---	---	3.0	2.8	.68	.16	.17
28	.35	2.7	---	---	---	---	---	3.0	2.8	.64	.16	.16
29	.32	2.7	---	---	---	---	---	3.0	2.8	.63	.16	.14
30	.46	2.7	---	---	---	---	---	---	2.8	.58	.16	.12
31	.55	---	---	---	---	---	---	3.0	---	.55	.17	---
TOTAL	7.81	---	---	---	---	---	---	---	---	53.69	8.06	4.28
MEAN	.25	---	---	---	---	---	---	---	---	1.73	.26	.14
MAX	1.1	---	---	---	---	---	---	---	---	2.8	.51	.17
MIN	.11	---	---	---	---	---	---	---	---	.55	.16	.12
AC-FT	15	---	---	---	---	---	---	---	---	106	16	8.5

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.

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.

DAILY MEAN VALUES

[illegible]

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 mi².

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 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.4	5.3	---	---	---	---	---	---	---	5.6	5.4	5.3
2	e8.9	5.3	---	---	---	---	---	---	---	5.6	5.3	5.3
3	e8.9	5.2	---	---	---	---	---	---	---	5.6	5.3	5.2
4	e8.9	5.2	---	---	---	---	---	---	---	5.8	5.4	5.2
5	e8.9	5.2	---	---	---	---	---	5.4	---	5.9	5.4	5.2
6	e8.8	5.3	---	---	---	---	---	5.4	---	5.9	5.3	5.2
7	e8.7	5.2	---	---	---	---	---	5.5	---	6.4	5.4	5.2
8	e8.7	5.2	---	---	---	---	---	5.5	---	6.9	5.4	5.2
9	e8.4	5.2	---	---	---	---	---	5.5	---	6.9	5.4	5.2
10	e7.9	5.2	---	---	---	---	---	---	---	6.9	5.4	5.2
11	7.9	5.3	---	---	---	---	---	---	5.7	6.9	5.4	5.2
12	8.4	5.2	---	---	---	---	---	---	5.8	6.9	5.4	5.1
13	8.0	e4.7	---	---	---	---	---	---	5.8	6.9	5.4	5.1
14	7.0	5.2	---	---	---	---	---	---	5.7	6.9	5.3	5.1
15	5.3	5.2	---	---	---	---	---	---	5.7	6.3	5.3	5.1
16	5.3	5.1	---	---	---	---	---	---	5.7	5.6	5.3	5.1
17	5.3	---	---	---	---	---	---	---	5.7	7.2	5.3	5.1
18	5.3	---	---	---	---	---	---	---	5.7	6.1	5.3	5.1
19	5.3	---	---	---	---	---	---	---	5.7	5.4	5.3	5.1
20	5.3	---	---	---	---	---	---	---	5.7	5.4	5.3	5.1
21	5.3	---	---	---	---	---	---	---	5.7	5.4	5.3	5.1
22	5.3	---	---	---	---	---	---	---	5.7	7.9	5.3	5.1
23	5.3	---	---	---	---	---	---	---	5.7	7.2	5.3	5.1
24	5.3	---	---	---	---	---	---	---	5.7	5.3	5.3	5.1
25	5.3	---	---	---	---	---	---	---	5.7	5.3	5.3	5.1
26	5.3	---	---	---	---	---	---	---	5.6	5.3	5.3	5.1
27	5.2	5.1	---	---	---	---	---	---	5.6	5.3	5.3	5.0
28	5.2	5.1	---	---	---	---	---	---	5.6	5.3	5.3	5.0
29	5.3	5.1	---	---	---	---	---	---	5.6	5.3	5.3	5.0
30	5.3	5.1	---	---	---	---	---	---	5.6	5.3	5.2	5.0
31	5.3	---	---	---	---	---	---	---	---	5.3	5.3	---
TOTAL	207.7	---	---	---	---	---	---	---	---	188.0	165.2	153.9
MEAN	6.70	---	---	---	---	---	---	---	---	6.06	5.33	5.13
MAX	8.9	---	---	---	---	---	---	---	---	7.9	5.4	5.3
MIN	5.2	---	---	---	---	---	---	---	---	5.3	5.2	5.0
AC-FT	412	---	---	---	---	---	---	---	---	373	328	305

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 mi².

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. Water is occasionally diverted at the weir for cooling at the Tiger Creek Powerplant. This year water was diverted July 23 to July 30. 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, 38,500 ft³/s, Jan. 2, 1997, gage height, 12.49 ft; minimum daily, 29 ft³/s, Jul. 26, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	364	121	408	10700	1440	668	721	2010	1590	111	87	74
2	242	149	366	25200	1370	675	688	1340	1480	108	103	72
3	239	153	273	14900	1260	659	663	1300	1400	105	105	72
4	240	153	265	6350	1160	643	656	1280	2030	103	87	72
5	252	150	1460	4080	1100	638	658	1080	3040	102	713	72
6	256	147	850	2840	1020	632	650	1190	1380	100	902	72
7	274	146	619	2190	971	631	648	1450	881	100	122	72
8	256	145	472	1850	972	636	665	1540	818	101	92	72
9	277	141	598	1580	926	648	657	1780	904	100	90	73
10	321	147	975	1410	902	642	635	2070	682	100	92	73
11	245	157	1120	1260	879	700	623	2640	466	99	93	75
12	125	144	2650	1180	863	692	634	2770	471	99	91	75
13	90	123	1690	1030	842	661	638	3400	481	99	91	75
14	106	150	1240	811	821	666	656	3020	495	97	90	75
15	238	149	822	912	819	695	711	3080	743	96	85	75
16	234	136	689	920	811	722	745	3030	650	94	83	74
17	203	314	613	774	856	693	800	2720	529	94	82	74
18	182	1300	548	776	798	694	836	2510	505	94	79	75
19	184	690	508	788	780	729	1220	2050	475	92	80	77
20	202	497	473	962	765	767	1030	1990	472	90	80	75
21	197	437	625	971	759	747	1090	1500	468	90	79	73
22	192	930	419	1320	743	739	983	1150	467	89	77	72
23	146	605	328	1530	730	805	1060	1310	463	93	76	72
24	164	347	636	1290	707	849	917	1300	460	96	76	70
25	164	297	343	2740	700	853	838	1020	424	97	75	71
26	138	281	641	3360	697	888	881	778	125	92	75	74
27	153	266	1440	2410	709	925	966	538	111	90	75	72
28	157	262	1200	1920	687	862	1350	990	108	86	75	71
29	160	256	1420	1660	---	812	1970	1290	108	87	75	70
30	167	249	2530	1430	---	805	2260	1710	110	89	75	70
31	124	---	3180	1370	---	794	---	1740	---	91	75	---
TOTAL	6292	9042	29401	100514	25087	22570	26849	55576	22336	2984	4080	2189
MEAN	203	301	948	3242	896	728	895	1793	745	96.3	132	73.0
MAX	364	1300	3180	25200	1440	925	2260	3400	3040	111	902	77
MIN	90	121	265	774	687	631	623	538	108	86	75	70
AC-FT	12480	17930	58320	199400	49760	44770	53250	110200	44300	5920	8090	4340
a	19390	29170	25430	27760	32230	33930	31370	30200	30800	31190	33060	32000

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	105	76.9	143	394	368	504	527	1052	921	290	106	103
MAX	323	301	948	3242	1702	1855	1602	2796	4265	2303	340	323
(WY)	1996	1997	1997	1997	1986	1986	1986	1996	1995	1995	1993	1995
MIN	39.4	44.2	46.9	49.8	51.4	76.8	87.3	70.0	49.8	37.0	36.2	34.2
(WY)	1989	1992	1994	1991	1991	1988	1988	1992	1987	1987	1987	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	259082		306920			
ANNUAL MEAN	708		841		382	
HIGHEST ANNUAL MEAN					1052	
LOWEST ANNUAL MEAN					59.9	
HIGHEST DAILY MEAN	19000	May 16	25200	Jan 2	25200	Jan 2 1997
LOWEST DAILY MEAN	29	Jul 26	70	Sep 24	29	Jul 26 1996
ANNUAL SEVEN-DAY MINIMUM	34	Jul 23	71	Sep 24	32	Aug 4 1987
INSTANTANEOUS PEAK FLOW			38500	Jan 2	38500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			12.49	Jan 2	12.49	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	513900		608800		276900	
ANNUAL DIVERSION (AC-FT) a	337190		356500			
10 PERCENT EXCEEDS	1460		1620		1060	
50 PERCENT EXCEEDS	364		625		75	
90 PERCENT EXCEEDS	82		76		41	

a Diversion, in acre-feet, to Tiger Creek Powerplant, provided by Pacific Gas & Electric Co.

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.

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.

REMARKS.—No records computed above 50 ft³/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.

DAILY MEAN VALUES

[illegible]

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 mi².

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 records computed above 30 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	16	---	---	---	---	---	---	---	21	20	18
2	28	13	---	---	---	---	---	---	---	20	20	19
3	30	12	---	---	---	---	---	---	---	20	20	18
4	22	12	---	---	---	---	---	---	---	20	20	19
5	21	12	---	---	---	---	---	---	---	20	---	19
6	21	12	---	---	---	---	---	---	---	21	---	19
7	20	12	---	---	---	---	---	---	---	21	18	19
8	20	12	---	---	---	---	---	---	---	21	18	19
9	19	12	---	---	---	---	---	---	---	21	18	18
10	20	12	---	---	---	---	---	---	---	21	18	18
11	20	12	---	---	---	---	---	---	---	21	18	18
12	20	12	---	---	---	---	---	---	---	21	18	18
13	21	12	---	---	---	---	---	---	---	21	18	18
14	23	12	---	---	---	---	---	---	---	21	18	19
15	20	12	---	---	---	---	---	---	---	21	18	19
16	17	12	---	---	---	---	---	---	---	20	18	19
17	17	14	---	---	---	---	---	---	---	20	19	19
18	17	---	---	---	---	---	---	---	---	20	20	19
19	17	---	---	---	---	---	---	---	---	20	20	19
20	17	---	---	---	---	---	---	---	---	20	20	19
21	17	---	---	---	---	---	---	---	---	20	20	18
22	17	---	---	---	---	---	---	---	---	20	20	19
23	17	---	24	---	---	---	---	---	---	20	20	19
24	17	---	24	---	---	---	---	---	---	20	20	19
25	17	17	26	---	---	---	---	---	---	20	20	19
26	17	12	---	---	---	---	---	---	23	20	19	19
27	17	12	---	---	---	---	---	---	21	20	19	19
28	17	12	---	---	---	---	---	---	21	20	19	19
29	17	12	---	---	---	---	---	---	21	20	19	19
30	17	12	---	---	---	---	---	---	21	20	19	19
31	17	---	---	---	---	---	---	---	---	20	18	---
TOTAL	602	---	---	---	---	---	---	---	---	631	---	562
MEAN	19.4	---	---	---	---	---	---	---	---	20.4	---	18.7
MAX	30	---	---	---	---	---	---	---	---	21	---	19
MIN	17	---	---	---	---	---	---	---	---	20	---	18
AC-FT	1190	---	---	---	---	---	---	---	---	1250	---	1110

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 mi².

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.—Records good except for period Jan. 2 to Apr. 17 which is 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 ft³/s, Feb. 19, 1986, gage height, 8.12 ft, from rating curve extended above 500 ft³/s on basis of slope-area measurement at gage height 7.41 ft; minimum daily, 0.11 ft³/s, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 120 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 5	0930	258	4.51	Jan. 22	2230	294	4.38
Dec. 12	0745	345	4.81	Jan. 26	unknown	670	unknown
Jan. 2	1100	1,930	7.59				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	4.7	15	1040	e105	e34	27	19	9.9	11	4.1	2.9
2	4.1	4.4	13	1550	e95	e35	26	18	9.6	9.4	3.0	2.5
3	3.9	4.1	11	755	e85	e34	25	17	11	8.9	3.2	1.0
4	3.7	3.8	12	352	e76	e34	24	17	23	8.3	3.3	1.7
5	3.2	4.1	132	262	e70	e34	23	16	20	7.8	3.1	3.2
6	3.2	4.3	66	189	e63	e34	23	15	16	7.4	2.9	3.7
7	3.0	4.3	42	154	e60	e34	23	14	13	6.4	2.5	3.4
8	2.7	4.3	31	133	e61	34	22	14	12	5.4	2.1	2.8
9	2.5	4.4	31	116	e55	33	22	14	11	5.6	1.9	1.4
10	2.6	4.6	100	102	e50	33	22	14	9.8	5.7	4.2	2.4
11	3.0	4.6	97	91	e49	33	21	13	10	6.4	4.2	2.4
12	3.2	4.3	233	86	e47	32	21	12	11	6.6	3.3	2.8
13	3.2	4.4	140	79	e44	31	21	12	11	6.4	2.3	3.5
14	3.2	4.6	93	71	e42	31	21	11	13	5.8	1.0	3.5
15	3.2	4.6	68	67	e41	31	20	12	16	4.7	1.9	3.5
16	3.1	4.8	55	63	e40	31	20	12	11	5.2	2.8	2.3
17	2.9	33	47	60	e50	32	18	12	9.1	5.3	2.8	.88
18	3.4	34	39	57	e45	30	19	11	9.7	5.5	2.9	3.2
19	4.4	17	33	54	e42	30	26	11	8.4	6.0	.88	4.8
20	3.7	16	30	67	e41	30	24	11	8.1	5.7	2.4	5.4
21	3.5	20	36	66	e39	30	23	11	6.9	5.4	2.9	4.6
22	3.4	57	41	145	e38	30	23	9.7	6.9	5.0	2.7	3.5
23	3.4	35	40	e200	e36	30	29	15	6.9	5.1	3.3	3.1
24	4.6	18	35	e110	e35	30	23	16	7.9	5.9	3.2	3.1
25	7.1	14	33	e300	e35	29	22	12	7.9	5.4	2.8	4.1
26	5.2	12	75	e480	e35	29	21	11	7.0	5.3	2.5	4.3
27	4.5	11	144	e290	e36	29	20	11	8.3	5.0	2.4	4.9
28	4.1	11	90	e200	e35	28	20	10	11	4.1	2.3	4.0
29	4.7	10	130	e160	---	28	20	9.8	10	4.2	2.9	3.4
30	7.2	9.5	227	e130	---	27	19	10	11	3.0	3.6	1.0
31	6.0	---	254	e120	---	28	---	10	---	3.4	3.2	---
TOTAL	119.0	367.8	2393	7549	1450	968	668	400.5	326.4	185.3	86.58	93.28
MEAN	3.84	12.3	77.2	244	51.8	31.2	22.3	12.9	10.9	5.98	2.79	3.11
MAX	7.2	57	254	1550	105	35	29	19	23	11	4.2	5.4
MIN	2.5	3.8	11	54	35	27	18	9.7	6.9	3.0	.88	.88
AC-FT	236	730	4750	14970	2880	1920	1320	794	647	368	172	185

e Estimated.

SAN JOAQUIN RIVER BASIN

11316800 FOREST CREEK NEAR WILSEYVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.01	9.15	20.9	40.8	44.1	51.8	49.1	34.2	13.1	5.99	3.64	3.11
MAX	11.9	59.5	138	244	243	209	174	129	47.4	17.1	10.5	8.36
(WY)	1983	1984	1965	1997	1986	1983	1982	1995	1967	1983	1983	1983
MIN	.63	1.80	2.17	2.40	2.35	4.58	2.96	3.92	1.59	.46	.33	.50
(WY)	1978	1993	1977	1991	1991	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1961 - 1997

ANNUAL TOTAL	12348.5		14606.86									
ANNUAL MEAN	33.7		40.0							23.2		
HIGHEST ANNUAL MEAN										67.9		1983
LOWEST ANNUAL MEAN										2.39		1977
HIGHEST DAILY MEAN	254	Dec 31				1550	Jan 2		1550		Jan 2	1997
LOWEST DAILY MEAN	2.5	Sep 12				.88	Aug 19		.11		Aug 14	1977
ANNUAL SEVEN-DAY MINIMUM	2.9	Oct 5				2.1	Aug 13		.15		Aug 11	1977
INSTANTANEOUS PEAK FLOW						1930	Jan 2		2020		Feb 19	1986
INSTANTANEOUS PEAK STAGE						7.59	Jan 2		8.12		Feb 19	1986
ANNUAL RUNOFF (AC-FT)	24490					28970			16820			
10 PERCENT EXCEEDS	81					81			59			
50 PERCENT EXCEEDS	17					12			7.7			
90 PERCENT EXCEEDS	3.3					3.0			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 mi².

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.—Records fair except for period October 1 to November 6 which is poor. 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 ft³/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 ft³/s; because of leakage, only 5 ft³/s may reach Licking Fork Mokelumne River. See schematic diagram of Mokelumne River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,040 ft³/s, Jan. 2, 1997, gage height, 9.28 ft, from rating curve extended above 4,010 ft³/s; no flow for many days in 1931 and Sept. 9, 1934.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 400 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 05	1000	942	4.63	Jan. 02	1145	5,040	9.28
Dec. 12	0830	1,320	5.53	Jan. 26	0900	2,230	6.77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	40	e2610	342	114	83	56	34	26	12	11
2	14	14	41	e3740	313	116	81	54	36	23	9.3	10
3	12	12	37	1890	277	115	79	52	38	22	9.3	9.0
4	9.6	11	36	1060	253	114	77	52	54	22	10	8.3
5	7.2	11	438	779	231	114	74	52	55	22	12	11
6	6.0	13	198	578	210	113	72	50	46	21	11	11
7	5.9	14	132	452	199	110	70	50	41	21	11	11
8	5.2	14	100	368	202	107	68	48	38	19	11	11
9	4.0	14	102	304	182	105	67	47	38	20	8.9	9.0
10	3.8	14	388	261	165	104	67	46	36	19	11	10
11	5.1	14	306	227	164	103	65	46	36	19	13	11
12	7.5	14	852	212	158	100	63	45	35	15	13	11
13	7.5	13	434	190	148	98	62	45	34	17	11	12
14	7.5	14	259	165	140	96	60	43	37	17	9.8	13
15	7.1	14	185	157	136	96	59	44	43	15	10	13
16	6.9	14	150	146	135	96	59	43	37	15	11	12
17	6.1	56	127	135	166	98	59	42	33	14	12	10
18	8.6	113	110	128	149	95	59	41	31	14	11	12
19	16	58	99	121	139	93	71	40	30	15	9.6	14
20	17	56	92	178	136	93	70	37	30	13	9.2	15
21	15	56	135	175	131	93	69	37	29	13	12	15
22	13	161	178	529	128	93	68	36	27	12	12	14
23	14	118	145	749	121	93	73	42	26	13	13	13
24	20	64	115	389	115	93	64	49	26	16	11	13
25	e30	49	105	1030	117	91	60	42	25	13	8.6	14
26	e26	43	211	1580	117	91	57	38	24	10	8.4	15
27	e23	38	486	951	119	91	60	36	22	12	9.4	15
28	e21	37	257	658	117	90	63	35	23	12	9.2	15
29	e22	36	330	517	---	87	60	36	23	12	9.6	13
30	e32	33	738	431	---	87	57	35	24	11	10	9.8
31	e22	---	845	378	---	88	---	34	---	11	9.3	---
TOTAL	406.0	1136	7671	21088	4810	3077	1996	1353	1011	504	327.6	361.1
MEAN	13.1	37.9	247	680	172	99.3	66.5	43.6	33.7	16.3	10.6	12.0
MAX	32	161	852	3740	342	116	83	56	55	26	13	15
MIN	3.8	11	36	121	115	87	57	34	22	10	8.4	8.3
AC-FT	805	2250	15220	41830	9540	6100	3960	2680	2010	1000	650	716

e Estimated.

SAN JOAQUIN RIVER BASIN

11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	22.5	50.6	92.8	122	139	147	107	42.4	16.0	9.02	7.51
MAX	37.5	223	389	680	768	653	561	372	181	68.1	40.8	31.1
(WY)	1983	1951	1956	1997	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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1912 - 1997

ANNUAL TOTAL	38237.3	43740.7	
ANNUAL MEAN	104	120	63.6
HIGHEST ANNUAL MEAN			218
LOWEST ANNUAL MEAN			5.25
HIGHEST DAILY MEAN	852	Dec 12	3740
LOWEST DAILY MEAN	3.8	Oct 10	3.8
ANNUAL SEVEN-DAY MINIMUM	5.3	Oct 5	5.3
INSTANTANEOUS PEAK FLOW			5040
INSTANTANEOUS PEAK STAGE			9.28
ANNUAL RUNOFF (AC-FT)	75840	86760	46070
10 PERCENT EXCEEDS	232	229	165
50 PERCENT EXCEEDS	51	41	20
90 PERCENT EXCEEDS	11	10	3.9

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 mi².

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 estimated daily discharges, which are fair. The Middle Fork Ditch can divert 10 ft³/s from the Middle Fork Mokelumne River which, due to leakage, delivers about 5 ft³/s to the Licking Fork Mokelumne River. There are two pumps with a combined capacity of 8.9 ft³/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, 7,610 ft³/s, Jan. 2, 1997, gage height, 12.72 ft, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement of peak flow; no flow many days during August and September 1934.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 5	1030	897	5.97	Jan. 2	1045	7,610	12.72
Dec. 12	0945	1,560	6.98	Jan. 22	2330	1,760	7.19
Dec. 22	1600	589	5.09	Jan. 26	0815	3,100	8.76

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	31	3750	511	e150	92	60	32	22	10	6.5
2	12	16	32	5120	465	e151	89	58	32	22	9.6	6.7
3	12	15	27	2060	419	e150	87	57	29	19	9.7	6.8
4	12	15	26	1150	387	e146	85	56	45	16	9.5	6.9
5	11	15	470	827	355	e140	83	55	45	15	8.6	6.8
6	11	15	196	633	328	e136	81	54	36	15	8.3	5.4
7	11	15	123	521	305	e132	80	53	32	15	8.2	5.8
8	10	15	88	438	303	125	78	53	29	14	8.1	6.0
9	10	14	99	378	279	123	78	51	27	13	7.4	5.9
10	9.8	14	544	335	263	122	78	48	25	13	8.0	5.5
11	10	14	416	301	248	122	76	48	25	14	9.2	5.8
12	10	13	1100	286	236	119	74	47	25	13	9.0	6.4
13	10	13	637	263	225	116	73	45	25	12	9.2	6.1
14	10	13	391	235	e230	115	73	45	25	12	8.4	5.9
15	9.1	14	269	224	e220	115	71	45	30	11	8.7	7.9
16	6.5	13	205	208	e216	115	70	44	27	11	7.9	10
17	6.6	77	166	197	e270	118	69	43	24	11	8.5	10
18	7.2	136	138	190	e240	114	68	41	23	10	8.5	10
19	10	54	121	183	e222	112	78	41	22	10	6.9	11
20	9.1	57	109	279	e218	111	74	40	22	10	6.4	13
21	8.9	52	335	286	e200	111	71	39	20	10	6.4	11
22	8.7	162	506	777	e192	109	70	39	19	9.5	7.4	10
23	8.6	117	283	1090	e182	109	79	45	19	9.2	6.2	9.8
24	9.0	56	185	624	e172	109	71	48	18	11	6.6	9.4
25	15	41	149	1350	e170	105	68	43	18	9.8	7.0	9.4
26	15	34	275	2270	e164	104	66	41	17	8.7	6.3	11
27	11	30	672	1300	e167	103	64	40	18	8.5	6.4	11
28	12	28	401	920	e160	99	63	40	17	9.8	6.8	11
29	15	27	445	739	---	96	63	39	18	11	6.8	11
30	26	24	1030	628	---	93	61	36	19	10	6.6	10
31	22	---	1130	559	---	95	---	33	---	10	6.4	---
TOTAL	349.5	1127	10599	28121	7347	3665	2233	1427	763	385.5	243.0	252.0
MEAN	11.3	37.6	342	907	262	118	74.4	46.0	25.4	12.4	7.84	8.40
MAX	26	162	1130	5120	511	151	92	60	45	22	10	13
MIN	6.5	13	26	183	160	93	61	33	17	8.5	6.2	5.4
AC-FT	693	2240	21020	55780	14570	7270	4430	2830	1510	765	482	500

e Estimated.

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.5	31.0	75.4	136	171	188	182	120	45.8	21.2	12.2	10.0
MAX	41.6	270	465	907	959	825	704	461	163	62.9	36.1	31.6
(WY)	1983	1951	1956	1997	1986	1983	1982	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1934 - 1997			
ANNUAL TOTAL	45788.0				56512.0							
ANNUAL MEAN	125				155				83.3			
HIGHEST ANNUAL MEAN									264			
LOWEST ANNUAL MEAN									6.14			
HIGHEST DAILY MEAN	1130				5120				5780			
LOWEST DAILY MEAN	6.5				5.4				.00			
ANNUAL SEVEN-DAY MINIMUM	7.6				5.8				.00			
INSTANTANEOUS PEAK FLOW					7610				7610			
INSTANTANEOUS PEAK STAGE					12.72				12.72			
ANNUAL RUNOFF (AC-FT)	90820				112100				60350			
10 PERCENT EXCEEDS	290				343				213			
50 PERCENT EXCEEDS	56				40				27			
90 PERCENT EXCEEDS	10				8.3				5.8			

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 mi².

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.—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.

COOPERATION.—Records were collected by East Bay Municipal Utility District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 41,300 ft³/s, Jan. 2, 1997, gage height, 25.60 ft, present datum; minimum observed, 5 ft³/s, Aug. 13–15, 17, 18, 1904.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	322	717	877	17600	3100	1600	1570	2780	2290	700	624	577
2	258	701	912	31300	3020	1540	1440	1980	1950	691	592	621
3	346	653	819	19900	2740	1540	1420	1980	1850	738	475	557
4	285	679	796	10500	2630	1520	1340	1930	2270	592	607	609
5	237	702	3160	6820	2390	1510	1420	1780	3750	428	960	652
6	287	696	2110	5190	2370	1410	1350	1710	2050	517	1450	591
7	259	662	1560	4240	2150	1570	1380	2070	1540	531	853	584
8	249	684	1290	3620	2100	1430	1340	2170	1400	690	604	619
9	273	682	1220	3380	2170	1440	1360	2390	1570	720	594	607
10	252	626	2580	2850	2020	1510	1310	2670	1320	630	575	645
11	283	718	2620	2640	1940	1470	1390	3220	1150	611	601	575
12	273	661	5770	2500	1940	1520	1270	3400	1120	691	599	603
13	259	339	4110	2260	1940	1420	1340	3680	1080	638	674	557
14	565	716	2730	1980	1860	1490	1400	3690	1090	668	510	613
15	642	719	2090	1930	1760	1420	1340	3670	1290	614	591	615
16	747	619	1780	1930	1800	1540	1400	3740	1320	700	694	544
17	776	843	1630	1880	1890	1540	1440	3370	1170	450	630	625
18	733	1830	1470	1740	1870	1450	1530	3180	1080	618	683	552
19	658	1210	1410	1760	1700	1480	1850	2720	1170	671	611	659
20	765	1180	1250	1990	1800	1600	1760	2560	1010	600	626	610
21	706	867	2820	2160	1740	1540	1740	2010	1170	640	593	632
22	717	1840	2350	3190	1750	1480	1720	1600	1030	502	644	692
23	809	1530	1140	4720	1650	1590	1670	1510	1100	665	548	607
24	609	1060	1160	3280	1590	1590	1650	1830	1020	636	581	431
25	688	1050	1090	5600	1640	1640	1510	1650	1000	635	685	680
26	679	867	1360	9400	1610	1630	1540	1480	921	600	602	611
27	697	907	3420	5920	1530	1670	1630	1200	638	690	670	561
28	756	883	2460	4580	1630	1650	1850	1530	771	629	616	675
29	603	857	2360	3960	---	1530	2570	1900	662	678	475	631
30	716	900	6010	3390	---	1570	2940	2330	718	372	551	405
31	757	---	6510	3230	---	1500	---	2390	---	609	557	---
TOTAL	16206	26398	70864	175440	56330	47390	47470	74120	40500	19154	20075	17940
MEAN	523	880	2286	5659	2012	1529	1582	2391	1350	618	648	598
MAX	809	1840	6510	31300	3100	1670	2940	3740	3750	738	1450	692
MIN	237	339	796	1740	1530	1410	1270	1200	638	372	475	405
AC-FT	32140	52360	140600	348000	111700	94000	94160	147000	80330	37990	39820	35580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1928	509	898	1984	8.97	1978
1929	581	3275	1951	25.3	1930
1930	777	4375	1951	70.1	1931
1931	931	5659	1997	65.5	1991
1932	1027	4788	1986	100	1977
1933	1163	3950	1983	115	1977
1934	1373	4114	1982	221	1977
1935	1909	5092	1952	273	1987
1936	1778	6243	1983	262	1977
1937	725	3384	1983	106	1928
1938	549	1117	1983	77.5	1930
1939	523	949	1983	67.7	1930

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1928 - 1997
ANNUAL TOTAL	549637	611887	
ANNUAL MEAN	1502	1676	986
HIGHEST ANNUAL MEAN			2511
LOWEST ANNUAL MEAN			208
HIGHEST DAILY MEAN	18100	May 16	31300
LOWEST DAILY MEAN	235	Jan 13	237
ANNUAL SEVEN-DAY MINIMUM	263	Oct 5	263
INSTANTANEOUS PEAK FLOW			41300
INSTANTANEOUS PEAK STAGE			25.60
ANNUAL RUNOFF (AC-FT)	1090000	1214000	714300
10 PERCENT EXCEEDS	2750	2970	2160
50 PERCENT EXCEEDS	1060	1320	615
90 PERCENT EXCEEDS	446	576	238

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 mi².

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). WDR CA-94-3: 1993(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.—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 ft³/s with Pardee Reservoir full, are the largest of several diversions upstream from the station. See schematic diagram of Mokelumne River Basin.

COOPERATION.—Records were collected by East Bay Municipal Utility District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,800 ft³/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 ft³/s, Feb. 19, 1986, gage height, 11.21 ft; minimum daily, 23 ft³/s, Oct. 6, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313	320	493	3530	5020	2180	1330	494	514	533	293	225
2	312	322	493	4930	5010	2090	1330	512	534	429	294	227
3	312	319	559	5100	5010	2080	1340	523	544	380	290	229
4	311	324	597	5050	5010	2080	1270	523	545	383	291	233
5	310	321	739	5000	5010	2090	1240	524	546	362	293	232
6	309	321	1020	4890	5010	2090	1240	526	550	341	295	228
7	307	321	1030	4900	5000	2090	1170	531	547	330	288	262
8	311	321	1030	4970	4990	2080	1050	534	546	330	288	310
9	310	322	1160	5010	4990	2080	1010	536	562	336	279	307
10	315	324	1580	5010	4970	2080	1010	536	582	335	267	308
11	321	325	1820	5010	4960	2080	957	536	586	337	265	308
12	321	327	1820	5010	4940	2080	858	535	589	324	260	298
13	319	325	2040	5000	4930	2090	757	535	576	310	264	285
14	317	326	2520	5020	4920	1970	696	544	559	303	253	285
15	316	330	2520	5020	4890	1760	660	557	558	299	261	275
16	316	333	2500	5020	4910	1500	613	555	574	301	261	268
17	319	339	2510	5010	4810	1370	596	555	590	304	258	263
18	318	337	2500	5000	4360	1350	594	556	614	302	258	261
19	321	336	2500	5010	4060	1330	593	568	633	308	259	260
20	321	335	2490	5030	3830	1330	592	580	649	308	255	256
21	321	353	2670	5040	3650	1330	590	596	653	308	254	256
22	321	417	2580	5190	3470	1330	588	580	654	307	238	256
23	317	428	2510	5140	3300	1330	560	572	635	322	227	257
24	320	425	2490	5050	3120	1330	541	558	619	332	226	256
25	317	429	2490	5060	2940	1330	519	538	621	332	227	257
26	317	458	2500	5170	2770	1340	492	531	621	332	230	256
27	316	504	2690	5060	2560	1330	487	531	631	326	227	269
28	318	505	2970	5030	2370	1330	478	531	645	305	224	261
29	318	500	2960	5040	---	1330	470	526	647	301	226	260
30	319	499	2990	5030	---	1330	479	518	622	290	228	284
31	316	---	2960	5000	---	1330	---	515	---	290	228	---
TOTAL	9799	11046	61731	154330	120810	52440	24110	16756	17746	10300	8007	7932
MEAN	316	368	1991	4978	4315	1692	804	541	592	332	258	264
MAX	321	505	2990	5190	5020	2180	1340	596	654	533	295	310
MIN	307	319	493	3530	2370	1330	470	494	514	290	224	225
AC-FT	19440	21910	122400	306100	239600	104000	47820	33240	35200	20430	15880	15730

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
LOWEST ANNUAL MEAN	221
HIGHEST DAILY MEAN	26900
LOWEST DAILY MEAN	35
ANNUAL SEVEN-DAY MINIMUM	49
INSTANTANEOUS PEAK FLOW	28800
INSTANTANEOUS PEAK STAGE	24.40
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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	579	494	518	870	944	1019	963	1049	1000	779	638	565
MAX	2061	2157	2938	4978	4315	5117	3726	3889	3847	2788	1412	1447
(WY)	1966	1984	1984	1997	1997	1986	1983	1982	1995	1983	1983	1995
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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1965 - 1997

ANNUAL TOTAL	426465	495007	
ANNUAL MEAN	1165	1356	784
HIGHEST ANNUAL MEAN			2400
LOWEST ANNUAL MEAN			172
HIGHEST DAILY MEAN	3050	Mar 4	5190
LOWEST DAILY MEAN	259	Jan 12	224
ANNUAL SEVEN-DAY MINIMUM	261	Jan 9	226
INSTANTANEOUS PEAK FLOW			5440
INSTANTANEOUS PEAK STAGE			10.51
ANNUAL RUNOFF (AC-FT)	845900	981800	567900
10 PERCENT EXCEEDS	2580	4970	1970
50 PERCENT EXCEEDS	1030	538	453
90 PERCENT EXCEEDS	312	262	108

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.—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.

COOPERATION.—Records were collected by Woodbridge Irrigation District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 482 ft³/s, July 8, 1953; no flow at times in each year. Lowest daily mean, -64 ft³/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 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	78	.00	.00	.00	.00	64	145	122	181	167	115
2	113	69	.00	.00	.00	.00	48	158	123	193	165	111
3	129	66	.00	.00	.00	.00	36	164	134	187	165	110
4	137	27	.00	.00	.00	.00	28	164	146	192	160	106
5	133	.00	.00	.00	.00	.00	23	159	140	196	166	107
6	134	.00	.00	.00	.00	.00	26	152	136	192	162	105
7	134	.00	.00	.00	.00	.00	26	160	138	199	162	103
8	135	.00	.00	.00	.00	.00	54	160	137	201	151	109
9	135	.00	.00	.00	.00	.00	64	144	163	206	146	118
10	135	.00	.00	.00	.00	.00	71	142	177	208	145	116
11	134	.00	.00	.00	.00	.00	82	137	176	195	143	113
12	133	.00	.00	.00	.00	.00	92	136	187	194	150	111
13	133	.00	.00	.00	.00	.00	96	144	175	194	154	95
14	130	.00	.00	.00	.00	.00	100	153	168	183	151	81
15	129	.00	.00	.00	.00	55	118	155	146	182	141	81
16	128	.00	.00	.00	.00	75	132	154	147	186	132	84
17	129	.00	.00	.00	.00	77	133	152	159	178	130	81
18	129	.00	.00	.00	.00	94	130	142	186	178	131	85
19	129	.00	.00	.00	.00	116	129	142	212	177	139	91
20	130	.00	.00	.00	.00	118	129	155	214	177	148	95
21	129	.00	.00	.00	.00	125	128	159	217	174	159	87
22	127	.00	.00	.00	.00	124	134	156	213	176	157	83
23	125	.00	.00	.00	.00	120	134	143	210	178	129	84
24	126	.00	.00	.00	.00	110	129	126	217	186	124	87
25	126	.00	.00	.00	.00	96	126	114	221	190	121	85
26	124	.00	.00	.00	.00	92	125	112	221	191	122	84
27	122	.00	.00	.00	.00	65	122	117	216	192	126	83
28	122	.00	.00	.00	.00	57	122	118	216	187	127	84
29	110	.00	.00	.00	---	52	130	116	211	180	123	86
30	88	.00	.00	.00	---	50	136	123	196	178	122	74
31	81	---	.00	.00	---	57	---	126	---	173	118	---
TOTAL	3880	240.00	0.00	0.00	0.00	1483.00	2867	4428	5324	5804	4436	2854
MEAN	125	8.00	.000	.000	.000	47.8	95.6	143	177	187	143	95.1
MAX	137	78	.00	.00	.00	125	136	164	221	208	167	118
MIN	81	.00	.00	.00	.00	.00	23	112	122	173	118	74
AC-FT	7700	476	.00	.00	.00	2940	5690	8780	10560	11510	8800	5660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1997, BY WATER YEAR (WY)

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
MEAN	107	24.8	4.71	.24	.19	23.0	114	209	261	273	254	181
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 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1926 - 1997
ANNUAL TOTAL	36137.00	31316.00	
ANNUAL MEAN	98.7	85.8	122
HIGHEST ANNUAL MEAN			206
LOWEST ANNUAL MEAN			49.2
HIGHEST DAILY MEAN	297	221	482
LOWEST DAILY MEAN	.00	.00	-64
ANNUAL SEVEN-DAY MINIMUM	.00	.00	-6.3
ANNUAL RUNOFF (AC-FT)	71680	62120	88590
10 PERCENT EXCEEDS	232	179	313
50 PERCENT EXCEEDS	111	107	99
90 PERCENT EXCEEDS	.00	.00	.00

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA

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 mi².

PERIOD OF RECORD.—Water years 1924–94 (low-flow records only 1924–25), October 1996 to September 1997.

CHEMICAL DATA: Water years 1951–94.

SPECIFIC CONDUCTANCE: Water years 1952–58, 1975–77.

WATER TEMPERATURE: Water years 1951–58, 1961–86.

SEDIMENT: Water years 1975–94.

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.—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.

COOPERATION.—Records were collected by East Bay Municipal Utility District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 27,000 ft³/s, Nov. 22, 1950, gage height 29.58 ft, from rating curve extended above 6,200 ft³/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.23 ft³/s, Nov. 15, 1977. Maximum discharge since construction of Camanche Dam in 1963, 5,340 ft³/s, Mar. 8, 1986, gage height, 23.19 ft; maximum gage height, 23.31 ft, Jan. 9, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	176	441	3100	4890	2330	1150	284	294	280	38	35
2	114	179	435	3680	4880	2150	1150	287	286	189	36	39
3	110	181	436	4250	4880	2080	1150	296	308	116	36	39
4	98	550	508	4360	4880	2050	1150	299	322	107	35	47
5	108	442	550	4540	4870	2040	1060	303	329	82	34	51
6	109	293	747	4540	4860	2030	1050	316	322	65	34	50
7	106	283	873	4640	4850	2030	1050	303	315	56	34	49
8	104	274	889	4660	4850	2020	937	314	308	49	34	82
9	105	270	921	4690	4840	2010	865	328	295	48	35	100
10	103	271	1180	4670	4840	2000	827	324	305	46	35	106
11	113	270	1530	4930	4820	1990	814	319	317	44	35	110
12	117	268	1640	4990	4770	1920	722	324	312	40	36	117
13	109	266	1670	4970	4730	1840	642	320	328	36	36	121
14	109	262	2050	4980	4680	1950	542	305	324	36	36	125
15	114	267	2310	4990	4640	1680	505	312	311	35	35	129
16	116	276	2350	4980	4600	1540	463	319	308	35	34	122
17	115	341	2360	4970	4560	1370	434	318	311	36	33	115
18	126	291	2380	4970	4510	1220	423	315	292	37	33	101
19	127	296	2400	4960	4330	1220	428	320	302	36	33	96
20	124	285	2410	4940	4140	1190	416	317	325	35	34	93
21	126	280	2560	4920	3930	1180	414	342	322	35	34	87
22	127	325	2730	4970	3700	1160	408	352	326	36	38	90
23	136	370	2600	5020	3480	1160	407	357	337	35	70	99
24	137	368	2510	4990	3270	1160	385	368	305	37	32	113
25	134	367	2480	4830	3080	1170	359	351	301	37	32	107
26	133	367	2480	4950	2900	1130	342	340	296	36	32	92
27	132	409	2510	4970	2700	1170	332	326	283	35	32	83
28	133	433	2760	4940	2510	1160	324	332	292	35	32	90
29	201	436	2960	4920	---	1160	312	334	318	35	33	111
30	205	434	3000	4910	---	1150	296	322	338	37	33	132
31	180	---	3020	4910	---	1160	---	304	---	39	33	---
TOTAL	3896	9530	57690	147140	119990	49420	19357	9951	9332	1805	1097	2731
MEAN	126	318	1861	4746	4285	1594	645	321	311	58.2	35.4	91.0
MAX	205	550	3020	5020	4890	2330	1150	368	338	280	70	132
MIN	98	176	435	3100	2510	1130	296	284	283	35	32	35
AC-FT	7730	18900	114400	291900	238000	98020	38390	19740	18510	3580	2180	5420

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	440	460	469	832	836	803	687	656	519	316	241	288
MAX	1716	1979	2825	4746	4285	4711	3641	3522	2736	2372	982	1067
(WY)	1966	1984	1984	1997	1997	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 1997 WATER YEAR

WATER YEARS 1965 - 1997

ANNUAL TOTAL	431939		
ANNUAL MEAN	1183		544
HIGHEST ANNUAL MEAN			2170
LOWEST ANNUAL MEAN			21.8
HIGHEST DAILY MEAN	5020	Jan 23	5240
LOWEST DAILY MEAN	32	Aug 24	.23
ANNUAL SEVEN-DAY MINIMUM	32	Aug 24	.24
INSTANTANEOUS PEAK FLOW	5070	Jan 22	5340
INSTANTANEOUS PEAK STAGE	23.31	Jan 9	23.31
ANNUAL RUNOFF (AC-FT)	856800		394100
10 PERCENT EXCEEDS	4670		1550
50 PERCENT EXCEEDS	322		172
90 PERCENT EXCEEDS	36		25

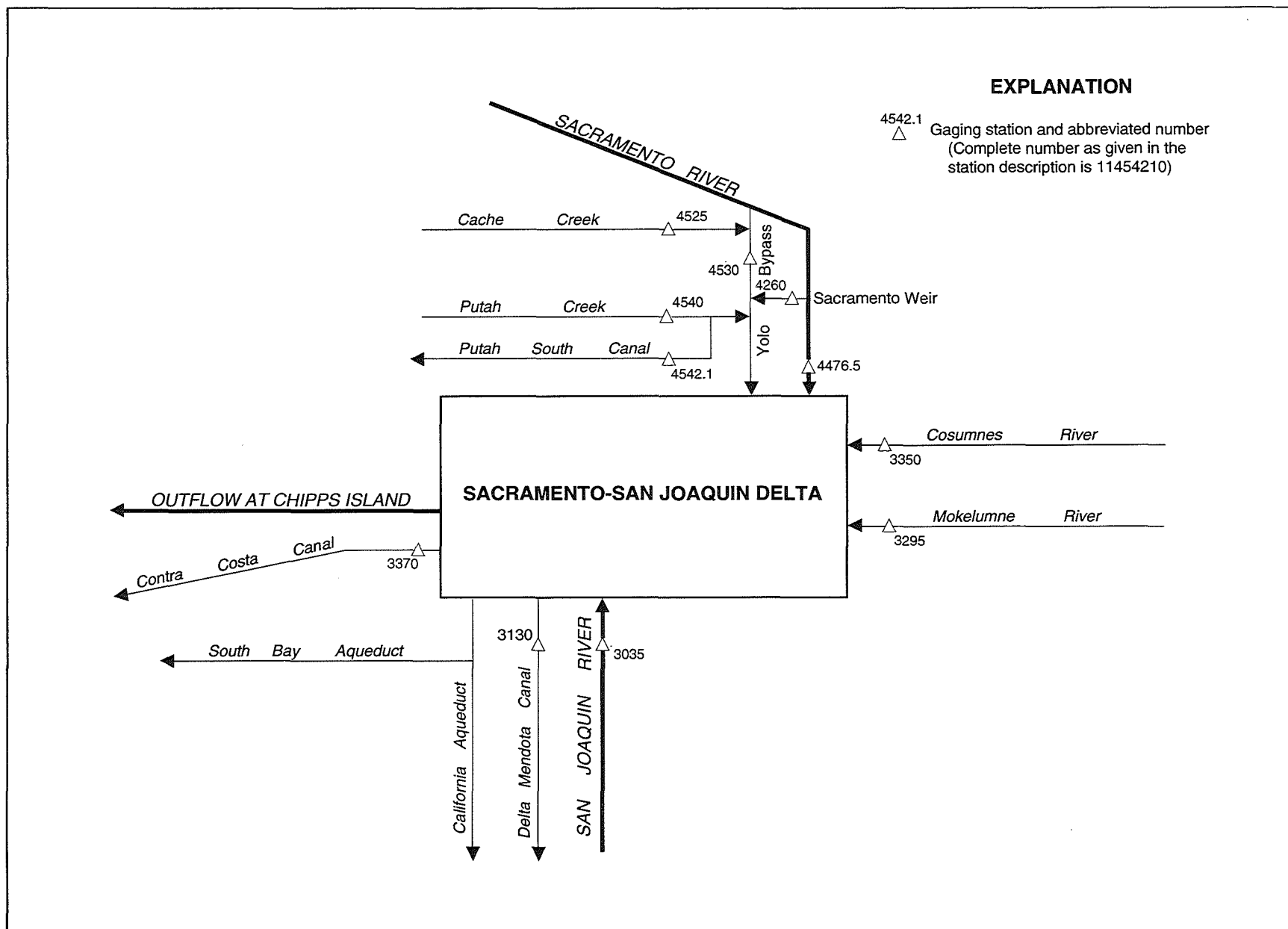


Figure 32. Principal inflows and diversions, Sacramento-San Joaquin Delta.

11329500 DRY CREEK NEAR GALT, CA

LOCATION.—Lat 38°14'53", long 121°13'33", in NE 1/4 NE 1/4 sec.32, T.5 N., R.7 E., San Joaquin County, Hydrologic Unit 18040005, on left bank of main channel 35 ft downstream from county road bridge, 2 mi downstream from Coyote Creek, and 4 mi east of Galt.

DRAINAGE AREA.—324 mi².

PERIOD OF RECORD.—Water years 1927–33, 1945–87, October 1995 to current year (low-flow records only). Monthly figures for some periods published in WSP 1315-A.

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

GAGE.—Water-stage recorder. Datum of gage is 42.83 ft above sea level (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 mi downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, on left bank at datum 13.00 ft. higher. Oct. 1, 1945, to June 14, 1966, on right bank and June 15, 1966, to Dec. 4, 1978, on left bank, both at datum 10.00 ft higher.

REMARKS.—No records computed above 400 ft³/s. Records fair except estimated daily discharges, which are poor. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft. See schematic diagram of Sacramento-San Joaquin Delta.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,300 ft³/s, Feb. 17, 1986, gage height, 26.02 ft, from rating curve extended above 16,000 ft³/s; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	10	---	---	199	59	32	7.1	3.6	.82	2.2
2	.00	.00	11	---	---	194	55	25	14	2.7	.96	.94
3	.00	.00	14	---	---	202	56	22	13	5.2	2.1	.24
4	.00	.00	12	---	---	189	50	20	16	6.1	2.3	1.6
5	.00	.00	---	---	---	185	46	21	14	8.0	2.1	.35
6	.00	.00	---	---	---	180	46	18	13	5.9	1.3	.00
7	.00	1.2	209	---	---	175	e44	30	11	7.6	1.1	.00
8	.00	.23	138	---	---	172	e42	30	9.2	4.7	.75	.00
9	.00	.01	136	---	---	166	e39	28	7.5	3.2	.51	.00
10	.00	.00	---	---	---	160	e39	30	6.1	4.4	1.1	.00
11	.00	.00	---	---	---	151	e38	28	5.9	3.5	1.4	.00
12	.00	1.2	---	---	---	109	e43	27	10	3.8	1.4	.00
13	.00	.26	---	---	---	96	e44	23	12	3.8	.75	.00
14	.00	.03	---	---	377	94	e40	20	11	4.2	.35	.00
15	.00	.00	---	---	356	94	e36	19	10	2.5	.23	.00
16	.00	.10	252	---	330	88	e40	17	6.4	3.0	.75	.00
17	.00	1.2	190	---	326	89	e37	17	6.6	3.3	2.4	.00
18	.00	98	155	---	317	86	31	19	5.6	2.2	1.6	.00
19	.00	67	135	---	284	84	51	17	7.4	2.9	1.2	.00
20	.00	62	123	---	270	83	65	9.6	8.5	2.9	.93	.00
21	.00	43	---	---	259	86	45	8.6	5.1	1.6	.98	.00
22	.00	89	---	---	249	88	30	15	3.9	1.1	1.1	.00
23	.00	237	---	---	241	85	52	18	8.4	1.4	1.1	.00
24	.00	98	---	---	226	85	51	20	6.2	1.4	.41	.00
25	.00	48	---	---	212	87	e44	15	5.8	1.9	.38	.00
26	.00	30	---	---	217	81	48	13	6.5	1.7	1.3	.00
27	.00	21	---	---	215	79	40	9.2	4.2	1.9	.75	.00
28	.00	17	---	---	210	74	40	15	4.4	1.6	.20	.00
29	.00	14	---	---	---	70	39	15	2.9	2.5	.00	.00
30	.00	12	---	---	---	66	36	10	3.2	1.6	.05	.00
31	.00	---	---	---	---	66	---	8.3	---	.85	1.0	---
TOTAL	0.00	840.23	---	---	---	3663	1326	599.7	244.9	101.05	31.32	5.33
MEAN	.000	28.0	---	---	---	118	44.2	19.3	8.16	3.26	1.01	.18
MAX	.00	237	---	---	---	202	65	32	16	8.0	2.4	2.2
MIN	.00	.00	---	---	---	66	30	8.3	2.9	.85	.00	.00
AC-FT	.00	1670	---	---	---	7270	2630	1190	486	200	62	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1987, BY WATER YEAR (WY)

	1963	1963	1963	1963	1963	1963	1963	1963	1963	1963	1963	1963
MEAN	1.42	48.3	197	344	430	363	216	41.8	6.89	2.04	1.22	1.35
MAX	39.4	829	1416	1646	2866	2257	2039	431	76.9	42.5	26.9	34.9
(WY)	1963	1951	1956	1956	1986	1983	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1927	1928	1930	1931	1977	1977	1931	1931	1928	1927	1927	1927

SUMMARY STATISTICS

WATER YEARS 1927 - 1987

ANNUAL MEAN	136		
HIGHEST ANNUAL MEAN	664		1983
LOWEST ANNUAL MEAN	.000		1977
HIGHEST DAILY MEAN	18900	Feb 17	1986
LOWEST DAILY MEAN	.00	Oct 1	1926
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	1926
INSTANTANEOUS PEAK FLOW	30300	Feb 17	1986
INSTANTANEOUS PEAK STAGE	26.02	Feb 17	1986
ANNUAL RUNOFF (AC-FT)	98720		
10 PERCENT EXCEEDS	274		
50 PERCENT EXCEEDS	.34		
90 PERCENT EXCEEDS	.00		

e Estimated.

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 mi².

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.—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, 22,400 ft³/s, Jan. 2, 1997, gage height, 20.30 ft, from rating curve extended above 5,000 ft³/s; no flow Aug. 7–18, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	12	15	5430	441	81	69	41	e10	8.4	6.4	6.9
2	6.9	7.4	15	e10700	404	82	63	39	e9.9	7.9	6.4	6.8
3	7.0	6.3	12	3490	356	79	41	35	e9.9	7.5	6.4	6.8
4	6.9	6.2	11	1330	317	62	27	27	17	7.2	6.4	6.8
5	6.8	6.2	188	902	284	26	23	19	e13	7.3	6.3	6.8
6	6.6	6.2	62	662	252	46	26	19	e11	7.1	7.1	6.5
7	6.4	6.2	37	520	231	63	26	17	e10	7.0	7.8	6.4
8	6.4	6.2	24	402	224	59	26	17	e9.9	7.0	7.6	6.4
9	6.4	6.0	21	314	201	58	28	16	e9.6	6.9	7.5	6.3
10	6.4	6.0	53	283	181	64	29	14	e9.3	6.9	7.7	6.2
11	6.4	6.0	48	254	171	74	26	14	e9.3	6.8	8.0	6.2
12	6.6	5.8	435	236	159	69	23	14	e9.9	6.8	8.0	6.3
13	6.7	5.8	230	210	151	67	22	13	e9.9	6.9	7.8	6.2
14	6.9	5.8	61	177	138	67	21	13	e11	6.7	7.5	6.2
15	6.9	5.8	36	167	135	67	17	e13	e13	6.3	7.4	6.4
16	6.9	5.9	28	154	132	70	16	e13	e11	6.4	7.3	6.5
17	6.9	23	25	141	146	74	16	e12	10	6.8	7.3	6.3
18	7.5	43	22	134	140	75	19	e12	10	6.4	7.4	6.2
19	9.3	16	21	128	129	63	50	e12	9.6	5.4	7.4	6.2
20	8.5	17	21	152	124	19	77	e12	9.1	6.6	8.0	6.2
21	8.2	13	99	159	117	32	81	e11	8.5	6.5	7.8	6.0
22	8.1	29	116	408	110	49	74	e11	8.5	6.2	7.4	5.9
23	8.0	27	78	779	113	71	89	e13	8.7	6.0	7.3	5.8
24	8.7	15	52	541	105	76	80	e14	8.6	7.2	7.3	5.7
25	12	12	40	861	93	83	51	e12	8.5	7.6	7.3	5.7
26	12	11	67	1470	90	79	39	e12	8.2	7.5	7.2	5.8
27	10	9.7	493	1230	89	75	42	e11	8.2	6.4	7.2	5.9
28	9.2	9.9	565	898	86	69	43	e11	8.0	6.3	7.3	5.9
29	9.5	9.5	589	725	---	66	43	e11	8.2	6.5	7.1	5.8
30	14	8.9	1220	589	---	65	41	e11	8.4	6.5	7.0	5.7
31	16	---	1670	486	---	71	---	e11	---	6.5	7.0	---
TOTAL	255.0	347.8	6354	33932	5119	2001	1228	500	296.2	211.5	225.6	186.8
MEAN	8.23	11.6	205	1095	183	64.5	40.9	16.1	9.87	6.82	7.28	6.23
MAX	16	43	1670	10700	441	83	89	41	17	8.4	8.0	6.9
MIN	6.4	5.8	11	128	86	19	16	11	8.0	5.4	6.3	5.7
AC-FT	506	690	12600	67300	10150	3970	2440	992	588	420	447	371
a	-2002	+278	+9332	-182	-259	-123	+32	-963	-2214	-3683	-3709	-2991
b	2509	1541	1621	1660	1472	1718	2198	3096	3669	4745	4409	3461
c	90	22	9	8	31	89	113	215	203	249	221	150

e Estimated.

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 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.03	8.62	46.0	98.5	109	133	149	107	24.4	11.4	7.01	5.22
MAX	32.9	71.3	469	1095	820	745	621	452	156	37.2	23.7	17.2
(WY)	1983	1984	1984	1997	1986	1983	1982	1967	1967	1995	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1955 - 1997	
ANNUAL TOTAL	39114.9		50656.9			
ANNUAL MEAN	107		139		58.5	
ANNUAL MEAN a	153		176		86.7	
HIGHEST ANNUAL MEAN					215	
LOWEST ANNUAL MEAN					1.89	
HIGHEST DAILY MEAN	1670	Dec 31	10700	Jan 2	10700	Jan 2 1997
LOWEST DAILY MEAN	4.6	Jan 12	5.4	Jul 19	.00	Aug 7 1977
ANNUAL SEVEN-DAY MINIMUM	4.7	Jan 8	5.8	Sep 24	.00	Aug 7 1977
INSTANTANEOUS PEAK FLOW			22400	Jan 2	22400	Jan 2 1997
INSTANTANEOUS PEAK STAGE			20.30	Jan 2	20.30	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	77580		100500		42390	
ANNUAL RUNOFF (AC-FT) a	110900		127500		62810	
10 PERCENT EXCEEDS	298		226		167	
50 PERCENT EXCEEDS	21		12		7.8	
90 PERCENT EXCEEDS	6.6		6.3		2.9	

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 mi².

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. 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. See schematic diagram of Sacramento–San Joaquin Delta.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 93,000 ft³/s, Jan. 2, 1997, gage height, 18.54 ft, from rating curve extended above 34,000 ft³/s on basis of slope-area determination 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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 5	1400	5,530	7.14	Jan. 2	1115	93,000	18.54
Dec. 12	1745	11,300	8.58	Jan. 23	0130	21,200	11.65
Dec. 21	2245	14,400	9.28	Jan. 26	1200	17,900	11.07

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	87	149	25300	2700	682	520	373	128	72	36	26
2	27	68	206	61600	2490	672	484	364	124	76	35	26
3	28	59	192	19100	2210	696	453	349	123	72	33	25
4	29	55	167	8520	2020	650	418	333	140	69	33	24
5	29	52	2950	5580	1860	591	394	320	241	65	33	24
6	27	50	1760	4090	1690	566	382	309	213	62	32	23
7	27	49	965	3220	1570	576	377	302	169	59	30	22
8	27	49	653	2680	1600	567	370	297	145	58	30	22
9	25	49	594	2280	1450	557	362	293	133	56	29	22
10	24	49	2640	2020	1340	552	362	287	125	54	29	22
11	25	47	2530	1840	1260	562	351	282	120	53	30	21
12	25	45	7020	1780	1180	566	339	277	115	52	32	21
13	26	43	5440	1710	1120	553	330	270	110	51	32	21
14	27	43	2570	1460	1060	543	325	261	108	52	30	22
15	27	43	1560	1360	1020	541	322	250	e110	51	30	23
16	28	43	1130	1290	995	549	315	241	e112	50	29	22
17	28	65	900	1200	1100	571	317	228	119	48	28	22
18	29	541	742	1140	1080	565	329	216	107	49	28	22
19	33	426	622	1100	977	559	484	206	98	47	28	23
20	42	295	540	1320	941	531	566	199	91	45	30	22
21	44	256	7460	1660	899	514	520	187	87	44	33	23
22	40	594	6630	6560	862	526	527	176	83	44	33	24
23	37	944	2400	11900	831	554	551	176	80	42	31	24
24	37	461	1300	4500	788	573	593	205	80	41	29	23
25	40	304	954	7290	754	584	493	211	78	42	29	21
26	49	239	956	14500	733	582	440	181	74	44	28	22
27	57	200	4690	9580	725	594	420	170	72	42	28	21
28	51	174	3530	5710	720	578	424	158	69	41	27	20
29	50	166	2660	4300	---	555	417	154	69	40	27	21
30	49	156	7400	3460	---	539	391	144	70	38	26	21
31	72	---	9250	2950	---	535	---	135	---	37	26	---
TOTAL	1086	5652	80560	221000	35975	17783	12576	7554	3393	1596	934	675
MEAN	35.0	188	2599	7129	1285	574	419	244	113	51.5	30.1	22.5
MAX	72	944	9250	61600	2700	696	593	373	241	76	36	26
MIN	24	43	149	1100	720	514	315	135	69	37	26	20
AC-FT	2150	11210	159800	438400	71360	35270	24940	14980	6730	3170	1850	1340

e Estimated.

SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.8	141	444	954	1153	1191	1059	681	248	58.9	19.7	14.0
MAX	335	2493	3380	7129	6610	5255	3992	2362	1067	346	114	82.0
(WY)	1963	1951	1965	1997	1986	1983	1982	1995	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 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1908 - 1997			
ANNUAL TOTAL	303562				388784							
ANNUAL MEAN	829				1065				496			
HIGHEST ANNUAL MEAN									1687			
LOWEST ANNUAL MEAN									21.8			
HIGHEST DAILY MEAN	9250				Dec 31				61600			
LOWEST DAILY MEAN	24				Oct 10				20			
ANNUAL SEVEN-DAY MINIMUM	26				Oct 7				21			
INSTANTANEOUS PEAK FLOW									93000			
INSTANTANEOUS PEAK STAGE									18.54			
ANNUAL RUNOFF (AC-FT)	602100				771200				359400			
10 PERCENT EXCEEDS	2040				2100				1280			
50 PERCENT EXCEEDS	272				192				101			
90 PERCENT EXCEEDS	29				26				6.8			

11336585 LAGUNA CREEK NEAR ELK GROVE, CA

LOCATION.—Lat 38°25'24", long 121°21'08", in NE 1/4 NE 1/4, sec. 31, T.7 N, R.6 E in Sacramento County, Hydrologic Unit 18020109, on left bank 50 ft downstream from bridge on Waterman Road at intersection with Bond Road, and 1 mi northeast of Elk Grove.

DRAINAGE AREA.—31.9 mi².

PERIOD OF RECORD.—October 1995 to current year.

GAGE.—Water-stage recorder. Datum of gage is 40 ft above sea level, from topographic map.

REMARKS.—Records good except for discharges below 1 ft³/s and estimated daily discharges, which are poor. Low summer flow sustained by residential and agricultural waste water.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,020 ft³/s, Jan. 23, 1997, gage height, 7.54 ft; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than a base discharge of 500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 13	0115	599	5.53	Jan. 1	2345	1,920	7.44
Dec. 22	0430	733	5.81	Jan. 23	0545	2,020	7.54

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.19	.09	808	8.7	e.00	.00	.00	.07	.39	3.2	.41
2	.10	.13	.08	1460	7.6	e.00	.00	.00	.32	.22	2.2	.17
3	.09	.11	.07	413	6.5	e.00	.11	.00	.16	.17	1.6	.05
4	.11	.07	.07	81	6.3	e.00	.22	.00	1.5	.62	.33	.00
5	.13	.07	.81	34	6.0	e.00	.13	.05	.93	1.0	.07	.00
6	.08	.05	2.8	18	5.0	e.00	.08	.04	.53	.52	.01	.00
7	.09	.05	1.2	12	4.3	.00	.11	.33	.21	.09	.01	.15
8	.12	.06	.64	8.5	5.6	.00	.20	.41	.22	.01	.43	.60
9	.11	.06	.86	7.0	e7.9	.00	.28	.20	.65	.00	.53	.25
10	.12	.05	25	5.7	e6.9	.00	.68	.08	.67	.00	.78	.88
11	.12	.03	26	4.6	e6.2	.00	.62	.08	.42	.00	2.9	.78
12	.12	.01	299	5.9	e5.5	.00	.28	.80	.68	.00	3.5	.91
13	.10	.00	369	15	e4.9	.00	.14	.76	2.1	.01	1.3	1.1
14	.06	.00	61	10	e3.7	.00	.09	4.5	.83	.31	.13	.67
15	.04	.00	21	7.4	e3.0	.00	.05	3.4	.36	.96	.05	.18
16	.03	.00	12	6.1	e2.5	.00	.03	3.2	.16	.68	1.7	.06
17	.01	.16	8.1	5.2	e2.0	.00	.00	5.6	.25	.20	3.8	.07
18	.04	3.8	5.8	4.3	e1.6	.00	.00	.65	.27	.56	3.6	.08
19	.24	3.0	4.4	3.8	e1.2	.00	.41	.07	.49	1.1	1.5	.25
20	.08	6.6	3.5	11	e.96	.00	1.4	.01	.67	.34	2.2	.20
21	.06	2.6	258	39	e.72	.00	3.0	.85	.83	.38	1.3	.23
22	.04	4.2	576	509	e.45	.00	2.0	1.8	.64	.41	.98	.15
23	.04	9.7	181	1410	e.31	.00	1.1	1.0	.15	1.2	.56	.13
24	.12	6.0	53	160	e.20	.00	.34	.72	.06	1.2	1.3	.09
25	.41	3.0	21	521	e.13	.00	.15	.61	.20	.64	1.1	.08
26	.35	1.3	22	585	e.03	.00	.07	.52	.33	.08	.44	.07
27	.13	.61	359	169	e.00	.00	.05	.50	.29	.00	1.0	.08
28	.07	.36	313	43	e.00	.00	.03	2.3	.29	.01	.26	.09
29	.08	.22	69	20	---	.00	.02	1.8	.80	.14	.18	.08
30	.23	.09	59	14	---	.00	.00	.66	1.5	.79	.08	.09
31	.31	---	104	10	---	.00	---	.23	---	.32	.22	---
TOTAL	3.71	42.52	2856.42	6400.5	98.20	0.00	11.59	31.17	16.58	12.35	37.26	7.90
MEAN	.12	1.42	92.1	206	3.51	.000	.39	1.01	.55	.40	1.20	.26
MAX	.41	9.7	576	1460	8.7	.00	3.0	5.6	2.1	1.2	3.8	1.1
MIN	.01	.00	.07	3.8	.00	.00	.00	.00	.06	.00	.01	.00
AC-FT	7.4	84	5670	12700	195	.00	23	62	33	24	74	16

e Estimated.

11336585 LAGUNA CREEK NEAR ELK GROVE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.060	.71	48.5	119	55.8	10.9	3.18	.88	.28	.20	.63	.61
MAX	.12	1.42	92.1	206	106	21.9	5.97	1.01	.55	.40	1.20	.95
(WY)	1997	1997	1997	1997	1996	1996	1996	1997	1997	1997	1997	1996
MIN	.000	.000	4.79	31.7	3.51	.000	.39	.75	.000	.000	.048	.26
(WY)	1996	1996	1996	1996	1997	1997	1997	1996	1996	1996	1996	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1996 - 1997			
ANNUAL TOTAL	7875.36				9518.20							
ANNUAL MEAN	21.5				26.1				20.0			
HIGHEST ANNUAL MEAN									26.1			
LOWEST ANNUAL MEAN									14.0			
HIGHEST DAILY MEAN	726				1460				1460			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				.00				.00			
INSTANTANEOUS PEAK FLOW					2020				2020			
INSTANTANEOUS PEAK STAGE					7.54				7.54			
ANNUAL RUNOFF (AC-FT)	15620				18880				14510			
10 PERCENT EXCEEDS	27				11				14			
50 PERCENT EXCEEDS	.12				.32				.16			
90 PERCENT EXCEEDS	.00				.00				.00			

11337000 CONTRA COSTA CANAL NEAR OAKLEY, CA

LOCATION.—Lat 37°59'44", long 121°42'03", in NW 1/4 NE 1/4 sec.25, T.2 N., R.2 E., Contra Costa County, Hydrologic Unit 18040003, at Pumping Plant No. 1, 0.7 mi east of Oakley, and 2.6 mi northwest of Knightsen.

PERIOD OF RECORD.—February 1950 to September 1987, October 1993 to current year.

GAGE.—Water-stage recorder and acoustic-velocity meter. From Jan. 1, 1953, to Sept. 30, 1993, recording flow meters on pumps. Prior to Jan. 1, 1953, water-stage recorder at site 3.2 mi downstream at datum 121.72 ft above sea level (levels by U.S. Bureau of Reclamation).

REMARKS.—Water is diverted from Sacramento–San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumps lift the water 115 ft into the canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley Project. See schematic diagram of Sacramento–San Joaquin Delta.

COOPERATION.—Records of daily discharge were provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 436 ft³/s, Aug. 19, 1995; no flow, on some days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	162	112	66	64	84	158	183	205	229	222	197
2	212	171	101	78	64	90	155	179	204	230	226	187
3	206	169	94	74	62	85	153	173	202	229	225	201
4	191	165	96	71	66	61	169	178	198	229	228	204
5	184	152	102	78	65	105	179	175	188	215	238	211
6	173	145	110	81	60	125	176	178	196	221	246	212
7	178	144	105	73	66	137	181	186	200	220	248	208
8	179	146	102	80	69	139	182	181	196	223	151	215
9	171	131	99	78	71	134	186	191	199	221	232	181
10	172	126	97	78	82	121	187	196	200	225	198	187
11	170	129	104	73	82	111	188	193	184	227	232	203
12	168	132	100	58	72	125	190	194	201	224	219	203
13	163	130	94	75	73	124	187	188	187	232	227	201
14	147	129	100	77	71	118	156	191	191	230	224	197
15	144	128	101	80	75	127	180	192	190	222	225	205
16	161	120	96	78	74	126	184	195	197	246	224	210
17	168	122	45	87	72	147	204	195	204	229	223	213
18	164	119	.00	77	74	141	205	199	201	235	223	204
19	161	121	52	77	88	153	211	213	212	238	220	196
20	157	120	119	82	81	150	203	227	211	234	216	192
21	158	118	100	82	80	145	185	221	183	233	211	197
22	163	122	104	79	78	141	180	233	211	229	173	196
23	160	115	108	91	84	143	163	225	168	226	160	196
24	166	117	106	85	83	134	159	211	108	231	166	200
25	162	123	105	74	82	124	160	210	95	234	161	205
26	156	110	100	70	85	128	159	209	215	227	105	204
27	161	123	100	71	80	133	169	196	213	224	173	208
28	71	110	97	72	81	153	170	192	217	186	207	221
29	133	115	91	54	---	152	175	182	217	174	201	211
30	143	117	91	39	---	154	177	187	218	226	200	194
31	152	---	91	51	---	155	---	190	---	223	200	---
TOTAL	5098	3931	2922.00	2289	2084	3965	5331	6063	5811	6972	6404	6059
MEAN	164	131	94.3	73.8	74.4	128	178	196	194	225	207	202
MAX	212	171	119	91	88	155	211	233	218	246	248	221
MIN	71	110	.00	39	60	61	153	173	95	174	105	181
AC-FT	10110	7800	5800	4540	4130	7860	10570	12030	11530	13830	12700	12020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

MEAN	115	91.5	75.1	70.1	70.1	74.7	97.6	131	162	176	178	150
MAX	305	218	213	182	167	185	206	238	302	339	398	359
(WY)	1995	1995	1995	1995	1995	1988	1988	1987	1995	1995	1995	1995
MIN	36.5	33.8	21.1	18.0	15.6	17.9	23.6	32.3	46.9	56.6	59.0	59.1
(WY)	1953	1952	1951	1951	1950	1951	1950	1951	1952	1952	1952	1950

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1950 - 1997

ANNUAL TOTAL	52482.00	56929.00	
ANNUAL MEAN	143	156	117
HIGHEST ANNUAL MEAN			253
LOWEST ANNUAL MEAN			41.0
HIGHEST DAILY MEAN	245	248	436
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	26	57	6.7
ANNUAL RUNOFF (AC-FT)	104100	112900	85120
10 PERCENT EXCEEDS	233	224	212
50 PERCENT EXCEEDS	128	168	103
90 PERCENT EXCEEDS	79	77	44

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- or flood-flow analyses, depending on the type of data collected. In addition, discharge 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 station is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1997

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
TULARE LAKE BASIN							
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, 1974–97	01-03-97	26.75	1,550

a Published as a miscellaneous measurement.

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- or flood-flow analyses, depending on the type of data collected.

Discharge measurements made at miscellaneous sites during water year 1997

Station No.	Station name	Location	Drainage area (mi ²)	Measured previously (water year)	Annual maximum		
					Date	Gage height (ft)	Discharge (ft ³ /s)
SAN JOAQUIN RIVER BASIN							
37173012056 3300	Mud Slough at Highway 140, near Gustine, CA	Lat 37°17'30", long 120°56'33", in SE 1/4 SE 1/4 sec.26, T.7 S., R.9 E., Merced County, Hydrologic Unit 18040001, at State Highway 140, 3.5 mi northeast of Gustine.	—		3-15-96		179
					3-15-96		178
					6-05-96		25.0
					8-20-96		11.1
					10-31-96		143
					12-12-96		344
					12-12-96		349
					3-19-97		223
					5-15-97		97.0
					7-23-97		97.3
					8-20-97		49.8
11267050	Merced River at Rancheria Flat, near El Portal, CA	Lat 37°40'10", long 119°48'25", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Sierra National Forest, at Foresta Road, 2.0 mi southwest of El Portal, and 2.9 mi downstream of Crane Creek.	393		9-23-97		44.3
					9-23-97		44.0
					3-17-97	3.53	1030
					4-23-97	5.58	3220
					8-01-97	1.76	254
11267300	South Fork Merced River at Wawona, CA	Lat 37°32'20", long 119°39'40", in SW 1/4 sec.34, T.4 S., R.21 E., Mariposa County, in Yosemite National Park, 1,000 ft downstream from highway bridge at Wawona and 1,200 ft upstream from Big Creek.	100	1958–68a, 1969–71b, 1974–75b, 1976–78c, 1991–92d	9-12-97	.62	74
					7-30-97	2.04f	20.6
					9-12-97	1.66f	4.00

a Operated as a continuous-record gaging station.

b Published as a miscellaneous measurement.

c Discontinued.

d Seepage investigation.

f At different gage datum.

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
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
<i>Area</i>		
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
<i>Volume</i>		
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
<i>Flow</i>		
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
<i>Mass</i>		
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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