

Water Resources Data California Water Year 2002

Following is the PDF version to one of the four-volume set of Water Resources Data for the state of California.

For your convenience the Table of Contents and Index have been linked to the appropriate page within the volume, all Surface-Water and Water-Quality Stations have been book marked, those items that are colored blue are linked to the appropriate page and all web links have been activated.

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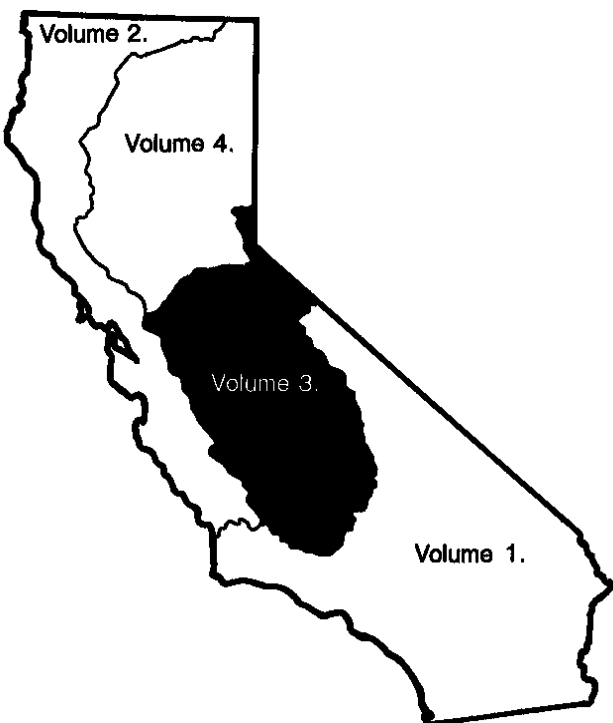
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U.S. Geological Survey

Water Resources Data California Water Year 2002

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

By L.A. Freeman, G.L. Rockwell, G.L. Pope, and J.R. Smithson

Water-Data Report CA-02-3



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



U.S. DEPARTMENT OF THE INTERIOR

GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY

Charles G. Groat, Director

For information on the water program in California write to:
District Chief, Water Resources Division
U.S. Geological Survey
Placer Hall, Suite 2015
6000 J Street
Sacramento, California 95819-6129

2003

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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WATER RESOURCES DIVISION

Robert R. Mason, Chief, Operations
James C. Bowers, Assistant Chief, Operations

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Owen Baynham, Hydrologic Technician
Kevin Bazar, Hydrologic Technician
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Kimberly S. Engelking, Editorial Assistant
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George S. Yamamoto, Scientific Illustrator
Brian T. Yost, Hydrologic Technician

Richard A. Hunrichs, Surface Water Hydrologist
Robert W. Meyer, Surface Water Hydrologist

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

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Highland Creek below New Spicer Meadow Reservoir (d)	11294000	446
North Fork Stanislaus River near Avery (d)	11294500	448
Beaver Creek Diversion Reservoir near Arnold (l)	11295220	450
Beaver Creek below diversion dam, near Arnold (d)	11295230	451
McKays Point Reservoir:		
Collierville Tunnel:		
Utica Canal at Pressure Tap, near Hathaway Pines (d)	11295240	453
Collierville Powerplant near Murphys (d)	11295250	454
McKays Point Reservoir near Avery (l)	11295260	455
North Fork Stanislaus River below McKay's Point Dam, near Avery (d)	11295270	456
North Fork Stanislaus River below Beaver Creek, near Hathaway Pines (d)	11295300	458
New Melones Reservoir:		
South Fork Stanislaus River:		
Pinecrest Lake at Pinecrest (l)	11295900	459
South Fork Stanislaus River at Strawberry (d)	11296500	460
South Fork Stanislaus River near Strawberry (d)	11297200	462
Lyons Reservoir near Long Barn (l)	11297700	463
South Fork Stanislaus River near Long Barn (d)	11298000	464
Angels Creek below Utica Ditch Diversion Dam, near Murphys (d)	11298700	466
New Melones Reservoir near Sonora (l)	11299000	467
Black Creek near Copperopolis (d)	11299600	468
Tulloch Reservoir near Knights Ferry (l)	11299995	470
Stanislaus River below Tulloch Powerplant, near Knights Ferry (t)	11299997	471
South San Joaquin Canal near Knights Ferry (d)	11300500	473
Oakdale Canal near Knights Ferry (d)	11301000	474
Stanislaus River below Goodwin Dam, near Knights Ferry (dt)	11302000	475
San Joaquin River at Oakdale (t)	11302500	479
Stanislaus River at Ripon (dct)	11303000	481
San Joaquin River near Vernalis (dcst)	11303500	486
Old River:		
Delta-Mendota Canal at Tracy Pumping Plant, near Tracy (d)	11313000	511
North Fork Mokelumne River (head of Mokelumne River):		
Deer Creek:		
Blue Creek:		
Upper Blue Lake Outlet near Markleeville (d)	11313472	513
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Meadow Lake Outlet near Markleeville (d)	11313485	515
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North Fork Mokelumne River below Salt Springs Dam (d)	11314500	517
Cole Creek near Salt Springs Dam (d)	11315000	519
Cole Creek below diversion dam, near Salt Springs Dam (d)	11315030	521
Bear River Reservoir near Pardoe Camp (l)	11315400	522
Lower Bear River Reservoir near Nicholl (l)	11315600	523
Bear River below Lower Bear River Dam (d)	11315900	524
Bear River below Bear River Diversion Dam (d)	11316100	525

SURFACE-WATER AND WATER-QUALITY STATIONS
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<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued</u>		
<u>SAN JOAQUIN RIVER BASIN—Continued</u>		
San Joaquin River—Continued:		
North Fork Mokelumne River (head of Mokelumne River)		
Tiger Creek below Regulator Reservoir, near Pioneer (d)	11316605	526
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Middle Fork Mokelumne River:		
Forest Creek near Wilseyville (d)	11316800	529
Middle Fork Mokelumne River at West Point (d)	11317000	531
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Laguna Creek near Elk Grove (d)	11336585	560
Marsh Creek at Brentwood (d)	11337600	562

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002

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
10336675	Ward Creek at Stanford Rock Trail Crossing, near Tahoe City	8.97	1991–2001
10336686	Carnelian Creek at Carnelian Bay	2.93	1999–2000
10336759	Edgewood Creek near Stateline, NV	320	1983–87
10338100	Summit Creek above Donner Lake, near Truckee	4.96	1997–98
10339419	Truckee River above Prosser Creek, near Truckee	644	1994–98
10341950	Little Truckee River below diversion dam, near Sierraville	36.1	1993–98
10342000	Little Truckee River near Hobart Mills	37.1	1947–72
10343200	Little Truckee River at Highway 89, near Truckee	59.0	1993–94
10345700	Bronco Creek at Floriston	15.4	1993–98
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 Olancho	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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
11226500	San Joaquin River at Miller Crossing	249	1921–28, 1951–91
11227000	West Fork Granite Creek near Timber Knob	26.4	1922–25
11227500	Middle Fork Granite Creek near Cattle Mountain	2.25	1922–23
11228000	East Fork Granite Creek near Cattle Mountain	14.6	1922–25
11228500	Granite Creek near Cattle Mountain	47.8	1922–28, 1966–86
11230000	South Fork San Joaquin River near Florence Lake	171	1922–81, 1984
11230650	Bolsillo Creek above diversion dam, near Big Creek	1.3	1986
11232000	South Fork San Joaquin River near Hoffman Meadow	424	1922–28
11232500	Jackass Creek near Bass Lake	12.1	1922–28, 1961–68
11234500	Chiquito Creek near Bass Lake	60.1	1922–28, 1956–70
11235000	San Joaquin River above Big Creek	1,050	1913–15, 1922–62
11236080	Huntington–Shaver Conduit at Huntington Lake	—	1975–83
11238000	Pitman Creek at Big Creek	23.7	1910–16, 1922–27
11239000	Huntington–Shaver Conduit near Shaver Lake	—	1929–85
11242350	Soquel diversion near Sugar Pine	—	1970–77
11245000	South Fork Willow Creek near North Fork	39.8	1910–17
11245500	Whiskey Creek near North Fork	11.6	1911–16
11246000	Cascadel Creek near North Fork	3.31	1910–12
11247000	San Joaquin River below Kerckhoff Powerhouse, near Prather	1,480	1910–14, 1937, 1943–82, 1988–89
11247200	Big Sandy Creek Tributary near Tollhouse	.46	1969–71
11247500	Big Sandy Creek near Auberry	27.3	1947–51
11248000	Fine Gold Creek near Friant	92.7	1937–58
11250500	Cottonwood Creek near Friant	35.6	1942–51
11251500	Little Dry Creek near Friant	57.9	1942–56
11251600	Little Dry Creek at mouth, near Friant	77.4	1957–61
11252500	San Joaquin River at Herndon	1,802	1895–1901
11253000	San Joaquin River near Biola	1,811	1953–61
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 Nippinawassee	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
11262800	Los Banos Creek near Los Banos	159	1959–66
11262890	San Luis Drain, Site A, near South Dos Palos	—	1999
11263000	San Luis Creek near Los Banos	84.6	1950–63
11265000	Tenaya Creek near Yosemite	46.9	1912–58

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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
11273000	Merced River Slough near Newman	1,276	1942–72
11274554	Spanish Grant Combined Drain near Patterson	—	1993–95
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
11277100	Lake Eleanor Diversion Tunnel to Cherry Lake, near Hetch Hetchy	—	1996–99, 2001–02
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
11281000	South Fork Tuolumne River near Oakland Recreation Camp	87	1923–96, 1998–2002
11281500	Middle Tuolumne River near Mather	52.4	1925–29, 1932–33
11282000	Middle Tuolumne River at Oakland Recreation Camp	73.5	1917–96, 1998–2002
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Period of record
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	1952–59, 1962–71
11307500	Jesus Maria Creek near Mokelumne Hill	34.6	1950–59
11308000	North Fork Calaveras River near San Andreas	85.2	1950–79
11308300	Eldorado Creek at Mountain Ranch	1.97	1963–73
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
11327500	Sutter Creek at Sutter Creek	50.7	1922–36
11328000	Dry Creek near Ione	266	1912, 1926–32
11329000	Goose Creek near Elliott	8.26	1928–33
11329500	Dry Creek near Galt	324	1927–33, 1945–87, 1996–98
11330000	North Fork Cosumnes River at Cosumnes Mine	38.7	1949–53
11331000	Camp Creek near Sly Park	8.59	1924
11331500	Camp Creek near Camino	32.4	1949–56
11332500	Sly Park Creek near Pollock Pines	18.2	1947–55
11333500	North Fork Cosumnes River near El Dorado	205	1884, 1912–41, 1949–83, 1985–87
11334200	Middle Fork Cosumnes River near Somerset	107	1958–71
11334300	South Fork Cosumnes River near River Pines	64.3	1958–80
11334500	Cosumnes River near Plymouth	436	1952–60
11335700	Deer Creek near Sloughhouse	46	1961–66, 1968–77
11336000	Cosumnes River at McConnell	724	1942–82
11336500	Hadselville Creek at Clay	18.1	1931
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 NWIS 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 CONTINUOUS WATER-QUALITY STATIONS

The following continuous-record 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	6.4	T,S	1972–74, 1997–2001
10336610	Upper Truckee River at South Lake Tahoe	54.9	C,T,S	1972–74, 1978, 1980–92
10336612	Upper Truckee River at mouth, near Venice Drive	56.5	T	1997–2001
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
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
10336795	Trout Creek near moth east, near Bellevue/Eldorado Avenue	41	T	1997—2001
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
10339419	Truckee River above Prosser Creek, near Truckee	644	C,T	1994–98
10340500	Prosser Creek below Prosser Creek Dam, near Truckee	52.9	T	1993–98
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002
DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record
10344500	Little Truckee River below Boca Dam, near Truckee	173	T	1993–98
10346000	Truckee River at Farad	932	WQ,B,C, T,S	1951–61, 1964–81, 1993–98
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	WQ,C,T	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	WQ,T,S	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
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
11261100	Salt Slough at Highway 165, near Stevinson	—	WQ,S	1983–88, 1993–94
11262890	San Luis, Site A, near South Dos Palos	—	C,T	1999
11262900	Mud Slough near Gustine	—	WQ,S	1985–94, 1999
11266500	Merced River at Pohono Bridge, near Yosemite	321	WQ,T,S	1971–72, 1981–82, 1994, 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 at Stevinson	1,273	C,T	1989–92
11274000	San Joaquin River near Newman	9,520	WQ,C,T,S	1989, 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, 1999, 2001
11274570	San Joaquin River at Patterson Bridge, near Patterson	9,760	C,T,S	1989–95
11283100	Lily Creek near Pinecrest	11.9	T	1965–74
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
11294500	North Fork Stanislaus River near Avery	163	T	1990–98

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DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—Continued

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record
11295400	Stanislaus River near Hathaway Pines	629	T	1970–83
11303000	Stanislaus River at Ripon	1,075	WQ,S	1985–88, 1994
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	1961–80
11323500	Mokelumne River below Camanche Dam	621	WQ,T,S	1906–07, 1956–76
11325500	Mokelumne River at Woodbridge	661	WQ,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); P (Precipitation).

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WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2002
VOLUME 3—SOUTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN
FROM WALKER RIVER TO TRUCKEE RIVER

By L.A. Freeman, G.L. Rockwell, G.L. Pope, and J.R. Smithson

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey (USGS), 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 183 streamflow-gaging stations and 2 partial-record stations; (2) stage and content records for 46 lakes and reservoirs; (3) precipitation records for 2 stations; and (5) water-quality records for 51 streamflow-gaging stations and water-quality partial-record 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-02-3." 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:

California Department of Water Resources, Thomas M. Hannigan, Director.

California State Water Resources Control Board, Winston H. Hickox, Secretary for Environmental Protection.

East Bay Municipal Utility District, Michael J. Wallis, Director of Operations and Maintenance.

Madera Irrigation District, Stephen H. Ottemoeller, General Manager.

Sacramento County Department of Public Works, Warren H. Harada, Administrator.

San Luis and Delta–Mendota Water Authority, Daniel G. Nelson, Executive Director.

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San Francisco, city and county, Hetch-Hetchy Water and Power, Lawrence T. Klein, General Manager.

Tulare County Resource Management Agency, Douglas Wilson, Director.

Tule River Tribal Council, Dwayne M. Garfield, Sr., Chairman.

Turlock Irrigation District, Robert M. Nees, Assistant General Manager—Water Resources.

Woodbridge Irrigation District, Anders Christensen, Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Bureau of Reclamation, U.S. Environmental Protection Agency, and 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, and Utica Power Authority.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative of 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. At 10 of these sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrology Benchmark Program can be found at:

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

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia so that a network of 5 stations could be implemented on the Yukon River. 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. Additional information about the NASQAN program can be found at:

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

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 225 precipitation chemistry monitoring sites. This long-term nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as all data from the individual sites, can be found at:

<http://bqs.usgs.gov/acidrain/>

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 59 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 can be found at:

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

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EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 2002 water year that began October 1, 2001, and ended September 30, 2002. 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 11119750, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "119750." 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).

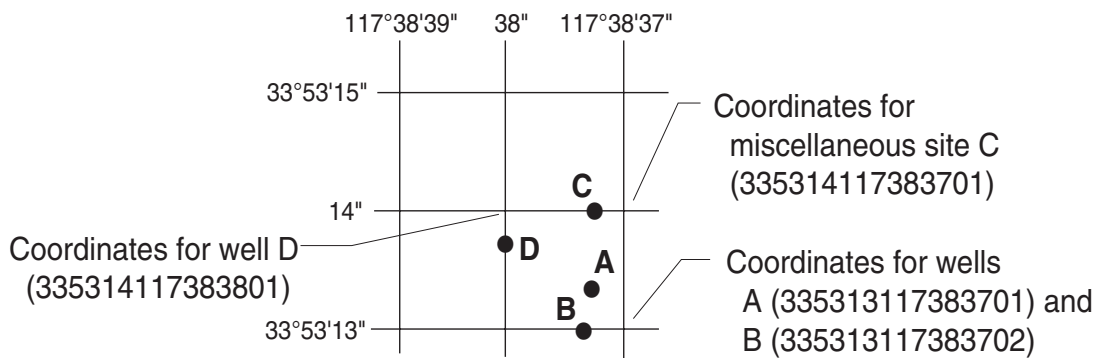


Figure 1. System for numbering miscellaneous sites (latitude and longitude).

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

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

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

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

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous

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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 follow to 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

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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.

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 for tables containing complex data for the current water year. 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 follow to 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.

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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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period.

Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period.

Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS

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 equivalent 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 $1,000 \text{ ft}^3/\text{s}$. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 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.

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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.

Change in National Trends Network Procedures

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 Program Office, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820-7495 (Telephone: 217-333-7873).

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.

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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 (2002) 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 bed load are included for some stations.

Estimates of bed-load and total-sediment discharge are included for some stations. Computations of monthly bed-load discharges are based on the relation between instantaneous water discharge and corresponding bed-load discharge for the station. Values of bed-load discharge used in defining this relation are based on samples obtained by use of the Helley-Smith or BL 84 bed-load samplers or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bed-load-transport relation at a station was made on a daily basis or subdivided-day basis. The bed-load 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 bed-load 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 bed-load 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, NAWQA, and Hydrologic Benchmark Stations during various seasons and surface-water discharges. Documentation of cross-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

Laboratory Measurements

Sediment samples, biochemical-oxygen-demand (BOD) samples, indicator-bacteria samples, and daily specific-conductance samples 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.

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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 that 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 blank samples 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:

Source solution blank — a blank solution that is transferred to a sample bottle in an area of the office laboratory with an atmosphere that is relatively clean and protected with respect to target analytes.

Ambient blank — a blank solution that is put in the same type of bottle used for an environmental sample, kept with the set of sample bottles before sample collection, and opened at the site and exposed to the ambient conditions.

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.

Pump blank — a blank solution that is processed through the same pump-and-tubing system used for an environmental sample.

Standpipe blank — a blank solution that is poured from the containment vessel (stand-pipe) before the pump is inserted to obtain the pump blank.

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.

Canister blank — a blank solution that is taken directly from a stainless steel canister just before the VOC sampler is submerged to obtain a field blank 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:

Concurrent sample — a type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating collection of samples into two or more compositing containers.

Sequential sample — 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.

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Concurrent sample — a type of spike sample that is collected at the same time with the same sampling and compositing devices then spiked with the same spike solution containing laboratory-certified concentrations of selected analytes.

Split sample — a type of spike sample in which a sample is split into subsamples contemporaneous in time and space then spiked with the same spike solution containing laboratory-certified concentrations of selected analytes.

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

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) Units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "[Annual runoff](#)")

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

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. (See also "[Biomass](#)" and "[Dry weight](#)")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1–March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that 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 collected. 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. (See also "[Substrate](#)")

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. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "[Biomass](#)" and "[Dry mass](#)")

Aspect is the direction toward which a slope faces with respect to the compass.

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

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "[Peak flow](#)")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "[Bedload](#)," "[Dry weight](#)," "[Sediment](#)," and "[Suspended-sediment discharge](#)")

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Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Benthic organisms are the group of organisms inhabiting 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. They are useful as indicators of water quality.

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 microorganisms, such as bacteria.

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

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Cells/volume refers to the number of cells of any organism that is 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 volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, 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 (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

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

pi (π) is the ratio of the circumference to the diameter of a circle; $\pi = 3.14159\dots$

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 for all species.

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

***Clostridium perfringens* (*C. perfringens*)** is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

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.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/s)/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, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, (ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "[Annual runoff](#)")

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "[Sediment](#)" and "[Suspended-sediment concentration](#)")

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data Collection Platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also "[Gage datum](#)", "[Land-surface datum](#)", "[National Geodetic Vertical Datum of 1929](#)", and "[North American Vertical Datum of 1988](#)")

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. (See also "[Phytoplankton](#)")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically 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, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

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

$$\bar{d} = - \sum_{i \approx 1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

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. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "[Drainage area](#)")

Dry mass refers to the mass of residue present after drying in an oven at 105°C, 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. (See also "[Ash mass](#)", "[Biomass](#)", and "[Wet mass](#)")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65°C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "[Wet weight](#)")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "[Substrate embeddedness class](#)")

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Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41°C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis*, *Streptococcus feacium*, *Streptococcus avium*, and their variants. (See also "[Bacteria](#)")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive, the index usually decreases with pollution.

***Escherichia coli* (*E. coli*)** are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5°C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "[Bacteria](#)")

Estimated (E) concentration value is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "[Phytoplankton](#)")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "[Bacteria](#)")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "[Bacteria](#)")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "[Phytoplankton](#)")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA web site:

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \frac{\sum(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory Reporting Level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

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

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

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

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

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

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Long-Term Method Detection Level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site:*

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are 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.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "[Daily mean suspended-sediment concentration](#)" and "[Suspended-sediment concentration](#)")

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also "[Discharge](#)")

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "[Datum](#)")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental 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-adult or egg-nymph-adult.

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic 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 kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

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

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum Reporting Level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

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.

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National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level". Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. (See "North American Vertical Datum of 1988") See also NOAA web site:

<http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

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

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass", "Biomass", and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area of habitat, usually square meter (m²), 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.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

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

Particle-size classification as used in this report agrees with the recommendation 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	>.004–.062	Sedimentation
Sand	>.062–2.0	Sedimentation/sieve
Gravel.	>2.0–64.0	Sieve
Cobble	>64–256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter 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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at

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a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

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, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they 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.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

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 oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines 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 with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "[Primary productivity](#)")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. The oxygen method defines 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. (See also "[Primary productivity](#)")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (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 and 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. (See also "[Bed material](#)")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "[Recurrence interval](#)")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council, and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "[Annual runoff](#)")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums, ([NGVD 1929](#) or [NAVD 1988](#)). See separate entries for definitions of these datums. See [conversion factors and vertical datum page](#) (inside back cover) for identification of the datum used in this report.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "[Annual 7-day minimum](#)" and "[Recurrence interval](#)").

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105°C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "[Gage height](#)")

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

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" as 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.

Substrate Embeddedness Class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate
1	> 75 percent
2	51–75 percent
3	26–50 percent
4	5–25 percent
5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled 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. It is defined operationally as 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 suspended water-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 and 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 are 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 directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "[Suspended](#)")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "[Sediment](#)")

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 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "[Sediment](#)" and "[Suspended sediment](#)")

Suspended-sediment discharge (tons/day) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows:

$$\text{concentration (mg/L)} \times \text{discharge (ft}^3/\text{s)} \times 0.0027.$$

(See also "[Sediment](#)", "[Suspended sediment](#)", and "[Suspended-sediment concentration](#)")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "[Sediment](#)")

Suspended, total is the total amount of a given constituent in the part of a water-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. 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "[Suspended](#)")

Suspended solids, total residue at 105°C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

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Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

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

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

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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 resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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 both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, 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 determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35°C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "[Bacteria](#)")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. 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 judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "[Organism count/volume](#)")

Total recoverable is the amount of a given constituent in a whole-water sample after a 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, and 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 for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

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Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "[Bedload](#)", "[Bedload discharge](#)", "[Sediment](#)", "[Suspended sediment](#)", and "[Suspended-Sediment Concentration](#)")

Total sediment load or total load is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "[Sediment](#)", "[Suspended-Sediment Load](#)", and "[Total load](#)")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "[Water-table aquifer](#)")

Vertical datum (See "[Datum](#)")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS 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, 2002, is called the "2002 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

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.

Wet mass is the mass of living matter plus contained water. (See also "[Biomass](#)" and "[Dry mass](#)")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "[Dry weight](#)")

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are 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. (See also "[Plankton](#)")

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

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, 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 made in the form of a 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 mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 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 p.
- 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 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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

Section E. Subsurface Geophysical Methods

- 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 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI Book 2, Chapter E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 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 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 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 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI Book 3, Chapter A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI Book 3, Chapter A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI Book 3. Chapter A5. 1967. 29 p.
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- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A8. 1969. 65 p.
- 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 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI Book 3, Chapter A11. 1969. 22 p.
- 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 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A13. 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI Book 3, Chapter A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI Book 3, Chapter A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI Book 3, Chapter A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI Book 3, Chapter A17. 1985. 38 p.
- 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 p.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A19. 1990. 31 p.
- 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 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI Book 3, Chapter A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI Book 3, Chapter B1. 1971. 26 p.
- 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 p.
- 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 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI Book 3, Chapter B4. 1990. 232 p.
- 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 p.
- 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 p.
- 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 p.
- 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 p.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI Book 3, Chapter B8. 2001. 29 p.

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- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI Book 3, Chapter C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI Book 3, Chapter C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI Book 3, Chapter C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI Book 4, Chapter A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI Book 4, Chapter A2. 1968. 15 p.

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- 4-A3. Statistical methods in water resources, by D.R. Helsel and R.M. Hirsch: USGS–TWRI Book 4, Chapter A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

Section B. Surface Water

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI Book 4, Chapter B1. 1972. 18 p.
 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI Book 4, Chapter B2. 1973. 20 p.
 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI Book 4, Chapter B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI Book 4, Chapter D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

- 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 p.
 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 p.
 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 p.
 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 p.
 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 p.
 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 p.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI Book 5, Chapter C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

- 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 p.
 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 p.
 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 p.
 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 p.
 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 p.
 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: USGS–TWRI Book 6, Chapter A6. 1996. 125 p.
 6-A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI Book 6, Chapter A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

- 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 p.
 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 p.
 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 p.

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Book 8. Instrumentation**Section A. Instruments for Measurement of Water Level**

- 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 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI Book 8, Chapter A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

- 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 p.

Book 9. Handbooks for Water-Resources Investigations**Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A1. 1998. 47 p.
- 9-A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A2. 1998. 94 p.
- 9-A3. *National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A3. 1998. 75 p.
- 9-A4. *National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A4. 1999. 156 p.
- 9-A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A5. 1999. 149 p.
- 9-A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI Book 9, Chapter A6. 1998. Variously paginated.
- 9-A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI Book 9, Chapter A7. 1997 and 1999. Variously paginated.
- 9-A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI Book 9, Chapter A8. 1998. 48 p.
- 9-A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI Book 9, Chapter A9. 1998. 60 p.

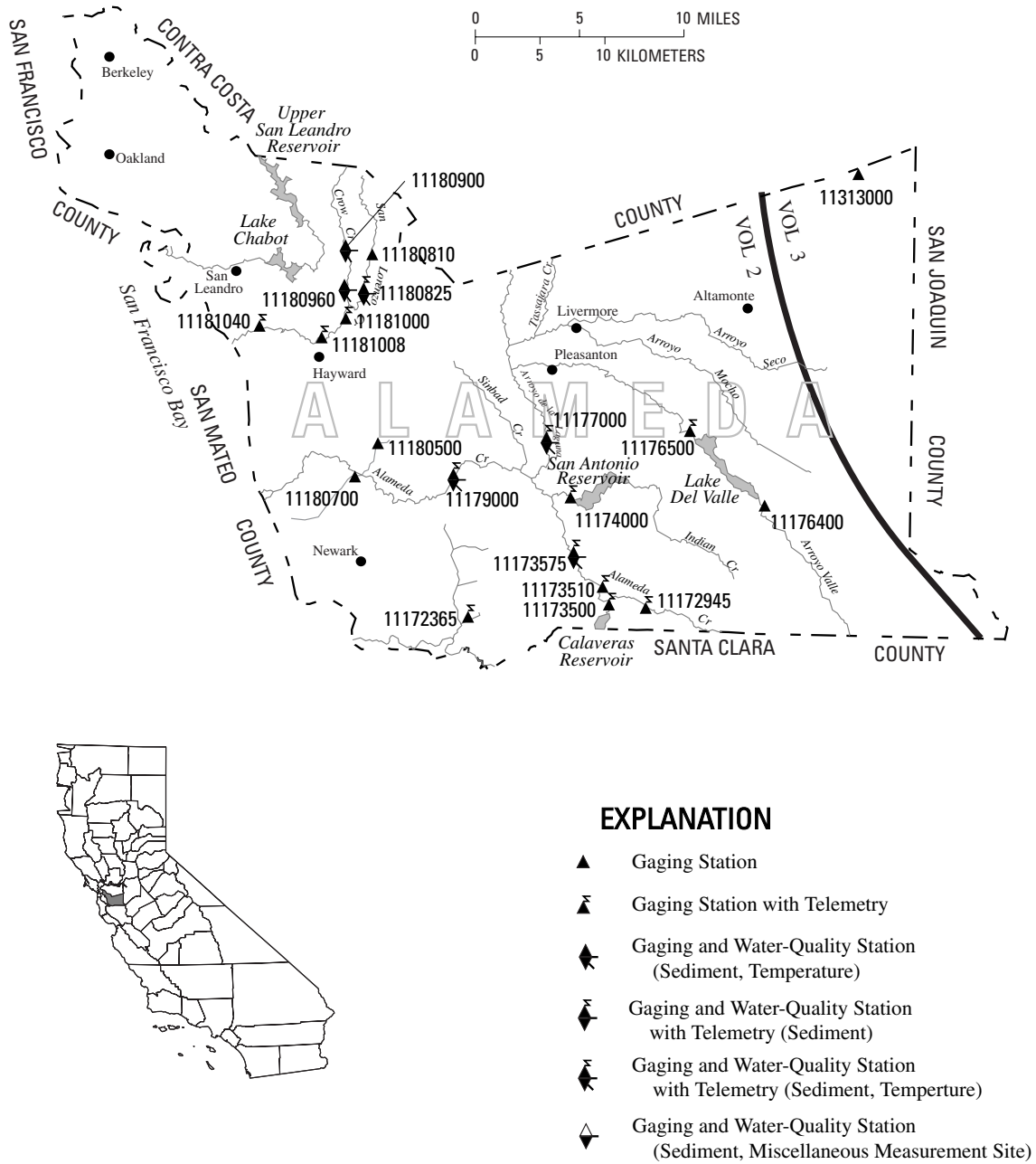


Figure 2. Location of discharge and water-quality stations in Alameda County.
 (NOTE: Records for stations 11172945 through 11181040 published in volume 2.)

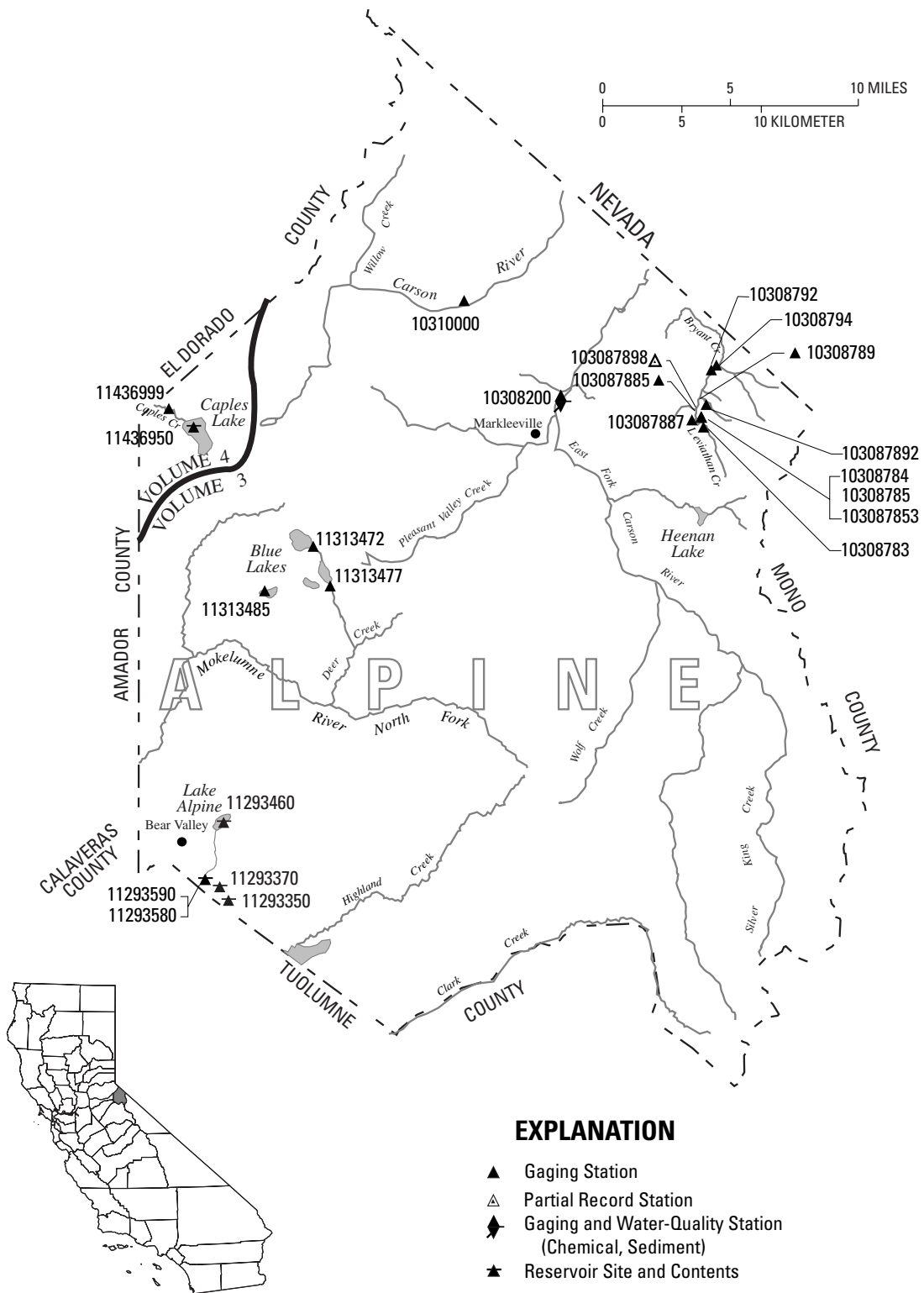


Figure 3. Location of discharge stations in Alpine County.
 (NOTE: Station 10297000 in Douglas County, Nevada, shown on Mono County map.
 Record for stations 11436950 and 11436999 published in volume 4.)

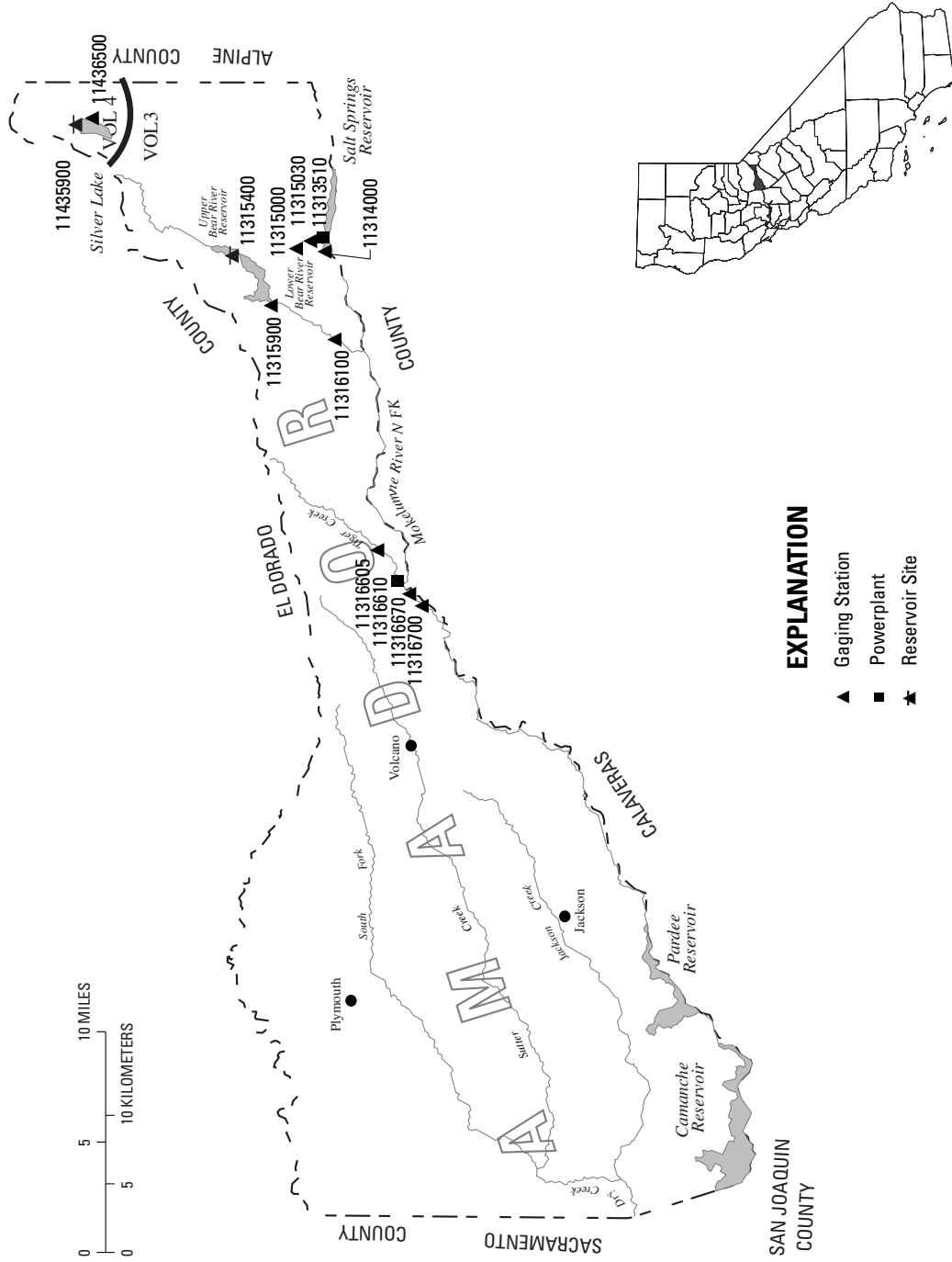


Figure 4. Location of discharge stations in Amador County. (NOTE: Record for station 11435900 published in volume 4.)

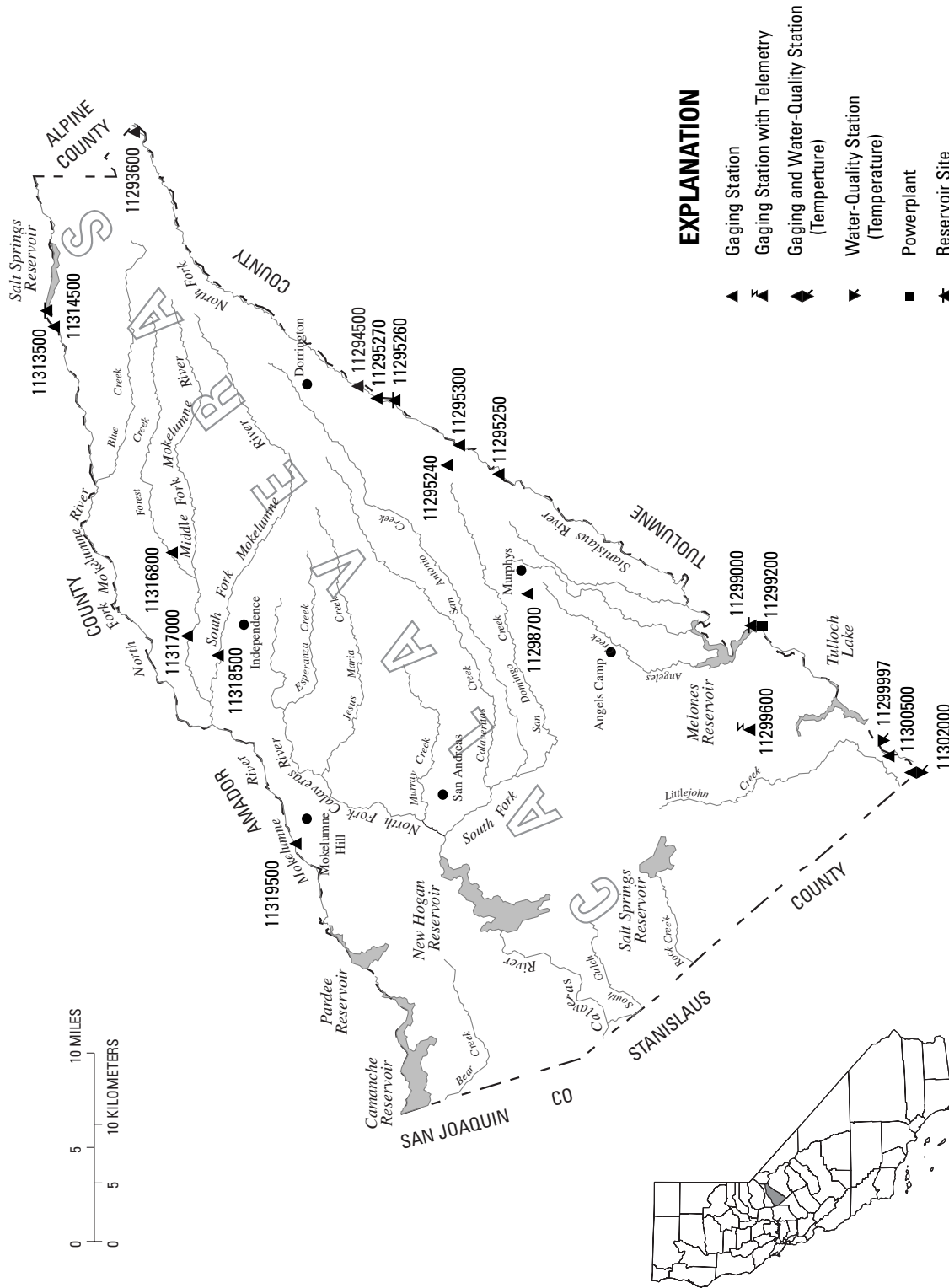


Figure 5. Location of discharge and water-quality stations in Calaveras County.

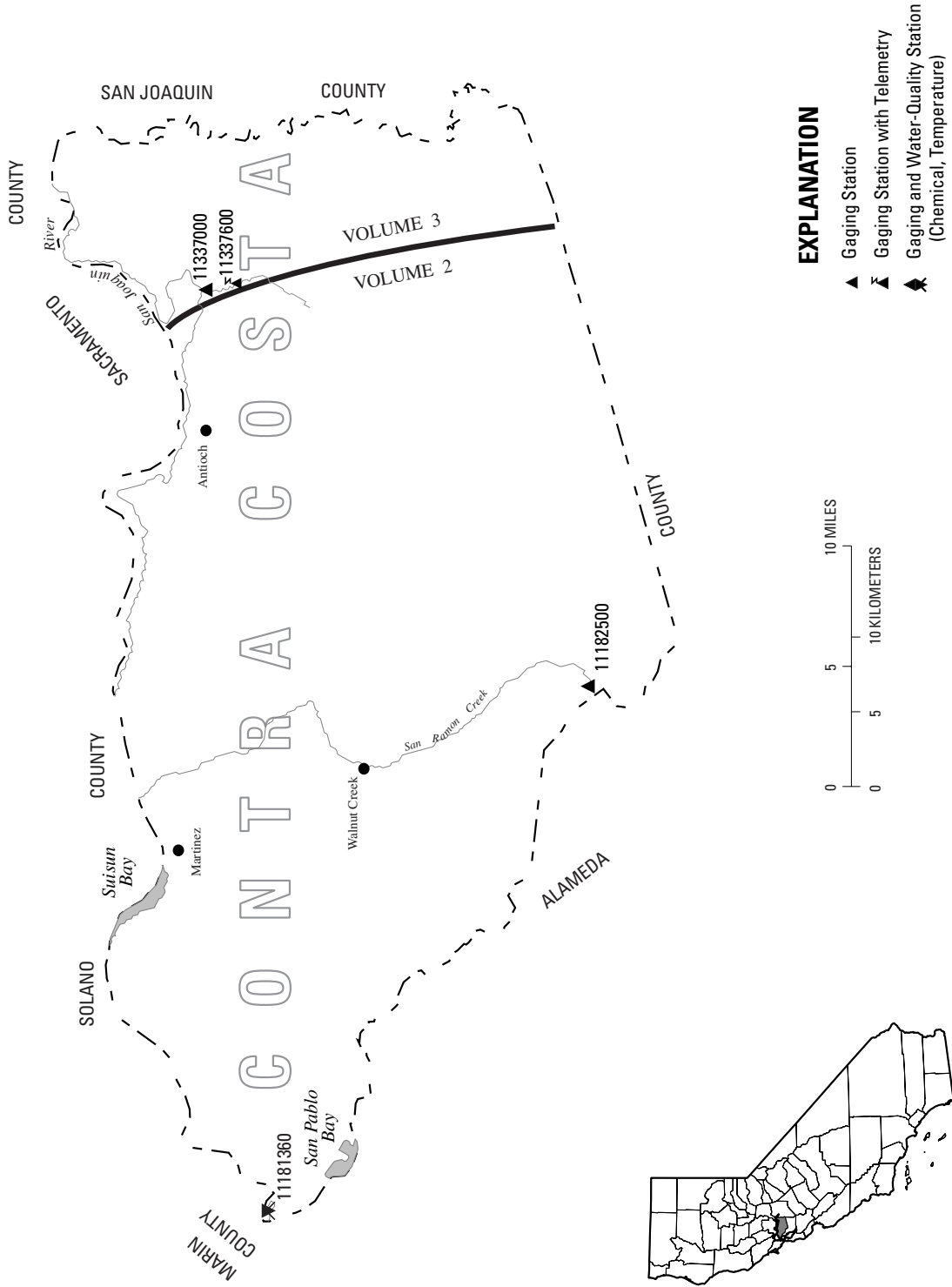


Figure 6. Location of discharge and water-quality stations in Contra Costa County. (NOTE: Records for stations 11181360 and 11182500 published in volume 2.)

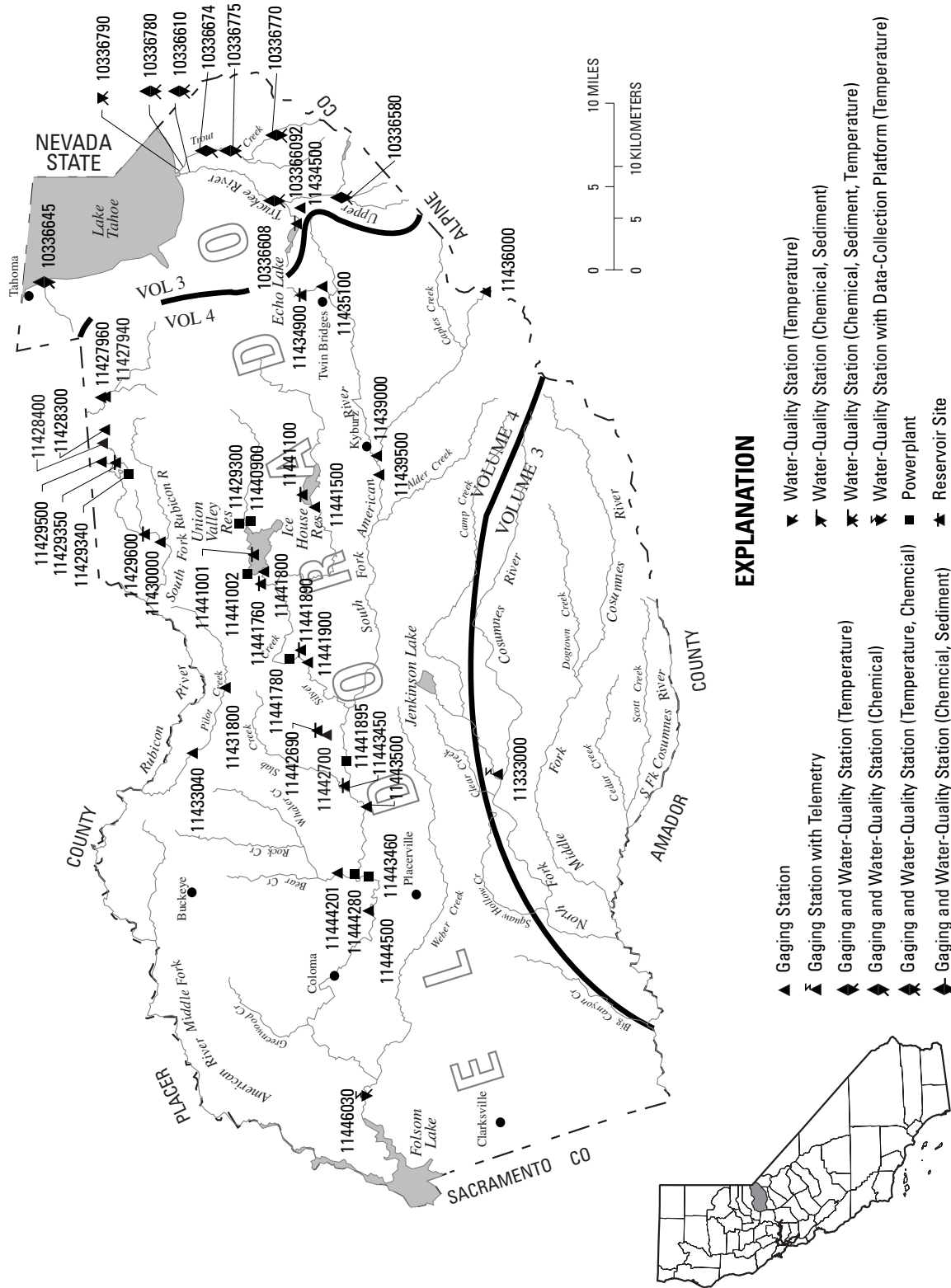


Figure 7. Location of discharge and water-quality stations in El Dorado County. (NOTE: Records for stations 11427800 through 11446030 published in volume 4.)

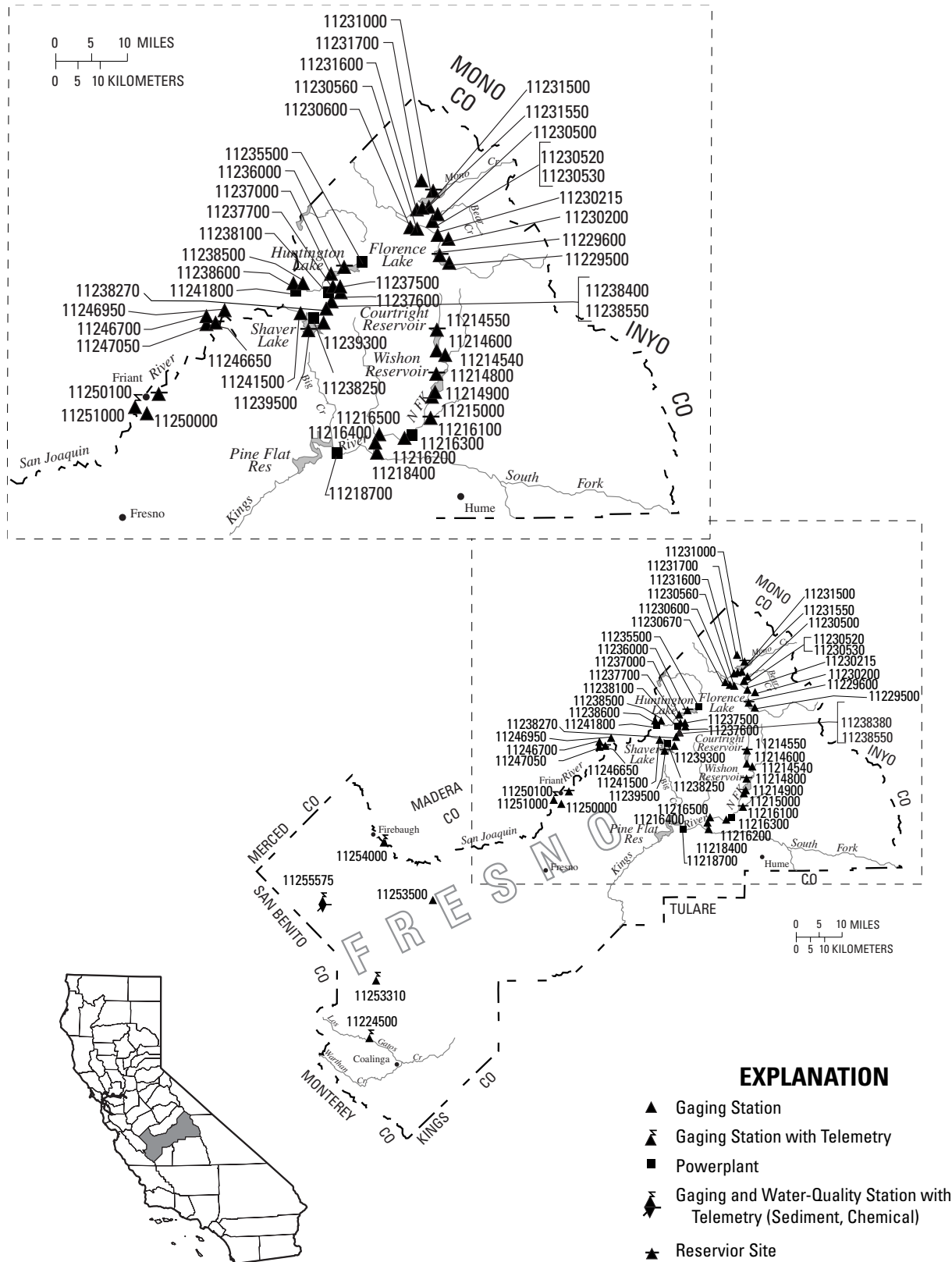


Figure 8. Location of discharge and water-quality stations in Fresno County.

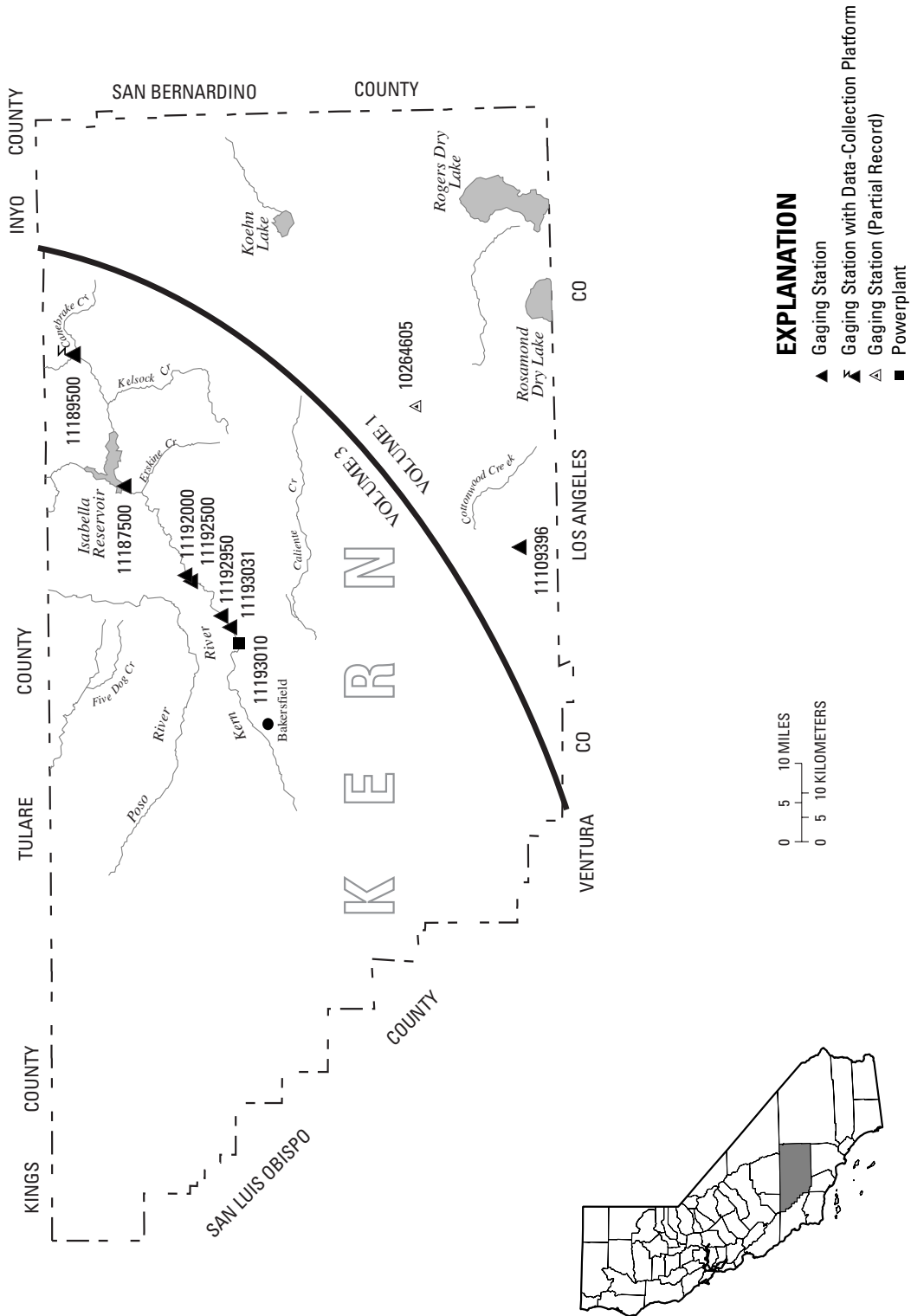


Figure 9. Location of discharge stations in Kern County.

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

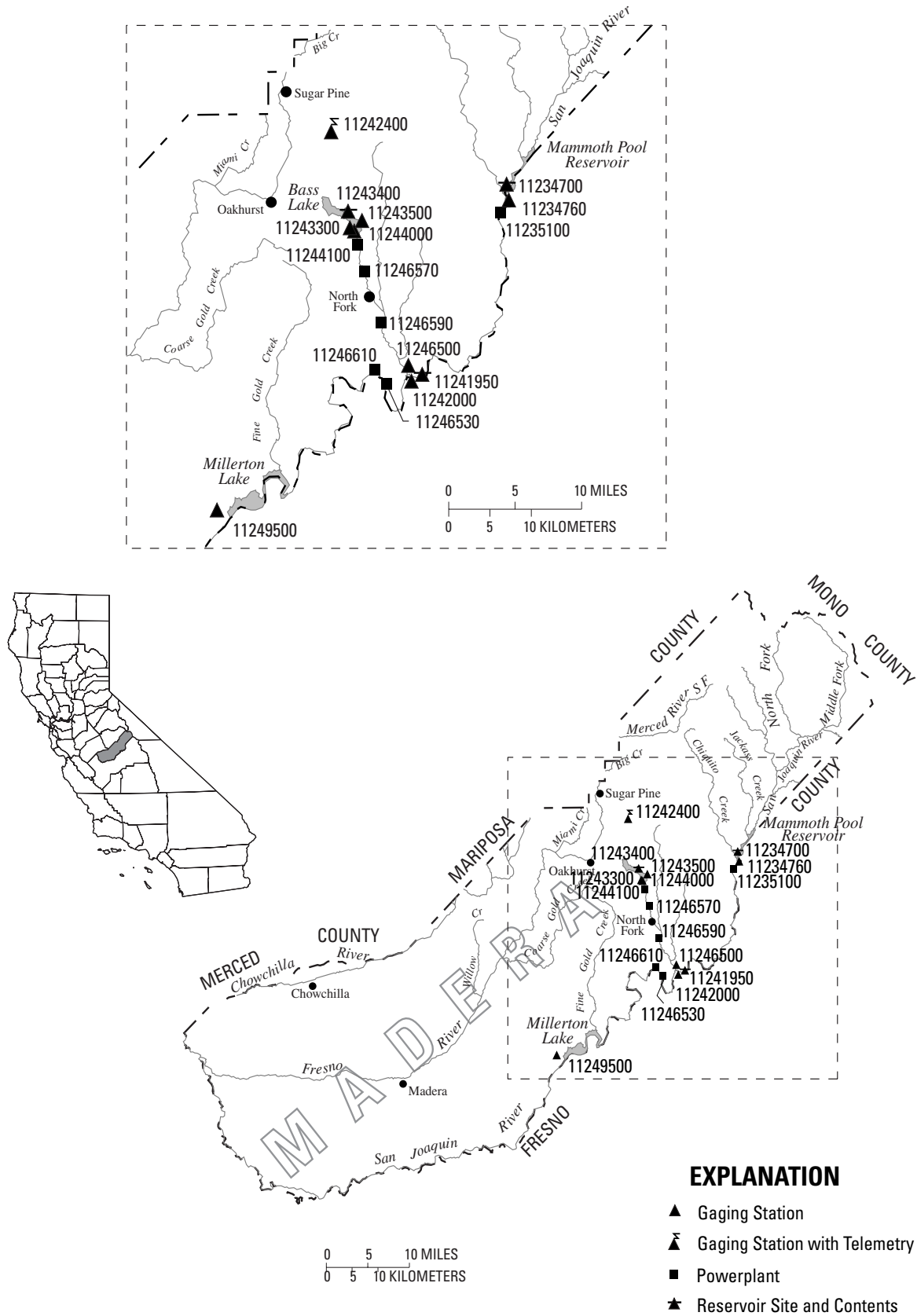


Figure 10. Location of discharge stations in Madera County.

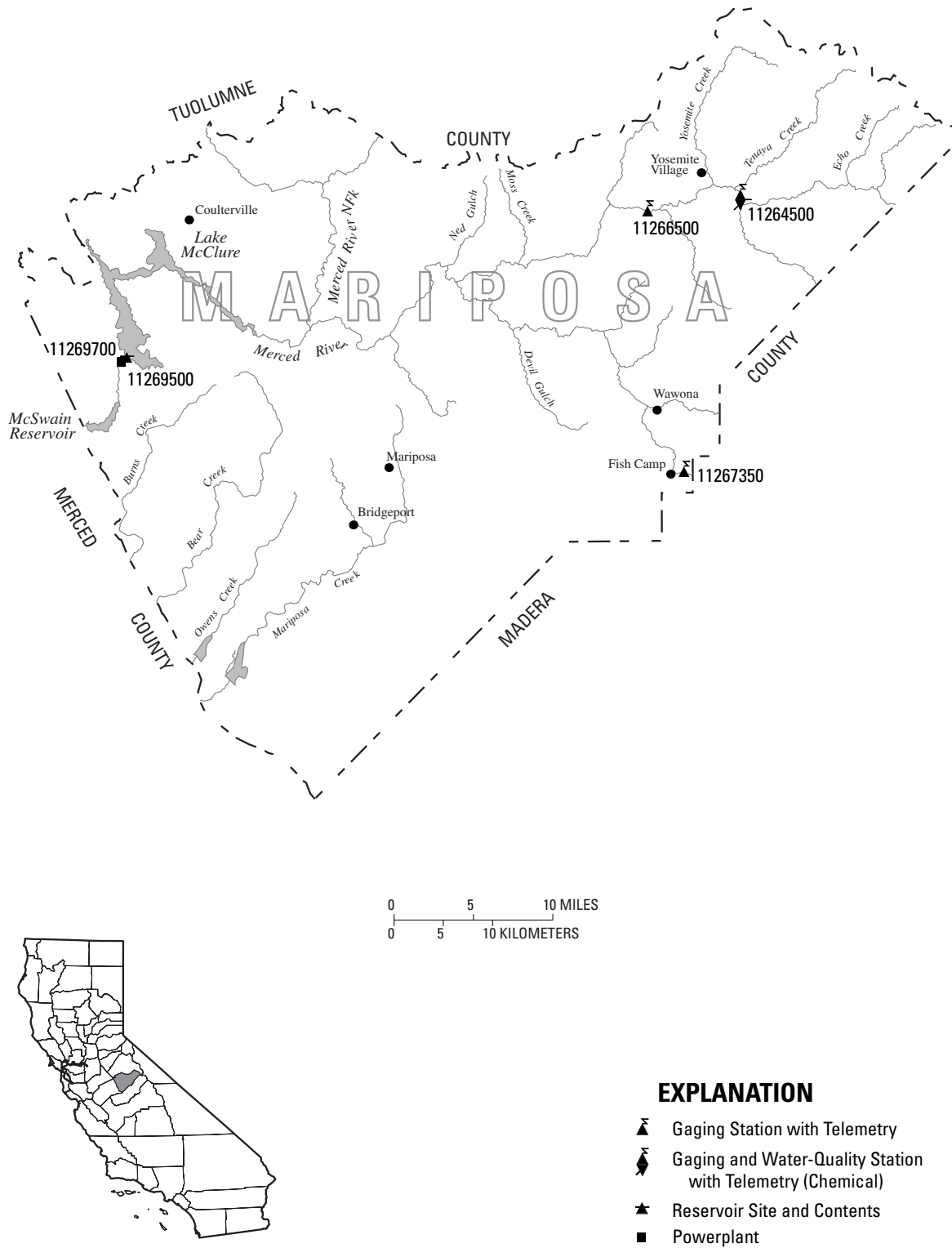
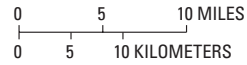
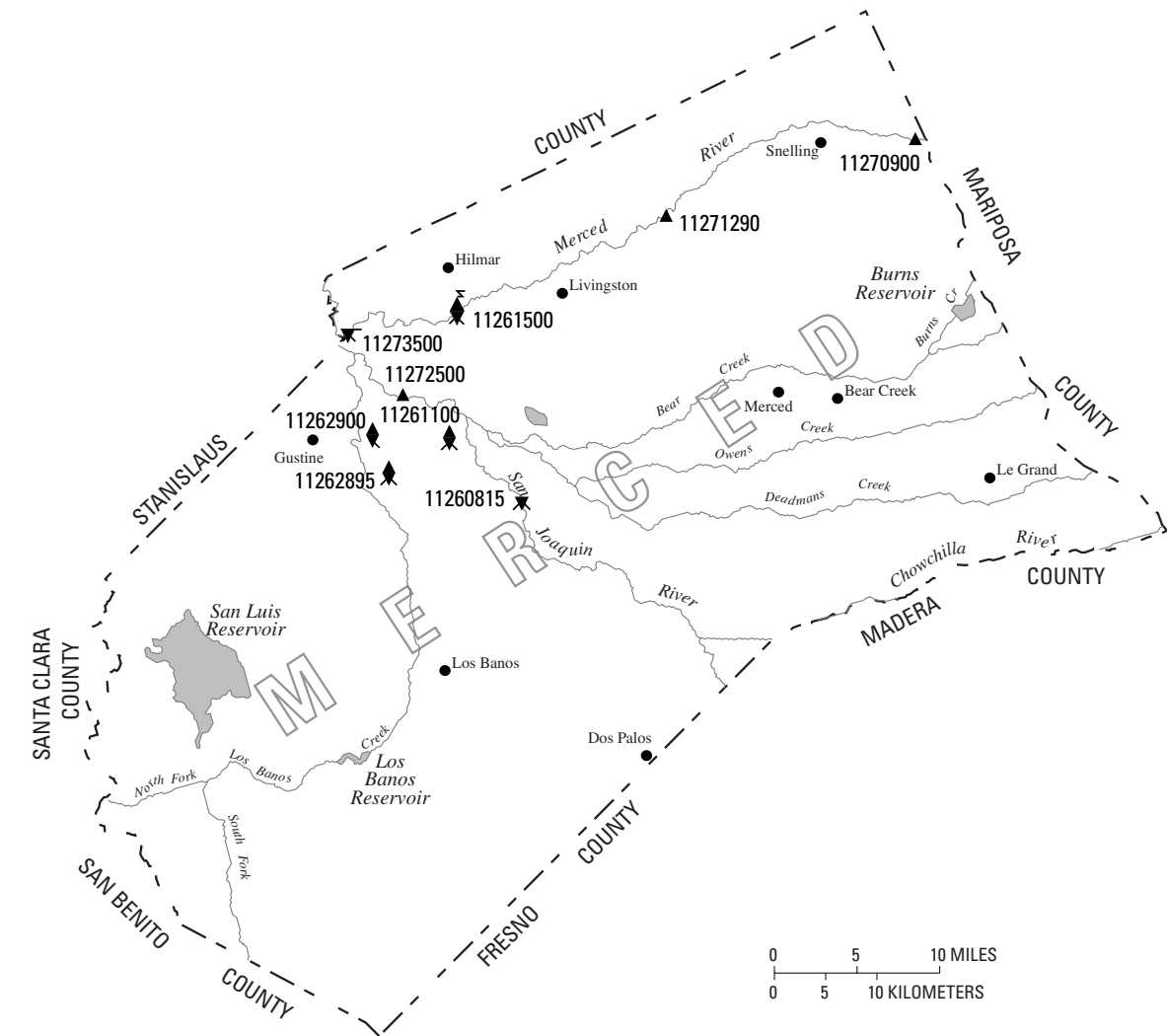


Figure 11. Location of discharge stations in Mariposa County.



EXPLANATION

- ▲ Gaging Station
- ◆ Gaging and Water-Quality Station (Chemical, Temperature, and Conductivity)
- ◆ Gaging and Water-Quality Station w/Telemetry (Chemical, Temperature, and Conductivity)
- ◆ Water-Quality Station (Chemical, Temperature, and Sediment)
- ✱ Water-Quality Station (Chemical, Temperature, and Conductivity)
- ✱ Water-Quality Station (Chemical, Temperature, and Sediment)

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

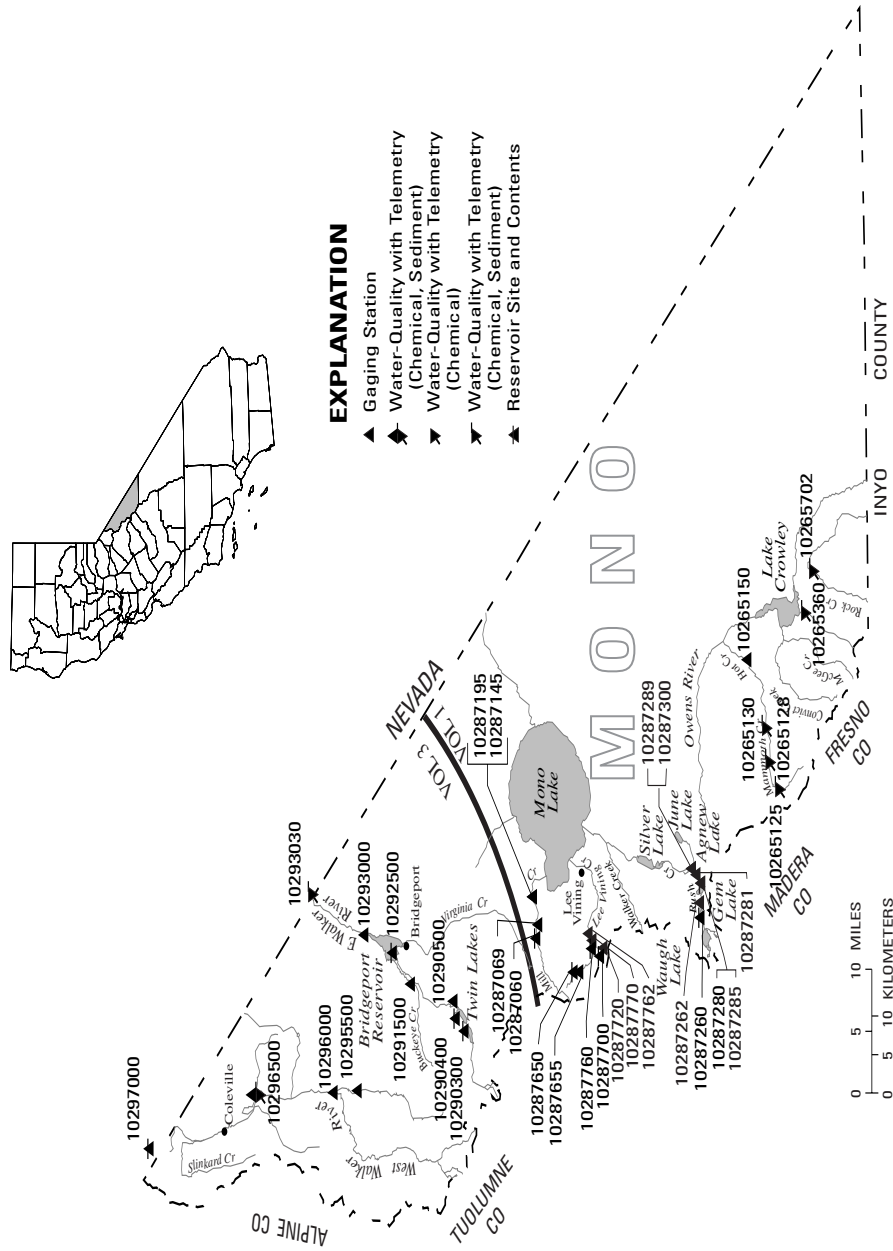


Figure 13. Location of discharge stations in Mono County.
 (NOTE: Records for stations 10265150 through 10287780 published in volume 1. Station 10297000 is actually located in Douglas County, Nevada.)

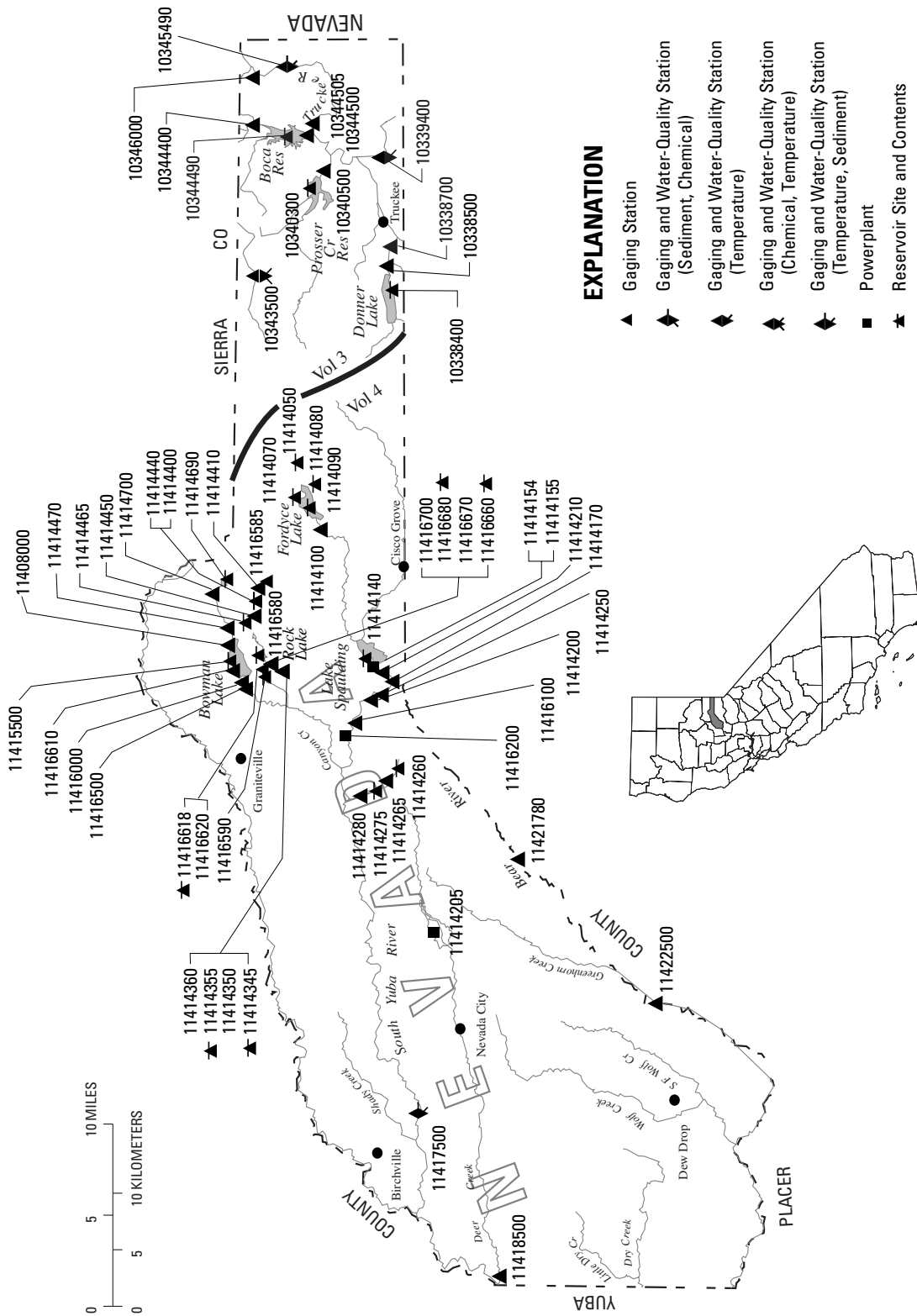


Figure 14. Location of discharge and water-quality stations in Nevada County. (NOTE: Records for stations 11408000 through 11422500 published in volume 4.)

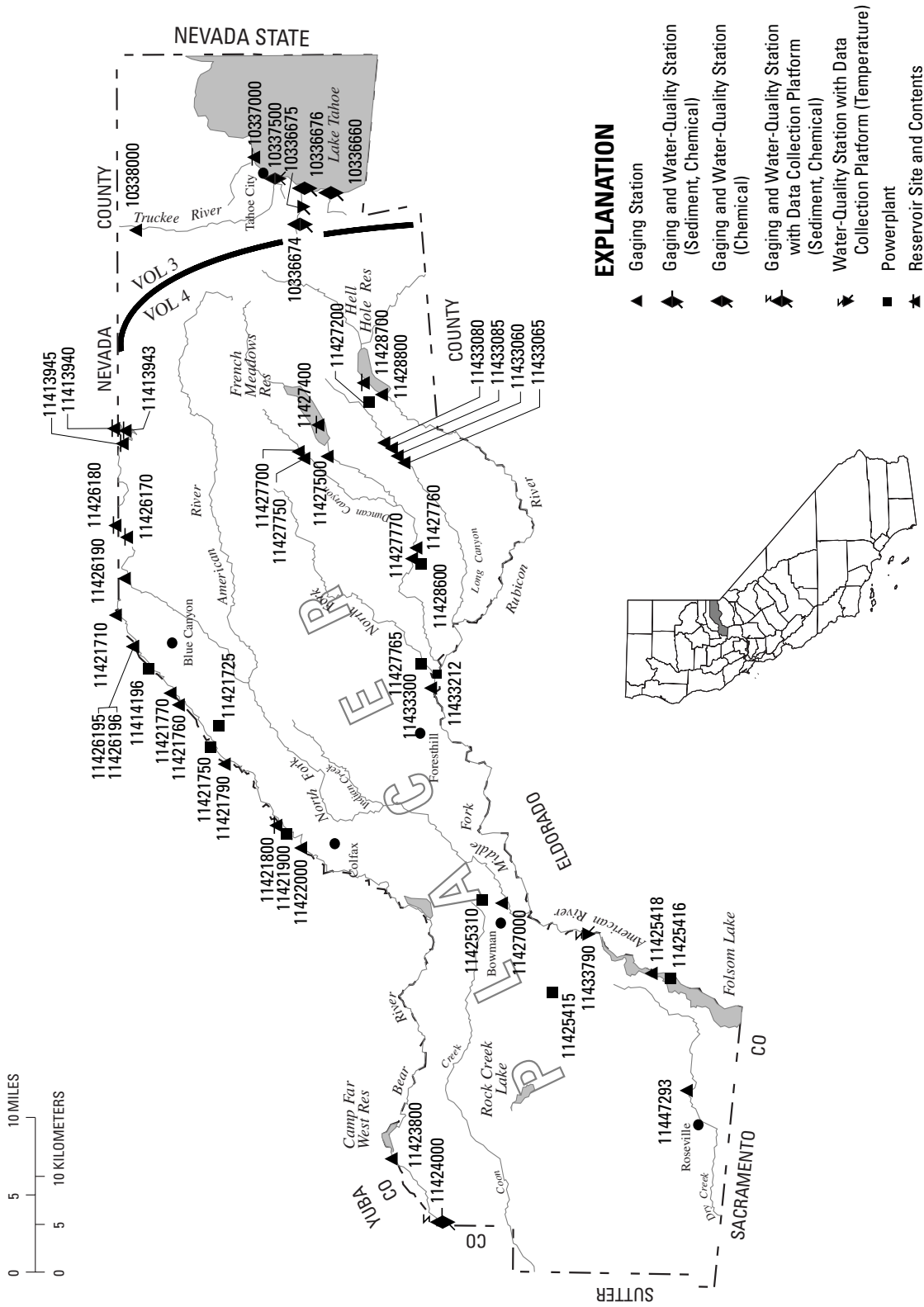


Figure 15. Location of discharge and water-quality stations in Placer County. (NOTE: Records for stations 11413940 through 11447293 published in volume 4.)

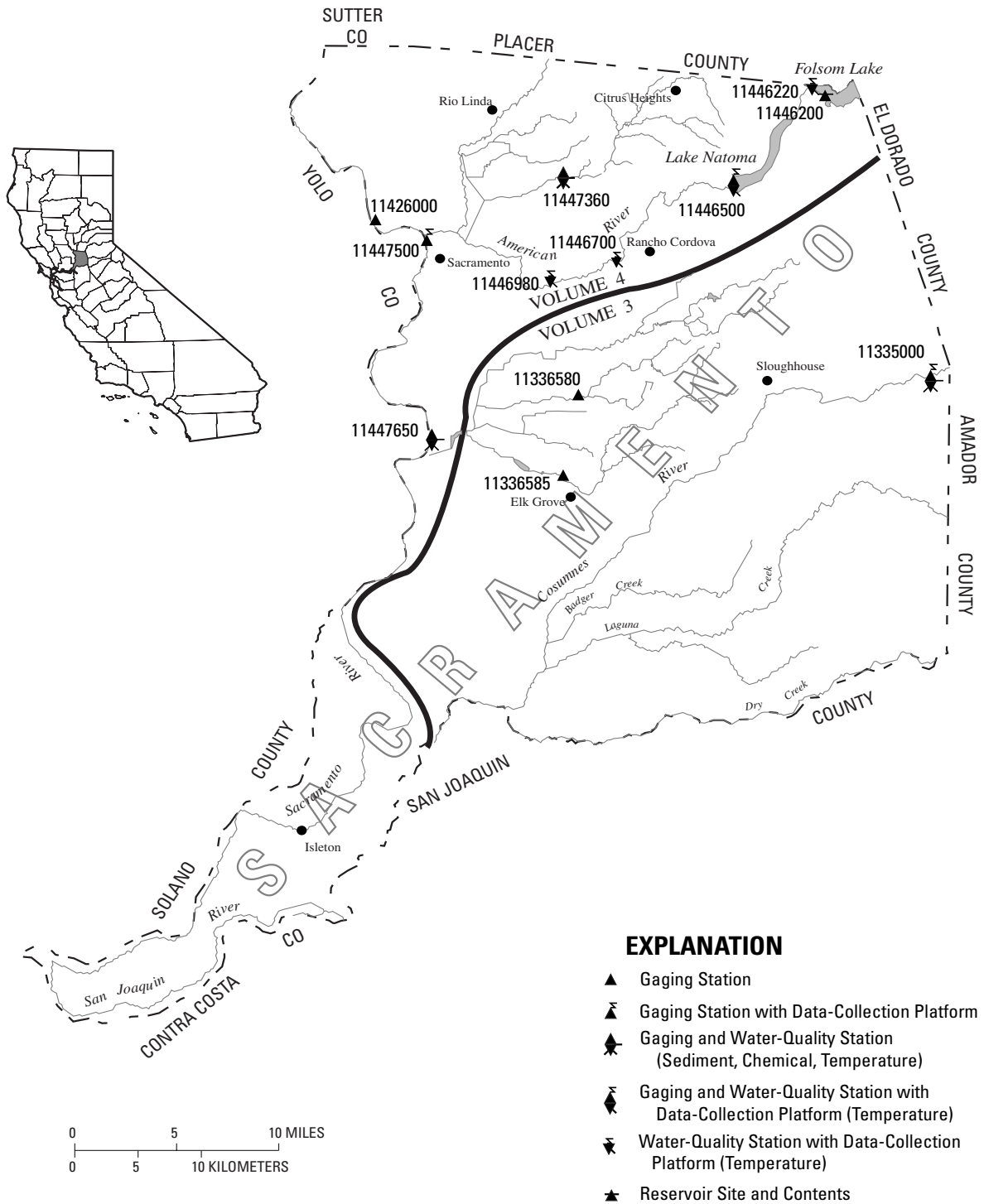


Figure 16. Location of discharge and water-quality stations in Sacramento County. (NOTE: Records for stations 11426000 through 11447650 published in volume 4.)

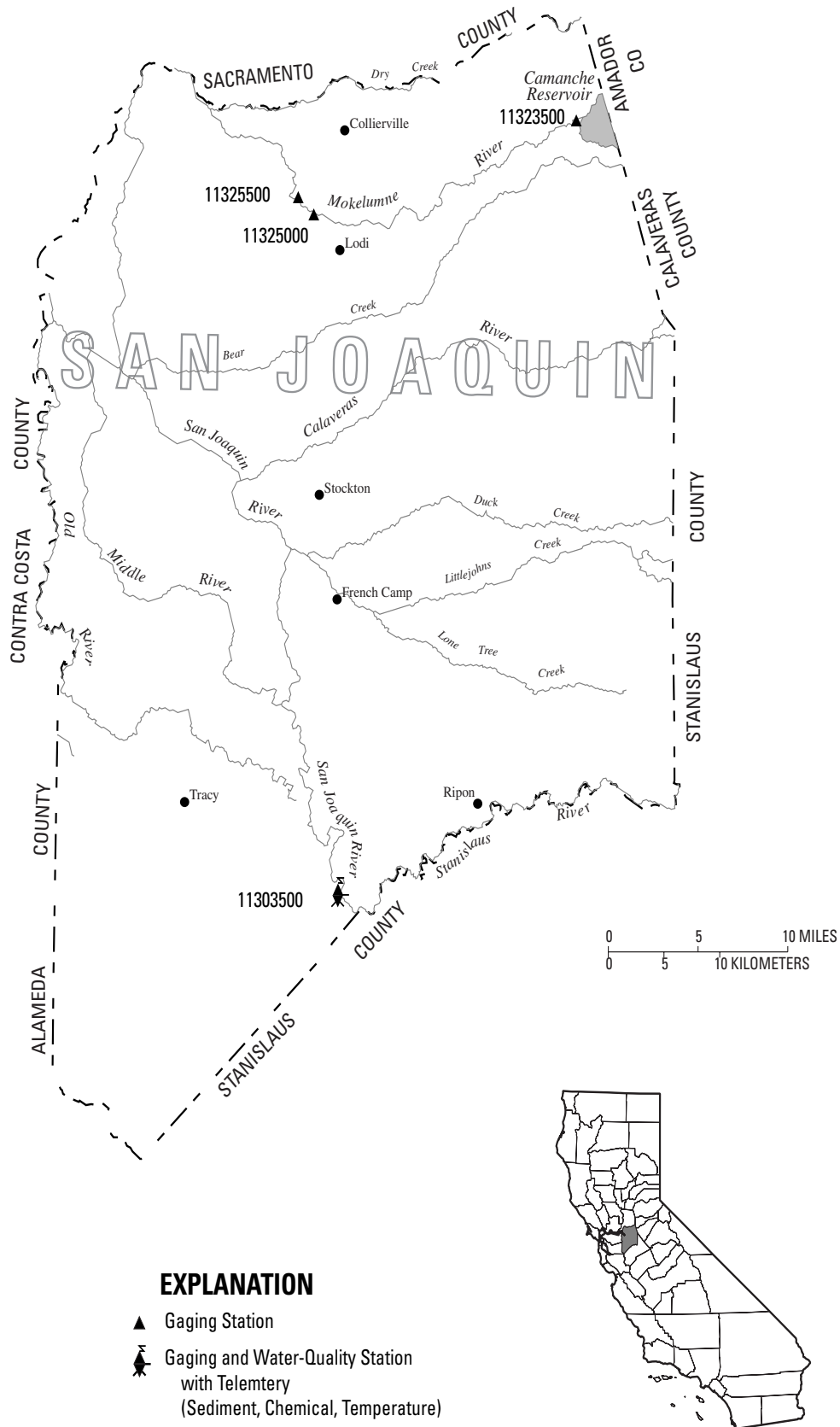


Figure 17. Location of discharge and water-quality stations in San Joaquin County.

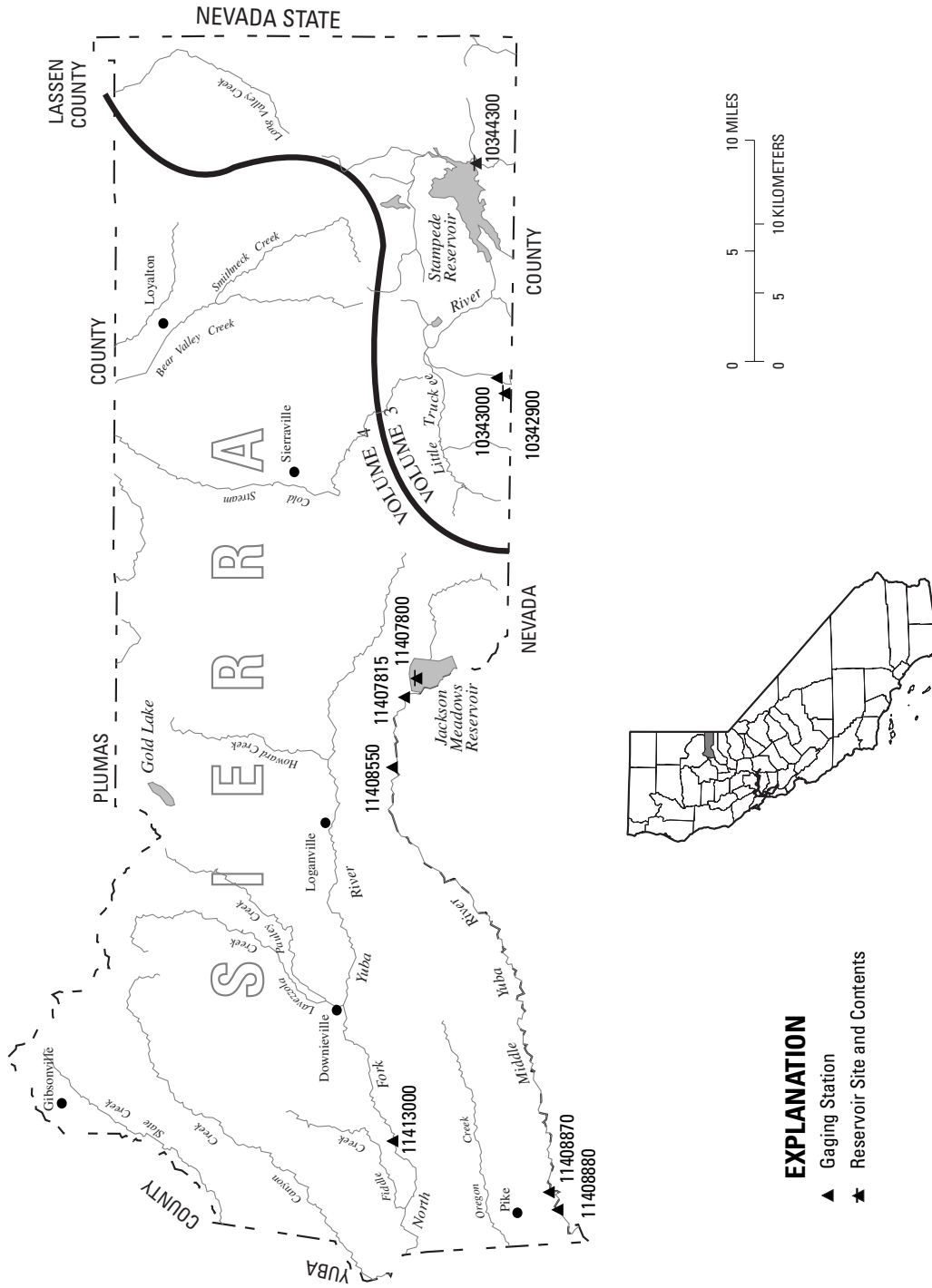


Figure 18. Location of discharge stations in Sierra County.
 (NOTE: Records for stations 11407800 through 11413000 published in volume 4.)

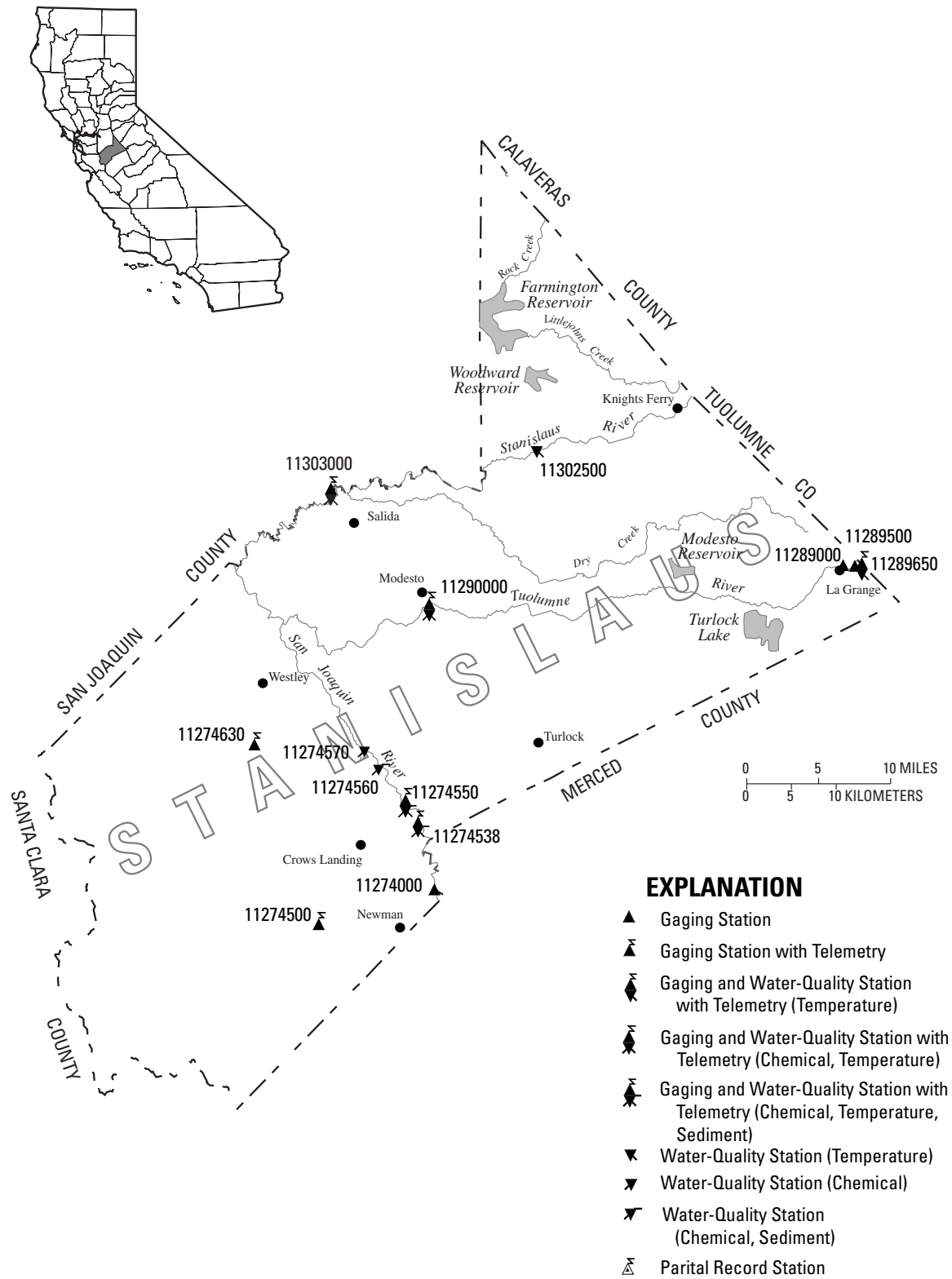


Figure 19. Location of discharge and water-quality stations in Stanislaus County.

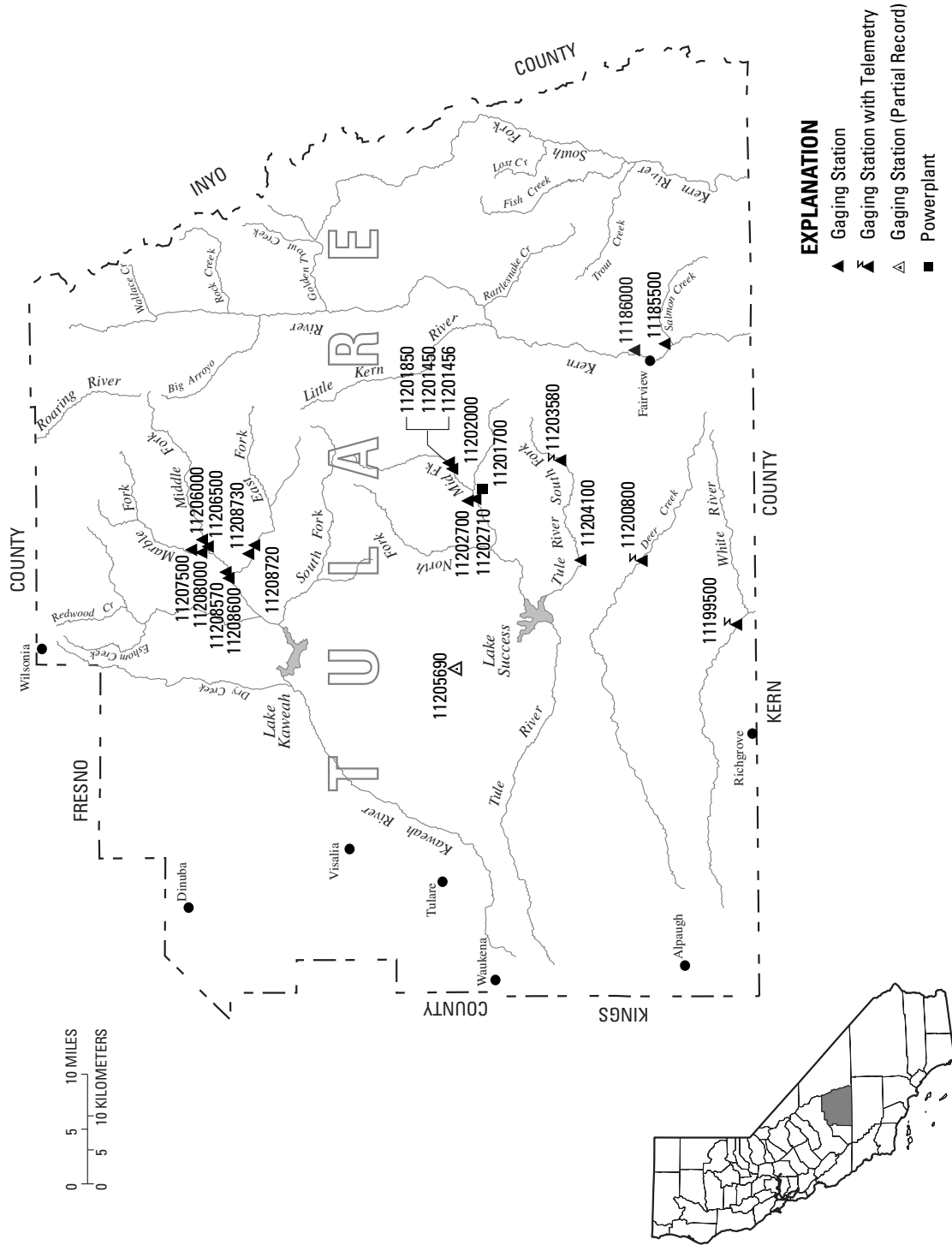


Figure 20. Location of discharge stations in Tulare County.

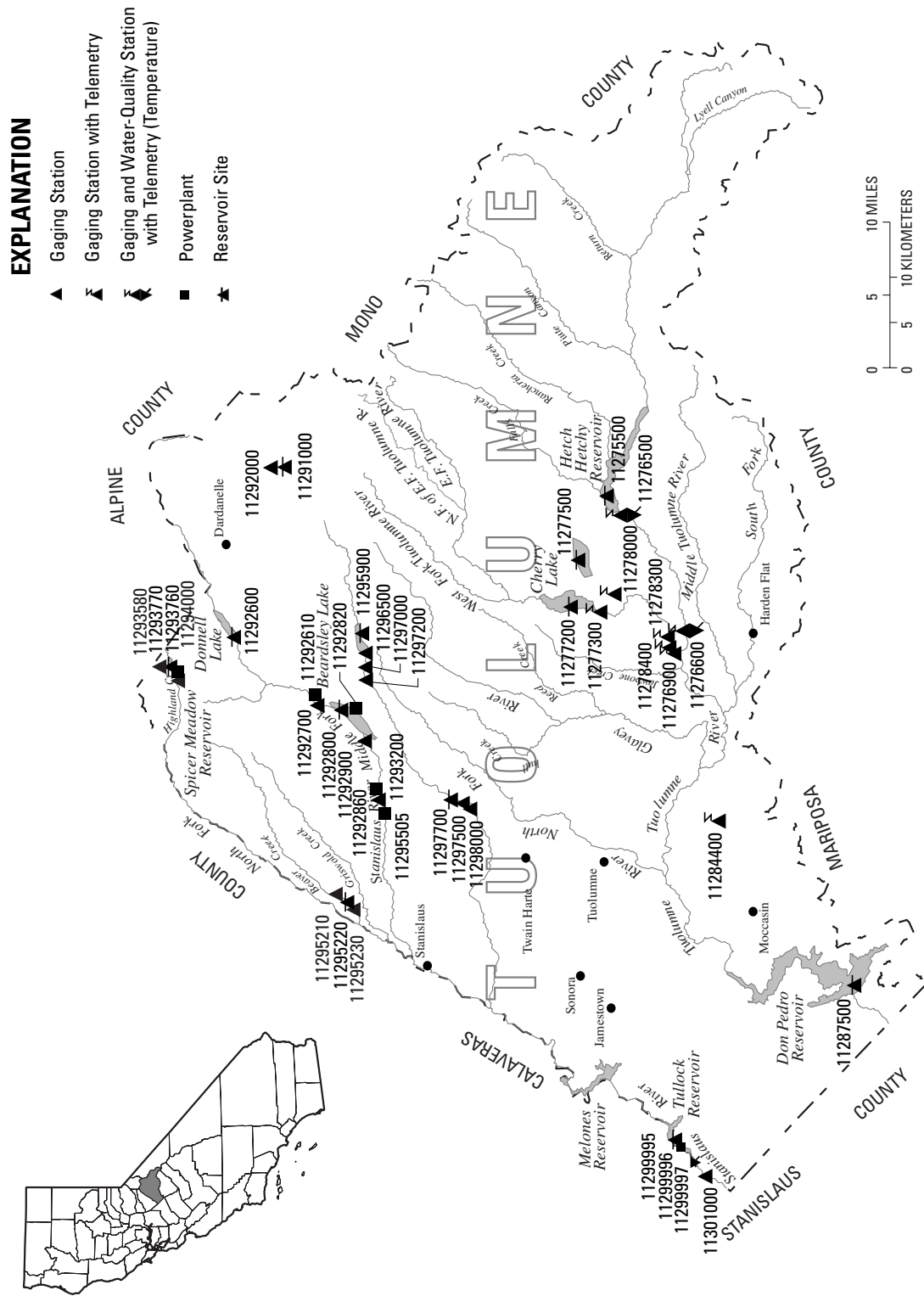


Figure 21. Location of discharge and water-quality stations in Tuolumne County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2001

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

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
e	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.
K	Results based on colony count outside the acceptance 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.
SS	Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.
&	Biological organism estimated as dominant.
*	Instantaneous discharge at the time of cross-sectional measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
†	Sample collected using an automatic sampler.

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.

Data Precision

NOTE: Precision varies for different analytical methods used to determine the same constituent. The presence of trailing zeroes after the decimal in values printed in this report does not necessarily indicate that the method used for the determination is as precise as the level implied by the rightmost zero.

10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

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

DRAINAGE AREA.—29.5 mi².

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

GAGE.—Nonrecording gage. Datum of gage is 7,212.86 ft above NGVD of 1929 (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 usable contents observed Oct. 17, 1961.

EXTREMES FOR CURRENT YEAR.—Maximum contents observed, 2,630 acre-ft, May 31, elevation, 7,208.75 ft; minimum observed, 1,360 acre-ft, Sept. 3, elevation, 7,204.75 ft.

MONTHEND ELEVATION, IN FEET ABOVE NGVD OF 1929, AND TOTAL CONTENTS
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
September 30.....	7,206.25	1,830	—
October 31.....	7,205.75	1,670	-160
November 30.....	7,206.26	1,830	+160
December 31.....	7,206.90	2,040	+210
CALENDAR YEAR 2001.....	—	—	+30
January 31.....	7,206.65	1,960	-80
February 28.....	7,206.63	1,950	-10
March 31.....	7,206.09	1,780	-170
April 30.....	7,207.71	2,300	+520
May 31.....	7,208.75	2,630	+330
June 30.....	7,208.33	2,500	-130
July 31.....	7,207.63	2,270	-230
August 31.....	7,205.00	1,440	-830
September 30.....	7,205.60	1,630	+190
WATER YEAR 2002.....	—	—	-200

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.—Nonrecording gage. Datum of gage is 7,205.45 ft above NGVD of 1929 (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, 4,620 acre-ft, May 31, elevation, 7,201.44 ft; minimum observed, 2,780 acre-ft, Sept. 30, elevation 7,196.95 ft.

MONTHEND ELEVATION AND CONTENTS, IN FEET ABOVE NGVD OF 1929
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
September 30.....	7,197.04	2,820	—
October 31.....	7,197.70	3,080	+260
November 30.....	7,198.63	3,450	+370
December 31.....	7,200.39	4,180	+730
CALENDAR YEAR 2001.....	—	—	+910
January 31.....	7,200.44	4,200	+20
February 28.....	7,200.48	4,210	+10
March 31.....	7,200.52	4,230	+20
April 30.....	7,200.96	4,410	+180
May 31.....	7,201.44	4,620	+210
June 30.....	7,201.43	4,620	0
July 31.....	7,199.39	3,760	-860
August 31.....	7,197.26	2,900	-860
September 30.....	7,196.95	2,780	-120
WATER YEAR 2002.....	—	—	-40

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 NGVD of 1929, from topographic map.

REMARKS.—No estimated daily discharges. Records are good. Flow regulated by Upper and Lower Twin Lakes. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

REVISIONS.—WSP 1927: Drainage area.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,170 ft³/s, Jan. 3, 1997, gage height, 5.44 ft; no flow many days, some years.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 184 ft³/s, June 2, 3, gage height, 2.97 ft; minimum daily, 3.1 ft³/s, Dec. 14–17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	7.3	4.8	13	15	14	16	46	163	124	90	20
2	8.1	7.3	5.0	15	15	14	17	45	180	123	89	18
3	8.1	7.4	5.1	16	15	14	17	43	182	122	88	18
4	7.9	7.5	5.1	17	15	14	18	43	175	117	86	18
5	8.1	7.5	5.1	17	15	13	19	43	168	113	84	15
6	8.2	7.4	5.1	17	14	15	21	45	167	107	84	10
7	8.2	7.3	5.1	17	14	18	23	48	170	102	83	10
8	7.8	7.3	5.0	17	14	16	26	53	174	98	83	11
9	7.9	7.5	4.1	17	15	17	30	58	169	95	82	12
10	7.9	7.5	4.1	17	15	16	33	61	159	92	81	12
11	7.8	7.6	4.2	17	14	13	35	64	147	88	79	11
12	8.0	6.7	4.2	17	14	14	39	64	137	86	78	11
13	8.2	5.3	4.8	16	14	13	44	78	132	85	77	11
14	8.2	5.3	3.1	17	14	13	50	82	132	85	75	11
15	8.5	5.3	3.1	15	14	13	57	84	134	84	54	12
16	8.6	5.4	3.1	15	14	14	65	86	136	81	39	12
17	8.6	5.6	3.1	15	16	13	71	98	135	78	39	12
18	8.6	5.5	3.2	15	16	12	68	110	134	75	37	12
19	8.6	5.5	3.3	15	15	12	64	119	136	71	36	12
20	8.6	6.2	3.3	14	15	13	60	128	143	68	36	12
21	8.6	7.3	3.3	15	15	13	56	127	145	67	35	12
22	8.5	6.9	3.6	13	15	14	52	120	144	68	32	12
23	8.4	6.2	3.5	13	15	15	49	110	139	65	30	12
24	8.4	6.2	3.5	14	14	15	46	101	130	68	29	12
25	8.4	5.9	3.6	15	14	15	45	94	125	80	29	12
26	8.4	5.9	4.0	14	14	15	47	90	124	78	27	12
27	8.4	5.9	5.5	14	14	15	49	91	125	81	25	12
28	8.4	5.8	6.1	14	14	15	48	95	126	84	22	12
29	8.4	5.0	8.5	14	---	15	48	104	126	84	21	12
30	8.0	5.0	10	14	---	15	48	118	125	83	20	11
31	7.5	---	12	14	---	16	---	139	---	87	20	---
TOTAL	255.5	192.5	147.5	473	408	444	1261	2587	4382	2739	1690	379
MEAN	8.242	6.417	4.758	15.26	14.57	14.32	42.03	83.45	146.1	88.35	54.52	12.63
MAX	8.6	7.6	12	17	16	18	71	139	182	124	90	20
MIN	7.5	5.0	3.1	13	14	12	16	43	124	65	20	10
AC-FT	507	382	293	938	809	881	2500	5130	8690	5430	3350	752

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2002, BY WATER YEAR (WY)

MEAN	21.33	9.276	7.634	16.62	16.76	17.39	45.74	108.5	189.5	160.6	94.95	49.15
MAX	42.4	30.9	36.1	166	63.4	44.8	79.4	187	349	400	199	89.0
(WY)	1999	1999	1997	1997	1963	1997	1959	1997	1969	1995	1995	1974
MIN	7.00	0.67	0.000	0.000	0.000	0.000	22.3	59.1	68.2	62.0	35.1	12.6
(WY)	1995	1958	1954	1954	1954	1955	1975	1955	1992	1992	1992	2002

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1954 - 2002

ANNUAL TOTAL	14395.9		14958.5			
ANNUAL MEAN	39.44		40.98		63.17	
HIGHEST ANNUAL MEAN					100 1995	
LOWEST ANNUAL MEAN					33.8 1961	
HIGHEST DAILY MEAN	206	May 26	182	Jun 3	998	Jan 3 1997
LOWEST DAILY MEAN	3.1	Dec 14	3.1	Dec 14	0.00	Nov 3 1953
ANNUAL SEVEN-DAY MINIMUM	3.2	Dec 14	3.2	Dec 14	0.00	Nov 3 1953
MAXIMUM PEAK FLOW			184	Jun 2	1170	Jan 3 1997
MAXIMUM PEAK STAGE			2.97	Jun 2	5.44	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	28550		29670		45760	
10 PERCENT EXCEEDS	96		121		162	
50 PERCENT EXCEEDS	18		15		29	
90 PERCENT EXCEEDS	5.5		5.7		0.60	

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 NGVD of 1929, from topographic map. November 1910 to September 1914, non-recording gage at site 0.5 mi downstream at different datum.

REMARKS.—Records good 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.

REVISIONS.—WSP 1927: Drainage area.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,750 ft³/s, Jan. 2, 1997, gage height, 7.49 ft; minimum daily, 4.5 ft³/s, Jan. 12, 1963.

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.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 15	0230	164	2.61	May 30	2245	*286	*2.99
May 18	0045	246	2.88				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e10	14	15	15	e16	19	41	48	218	89	29	14
2	e10	13	17	16	e16	19	48	48	181	87	29	13
3	e10	13	14	16	16	19	55	53	162	81	28	13
4	e10	13	e14	15	16	19	64	64	165	75	27	15
5	e10	13	e14	16	16	20	73	81	179	69	25	15
6	e10	12	e14	17	16	20	65	94	184	66	25	24
7	e10	12	e14	17	16	17	63	106	184	64	24	25
8	e10	12	e14	16	15	21	69	105	168	60	23	19
9	e10	11	e14	15	15	22	73	105	142	56	22	18
10	e10	11	e14	14	15	19	69	99	122	54	22	17
11	e10	12	e13	15	15	19	73	87	120	52	21	16
12	e10	12	e13	14	14	21	87	92	125	53	20	16
13	e10	12	e13	14	14	19	95	110	136	53	19	15
14	e10	12	13	16	14	17	115	133	139	52	19	14
15	e10	12	e13	13	14	19	126	143	129	49	19	14
16	e10	12	e14	15	14	19	86	153	126	46	18	14
17	e11	12	e14	e17	14	18	73	178	123	44	18	14
18	e10	11	e14	e17	13	19	63	199	131	43	17	14
19	e10	11	e15	e17	14	17	58	179	136	39	17	14
20	e10	11	15	e16	15	18	55	143	133	36	17	14
21	e10	12	16	e16	15	19	53	108	125	35	17	14
22	11	21	15	e16	17	20	54	92	112	33	17	13
23	11	14	14	e16	19	20	57	85	106	32	17	13
24	10	28	14	e16	18	18	65	88	104	30	17	13
25	10	17	e14	e16	18	18	70	106	102	30	16	13
26	11	18	e14	e15	19	18	78	126	104	29	16	13
27	11	18	14	e15	20	20	67	145	101	28	16	13
28	10	e17	14	15	20	23	59	147	96	27	15	14
29	10	17	15	15	---	25	56	177	92	26	15	14
30	18	e16	14	e15	---	30	52	209	90	25	15	14
31	19	---	16	e15	---	35	---	214	---	27	14	---
TOTAL	332	419	441	481	444	627	2062	3717	4035	1490	614	452
MEAN	10.71	13.97	14.23	15.52	15.86	20.23	68.73	119.9	134.5	48.06	19.81	15.07
MAX	19	28	17	17	20	35	126	214	218	89	29	25
MIN	10	11	13	13	13	17	41	48	90	25	14	13
AC-FT	659	831	875	954	881	1240	4090	7370	8000	2960	1220	897

e Estimated.

10291500 BUCKEYE CREEK NEAR BRIDGEPORT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.74	21.93	21.81	24.05	21.37	25.75	51.85	140.7	202.1	126.0	50.91	28.97
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1911 - 2002	
ANNUAL TOTAL	13738.3		15114			
ANNUAL MEAN	37.64		41.41		60.28	
HIGHEST ANNUAL MEAN					114 1969	
LOWEST ANNUAL MEAN					19.5 1977	
HIGHEST DAILY MEAN	240	May 16	218	Jun 1	1050	Jan 2 1997
LOWEST DAILY MEAN	9.3	Feb 18	10	Oct 1	4.5	Jan 12 1963
ANNUAL SEVEN-DAY MINIMUM	10	Oct 1	10	Oct 1	5.5	Jan 11 1963
MAXIMUM PEAK FLOW			286	May 30	2750	Jan 2 1997
MAXIMUM PEAK STAGE			2.99	May 30	7.49	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	27250		29980		43670	
10 PERCENT EXCEEDS	98		113		164	
50 PERCENT EXCEEDS	15		18		28	
90 PERCENT EXCEEDS	11		12		13	

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. Month end 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 NGVD of 1929 (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 usable contents at times in water years 1929, 1930, 1960, 1977, 1988, and 1989.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 17,320 acre-ft, Mar. 22, elevation, 6,449.15 ft; minimum 5,670 acre-feet, Oct. 30, elevation, 6,439.29 ft.

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

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

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6770	5900	7940	10520	13460	16500	17030	15950	15200	14920	10980	7960
2	6720	5950	8060	10670	13530	16570	17000	15850	15310	14770	10900	7930
3	6650	6000	8160	10830	13600	16630	16950	15770	15370	14550	10800	7890
4	6580	6040	8230	10970	13680	16680	16900	15690	15410	14360	10700	7810
5	6580	6100	8270	11060	13760	16650	16840	15630	15530	14140	10590	7710
6	6500	6130	8400	11180	13830	16690	16790	15550	15680	13960	10500	7560
7	6450	6190	8470	11320	13910	16730	16760	15470	15820	13830	10380	7420
8	6400	6230	8530	11470	14000	16760	16730	15430	15820	13690	10260	7320
9	6370	6280	8630	11600	14110	16870	16660	15340	15990	13580	10170	7210
10	6320	6310	8680	11760	14200	16840	16600	15250	16040	13490	10050	7150
11	6290	6390	8780	11870	14330	16870	16580	15190	16040	13350	9910	7090
12	6300	6450	8830	11980	14450	16930	16540	15100	16010	13200	9790	7050
13	6300	6510	8970	12100	14570	16870	16570	15040	15980	13050	9650	7000
14	6290	6560	9010	12190	14700	16930	16650	15060	15870	12930	9480	6940
15	6300	6620	9040	12290	14880	16950	16630	15070	15720	12790	9310	6890
16	6310	6670	9110	12340	15000	16960	16710	15110	15610	12620	9150	6840
17	6290	6730	9210	12390	15110	16900	16650	15170	15550	12580	9000	6790
18	6240	6780	9280	12430	15230	16980	16610	15280	15490	12560	8840	6800
19	6170	6860	9340	12490	15400	17000	16600	15410	15520	12500	8680	6770
20	6100	6910	9450	12560	15530	17010	16500	15400	15610	12440	8520	6740
21	6050	6900	9510	12660	15690	17040	16470	15340	15740	12370	8410	6730
22	5970	7010	9600	12730	15960	17060	16410	15280	15900	12270	8340	6730
23	5910	7080	9680	12770	15930	17090	16300	15160	15980	12130	8290	6730
24	5860	7390	9730	12850	16060	17130	16220	15060	16010	11980	8250	6680
25	5830	7490	9770	12940	16170	17130	16170	14940	15980	11820	8210	6620
26	5800	7540	9850	13040	16280	17130	16220	14830	15880	11690	8170	6490
27	5770	7610	9950	13150	16360	17090	16170	14760	15720	11580	8110	6360
28	5740	7670	10040	13200	16360	17080	16140	14740	15520	11430	8060	6280
29	5700	7780	10130	13270	---	17080	16110	14760	15320	11310	8020	6220
30	5760	7840	10260	13320	---	17060	16010	14890	15130	11200	8000	6180
31	5830	---	10410	13390	---	17060	---	15040	---	11070	7980	---
MAX	6770	7840	10410	13390	16360	17130	17030	15950	16040	14920	10980	7960
MIN	5700	5900	7940	10520	13460	16500	16010	14740	15130	11070	7980	6180
a	6439.49	6441.75	6444.18	6446.56	6448.56	6449.00	6448.34	6447.71	6447.77	6444.74	6441.90	6439.92
b	-980	+2010	+2570	+2980	+2970	+700	-1050	-970	+90	-4060	-3090	-1800
CAL YR 2001	MAX 25540	MIN 5700	b -6620									
WTR YR 2002	MAX 17130	MIN 5700	b +350									

a Elevation, in feet above NGVD 1929, at end of month.

b Change in contents, in acre-feet.

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA

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

DRAINAGE AREA.—359 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 NGVD of 1929, 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 excellent. 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,910 ft³/s, Jan. 4, 1997, gage height, 6.74 ft; minimum daily, 0.20 ft³/s, Nov. 2, 1955.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 274 ft³/s, June 2, 3, gage height, 3.85 ft; minimum daily, 20 ft³/s, Dec. 27, 28, Jan. 3–14.

DISCHARGE CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	21	21	21	27	23	49	69	199	210	88	47
2	60	21	21	21	27	25	53	74	269	201	84	47
3	66	21	22	20	25	26	62	70	246	201	78	50
4	61	21	25	20	27	39	66	65	214	186	78	69
5	58	21	24	20	25	61	63	65	189	182	73	93
6	53	21	21	20	22	66	54	69	187	175	67	97
7	53	21	21	20	22	66	48	74	216	155	67	90
8	53	21	22	20	22	59	44	74	228	138	67	79
9	52	21	22	20	22	49	43	74	221	111	67	75
10	52	21	21	20	22	49	48	70	216	105	75	63
11	45	21	21	20	22	55	44	66	204	116	84	53
12	36	21	21	20	22	62	39	65	198	133	84	53
13	36	21	21	20	23	59	39	62	198	127	84	54
14	36	21	21	20	23	45	39	53	209	121	92	51
15	29	21	26	23	23	39	39	48	223	121	102	45
16	30	21	24	25	23	39	43	48	223	116	98	45
17	43	21	22	25	23	39	51	48	207	107	92	45
18	52	21	24	25	23	41	61	62	181	97	100	45
19	67	21	21	24	23	49	66	93	174	86	106	45
20	67	21	21	25	23	49	62	115	160	81	101	42
21	66	21	22	23	23	49	58	134	154	81	89	37
22	63	21	23	22	23	49	61	120	155	85	62	36
23	58	21	23	25	23	49	66	117	155	98	47	36
24	55	21	25	24	23	49	62	123	156	105	47	47
25	51	22	24	21	23	49	54	123	170	91	47	68
26	51	26	21	21	23	49	48	123	196	81	47	81
27	51	26	20	21	23	49	48	123	219	84	51	82
28	51	24	20	23	23	49	48	123	227	90	55	74
29	44	22	21	26	---	49	60	119	227	86	55	65
30	26	24	21	26	---	49	66	126	227	80	52	57
31	21	---	21	26	---	49	---	155	---	83	47	---
TOTAL	1539	648	683	687	653	1479	1584	2750	6048	3733	2286	1771
MEAN	49.65	21.60	22.03	22.16	23.32	47.71	52.80	88.71	201.6	120.4	73.74	59.03
MAX	67	26	26	26	27	66	66	155	269	210	106	97
MIN	21	21	20	20	22	23	39	48	154	80	47	36
AC-FT	3050	1290	1350	1360	1300	2930	3140	5450	12000	7400	4530	3510

WALKER LAKE BASIN

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.72	29.66	38.07	45.80	51.39	89.32	174.8	256.4	310.5	299.4	238.9	153.8
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	0.50	0.62	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	29772		23861			
ANNUAL MEAN	81.57		65.37		146.1	
HIGHEST ANNUAL MEAN					443	
LOWEST ANNUAL MEAN					37.5	
HIGHEST DAILY MEAN	240	May 13	269	Jun 2	1880	Jan 4 1997
LOWEST DAILY MEAN	16	Jan 5	20	Dec 27	0.20	Nov 2 1955
ANNUAL SEVEN-DAY MINIMUM	16	Jan 5	20	Jan 3	0.20	Nov 2 1955
MAXIMUM PEAK FLOW			274		1910	
MAXIMUM PEAK STAGE			3.85		6.74	
ANNUAL RUNOFF (AC-FT)	59050		47330		105800	
10 PERCENT EXCEEDS	175		155		342	
50 PERCENT EXCEEDS	66		49		93	
90 PERCENT EXCEEDS	21		21		7.0	

10293030 EAST WALKER RIVER AT STATELINE, NEAR BRIDGEPORT, CA

LOCATION.—Lat 38°24'52", long 119°09'57", in SE 1/4 NW 1/4 sec.31, T.7 N., R.26 E., Mono County, Hydrologic Unit 16050301, 10.5 mi northeast of Bridgeport, and 21.4 mi southeast of Coleville.

DRAINAGE AREA.—399.97 mi².

PERIOD OF RECORD.—August 2001 to current year.

CHEMICAL DATA: August 2001 to current year.

SEDIMENT DATA: August 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
NOV	26...	33	7.2	613	11.0	95	--	194	.5	68	20.0
MAR	05...	61	5.2	614	8.8	87	8.5	189	5.5	63	18.7
JUN	28...	211	4.0	614	8.2	109	8.3	179	18.5	62	18.5
AUG	21...	104	16	612	7.2	104	9.7	179	22.5	--	--

Date	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca) (00916)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS Mg) (00927)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITROGEN, AMMONIA + ORGANIC (MG/L AS N) (00625)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHOPHOSPHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
NOV	26...	18.6	4.32	4.09	.58	--	.50	.12	--	e.05
MAR	05...	16.9	3.91	3.64	3.31	128	.38	e.03	--	e.05
JUN	28...	17.8	3.80	3.91	2.03	131	.66	.07	.011	.057
AUG	21...	--	--	--	2.19	133	3.1	.363	--	.161

Date	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ANTIMONY, DIS-SOLVED (UG/L AS SB) (01095)	ANTIMONY, TOTAL (UG/L AS SB) (01097)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC, TOTAL (UG/L AS AS) (01002)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	
NOV	26...	2	110	<.05	<.9	2	3	<.06	<.06	<.04	e.02
MAR	05...	1	83	.14	<.9	4	6	<.06	<.06	<.04	<.04
JUN	28...	2	67	.11	<.9	7	7	<.06	<.06	<.04	.04
AUG	21...	--	--	--	--	--	--	--	--	--	--

e Estimated.

< Actual value is known to be less than value shown.

10293030 EAST WALKER RIVER AT STATELINE, NEAR BRIDGEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
NOV 26...	<.8	<.8	.07	<1	.7	1.1	e8	260	<.08	<1
MAR 05...	<.8	<.8	.08	<1	.7	1.1	29	260	.16	<1
JUN 28...	<.8	<.8	.16	<1	1.6	1.4	126	280	<.08	<1
AUG										

Date	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)
NOV 26...	11.6	82	<.01	<.01	4.3	4.5	.06	<1	e.2	<.4
MAR 05...	13.9	111	<.01	<.01	4.3	4.4	.28	<1	e.2	<.4
JUN 28...	28.8	107	.01	.01	4.5	4.9	.28	<1	<.3	e.2
AUG 21...	--	--	--	--	--	--	--	--	--	--

Date	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	THAL- LIUM, TOTAL RECOV- ERABLE (UG/L AS TL) (01059)	VANA- DIUM, TOTAL RECOV- ERABLE (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
NOV 26...	<1	<.05	<.04	<.9	<10	<8	<1	2	9.0	.79
MAR 05...	<1	<.05	<.04	<.9	<10	<8	<1	<1	8.0	1.3
JUN 28...	<1	<.05	<.04	<.9	<10	<8	2	2	7.0	4.0
AUG 21...	--	--	--	--	--	--	--	--	12	3.4

< Actual value is known to be less than value shown.
e Estimated.

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.—Lat 38°21'39", long 119°26'38", 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 NVGD of 1929, 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 good 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,540 ft³/s, Jan. 2, 1997, gage height, 5.70 ft; minimum daily, 2.6 ft³/s, Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2345	*270	*2.60

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	12	15	17	e15	17	30	40	208	59	19	13
2	7.6	12	16	18	e15	18	34	40	168	58	19	13
3	7.7	11	e16	17	e15	19	38	42	178	55	18	12
4	7.6	11	e16	e17	e14	18	43	46	161	51	17	13
5	7.9	11	e16	e17	e14	16	43	52	169	48	16	14
6	7.8	11	e16	17	e14	17	41	58	152	46	16	16
7	7.6	11	e16	18	e13	13	40	59	152	44	16	14
8	7.6	12	e16	17	13	19	42	60	139	42	15	13
9	7.4	13	e16	16	e13	20	43	61	127	39	15	12
10	7.5	13	e16	15	e13	18	43	62	119	38	14	11
11	7.6	14	16	18	e14	19	48	61	112	36	14	11
12	7.6	13	16	16	14	21	52	64	113	35	13	9.8
13	7.6	13	15	17	15	18	54	71	109	35	12	8.5
14	7.7	13	e15	21	16	17	66	76	103	34	12	8.5
15	7.7	13	e15	21	16	20	76	95	97	33	12	8.2
16	7.6	13	e16	20	17	20	62	105	94	31	12	8.4
17	7.5	13	e16	e20	15	19	56	122	92	31	12	8.5
18	7.6	12	e16	e20	16	19	50	134	97	32	12	8.6
19	7.8	13	e17	e19	17	19	49	137	100	31	12	8.7
20	7.7	12	17	e19	21	16	48	125	96	29	12	8.7
21	7.7	15	e17	e19	20	17	46	103	92	28	12	9.1
22	7.8	24	e16	e18	20	17	42	87	82	26	12	9.5
23	7.7	14	16	e18	20	17	46	80	77	24	12	9.3
24	7.8	37	e16	e18	18	18	48	81	73	23	12	9.1
25	7.9	20	e16	e17	18	18	47	88	72	23	12	9.0
26	8.0	e19	17	e17	18	18	50	104	72	22	12	9.1
27	7.9	e18	16	17	18	18	46	106	70	20	13	9.2
28	8.2	e18	16	e17	18	19	45	113	69	20	14	9.9
29	8.0	18	17	e16	---	22	52	126	65	19	14	10
30	16	e16	16	e16	---	25	45	156	62	19	14	9.9
31	14	---	18	e16	---	28	---	186	---	18	14	---
TOTAL	253.7	445	499	549	450	580	1425	2740	3320	1049	429	314.0
MEAN	8.184	14.83	16.10	17.71	16.07	18.71	47.50	88.39	110.7	33.84	13.84	10.47
MAX	16	37	18	21	21	28	76	186	208	59	19	16
MIN	7.4	11	15	15	13	13	30	40	62	18	12	8.2
AC-FT	503	883	990	1090	893	1150	2830	5430	6590	2080	851	623

e Estimated.

WALKER LAKE BASIN

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.22	21.51	21.84	22.49	22.58	27.35	51.01	126.3	173.2	102.1	38.69	23.04
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1945 - 2002	
ANNUAL TOTAL	11500.7		12053.7			
ANNUAL MEAN	31.51		33.02		54.29	
HIGHEST ANNUAL MEAN					113 1983	
LOWEST ANNUAL MEAN					13.9 1977	
HIGHEST DAILY MEAN	200	May 16	208	Jun 1	730	May 16 1996
LOWEST DAILY MEAN	7.3	Sep 27	7.4	Oct 9	2.6	Aug 16 1977
ANNUAL SEVEN-DAY MINIMUM	7.5	Sep 27	7.6	Oct 7	3.0	Aug 11 1977
MAXIMUM PEAK FLOW			270	May 31	2540	Jan 2 1997
MAXIMUM PEAK STAGE			2.60	May 31	5.70	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	22810		23910		39330	
10 PERCENT EXCEEDS	80		84		143	
50 PERCENT EXCEEDS	16		17		25	
90 PERCENT EXCEEDS	8.6		8.7		13	

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

LOCATION.—Lat 38°22'47", long 119°26'57", in NE 1/4 SE 1/4 sec.9, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, in Toiyabe National Forest, on left bank, 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 NGVD of 1929. 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, 1997, 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,300 ft³/s, Jan. 2, 1997, gage height, 10.11 ft; minimum daily, 9.7 ft³/s, Sept. 11, 1997.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharges of 1,120 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 19	0245	*1,760	4.66	Jun 6	0100	1,570	4.44
Jun 1	0345	*1,760	*4.67				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	44	51	67	64	85	210	277	1500	387	67	40
2	19	39	50	70	60	81	251	270	1220	368	65	39
3	19	36	52	73	60	83	305	297	987	342	68	35
4	18	34	46	69	60	83	372	374	1020	303	67	37
5	19	33	60	84	60	82	428	487	1150	274	65	39
6	20	33	65	72	58	87	401	590	1220	259	63	43
7	19	32	60	79	58	78	387	668	1190	249	60	54
8	19	33	60	77	52	77	426	662	1080	235	57	52
9	19	33	63	73	58	94	480	645	869	212	55	44
10	20	33	63	69	62	89	460	597	680	205	52	39
11	20	39	58	70	56	86	503	511	647	196	51	38
12	20	37	55	69	54	96	589	527	704	194	48	37
13	19	38	53	67	56	88	633	632	783	203	45	34
14	19	39	e48	e61	53	83	779	800	837	206	47	33
15	19	39	e45	e57	54	82	910	897	756	184	50	31
16	20	39	e49	e52	56	86	583	1010	710	168	45	30
17	21	38	e52	e58	56	82	453	1130	692	155	43	30
18	21	35	56	65	51	82	374	1290	750	150	42	31
19	21	34	59	67	60	78	336	1280	835	138	40	31
20	21	36	59	65	74	79	304	996	774	125	41	30
21	21	40	53	66	73	84	283	720	698	124	41	30
22	21	77	58	57	78	88	279	554	603	115	40	30
23	21	49	56	54	83	94	311	480	539	106	38	29
24	21	104	53	66	76	93	359	485	518	98	40	27
25	21	65	59	62	76	88	401	596	489	94	41	26
26	22	62	62	58	79	94	435	704	519	89	37	25
27	21	56	57	57	84	97	393	849	497	83	43	25
28	22	59	55	58	84	105	344	913	443	78	46	25
29	22	52	62	56	---	117	331	1050	416	75	42	26
30	39	55	64	61	---	146	305	1330	400	73	42	25
31	53	---	72	64	---	177	---	1410	---	68	39	---
TOTAL	677	1343	1755	2023	1795	2864	12625	23031	23526	5556	1520	1015
MEAN	21.84	44.77	56.61	65.26	64.11	92.39	420.8	742.9	784.2	179.2	49.03	33.83
MAX	53	104	72	84	84	177	910	1410	1500	387	68	54
MIN	18	32	45	52	51	77	210	270	400	68	37	25
MED	20	39	57	66	60	86	390	662	730	168	45	31
AC-FT	1340	2660	3480	4010	3560	5680	25040	45680	46660	11020	3010	2010

e Estimated.

WALKER LAKE BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.96	67.49	71.28	78.33	75.13	110.4	302.9	781.8	954.1	492.1	151.1	73.79
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	188	41.1	18.5	12.3
(WY)	1978	1978	1991	1977	1991	1977	1975	1977	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	69214		77730			
ANNUAL MEAN	189.6		213.0		265.5	
HIGHEST ANNUAL MEAN					537 1983	
LOWEST ANNUAL MEAN					65.3 1977	
HIGHEST DAILY MEAN	1660	May 16	1500	Jun 1	8660	Jan 2 1997
LOWEST DAILY MEAN	15	Sep 22	18	Oct 4	9.7	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	16	Sep 18	19	Oct 2	10	Sep 5 1977
MAXIMUM PEAK FLOW			1760	Jun 1	12300	Jan 2 1997
MAXIMUM PEAK STAGE			4.67	Jun 1	10.11	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	137300		154200		192300	
10 PERCENT EXCEEDS	622		673		804	
50 PERCENT EXCEEDS	50		66		87	
90 PERCENT EXCEEDS	21		28		34	

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA

LOCATION.—Lat 38°30'48", long 119°26'56", in NE 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, 250 ft downstream from Rock Creek, and 5 mi southeast of Coleville.

DRAINAGE AREA.—250 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1902 to July 1908 (published as "West Fork of Walker River near Coleville", 1903, 1905–08 and as "Walker River (West Fork) near Coleville", 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to current year.

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 NGVD of 1929, from topographic map. See WSP 1927 for history of changes prior to July 25, 1964. July 26, 1964, to Jan. 2, 1997, (gage destroyed by flood) at several sites and datums 2,000 ft downstream from present location, when reestablished Oct. 28, 1997, at new datum.

REMARKS.—No estimated daily discharges. Records fair. 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,500 ft³/s, Jan. 2, 1997, gage height, 10.23 ft; minimum daily, 14 ft³/s, several days July–September 1924 and Sept. 12, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,120 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 19	0230	1,300	7.05	June 1	0645	*1,470	*2.29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	44	56	69	53	81	205	326	1340	420	81	51
2	27	40	62	71	52	76	265	322	1130	407	81	49
3	27	38	48	76	50	77	325	337	905	387	79	46
4	26	37	49	63	50	80	387	393	906	354	77	45
5	26	36	56	71	50	81	435	482	994	327	75	48
6	27	35	64	71	51	84	413	563	1110	310	73	49
7	27	35	60	78	53	82	399	636	1060	297	72	58
8	27	35	57	77	50	70	423	637	972	283	69	55
9	27	36	59	74	48	83	468	619	816	257	67	53
10	28	36	57	70	53	83	455	588	650	243	64	50
11	28	38	57	66	56	84	486	521	626	234	62	48
12	28	38	56	69	56	92	553	524	652	227	60	47
13	28	38	56	64	58	88	593	593	723	262	58	44
14	28	39	52	65	58	83	686	724	770	279	57	44
15	28	39	45	61	56	74	826	794	702	230	57	43
16	27	39	54	55	58	80	553	832	668	199	55	42
17	27	39	62	54	61	76	457	921	657	185	54	44
18	27	37	52	56	56	78	400	1060	697	183	53	44
19	27	37	57	58	60	76	368	1070	748	166	51	44
20	27	38	57	59	70	80	340	851	695	148	51	44
21	27	38	51	64	73	82	325	655	669	144	51	43
22	27	66	56	55	75	86	326	536	589	133	50	43
23	27	53	56	48	81	92	345	479	539	120	48	41
24	27	93	50	57	76	93	387	475	531	111	47	40
25	28	73	52	62	75	88	417	544	507	106	46	39
26	28	57	61	55	77	91	451	647	528	101	45	38
27	28	58	59	56	82	95	423	764	522	95	47	38
28	28	59	59	50	81	99	386	794	478	89	46	38
29	28	59	63	48	---	107	373	910	450	85	46	39
30	32	53	65	54	---	126	351	1100	434	83	45	38
31	50	---	72	58	---	156	---	1270	---	79	47	---
TOTAL	874	1363	1760	1934	1719	2723	12821	20967	22068	6544	1814	1345
MEAN	28.19	45.43	56.77	62.39	61.39	87.84	427.4	676.4	735.6	211.1	58.52	44.83
MAX	50	93	72	78	82	156	826	1270	1340	420	81	58
MIN	26	35	45	48	48	70	205	322	434	79	45	38
AC-FT	1730	2700	3490	3840	3410	5400	25430	41590	43770	12980	3600	2670

WALKER LAKE BASIN

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	69.86	70.60	67.64	78.87	81.55	126.9	307.9	791.6	990.4	525.8	166.0	83.37
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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1903 - 2002
ANNUAL TOTAL	67437	75932	
ANNUAL MEAN	184.8	208.0	279.7
HIGHEST ANNUAL MEAN			669 1907
LOWEST ANNUAL MEAN			74.5 1977
HIGHEST DAILY MEAN	1510 May 16	1340 Jun 1	9000 Jan 2 1997
LOWEST DAILY MEAN	25 Sep 21	26 Oct 4	14 Jul 24 1924
ANNUAL SEVEN-DAY MINIMUM	26 Sep 18	27 Oct 1	14 Aug 28 1924
MAXIMUM PEAK FLOW		1470 Jun 1	12500 Jan 2 1997
MAXIMUM PEAK STAGE		7.29 Jun 1	10.23 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	133800	150600	202600
10 PERCENT EXCEEDS	586	641	839
50 PERCENT EXCEEDS	55	69	95
90 PERCENT EXCEEDS	28	37	38

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—May 1994 to June 1995, August to September 2002.

CHEMICAL DATA: May 1994 to June 1995, August to September 2002.

SEDIMENT DATA: August to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)
AUG 21...	1400	53	2.0	624	8.3	104	8.3	150	16.5
Date	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITROGEN, AMMONIA + ORGANIC (MG/L AS N) (00625)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	
AUG 21...	3.67	9.0	93	.15	e.009	.033	20	2.9	

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., Mono County, Hydrologic Unit 16050301, at outlet works of Topaz Lake on West Walker River, and 5.5 mi north of Topaz.

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

GAGE.—Water-stage recorder. Datum of gage is above NGVD of 1929. 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 34,690 acre-ft, June 21, elevation, 4993.20 ft; minimum contents, 7,290 acre-ft, Sept. 30, elevation, 4,976.98 ft.

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

4,968	490	4,980	19,760	4,990	37,360	5,000	58,570
4,970	3,580	4,985	28,310	4,995	47,540	5,001	60,870
4,975	11,520						

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10760	9280	10980	14610	18270	21190	22300	21300	28410	31690	21690	12470
2	10730	9330	11370	14820	18350	21250	22340	21070	29410	31240	21340	12230
3	10680	9340	11420	14990	18430	21320	22370	20870	30010	30780	21000	11970
4	10610	9380	11530	15130	18520	21370	22530	20730	30500	30310	20560	11660
5	10560	9390	11640	15250	18600	21490	22780	20760	31140	29810	20170	11340
6	10520	9410	11760	15380	18680	21540	22970	20970	31920	29340	19770	11000
7	10500	9420	11870	15530	18800	21640	23120	21360	32620	28940	19470	10710
8	10390	9420	11990	15710	18900	21630	23270	21830	33220	28550	19220	10470
9	10370	9460	12050	15860	18950	21690	23430	22190	33580	28240	18970	10230
10	10310	9470	12200	16010	19050	21630	23560	22440	33620	27940	18730	10030
11	10260	9490	12290	16170	19150	21630	23670	22590	33540	27630	18430	9840
12	10210	9470	12410	16310	19250	21630	23800	22680	33540	27380	18080	9650
13	10160	9540	12370	16470	19350	21660	23960	22810	33690	27190	17750	9490
14	10100	9550	12630	16540	19440	21730	24090	23090	33910	27000	17430	9360
15	10070	9580	12700	16650	19550	21780	24590	23440	34070	26800	17100	9180
16	9950	9620	12720	16770	19650	21790	24610	23580	34140	26570	16850	9060
17	10020	9670	12890	16870	19790	21830	24440	23770	34210	e26360	16600	8930
18	9910	9680	13010	16980	19890	21860	24230	24180	34310	e26190	16360	8750
19	9890	9740	13110	17070	19990	21910	23970	24680	34540	26020	16090	8610
20	9830	9540	13240	17170	20110	21960	23680	25040	34620	25790	15840	8470
21	9760	9790	13320	17230	20210	22000	23340	25190	34670	25570	15600	8340
22	9710	9890	13400	17350	20360	22050	23020	25090	34600	25350	15320	8260
23	9670	9940	13550	17450	20460	22170	22680	24860	34380	25120	15050	8160
24	9650	10210	13640	17520	20610	22220	22420	24620	34160	24810	14820	8020
25	9600	10400	13760	17570	20730	22270	22270	24470	33920	24440	14510	7890
26	9570	10520	13860	17750	20870	22300	22200	24450	33710	24030	14220	7750
27	9540	10580	13950	17800	20980	22320	22020	24660	33430	23580	13900	7700
28	9510	10730	14100	17910	21080	22320	21880	24900	33070	23150	13550	7510
29	9470	10810	14250	18030	---	22300	21730	25310	32640	22750	13220	7430
30	9300	10840	14450	18100	---	22290	21540	26090	32160	22370	12930	7310
31	9330	---	14510	18170	---	22290	---	27210	---	22070	12700	---
MAX	10760	10840	14510	18170	21080	22320	24610	27210	34670	31690	21690	12470
MIN	9300	9280	10980	14610	18270	21190	21540	20730	28410	22070	12700	7310
a	4973.64	4974.58	4976.84	4979.05	4980.78	4981.50	4981.05	4984.36	4987.18	4981.37	4975.73	4972.37
b	-1510	+1510	+3670	+3660	+2910	+1210	-750	+5670	+4950	-10090	-9370	-5390

CAL YR 2001 MAX 40710 MIN 9280 b +3430
WTR YR 2002 MAX 34670 MIN 7310 b -3530

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, 1.5 mi northeast of Markleeville, and at mi 114.75 upstream from Lahontan Dam.

DRAINAGE AREA.—276 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—August 1960 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 5,400 ft above NGVD of 1929, 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 18,900 ft³/s, Jan. 2, 1997, gage height, 11.78 ft; minimum daily, 12 ft³/s, Sept. 10–13, 23, 1997.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 15	0015	*1,830	*4.56	May 18	2230	1,740	4.47
May 31	0130	1,610	4.34				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	51	65	131	e78	173	425	393	1350	243	87	51
2	31	44	107	143	e81	151	490	381	1150	232	88	48
3	29	42	61	179	86	150	580	442	956	215	87	47
4	28	41	63	123	88	157	727	565	932	194	81	49
5	28	40	69	115	90	161	792	697	985	181	72	56
6	28	39	70	182	92	194	720	834	986	170	70	57
7	28	39	76	221	82	185	681	951	946	156	74	60
8	28	39	76	194	84	149	702	915	862	148	87	54
9	29	38	75	164	81	161	774	851	719	149	86	52
10	30	37	72	142	83	166	784	821	615	139	71	51
11	29	42	70	128	83	168	859	727	571	142	e70	60
12	29	46	68	127	85	212	957	769	565	144	69	48
13	30	48	68	118	86	207	969	937	587	147	62	47
14	30	45	66	109	90	172	1220	1040	604	134	67	45
15	29	45	52	103	91	141	1370	1090	555	122	66	43
16	28	44	70	95	92	151	815	1190	531	113	66	43
17	27	42	78	82	99	143	642	1250	503	109	64	43
18	29	40	79	71	91	142	532	1460	511	120	59	44
19	30	38	82	94	99	142	466	1350	520	121	59	44
20	31	39	68	96	127	164	421	1110	478	108	61	43
21	30	46	72	100	136	169	408	819	462	99	72	42
22	30	149	73	82	158	189	426	665	423	92	59	41
23	30	78	65	e84	189	197	464	598	389	88	57	40
24	30	177	64	e82	166	190	511	593	368	83	57	40
25	31	106	60	e81	161	193	580	662	348	79	55	43
26	31	68	69	e79	166	210	683	735	336	81	53	38
27	32	75	70	e76	178	215	587	839	326	79	52	36
28	33	67	77	e74	175	231	503	893	302	82	54	35
29	33	66	89	71	---	261	477	1060	283	81	58	36
30	46	60	102	70	---	318	432	1270	263	85	57	38
31	74	---	172	e72	---	368	---	1340	---	80	53	---
TOTAL	983	1731	2348	3488	3117	5830	19997	27247	18426	4016	2073	1374
MEAN	31.71	57.70	75.74	112.5	111.3	188.1	666.6	878.9	614.2	129.5	66.87	45.80
MAX	74	177	172	221	189	368	1370	1460	1350	243	88	60
MIN	27	37	52	70	78	141	408	381	263	79	52	35
AC-FT	1950	3430	4660	6920	6180	11560	39660	54040	36550	7970	4110	2730

e Estimated.

CARSON RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	79.69	108.5	132.4	194.4	206.4	285.5	551.1	1132	987.8	394.6	143.9	88.17
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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1960 - 2002
ANNUAL TOTAL	68577	90630	
ANNUAL MEAN	187.9	248.3	359.1
HIGHEST ANNUAL MEAN			809 1983
LOWEST ANNUAL MEAN			83.7 1977
HIGHEST DAILY MEAN	1310	May 12	1460 May 18
LOWEST DAILY MEAN	27	Oct 17	27 Oct 17
ANNUAL SEVEN-DAY MINIMUM	28	Oct 3	28 Oct 3
MAXIMUM PEAK FLOW			1830 Apr 15
MAXIMUM PEAK STAGE		4.56	Apr 15
ANNUAL RUNOFF (AC-FT)	136000	179800	11.78 Jan 2 1997
10 PERCENT EXCEEDS	544	771	260200
50 PERCENT EXCEEDS	68	91	961
90 PERCENT EXCEEDS	30	38	143
			51

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 2001 to September 2002.

CHEMICAL DATA: October 2001 to September 2002.

SEDIMENT DATA: October 2001 to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT									
16...	1210	29	.6	--	--	--	--	168	10.0
JAN									
16...	1315	89	1.3	625	11.4	98	7.9	161	1.0
APR									
23...	1245	434	5.7	630	10.1	100	8.0	76	6.5
JUL									
10...	0925	138	3.1	631	9.5	113	8.0	88	14.5
SEP									
10...	1115	52	1.9	628	--	--	8.3	125	11.3

Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT								
16...	--	--	112	e.09	e.03	<.06	1.0	.08
JAN								
16...	--	--	108	.17	<.05	<.06	2.0	.48
APR								
23...	--	--	57	e.10	<.05	<.06	20	23.4
JUL								
10...	--	--	68	.11	<.05	<.06	3.0	1.1
SEP								
10...	2.77	4.7	80	.07	<.013	.019	4.0	.56

e Estimated.

< Actual value is known to be less than value shown.

10308783 LEVIATHAN CREEK ABOVE LEVIATHAN MINE, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'05", long 119°39'20", in SW 1/4 NE 1/4 sec.22, T.10 N., R.21 E., Alpine County, Hydrologic Unit 16050201, on right bank, 2 mi north of Highway 89, and 6.5 mi east of Markleeville.

DRAINAGE AREA.—4.16 mi².

PERIOD OF RECORD.—October 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 7,200 ft above sea level, from topographic map.

REMARKS.—Records fair except those below 0.2 ft³/s and estimated values, which are poor.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21 ft³/s, May 7, 1999, gage height, 4.40 ft, maximum gage height, 4.67 ft, Jan. 7, 2001, backwater from ice; minimum daily, 0.02 ft³/s, several days in 2001 and 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges above base discharge of 10 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 14	1445	6.0	4.13

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	0.09	0.09	0.29	e0.13	e0.09	1.4	0.40	0.24	0.05	0.06	0.06
2	0.03	0.09	0.08	0.29	e0.12	e0.10	1.2	0.36	0.23	0.05	0.09	0.06
3	0.04	0.09	0.07	0.29	e0.11	e0.10	1.2	0.41	0.23	0.05	0.05	0.06
4	0.04	0.09	e0.07	0.29	e0.10	e0.09	1.4	0.36	0.21	0.05	0.05	0.06
5	0.04	0.10	e0.07	0.29	e0.10	e0.09	1.7	0.36	0.20	0.05	0.04	0.06
6	0.04	0.10	e0.07	0.31	e0.10	e0.09	1.6	0.36	0.19	0.05	0.05	0.07
7	0.05	0.10	e0.07	0.30	e0.12	e0.10	1.3	0.40	0.18	0.04	0.05	0.07
8	0.05	0.09	e0.07	e0.25	e0.10	e0.11	1.1	0.33	0.18	0.04	0.04	0.07
9	0.04	0.10	e0.07	e0.25	e0.10	e0.11	1.2	0.32	0.18	0.05	0.05	0.08
10	0.04	0.11	e0.07	e0.22	e0.10	e0.11	1.3	0.35	0.20	0.04	0.05	0.07
11	0.04	0.13	e0.07	e0.22	e0.10	0.35	1.5	0.41	0.18	0.04	0.06	0.06
12	0.04	0.11	e0.07	e0.20	e0.10	0.40	2.4	0.35	0.16	0.06	0.05	0.06
13	0.04	0.12	e0.07	e0.20	e0.10	0.35	3.0	0.35	0.16	0.33	0.04	0.06
14	0.04	0.12	e0.07	e0.18	e0.10	0.33	3.4	0.34	0.15	0.19	0.04	0.06
15	0.04	0.11	e0.07	e0.18	e0.10	e0.29	2.4	0.33	0.13	0.12	0.04	0.05
16	0.03	0.10	e0.07	e0.16	e0.10	e0.19	1.5	0.31	0.12	0.11	0.04	0.06
17	0.03	0.10	e0.07	e0.16	e0.10	e0.18	1.6	0.29	0.12	0.10	0.03	0.06
18	0.03	0.09	e0.07	e0.16	e0.10	e0.16	1.2	0.27	0.11	0.08	0.04	0.07
19	0.04	0.12	e0.07	e0.16	e0.20	e0.26	1.4	0.26	0.11	0.05	0.04	0.06
20	0.04	0.13	e0.12	e0.16	e0.18	0.32	1.5	0.29	0.11	0.05	0.04	0.06
21	0.04	0.15	e0.10	e0.16	e0.16	0.32	1.2	0.29	0.12	0.05	0.05	0.06
22	0.04	0.18	e0.15	e0.16	e0.14	0.35	0.98	0.29	0.10	0.05	0.05	0.06
23	0.04	0.13	0.19	e0.16	e0.12	0.35	0.98	0.29	0.10	0.05	0.05	0.06
24	0.04	0.20	0.23	e0.16	e0.10	0.32	0.87	0.29	0.11	0.04	0.05	0.04
25	0.04	0.19	0.24	e0.16	e0.10	0.33	0.80	0.29	0.08	0.04	0.05	0.05
26	0.04	e0.16	0.21	e0.20	e0.10	0.34	0.92	0.31	0.08	0.04	0.05	0.05
27	0.05	e0.14	0.22	e0.20	e0.10	0.39	0.69	0.31	0.07	0.05	0.05	0.05
28	0.04	0.12	0.22	e0.18	e0.09	0.47	0.60	0.31	0.06	0.05	0.06	0.07
29	0.04	0.08	0.26	e0.16	---	0.59	0.53	0.29	0.06	0.04	0.08	0.08
30	0.07	0.08	0.26	e0.15	---	0.91	0.40	0.30	0.06	0.04	0.08	0.07
31	0.09	---	0.29	e0.14	---	0.95	---	0.25	---	0.03	0.06	---
TOTAL	1.31	3.52	3.85	6.39	3.17	9.14	41.27	10.07	4.23	2.08	1.58	1.85
MEAN	0.042	0.117	0.124	0.206	0.113	0.295	1.376	0.325	0.141	0.067	0.051	0.062
MAX	0.09	0.20	0.29	0.31	0.20	0.95	3.4	0.41	0.24	0.33	0.09	0.08
MIN	0.03	0.08	0.07	0.14	0.09	0.09	0.40	0.25	0.06	0.03	0.03	0.04
AC-FT	2.6	7.0	7.6	13	6.3	18	82	20	8.4	4.1	3.1	3.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	0.074	0.130	0.151	0.184	0.165	0.451	1.374	1.740	0.292	0.093	0.057	0.066
MAX	0.11	0.20	0.24	0.27	0.29	0.83	2.56	6.17	0.80	0.19	0.10	0.11
(WY)	2000	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	0.042	0.091	0.080	0.088	0.080	0.29	0.47	0.18	0.079	0.048	0.029	0.031
(WY)	2002	2001	2001	2001	2001	2002	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1999 - 2002

ANNUAL TOTAL	48.36	88.46				
ANNUAL MEAN	0.132	0.242	0.202			
HIGHEST ANNUAL MEAN			0.24 2002			
LOWEST ANNUAL MEAN			0.13 2001			
HIGHEST DAILY MEAN	1.9	Apr 23	3.4	Apr 14	15	May 7 1999
LOWEST DAILY MEAN	0.02	Aug 17	0.03	Oct 2	0.02	Aug 17 2001
ANNUAL SEVEN-DAY MINIMUM	0.02	Aug 24	0.04	Oct 12	0.02	Aug 24 2001
MAXIMUM PEAK FLOW			6.0	Apr 14	21	May 7 1999
MAXIMUM PEAK STAGE			4.13	Apr 14	4.67	Jan 7 2001
ANNUAL RUNOFF (AC-FT)	96	175	146			
10 PERCENT EXCEEDS	0.25	0.40	0.38			
50 PERCENT EXCEEDS	0.08	0.10	0.10			
90 PERCENT EXCEEDS	0.03	0.04	0.04			

e Estimated.

10308784 LEVIATHAN MINE ADIT DRAIN NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'15", long 119°39'28", in NW 1/4 NE 1/4 sec.22, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 2.2 mi north of State Highway 89, and 6.5 mi southeast of Markleeville.

PERIOD OF RECORD.—November 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 7,100 ft above sea level, from topographic map.

REMARKS.—Records excellent.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 0.09 ft³/s, May 15–18, 1999; minimum daily, 0.0219 ft³/s, Feb. 19, 20, 2002.

EXTREMES FOR CURRENT YEAR.—Maximum daily discharge, 0.0371 ft³/s, Apr. 30, May 1; minimum daily, 0.0219 ft³/s, Feb. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0301	0.0302	0.0308	0.0265	0.0227	0.0234	0.0243	0.0371	0.0339	0.0307	0.0293	0.0276
2	0.0299	0.0302	0.0310	0.0264	0.0227	0.0231	0.0243	0.0367	0.0339	0.0311	0.0294	0.0276
3	0.0299	0.0302	0.0309	0.0266	0.0227	0.0234	0.0244	0.0360	0.0332	0.0306	0.0289	0.0279
4	0.0299	0.0303	0.0307	0.0266	0.0225	0.0230	0.0243	0.0366	0.0332	0.0306	0.0291	0.0282
5	0.0298	0.0302	0.0299	0.0256	0.0225	0.0225	0.0248	0.0363	0.0328	0.0306	0.0288	0.0282
6	0.0305	0.0303	0.0303	0.0252	0.0223	0.0234	0.0251	0.0363	0.0329	0.0302	0.0290	0.0288
7	0.0301	0.0302	0.0309	0.0252	0.0224	0.0236	0.0256	0.0365	0.0331	0.0303	0.0292	0.0287
8	0.0303	0.0308	0.0308	0.0253	0.0220	0.0232	0.0259	0.0362	0.0335	0.0301	0.0285	0.0283
9	0.0306	0.0307	0.0308	0.0251	0.0224	0.0231	0.0268	0.0365	0.0338	0.0298	0.0283	0.0281
10	0.0304	0.0307	0.0309	0.0251	0.0224	0.0228	0.0277	0.0363	0.0335	0.0297	0.0282	0.0283
11	0.0303	0.0302	0.0308	0.0246	0.0221	0.0229	0.0284	0.0359	0.0331	0.0298	0.0283	0.0279
12	0.0307	0.0306	0.0302	0.0244	0.0222	0.0231	0.0288	0.0357	0.0324	0.0298	0.0280	0.0276
13	0.0303	0.0301	0.0309	0.0247	0.0222	0.0235	0.0293	0.0356	0.0326	0.0305	0.0278	0.0276
14	0.0304	0.0302	0.0310	0.0244	0.0223	0.0237	0.0305	0.0354	0.0323	0.0295	0.0279	0.0276
15	0.0301	0.0303	0.0308	0.0243	0.0222	0.0242	0.0317	0.0352	0.0323	0.0296	0.0279	0.0273
16	0.0305	0.0299	0.0305	0.0243	0.0224	0.0238	0.0324	0.0352	0.0324	0.0295	0.0279	0.0279
17	0.0301	0.0304	0.0305	0.0241	0.0226	0.0237	0.0332	0.0346	0.0321	0.0299	0.0278	0.0276
18	0.0303	0.0306	0.0309	0.0238	0.0224	0.0233	0.0338	0.0347	0.0321	0.0301	0.0283	0.0275
19	0.0305	0.0305	0.0308	0.0237	0.0219	0.0230	0.0339	0.0348	0.0325	0.0294	0.0283	0.0275
20	0.0302	0.0307	0.0307	0.0232	0.0219	0.0231	0.0342	0.0358	0.0323	0.0293	0.0288	0.0276
21	0.0303	0.0304	0.0301	0.0227	0.0224	0.0231	0.0342	0.0356	0.0324	0.0294	0.0284	0.0273
22	0.0303	0.0307	0.0298	0.0231	0.0227	0.0237	0.0345	0.0355	0.0316	0.0296	0.0285	0.0270
23	0.0301	0.0311	0.0291	0.0227	0.0227	0.0242	0.0345	0.0349	0.0316	0.0290	0.0281	0.0271
24	0.0304	0.0315	0.0296	0.0222	0.0229	0.0239	0.0352	0.0346	0.0310	0.0286	0.0283	0.0271
25	0.0303	0.0318	0.0287	0.0221	0.0230	0.0238	0.0357	0.0345	0.0311	0.0291	0.0281	0.0272
26	0.0301	0.0320	0.0279	0.0222	0.0234	0.0236	0.0364	0.0343	0.0310	0.0293	0.0278	0.0275
27	0.0304	0.0314	0.0278	0.0227	0.0234	0.0238	0.0365	0.0344	0.0314	0.0294	0.0281	0.0276
28	0.0298	0.0310	0.0280	0.0229	0.0236	0.0241	0.0365	0.0341	0.0308	0.0291	0.0280	0.0279
29	0.0301	0.0310	0.0275	0.0229	---	0.0241	0.0367	0.0337	0.0310	0.0290	0.0279	0.0277
30	0.0301	0.0310	0.0270	0.0229	---	0.0242	0.0371	0.0333	0.0305	0.0285	0.0280	0.0281
31	0.0303	---	0.0267	0.0228	---	0.0246	---	0.0335	---	0.0288	0.0280	---
TOTAL	0.9371	0.9192	0.9263	0.7483	0.6309	0.7289	0.9267	1.0958	0.9703	0.9209	0.8789	0.8323
MEAN	0.030	0.031	0.030	0.024	0.023	0.024	0.031	0.035	0.032	0.030	0.028	0.028
MAX	0.0307	0.0320	0.0310	0.0266	0.0236	0.0246	0.0371	0.0371	0.0339	0.0311	0.0294	0.0288
MIN	0.0298	0.0299	0.0267	0.0221	0.0219	0.0225	0.0243	0.0333	0.0305	0.0285	0.0278	0.0270
AC-FT	1.9	1.8	1.8	1.5	1.3	1.4	1.8	2.2	1.9	1.8	1.7	1.7

10308785 LEVIATHAN MINE PIT DRAIN NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'15", long 119°39'28", in NW 1/4 NE 1/4 sec.22, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 2.2 mi north of Highway 89, and 6.5 mi southeast of Markleeville.

PERIOD OF RECORD.—February 2000 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 7,100 ft above sea level, from topographic map.

REMARKS.—Records good.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 0.0035 ft³/s, Mar. 29, 2001; minimum daily, 0.0004 ft³/s, many days in 2001 and 2002.

EXTREMES FOR CURRENT YEAR.—Maximum daily discharge, 0.0023 ft³/s, Apr. 1–3; minimum daily, 0.0004 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0004	0.0004	0.0004	0.0006	0.0007	0.0018	0.0023	0.0014	0.0016	0.0012	0.0009	0.0006
2	0.0004	0.0004	0.0004	0.0006	0.0007	0.0016	0.0023	0.0014	0.0016	0.0012	0.0009	0.0006
3	0.0004	0.0004	0.0004	0.0006	0.0007	0.0015	0.0023	0.0014	0.0016	0.0012	0.0009	0.0006
4	0.0004	0.0004	0.0004	0.0006	0.0007	0.0015	0.0021	0.0014	0.0015	0.0012	0.0009	0.0006
5	0.0004	0.0004	0.0004	0.0006	0.0007	0.0016	0.0021	0.0014	0.0014	0.0011	0.0008	0.0005
6	0.0004	0.0004	0.0004	0.0006	0.0007	0.0017	0.0019	0.0014	0.0015	0.0011	0.0008	0.0005
7	0.0004	0.0004	0.0004	0.0006	0.0008	0.0017	0.0019	0.0015	0.0015	0.0011	0.0008	0.0005
8	0.0004	0.0004	0.0004	0.0007	0.0008	0.0016	0.0018	0.0015	0.0015	0.0010	0.0007	0.0005
9	0.0004	0.0004	0.0005	0.0007	0.0007	0.0014	0.0018	0.0015	0.0015	0.0010	0.0007	0.0005
10	0.0004	0.0004	0.0005	0.0006	0.0007	0.0014	0.0018	0.0015	0.0015	0.0010	0.0007	0.0005
11	0.0004	0.0004	0.0004	0.0006	0.0008	0.0014	0.0018	0.0015	0.0014	0.0010	0.0007	0.0005
12	0.0004	0.0004	0.0004	0.0006	0.0008	0.0014	0.0017	0.0015	0.0014	0.0010	0.0007	0.0005
13	0.0004	0.0004	0.0004	0.0006	0.0008	0.0015	0.0016	0.0015	0.0014	0.0010	0.0007	0.0005
14	0.0004	0.0004	0.0005	0.0006	0.0008	0.0015	0.0017	0.0015	0.0014	0.0010	0.0007	0.0005
15	0.0004	0.0004	0.0004	0.0006	0.0009	0.0015	0.0016	0.0015	0.0014	0.0010	0.0007	0.0005
16	0.0004	0.0004	0.0004	0.0006	0.0009	0.0014	0.0016	0.0015	0.0013	0.0010	0.0007	0.0005
17	0.0004	0.0004	0.0004	0.0006	0.0010	0.0014	0.0016	0.0015	0.0013	0.0010	0.0007	0.0005
18	0.0004	0.0004	0.0004	0.0006	0.0009	0.0014	0.0016	0.0015	0.0014	0.0010	0.0007	0.0005
19	0.0004	0.0004	0.0005	0.0006	0.0009	0.0013	0.0015	0.0016	0.0014	0.0010	0.0007	0.0005
20	0.0004	0.0004	0.0005	0.0006	0.0009	0.0013	0.0015	0.0016	0.0013	0.0009	0.0006	0.0005
21	0.0004	0.0004	0.0005	0.0006	0.0010	0.0014	0.0014	0.0016	0.0012	0.0009	0.0006	0.0005
22	0.0004	0.0004	0.0005	0.0006	0.0011	0.0017	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
23	0.0004	0.0004	0.0004	0.0006	0.0013	0.0018	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
24	0.0004	0.0004	0.0004	0.0006	0.0014	0.0017	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
25	0.0004	0.0004	0.0005	0.0006	0.0014	0.0016	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
26	0.0004	0.0004	0.0005	0.0006	0.0015	0.0016	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
27	0.0004	0.0004	0.0005	0.0006	0.0017	0.0016	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
28	0.0004	0.0004	0.0005	0.0006	0.0017	0.0016	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
29	0.0004	0.0004	0.0005	0.0007	---	0.0016	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
30	0.0004	0.0004	0.0005	0.0007	---	0.0018	0.0014	0.0016	0.0012	0.0009	0.0006	0.0004
31	0.0004	---	0.0005	0.0007	---	0.0022	---	0.0016	---	0.0009	0.0006	---
TOTAL	0.0124	0.0120	0.0138	0.0191	0.0270	0.0485	0.0505	0.0472	0.0409	0.0309	0.0216	0.0145
MEAN	0.000	0.000	0.000	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.000
MAX	0.0004	0.0004	0.0005	0.0007	0.0017	0.0022	0.0023	0.0016	0.0016	0.0012	0.0009	0.0006
MIN	0.0004	0.0004	0.0004	0.0006	0.0007	0.0013	0.0014	0.0014	0.0012	0.0009	0.0006	0.0004
AC-FT	0.02	0.02	0.03	0.04	0.05	0.1	0.1	0.09	0.08	0.06	0.04	0.03

103087885 LEVIATHAN CREEK CHANNEL UNDERDRAIN NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'34", long 119°39'41", in SE 1/4 SW 1/4 sec.15, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 2.9 mi north of State Highway 89, and 6.5 mi east of Markleeville.

PERIOD OF RECORD.—November 1999 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,800 ft above sea level, from topographic map.

REMARKS.—Records good.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 0.09 ft³/s, Apr. 20, 21, 2000; minimum, no flow on many days in most years.

EXTREMES FOR CURRENT YEAR.—Maximum daily discharge, 0.0887 ft³/s, Apr. 11; no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0296	0.0277	0.0311	0.0349	0.0424	0.0437	0.0578	0.0762	0.0624	0.0000	0.0000	0.0000
2	0.0308	0.0277	0.0313	0.0349	0.0420	0.0432	0.0583	0.0770	0.0503	0.0000	0.0000	0.0000
3	0.0296	0.0278	0.0311	0.0359	0.0419	0.0432	0.0620	0.0774	0.0511	0.0000	0.0000	0.0000
4	0.0290	0.0278	0.0312	0.0373	0.0419	0.0432	0.0630	0.0770	0.0515	0.0000	0.0000	0.0000
5	0.0285	0.0275	0.0311	0.0355	0.0416	0.0432	0.0642	0.0750	0.0525	0.0065	0.0000	0.0000
6	0.0282	0.0277	0.0311	0.0372	0.0415	0.0433	0.0748	0.0741	0.0525	0.0000	0.0000	0.0000
7	0.0284	0.0277	0.0310	0.0378	0.0417	0.0453	0.0775	0.0735	0.0524	0.0000	0.0000	0.0000
8	0.0282	0.0277	0.0305	0.0389	0.0416	0.0460	0.0811	0.0727	0.0502	0.0000	0.0000	0.0000
9	0.0279	0.0278	0.0300	0.0389	0.0412	0.0439	0.0817	0.0720	e0.0500	0.0000	0.0000	0.0000
10	0.0280	0.0276	0.0306	0.0389	0.0411	0.0462	0.0858	0.0718	e0.0500	0.0000	0.0000	0.0000
11	0.0279	0.0277	0.0310	0.0389	0.0411	0.0453	0.0887	0.0716	e0.0500	0.0000	0.0000	0.0000
12	0.0278	0.0278	0.0311	0.0392	0.0409	0.0467	0.0857	0.0707	e0.0500	0.0000	0.0000	0.0000
13	0.0277	0.0282	0.0311	0.0414	0.0406	0.0477	0.0792	0.0707	e0.0500	0.0007	0.0000	0.0000
14	0.0277	0.0282	0.0311	0.0416	0.0406	0.0478	0.0772	0.0708	0.0499	0.0000	0.0000	0.0000
15	0.0277	0.0282	0.0317	0.0429	0.0406	0.0478	0.0750	0.0704	0.0496	0.0000	0.0000	0.0000
16	0.0276	0.0284	0.0313	0.0427	0.0403	0.0480	0.0757	0.0698	0.0495	0.0000	0.0000	0.0000
17	0.0276	0.0285	0.0316	0.0430	0.0402	0.0485	0.0755	0.0698	0.0495	0.0000	0.0000	0.0000
18	0.0276	0.0281	0.0321	0.0428	0.0402	0.0479	0.0750	0.0696	0.0491	0.0000	0.0000	0.0000
19	0.0276	0.0287	0.0314	0.0425	0.0401	0.0476	0.0763	0.0682	0.0486	0.0000	0.0000	0.0000
20	0.0277	0.0289	0.0312	0.0429	0.0398	0.0478	0.0758	0.0669	0.0484	0.0000	0.0000	0.0000
21	0.0277	0.0296	0.0336	0.0427	0.0398	0.0473	0.0768	e0.0669	0.0484	0.0000	0.0000	0.0000
22	0.0276	0.0288	0.0332	0.0432	0.0400	0.0478	0.0776	e0.0663	0.0484	0.0000	0.0000	0.0000
23	0.0275	0.0291	0.0337	0.0432	0.0424	0.0480	0.0788	0.0663	0.0483	0.0000	0.0000	0.0000
24	0.0276	0.0298	0.0346	0.0428	0.0437	0.0497	0.0827	0.0659	0.0467	0.0000	0.0000	0.0000
25	0.0276	0.0311	0.0336	0.0428	0.0437	0.0512	0.0825	0.0653	0.0421	0.0000	0.0000	0.0000
26	0.0276	0.0311	0.0316	0.0429	0.0435	0.0523	0.0814	0.0652	0.0254	0.0000	0.0000	0.0000
27	0.0277	0.0311	0.0323	0.0428	0.0434	0.0526	0.0814	0.0646	0.0000	0.0000	0.0000	0.0000
28	0.0276	0.0309	0.0334	0.0428	0.0445	0.0527	0.0814	0.0637	0.0000	0.0000	0.0000	0.0000
29	0.0278	0.0311	0.0339	0.0427	---	0.0541	0.0793	0.0635	0.0000	0.0000	0.0000	0.0000
30	0.0277	0.0311	0.0347	0.0424	---	0.0577	0.0759	0.0630	0.0000	0.0000	0.0000	0.0000
31	0.0277	---	0.0349	0.0424	---	0.0578	---	0.0631	---	0.0000	0.0000	---
TOTAL	0.8692	0.8634	0.9921	1.2588	1.1623	1.4875	2.2881	2.1590	1.2768	0.0072	0.0000	0.0000
MEAN	0.028	0.029	0.032	0.041	0.042	0.048	0.076	0.070	0.043	0.000	0.000	0.000
MAX	0.0308	0.0311	0.0349	0.0432	0.0445	0.0578	0.0887	0.0774	0.0624	0.0065	0.0000	0.0000
MIN	0.0275	0.0275	0.0300	0.0349	0.0398	0.0432	0.0578	0.0630	0.0000	0.0000	0.0000	0.0000
AC-FT	1.7	1.7	2.0	2.5	2.3	3.0	4.5	4.3	2.5	0.01	0.00	0.0000

e Estimated.

103087887 LEVIATHAN MINE POND 4 NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'34", long 119°39'41", in SE 1/4 SW 1/4 sec.15, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 2.9 mi north of State Highway 89, and 6.5 mi east of Markleeville.

PERIOD OF RECORD.—October 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,800 ft above sea level, from topographic map.

REMARKS.—Records excellent.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 0.3431 ft³/s, Feb. 10, 1999; no flow on many days in each year.

EXTREMES FOR CURRENT YEAR.—There was no flow during the entire year.

10308789 LEVIATHAN CREEK ABOVE ASPEN CREEK, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°43'01", long 119°39'33", in NE 1/4 NW 1/4 sec.15, T.10 N., R.21 E., Alpine County, Hydrologic Unit 16050201, on right bank, 3.2 mi north of State Highway 89, and 6.5 mi east of Markleeville.

DRAINAGE AREA.—7.07 mi².

PERIOD OF RECORD.—October 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,700 ft above sea level, from topographic map.

REMARKS.—Records fair except those below 0.5 ft³/s, which are poor.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24 ft³/s, Apr. 28, 1999, gage height, 5.14 ft; no flow on several days in August 2001, July 11, Sept. 2, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 4	1800	7.5	4.66

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.05	0.16	e0.20	e0.42	e0.21	e0.55	2.4	1.3	0.40	0.07	e0.27	0.01
2	0.13	0.16	e0.20	e0.44	e0.17	e0.55	2.6	1.2	0.38	0.07	e0.16	0.00
3	0.10	0.17	e0.20	e0.43	e0.16	e0.54	2.8	1.1	0.38	0.07	e0.10	0.04
4	0.04	0.17	e0.20	e0.42	e0.16	e0.52	3.5	1.1	0.38	0.06	e0.08	0.18
5	0.03	0.18	e0.20	e0.42	e0.15	e0.50	3.2	1.0	0.37	0.06	e0.07	0.22
6	0.04	0.18	e0.20	e0.44	e0.15	e0.49	2.8	0.98	0.36	0.05	e0.08	0.28
7	0.04	0.19	e0.20	e0.41	e0.13	e0.48	2.6	0.96	0.35	0.04	e0.08	0.15
8	0.04	0.18	e0.20	e0.37	e0.13	e0.48	2.7	0.91	0.35	0.03	e0.07	0.06
9	0.05	0.17	e0.20	e0.37	e0.14	e0.45	2.8	0.89	0.35	0.02	e0.07	0.12
10	0.06	0.19	e0.20	e0.35	e0.14	0.44	2.8	0.85	0.35	0.01	e0.06	0.18
11	0.05	0.22	e0.20	e0.36	e0.14	0.77	2.9	0.88	0.35	0.00	e0.09	0.09
12	0.05	0.22	e0.20	e0.34	e0.15	1.2	e2.8	0.83	0.35	0.11	e0.16	0.09
13	0.06	0.22	e0.20	e0.34	e0.14	e1.2	2.7	0.81	0.38	0.61	e0.33	0.08
14	0.06	0.22	e0.20	e0.33	e0.14	e1.1	3.0	0.79	0.37	0.25	e0.24	0.03
15	0.06	0.21	e0.20	e0.31	e0.15	e1.0	2.2	0.76	0.36	0.21	e0.23	0.02
16	0.06	0.21	e0.20	e0.28	e0.14	0.74	1.6	0.72	e0.30	0.05	e0.14	0.06
17	0.06	0.21	e0.20	e0.28	e0.15	0.63	1.6	0.69	e0.28	0.05	e0.06	0.16
18	0.07	0.19	e0.20	e0.28	e0.21	0.52	1.5	0.67	e0.27	0.09	e0.07	0.16
19	0.08	0.20	e0.25	e0.28	e0.73	0.66	1.3	0.61	e0.26	0.06	e0.07	0.16
20	0.08	0.21	0.37	e0.28	e0.63	0.70	1.5	0.71	e0.26	0.05	e0.09	0.16
21	0.08	0.24	0.36	e0.28	e0.62	0.88	1.6	0.64	e0.27	0.05	e0.08	0.04
22	0.10	0.37	0.33	e0.28	e0.62	0.92	1.4	0.65	e0.25	0.06	e0.07	0.03
23	0.10	0.24	0.34	e0.28	e0.59	e0.80	1.3	0.64	e0.21	0.21	e0.09	0.12
24	0.11	0.75	0.39	e0.28	e0.59	0.55	1.2	0.63	e0.19	0.58	e0.07	0.29
25	0.12	0.33	0.39	e0.28	e0.59	e0.90	1.3	0.62	e0.17	0.45	e0.06	0.24
26	0.12	0.28	0.37	e0.28	e0.56	0.98	1.7	0.59	e0.13	0.52	e0.07	0.14
27	0.12	e0.25	0.39	e0.30	e0.55	1.3	1.5	0.57	0.08	e0.23	e0.10	0.08
28	0.14	e0.20	0.40	e0.28	e0.53	1.3	1.3	0.50	0.07	e0.08	0.15	0.05
29	0.14	e0.20	e0.44	e0.27	---	1.7	1.4	0.44	0.07	e0.17	0.17	0.05
30	0.20	e0.20	e0.41	e0.25	---	2.1	1.3	0.42	0.07	e0.19	0.08	0.07
31	0.19	---	e0.42	e0.23	---	2.1	---	0.42	---	e0.22	0.03	---
TOTAL	2.63	6.92	8.46	10.16	8.77	27.05	63.3	23.88	8.36	4.72	3.49	3.36
MEAN	0.085	0.231	0.273	0.328	0.313	0.873	2.110	0.770	0.279	0.152	0.113	0.112
MAX	0.20	0.75	0.44	0.44	0.73	2.1	3.5	1.3	0.40	0.61	0.33	0.29
MIN	0.03	0.16	0.20	0.23	0.13	0.44	1.2	0.42	0.07	0.00	0.03	0.00
AC-FT	5.2	14	17	20	17	54	126	47	17	9.4	6.9	6.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	0.192	0.237	0.255	0.308	0.513	1.122	2.692	2.882	0.725	0.249	0.180	0.206
MAX	0.34	0.36	0.39	0.47	1.10	1.74	5.38	9.69	2.18	0.56	0.31	0.46
(WY)	2000	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	0.085	0.16	0.16	0.16	0.20	0.71	1.30	0.48	0.12	0.069	0.039	0.090
(WY)	2002	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1999 - 2002

ANNUAL TOTAL	114.23	171.10	
ANNUAL MEAN	0.313	0.469	0.427
HIGHEST ANNUAL MEAN			0.51
LOWEST ANNUAL MEAN			0.30
HIGHEST DAILY MEAN	3.6	Apr 23	3.5
LOWEST DAILY MEAN	0.00	Aug 5	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 5	0.03
MAXIMUM PEAK FLOW			7.5
MAXIMUM PEAK STAGE			4.66
ANNUAL RUNOFF (AC-FT)	227	339	310
10 PERCENT EXCEEDS	0.85	1.2	1.1
50 PERCENT EXCEEDS	0.18	0.24	0.21
90 PERCENT EXCEEDS	0.04	0.06	0.07

e Estimated.

103087892 ASPEN CREEK OVERBURDEN SEEP NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°42'45" (revised), long 119°39'11", in NE 1/4 SE 1/4 sec.15, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 2.8 mi north of State Highway 89, and 2.1 mi east of Markleeville.

PERIOD OF RECORD.—November 1998 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 7,100 ft above sea level, from topographic map.

REMARKS.—Records poor, including estimated daily discharges. Records not computed above 0.38 ft³/s. No record Sept. 11–30. The site was shut down during construction of treatment ponds.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0179	0.0349	e0.0796	0.0308	0.0225	0.0322	0.0209	0.0452	0.0415	0.0158	e0.0182	0.0187
2	0.0163	0.0355	e0.0759	0.0351	0.0221	0.0339	0.0215	0.0441	0.0404	0.0157	e0.0182	0.0188
3	0.0148	0.0364	e0.0703	0.0361	0.0215	0.0348	0.0223	0.0435	0.0399	0.0154	e0.0182	e0.0188
4	0.0139	0.0374	e0.0684	0.0366	0.0206	0.0354	0.0236	0.0435	0.0395	0.0152	e0.0182	e0.0188
5	0.0137	0.0377	e0.0628	0.0373	0.0199	0.0361	0.0258	0.0443	0.0391	0.0149	e0.0182	e0.0188
6	0.0131	0.0425	e0.0571	0.0386	0.0193	0.0386	0.0258	0.0450	0.0397	0.0150	e0.0182	e0.0188
7	0.0115	0.0490	e0.0515	0.0369	0.0235	0.0355	0.0253	0.0446	0.0382	0.0156	e0.0182	e0.0188
8	0.0118	0.0514	e0.0478	0.0359	0.0322	0.0329	0.0248	0.0456	0.0381	0.0160	e0.0184	e0.0188
9	0.0105	0.0542	e0.0440	0.0363	0.0318	0.0328	0.0253	0.0460	0.0381	0.0163	e0.0184	e0.0188
10	0.0106	0.0543	e0.0403	0.0356	0.0317	0.0325	0.0267	0.0456	0.0379	0.0166	e0.0184	e0.0188
11	0.0125	0.0550	e0.0403	0.0358	0.0322	0.0319	0.0263	0.0454	0.0379	0.0171	e0.0184	---
12	0.0107	0.0595	e0.0384	0.0366	0.0319	0.0330	0.0259	0.0436	0.0371	0.0178	e0.0184	---
13	0.0107	0.0663	e0.0384	0.0390	0.0312	0.0313	0.0241	0.0427	0.0368	0.0239	e0.0184	---
14	0.0116	0.0710	e0.0365	0.0371	0.0317	0.0281	0.0234	0.0425	e0.0367	0.0138	e0.0184	---
15	0.0124	0.0712	e0.0365	0.0336	0.0330	0.0274	0.0241	0.0416	e0.0366	0.0135	e0.0184	---
16	0.0163	0.0738	e0.0365	0.0347	0.0323	0.0257	0.0243	0.0413	e0.0365	0.0137	e0.0186	---
17	0.0151	0.0809	e0.0347	0.0347	0.0318	0.0237	0.0246	0.0408	e0.0364	0.0147	e0.0186	---
18	0.0166	0.0866	e0.0309	0.0333	0.0307	0.0220	0.0226	0.0403	e0.0363	0.0151	e0.0186	---
19	0.0167	0.0900	0.0296	0.0303	0.0322	0.0223	0.0220	0.0402	0.0361	0.0154	e0.0186	---
20	0.0165	e0.0900	0.0295	0.0279	0.0330	0.0207	0.0220	0.0448	0.0354	0.0159	e0.0186	---
21	0.0166	e0.0860	0.0283	0.0254	0.0327	0.0213	0.0204	0.0455	0.0352	0.0161	e0.0186	---
22	0.0162	e0.0820	0.0272	0.0240	0.0337	0.0206	0.0206	0.0448	0.0343	0.0162	e0.0186	---
23	0.0165	e0.0800	0.0262	0.0229	0.0369	0.0209	0.0226	0.0458	0.0340	0.0170	e0.0186	---
24	0.0174	e0.0800	0.0266	e0.0230	0.0392	0.0197	0.0274	0.0489	e0.0319	e0.0180	e0.0188	---
25	0.0176	0.0790	0.0264	0.0217	0.0420	0.0199	0.0330	0.0491	e0.0277	e0.0180	e0.0188	---
26	0.0175	0.0803	0.0258	0.0236	0.0434	0.0198	0.0330	0.0478	e0.0235	e0.0180	e0.0188	---
27	0.0189	e0.0800	0.0265	0.0212	0.0338	0.0190	0.0336	0.0462	e0.0193	e0.0180	e0.0188	---
28	0.0229	e0.0800	0.0274	0.0201	0.0329	0.0189	0.0400	0.0435	0.0172	e0.0180	0.0192	---
29	e0.0365	e0.0800	0.0284	0.0198	---	0.0198	0.0441	0.0423	0.0167	e0.0180	0.0191	---
30	0.0366	e0.0800	0.0289	0.0204	---	0.0200	0.0456	0.0464	0.0163	e0.0180	0.0190	---
31	0.0338	---	0.0314	0.0220	---	0.0207	---	0.0431	---	e0.0182	0.0189	---
TOTAL	0.5237	1.9849	1.2521	0.9463	0.8597	0.8314	0.8016	1.3740	1.0143	0.5109	0.5748	---
MEAN	0.017	0.066	0.040	0.031	0.031	0.027	0.027	0.044	0.034	0.016	0.019	---
MAX	0.0366	0.0900	0.0796	0.0390	0.0434	0.0386	0.0456	0.0491	0.0415	0.0239	0.0192	---
MIN	0.0105	0.0349	0.0258	0.0198	0.0193	0.0189	0.0204	0.0402	0.0163	0.0135	0.0182	---
AC-FT	1.0	3.9	2.5	1.9	1.7	1.6	1.6	2.7	2.0	1.0	1.1	---

e Estimated.

10308792 LEVIATHAN CREEK ABOVE MOUNTAINEER CREEK, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°44'12", long 119°38'39", in SW 1/4 SW 1/4 sec.2, T.10 N., R.21 E., Alpine County, Hydrologic Unit 16050201, on left bank, 4.4 mi north of State Highway 89, and 7.5 mi northeast of Markleeville.

DRAINAGE AREA.—10.8 mi².

PERIOD OF RECORD.—December 1999 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,300 ft above sea level, from topographic map.

REMARKS.—Records fair, including estimated daily discharges.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16 ft³/s, Feb. 14, 2000, gage height, 8.05 ft; minimum daily, 0.02 ft³/s, Aug. 11, 2001.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 20 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 4	1745	10	7.93

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.17	0.62	e0.40	0.45	0.25	1.5	4.7	1.4	0.62	0.16	0.32	0.11
2	0.40	0.64	e0.40	0.50	0.21	1.4	5.2	1.3	0.57	0.14	0.21	0.11
3	0.43	0.65	e0.40	0.49	0.26	1.5	5.8	1.3	0.52	0.13	0.16	0.12
4	0.19	0.67	e0.39	0.46	0.26	1.4	6.7	1.2	0.49	0.13	0.13	0.41
5	0.16	0.71	e0.39	0.45	0.28	e1.4	6.3	1.2	0.48	0.14	0.13	0.41
6	0.24	0.74	e0.39	0.55	0.19	1.1	5.8	1.1	0.45	0.14	0.13	0.48
7	0.28	0.79	e0.38	0.54	0.13	e1.1	5.6	0.98	0.41	0.14	0.13	0.32
8	0.31	0.77	e0.38	0.47	0.18	e1.1	5.7	0.98	0.42	0.14	0.13	0.15
9	0.33	0.69	e0.37	e0.47	0.19	e1.1	6.0	0.88	0.45	0.13	0.12	0.18
10	e0.33	0.65	e0.37	0.44	0.14	1.1	5.8	0.86	0.46	0.13	0.12	0.32
11	e0.33	0.69	e0.37	e0.45	e0.20	1.6	5.9	0.88	0.44	0.13	0.11	0.18
12	e0.33	0.71	e0.36	e0.43	e0.20	2.7	5.7	0.86	0.39	0.18	0.21	0.17
13	e0.33	0.69	e0.36	e0.44	e0.19	2.4	4.6	0.84	0.38	0.74	0.43	0.17
14	e0.33	0.68	e0.36	e0.43	e0.20	e2.0	4.7	1.0	0.38	0.36	0.31	0.16
15	e0.33	0.67	e0.35	e0.40	e0.21	e2.0	3.5	0.96	0.38	0.32	0.29	0.13
16	e0.33	0.68	e0.35	e0.36	e0.17	e2.0	2.6	0.89	0.36	0.14	0.20	0.15
17	e0.33	0.66	e0.34	e0.36	e0.24	e2.0	2.6	0.92	0.33	0.17	0.10	0.35
18	e0.33	0.65	e0.34	e0.36	0.42	1.8	2.6	0.94	0.32	0.22	0.10	0.41
19	e0.33	0.63	e0.34	e0.36	0.82	2.2	2.2	0.82	0.31	0.20	0.11	0.43
20	e0.33	0.67	e0.45	e0.36	1.5	1.8	2.6	0.65	0.31	0.18	0.14	0.43
21	e0.33	0.71	e0.40	e0.36	e1.5	1.8	2.7	0.50	0.31	0.18	0.11	0.20
22	0.34	0.93	e0.60	e0.36	e1.4	1.8	2.4	0.50	0.29	0.14	0.11	0.14
23	0.31	0.64	0.60	e0.36	e1.4	1.8	2.1	0.54	0.24	0.28	0.16	0.23
24	0.33	1.2	0.50	e0.36	e1.3	1.1	1.9	0.58	0.22	0.43	0.12	0.61
25	0.33	0.53	0.60	e0.42	e1.3	1.6	2.1	0.58	0.22	0.35	0.11	0.58
26	0.31	e0.40	0.59	e0.40	e1.3	1.8	2.3	0.49	0.22	0.55	0.12	0.40
27	0.31	e0.45	0.46	e0.39	1.4	2.2	1.9	0.44	0.17	0.28	0.20	0.24
28	0.32	e0.40	0.48	0.52	1.6	2.3	1.7	0.50	0.16	0.12	0.21	0.13
29	0.33	e0.40	0.53	0.58	---	2.9	1.7	0.66	0.16	0.20	0.24	0.14
30	0.61	e0.40	0.44	0.48	---	3.6	1.4	0.62	0.17	0.23	0.15	e0.13
31	0.66	---	0.52	0.28	---	4.2	---	0.61	---	0.25	0.13	---
TOTAL	10.32	19.72	13.21	13.28	17.44	58.3	114.8	25.98	10.63	7.03	5.24	7.99
MEAN	0.333	0.657	0.426	0.428	0.623	1.881	3.827	0.838	0.354	0.227	0.169	0.266
MAX	0.66	1.2	0.60	0.58	1.6	4.2	6.7	1.4	0.62	0.74	0.43	0.61
MIN	0.16	0.40	0.34	0.28	0.13	1.1	1.4	0.44	0.16	0.12	0.10	0.11
AC-FT	20	39	26	26	35	116	228	52	21	14	10	16

e Estimated.

10308792 LEVIATHAN CREEK ABOVE MOUNTAINEER CREEK, NEAR MARKLEEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.337	0.580	0.441	0.669	0.898	1.993	3.011	0.880	0.327	0.249	0.247	0.265
MAX	0.34	0.66	0.46	1.09	1.40	2.54	3.83	0.93	0.42	0.39	0.46	0.29
(WY)	2001	2002	2001	2000	2000	2000	2002	2000	2000	2000	2000	2000
MIN	0.33	0.50	0.43	0.43	0.62	1.56	2.23	0.84	0.21	0.13	0.11	0.24
(WY)	2002	2001	2002	2002	2002	2001	2001	2002	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 2000 - 2002
ANNUAL TOTAL	240.23	303.94	
ANNUAL MEAN	0.658	0.833	0.741
HIGHEST ANNUAL MEAN			0.83 2002
LOWEST ANNUAL MEAN			0.65 2001
HIGHEST DAILY MEAN	5.8 Apr 22	6.7 Apr 4	7.6 Feb 14 2000
LOWEST DAILY MEAN	0.02 Aug 11	0.10 Aug 17	0.02 Aug 11 2001
ANNUAL SEVEN-DAY MINIMUM	0.07 Aug 10	0.12 Aug 17	0.07 Aug 10 2001
MAXIMUM PEAK FLOW		10 Apr 4	16 Feb 14 2000
MAXIMUM PEAK STAGE		7.93 Apr 4	8.05 Feb 14 2000
ANNUAL RUNOFF (AC-FT)	476	603	537
10 PERCENT EXCEEDS	1.5	2.0	1.8
50 PERCENT EXCEEDS	0.45	0.41	0.44
90 PERCENT EXCEEDS	0.12	0.14	0.13

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, 3.8 mi downstream from Willow Creek, and at mi 21.17 from mouth.

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 NGVD of 1929. Prior to Oct. 1, 1938, nonrecording gage at about the same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower. January 1997 flood, channel changed course upstream and existing site unusable. Gage moved 200 ft upstream March 1997 at same datum.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,100 ft³/s, Jan. 1, 1997, gage height, 15.36 ft (present location); minimum daily, 5.3 ft³/s, Sept. 2, 1997.

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

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge at 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 14	2245	*772	*12.77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	17	22	27	24	48	145	194	258	60	22	13
2	12	15	21	29	e24	45	177	184	226	57	22	12
3	12	14	17	29	24	43	223	209	186	55	22	12
4	11	13	19	28	e24	43	291	248	182	51	21	12
5	12	12	22	29	24	43	309	287	189	47	20	13
6	12	12	23	35	24	50	287	308	190	45	18	13
7	12	12	23	37	24	35	279	325	179	42	18	14
8	12	12	23	40	22	43	287	311	167	40	18	14
9	12	12	23	37	24	45	332	294	144	37	18	13
10	12	12	23	35	24	37	346	279	124	36	18	13
11	12	15	23	32	25	44	354	248	118	34	18	23
12	12	18	23	33	26	51	370	253	117	35	17	26
13	12	19	23	30	26	53	377	271	123	37	17	21
14	12	18	21	31	26	48	481	305	130	34	23	13
15	12	17	28	28	26	50	502	317	119	32	28	12
16	12	16	23	28	27	50	322	327	113	31	25	12
17	12	16	23	e28	27	42	271	332	108	30	17	12
18	12	15	22	e28	27	44	230	357	113	31	16	13
19	12	14	22	27	28	41	202	320	118	32	16	12
20	12	14	22	e28	32	45	191	256	108	29	16	12
21	12	19	21	28	37	48	200	211	104	28	16	12
22	12	57	22	e29	42	56	212	180	98	27	17	12
23	12	29	22	e28	47	60	231	167	92	26	16	18
24	12	38	22	e27	44	53	249	158	90	25	16	27
25	12	30	23	26	45	49	276	166	86	24	16	26
26	12	25	23	25	46	49	315	177	88	24	19	20
27	12	25	23	25	48	55	268	195	79	23	23	13
28	12	23	24	e25	48	67	229	200	72	23	26	12
29	11	21	24	e24	---	84	225	221	67	23	28	13
30	16	22	25	e24	---	107	208	254	64	22	25	13
31	23	---	27	e24	---	125	---	269	---	22	14	---
TOTAL	385	582	702	904	865	1653	8389	7823	3852	1062	606	451
MEAN	12.42	19.40	22.65	29.16	30.89	53.32	279.6	252.4	128.4	34.26	19.55	15.03
MAX	23	57	28	40	48	125	502	357	258	60	28	27
MIN	11	12	17	24	22	35	145	158	64	22	14	12
AC-FT	764	1150	1390	1790	1720	3280	16640	15520	7640	2110	1200	895

e Estimated

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.14	39.68	46.73	53.36	56.86	77.92	207.5	376.5	258.0	105.9	48.22	30.73
MAX	79.1	321	347	621	258	283	502	924	996	525	223	120
(WY)	1983	1951	1951	1997	1963	1986	1907	1906	1983	1907	1907	1983
MIN	8.27	13.1	12.8	13.7	16.3	18.2	46.6	56.4	37.4	18.1	11.1	7.00
(WY)	1989	1991	1991	1961	1977	1977	1975	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1901 - 2002	
ANNUAL TOTAL	17500		27274			
ANNUAL MEAN	47.95		74.72		110.9	
HIGHEST ANNUAL MEAN					290	
LOWEST ANNUAL MEAN					26.1	
HIGHEST DAILY MEAN	314	May 1	502	Apr 15	5500	Jan 2 1997
LOWEST DAILY MEAN	11	Sep 2	11	Oct 4	5.3	Sep 2 1977
ANNUAL SEVEN-DAY MINIMUM	11	Sep 16	12	Oct 1	5.4	Sep 5 1977
MAXIMUM PEAK FLOW			772	Apr 14	8100	Jan 1 1997
MAXIMUM PEAK STAGE			12.77	Apr 14	15.36	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	34710		54100		80320	
10 PERCENT EXCEEDS	136		248		296	
50 PERCENT EXCEEDS	22		27		45	
90 PERCENT EXCEEDS	12		12		17	

10308794 BRYANT CREEK BELOW CONFLUENCE, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°44'12", long 119°38'39", in SW 1/4 SW 1/4 sec.2, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, on left bank, 4.4 mi north of State Highway 89, and 7.5 mi northeast of Markleeville.

DRAINAGE AREA.—12.4 mi².

PERIOD OF RECORD.—November 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,300 ft above sea level, from topographic map.

REMARKS.—Records good, including estimated daily discharges.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 44 ft³/s, Apr. 19, 1999, gage height, 5.35 ft, maximum gage height, 7.39 ft, Nov. 12, 2000, backwater from ice; minimum daily, 0.62 ft³/s, Aug. 17, 18, 2002.

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)
Mar. 9	0830	Unknown	a7.36	Apr. 4	1830	14	4.81

a Backwater from ice.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.4	e1.7	2.5	2.0	2.4	7.3	3.0	2.0	0.95	1.1	0.70
2	1.5	1.4	e1.7	3.0	1.9	2.6	8.1	2.9	2.0	0.95	1.0	0.67
3	1.5	1.4	e1.7	3.0	1.9	3.4	8.7	2.9	2.0	0.94	0.86	0.67
4	1.3	1.4	e1.7	2.7	1.8	2.7	9.5	2.8	1.9	0.94	0.80	1.0
5	e1.2	1.4	e1.7	2.7	1.8	2.2	8.7	2.7	1.8	0.91	0.80	1.0
6	e1.2	1.4	e1.7	4.2	1.9	2.5	8.0	2.6	1.7	0.90	0.80	1.1
7	e1.2	1.4	e1.7	4.0	1.9	2.4	7.6	2.6	1.7	0.86	0.80	1.0
8	e1.2	1.4	e1.7	3.4	1.9	3.1	7.5	2.5	1.7	0.85	0.77	0.81
9	e1.2	1.4	e1.7	3.0	1.8	e4.0	7.9	2.5	1.7	0.81	0.73	0.82
10	e1.2	1.5	e1.7	2.7	1.8	2.5	7.7	2.5	1.7	0.76	0.71	0.95
11	e1.2	1.6	e1.6	2.6	1.9	3.1	7.7	2.4	1.7	0.75	0.69	0.79
12	e1.2	1.5	e1.6	2.6	2.0	5.3	7.4	2.4	1.6	0.83	0.75	0.77
13	e1.2	1.5	e1.6	2.4	2.0	3.4	6.9	2.3	1.6	2.1	1.0	0.75
14	e1.2	1.5	e1.6	2.6	2.1	2.9	7.1	2.3	1.5	1.2	0.86	0.68
15	e1.2	1.5	e1.6	1.9	2.1	e3.1	6.2	2.3	1.4	1.1	0.92	0.64
16	e1.2	1.4	e1.6	e1.8	2.1	e3.1	4.9	2.3	1.3	0.81	0.74	0.70
17	e1.2	1.5	e1.6	e1.8	2.0	2.9	4.9	2.2	1.3	1.0	0.62	0.86
18	e1.2	1.5	e1.6	e1.8	2.0	2.5	4.3	2.2	1.3	1.2	0.62	0.93
19	e1.2	1.5	e1.6	e1.8	2.2	2.7	4.2	2.2	1.3	1.0	0.65	0.93
20	e1.2	1.5	e1.8	e1.8	2.9	2.8	4.4	2.4	1.3	0.93	0.77	0.91
21	e1.2	1.7	e2.0	e1.8	2.9	3.6	4.5	2.3	1.4	0.94	0.72	0.74
22	1.2	2.3	2.3	e1.8	3.2	3.6	3.9	2.3	1.4	0.87	0.69	0.70
23	1.4	1.7	2.3	1.8	2.7	3.7	3.7	2.3	1.3	1.0	0.81	0.77
24	1.4	3.5	2.2	e1.8	2.4	3.4	3.5	2.2	1.2	1.1	0.70	1.0
25	1.3	1.5	2.3	e1.9	2.3	3.8	3.4	2.1	1.2	1.0	0.65	0.96
26	1.3	1.5	2.4	e1.9	2.4	4.5	4.2	2.1	1.2	1.3	0.69	0.87
27	1.3	1.7	2.4	e1.9	2.4	4.7	3.7	2.1	1.1	1.00	0.87	0.82
28	1.4	e1.7	2.4	2.0	2.5	5.0	3.3	2.0	1.1	0.77	0.90	0.84
29	1.4	e1.7	2.8	2.0	---	5.9	3.4	2.0	1.0	0.89	1.0	0.86
30	1.7	e1.7	2.5	1.9	---	6.6	3.3	1.9	0.98	0.95	0.78	0.90
31	1.5	---	3.0	1.9	---	6.9	---	1.9	---	0.93	0.75	---
TOTAL	39.8	48.1	59.8	73.0	60.8	111.3	175.9	73.2	44.38	30.54	24.55	25.14
MEAN	1.284	1.603	1.929	2.355	2.171	3.590	5.863	2.361	1.479	0.985	0.792	0.838
MAX	1.7	3.5	3.0	4.2	3.2	6.9	9.5	3.0	2.0	2.1	1.1	1.1
MIN	1.2	1.4	1.6	1.8	1.8	2.2	3.3	1.9	0.98	0.75	0.62	0.64
AC-FT	79	95	119	145	121	221	349	145	88	61	49	50

e Estimated.

10308794 BRYANT CREEK BELOW CONFLUENCE, NEAR MARKLEEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.775	1.998	2.162	2.575	3.149	4.787	7.702	6.608	2.602	1.479	1.398	1.614
MAX	2.47	2.59	2.48	3.26	4.78	6.94	15.6	19.2	6.12	2.61	2.53	2.66
(WY)	2000	2000	2000	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	1.28	1.60	1.85	1.77	2.06	3.53	4.03	1.91	1.09	0.99	0.79	0.84
(WY)	2002	2002	2001	2001	2001	2001	2001	2001	2001	2002	2002	2002

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1999 - 2002
ANNUAL TOTAL	677.98	766.51	
ANNUAL MEAN	1.857	2.100	2.261
HIGHEST ANNUAL MEAN			2.79 2000
LOWEST ANNUAL MEAN			1.89 2001
HIGHEST DAILY MEAN	9.1 Apr 23	9.5 Apr 4	29 Apr 21 1999
LOWEST DAILY MEAN	0.74 Aug 2	0.62 Aug 17	0.62 Aug 17 2002
ANNUAL SEVEN-DAY MINIMUM	0.79 Aug 1	0.69 Aug 16	0.69 Aug 16 2002
MAXIMUM PEAK FLOW		14 Apr 4	44 Apr 19 1999
MAXIMUM PEAK STAGE		a7.36 Mar 9	7.39 Nov 12 2000
ANNUAL RUNOFF (AC-FT)	1340	1520	1640
10 PERCENT EXCEEDS	3.0	3.7	3.9
50 PERCENT EXCEEDS	1.6	1.7	1.9
90 PERCENT EXCEEDS	0.93	0.81	0.95

a Backwater from ice.

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

(Lake Tahoe Interagency Monitoring Program)

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 NGVD of 1929, from topographic map. Prior to Oct. 1, 1991, at site 1,200 ft downstream at datum 2.54 ft higher.

REMARKS.—No estimated daily discharges. Records fair. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,010 ft³/s, Jan. 2, 1997, gage height, 11.31 ft; minimum daily, 0.76 ft³/s, Sept. 1, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharges of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 14	1730	247	7.44	May 30	2000	*325	*7.89
May 18	1915	256	7.50				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.9	5.9	12	7.7	16	43	46	195	24	4.8	1.8
2	1.6	2.9	7.6	13	7.3	14	53	48	158	23	4.5	1.7
3	1.6	2.8	18	15	6.9	13	77	67	142	20	4.3	1.7
4	1.6	2.8	10	12	6.9	14	101	94	143	18	4.2	1.7
5	1.6	2.5	6.9	12	6.7	13	93	118	152	17	4.1	1.7
6	1.5	3.0	6.2	43	6.4	16	75	132	144	16	4.0	1.9
7	1.5	3.5	5.5	34	6.4	18	72	144	133	16	3.9	2.0
8	1.6	3.6	5.3	24	7.0	16	82	131	116	13	3.7	1.9
9	1.5	3.4	5.5	20	6.2	12	92	122	91	13	3.5	1.7
10	1.5	2.9	5.4	17	6.0	12	89	108	78	12	3.3	1.6
11	1.5	3.1	5.2	15	6.2	12	100	94	77	12	3.2	1.7
12	1.4	3.6	5.0	15	6.4	13	110	110	79	12	3.0	1.4
13	1.5	3.7	4.9	14	6.5	12	118	130	87	13	2.7	1.5
14	1.5	3.2	5.8	14	6.5	12	166	150	83	11	2.6	1.5
15	1.3	2.7	5.4	13	6.4	12	120	158	75	9.8	2.5	1.4
16	1.4	3.0	5.0	12	6.5	12	75	159	69	9.0	2.5	1.4
17	1.3	2.6	5.4	12	7.1	12	62	181	65	8.8	2.3	1.4
18	1.3	2.6	5.4	11	7.4	11	50	203	65	9.2	2.3	1.4
19	1.2	2.4	5.3	11	9.7	11	45	172	63	9.4	2.2	1.4
20	1.2	2.4	5.6	10	18	11	41	129	61	8.5	2.2	1.4
21	1.2	17	5.6	9.9	16	13	42	94	55	7.8	2.2	1.3
22	1.4	29	5.6	9.5	17	14	47	78	49	7.1	2.2	1.3
23	1.7	9.4	5.9	9.0	19	15	57	72	45	6.7	2.2	1.3
24	1.7	20	5.7	8.7	16	14	71	82	42	6.2	2.1	1.3
25	1.8	13	5.6	8.5	14	12	93	105	40	6.1	2.1	1.3
26	1.7	8.6	5.9	8.4	14	12	99	123	39	5.9	2.1	1.3
27	1.7	7.1	6.2	8.6	15	13	77	131	35	5.7	2.1	1.4
28	1.5	6.6	6.6	8.0	15	16	63	138	31	5.5	2.0	1.3
29	1.6	6.4	8.2	8.1	---	20	63	165	29	5.2	2.0	1.3
30	3.4	6.1	10	8.0	---	29	53	202	27	5.0	1.9	1.4
31	3.3	---	15	8.0	---	36	---	208	---	4.9	1.9	---
TOTAL	50.2	182.8	209.6	423.7	274.2	456	2329	3894	2468	340.8	88.6	45.4
MEAN	1.62	6.09	6.76	13.7	9.79	14.7	77.6	126	82.3	11.0	2.86	1.51
MAX	3.4	29	18	43	19	36	166	208	195	24	4.8	2.0
MIN	1.2	2.4	4.9	8.0	6.0	11	41	46	27	4.9	1.9	1.3
AC-FT	100	363	416	840	544	904	4620	7720	4900	676	176	90

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.17	5.91	8.75	17.1	11.8	20.4	53.2	135	118	45.0	9.19	3.56
MAX	5.72	20.7	37.4	120	39.2	41.3	102	216	329	220	45.9	10.4
(WY)	1999	1997	1997	1997	1996	1995	1997	1996	1995	1995	1995	1998
MIN	1.62	2.13	1.69	1.57	2.95	6.64	15.1	51.2	12.1	3.40	1.64	1.30
(WY)	2002	1991	1991	1991	2001	1991	1991	1992	1992	1994	1994	1991

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	6132.8		10762.3			
ANNUAL MEAN	16.8		29.5		36.9	
HIGHEST ANNUAL MEAN					72.3 1995	
LOWEST ANNUAL MEAN					14.1 1994	
HIGHEST DAILY MEAN	181	May 15	208	May 31	1130	Jan 2 1997
LOWEST DAILY MEAN	1.2	Oct 19	1.2	Oct 19	0.76	Sep 1 1990
ANNUAL SEVEN-DAY MINIMUM	1.3	Oct 15	1.3	Oct 15	0.97	Aug 29 1990
MAXIMUM PEAK FLOW			325	May 30	2010	Jan 2 1997
MAXIMUM PEAK STAGE			7.89	May 30	11.31	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	12160		21350		26720	
10 PERCENT EXCEEDS	45		99		118	
50 PERCENT EXCEEDS	3.3		8.8		8.0	
90 PERCENT EXCEEDS	1.6		1.6		2.1	

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.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: September 1997 to current year.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Water temperature records represent water temperature at probe within 0.5°C. Interruptions in record due to loss of communication between stream and sensor. Water temperature data for September 1997 are unpublished but are available from U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 17.0°C, July 2, 3, 2001, July 14, 2002; minimum, freezing point on many days.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 17.0°C, July 14; minimum, freezing point, many days January to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT									
03...	1510	1.8	--	--	--	--	56	22.5	10.4
NOV									
06...	1230	3.1	--	--	--	--	54	13.5	5.3
DEC									
07...	1315	6.3	604	10.7	95	7.0	38	2.5	.8
JAN									
08...	1405	2.4	--	--	--	--	27	5.5	2.5
FEB									
05...	1350	7.3	--	--	--	--	36	4.5	.3
MAR									
05...	1310	12	603	11.1	101	--	21	12.5	1.9
28...	1735	16	--	--	--	--	26	6.0	2.7
APR									
02...	1515	45	--	--	--	--	22	11.5	4.0
12...	1750	125	--	--	--	--	18	8.0	4.4
25...	1425	77	--	--	--	--	21	14.5	5.4
MAY									
09...	1635	113	--	--	--	--	22	10.0	6.2
15...	1715	157	--	--	--	--	20	14.5	6.8
17...	1025	146	--	--	--	--	21	19.0	4.7
28...	1400	104	--	--	--	--	22	20.5	9.0
31...	1110	160	--	--	--	--	20	26.0	6.9
JUN									
04...	1525	128	601	8.6	100	6.3	20	23.5	11.2
JUL									
03...	1445	20	--	--	--	--	28	23.5	14.2
AUG									
12...	1715	2.6	604	8.1	101	--	43	22.5	14.5
SEP									
12...	1525	1.7	--	--	--	--	54	22.0	9.6

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, 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								
03...	.003	.16	.002	.025	.013	98	1	<.01
NOV								
06...	<.003	.10	.003	.019	.013	113	3	.03
DEC								
07...	.003	.29	.008	.012	.006	121	1	.02
JAN								
08...	.004	.20	.007	.015	.003	88	2	.01
FEB								
05...	<.003	.13	.018	.013	.005	98	1	.02
MAR								
05...	.004	.18	.024	.010	.004	93	1	.03
28...	.003	.13	.007	.009	.004	149	2	.09
APR								
02...	.003	.21	.006	.011	.003	107	3	.36
12...	<.003	.22	.007	.014	.003	420	6	2.0
25...	<.003	.21	.007	.013	.003	80	2	.42
MAY								
09...	<.003	.26	.009	.015	.004	135	4	1.2
15...	<.003	.16	.006	.022	.005	175	5	2.1
17...	<.003	.17	.012	.025	.005	161	6	2.4
28...	<.003	.20	.009	.018	.005	262	3	.84
31...	<.003	.06	.011	.041	.005	212	12	5.2
JUN								
04...	<.003	.13	.003	.018	.006	101	6	2.1
JUL								
03...	<.003	.12	.004	.025	.011	72	2	.11
AUG								
12...	.003	.26	.017	.031	.020	65	1	.01
SEP								
12...	.003	.05	.017	.029	.021	63	1	<.01

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.5	8.5	9.5	5.5	4.5	4.5	0.5	0.5	0.5	2.0	1.5	2.0
2	10.5	8.5	9.5	5.5	4.0	4.5	0.5	0.5	0.5	2.0	1.5	2.0
3	10.5	8.5	9.5	5.0	4.0	4.5	0.5	0.5	0.5	1.5	1.0	1.5
4	10.5	8.5	9.5	5.0	4.0	4.5	0.5	0.5	0.5	1.0	0.5	1.0
5	10.0	8.0	9.0	5.5	4.0	4.5	0.5	0.5	0.5	2.0	0.5	1.5
6	10.0	8.0	9.0	5.0	4.0	4.5	0.5	0.5	0.5	1.5	0.5	1.0
7	9.5	8.0	8.5	4.5	3.5	4.0	0.5	0.5	0.5	2.0	1.0	1.5
8	9.5	8.0	8.5	4.5	3.0	3.5	1.0	0.5	0.5	2.5	1.5	2.0
9	8.5	6.5	7.5	4.0	3.0	3.0	1.0	0.5	1.0	2.0	1.0	1.5
10	7.5	5.5	6.5	3.5	2.5	3.0	1.0	0.5	1.0	1.5	1.0	1.5
11	7.5	6.0	6.5	4.5	3.5	4.0	1.0	0.5	1.0	1.5	0.5	1.0
12	8.0	6.0	7.0	4.5	3.5	4.0	1.0	0.5	1.0	2.0	1.0	1.5
13	7.5	5.5	6.5	3.5	3.0	3.5	1.5	0.5	1.0	1.0	0.5	0.5
14	7.5	5.5	6.5	3.5	3.0	3.5	1.0	0.5	0.5	1.0	0.5	0.5
15	8.0	6.0	7.0	4.0	3.0	3.5	0.5	0.5	0.5	0.5	0.0	0.0
16	8.0	6.5	7.0	4.0	3.5	3.5	1.0	0.5	1.0	0.5	0.0	0.0
17	8.0	6.0	7.0	4.0	3.0	3.5	1.0	0.5	1.0	0.5	0.0	0.0
18	8.0	6.0	7.0	3.5	2.5	3.0	1.0	0.5	1.0	0.5	0.0	0.0
19	7.5	6.0	6.5	3.0	2.0	2.5	1.0	0.5	1.0	0.5	0.0	0.0
20	7.5	6.0	7.0	3.5	3.0	3.0	1.0	0.5	1.0	0.5	0.0	0.5
21	7.5	6.0	6.5	4.0	3.0	3.5	1.0	0.5	1.0	0.5	0.5	0.5
22	7.0	5.5	6.0	3.0	1.0	2.0	1.0	1.0	1.0	0.5	0.0	0.0
23	7.0	6.0	6.0	1.5	0.5	1.0	1.5	0.5	1.0	0.0	0.0	0.0
24	6.5	5.0	6.0	2.0	0.5	1.0	1.0	0.5	0.5	0.0	0.0	0.0
25	6.5	5.0	5.5	0.5	0.5	0.5	1.5	0.5	1.0	0.5	0.0	0.5
26	6.5	5.0	5.5	0.5	0.5	0.5	1.5	1.0	1.5	0.5	0.0	0.5
27	6.5	5.5	6.0	0.5	0.5	0.5	2.0	1.5	1.5	0.5	0.0	0.5
28	6.5	5.5	6.0	0.5	0.5	0.5	1.5	1.5	1.5	0.5	0.0	0.0
29	6.5	5.5	6.0	0.5	0.5	0.5	2.0	1.0	1.5	0.0	0.0	0.0
30	6.5	6.0	6.5	0.5	0.5	0.5	2.0	1.0	1.5	0.0	0.0	0.0
31	6.0	5.0	5.5	---	---	---	1.5	1.0	1.5	0.0	0.0	0.0
MONTH	10.5	5.0	7.1	5.5	0.5	2.8	2.0	0.5	0.9	2.5	0.0	0.7

< Actual value is known to be less than the value shown.

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

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.0	0.0	0.0	1.0	0.0	0.5	4.0	1.0	2.0	4.5	0.5	2.5
2	0.0	0.0	0.0	1.0	0.0	0.5	4.0	1.0	2.0	6.5	1.5	3.5
3	0.0	0.0	0.0	1.0	0.0	0.5	4.0	1.0	2.0	7.0	2.0	4.0
4	0.0	0.0	0.0	1.5	0.0	1.0	4.0	1.0	2.0	7.0	2.0	3.5
5	0.5	0.0	0.0	2.0	0.5	1.5	4.5	1.5	2.5	6.5	1.5	3.5
6	0.5	0.0	0.0	1.5	0.0	1.0	4.5	1.0	2.5	7.0	1.5	3.5
7	0.5	0.0	0.0	0.5	0.0	0.0	4.5	1.5	2.5	6.5	2.0	3.5
8	0.5	0.0	0.0	0.5	0.0	0.0	5.0	1.5	3.0	6.5	1.5	3.0
9	0.5	0.0	0.0	0.5	0.0	0.5	4.5	1.5	2.5	6.5	1.5	3.5
10	0.5	0.0	0.0	1.0	0.0	0.5	5.0	2.0	3.0	5.0	2.0	3.0
11	0.5	0.5	0.5	2.0	0.0	1.0	4.5	2.0	3.0	7.0	2.0	4.0
12	0.5	0.5	0.5	2.0	0.5	1.5	5.0	1.5	3.0	7.0	2.0	4.0
13	1.0	0.5	0.5	1.0	0.0	0.5	5.5	1.5	3.0	7.5	2.5	4.5
14	1.0	0.5	1.0	1.0	0.0	0.5	5.0	2.0	3.0	7.5	2.5	4.5
15	1.5	0.5	1.0	0.0	0.0	0.0	3.0	1.0	1.5	7.5	2.5	4.5
16	1.5	0.5	1.0	0.0	0.0	0.0	2.5	0.5	1.0	8.0	2.5	4.5
17	0.5	0.0	0.5	0.0	0.0	0.0	1.0	0.0	0.5	8.5	3.0	5.0
18	1.0	0.5	0.5	0.5	0.0	0.0	1.5	0.0	0.5	8.0	3.0	5.0
19	1.0	0.5	0.5	1.0	0.0	0.5	3.0	0.5	1.5	7.0	3.5	4.5
20	1.0	0.5	0.5	1.5	0.5	1.0	3.5	0.5	1.5	3.5	1.5	2.5
21	1.5	0.5	1.0	2.0	0.5	1.0	5.0	0.5	2.5	5.0	1.5	3.0
22	2.0	0.5	1.0	2.5	0.5	1.5	6.0	1.0	3.0	7.0	1.0	4.0
23	1.5	1.0	1.5	1.5	0.0	0.5	6.0	1.0	3.0	8.0	2.5	5.0
24	1.5	0.0	1.0	2.0	0.5	1.0	6.0	1.5	3.5	9.0	3.0	5.5
25	2.0	0.0	1.0	2.0	0.0	1.0	5.5	2.0	3.5	8.5	3.5	6.0
26	2.0	0.0	1.0	3.0	0.5	1.5	3.5	2.0	2.5	9.0	3.5	6.0
27	2.0	0.5	1.5	3.5	0.5	2.0	4.5	1.5	2.5	8.5	4.0	6.0
28	2.0	0.0	1.0	3.5	1.0	2.0	4.5	0.5	2.5	10.5	4.0	6.5
29	---	---	---	4.0	1.0	2.0	2.5	1.0	2.0	11.0	4.5	7.0
30	---	---	---	3.5	1.0	2.0	4.5	1.0	2.0	11.0	5.0	7.0
31	---	---	---	3.5	1.0	2.0	---	---	---	11.0	4.5	7.5
MONTH	2.0	0.0	0.6	4.0	0.0	0.9	6.0	0.0	2.3	11.0	0.5	4.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.0	5.5	7.0	15.0	10.0	13.0	16.0	11.0	13.5	---	---	---
2	10.0	3.5	6.5	15.0	10.5	13.0	16.5	11.5	13.5	---	---	---
3	10.5	5.0	7.5	14.5	10.0	12.0	15.5	11.0	13.0	---	---	---
4	11.5	5.5	8.0	14.5	9.0	12.0	14.5	10.5	12.0	---	---	---
5	12.0	6.0	8.5	14.5	9.5	12.0	---	---	---	---	---	---
6	12.0	5.5	8.5	14.5	9.5	12.0	---	---	---	---	---	---
7	11.5	5.5	8.0	15.0	10.5	13.0	---	---	---	---	---	---
8	10.5	5.5	7.5	14.5	9.5	12.0	---	---	---	---	---	---
9	8.5	3.5	6.0	15.5	10.0	13.0	---	---	---	---	---	---
10	10.0	4.5	7.0	16.5	11.0	14.0	---	---	---	---	---	---
11	11.0	5.0	8.0	16.0	12.0	14.0	---	---	---	---	---	---
12	12.0	6.0	9.0	15.5	12.5	14.0	---	---	---	---	---	---
13	12.5	7.0	9.5	16.5	12.0	14.0	---	---	---	10.5	8.5	9.5
14	12.0	6.0	9.0	17.0	12.5	14.5	---	---	---	10.5	8.5	9.5
15	12.0	5.5	9.0	16.0	12.0	14.0	---	---	---	11.5	9.0	10.0
16	12.0	6.0	9.0	16.0	11.5	13.5	---	---	---	10.5	8.5	9.5
17	12.5	7.0	9.5	14.0	11.5	13.0	---	---	---	9.5	8.0	8.5
18	13.0	8.0	10.5	12.5	10.5	11.5	---	---	---	10.0	8.0	8.5
19	12.5	7.5	10.0	14.5	9.5	12.0	---	---	---	9.5	7.5	8.5
20	13.0	8.0	10.5	14.0	11.0	13.0	---	---	---	10.0	8.0	9.0
21	12.5	8.0	10.0	15.0	11.5	13.0	---	---	---	10.0	8.0	9.0
22	12.5	7.0	10.0	15.0	10.5	12.5	---	---	---	10.5	8.5	9.0
23	13.5	8.5	11.0	14.0	9.5	12.0	---	---	---	10.5	8.5	9.5
24	13.0	7.5	10.5	15.0	10.0	12.5	---	---	---	10.5	8.5	9.5
25	14.0	9.0	12.0	14.5	9.5	12.0	---	---	---	10.0	8.0	9.0
26	14.0	10.0	12.5	14.0	9.0	11.5	---	---	---	9.5	8.0	8.5
27	14.0	9.0	11.5	15.5	10.5	12.5	---	---	---	9.5	8.0	8.5
28	13.5	9.0	11.5	15.5	11.0	13.0	---	---	---	9.5	8.0	8.5
29	14.0	9.5	11.5	15.5	10.5	13.0	---	---	---	8.5	7.0	7.5
30	14.5	9.0	12.0	16.0	11.0	13.5	---	---	---	8.0	6.0	7.0
31	---	---	---	16.5	11.5	13.5	---	---	---	---	---	---
MONTH	14.5	3.5	9.4	17.0	9.0	12.9	---	---	---	---	---	---

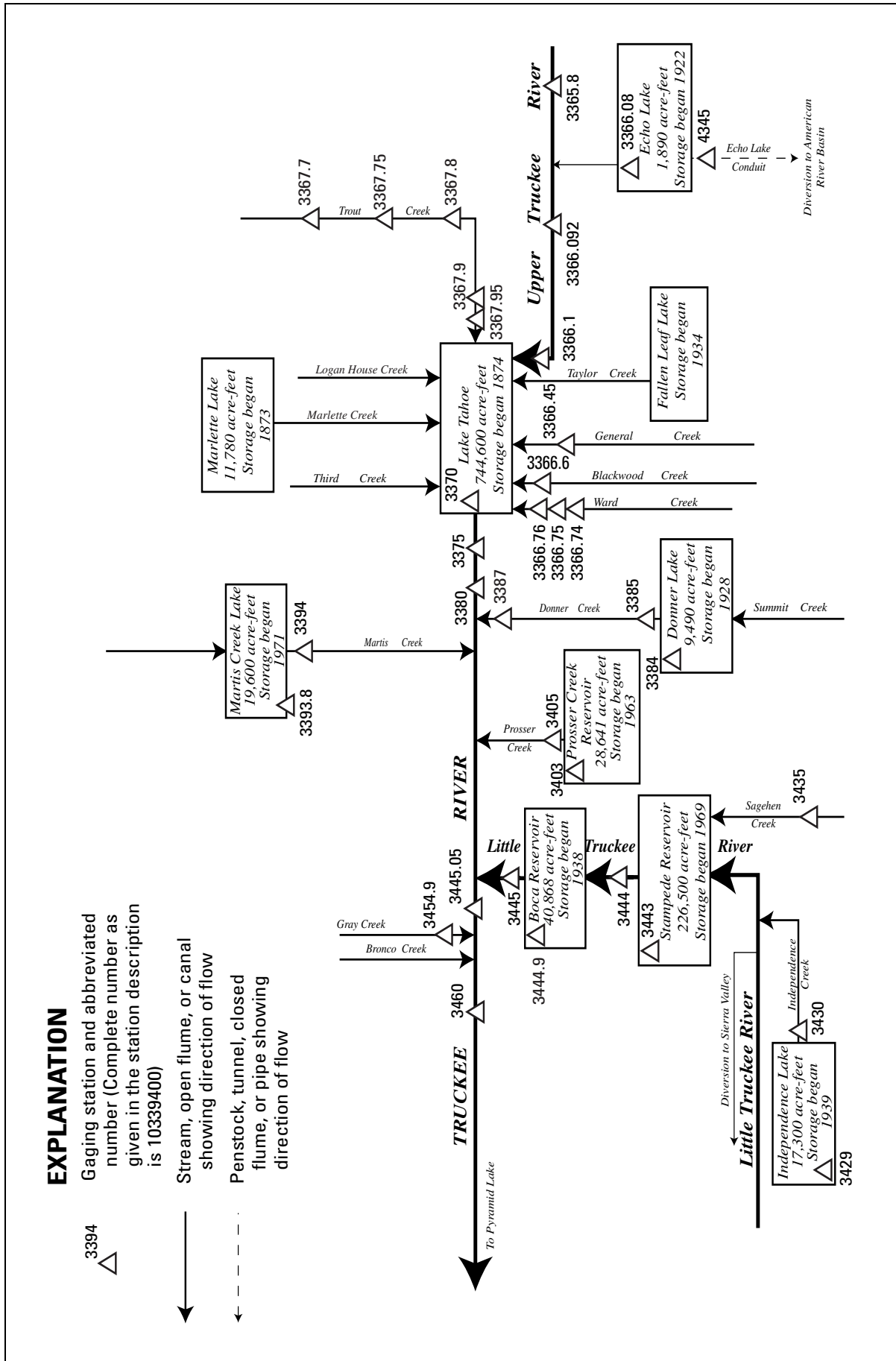


Figure 22. Diversions and storage in Truckee River Basin.

10336608 ECHO LAKE NEAR PHILLIPS, CA

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

DRAINAGE AREA.—4.84 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.—Record not computed for the winter months. Sensor non-operational all year. Record is from near-daily observations of outside staff. 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 El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184. Contents not rounded to U.S. Geological Survey standards.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by El Dorado Irrigation District in 2000)

0	0	2	631	4	1,279	6	1,943
1	315	3	955	5	1,611		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	530	---	---	---	---	---	---	196	1780	---	---	---
2	---	---	---	---	---	---	---	---	1780	1950	1870	---
3	479	---	---	---	---	---	---	---	1750	---	---	1680
4	---	---	---	---	---	---	---	---	1730	---	---	1600
5	---	---	---	---	---	---	---	---	1740	1910	1860	---
6	---	---	---	---	---	---	---	---	1760	---	1840	---
7	---	---	---	---	---	---	---	---	1760	---	---	1530
8	---	---	---	---	---	---	---	---	1750	1930	---	1480
9	318	---	---	---	---	---	---	299	1740	1950	---	1460
10	---	---	---	---	---	---	---	331	1700	1980	---	---
11	259	---	---	---	---	---	---	---	1740	---	---	1430
12	---	---	---	---	---	---	---	---	1790	2000	1800	---
13	---	---	---	---	---	---	---	403	1870	---	1800	1360
14	---	---	---	---	---	---	---	419	1940	---	1800	---
15	180	---	---	---	---	---	---	---	2010	2010	---	1330
16	---	---	---	---	---	---	---	612	2040	---	---	---
17	---	---	---	---	---	---	---	702	2030	2010	---	---
18	---	---	---	---	---	---	---	---	---	2000	---	1240
19	---	---	---	---	---	---	---	---	1970	1970	---	---
20	---	---	---	---	---	---	---	812	---	---	1740	1450
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	712	1980	1930	---	---
23	---	---	---	---	---	---	---	748	---	---	1740	1060
24	---	---	---	---	---	---	---	819	---	---	---	---
25	---	---	---	---	---	---	---	---	1960	---	---	1010
26	54	---	---	---	---	---	---	994	1960	1930	---	---
27	---	---	---	---	---	---	---	1230	1970	---	---	955
28	---	---	---	---	---	---	---	1260	---	---	1700	---
29	---	---	---	---	---	---	---	1420	---	---	1700	---
30	---	---	---	---	---	---	---	1510	1960	---	---	---
31	---	---	---	---	---	---	---	1710	---	1890	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
a	334	0	0	0	0	0	0	0	0	0	0	191

CAL YR 2001 a 1090

WTR YR 2002 a 526

a Release, in acre-feet, through Echo Lake Conduit (station 11434500), provided by El Dorado Irrigation District.

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

(Lake Tahoe Interagency Monitoring Program)

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.—39.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,310 ft above NGVD of 1929, from topographic map. June 1990 to Sept. 5, 1997 at present site, datum 3.00 ft higher.

REMARKS.—Records fair except October 1 through November 22, and estimated daily discharges, which are poor. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,120 ft³/s, Jan. 2, 1997, gage height, 8.95 ft; minimum daily, 1.2 ft³/s, Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 3	0345	372	6.33	May 18	2245	*486	*6.63
Apr 14	1930	483	6.63	May 31	2245	416	6.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.7	26	33	19	41	79	108	331	51	10	4.6
2	2.7	1.6	e44	36	18	39	96	104	282	47	9.8	4.5
3	2.3	2.2	e39	41	17	37	126	115	236	42	9.7	4.4
4	2.4	3.7	36	34	16	37	170	147	230	37	9.4	4.4
5	2.4	3.4	32	33	16	37	176	176	244	35	8.9	4.5
6	2.8	3.9	31	68	15	45	151	202	242	32	8.7	4.7
7	3.0	5.3	29	66	16	53	145	227	220	30	8.6	4.8
8	3.5	5.3	25	53	18	45	163	220	197	29	8.4	5.0
9	3.7	5.4	24	47	16	41	193	197	159	27	8.4	4.8
10	3.3	5.3	23	43	16	40	194	177	127	26	7.9	4.6
11	3.2	5.7	22	39	18	39	210	158	111	25	7.7	6.4
12	3.0	7.0	21	37	21	41	231	180	105	25	7.6	10
13	3.1	7.7	21	33	22	41	237	215	106	26	7.4	10
14	3.1	6.7	32	29	23	39	317	242	107	24	7.2	11
15	3.1	6.6	22	25	24	39	279	245	113	23	6.9	10
16	3.1	7.1	22	23	25	40	186	258	127	21	6.6	13
17	3.2	7.0	24	23	26	38	154	308	126	21	6.5	13
18	3.4	6.5	23	23	25	36	131	378	123	23	6.4	14
19	3.2	6.6	22	22	33	35	114	349	120	25	6.2	14
20	3.3	6.8	23	22	51	36	104	274	111	21	5.6	13
21	3.0	17	22	21	48	37	100	204	103	20	5.5	12
22	3.2	59	23	21	47	40	104	148	95	18	5.4	12
23	3.6	33	23	20	49	43	115	116	87	15	5.4	12
24	3.3	49	22	20	45	41	129	119	78	14	5.3	15
25	3.0	44	22	20	43	40	156	140	70	14	5.2	15
26	3.3	33	22	20	42	39	180	163	67	13	4.9	13
27	3.6	29	23	21	42	40	154	177	64	13	4.9	12
28	4.2	27	24	21	41	42	133	189	61	12	4.8	13
29	4.7	28	27	21	---	48	132	242	57	12	4.8	12
30	5.6	26	30	17	---	57	120	293	54	11	4.7	11
31	2.4	---	39	20	---	68	---	310	---	11	4.7	---
TOTAL	100.9	450.5	818	952	792	1294	4779	6381	4153	743	213.5	287.7
MEAN	3.25	15.0	26.4	30.7	28.3	41.7	159	206	138	24.0	6.89	9.59
MAX	5.6	59	44	68	51	68	317	378	331	51	10	15
MIN	2.3	1.6	21	17	15	35	79	104	54	11	4.7	4.4
AC-FT	200	894	1620	1890	1570	2570	9480	12660	8240	1470	423	571

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.34	16.8	22.0	49.8	38.4	62.7	121	279	232	85.3	17.8	11.1
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	3.25	3.33	3.15	4.37	6.69	28.2	47.2	85.0	20.4	4.81	2.28	2.50
(WY)	2002	1991	1991	1991	1991	1994	1991	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	10957.6		20964.6			
ANNUAL MEAN	30.0		57.4		80.6	
HIGHEST ANNUAL MEAN					169 1995	
LOWEST ANNUAL MEAN					26.1 1994	
HIGHEST DAILY MEAN	230	May 16	378	May 18	2000	Jan 2 1997
LOWEST DAILY MEAN	1.6	Nov 2	1.6	Nov 2	1.2	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	2.7	Oct 1	2.7	Oct 1	1.8	Dec 20 1990
MAXIMUM PEAK FLOW			486	May 18	5120	Jan 2 1997
MAXIMUM PEAK STAGE			6.63	May 18	8.95	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	21730		41580		58390	
10 PERCENT EXCEEDS	83		177		227	
50 PERCENT EXCEEDS	11		25		24	
90 PERCENT EXCEEDS	3.2		4.4		4.9	

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: September 1997 to current year.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Water temperature records represent water temperature at probe within 0.5°C. Interruptions in record due to instrument malfunction. Water temperature data for September 1997 were not published but are available from the U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 20.5°C, July 31, Aug. 6, 2000; minimum, freezing point on many days.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, 21.0°C, July 14, but presumably higher during instrument malfunction; minimum, freezing point, many days from December to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	PH WATER FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT									
03...	1410	2.0	--	--	--	--	109	23.0	15.1
NOV									
06...	1130	3.7	--	--	--	--	94	--	6.3
DEC									
07...	1050	28	608	--	--	7.2	41	.0	1.3
JAN									
08...	1150	53	--	--	--	--	40	8.0	2.5
FEB									
05...	1125	19	--	--	--	--	73	7.5	.4
20...	1335	51	--	--	--	--	57	10.0	3.1
MAR									
05...	1105	36	610	11.2	102	7.4	44	8.0	2.4
28...	1600	42	--	--	--	--	64	19.0	6.3
APR									
02...	1235	84	--	--	--	--	41	16.0	5.5
12...	1615	206	--	--	--	--	32	9.5	6.5
25...	1250	141	--	--	--	--	30	15.0	5.8
MAY									
09...	1510	159	--	--	--	--	27	12.0	7.7
15...	1545	204	--	--	--	--	27	17.0	8.5
17...	0915	247	--	--	--	--	25	15.5	5.0
28...	1245	153	--	--	--	--	29	21.0	8.4
31...	0940	260	--	--	--	--	23	23.5	7.4
JUN									
04...	1340	199	606	8.8	104	7.2	23	24.5	12.4
JUL									
03...	1320	43	--	--	--	--	39	23.0	16.8
AUG									
12...	1435	7.5	608	8.7	118	6.9	96	27.5	19.0
SEP									
12...	1420	9.1	--	--	--	--	49	24.0	15.2

PYRAMID AND WINNEMUCCA LAKES BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, 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								
03...	.003	.19	.006	.015	.004	147	2	.01
NOV								
06...	.004	.08	.008	.009	.004	165	<1	<.01
DEC								
07...	<.003	.11	.008	.006	.001	96	5	.38
JAN								
08...	.004	.24	.008	.010	.001	91	2	.29
FEB								
05...	<.003	.17	.015	.010	.003	155	<1	<.05
20...	<.003	.16	.008	.010	.003	148	2	.28
MAR								
05...	.004	.23	.010	.015	.002	140	<1	<.10
28...	.003	.14	.010	.009	.001	160	3	.34
APR								
02...	<.003	.21	.012	.013	.001	193	5	1.1
12...	.003	.17	.009	.012	.002	185	4	2.2
25...	<.003	.24	.010	.013	.002	150	3	1.1
MAY								
09...	<.003	.28	.008	.012	.002	194	3	1.3
15...	<.003	.15	.005	.017	.003	170	5	2.8
17...	<.003	.12	.011	.021	.004	269	7	4.7
28...	<.003	.16	.008	.016	.003	121	4	1.7
31...	<.003	.06	.011	.023	.004	322	16	11.2
JUN								
04...	.003	.18	.003	.013	.003	138	4	2.1
JUL								
03...	<.003	.14	.006	.021	.004	124	4	.46
AUG								
12...	.003	.14	.007	.015	.004	183	1	.02
SEP								
12...	.003	.14	.039	.010	.002	102	2	.05

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	2.5	1.5	2.0
2	---	---	---	---	---	---	---	---	---	2.5	1.5	2.0
3	---	---	---	---	---	---	---	---	---	2.0	1.0	1.5
4	---	---	---	---	---	---	---	---	---	1.5	0.0	1.0
5	---	---	---	---	---	---	---	---	---	2.5	1.0	1.5
6	---	---	---	---	---	---	---	---	---	2.5	1.0	2.0
7	---	---	---	---	---	---	---	---	---	3.0	1.0	2.0
8	---	---	---	---	---	---	---	---	---	3.0	1.5	2.5
9	---	---	---	---	---	---	---	---	---	2.5	1.0	2.0
10	---	---	---	---	---	---	---	---	---	2.5	1.0	1.5
11	---	---	---	---	---	---	---	---	---	2.5	0.5	1.5
12	---	---	---	---	---	---	---	---	---	2.5	1.5	2.0
13	---	---	---	---	---	---	---	---	---	1.5	0.0	1.0
14	---	---	---	---	---	---	---	---	---	1.5	0.5	1.0
15	---	---	---	---	---	---	0.5	0.0	0.0	1.0	0.0	0.5
16	---	---	---	---	---	---	0.5	0.0	0.0	0.5	0.0	0.5
17	---	---	---	---	---	---	0.5	0.0	0.0	0.5	0.0	0.5
18	---	---	---	---	---	---	0.5	0.0	0.5	0.5	0.0	0.5
19	---	---	---	---	---	---	1.0	0.5	0.5	0.5	0.0	0.5
20	---	---	---	---	---	---	0.5	0.0	0.5	0.5	0.5	0.5
21	---	---	---	---	---	---	0.5	0.0	0.5	1.0	0.0	0.5
22	---	---	---	---	---	---	0.5	0.0	0.5	0.5	0.0	0.5
23	---	---	---	---	---	---	1.0	0.0	0.5	0.0	0.0	0.0
24	---	---	---	---	---	---	0.5	0.0	0.0	0.5	0.0	0.5
25	---	---	---	---	---	---	0.5	0.0	0.5	1.0	0.0	0.5
26	---	---	---	---	---	---	1.5	0.5	1.0	1.0	0.0	0.5
27	---	---	---	---	---	---	2.0	1.0	1.5	0.5	0.0	0.5
28	---	---	---	---	---	---	2.0	1.5	1.5	0.5	0.0	0.0
29	---	---	---	---	---	---	2.5	1.5	2.0	0.0	0.0	0.0
30	---	---	---	---	---	---	2.5	1.5	2.0	0.0	0.0	0.0
31	---	---	---	---	---	---	2.5	1.5	2.0	0.5	0.0	0.0
MONTH	---	---	---	---	---	---	---	---	---	3.0	0.0	1.0

< Actual value is known to be less than the value shown.

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 NGVD of 1929. 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 estimated daily discharges, 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, 0.01 ft³/s, Sept. 6 2001.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 15	0415	*502	*4.53	June 1	0300	355	3.77
May 19	0400	445	4.25				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	6.2	39	46	e31	63	123	134	312	60	8.1	2.2
2	1.3	5.3	71	44	e31	58	137	126	291	57	7.5	2.0
3	1.7	5.2	e65	60	e31	55	162	137	245	51	6.9	1.9
4	1.3	4.9	e57	54	e31	54	199	163	236	46	6.3	1.9
5	1.5	5.0	e51	40	e31	56	222	195	246	43	5.9	2.2
6	1.3	5.0	e47	85	e32	86	199	214	247	40	5.5	2.4
7	1.6	5.2	e43	98	e32	92	185	242	231	38	4.8	3.0
8	1.7	5.5	e42	76	e32	96	191	243	212	36	4.6	3.5
9	1.9	4.8	e42	65	e32	72	222	225	183	34	4.5	3.1
10	2.0	5.0	42	55	e33	61	220	204	148	32	4.4	2.8
11	1.9	5.8	40	49	e33	59	221	187	126	31	4.2	2.5
12	2.3	8.1	39	44	31	68	239	196	118	30	4.1	6.5
13	2.3	12	37	45	35	70	238	223	115	32	3.9	6.4
14	2.2	9.4	e37	46	23	61	282	249	117	30	3.6	9.3
15	2.6	7.6	e37	44	23	58	344	248	118	28	3.5	7.9
16	2.1	7.6	e37	e43	24	65	229	264	128	26	3.6	9.7
17	2.4	7.2	e37	e42	27	55	198	281	129	26	3.3	15
18	2.1	6.7	e37	e41	26	56	169	347	125	33	3.4	14
19	2.3	6.3	e37	e40	32	50	149	354	124	36	3.2	18
20	2.7	6.3	e37	e39	74	52	138	297	116	28	2.9	13
21	2.4	12	e37	38	73	57	133	240	110	26	2.8	14
22	2.8	99	e37	e36	68	64	128	199	102	24	2.9	12
23	2.8	51	e37	e35	76	70	134	155	95	21	2.8	14
24	3.6	72	e37	e35	69	65	146	144	88	18	3.0	13
25	3.6	70	e37	36	63	60	169	157	81	14	2.6	17
26	3.3	58	e37	35	62	62	205	171	77	12	2.9	14
27	3.5	46	e37	e33	64	68	187	186	75	12	2.5	10
28	3.7	39	e38	e33	64	76	158	206	71	11	2.4	13
29	4.0	e39	e39	e32	---	88	157	228	67	10	2.5	11
30	5.3	e39	e41	e31	---	101	152	280	63	9.4	2.4	9.0
31	10	---	e43	e31	---	112	---	293	---	8.7	2.4	---
TOTAL	83.5	654.1	1294	1431	1183	2110	5636	6788	4396	903.1	123.4	254.3
MEAN	2.694	21.80	41.74	46.16	42.25	68.06	187.9	219.0	146.5	29.13	3.981	8.477
MAX	10	99	71	98	76	112	344	354	312	60	8.1	18
MIN	1.3	4.8	37	31	23	50	123	126	63	8.7	2.4	1.9
AC-FT	166	1300	2570	2840	2350	4190	11180	13460	8720	1790	245	504

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.14	39.13	49.13	65.96	68.05	106.7	166.1	303.9	254.4	87.16	20.31	12.86
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	0.51	0.55
(WY)	1989	1991	1991	1991	1991	1977	1977	1977	1992	1994	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1972 - 2002	
ANNUAL TOTAL	13839.60		24856.4			
ANNUAL MEAN	37.92		68.10		101.0	
HIGHEST ANNUAL MEAN					203 1983	
LOWEST ANNUAL MEAN					29.2 1988	
HIGHEST DAILY MEAN	262	May 16	354	May 19	3150	Jan 2 1997
LOWEST DAILY MEAN	0.00	Sep 6	1.3	Oct 1	0.01	Sep 6 2001
ANNUAL SEVEN-DAY MINIMUM	0.11	Sep 5	1.4	Oct 1	0.11	Sep 5 2001
MAXIMUM PEAK FLOW			502	Apr 15	5480	Jan 2 1997
MAXIMUM PEAK STAGE			4.53	Apr 15	9.95	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	27450		49300		73180	
10 PERCENT EXCEEDS	115		201		272	
50 PERCENT EXCEEDS	17		38		38	
90 PERCENT EXCEEDS	0.36		2.8		6.9	

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, September 1997 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1992.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Interruptions in water temperature record due to instrument problems. Water temperature records represent water temperature at probe within 0.5°C. Water temperature data for September 1997 were not published but are available from the U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 26.5°C, July 26, Aug. 10, 2001; minimum, freezing point on many days.

SEDIMENT CONCENTRATION: Maximum daily mean, 416 mg/L, Mar. 4, 1991; minimum daily mean, 0 mg/L, several days during most years.

SEDIMENT LOAD: Maximum daily, 781 tons, Mar. 8, 1986; minimum daily, 0 ton, several days during most years.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, presumably not measured during instrument problems; minimum, freezing point, many days November to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT									
03...	1650	2.0	--	--	--	--	116	22.5	19.0
NOV									
06...	1440	5.3	--	--	--	--	107	12.5	9.6
DEC									
07...	0845	61	610	--	--	6.4	53	-.3	.2
JAN									
08...	0900	65	--	--	--	--	56	9.0	1.6
FEB									
05...	0850	33	--	--	--	--	88	-5.0	.0
20...	1145	74	--	--	--	--	71	9.0	2.6
MAR									
05...	0900	55	610	11.1	99	7.3	66	5.0	1.5
28...	1410	70	--	--	--	--	77	13.0	8.6
APR									
02...	1020	134	--	--	--	--	51	13.6	4.1
04...	1750	185	--	--	--	--	43	13.0	7.8
12...	1435	229	--	--	--	--	34	8.5	7.7
23...	1150	145	--	--	--	--	40	14.0	6.3
25...	1820	167	--	--	--	--	37	9.5	9.4
26...	1435	194	--	--	--	--	31	6.0	6.6
MAY									
09...	1255	233	--	--	--	--	27	13.5	7.1
15...	1335	243	--	--	--	--	28	18.5	8.8
17...	0725	297	--	--	--	--	25	7.5	5.3
28...	1540	195	--	--	--	--	31	22.5	12.1
31...	0700	313	--	--	--	--	25	--	--
JUN									
01...	0700	329	600	7.7	85	--	21	16.0	9.3
04...	1110	236	606	9.1	105	7.2	24	18.0	11.3
JUL									
08...	1050	38	--	--	--	--	58	21.0	15.8
AUG									
12...	1200	4.3	610	9.6	130	7.5	99	23.5	19.0
SEP									
12...	1655	6.7	--	--	--	--	118	22.0	17.9

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT								
03...	.004	.27	.012	.020	.004	437	4	.02
NOV								
06...	<.003	.15	.007	.016	.004	363	4	.06
DEC								
07...	.004	.17	.021	.013	.003	228	5	.82
JAN								
08...	.007	.38	.019	.019	.003	286	10	1.8
FEB								
05...	<.003	.28	.019	.015	.003	400	9	.80
20...	<.003	.44	.012	.036	.004	1240	37	7.4
MAR								
05...	.004	.31	.023	.019	.004	547	7	1.0
28...	.003	.33	.012	.017	.003	499	6	1.1
APR								
02...	<.003	.39	.008	.027	.002	591	12	4.3
04...	.003	.80	.007	.034	.003	125	26	13.0
12...	<.003	.23	.009	.032	.003	646	21	13.0
23...	.003	.33	.014	.016	.002	325	6	2.3
25...	.003	.29	.008	.021	.002	337	8	3.6
26...	.003	.39	.008	.021	.002	337	12	6.3
MAY								
09...	<.003	.35	.010	.020	.002	376	10	6.3
15...	<.003	.14	.004	.022	.003	342	15	9.8
17...	<.003	.15	.002	.035	.003	659	28	22.5
28...	<.003	.26	.005	.018	.003	--	5	2.6
31...	.003	.45	.020	.068	.012	994	36	30.4
JUN								
01...	<.003	.14	.006	.038	.003	579	21	18.7
04...	<.003	.12	.002	.021	.003	249	16	10.2
JUL								
08...	.003	.14	.008	.021	.004	232	3	.31
AUG								
12...	<.003	.18	.009	.019	.003	310	3	.03
SEP								
12...	<.003	.15	.007	.019	.003	332	5	.09

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.5	10.0	14.5	9.5	5.5	7.0	0.0	0.0	0.0	2.5	1.0	2.0
2	19.0	10.5	14.5	10.0	5.5	7.0	0.0	0.0	0.0	3.0	2.0	2.5
3	19.0	10.5	14.5	9.5	5.0	7.0	0.0	0.0	0.0	3.0	1.0	1.5
4	18.0	10.5	14.0	10.0	5.0	7.0	0.0	0.0	0.0	1.5	0.0	0.5
5	18.0	9.5	13.5	11.0	5.5	7.5	0.5	0.0	0.0	3.0	0.0	1.5
6	17.0	10.0	13.5	9.5	5.0	7.0	0.5	0.0	0.0	2.5	1.0	2.0
7	17.0	9.0	13.0	9.0	4.5	6.0	0.0	0.0	0.0	3.0	0.5	1.5
8	15.0	10.0	12.5	8.5	4.0	5.5	0.5	0.0	0.0	3.0	1.5	2.0
9	15.5	7.0	11.0	8.0	3.5	5.0	0.0	0.0	0.0	2.5	0.5	1.5
10	15.0	6.0	10.0	7.5	3.5	5.0	0.0	0.0	0.0	3.0	0.5	1.5
11	13.5	8.0	10.5	7.5	5.0	6.0	0.0	0.0	0.0	3.0	0.0	1.5
12	16.0	6.5	10.5	6.5	4.0	5.0	0.0	0.0	0.0	3.5	0.5	2.0
13	16.0	6.5	10.5	6.0	3.5	4.5	0.5	0.0	0.0	2.0	0.0	1.0
14	14.0	7.0	10.0	6.5	4.5	5.5	0.0	0.0	0.0	1.5	0.0	0.5
15	14.5	7.0	10.0	6.5	5.0	5.5	0.0	0.0	0.0	1.0	0.0	0.5
16	14.0	7.0	10.0	7.0	5.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
17	13.0	7.0	10.0	7.0	5.5	6.0	0.0	0.0	0.0	0.5	0.0	0.0
18	15.5	6.5	10.0	6.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
19	14.0	6.5	10.0	6.5	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
20	14.0	7.5	10.0	6.5	4.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
21	14.5	7.0	10.0	5.5	4.0	4.5	0.0	0.0	0.0	0.5	0.0	0.0
22	13.5	7.0	9.5	5.0	3.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
23	14.5	8.0	10.0	4.5	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
24	13.0	6.5	9.0	3.5	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
25	13.5	6.5	9.0	2.0	0.0	1.0	0.0	0.0	0.0	0.5	0.0	0.0
26	13.5	6.5	9.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
27	12.5	7.0	9.0	1.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0
28	12.5	7.0	9.0	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
29	11.0	7.0	8.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
30	9.5	7.5	8.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
31	9.0	6.0	7.5	---	---	---	1.5	0.0	0.5	0.0	0.0	0.0
MONTH	19.0	6.0	10.7	11.0	0.0	4.5	1.5	0.0	0.0	3.5	0.0	0.7

< Actual value is known to be less than the value shown.

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 and Jan. 15 to Mar. 19, 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)
Apr. 14	2200	162	2.36	May 17	2215	124	2.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.78	0.86	1.7	6.6	e5.0	11	35	24	42	1.9	0.84	1.0
2	0.75	0.84	6.0	6.7	e4.6	e10	40	25	32	1.8	0.84	0.99
3	0.77	0.80	5.1	8.0	e4.5	e9.5	48	32	26	1.6	0.85	1.0
4	0.74	0.73	2.0	6.3	e4.5	9.4	59	48	25	1.5	0.84	1.1
5	0.73	0.73	1.8	6.1	e4.5	9.5	62	62	24	1.4	0.83	1.1
6	0.69	0.76	1.8	13	e4.5	14	54	69	22	1.4	0.87	1.1
7	0.72	0.81	2.5	13	e4.5	15	52	74	19	1.3	0.87	1.1
8	0.70	0.84	2.1	10	e4.5	e12	60	65	16	1.3	0.86	1.1
9	0.71	0.85	2.2	9.8	e4.5	e10	66	58	14	1.2	0.84	1.0
10	0.73	0.90	2.1	9.3	e4.5	10	63	54	12	1.2	0.84	0.97
11	0.78	1.1	2.0	8.1	e4.5	9.3	69	45	11	1.1	0.85	0.95
12	0.79	1.5	2.0	7.5	e4.5	11	75	54	9.5	1.2	0.84	0.94
13	0.78	1.5	1.9	7.9	e4.5	12	72	65	8.7	1.3	0.83	0.94
14	0.78	1.4	2.6	7.9	e4.5	11	95	75	8.2	1.1	0.83	0.92
15	0.80	1.3	2.3	e8.0	e4.5	e10	89	75	7.5	1.0	0.81	0.87
16	0.83	1.2	2.2	e7.8	e4.5	e10	45	73	6.7	0.99	0.83	0.91
17	0.84	1.2	2.7	e7.4	e4.5	e10	34	81	6.0	1.1	0.84	0.88
18	0.78	1.2	2.7	e7.2	7	e10	28	83	5.5	1.3	0.84	0.88
19	0.78	1.3	2.4	e7.0	7.3	e10	25	67	5.3	1.3	0.85	0.85
20	0.78	1.2	2.7	e6.8	14	10	23	51	5.1	1.2	0.85	0.81
21	0.78	2.6	2.6	6	14	11	22	37	4.4	1.1	0.88	0.80
22	0.80	4.1	2.6	5.7	13	14	25	30	4.1	1.0	0.88	0.79
23	0.81	2.0	2.7	e6.1	15	15	30	31	3.9	1.0	0.88	0.75
24	0.78	4.5	2.7	e6.1	13	14	36	36	3.5	0.98	0.88	0.74
25	0.84	3.3	2.9	6	12	13	47	48	3.1	0.93	0.87	0.75
26	0.84	2.0	2.8	5.4	11	13	56	52	2.9	0.93	0.87	0.75
27	0.84	1.6	3.1	e6.1	11	14	42	52	2.6	0.91	0.86	0.75
28	0.84	1.7	3.5	6	11	16	31	52	2.4	0.90	0.86	0.77
29	0.78	1.7	4.1	5.9	---	21	29	55	2.2	0.88	0.90	0.79
30	1.3	1.7	4.7	e5.8	---	26	26	54	2.0	0.86	0.99	0.83
31	1.1	---	7.8	e5.4	---	31	---	50	---	0.85	1.0	---
TOTAL	24.97	46.22	90.3	228.9	205.4	401.7	1438	1677	336.6	36.53	26.72	27.13
MEAN	0.805	1.541	2.913	7.384	7.336	12.96	47.93	54.10	11.22	1.178	0.862	0.904
MAX	1.3	4.5	7.8	13	15	31	95	83	42	1.9	1.0	1.1
MIN	0.69	0.73	1.7	5.4	4.5	9.3	22	24	2.0	0.85	0.81	0.74
AC-FT	50	92	179	454	407	797	2850	3330	668	72	53	54

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.094	6.554	8.624	9.635	12.38	18.07	38.55	62.70	35.03	6.594	1.335	1.337
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	1999	1983	1983	1983	1983
MIN	0.73	0.84	0.89	0.90	0.99	5.86	15.9	7.18	1.63	0.49	0.35	0.39
(WY)	1993	1993	1991	1991	1991	1994	1991	1992	2001	1994	1994	1992

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1980 - 2002
ANNUAL TOTAL	2438.08	4539.47	
ANNUAL MEAN	6.680	12.44	16.91
HIGHEST ANNUAL MEAN			34.7
LOWEST ANNUAL MEAN			4.96
HIGHEST DAILY MEAN	77	95	600
LOWEST DAILY MEAN	0.37	0.69	0.29
ANNUAL SEVEN-DAY MINIMUM	0.40	0.72	0.31
MAXIMUM PEAK FLOW		162	797
MAXIMUM PEAK STAGE		2.36	7.86
ANNUAL RUNOFF (AC-FT)	4840	9000	12250
10 PERCENT EXCEEDS	18	48	51
50 PERCENT EXCEEDS	1.8	3.5	3.2
90 PERCENT EXCEEDS	0.67	0.81	0.82

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT									
22...	1630	.78	606	8.6	93	--	63	14.0	8.5
30...	1850	1.7	604	8.7	89	--	65	3.5	6.5
NOV									
21...	1710	3.4	599	9.5	94	--	62	5.5	4.5
21...	2225	5.2	--	--	--	--	58	4.2	4.0
22...	1140	4.2	602	9.6	92	--	58	.2	3.5
24...	1230	7.4	--	--	--	--	53	--	2.5
28...	1505	1.7	598	10.4	96	--	56	.0	2.0
DEC									
31...	1600	8.3	607	11.0	97	--	53	2.1	.9
JAN									
06...	1515	16	613	11.3	99	--	29	4.0	1.0
07...	1615	12	--	--	--	--	28	3.5	1.5
24...	1630	e6.1	609	11.3	97	--	34	-1.0	.0
FEB									
20...	1140	13	605	11.0	99	--	30	5.5	1.5
MAR									
05...	1330	9.2	604	10.7	101	--	30	8.0	3.2
APR									
02...	2035	44	604	11.0	100	--	21	1.0	1.8
05...	0845	63	--	--	--	--	18	5.5	1.0
11...	1315	59	608	10.7	101	--	17	--	3.5
15...	0930	92	--	--	--	--	13	-2.5	1.0
24...	2025	35	--	--	--	--	19	9.0	5.0
MAY									
06...	1320	54	--	--	--	--	14	14.0	5.1
06...	2000	80	--	--	--	--	14	6.5	5.0
15...	0820	71	--	--	--	6.8	12	7.0	2.1
16...	2045	86	606	9.6	98	--	11	10.0	6.5
22...	1250	28	--	--	--	--	16	9.0	5.0
29...	2045	62	607	8.9	99	--	12	12.5	10.0
JUN									
06...	2025	20	--	--	--	--	18	--	11.5
13...	1515	8.7	608	7.9	100	--	24	24.0	15.5
JUL									
17...	1625	1.3	609	6.8	91	--	50	19.0	18.5
AUG									
21...	1820	.84	605	6.9	88	--	57	16.5	16.0
SEP									
19...	1750	.78	606	7.4	89	--	60	16.5	13.0

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- 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								
22...	<.003	.14	.003	.020	.013	90	2	<.01
30...	<.003	.16	.003	.029	.012	230	3	.01
NOV								
21...	<.003	.25	.003	.057	.017	874	5	.05
21...	<.003	.63	.005	.126	.026	2280	24	.34
22...	.005	.35	.005	.035	.011	398	6	.07
24...	<.003	.36	.005	.092	.017	1250	28	.56
28...	.005	.18	.004	.016	.009	131	1	<.01
DEC								
31...	.004	.22	.003	.019	.004	138	2	.04
JAN								
06...	.003	.31	.005	.039	.003	449	8	.35
07...	.003	.38	.008	.015	.004	80	1	.03
24...	<.003	.22	.002	.022	.001	49	1	e.02
FEB								
20...	<.003	.30	.003	.017	.003	114	2	.07
MAR								
05...	<.003	.15	.003	.009	.003	52	1	.02
APR								
02...	.003	.35	.004	.024	.002	225	10	1.2
05...	.003	.25	.009	.013	.002	137	6	1.0
11...	.004	.55	.005	.006	.002	62	3	.48
15...	.004	.33	.004	.017	.002	199	7	1.7
24...	.005	.32	.004	.008	.001	49	2	.19
MAY								
06...	<.003	.33	.002	.005	.001	49	1	.15
06...	<.003	.20	.002	.009	.001	130	8	1.7
15...	<.003	.17	.003	.007	.001	40	2	.38
16...	<.003	.07	.002	.009	.002	56	7	1.6
22...	<.003	.14	.002	.007	.002	117	5	.38
29...	<.003	.25	.002	.008	.001	239	4	.67
JUN								
06...	.003	.12	.002	.011	.001	84	3	.16
13...	.006	.10	.002	.010	.004	137	2	.05
JUL								
17...	.005	.14	.004	.039	.018	156	1	<.01
AUG								
21...	.003	.12	.003	.032	.016	167	1	<.01
SEP								
19...	.005	.06	.002	.026	.018	160	<1	<.01

< Actual value is known to be less than the value shown.
e Estimated.

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 estimated daily discharges, which are fair. No known diversion or regulation upstream from station. See schematic diagram of [Truckee River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,940 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)
Apr. 14	1715	e249	a3.01	May 30	2000	206	2.45
May 17	1415	237	2.60				

e Estimated.
a Orifice buried.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	e5.0	16	e8.2	e16	52	49	146	18	3.8	1.8
2	1.1	1.1	6.4	16	e7.7	e15	62	51	119	16	3.8	1.8
3	1.0	1.0	7.0	17	e7.6	e15	74	66	108	16	3.4	1.8
4	1.0	1.0	5.8	16	e7.6	e15	e87	84	113	14	3.4	1.8
5	1.1	1.1	4.8	15	e7.7	e15	e85	101	121	14	3.2	1.8
6	1.1	1.1	e4.5	37	e7.6	e20	e75	117	119	13	3.1	1.9
7	1.1	1.0	e5.5	33	e7.5	e21	e81	127	111	12	3.0	1.9
8	1.1	1.0	e5.0	27	e7.5	e17	e86	117	98	12	2.8	1.9
9	1.1	1.1	e4.6	23	e7.2	e16	e88	111	83	11	2.9	1.8
10	1.1	1.1	e4.8	21	e7.0	e17	e90	102	72	10	2.9	1.7
11	1.2	1.7	e4.6	e19	e6.6	e18	e100	94	68	9.6	2.7	1.7
12	1.1	1.9	e4.6	e18	e6.4	e19	e107	101	70	9.6	2.6	1.7
13	1.1	1.8	e4.8	e17	e6.1	e20	e124	115	76	9.4	2.4	1.6
14	1.1	1.6	e4.9	e16	e6.1	e19	e172	132	74	8.6	2.4	1.6
15	1.1	1.4	e4.8	e16	e5.9	e18	e142	145	65	8.1	2.3	1.6
16	1.1	1.3	e5.1	e16	e6.0	e17	e112	150	58	7.5	2.3	1.6
17	1.1	1.3	e4.9	e15	e6.0	e17	e86	165	54	7.3	2.2	1.6
18	1.0	1.2	e4.9	e15	e6.3	e17	e72	159	55	7.4	2.2	1.6
19	1.1	1.2	e4.9	e14	e7.6	e18	e62	135	53	7.0	2.2	1.6
20	1.1	1.2	e5.1	e14	e20	e19	e56	107	50	6.6	2.2	1.5
21	1.1	4.7	e4.8	e13	e19	21	e54	88	46	6.2	2.2	1.5
22	1.2	17	e4.8	e12	e18	22	e57	78	40	5.9	2.2	1.5
23	1.3	5.1	e5.1	e11	e19	23	e62	75	37	5.6	2.1	1.4
24	1.2	18	e4.5	e11	e18	22	e71	77	33	5.3	2.0	1.4
25	1.2	8.9	e4.6	e10	e17	21	e82	88	31	5.2	2.0	1.4
26	1.2	e4.5	e4.6	e10	e17	21	e84	101	30	4.9	2.0	1.4
27	1.3	e4.0	e4.9	e10	e16	22	e77	113	27	4.7	2.0	1.4
28	1.3	e3.9	e5.2	e10	e16	24	e67	126	24	4.5	2.0	1.4
29	1.2	e3.9	e5.6	e9.5	---	28	e62	139	21	4.3	1.9	1.5
30	2.5	e4.1	e8.1	e9.2	---	35	55	155	19	4.2	2.0	1.6
31	1.5	---	18	e8.8	---	43	---	158	---	4.0	1.9	---
TOTAL	36.8	99.3	172.2	495.5	292.6	631	2484	3426	2021	271.9	78.1	48.8
MEAN	1.187	3.310	5.555	15.98	10.45	20.35	82.80	110.5	67.37	8.771	2.519	1.627
MAX	2.5	18	18	37	20	43	172	165	146	18	3.8	1.9
MIN	1.0	1.0	4.5	8.8	5.9	15	52	49	19	4.0	1.9	1.4
AC-FT	73	197	342	983	580	1250	4930	6800	4010	539	155	97

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.736	12.26	19.37	24.96	21.07	30.24	61.25	127.7	99.99	28.67	5.655	2.816
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	1.19	1.68	1.90	2.00	2.27	3.82	13.6	29.7	7.20	2.76	1.31	1.00
(WY)	2002	1978	1977	1991	1991	1977	1975	1977	1992	2001	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	5057.11		10057.2			
ANNUAL MEAN	13.86		27.55		36.59	
HIGHEST ANNUAL MEAN					73.4 1982	
LOWEST ANNUAL MEAN					8.71 1977	
HIGHEST DAILY MEAN	122	May 16	172	Apr 14	2000	Jan 1 1997
LOWEST DAILY MEAN	0.83	Sep 19	1.0	Oct 3	0.50	Sep 24 1968
ANNUAL SEVEN-DAY MINIMUM	0.86	Sep 18	1.0	Nov 2	0.54	Sep 23 1968
MAXIMUM PEAK FLOW			e249	Apr 14	2940	Jan 1 1997
MAXIMUM PEAK STAGE			a3.01	Apr 14	9.90	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	10030		19950		26510	
10 PERCENT EXCEEDS	44		92		106	
50 PERCENT EXCEEDS	3.6		8.1		10	
90 PERCENT EXCEEDS	1.1		1.2		2.1	

e Estimated.

a Orifice buried.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	PH WATER FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT									
22...	1520	1.3	608	9.0	97	--	82	14.0	8.5
30...	1730	3.1	603	9.2	96	--	77	3.5	7.0
NOV									
21...	1600	5.5	602	9.8	96	--	73	4.0	4.5
21...	2040	19	--	--	--	--	70	--	--
21...	2105	10	--	--	--	--	70	3.8	5.0
22...	1035	14	601	10.6	97	--	52	.3	1.8
24...	1335	51	--	--	--	--	48	-.5	2.0
28...	1555	e3.9	598	10.5	98	--	68	-1.5	2.3
DEC									
31...	1445	20	607	10.7	99	--	53	4.0	2.5
JAN									
06...	1400	47	613	11.5	99	--	46	3.0	.5
07...	1525	30	--	--	--	--	51	3.9	3.3
24...	1505	e11	610	11.6	99	--	56	.0	.0
FEB									
20...	1020	e20	604	10.9	100	--	52	4.5	2.0
MAR									
05...	1225	e15	606	10.2	99	--	57	4.5	4.5
APR									
02...	1920	71	604	10.5	99	--	46	2.0	3.0
05...	0740	e85	--	--	--	--	42	1.0	2.0
11...	1205	e100	608	10.2	101	--	45	10.7	5.2
15...	0800	e142	--	--	--	--	37	-4.0	1.5
24...	1930	e71	--	--	--	--	47	8.5	6.5
MAY									
06...	1225	94	--	--	--	--	41	14.3	7.2
06...	1910	146	--	--	--	--	36	8.5	5.0
15...	0725	130	--	--	--	7.1	35	2.0	2.0
16...	1930	188	606	10.1	100	--	32	11.8	5.0
22...	1200	76	--	--	--	--	41	6.0	6.0
29...	1935	178	607	10.0	102	--	28	13.7	6.2
JUN									
06...	1930	140	--	--	--	--	27	16.5	8.0
13...	1400	67	609	8.5	100	--	33	22.0	12.5
20...	1340	46	--	--	--	--	35	22.0	12.5
JUL									
17...	1720	7.0	610	6.8	95	--	57	19.0	20.5
AUG									
21...	1710	2.1	606	7.4	97	--	71	17.5	17.0
SEP									
19...	1650	1.4	608	7.8	96	--	76	19.5	14.5

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, 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								
22...	.003	.17	.002	.013	.007	100	2	.01
30...	<.003	.20	.004	.019	.007	168	5	.04
NOV								
21...	.003	.13	.002	.018	.008	142	2	.03
21...	<.003	.32	.003	.045	.009	614	9	.46
21...	.003	.32	.004	.080	.008	1250	44	1.2
22...	<.003	.28	.111	.034	.003	402	14	.53
24...	.003	.41	.086	.141	.003	2280	41	5.6
28...	.004	.12	.051	.012	.003	128	3	e.03
DEC								
31...	.004	.28	.002	.020	.002	229	7	.38
JAN								
06...	.004	1.7	.015	.057	.004	969	28	3.6
07...	.003	.20	.034	.012	.002	111	3	.24
24...	<.003	.50	.002	.022	.002	114	10	e.30
FEB								
20...	<.003	.81	.002	.019	.003	235	8	e.43
MAR								
05...	<.003	.18	.007	.013	.004	91	3	e.12
APR								
02...	.004	1.1	.032	.071	.003	1000	46	8.8
05...	.004	.34	.067	.024	.003	303	15	e3.4
11...	.003	.13	.055	.016	.002	138	7	e1.9
15...	.004	.25	.060	.032	.003	490	33	e12.7
24...	.004	.17	.031	.015	.002	129	6	e1.1
MAY								
06...	<.003	.21	.027	.009	.002	106	6	1.5
06...	<.003	.12	.026	.035	.001	705	42	16.6
15...	<.003	.14	.030	.013	.003	133	11	3.9
16...	<.003	.12	.021	.034	.003	--	38	19.3
22...	.003	.12	.015	.013	.004	130	5	1.0
29...	.003	.33	.009	.050	.001	713	104	50.0
JUN								
06...	.004	.15	.002	.021	.001	193	21	7.9
13...	.005	.08	.002	.013	.003	518	6	1.1
20...	.006	.18	.005	.018	.004	301	4	.50
JUL								
17...	.006	<.04	.002	.038	.009	106	5	.09
AUG								
21...	<.003	.09	.002	.023	.009	101	3	.02
SEP								
19...	.004	.06	.002	.016	.010	118	3	.01

< Actual value is known to be less than the value shown.

e Estimated.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 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)
Apr 14	1800	124	4.92	May 30	1745	141	4.99

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.36	0.49	e1.3	3.4	3.1	7.2	19	18	84	e13	0.98	0.33
2	0.34	0.40	3.5	3.6	2.9	6.6	24	19	63	e12	0.93	0.31
3	0.34	0.37	2.2	3.9	2.8	6.3	32	27	59	e9.9	0.89	0.29
4	0.32	0.35	1.3	3.3	2.8	6.5	44	38	63	e9.0	0.85	0.30
5	0.31	0.35	1.3	3.4	2.8	6.5	42	49	67	e7.6	0.78	0.32
6	0.32	0.32	e1.5	e13	2.8	9.1	35	57	66	e7.0	0.75	0.38
7	0.33	0.27	1.8	12	2.9	8.1	36	58	60	e6.5	0.72	0.41
8	0.34	0.26	1.6	8.8	2.7	6.9	42	51	52	e5.7	0.68	0.42
9	0.37	0.25	1.5	7.0	2.6	6.4	38	50	41	e5.4	0.63	0.41
10	0.39	0.26	1.4	6.1	2.6	6.0	39	45	37	e5.0	0.59	0.37
11	0.38	e0.65	1.3	5.7	2.7	6.0	43	44	35	4.3	0.56	0.34
12	0.35	0.80	1.3	5.5	2.8	6.8	50	51	35	4.2	0.53	0.31
13	0.37	0.85	1.4	5.2	2.8	6.2	52	63	37	3.9	0.49	0.30
14	0.38	1.1	1.9	5.1	2.7	5.8	80	72	36	3.5	0.50	0.28
15	0.36	0.88	1.3	4.8	2.7	5.5	58	75	32	3.1	0.50	0.25
16	0.33	0.65	1.3	4.9	2.7	5.2	34	79	30	2.9	0.49	0.29
17	0.32	0.52	1.4	4.7	2.7	5.2	26	92	29	2.8	0.47	0.34
18	0.33	0.46	1.3	4.6	2.6	4.9	22	97	30	2.8	0.46	0.35
19	0.34	0.40	1.3	4.4	2.8	4.8	20	72	28	2.6	0.45	0.34
20	0.31	0.40	1.3	4.3	10	5.1	18	52	28	2.4	0.46	0.33
21	0.31	e2.0	1.2	4.3	9.0	5.5	17	40	26	2.2	0.49	0.32
22	0.31	e3.7	1.3	4.1	8.7	6.2	19	36	23	2.0	0.50	0.30
23	0.29	e1.7	1.2	3.8	9.1	6.1	22	35	22	1.9	0.49	0.29
24	0.29	e3.8	1.2	3.8	7.3	5.7	26	39	e23	1.7	0.47	0.28
25	0.31	e2.8	1.2	3.8	7.0	5.8	36	47	e21	1.5	0.44	0.27
26	0.30	e1.6	1.4	e4.1	7.1	5.9	37	55	e19	1.4	0.42	0.28
27	0.30	e1.2	1.4	3.6	7.2	6.6	29	66	e17	1.3	0.41	0.27
28	0.31	e1.2	1.4	3.3	7.3	7.9	24	74	e16	1.2	0.39	0.32
29	0.31	e1.2	1.5	3.3	---	10	22	81	e15	1.1	0.38	0.37
30	e0.86	e1.2	2.3	3.2	---	13	20	91	e14	1.0	0.37	0.41
31	e0.78	---	4.5	3.1	---	15	---	93	---	1.0	0.36	---
TOTAL	11.26	30.43	49.8	154.1	125.2	212.8	1006	1766	1108	129.9	17.43	9.78
MEAN	0.363	1.014	1.606	4.971	4.471	6.865	33.53	56.97	36.93	4.190	0.562	0.326
MAX	0.86	3.8	4.5	13	10	15	80	97	84	13	0.98	0.42
MIN	0.29	0.25	1.2	3.1	2.6	4.8	17	18	14	1.0	0.36	0.25
AC-FT	22	60	99	306	248	422	2000	3500	2200	258	35	19

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.660	1.797	4.691	10.34	7.002	11.75	26.81	60.74	51.40	19.75	2.809	0.643
MAX	1.43	9.82	27.2	68.8	32.5	26.9	43.1	93.5	127	88.7	16.0	1.94
(WY)	1999	1997	1997	1997	1996	1995	1997	1996	1998	1995	1995	1995
MIN	0.11	0.45	0.69	0.82	0.95	5.85	16.2	20.5	3.67	0.81	0.025	0.008
(WY)	1993	1996	1995	1992	1994	1994	1998	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1992 - 2002	
ANNUAL TOTAL	2816.46		4620.70			
ANNUAL MEAN	7.716		12.66		16.56	
HIGHEST ANNUAL MEAN					29.0	
LOWEST ANNUAL MEAN					5.56	
HIGHEST DAILY MEAN	103	May 15	97	May 18	720	Jan 2 1997
LOWEST DAILY MEAN	0.13	Sep 10	0.25	Nov 9	0.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	0.16	Sep 4	0.29	Sep 21	0.00	Sep 9 1992
MAXIMUM PEAK FLOW			141	May 30	1220	Jan 1 1997
MAXIMUM PEAK STAGE			4.99	May 30	8.85	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	5590		9170		12000	
10 PERCENT EXCEEDS	27		43		51	
50 PERCENT EXCEEDS	1.4		2.9		3.3	
90 PERCENT EXCEEDS	0.25		0.33		0.38	

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT								
22...	1055	.35	--	50	10.0	4.5	.003	.07
30...	1325	e.86	--	55	4.1	5.5	<.003	.81
NOV								
28...	1025	e1.2	--	46	-1.5	1.0	.005	.11
DEC								
29...	1445	1.4	--	46	3.0	2.0	.004	.11
JAN								
06...	1700	21	--	37	.0	.0	.004	.39
24...	1050	3.8	--	41	-3.5	.5	<.003	.27
FEB								
20...	1430	13	--	36	6.0	1.5	<.003	.23
MAR								
04...	1415	6.5	--	40	5.5	3.0	<.003	.19
APR								
02...	1525	24	--	35	11.0	2.0	<.003	.31
05...	1025	42	--	35	9.1	2.1	.003	.33
15...	1100	53	--	31	-.5	2.0	<.003	.21
24...	1630	25	--	33	13.8	3.8	.005	.18
MAY								
06...	0915	42	--	31	9.5	2.5	<.003	.09
06...	1545	66	--	27	12.0	3.2	<.003	.16
15...	0950	58	7.1	28	12.0	3.0	<.003	.13
16...	1540	94	--	25	17.5	3.8	.003	.14
29...	1600	107	--	23	22.0	5.5	.004	.20
JUN								
06...	1425	69	--	24	22.0	8.0	--	--
06...	1640	83	--	23	21.5	6.5	.003	.26
13...	1040	28	--	28	20.0	6.1	.005	.15
20...	1040	26	--	28	--	7.3	.006	.19
JUL								
17...	1230	2.8	--	37	23.8	15.0	.006	.06
AUG								
21...	1240	.52	--	43	19.8	14.3	.003	.05
SEP								
19...	1320	.35	--	45	19.0	13.0	.003	<.04

e Estimated.

< Actual value is known to be less than the value shown.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, 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						
22...	.002	.006	.002	22	<1	<.01
30...	.004	.301	.009	2660	134	e.31
NOV						
28...	.038	.009	.001	17	1	<.01
DEC						
29...	.002	.009	.002	14	2	.01
JAN						
06...	.035	.029	.002	195	10	.57
24...	.008	.022	.001	6	1	.01
FEB						
20...	.013	.015	.003	82	5	.18
MAR						
04...	.006	.009	.003	12	1	.02
APR						
02...	.012	.019	.002	134	9	.58
05...	.033	.015	.003	56	5	.57
15...	.027	.013	.002	83	8	1.1
24...	.019	.009	.001	25	2	.14
MAY						
06...	.017	.007	.003	31	3	.34
06...	.015	.020	.003	219	20	3.6
15...	.014	.011	.003	40	5	.78
16...	.011	.027	.004	--	26	6.6
29...	.015	.041	.004	477	53	15.3
JUN						
06...	--	--	--	--	20	3.7
06...	.013	.030	.003	100	31	6.9
13...	.005	.010	.004	47	2	.15
20...	.004	.016	.004	66	4	.28
JUL						
17...	.005	.023	.006	12	2	.02
AUG						
21...	.002	.014	.003	19	1	<.01
SEP						
19...	.002	.009	.004	20	1	<.01

< Actual value is known to be less than value shown.

e Estimated.

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

(Lake Tahoe Interagency Monitoring Program)

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.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey. See schematic diagram of Truckee River Basin.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT												
22...	1215	--	88	12.2	7.0	--	--	--	--	--	--	<1
30...	1530	--	89	4.0	6.2	<.003	.31	.004	.050	.033	154	--
NOV												
28...	1210	--	61	--	1.5	.004	.14	.003	.016	.004	32	1
JAN												
24...	1255	--	50	--	.0	<.003	.19	.002	.029	.003	25	<1
FEB												
20...	1600	--	44	4.0	2.0	<.003	.27	.002	.017	.002	72	3
MAR												
04...	1630	--	49	--	3.5	<.003	.19	.002	.013	.005	21	--
APR												
02...	1710	--	42	--	2.7	<.003	.33	.003	.029	.003	207	13
05...	1200	--	41	--	4.0	.003	.04	.020	.016	.002	70	--
15...	1230	--	37	--	3.5	.003	.23	.019	.016	.004	118	8
24...	1800	--	40	--	5.3	.004	.14	.008	.011	.002	42	2
MAY												
06...	1050	--	37	--	5.0	<.003	.22	.005	.008	.002	39	1
06...	1730	--	33	--	5.0	<.003	.19	.005	.031	.003	284	38
15...	1120	7.2	34	--	6.0	<.003	e.08	.005	.012	.004	46	3
16...	1720	--	31	--	6.0	<.003	.16	.010	.023	.005	--	17
29...	1735	--	28	--	6.5	<.003	e.07	<.002	.034	.001	306	27
JUN												
06...	1755	--	28	--	7.8	<.003	.15	.002	.026	.002	88	11
13...	1205	--	33	--	9.5	.005	.15	.002	.011	.004	66	2
20...	1200	--	33	--	11.0	.005	.10	.004	.018	.004	58	2
JUL												
17...	1355	--	49	--	--	.009	.07	.004	.035	.005	24	1
AUG												
21...	1500	--	75	--	17.8	<.003	.06	.002	.024	.011	47	2
SEP												
19...	1435	--	81	--	14.5	.005	.09	.004	.023	.015	68	2

< Actual value is known to be less than then value shown.
e Estimated.

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 good except for estimated daily discharges, which are fair. Minor diversion for local water supply upstream from station. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,530 ft³/s, Jan. 1, 1997, gage height, 9.36 ft; no flow for many days during several years.

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)
Apr. 14	1815	218	5.73	May 18	1915	195	5.66

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.09	0.85	3.4	7.3	e6.3	e14	35	37	112	15	1.5	0.33
2	0.06	0.66	e5.2	8.0	e5.9	e13	42	39	89	14	1.4	0.30
3	0.05	0.60	e6.6	8.8	e5.7	13	51	50	80	13	1.3	0.28
4	0.03	0.61	e5.4	7.0	e5.6	12	66	65	83	12	1.3	0.28
5	0.06	0.59	4.5	7.1	e5.6	12	65	78	90	11	1.2	0.30
6	0.08	0.62	3.9	e21	e5.6	20	58	89	88	10	1.1	0.36
7	0.09	0.65	4.4	e16	e5.7	20	59	92	81	9.1	1.0	0.45
8	0.09	0.64	3.4	e15	e5.5	18	67	82	71	8.2	0.96	0.49
9	0.10	0.64	3.0	14	e5.4	15	70	78	58	7.4	0.89	0.52
10	0.12	0.64	2.7	12	e5.3	13	70	72	51	6.9	0.85	0.48
11	0.13	2.0	2.5	11	e4.9	13	76	67	47	6.2	0.76	0.44
12	0.13	2.1	2.4	11	4.8	14	88	74	47	6.1	0.66	0.39
13	0.16	1.7	2.4	e11	4.7	13	91	87	50	5.8	0.58	0.36
14	0.17	1.5	e2.5	e10	4.6	12	130	99	49	5.1	0.55	0.34
15	0.18	1.6	e2.7	e10	4.5	e12	107	105	45	4.6	0.47	0.36
16	0.17	1.4	e3.0	9.2	4.5	e12	65	106	41	4.3	0.44	0.38
17	0.18	1.1	e3.2	e9.2	4.5	e12	52	122	39	4.0	0.44	0.33
18	0.19	0.99	e3.1	e8.9	4.3	e11	43	131	39	4.3	0.41	0.29
19	0.21	0.93	e3.1	e8.8	5.3	e11	38	106	38	4.1	0.40	0.30
20	0.22	0.90	3.0	e8.7	e16	11	36	84	37	3.6	0.39	0.30
21	0.24	5.4	2.4	e8.4	16	12	36	66	35	3.4	0.44	0.25
22	0.26	17	2.4	e8.2	15	13	39	57	32	3.0	0.47	0.23
23	0.27	4.6	2.5	e7.9	e15	14	44	54	29	2.8	0.51	0.22
24	0.29	18	2.1	e7.7	14	12	49	57	27	2.5	0.50	0.21
25	0.29	9.0	e2.2	e7.6	14	12	62	64	25	2.4	0.46	0.22
26	0.33	5.4	2.3	e7.5	14	12	65	72	25	2.2	0.42	0.23
27	0.41	3.8	2.4	e7.4	14	13	54	82	23	2.1	0.40	0.22
28	0.51	3.4	2.7	e7.2	e14	15	47	92	20	1.9	0.39	0.23
29	0.53	e3.1	2.9	e7.1	---	19	44	101	18	1.8	0.40	0.27
30	2.4	e3.2	3.9	e6.9	---	24	39	114	17	1.6	0.38	0.31
31	1.8	---	e10	e6.6	---	29	---	120	---	1.6	0.37	---
TOTAL	9.84	93.62	106.2	296.5	230.7	446	1788	2542	1486	180.0	21.34	9.67
MEAN	0.317	3.121	3.426	9.565	8.239	14.39	59.60	82.00	49.53	5.806	0.688	0.322
MAX	2.4	18	10	21	16	29	130	131	112	15	1.5	0.52
MIN	0.03	0.59	2.1	6.6	4.3	11	35	37	17	1.6	0.37	0.21
AC-FT	20	186	211	588	458	885	3550	5040	2950	357	42	19

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.029	10.25	11.88	16.81	14.65	21.03	42.84	91.44	74.02	21.88	3.793	1.720
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	0.15	1.06	0.80	1.10	1.24	2.52	8.06	18.7	4.59	1.00	0.003	0.005
(WY)	1978	1978	1977	1991	1991	1977	1975	1977	1992	2001	1977	1977

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1973 - 2002	
ANNUAL TOTAL	3897.08		7209.87			
ANNUAL MEAN	10.68		19.75		26.13	
HIGHEST ANNUAL MEAN					59.0 1983	
LOWEST ANNUAL MEAN					5.29 1977	
HIGHEST DAILY MEAN	109	May 15	131	May 18	1390	Jan 1 1997
LOWEST DAILY MEAN	0.00	Aug 13	0.03	Oct 4	0.00	Aug 4 1977
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 13	0.07	Oct 1	0.00	Aug 4 1977
MAXIMUM PEAK FLOW			218	Apr 14	2530	Jan 1 1997
MAXIMUM PEAK STAGE			5.73	Apr 14	9.36	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	7730		14300		18930	
10 PERCENT EXCEEDS	41		68		75	
50 PERCENT EXCEEDS	2.3		5.7		6.6	
90 PERCENT EXCEEDS	0.00		0.29		0.87	

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT									
22...	1415	.27	607	9.2	99	--	85	16.0	8.5
30...	1630	2.4	603	9.4	96	--	84	3.5	6.2
30...	1955	7.4	--	--	--	--	91	2.5	5.2
NOV									
12...	1500	2.1	--	--	--	--	69	4.0	4.0
21...	1445	3.2	603	10.5	101	--	71	3.5	3.8
21...	1945	12	--	--	--	--	69	4.0	4.0
22...	0840	20	600	11.1	99	--	54	.5	1.0
24...	1440	33	--	--	--	--	48	-1.0	.6
28...	1305	3.4	599	11.2	100	--	66	.0	.8
DEC									
29...	1650	3.1	--	--	--	--	62	1.0	.5
31...	1320	15	607	11.4	98	--	55	7.5	.0
JAN									
06...	1255	40	--	--	--	--	47	4.5	.0
07...	1425	20	612	11.1	100	--	51	--	2.0
24...	1355	29	610	11.6	99	--	56	2.1	.0
FEB									
20...	0900	22	604	11.6	100	--	49	3.2	.0
MAR									
04...	1725	13	607	10.4	98	--	52	1.0	3.5
APR									
02...	1800	50	604	10.6	100	--	44	5.0	3.0
05...	0650	68	--	--	--	--	42	-.2	1.5
11...	1055	66	609	10.6	100	--	42	12.0	3.5
15...	0725	118	--	--	--	--	37	-1.5	1.3
24...	1840	52	--	--	--	--	41	10.1	6.0
MAY									
06...	1135	68	--	--	--	--	38	14.1	6.0
06...	1810	122	--	--	--	--	35	10.9	5.3
15...	0635	96	--	--	--	7.2	35	2.0	2.0
16...	1810	132	605	9.7	100	--	32	16.0	6.5
22...	1105	56	--	--	--	--	38	5.0	5.0
29...	1825	135	608	9.6	101	--	29	19.5	7.5
JUN									
06...	1840	109	--	--	--	--	29	18.5	8.5
13...	1255	46	608	8.7	100	--	34	23.0	11.5
20...	1245	35	--	--	--	--	34	22.0	12.5
JUL									
17...	1455	3.9	609	7.2	101	--	51	25.0	20.5
AUG									
21...	1545	.45	608	7.6	100	--	71	18.0	17.5
SEP									
19...	1555	.30	608	7.9	99	--	78	21.5	15.0

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ORTHO- PHOS- PHATE, 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								
22...	<.003	.15	.002	.017	.009	94	<1	<.01
30...	<.003	.35	.004	.041	.020	234	4	.03
30...	<.003	.91	.004	.113	.022	1420	27	.54
NOV								
12...	.007	.20	.003	.034	.016	120	7	.04
21...	.003	.15	.003	.031	.015	136	5	.04
21...	<.003	.34	.003	.067	.021	959	17	.55
22...	<.003	.25	.057	.032	.006	233	9	.49
24...	.003	.30	.026	.041	.006	267	10	.89
28...	.005	.12	.002	.014	.005	48	1	.01
DEC								
29...	.004	.14	.002	.021	.006	50	2	.02
31...	.003	.20	.004	.020	.006	136	3	.12
JAN								
06...	.006	.32	.011	.035	.008	321	13	1.4
07...	.007	.50	.014	.017	.007	55	2	.11
24...	<.003	.17	.002	.031	.005	31	1	.08
FEB								
20...	<.003	.18	.008	.024	.007	169	5	.30
MAR								
04...	<.003	.12	.003	.015	.006	29	2	.07
APR								
02...	<.003	.62	.002	.028	.002	310	20	2.7
05...	<.003	.26	.017	.025	.003	148	10	1.8
11...	.003	.11	.002	.013	.004	61	4	.71
15...	<.003	.23	.025	.023	.004	222	15	4.8
24...	.004	.17	.004	.013	.003	72	4	.56
MAY								
06...	<.003	.25	.002	.011	.003	50	3	.55
06...	<.003	.19	.003	.033	.002	364	22	7.2
15...	<.003	.13	.012	.014	.004	65	5	1.3
16...	<.003	.14	.002	.023	.005	--	17	6.1
22...	<.003	.17	.003	.013	.004	39	5	.76
29...	<.003	.40	.002	.032	.002	294	23	8.4
JUN								
06...	.003	.12	.002	.025	.002	177	8	2.4
13...	.004	.11	.002	.011	.004	79	3	.37
20...	.003	.07	.003	.017	.004	43	2	.19
JUL								
17...	.005	<.04	.003	.033	.010	26	2	.02
AUG								
21...	<.003	.07	.003	.022	.007	34	1	<.01
SEP								
19...	.003	.34	.003	.015	.010	54	2	<.01

< Actual value is known to be less than the value shown.

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

(Lake Tahoe Interagency Monitoring Program)

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.—7.41 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 1990 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,850 ft above NGVD of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 166 ft³/s, June 27, 1995, gage height, 6.19 ft; minimum daily, 1.9 ft³/s, Dec. 21, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 1	1015	*38	4.99

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.3	3.3	3.8	e3.4	4.0	6.6	8.9	28	7.6	4.6	3.8
2	3.2	3.2	e3.4	4.1	3.3	e3.5	7.3	9.5	26	7.3	4.5	3.7
3	3.3	3.1	e3.4	4.0	3.3	e3.6	8.3	11	24	7.1	4.5	3.7
4	3.3	3.1	e3.5	3.9	3.3	3.7	9.1	12	23	6.9	4.5	3.8
5	3.3	3.1	e3.6	3.9	3.3	3.7	9.4	13	23	6.8	4.4	3.8
6	3.3	3.1	3.7	5.8	3.3	3.9	9.4	14	23	6.6	4.4	3.9
7	3.3	3.1	3.7	4.8	3.4	4.0	9.2	16	21	6.5	4.2	3.9
8	3.4	3.1	3.7	4.3	3.4	e3.8	9.3	16	20	6.3	4.1	3.9
9	3.4	3.1	3.7	4.0	3.3	3.8	9.3	16	18	6.1	4.0	3.8
10	3.4	3.1	3.6	4.0	3.3	3.6	9.8	16	17	5.9	4.0	3.8
11	3.4	3.5	3.6	3.9	3.4	3.7	11	15	16	5.8	4.0	3.7
12	3.4	3.4	3.6	3.9	3.4	3.9	12	16	15	6.1	4.0	3.7
13	3.4	3.4	3.6	3.8	3.4	3.7	12	17	16	6.2	3.9	3.7
14	3.4	3.4	3.7	3.8	3.4	4.1	16	19	14	5.9	3.9	3.6
15	3.4	3.4	3.6	e3.8	3.4	e3.6	15	20	13	5.6	3.9	3.4
16	3.4	3.3	3.6	e3.8	3.4	e3.6	12	21	13	5.5	3.8	3.5
17	3.4	3.3	3.6	e3.8	3.4	e3.6	10	23	13	5.4	3.8	3.5
18	3.5	3.1	3.6	e3.8	3.4	3.5	9.1	24	13	6.5	3.8	3.5
19	3.5	3.1	3.6	e3.8	3.6	3.6	8.5	23	12	6.2	3.8	3.5
20	3.5	3.1	3.6	3.8	4.2	3.7	8.3	21	12	5.7	3.8	3.5
21	3.6	5.4	3.6	3.6	3.9	3.9	8.6	18	12	5.5	3.8	3.5
22	3.6	6.3	3.6	3.5	3.9	4.0	9.3	17	11	5.3	3.9	3.5
23	3.6	3.6	3.6	3.6	3.9	4.0	10	16	11	5.2	3.9	3.5
24	3.6	5.7	3.6	3.4	3.8	3.8	11	17	11	5.0	3.8	3.4
25	3.6	5.2	3.6	3.4	3.7	3.7	12	19	11	5.0	3.8	3.4
26	3.6	7.4	3.6	3.5	3.9	3.7	11	19	11	4.9	3.8	3.4
27	3.6	6.2	3.6	3.4	3.9	4.0	11	20	9.0	4.9	3.8	3.4
28	3.6	3.5	3.7	3.4	3.9	4.3	10	21	8.5	4.8	3.8	3.5
29	3.6	3.4	3.8	e3.4	---	5.0	9.7	23	8.1	4.7	3.8	3.5
30	4.4	3.3	3.9	e3.4	---	5.5	9.3	24	7.8	4.7	3.9	3.6
31	3.6	---	4.3	e3.4	---	6.0	---	26	---	4.6	3.8	---
TOTAL	107.8	114.3	112.6	118.8	99.2	122.5	303.5	551.4	460.4	180.6	124.0	108.4
MEAN	3.477	3.810	3.632	3.832	3.543	3.952	10.12	17.79	15.35	5.826	4.000	3.613
MAX	4.4	7.4	4.3	5.8	4.2	6.0	16	26	28	7.6	4.6	3.9
MIN	3.2	3.1	3.3	3.4	3.3	3.5	6.6	8.9	7.8	4.6	3.8	3.4
AC-FT	214	227	223	236	197	243	602	1090	913	358	246	215

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.015	5.284	5.655	6.572	5.305	6.524	10.39	25.01	29.75	15.37	7.239	5.517
MAX	7.87	8.20	14.2	24.9	11.4	14.2	22.3	48.1	84.9	62.1	20.0	10.7
(WY)	1999	1997	1997	1997	1997	1997	1997	1997	1995	1995	1995	1998
MIN	2.91	2.93	2.63	2.59	2.65	3.25	5.18	8.81	4.10	3.41	2.93	3.02
(WY)	1993	1993	1993	1991	1991	1991	1991	1992	1992	2001	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	1786.4		2403.5			
ANNUAL MEAN	4.894		6.585		10.92	
HIGHEST ANNUAL MEAN					19.8	
LOWEST ANNUAL MEAN					4.48	
HIGHEST DAILY MEAN	18	May 12	28	Jun 1	130	Jun 28 1995
LOWEST DAILY MEAN	2.8	Aug 18	3.1	Nov 3	1.9	Dec 21 1990
ANNUAL SEVEN-DAY MINIMUM	2.8	Aug 25	3.1	Nov 3	2.4	Dec 17 1990
MAXIMUM PEAK FLOW			38	Jun 1	166	Jun 27 1995
MAXIMUM PEAK STAGE			5.36	Dec 3	6.19	Jun 27 1995
ANNUAL RUNOFF (AC-FT)	3540		4770		7910	
10 PERCENT EXCEEDS	7.9		16		23	
50 PERCENT EXCEEDS	3.9		3.9		5.9	
90 PERCENT EXCEEDS	3.0		3.4		3.2	

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.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: September 1997 to current year.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Water temperature monitor records represent water temperature at probe within 0.5°C. Water temperature records for September 1997 were not published but are available from the U.S. Geological Survey, in Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 14.0°C, July 10, 2002; minimum, freezing point on many days.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, 14.0°C, July 10; minimum, freezing point, many days November, January, and February.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
		OCT 02...	1330	3.3	60	23.0	7.7	<.003
SEP 11...	1620	3.6	54	17.5	7.5	.003	.16	.006

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, 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 02...	.016	--	.009	74	1
SEP 11...	.015	.014	.010	68	2	.02

< Actual value is known to be less than the value shown.

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

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.0	6.0	7.0	4.0	2.0	3.0	1.0	0.5	1.0	3.0	2.0	2.5
2	8.5	6.0	7.5	4.0	2.5	3.0	1.0	0.5	0.5	2.5	2.5	2.5
3	8.5	6.0	7.5	4.0	2.0	3.0	0.5	0.5	0.5	2.5	1.0	2.0
4	8.0	6.0	7.0	4.0	2.5	3.5	0.5	0.5	0.5	1.5	0.5	1.0
5	7.5	5.5	6.5	4.0	2.5	3.5	1.0	0.5	0.5	2.5	1.5	2.0
6	7.5	5.5	6.5	4.0	2.5	3.5	1.5	1.0	1.5	2.5	2.5	2.5
7	7.5	5.0	6.5	3.0	2.0	2.5	1.5	1.0	1.5	2.5	2.0	2.5
8	7.0	5.0	6.0	3.0	1.5	2.5	2.0	1.0	1.5	3.0	2.0	2.5
9	6.0	3.5	4.5	3.0	1.5	2.5	2.0	1.5	1.5	2.0	1.5	2.0
10	5.5	2.5	4.0	3.5	1.5	2.5	1.5	1.0	1.5	2.0	1.0	1.5
11	6.0	4.5	5.5	4.5	3.5	4.0	1.5	1.0	1.5	2.0	1.0	1.5
12	6.0	3.5	5.0	4.0	2.5	3.0	1.5	1.0	1.5	2.0	1.5	2.0
13	6.0	3.0	4.5	3.0	2.5	2.5	2.0	1.5	2.0	1.5	0.5	1.0
14	6.5	4.0	5.5	3.5	2.5	3.0	1.5	1.0	1.0	1.0	0.5	1.0
15	6.5	4.0	5.5	4.0	2.5	3.0	1.0	0.5	0.5	0.5	0.5	0.5
16	6.5	4.5	5.5	4.0	3.0	3.5	2.0	1.0	1.5	0.5	0.5	0.5
17	6.5	4.0	5.5	3.5	2.5	3.0	2.0	1.5	1.5	0.5	0.5	0.5
18	6.0	4.0	5.0	2.5	1.5	2.0	1.5	0.5	1.0	0.5	0.5	0.5
19	6.0	3.5	5.0	3.5	1.5	2.5	2.0	1.5	1.5	0.5	0.5	0.5
20	6.0	4.0	5.0	4.0	3.0	3.5	2.0	1.5	1.5	1.0	0.5	0.5
21	5.5	4.0	5.0	4.0	3.0	3.5	1.5	1.0	1.5	1.0	1.0	1.0
22	5.0	3.0	4.0	3.5	1.0	2.0	1.5	1.5	1.5	1.0	0.5	0.5
23	5.5	4.0	4.5	1.5	0.5	1.0	2.0	1.0	1.5	0.5	0.5	0.5
24	4.5	2.5	3.5	2.0	0.0	1.0	1.5	0.5	1.0	1.5	0.5	0.5
25	5.0	3.0	4.0	0.0	0.0	0.0	2.5	1.0	1.5	1.5	1.5	1.5
26	5.0	3.5	4.5	0.0	0.0	0.0	2.5	2.0	2.5	1.5	1.5	1.5
27	5.5	4.0	5.0	0.0	0.0	0.0	2.5	2.5	2.5	1.5	1.0	1.5
28	5.5	4.0	5.0	1.0	0.0	0.5	2.5	2.5	2.5	1.0	0.5	0.5
29	6.0	4.0	5.0	1.0	0.5	0.5	3.0	2.5	2.5	0.5	0.5	0.5
30	6.0	4.0	5.5	1.0	0.5	0.5	3.0	2.5	3.0	0.5	0.0	0.0
31	4.0	3.5	4.0	---	---	---	2.5	2.5	2.5	0.5	0.0	0.0
MONTH	8.5	2.5	5.3	4.5	0.0	2.3	3.0	0.5	1.5	3.0	0.0	1.2
	FEBRUARY			MARCH			APRIL			MAY		
1	1.0	0.0	0.0	1.5	0.5	1.0	4.0	1.5	3.0	4.5	0.5	2.5
2	1.0	0.5	0.5	1.5	0.5	0.5	4.5	2.0	3.0	6.5	2.0	4.0
3	1.0	0.5	0.5	1.5	0.5	1.0	4.5	2.0	3.0	7.0	2.5	4.5
4	1.0	0.5	0.5	2.0	0.5	1.0	4.5	2.0	3.0	6.5	2.5	4.5
5	1.5	0.5	1.0	2.5	1.5	2.0	4.5	2.0	3.0	7.5	2.0	4.5
6	1.5	0.5	1.0	2.5	0.5	2.0	4.5	1.5	3.0	7.5	2.0	4.5
7	1.5	1.0	1.5	1.0	0.5	0.5	4.5	2.0	3.0	7.5	2.5	4.5
8	1.5	1.0	1.0	0.5	0.5	0.5	4.5	2.0	3.0	7.0	1.5	4.0
9	1.5	0.5	1.0	1.5	0.5	1.0	4.0	2.5	3.0	7.0	2.0	4.0
10	2.0	1.0	1.5	2.0	1.0	1.5	5.0	2.0	3.5	5.5	2.0	3.5
11	2.0	1.5	1.5	2.5	1.0	1.5	5.5	2.5	3.5	7.0	2.0	4.0
12	2.0	1.5	2.0	3.0	2.0	2.5	5.5	2.0	3.5	7.0	2.0	4.5
13	2.0	1.5	2.0	2.0	0.5	1.0	6.0	2.0	3.5	7.0	2.5	4.5
14	2.5	2.0	2.5	0.5	0.5	0.5	6.0	2.5	3.5	8.0	2.5	5.0
15	2.5	2.0	2.0	0.5	0.5	0.5	3.0	1.0	2.0	7.5	2.5	4.5
16	2.5	2.0	2.0	0.5	0.5	0.5	3.5	0.5	1.5	8.0	2.5	5.0
17	2.0	1.5	1.5	1.0	0.5	0.5	1.5	0.5	1.0	9.0	3.0	5.5
18	2.0	1.0	1.5	1.0	0.5	0.5	1.5	0.5	1.0	8.5	3.5	5.5
19	2.5	2.0	2.0	2.0	0.5	1.0	3.0	1.0	1.5	6.5	3.5	5.0
20	2.5	2.0	2.5	2.0	1.0	1.5	3.5	0.5	2.0	4.5	2.0	3.0
21	2.5	2.0	2.5	2.5	2.0	2.5	5.0	1.0	3.0	5.0	1.5	3.0
22	3.0	2.0	2.5	3.0	2.0	2.5	6.0	1.5	3.5	6.5	0.5	3.5
23	2.5	2.0	2.5	2.5	1.0	1.5	6.5	2.0	3.5	7.5	2.0	4.5
24	2.0	1.0	1.5	2.5	1.5	2.0	6.5	2.5	4.0	8.5	3.0	6.0
25	2.0	1.0	1.5	2.5	0.5	1.5	6.0	2.5	4.0	8.5	4.0	6.5
26	2.5	1.0	2.0	3.0	1.5	2.0	4.0	3.0	3.5	9.0	4.0	6.5
27	2.5	1.5	2.0	3.0	1.0	2.0	5.0	2.0	3.5	8.5	4.5	6.5
28	2.5	0.5	1.5	3.5	2.0	2.5	4.5	1.5	2.5	10.5	4.5	7.5
29	---	---	---	3.5	2.0	3.0	3.0	0.5	2.0	11.5	6.0	8.5
30	---	---	---	4.0	1.5	2.5	4.5	1.5	2.5	11.5	6.0	9.0
31	---	---	---	4.0	1.5	2.5	---	---	---	11.5	6.0	9.0
MONTH	3.0	0.0	1.6	4.0	0.5	1.5	6.5	0.5	2.9	11.5	0.5	5.1

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

(Lake Tahoe Interagency Monitoring Program)

LOCATION.—Lat 38°54'13", long 119°58'04", in SE 1/4 NE 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.—23.1 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 fair except for estimated daily discharges, which are poor. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 525 ft³/s, Jan. 2, 1997, gage height, 7.59 ft; minimum daily, 2.0 ft³/s, Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 1	0115	*49	*2.38

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	6.0	e8.4	e8.4	e7.7	e11	18	23	46	15	7.8	5.6
2	4.6	5.7	e8.4	11	e7.7	e11	20	23	40	15	7.7	5.5
3	4.5	5.6	e8.4	11	e7.7	e11	22	24	36	14	7.5	5.5
4	4.3	5.5	e8.4	e10	e7.7	e11	25	25	36	14	7.4	5.5
5	4.3	5.5	e8.4	11	e7.7	9.7	26	27	37	14	7.3	5.6
6	4.4	5.5	e8.4	14	e7.7	e10	25	28	37	14	7.3	5.7
7	4.4	5.5	e8.4	13	e7.7	e10	24	30	36	13	7.1	5.8
8	4.5	5.5	e8.4	11	e7.7	e10	24	29	34	13	7.0	5.8
9	4.5	5.9	e8.4	9.8	e7.7	e10	25	28	32	13	6.9	5.8
10	4.6	5.5	e8.4	9.7	e7.7	10	25	28	31	12	6.8	5.7
11	4.6	6.1	e8.4	e9.5	e7.7	e11	26	26	29	12	6.7	5.6
12	4.6	6.6	e8.4	e9.3	e7.7	10	28	27	28	12	6.6	5.5
13	4.6	6.6	e8.4	e9.3	e7.7	11	28	29	28	13	6.4	5.5
14	4.6	6.3	e8.4	e9.3	e7.7	9.7	33	30	27	12	6.4	5.5
15	4.5	6.3	e8.4	9.3	e7.7	e10	34	33	26	12	6.3	5.3
16	4.5	6.2	e8.4	9.3	e7.7	e11	28	33	25	11	6.1	5.4
17	4.5	5.9	e8.4	e9.3	7.6	11	27	35	24	12	6.0	5.5
18	4.5	5.8	e8.4	9.3	7.7	11	25	38	24	14	6.0	5.6
19	4.6	5.7	e8.4	e8.8	8.1	e11	23	39	23	14	6.0	5.6
20	4.6	5.7	e8.4	e8.4	e10	e11	23	35	22	12	5.9	5.5
21	4.5	7.9	e8.4	e8.0	e10	11	23	32	22	11	6.0	5.4
22	4.6	18	e8.4	e7.7	e10	11	24	28	21	10	6.1	5.3
23	4.7	9.0	e8.4	e7.7	e10	e11	24	27	20	9.8	6.1	5.3
24	4.6	13	e8.4	e7.7	e10	10	25	28	19	9.3	6.1	5.2
25	4.7	10	e8.4	e7.7	e10	11	26	30	18	8.9	6.0	5.2
26	4.7	14	e8.4	e7.7	e10	10	27	30	18	8.7	5.9	5.2
27	4.7	8.9	e8.4	e7.7	10	11	26	32	17	8.6	6.0	5.3
28	4.7	8.5	e8.4	e7.7	11	13	24	32	17	8.4	5.9	5.4
29	4.7	e8.5	e8.4	e7.7	---	14	25	35	16	8.1	5.8	5.5
30	5.8	e8.4	e8.4	e7.7	---	16	24	40	16	8.0	5.7	5.6
31	7.3	---	e8.4	e7.7	---	17	---	44	---	7.9	5.7	---
TOTAL	145.3	223.6	260.4	285.7	237.6	345.4	757	948	805	359.7	200.5	164.9
MEAN	4.687	7.453	8.400	9.216	8.486	11.14	25.23	30.58	26.83	11.60	6.468	5.497
MAX	7.3	18	8.4	14	11	17	34	44	46	15	7.8	5.8
MIN	4.3	5.5	8.4	7.7	7.6	9.7	18	23	16	7.9	5.7	5.2
AC-FT	288	444	517	567	471	685	1500	1880	1600	713	398	327

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.126	10.06	11.97	17.72	15.05	20.78	29.95	55.13	59.03	32.08	12.85	9.238
MAX	15.4	18.7	34.2	87.8	38.2	42.0	54.9	107	158	142	35.8	19.0
(WY)	1999	1997	1997	1997	1997	1997	1996	1996	1995	1995	1995	1995
MIN	4.49	5.03	4.05	4.70	5.49	7.85	12.2	14.2	7.66	5.64	4.11	4.08
(WY)	1991	1991	1991	1991	1993	1992	1991	1992	1992	2001	2001	1992

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	3356.0		4733.1			
ANNUAL MEAN	9.195		12.97		24.18	
HIGHEST ANNUAL MEAN					46.9	
LOWEST ANNUAL MEAN					7.71	
HIGHEST DAILY MEAN	28	May 12	46	Jun 1	457	Jan 2 1997
LOWEST DAILY MEAN	3.8	Aug 19	4.3	Oct 4	2.0	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	3.9	Aug 26	4.4	Oct 3	2.8	Dec 21 1990
MAXIMUM PEAK FLOW			49	Jun 1	525	Jan 2 1997
MAXIMUM PEAK STAGE			2.38	Jun 1	7.59	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	6660		9390		17510	
10 PERCENT EXCEEDS	16		28		57	
50 PERCENT EXCEEDS	8.4		8.5		13	
90 PERCENT EXCEEDS	4.1		5.4		5.2	

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: September 1997 to current year.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Water temperature records represent water temperature at probe within 0.5°C. Interruptions in water temperature record due to instrument malfunction and loss of communication between stream and sensor. Water temperature data for September 1997 were not published but are available for the U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 22.0°C, July 2, 2001; minimum, freezing point on many days.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, presumably not measured during instrument malfunction; minimum, freezing point, many days November to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-AIR (DEG C) (00020)	TEMPER-WATER (DEG C) (00010)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORG-ANIC DIS-SOLVED (MG/L AS N) (00623)
OCT									
02...	1520	4.7	--	--	63	23.0	14.2	<.003	--
NOV									
07...	1040	5.5	--	--	61	9.5	2.6	<.003	--
DEC									
11...	0945	16	597	7.4	59	-1.5	.3	.004	.13
SEP									
11...	1510	5.8	--	--	57	23.0	11.9	<.003	--

Date	NITRO-GEN, AM-MONIA + ORG-ANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT-IVE TOTAL (UG/L AS FE) (46568)	SEDI-MENT, CHARGE, SUS-PENDE-D (MG/L) (80154)	SEDI-MENT, DIS-SUS-PENDE-D (T/DAY) (80155)
OCT								
02...	.22	.002	.020	--	.009	161	1	.01
NOV								
07...	.17	.003	.012	--	.006	167	3	.04
DEC								
11...	.20	.003	.014	.015	.006	189	2	.09
SEP								
11...	<.04	.003	.015	.016	.009	147	1	.02

< Actual value is known to be less than the value shown.

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

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.5	6.0	9.5	6.5	1.5	4.0	0.0	0.0	0.0	0.5	0.0	0.0
2	14.5	6.5	10.0	6.0	1.5	3.5	0.0	0.0	0.0	1.5	0.5	1.0
3	14.5	6.0	9.5	6.0	1.5	3.5	0.0	0.0	0.0	2.0	0.0	1.0
4	14.0	6.0	9.5	6.5	1.5	3.5	0.0	0.0	0.0	0.5	0.0	0.0
5	13.5	6.0	9.0	6.5	1.5	3.5	0.0	0.0	0.0	1.0	0.0	0.5
6	12.5	6.0	9.0	6.5	1.5	3.5	0.0	0.0	0.0	2.0	1.0	1.0
7	12.5	5.0	8.5	5.5	1.0	3.0	0.5	0.0	0.0	2.5	0.5	1.5
8	11.0	6.5	8.0	5.0	0.0	2.0	0.5	0.0	0.0	3.0	1.0	2.0
9	10.5	3.5	6.5	4.0	0.0	1.5	0.0	0.0	0.0	2.0	0.0	1.0
10	9.5	2.0	5.5	4.5	0.0	2.0	0.0	0.0	0.0	1.5	0.0	0.5
11	9.5	4.5	6.5	5.5	3.0	4.0	0.5	0.0	0.0	0.5	0.0	0.5
12	10.5	3.5	6.5	5.0	2.0	3.0	0.5	0.0	0.0	1.5	0.0	0.5
13	10.0	2.5	6.0	4.5	2.0	3.0	0.5	0.0	0.0	0.5	0.0	0.0
14	9.0	3.0	6.0	5.5	2.0	3.5	0.0	0.0	0.0	0.5	0.0	0.0
15	9.5	3.5	6.0	4.5	1.0	3.0	0.5	0.0	0.0	0.5	0.0	0.0
16	9.5	3.5	6.5	5.5	2.0	3.5	0.5	0.0	0.0	0.5	0.0	0.0
17	9.0	3.5	6.0	5.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
18	10.0	3.5	6.5	4.5	1.0	2.5	0.5	0.0	0.0	0.5	0.0	0.0
19	8.5	2.5	5.5	4.5	0.5	2.0	0.5	0.0	0.0	0.5	0.0	0.0
20	9.5	3.5	6.5	5.0	1.0	3.0	0.5	0.0	0.0	0.5	0.0	0.0
21	9.5	3.0	6.0	4.5	3.0	3.5	0.5	0.0	0.0	0.5	0.0	0.0
22	9.0	3.0	5.5	4.0	2.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
23	9.5	4.0	6.0	3.0	0.5	1.5	0.5	0.0	0.0	0.0	0.0	0.0
24	8.0	2.0	5.0	3.0	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0
25	8.0	2.0	4.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	8.5	2.5	5.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	8.5	3.0	5.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
28	8.5	3.0	5.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
29	8.0	3.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	7.5	5.5	6.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
31	7.5	4.0	5.5	---	---	---	0.5	0.0	0.0	0.0	0.0	0.0
MONTH	14.5	2.0	6.7	6.5	0.0	2.4	0.5	0.0	0.0	3.0	0.0	0.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	0.0	0.0	0.0	1.5	0.0	0.5	7.5	1.0	3.5	---	---	---
2	0.0	0.0	0.0	1.5	0.0	0.0	8.0	1.5	4.0	---	---	---
3	0.0	0.0	0.0	1.5	0.0	0.0	8.0	1.5	4.5	---	---	---
4	0.0	0.0	0.0	2.0	0.0	0.5	7.0	2.0	4.0	---	---	---
5	0.0	0.0	0.0	4.5	0.0	2.0	7.0	2.0	4.0	---	---	---
6	0.0	0.0	0.0	2.5	0.0	1.0	7.0	2.0	4.0	---	---	---
7	0.0	0.0	0.0	0.0	0.0	0.0	7.5	2.0	4.5	---	---	---
8	0.0	0.0	0.0	0.5	0.0	0.0	7.0	2.0	4.5	---	---	---
9	0.0	0.0	0.0	0.5	0.0	0.0	5.5	2.5	4.0	---	---	---
10	0.0	0.0	0.0	0.5	0.0	0.0	8.0	3.0	5.0	---	---	---
11	0.0	0.0	0.0	2.5	0.0	0.5	8.5	3.5	5.5	---	---	---
12	0.5	0.0	0.0	4.0	0.5	2.0	8.5	3.0	5.5	---	---	---
13	0.0	0.0	0.0	2.5	0.0	1.0	8.5	2.5	5.5	---	---	---
14	0.0	0.0	0.0	2.0	0.0	0.5	9.5	3.5	6.0	---	---	---
15	0.5	0.0	0.0	0.0	0.0	0.0	5.5	2.5	3.5	---	---	---
16	0.5	0.0	0.0	0.0	0.0	0.0	4.0	1.0	2.0	---	---	---
17	0.5	0.0	0.0	0.5	0.0	0.0	3.0	0.0	1.0	---	---	---
18	0.5	0.0	0.0	1.5	0.0	0.0	2.0	0.0	1.0	---	---	---
19	0.5	0.0	0.0	2.0	0.0	0.5	4.5	0.5	2.0	---	---	---
20	0.5	0.0	0.0	3.5	0.0	1.0	6.0	0.5	3.0	---	---	---
21	1.0	0.0	0.0	5.5	0.0	2.0	8.0	1.0	4.0	---	---	---
22	1.5	0.0	0.5	5.5	0.0	2.5	---	---	---	---	---	---
23	2.0	0.5	1.0	2.5	0.0	1.0	---	---	---	---	---	---
24	3.0	0.0	1.0	4.5	0.5	2.0	---	---	---	---	---	---
25	3.0	0.0	1.0	4.0	0.0	2.0	---	---	---	---	---	---
26	3.0	0.0	1.0	6.5	0.5	3.0	---	---	---	---	---	---
27	4.0	0.0	1.5	6.5	0.0	3.0	---	---	---	---	---	---
28	3.5	0.0	1.0	7.0	0.5	3.0	---	---	---	---	---	---
29	---	---	---	7.5	1.0	3.5	---	---	---	---	---	---
30	---	---	---	7.5	1.0	3.5	---	---	---	---	---	---
31	---	---	---	7.5	1.0	3.5	---	---	---	---	---	---
MONTH	4.0	0.0	0.2	7.5	0.0	1.2	---	---	---	---	---	---

10336779 COLD CREEK AT MOUTH, CA

(Lake Tahoe Interagency Monitoring Program)

LOCATION.—Lat 38°54'44", long 119°58'06", in SE 1/4 SE 1/4 sec.03, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank, 600 ft upstream of mouth, about 0.5 mi downstream from Pioneer Trail Road, and 1.7 mi south of South Lake Tahoe.

DRAINAGE AREA.—12.8 mi².

PERIOD OF RECORD.—September 1997 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: September 1997 to current year.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

REMARKS.—In September 1997, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor streamflows and water temperature within the Upper Truckee River–Trout Creek watershed. Records represent water temperature at probe within 0.5°C. Interruptions in record due to loss of communication between stream and sensor. Water temperature data for September 1997 were not published but are available from the U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 18.5°C, July 26, Aug. 10, 2001; minimum, freezing point on many days.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, 17.5°C, July 14; minimum, freezing point, many days November to April.

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.0	7.0	9.5	6.5	2.5	4.5	1.0	0.0	0.5	3.5	2.0	2.5
2	13.0	7.0	9.5	6.5	3.0	4.5	0.5	0.0	0.5	4.0	2.5	3.0
3	12.5	7.0	9.5	6.5	3.0	4.5	0.0	0.0	0.0	3.5	1.0	2.5
4	12.5	7.0	9.0	7.0	3.0	4.5	0.0	0.0	0.0	1.5	0.0	1.0
5	12.0	6.5	9.0	7.0	3.0	4.5	0.0	0.0	0.0	3.0	0.5	2.0
6	11.0	6.5	8.5	6.5	3.0	4.5	1.0	0.0	0.5	4.0	2.0	3.0
7	11.0	6.0	8.5	5.5	2.0	4.0	1.5	0.5	1.0	4.0	2.0	2.5
8	10.5	6.5	8.0	5.5	2.0	3.5	2.0	0.0	1.0	4.5	2.0	2.5
9	9.0	4.5	6.5	4.5	1.5	3.0	2.0	1.0	1.5	3.0	1.0	2.0
10	8.5	3.5	6.0	5.0	2.0	3.5	1.5	0.5	1.0	3.0	1.0	1.5
11	9.5	5.5	7.0	6.5	4.0	5.0	1.5	0.5	1.0	2.5	0.5	1.5
12	10.0	5.0	7.0	5.0	3.0	4.0	1.5	0.0	0.5	3.5	1.0	2.0
13	9.0	3.5	6.0	5.5	3.0	4.0	2.5	0.5	1.5	2.0	0.0	1.0
14	9.0	4.5	6.5	6.0	3.0	4.0	1.5	0.0	0.5	2.0	0.0	0.5
15	9.0	4.5	7.0	5.5	2.5	4.0	0.0	0.0	0.0	1.0	0.0	0.5
16	9.5	5.0	7.0	6.0	3.5	4.5	1.0	0.0	0.5	0.5	0.0	0.0
17	8.5	4.5	6.5	5.0	3.0	4.0	1.5	0.5	1.0	0.0	0.0	0.0
18	9.0	4.5	6.5	4.5	2.0	3.0	1.0	0.0	0.5	0.0	0.0	0.0
19	8.5	4.0	6.5	4.5	2.0	3.0	2.0	0.5	1.0	0.0	0.0	0.0
20	9.0	5.0	7.0	5.5	2.5	4.0	1.5	0.0	1.0	0.0	0.0	0.0
21	9.0	4.5	6.5	5.0	3.5	4.5	1.5	0.5	1.0	0.0	0.0	0.0
22	8.0	4.0	6.0	5.0	3.0	4.5	1.5	0.5	1.0	0.5	0.0	0.0
23	9.0	4.5	6.5	3.5	1.5	2.5	2.0	0.5	1.5	0.0	0.0	0.0
24	7.5	3.0	5.5	3.5	0.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0
25	8.0	3.5	5.5	1.5	0.0	0.5	1.5	0.0	0.5	0.5	0.0	0.5
26	8.0	4.0	5.5	0.5	0.0	0.5	3.0	1.5	2.5	1.5	0.5	1.0
27	8.5	4.5	6.0	0.5	0.0	0.5	3.5	2.0	2.5	1.5	0.0	1.0
28	8.5	4.5	6.5	1.5	0.0	1.0	3.0	2.0	2.5	0.0	0.0	0.0
29	8.0	4.5	6.0	1.5	0.0	0.5	3.5	2.0	3.0	0.0	0.0	0.0
30	8.0	6.0	7.0	2.0	0.5	1.0	3.5	2.0	3.0	0.0	0.0	0.0
31	7.0	4.5	5.5	---	---	---	4.0	2.0	2.5	0.0	0.0	0.0
MONTH	13.0	3.0	7.0	7.0	0.0	3.3	4.0	0.0	1.1	4.5	0.0	1.0

PYRAMID AND WINNEMUCCA LAKES BASIN

10336779 COLD CREEK AT MOUTH, CA—Continued

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.0	0.0	0.0	4.0	0.0	1.5	9.5	2.0	5.5	7.5	1.0	4.0
2	0.0	0.0	0.0	4.5	0.0	1.5	10.0	2.5	5.5	10.5	2.0	6.0
3	0.0	0.0	0.0	5.0	0.0	1.5	10.0	2.5	6.0	11.0	3.5	7.0
4	0.0	0.0	0.0	6.0	0.0	2.5	10.0	3.0	5.5	10.0	4.0	7.0
5	0.0	0.0	0.0	7.0	1.0	3.5	8.0	2.5	5.0	11.0	3.5	7.0
6	0.5	0.0	0.0	4.5	0.0	2.5	9.0	2.5	5.5	11.5	3.5	7.5
7	2.0	0.0	0.5	2.5	0.0	1.0	9.5	2.5	5.5	11.5	4.0	7.5
8	2.5	0.0	1.0	2.0	0.0	0.5	8.0	3.0	5.5	10.0	2.5	6.0
9	2.0	0.0	0.5	3.0	0.0	1.0	6.0	3.5	4.5	11.0	3.0	6.5
10	2.5	0.0	1.0	3.5	0.5	1.5	10.0	3.0	5.5	9.0	3.5	6.0
11	3.5	0.5	1.5	6.0	1.0	3.0	10.0	3.5	6.0	11.0	3.5	6.5
12	4.0	1.0	2.0	7.0	2.5	4.0	10.0	3.0	6.0	10.5	3.5	7.0
13	3.5	1.0	2.0	4.5	1.0	2.0	10.0	3.0	6.0	11.5	4.0	7.5
14	4.5	1.5	2.5	2.0	0.0	1.0	11.0	4.0	6.5	12.5	5.0	8.5
15	4.0	1.0	2.5	1.5	0.0	0.5	5.5	2.5	4.0	12.5	5.5	8.5
16	5.0	1.5	2.5	1.5	0.0	0.5	4.5	1.0	2.5	12.5	5.0	8.5
17	3.0	1.0	1.5	3.5	0.0	1.0	4.5	0.0	2.0	13.5	6.0	9.5
18	4.5	1.0	2.0	3.0	0.0	1.0	2.5	0.5	1.5	13.5	6.5	10.0
19	4.0	1.5	2.5	6.5	0.0	2.5	5.5	0.5	2.5	12.0	6.0	8.5
20	5.5	2.0	3.5	7.5	1.0	3.5	7.5	1.0	3.5	8.0	4.0	6.0
21	5.5	1.0	3.0	8.5	1.5	4.0	9.0	1.5	4.5	8.5	2.5	5.0
22	6.0	1.0	3.0	8.5	1.5	4.5	10.0	2.0	5.5	10.0	2.0	5.5
23	5.5	2.0	3.0	4.5	1.0	2.5	10.0	2.5	6.0	11.5	3.5	7.0
24	5.5	0.5	2.5	7.5	1.5	3.5	10.0	3.5	6.5	12.0	4.0	8.0
25	6.0	0.5	2.5	7.5	0.5	3.5	9.5	4.0	6.5	12.0	6.0	9.0
26	6.0	0.5	2.5	9.0	1.5	4.5	7.0	4.0	5.5	13.0	5.5	9.0
27	6.5	1.0	3.0	9.5	1.5	4.5	8.0	3.0	5.0	12.0	6.5	9.0
28	6.0	0.5	2.5	10.0	2.0	5.0	7.0	1.5	4.0	13.5	6.0	10.0
29	---	---	---	10.5	2.0	5.5	4.0	0.5	2.5	15.0	7.5	11.0
30	---	---	---	9.5	2.0	5.0	8.5	1.5	4.0	15.5	8.5	12.0
31	---	---	---	9.5	2.0	5.0	---	---	---	15.0	8.5	12.0
MONTH	6.5	0.0	1.7	10.5	0.0	2.7	11.0	0.0	4.8	15.5	1.0	7.8
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.0	8.5	11.0	15.5	9.5	12.5	16.5	10.5	13.0	---	---	---
2	11.5	5.0	8.5	16.0	10.5	13.0	16.5	10.5	13.0	---	---	---
3	12.5	6.5	9.5	15.5	10.0	12.5	16.0	10.0	12.5	---	---	---
4	13.5	7.5	10.5	15.0	9.0	12.0	15.5	9.5	12.0	---	---	---
5	14.5	8.5	11.5	15.0	9.5	12.0	14.5	9.0	11.5	---	---	---
6	14.0	8.0	11.0	14.5	9.0	12.0	14.0	8.0	10.5	---	---	---
7	13.0	8.0	11.0	16.0	10.5	13.0	13.5	7.0	10.0	---	---	---
8	12.5	7.5	10.0	14.5	9.0	12.0	14.0	7.0	10.0	---	---	---
9	10.0	5.0	7.5	16.0	9.5	12.5	---	---	---	---	---	---
10	11.0	5.0	8.0	17.0	11.0	13.5	---	---	---	---	---	---
11	12.5	6.0	9.5	17.0	11.5	14.0	---	---	---	---	---	---
12	13.0	7.5	10.5	15.0	12.5	13.5	---	---	---	12.5	6.5	9.0
13	13.5	8.5	11.0	17.0	11.0	13.5	---	---	---	13.0	6.5	9.0
14	13.5	7.5	10.5	17.5	12.0	14.5	---	---	---	13.0	6.5	9.5
15	13.0	7.0	10.5	17.0	11.5	14.0	---	---	---	13.5	8.0	10.0
16	13.0	7.0	10.5	16.5	11.0	13.5	---	---	---	11.5	6.5	8.5
17	14.0	8.0	11.0	15.5	11.5	13.0	---	---	---	11.5	6.0	8.0
18	15.0	9.5	12.0	11.5	9.5	10.5	---	---	---	12.0	6.0	8.5
19	14.0	8.5	11.5	14.5	8.5	11.5	---	---	---	12.0	6.0	8.0
20	13.5	9.0	11.5	16.5	10.0	13.0	---	---	---	12.0	6.0	8.5
21	13.0	9.0	11.0	15.0	11.0	13.0	---	---	---	12.5	6.5	9.0
22	13.5	8.0	10.5	15.5	10.0	12.5	---	---	---	12.5	6.5	9.0
23	14.0	9.0	11.5	15.0	9.0	11.5	---	---	---	12.5	6.5	9.0
24	13.5	8.5	11.5	16.0	9.5	12.5	---	---	---	12.0	6.5	9.0
25	15.0	9.5	12.5	15.0	9.0	12.0	---	---	---	12.0	6.0	8.5
26	15.0	10.5	13.0	14.5	8.5	11.0	---	---	---	11.5	6.0	8.0
27	14.5	9.0	12.0	15.5	9.5	12.0	---	---	---	10.0	6.5	8.0
28	14.5	9.0	11.5	16.0	10.0	13.0	---	---	---	10.5	6.0	7.5
29	14.5	9.0	12.0	16.5	10.0	13.0	---	---	---	10.0	4.5	7.0
30	15.0	8.5	12.0	17.0	10.5	13.5	---	---	---	9.0	4.0	6.0
31	---	---	---	16.5	10.5	13.5	---	---	---	---	---	---
MONTH	15.0	5.0	10.8	17.5	8.5	12.7	---	---	---	---	---	---

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA

(Lake Tahoe Interagency Monitoring Program)

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1960 to current year.

GAGE.—Water-stage recorder. Datum of gage is 6,241.57 ft above NGVD of 1929.

REMARKS.—Records good except for estimated daily discharges, which are poor. Minor diversions for local water supply upstream from station. See schematic diagram of [Truckee River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 535 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, and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 15	0045	*69	*5.92

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	10	13	14	e13	16	27	32	62	23	13	10
2	7.9	10	e12	15	e13	e15	30	31	63	22	13	9.9
3	7.8	10	e12	16	e13	e15	35	33	59	22	13	9.8
4	7.8	10	e12	16	e13	16	41	36	57	22	12	9.8
5	7.7	10	e12	19	e13	15	44	38	58	21	12	9.9
6	7.9	10	e12	20	e13	e15	42	40	58	20	12	10
7	7.9	10	e12	19	e13	e15	40	43	57	20	12	10
8	8.0	10	e12	16	e13	e15	41	42	57	19	12	10
9	8.0	10	e12	14	e13	e15	43	41	54	19	12	10
10	8.1	10	e12	13	e13	15	42	41	52	18	12	9.9
11	8.1	11	e12	14	e13	15	44	39	49	18	11	9.7
12	8.1	12	e12	14	e13	16	46	41	47	18	11	9.6
13	8.1	12	12	14	13	16	45	43	47	19	11	9.5
14	8.1	12	e12	e13	13	14	51	46	46	18	11	9.4
15	8.1	11	e12	e13	13	e14	56	50	44	17	11	9.2
16	8.1	11	e12	e13	13	e17	44	50	43	16	11	9.3
17	8.1	11	e12	e13	13	e15	42	53	41	16	11	9.4
18	8.1	11	e12	e13	13	16	39	57	41	19	10	9.5
19	8.1	10	e12	e13	14	17	35	57	40	21	11	9.5
20	7.9	11	13	e13	18	15	33	57	40	17	10	9.3
21	7.9	12	13	e13	16	15	32	52	39	17	11	9.3
22	8.0	26	13	e13	16	17	33	48	38	16	11	9.2
23	8.1	13	12	e13	17	17	34	46	36	16	11	9.1
24	8.0	20	e12	e13	16	15	35	46	34	15	11	9.0
25	8.1	14	e12	e13	16	15	37	47	32	15	10	8.9
26	8.1	17	12	e13	16	15	40	48	30	14	10	9.0
27	8.1	16	12	e13	16	16	37	48	28	14	10	9.0
28	8.1	13	12	e13	16	18	34	47	26	14	10	9.1
29	8.0	e12	13	e13	---	20	36	50	25	14	10	9.4
30	9.4	e12	13	e13	---	23	34	56	24	13	10	9.5
31	12	---	e13	e13	---	25	---	60	---	13	10	---
TOTAL	253.4	367	379	438	395	503	1172	1418	1327	546	345	285.2
MEAN	8.174	12.23	12.23	14.13	14.11	16.23	39.07	45.74	44.23	17.61	11.13	9.507
MAX	12	26	13	20	18	25	56	60	63	23	13	10
MIN	7.7	10	12	13	13	14	27	31	24	13	10	8.9
AC-FT	503	728	752	869	783	998	2320	2810	2630	1080	684	566

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.21	19.54	20.98	24.39	24.92	29.87	43.48	77.73	91.53	49.16	24.00	17.26
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	5018.7		7428.6			
ANNUAL MEAN	13.75		20.35		36.69	
HIGHEST ANNUAL MEAN					85.3 1983	
LOWEST ANNUAL MEAN					10.2 1977	
HIGHEST DAILY MEAN	39	May 12	63	Jun 2	501	Jan 2 1997
LOWEST DAILY MEAN	5.9	Aug 29	7.7	Oct 1	2.5	Sep 7 1988
ANNUAL SEVEN-DAY MINIMUM	6.7	Aug 27	7.8	Oct 1	3.0	Sep 9 1977
MAXIMUM PEAK FLOW			69	Apr 15	535	Feb 1 1963
MAXIMUM PEAK STAGE			5.92	Apr 15	11.14	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	9950		14730		26580	
10 PERCENT EXCEEDS	24		44		82	
50 PERCENT EXCEEDS	12		13		22	
90 PERCENT EXCEEDS	7.6		9.2		9.0	

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1974, 1978, 1980–85, 1988, 1997 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: March 1981 to September 1983.

WATER TEMPERATURE: September 1997 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to September 1985, October 1987 to September 1988.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

REMARKS.—In October 1992, station was incorporated into the expanded Lake Tahoe Interagency Monitoring Program to monitor tributary contributions of nutrients and sediment to Lake Tahoe. Water temperature records represent water temperature probe within 0.5°C.

Interruptions in record due to vandalism of sensor. Water temperature data for September 1997 were not published but are available from the U.S. Geological Survey, Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 160 microsiemens, Aug. 24, 1981; minimum recorded 14 microsiemens, May 28, 1982.

WATER TEMPERATURE: Maximum, 21.5°C, Aug. 10, 12, 13, 17, 29, 2001; minimum, freezing point on many days during winter months.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 162 tons, Feb. 16, 1982; minimum daily, 0 ton, Oct. 15, 16, 1973.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 20.5°C, July 14, August 14; minimum, freezing point, many days January to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DIS-SOLVED (MG/L) (00940)	NITROGEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L) (00623)
JUN 28...	1620	27	7.4	34	23.5	16.5	.38	<.003	.39

Date	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L) AS N (00625)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	PHOSPHORUS TOTAL (MG/L) AS P (00665)	PHOSPHORUS DIS-SOLVED (MG/L) AS P (00666)	ORTHOPHOSPHATE, DIS-SOLVED (MG/L) AS P (00671)	IRON, BIO. REACTIVE TOTAL (UG/L) AS FE (46568)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
JUN 28...	.16	.002	.031	.016	.009	310	8

< Actual value is known to be less than the value shown.

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA—Continued

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.0	8.5	10.5	18.0	9.5	13.5	19.0	11.5	15.0	18.5	10.0	13.5
2	12.0	6.0	8.5	18.5	10.5	14.0	19.0	11.5	15.0	18.0	10.0	13.5
3	13.0	6.5	9.5	18.0	10.0	13.5	19.0	11.0	14.5	17.5	10.0	13.0
4	14.0	7.5	10.5	17.5	9.0	13.0	18.0	10.5	14.0	15.5	10.5	12.5
5	15.0	8.5	11.5	18.0	9.5	13.5	17.5	10.5	13.5	16.5	9.5	12.5
6	14.5	8.5	11.0	17.5	9.5	13.5	17.0	9.0	12.5	16.5	10.0	12.5
7	14.0	8.5	11.0	19.0	10.5	14.5	16.5	8.5	12.0	14.5	7.0	10.0
8	13.5	8.0	10.0	18.0	9.5	13.5	17.0	8.5	12.0	14.0	6.5	9.5
9	11.0	5.5	8.0	19.0	9.5	14.0	17.5	9.0	13.0	14.5	6.0	9.5
10	12.5	5.0	8.5	20.0	10.5	15.0	18.0	10.0	13.5	15.0	6.5	10.0
11	13.5	6.0	9.5	19.0	11.5	15.0	16.5	10.5	13.5	15.5	7.0	10.5
12	14.0	7.5	10.5	16.0	13.0	14.5	19.0	10.5	14.0	15.5	7.5	11.0
13	14.0	8.5	11.0	18.5	11.5	14.5	19.5	11.5	15.0	16.0	7.5	11.0
14	15.0	8.0	11.0	20.5	12.5	16.0	20.5	12.0	15.5	15.0	8.0	11.0
15	14.5	7.0	10.5	19.5	12.0	15.5	20.0	12.0	15.5	15.0	8.5	11.0
16	14.5	7.0	10.5	19.5	11.5	15.0	20.0	11.5	15.0	15.0	7.5	10.5
17	16.0	8.0	11.5	16.5	12.0	14.5	18.5	10.5	14.5	13.5	7.0	9.5
18	17.0	9.5	12.5	13.5	10.0	11.5	19.0	10.0	14.0	14.5	6.5	10.0
19	16.0	9.0	12.0	17.5	9.0	12.5	18.0	9.5	13.0	14.5	6.5	10.0
20	15.5	9.0	12.0	18.0	10.5	14.0	16.5	9.0	12.5	14.5	6.5	10.0
21	14.5	9.0	11.5	16.5	11.5	14.0	16.0	7.5	11.5	15.0	7.0	10.5
22	15.5	8.0	11.5	19.0	10.5	14.5	16.5	8.5	12.0	15.0	7.5	10.5
23	16.5	8.5	12.0	18.0	9.5	13.5	16.5	8.0	11.5	15.0	7.5	10.5
24	16.0	8.0	12.0	18.5	9.5	13.5	16.5	7.5	11.5	14.5	7.0	10.5
25	17.5	9.5	13.0	18.0	9.5	13.5	16.5	8.0	11.5	14.5	7.0	10.0
26	16.5	10.5	13.5	17.5	9.0	13.0	16.0	7.5	11.5	14.0	6.5	9.5
27	17.5	9.0	13.0	18.5	10.0	14.0	17.0	8.5	12.0	11.5	7.0	8.5
28	17.0	9.0	12.5	19.0	11.0	14.5	17.0	9.0	12.5	13.0	6.5	8.5
29	17.5	9.0	13.0	18.5	11.0	14.5	16.5	9.0	12.5	12.0	5.5	8.0
30	17.5	8.5	13.0	19.5	11.5	15.5	17.5	10.0	13.0	11.0	5.0	7.5
31	---	---	---	19.5	12.0	15.5	18.0	10.0	13.0	---	---	---
MONTH	17.5	5.0	11.2	20.5	9.0	14.1	20.5	7.5	13.2	18.5	5.0	10.5

PYRAMID AND WINNEMUCCA LAKES BASIN

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA

(Lake Tahoe Interagency Monitoring Program)

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, on right bank, downstream side of U.S. Highway 50 bridge, 1.2 mi upstream from Lake Tahoe, and 1.4 mi southwest of South Lake Tahoe Post Office.

DRAINAGE AREA.—40.4 mi².

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

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Instantaneous: October 1971 to June 1974, October 1988 to September 1992. Continuous: September 1997 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1988 to September 1992.

INSTRUMENTATION.—Water temperature recorder since September 1997, two times per hour.

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. Samples were analyzed by the University of California, Davis, Tahoe Research Group. Water temperature records represent water temperature at probe within 0.5°C. Water temperature data for September 1997 were not published but are available from the U.S. Geological Survey in Carson City, NV. These data are reviewed and provided by the Nevada District Office, U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum, 22.0°C, July 8, 1990, Aug. 2, 2001; minimum, freezing point on many days during winter months.

SEDIMENT CONCENTRATION: Maximum daily mean, 300 mg/L, Jan. 15, 1974; minimum daily mean, 0 mg/L, at times in most years.

SEDIMENT LOAD: Maximum daily, 52 tons, Jan. 15, 1974; minimum daily, 0 ton, at times in most years.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum, 21.0°C, July 14; minimum, freezing point, many days November to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT								
02...	1030	7.8	65	18.5	10.8	--	<.003	.17
NOV								
07...	1210	10	62	12.0	4.6	--	.008	.11
JAN								
09...	0850	15	60	-2.5	.8	2.0	.005	.23
SEP								
11...	1220	10	54	20.5	11.0	--	.003	.09

Date	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	IRON, BIO. REACT- IVE TOTAL (UG/L AS FE) (46568)	SEDI- MENT, CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY) (80155)
OCT							
02...	.003	.023	--	.009	342	3	.06
NOV							
07...	.003	.015	--	.008	263	5	.14
JAN							
09...	.006	.025	.017	.007	431	5	.20
SEP							
11...	.003	.019	.015	.009	350	4	.11

< Actual value is known to be less than the value shown.

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA—Continued

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.5	10.0	11.5	6.5	3.5	5.0	0.0	0.0	0.0	1.0	0.5	1.0
2	13.0	10.0	12.0	6.0	3.0	4.5	0.0	0.0	0.0	1.5	0.5	1.0
3	13.0	10.0	11.5	6.0	3.0	4.5	0.0	0.0	0.0	2.0	0.0	1.0
4	12.5	10.0	11.5	6.0	3.0	5.0	0.0	0.0	0.0	1.0	0.0	0.5
5	12.0	9.5	11.0	6.0	3.5	5.0	0.0	0.0	0.0	1.0	0.0	0.5
6	12.0	10.0	11.0	6.0	3.0	4.5	0.0	0.0	0.0	2.5	1.0	1.5
7	11.0	8.5	10.0	5.5	3.0	4.0	0.5	0.0	0.0	3.0	0.5	1.5
8	11.0	9.0	9.5	4.5	2.0	3.5	0.5	0.0	0.0	3.0	1.0	2.0
9	9.0	7.0	8.5	4.0	1.5	3.0	0.0	0.0	0.0	2.5	0.5	1.5
10	8.5	6.0	7.5	4.5	1.5	3.0	0.0	0.0	0.0	2.0	0.5	1.5
11	8.5	7.0	8.0	6.0	3.5	5.0	0.0	0.0	0.0	1.5	0.0	1.0
12	9.0	6.5	8.0	5.5	3.5	4.0	0.0	0.0	0.0	2.5	0.0	1.0
13	8.5	6.5	8.0	5.0	3.0	3.5	0.0	0.0	0.0	1.0	0.0	0.5
14	8.5	6.5	7.5	5.5	3.5	4.5	0.0	0.0	0.0	1.0	0.0	0.5
15	8.0	6.5	7.5	5.0	3.0	4.0	0.5	0.0	0.0	1.0	0.0	0.5
16	8.5	6.5	8.0	5.5	3.0	4.5	0.5	0.0	0.0	1.0	0.0	0.5
17	8.5	6.5	7.5	5.0	3.5	4.5	0.0	0.0	0.0	0.5	0.0	0.5
18	8.5	6.0	7.5	4.0	2.0	3.5	0.5	0.0	0.0	1.0	0.0	0.5
19	8.0	6.0	7.5	3.5	1.5	2.5	0.5	0.0	0.0	0.5	0.0	0.5
20	8.5	6.5	8.0	4.0	2.5	3.0	0.5	0.0	0.0	0.5	0.0	0.0
21	8.5	7.0	8.0	4.5	3.0	4.0	0.5	0.5	0.5	1.0	0.0	0.5
22	8.0	6.5	7.0	5.0	3.5	4.5	0.5	0.5	0.5	1.0	0.0	0.0
23	8.5	6.5	7.5	3.5	1.5	2.5	0.5	0.5	0.5	0.5	0.0	0.0
24	7.5	6.0	6.5	3.0	1.0	2.5	0.5	0.5	0.5	0.5	0.0	0.0
25	7.0	5.5	6.5	1.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.5
26	7.5	5.5	6.5	0.5	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0
27	7.5	6.0	6.5	1.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0
28	7.5	5.5	6.5	0.5	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0
29	7.0	6.0	6.5	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0
30	7.5	6.5	6.5	0.5	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0
31	7.5	4.5	6.0	---	---	---	1.0	0.5	0.5	0.5	0.0	0.0
MONTH	13.0	4.5	8.2	6.5	0.0	3.2	1.0	0.0	0.2	3.0	0.0	0.6
	FEBRUARY			MARCH			APRIL			MAY		
1	0.5	0.0	0.0	3.0	0.0	1.5	9.0	1.5	5.0	7.0	2.0	4.5
2	0.5	0.0	0.0	3.0	0.0	1.0	9.0	2.0	5.5	10.5	2.5	6.0
3	0.0	0.0	0.0	3.5	0.0	1.5	9.5	2.0	5.5	11.5	4.0	7.5
4	0.0	0.0	0.0	4.5	0.0	2.0	8.0	3.0	5.5	11.0	4.5	8.0
5	0.0	0.0	0.0	5.5	0.0	3.0	7.5	2.5	5.0	11.5	4.5	7.5
6	0.5	0.0	0.0	4.0	0.0	2.5	8.5	2.5	5.5	11.5	4.5	8.0
7	0.0	0.0	0.0	1.0	0.0	0.0	9.0	2.5	5.5	11.5	5.0	8.0
8	0.5	0.0	0.0	1.5	0.0	0.5	7.5	3.0	5.5	10.0	4.0	7.0
9	0.5	0.0	0.0	1.5	0.0	0.5	6.0	3.5	4.5	11.0	4.0	7.0
10	0.5	0.0	0.0	1.5	0.0	0.5	9.5	3.0	6.0	9.5	4.5	6.5
11	0.5	0.0	0.0	4.5	0.0	2.0	9.5	4.0	6.5	11.0	4.0	7.0
12	0.5	0.0	0.0	5.0	1.5	3.0	9.5	3.5	6.5	10.5	4.0	7.5
13	0.5	0.0	0.0	4.0	0.0	2.0	10.0	3.5	6.5	11.5	5.5	8.5
14	0.5	0.0	0.0	2.5	0.0	1.0	10.5	4.5	7.0	12.5	5.5	8.5
15	0.0	0.0	0.0	0.5	0.0	0.0	7.0	3.0	4.5	12.0	6.0	9.0
16	1.0	0.0	0.0	1.0	0.0	0.0	4.5	1.5	2.5	12.0	5.5	9.0
17	0.5	0.0	0.0	1.5	0.0	0.5	4.5	0.0	2.0	13.5	6.5	9.5
18	1.0	0.0	0.5	2.5	0.0	1.0	2.0	0.0	1.5	13.0	7.0	10.0
19	1.5	0.0	0.5	4.5	0.0	2.0	5.5	0.0	2.5	11.0	6.5	8.5
20	4.0	0.5	2.0	5.5	0.0	2.5	7.0	1.0	4.0	8.5	5.0	6.5
21	4.0	0.0	1.5	6.5	0.5	3.5	9.0	1.5	5.0	8.5	3.0	5.5
22	4.5	0.0	2.0	7.0	1.0	4.0	10.0	2.5	6.0	10.0	3.0	6.5
23	4.5	1.0	2.5	4.5	0.5	2.5	10.5	3.0	6.5	11.5	4.5	7.5
24	4.5	0.0	2.0	6.0	1.0	3.0	9.5	4.0	6.5	12.0	5.0	8.5
25	5.0	0.0	2.0	5.5	0.5	3.0	10.5	4.5	7.5	12.5	7.0	9.5
26	5.0	0.0	2.0	8.0	1.0	4.5	7.5	5.0	6.0	12.5	6.5	9.5
27	5.0	0.0	2.5	8.0	1.5	4.5	9.0	3.5	5.5	12.5	7.5	9.5
28	5.0	0.0	2.5	8.5	1.5	5.0	7.0	2.5	5.0	14.0	7.0	10.0
29	---	---	---	9.0	1.5	5.0	4.5	1.5	3.0	15.0	8.5	11.5
30	---	---	---	8.5	1.5	5.0	8.0	1.5	4.5	15.0	9.0	12.0
31	---	---	---	8.5	1.0	5.0	---	---	---	15.0	9.5	12.0
MONTH	5.0	0.0	0.7	9.0	0.0	2.3	10.5	0.0	5.1	15.0	2.0	8.3

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 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 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, 6,225.11 ft, June 7, 12, 15; minimum, 6,223.52 ft, Sept. 30.

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

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

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.52	4.02	3.95	4.14	4.15	4.18	4.37	4.72	5.01	5.05	4.67	4.06
2	4.52	4.01	4.15	4.21	4.14	4.18	4.37	4.73	5.03	5.03	4.65	4.04
3	4.50	3.98	4.14	4.21	4.14	4.17	4.38	4.73	e5.06	5.01	4.62	4.02
4	4.49	3.98	4.12	4.21	4.14	4.16	4.40	4.74	5.09	5.01	4.59	3.99
5	4.47	3.97	4.11	4.23	4.13	4.16	4.40	4.74	5.10	4.99	4.53	3.95
6	4.46	3.96	4.12	4.25	4.12	4.30	4.41	4.75	5.10	4.99	4.51	3.92
7	4.43	3.93	4.11	4.24	4.17	4.31	4.43	4.77	5.11	4.95	4.50	3.88
8	4.41	3.93	4.09	4.25	4.15	4.31	4.43	4.76	5.07	4.96	4.48	3.86
9	4.39	3.90	4.08	4.26	4.14	4.30	4.44	4.75	5.10	4.95	4.47	3.85
10	4.37	3.90	4.07	4.25	4.14	4.33	4.45	4.77	5.10	4.94	4.44	3.83
11	4.35	3.89	4.06	4.24	4.13	4.32	4.46	4.77	5.09	4.93	4.43	3.82
12	4.31	3.92	4.05	4.24	4.13	4.32	4.48	4.78	5.11	4.93	4.43	3.82
13	4.29	3.89	4.07	4.24	4.13	4.32	4.49	4.79	5.10	4.92	4.42	3.81
14	4.29	3.89	4.11	4.23	4.13	4.31	4.52	4.81	5.10	4.90	4.40	3.79
15	4.26	3.87	4.08	4.22	4.13	4.31	4.51	4.82	5.11	4.89	4.39	3.77
16	4.26	3.85	4.07	4.21	4.13	4.31	4.55	4.84	5.09	4.87	4.38	3.73
17	4.23	3.83	4.10	4.19	4.16	4.31	4.58	4.85	5.09	4.90	4.35	3.73
18	4.23	3.84	4.09	4.20	4.15	4.31	4.61	4.86	5.09	4.89	4.34	3.70
19	4.21	e3.80	4.09	4.19	4.19	4.30	4.61	4.88	5.10	4.88	4.31	3.69
20	4.18	3.80	4.09	4.19	4.21	4.31	4.61	4.90	5.10	4.87	4.27	3.68
21	4.18	3.86	4.09	4.18	4.20	4.31	4.61	4.92	5.10	4.84	4.23	3.67
22	4.16	3.90	4.09	4.18	4.21	4.32	4.62	4.92	5.10	4.83	4.23	3.66
23	4.13	3.84	4.10	4.18	4.20	4.35	4.62	4.93	5.09	4.81	4.20	3.65
24	4.12	3.97	4.08	4.16	4.20	4.35	4.63	4.92	5.10	4.78	4.18	3.64
25	4.10	3.96	4.07	4.17	4.19	4.35	4.64	4.93	5.10	4.76	4.17	3.64
26	4.09	3.94	4.08	4.19	4.20	4.35	4.65	4.94	5.09	4.76	4.15	3.61
27	4.07	3.92	4.06	4.17	4.20	4.35	4.64	4.94	5.07	4.74	4.13	3.60
28	4.04	3.91	4.11	4.18	4.19	4.34	4.65	4.95	5.06	4.73	4.11	3.57
29	4.03	3.96	4.13	4.17	---	4.35	4.72	e4.96	5.06	4.72	4.08	3.55
30	4.05	3.93	4.16	4.16	---	4.35	4.71	e4.97	5.05	4.70	4.08	3.52
31	4.03	---	4.15	4.15	---	4.36	---	4.98	---	4.69	4.07	---
MEAN	4.26	3.91	4.09	4.20	4.16	4.30	4.53	4.84	5.09	4.88	4.35	3.77
MAX	4.52	4.02	4.16	4.26	4.21	4.36	4.72	4.98	5.11	5.05	4.67	4.06
MIN	4.03	3.80	3.95	4.14	4.12	4.16	4.37	4.72	5.01	4.69	4.07	3.52
a	124,600	110,800	137,800	137,800	142,500	163,400	206,400	240,400	248,700	204,000	128,900	62,500
b	-59,800	-13,800	+27,000	0	+4,700	+20,900	+43,000	+34,000	+8,300	-44,700	-75,100	-66,400

CAL YR 2001 MEAN 5.53 MAX 6.55 MIN 3.80 b -293,900
WTR YR 2002 MEAN 4.37 MAX 5.11 MIN 3.52 b -121,900

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

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.

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.—Records good. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	203	171	100	57	54	68	71	71	230	293	228
2	292	198	143	101	57	54	71	72	71	288	293	222
3	290	192	102	102	57	54	73	72	71	294	292	210
4	289	187	131	101	57	54	75	72	71	302	289	197
5	288	185	156	100	78	54	75	72	71	311	287	180
6	287	176	156	103	128	57	73	72	71	311	285	170
7	286	174	139	79	127	56	72	72	71	324	284	162
8	284	163	79	57	127	54	73	71	71	332	289	154
9	258	161	58	57	127	54	71	71	71	332	294	147
10	213	157	85	56	138	53	71	70	71	338	294	144
11	212	157	104	56	148	53	71	70	71	349	294	141
12	214	159	104	56	148	54	70	70	71	351	293	137
13	233	161	104	56	148	54	70	70	71	352	293	135
14	233	157	104	56	148	53	71	70	71	358	298	131
15	233	155	104	73	142	53	69	70	71	361	302	124
16	232	145	110	71	136	53	66	70	71	360	301	120
17	238	139	117	55	126	53	65	70	71	361	300	112
18	233	136	117	56	119	53	64	71	71	363	298	109
19	233	130	121	57	119	53	63	70	71	363	296	100
20	232	124	133	57	81	53	64	70	88	362	298	96
21	233	125	138	58	52	55	64	70	95	362	306	95
22	244	153	141	57	53	56	64	70	126	361	301	94
23	247	155	141	57	53	55	70	70	144	365	294	91
24	242	167	150	57	53	55	74	70	158	367	288	89
25	240	189	161	58	53	55	75	70	217	374	274	86
26	233	182	163	57	53	56	75	70	230	379	270	81
27	220	177	161	57	54	57	74	70	230	378	259	75
28	214	166	143	58	54	58	73	70	229	378	247	70
29	202	181	100	58	---	59	82	71	229	377	246	65
30	204	178	100	57	---	59	78	71	202	377	238	59
31	207	---	102	57	---	60	---	71	---	328	232	---
TOTAL	7571	4932	3838	2080	2693	1701	2124	2189	3297	10688	8828	3824
MEAN	244.2	164.4	123.8	67.10	96.18	54.87	70.80	70.61	109.9	344.8	284.8	127.5
MAX	305	203	171	103	148	60	82	72	230	379	306	228
MIN	202	124	58	55	52	53	63	70	71	230	232	59
AC-FT	15020	9780	7610	4130	5340	3370	4210	4340	6540	21200	17510	7580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2002, BY WATER YEAR (WY)

MEAN	181.8	196.0	232.3	239.9	295.6	260.4	178.0	167.1	237.1	276.0	313.0	266.1
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1932	1927	1925	1925	1925	1925	1919	1919	1921	1931	1931	1931

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1909 - 2002
ANNUAL TOTAL	88978	53765	
ANNUAL MEAN	243.8	147.3	234.7
HIGHEST ANNUAL MEAN			1150
LOWEST ANNUAL MEAN			0.15
HIGHEST DAILY MEAN	424	Aug 31	379 Jul 26
LOWEST DAILY MEAN	58	Dec 9	52 Feb 21
ANNUAL SEVEN-DAY MINIMUM	74	May 2	53 Feb 21
MAXIMUM PEAK FLOW			383 Jul 25
MAXIMUM PEAK STAGE			4.32 Jul 25
ANNUAL RUNOFF (AC-FT)	176500	106600	170000
10 PERCENT EXCEEDS	398	298	471
50 PERCENT EXCEEDS	233	109	142
90 PERCENT EXCEEDS	78	56	0.00

10337500 TRUCKEE RIVER AT TAHOE CITY, CA—Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.— January to September 2002.

INSTRUMENTATION.—Heated tipping-bucket gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum recorded daily precipitation, 1.49 in., Mar. 6, 2002; no precipitation for many days.

PRECIPITATION, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	0.35	0.28	0.00	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	0.12	0.08	0.00	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	0.12	0.04	0.00	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	0.08	0.03	e0.15	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	0.08	0.00	e0.06	0.00	0.00	0.12	0.00	0.00
18	---	---	---	0.00	0.00	0.00	e0.06	0.00	0.00	0.04	0.00	0.00
19	---	---	---	0.00	0.74	0.00	0.00	0.08	0.00	0.00	0.00	0.00
20	---	---	---	0.00	0.08	0.00	0.00	0.24	0.00	0.00	0.00	0.00
21	---	---	---	0.08	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
22	---	---	---	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
23	---	---	---	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
24	---	---	---	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	0.51	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
27	---	---	---	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
28	---	---	---	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	---	---	---	0.00	---	0.00	0.16	0.00	0.00	0.00	0.00	0.00
30	---	---	---	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	---	---	---	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	---	---	---	---	1.61	2.52	0.59	0.36	0.00	0.16	0.00	0.00
MAX	---	---	---	---	0.74	1.49	0.16	0.24	0.00	0.12	0.00	0.00
MIN	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

e Estimated.

10337500 TRUCKEE RIVER AT TAHOE CITY, CA—Continued

AIR TEMPERATURE RECORDS

PERIOD OF RECORD.—Water years 1978–81, 1994, 2002.

CHEMICAL DATA: Water years 1978–81.

WATER TEMPERATURE: June 1993 to September 1994.

AIR TEMPERATURE: July to September 2002.

INSTRUMENTATION.—Air temperature sensor and digital recorder.

EXTREMES FOR PERIOD OF RECORD.—Maximum recorded temperature, 31.6°C, Aug. 13, 2002; minimum recorded, -0.7°C, Sept. 30, 2002.

AIR TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	27.8	9.5	28.1	8.0
2	---	---	---	---	---	---	---	---	26.8	10.3	28.1	8.1
3	---	---	---	---	---	---	---	---	23.9	8.7	25.2	8.2
4	---	---	---	---	---	---	---	---	20.8	8.3	20.5	9.0
5	---	---	---	---	---	---	---	---	19.4	7.8	18.7	11.3
6	---	---	---	---	---	---	---	---	20.3	3.7	13.7	4.2
7	---	---	---	---	---	---	---	---	21.9	4.7	14.5	-0.5
8	---	---	---	---	---	---	---	---	24.4	4.6	18.4	1.3
9	---	---	---	---	---	---	---	---	28.0	5.7	21.2	2.4
10	---	---	---	---	---	---	---	---	28.6	7.5	24.1	3.2
11	---	---	---	---	---	---	---	---	28.0	8.0	24.5	4.1
12	---	---	---	---	---	---	---	---	29.3	8.8	24.9	4.6
13	---	---	---	---	---	---	28.3	11.4	31.6	9.7	25.4	5.0
14	---	---	---	---	---	---	28.0	11.5	30.7	10.8	26.0	5.4
15	---	---	---	---	---	---	26.5	10.2	30.0	10.4	23.6	6.8
16	---	---	---	---	---	---	27.2	9.2	29.6	9.0	19.6	2.3
17	---	---	---	---	---	---	24.1	10.3	27.8	7.7	18.6	4.3
18	---	---	---	---	---	---	19.7	8.6	26.8	6.7	18.3	4.1
19	---	---	---	---	---	---	23.9	7.7	23.8	5.7	21.7	3.1
20	---	---	---	---	---	---	26.4	9.8	18.9	5.3	24.4	3.8
21	---	---	---	---	---	---	27.4	10.4	20.7	2.7	25.3	4.0
22	---	---	---	---	---	---	25.5	8.1	21.7	4.8	26.1	5.0
23	---	---	---	---	---	---	26.5	5.2	21.1	3.9	26.8	4.8
24	---	---	---	---	---	---	27.4	9.3	23.8	3.2	24.7	4.6
25	---	---	---	---	---	---	25.4	5.5	23.7	3.7	23.8	2.1
26	---	---	---	---	---	---	27.4	5.5	22.4	5.5	23.1	2.4
27	---	---	---	---	---	---	28.2	9.5	21.6	6.2	18.6	5.7
28	---	---	---	---	---	---	29.7	9.9	24.8	6.5	15.5	2.8
29	---	---	---	---	---	---	29.5	9.4	24.9	6.0	14.2	1.3
30	---	---	---	---	---	---	30.1	10.1	24.0	7.5	14.1	-0.7
31	---	---	---	---	---	---	28.4	9.3	25.1	8.3	---	---
MONTH	---	---	---	---	---	---	---	---	31.6	2.7	28.1	-0.7

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA

LOCATION.—Lat 39°17'47", 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 current year. Monthly discharge only for some periods, published in WSP 1314.

CHEMICAL DATA: Water years 1951–66.

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. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	207	188	e129	100	133	235	222	393	254	310	239
2	294	202	e168	e129	100	123	264	220	327	345	311	236
3	291	197	133	e131	99	119	313	251	299	352	309	223
4	290	189	140	e131	98	118	354	291	312	351	308	208
5	290	188	173	e131	98	119	e368	328	336	361	304	191
6	290	181	175	e130	182	180	344	356	329	360	303	181
7	290	175	173	e114	153	168	333	369	311	368	298	172
8	290	167	113	e107	153	140	345	348	278	380	299	162
9	277	164	80	e101	151	128	359	329	234	376	305	157
10	220	160	e90	e98	157	124	350	308	208	378	305	154
11	219	166	e115	e95	172	118	362	280	204	390	305	150
12	216	166	121	e95	174	125	389	294	210	390	305	144
13	233	169	121	e94	176	122	394	332	222	389	304	143
14	236	159	126	e95	178	116	498	362	219	390	309	137
15	236	159	124	108	178	112	482	383	200	391	314	133
16	235	152	125	e106	170	112	338	384	188	391	313	126
17	238	144	139	95	166	108	286	418	183	390	312	114
18	236	137	137	94	153	102	248	444	192	393	310	114
19	232	136	135	92	162	100	223	396	184	391	308	105
20	232	124	152	91	189	104	210	336	190	389	307	99
21	232	139	152	85	141	109	208	279	201	385	318	97
22	239	e159	157	86	142	120	213	247	210	384	312	94
23	245	e161	160	87	e144	130	227	233	237	385	310	93
24	241	e175	162	87	137	119	249	237	235	389	300	92
25	240	e196	173	84	134	116	289	263	292	391	289	86
26	233	e188	177	80	134	118	320	292	320	400	283	84
27	226	e184	177	88	136	127	287	320	313	397	273	79
28	216	e178	180	90	135	142	252	348	304	395	261	73
29	207	194	129	88	---	168	262	376	298	394	258	68
30	215	e190	e128	96	---	192	247	405	292	393	250	62
31	216	---	e128	109	---	210	---	417	---	361	244	---
TOTAL	7667	5106	4451	3146	4112	4022	9249	10068	7721	11703	9237	4016
MEAN	247.3	170.2	143.6	101.5	146.9	129.7	308.3	324.8	257.4	377.5	298.0	133.9
MAX	312	207	188	131	189	210	498	444	393	400	318	239
MIN	207	124	80	80	98	100	208	220	183	254	244	62
AC-FT	15210	10130	8830	6240	8160	7980	18350	19970	15310	23210	18320	7970

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	200.6	206.2	287.5	336.9	366.6	345.1	406.3	562.7	486.4	308.1	288.4	258.3
MAX	387	551	1483	3190	2537	1421	1734	2403	1843	635	492	453
(WY)	1948	1951	1997	1997	1997	1952	1958	1958	1998	1998	1959	1954
MIN	7.27	11.3	14.2	8.82	12.2	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1945 - 2002	
ANNUAL TOTAL	103416		80498			
ANNUAL MEAN	283.3		220.5		342.5	
HIGHEST ANNUAL MEAN					941	
LOWEST ANNUAL MEAN					32.4	
HIGHEST DAILY MEAN	444	Aug 18	498	Apr 14	8900	Jan 1 1997
LOWEST DAILY MEAN	80	Dec 9	62	Sep 30	3.4	Aug 18 1994
ANNUAL SEVEN-DAY MINIMUM	109	Dec 8	78	Sep 24	3.4	Aug 22 1994
MAXIMUM PEAK FLOW			690	Apr 14	11900	Jan 2 1997
MAXIMUM PEAK STAGE			2.58	Apr 14	9.97	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	205100		159700		248100	
10 PERCENT EXCEEDS	408		372		569	
50 PERCENT EXCEEDS	288		204		249	
90 PERCENT EXCEEDS	160		100		54	

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.

WATER DISCHARGE RECORDS

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 ft 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, 9,620 acre-ft, May 30, 31, maximum elevation, 5,935.95 ft, May 30; minimum, 3,080 acre-ft, Nov. 20, elevation, 5,928.02 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	5,930.0	4,690	5,934	7,970	5,938	12,000
5,926.0	1,600	5,932	6,310	5,936	9,670	5,940	14,700
5,928.0	3,120						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4820	3210	3530	3520	3550	3790	4080	4970	9540	9360	8940	8390
2	4710	3210	3720	3590	3530	3770	4190	5000	9460	9340	8940	8360
3	4610	3210	3720	3650	3510	3770	4350	5090	9460	9340	8940	8340
4	4510	3200	3650	3660	3500	3760	4490	5210	9470	9310	8870	8320
5	4410	3180	3650	3680	3510	3770	4610	5380	9510	9310	8870	8280
6	4320	3180	3620	3790	3460	3970	4630	5530	9540	9340	8870	8250
7	4220	3170	3590	3860	3510	4020	4660	5750	9550	9330	8840	8220
8	4140	3140	3550	3880	3520	3990	4770	5920	9550	9310	8820	8220
9	4050	3140	3530	3870	3510	3950	4760	6130	9540	9290	8810	8200
10	3970	3140	3500	3870	3500	3970	4800	6280	9510	9280	8790	8180
11	3890	3170	3480	3870	3490	3950	4870	6440	9490	9270	8810	8140
12	3830	3180	3450	3830	3480	3950	4900	6630	9480	9270	8770	8080
13	3760	3190	3450	3830	3490	3950	5000	6850	9470	9260	8770	7960
14	3700	3180	3490	3800	3490	3920	5150	7040	9460	9230	8730	7810
15	3650	3190	3470	3780	3500	3890	5160	7260	9430	9220	8700	7680
16	3590	3180	3450	3770	3490	3860	5120	7500	9400	9210	8660	7530
17	3540	3160	3510	3750	3510	3860	5010	7740	9370	9200	8650	7400
18	3490	3140	3480	3720	3500	3820	4880	7990	9350	9190	8660	7260
19	3450	3130	3450	3700	3570	3820	4770	8190	9380	9170	8600	7130
20	3410	3080	3480	3670	3610	3800	4680	8370	9400	9160	8590	6980
21	3380	3310	3470	3670	3680	3820	4580	8490	9400	9150	8560	6800
22	3340	3450	3480	3640	3730	3840	4510	8610	9390	9110	8540	6640
23	3300	3450	3460	3620	3770	3870	4480	8700	9390	9100	8530	6480
24	3280	3620	3450	3610	3780	3870	4510	8810	9380	9070	8500	6330
25	3260	3620	3440	3560	3770	3860	4590	8940	9380	9050	8490	6170
26	3240	3570	3410	3670	3800	3860	4690	9100	9370	9040	8480	6000
27	3210	3540	3410	3640	3780	3850	4770	9270	9370	9030	8480	5920
28	3190	3520	3420	3630	3760	3860	4800	9440	9370	9020	8450	5780
29	3180	3520	3450	3590	---	3890	4900	9550	9360	9000	8440	5690
30	3240	3490	3480	e3580	---	3950	4930	9620	9360	8990	8420	5690
31	3230	---	3530	e3560	---	4030	---	9620	---	8970	8410	---
MAX	4820	3620	3720	3880	3800	4030	5160	9620	9550	9360	8940	8390
MIN	3180	3080	3410	3520	3460	3760	4080	4970	9350	8970	8410	5690
a	5928.15	5928.50	5928.55		5928.83	5929.18	5930.31	5935.94	5935.65	5935.19	5934.53	5931.25
b	-1700	+260	+40	+30	+200	+270	+900	+4690	-260	-390	-560	-2720
CAL YR 2001	MAX 9500	MIN 3060	b +440									
WTR YR 2002	MAX 9620	MIN 3080	b +760									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

10338400 DONNER LAKE NEAR TRUCKEE, CA—Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.—October 2001 to September 2002.

INSTRUMENTATION.—Heated tipping-bucket gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily precipitation, 2.50 in., Dec. 2, 2001; no precipitation for many days.

PRECIPITATION, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.00	0.78	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	---	0.00	2.50	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	---	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00
5	---	0.00	0.08	0.54	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00
6	---	0.00	0.00	0.47	0.00	2.23	0.00	0.00	0.00	0.00	0.00	0.08
7	---	0.00	0.00	0.00	0.66	0.54	0.00	0.00	0.00	0.00	0.00	0.00
8	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	---	0.00	0.04	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
10	---	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00
11	---	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	---	0.78	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.24	0.00	0.20	0.15	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.11	0.08	0.31	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	1.09	0.04	0.16	0.04	0.11	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.04	0.00	0.00
19	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.15	0.00	0.00	0.00	0.00
20	0.00	0.00	0.50	0.00	0.12	0.00	0.00	0.32	0.00	0.00	0.00	0.00
21	0.00	2.42	0.04	0.27	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
22	0.00	1.29	0.43	0.00	0.00	0.35	0.00	0.04	0.00	0.00	0.00	0.00
23	0.00	0.03	0.00	0.00	0.04	0.35	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	1.96	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.04	1.56	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.04	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00
28	0.00	0.43	0.51	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.35	0.11	0.00	---	0.00	0.39	0.00	0.00	0.00	0.00	0.00
30	1.60	0.04	0.67	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.15	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	---	8.03	8.19	4.05	2.34	4.64	1.29	0.58	0.00	0.04	0.00	0.08

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	7.5	20	20	e21	33	54	44	107	2.5	1.5	2.8
2	57	7.5	26	22	20	33	59	44	90	2.6	1.7	2.6
3	54	7.2	31	24	19	32	67	44	50	2.2	1.8	2.6
4	52	6.4	28	24	19	31	79	46	39	2.0	1.2	3.0
5	50	6.1	25	24	18	31	93	46	34	2.0	1.1	3.2
6	48	6.1	24	30	17	38	99	50	30	1.7	1.6	2.9
7	45	5.8	24	35	17	47	100	31	30	1.4	1.8	2.9
8	44	4.8	22	36	19	49	105	12	28	2.0	2.0	2.8
9	40	4.5	20	36	19	47	110	8.0	26	2.8	2.2	2.8
10	37	4.3	19	36	19	45	114	6.0	26	2.4	2.2	4.7
11	35	4.8	19	36	17	44	120	2.4	26	2.3	e2.1	12
12	32	5.5	18	35	17	44	124	1.5	26	3.1	e2.1	29
13	31	5.7	17	33	17	44	128	0.97	26	2.8	2.0	55
14	29	5.1	18	33	17	42	136	4.1	26	2.7	1.8	66
15	26	5.1	17	31	17	41	151	3.7	26	2.6	1.9	66
16	25	4.6	17	29	17	39	146	1.3	26	2.5	1.9	66
17	23	4.2	18	29	18	39	139	0.99	25	2.9	e1.9	66
18	21	3.9	18	28	18	36	129	0.79	16	2.9	e1.9	64
19	19	3.8	17	26	19	34	120	0.81	5.7	2.7	e1.9	64
20	18	3.8	17	25	23	33	111	2.4	1.8	2.7	e2.0	71
21	15	5.2	17	24	25	33	102	1.8	4.1	2.7	1.7	84
22	14	16	17	24	28	34	97	1.4	6.0	2.4	2.0	83
23	13	16	17	24	31	39	92	1.2	5.9	2.3	2.2	80
24	11	20	17	22	32	39	91	2.7	5.6	1.6	2.0	79
25	10	24	16	22	32	39	92	2.5	5.6	2.3	2.0	76
26	9.4	22	16	23	32	39	73	2.1	3.8	2.6	2.2	74
27	8.7	21	15	26	32	37	46	1.6	1.6	1.5	3.0	60
28	7.8	19	15	25	32	38	46	1.5	1.5	1.4	3.6	48
29	7.0	19	16	e24	---	39	46	22	1.2	1.5	3.6	47
30	7.4	19	16	e23	---	43	45	64	1.1	2.1	3.2	38
31	7.8	---	19	e22	---	49	---	88	---	2.4	2.8	---
TOTAL	854.1	287.9	596	851	612	1211	2914	538.76	700.9	71.6	64.9	1258.3
MEAN	27.55	9.597	19.23	27.45	21.86	39.06	97.13	17.38	23.36	2.310	2.094	41.94
MAX	57	24	31	36	32	49	151	88	107	3.1	3.6	84
MIN	7.0	3.8	15	20	17	31	45	0.79	1.1	1.4	1.1	2.6
AC-FT	1690	571	1180	1690	1210	2400	5780	1070	1390	142	129	2500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2002, BY WATER YEAR (WY)

MEAN	29.87	27.04	30.36	32.98	32.69	37.38	53.27	84.83	46.35	12.13	7.792	25.47
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1930	1930	1930	1929	1929	1929	1929	1929	1929	1937	1936	1930

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1929 - 2002	
ANNUAL TOTAL	4741.2		9960.46			
ANNUAL MEAN	12.99		27.29		35.86	
HIGHEST ANNUAL MEAN					83.3	
LOWEST ANNUAL MEAN					7.71	
HIGHEST DAILY MEAN	77		Sep 21	151	Apr 15	820
LOWEST DAILY MEAN	1.0		Jun 11	0.79	May 18	0.00
ANNUAL SEVEN-DAY MINIMUM	2.0		Jul 22	1.3	May 17	0.00
MAXIMUM PEAK FLOW					863	
MAXIMUM PEAK STAGE					6.69	
ANNUAL RUNOFF (AC-FT)	9400		19760		25980	
10 PERCENT EXCEEDS	39		66		99	
50 PERCENT EXCEEDS	5.4		19		15	
90 PERCENT EXCEEDS	2.7		2.0		0.10	

e Estimated.

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. 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, backwater from debris, 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	8.6	23	31	28	56	113	96	229	20	4.1	4.3
2	50	8.2	32	34	26	54	128	97	184	19	4.1	4.1
3	48	7.9	35	38	26	52	152	111	143	17	4.1	4.0
4	46	7.2	32	35	25	52	189	130	135	15	3.6	4.3
5	44	7.1	30	35	25	52	197	144	139	14	3.4	4.5
6	41	6.7	29	62	24	74	187	157	136	13	3.7	4.4
7	39	6.2	28	64	25	81	186	148	128	12	3.9	4.4
8	37	5.7	26	60	27	77	200	120	109	12	e4.2	4.3
9	35	5.6	24	56	25	72	213	110	91	12	4.7	4.2
10	33	5.3	23	52	25	70	222	99	82	11	4.7	5.7
11	31	6.6	22	51	25	69	232	91	81	10	4.7	13
12	29	7.3	21	49	25	73	244	101	84	11	4.5	27
13	27	6.9	20	47	25	70	249	113	88	9.6	4.4	51
14	26	6.3	e21	46	25	66	310	127	83	9.1	4.1	63
15	24	6.1	20	44	25	63	307	136	74	8.5	4.2	62
16	22	5.9	20	41	26	61	238	132	69	8.1	4.2	61
17	21	5.6	22	40	26	59	214	145	68	8.0	3.8	62
18	19	5.3	21	38	26	56	193	152	62	8.2	4.0	60
19	18	5.2	20	36	31	54	176	128	49	7.7	4.1	60
20	16	5.2	20	35	47	54	163	106	43	7.2	4.5	66
21	15	10	20	34	50	56	154	83	41	6.6	3.9	78
22	14	37	20	34	53	60	149	74	39	6.1	4.0	79
23	12	21	20	32	59	65	151	71	37	5.8	4.2	75
24	11	42	19	31	56	64	158	78	35	5.1	4.0	72
25	10	35	18	31	55	63	175	90	33	5.4	3.9	70
26	9.5	29	18	31	56	62	158	99	32	5.7	4.0	68
27	9.0	25	19	e32	57	63	118	110	27	4.7	4.6	55
28	8.2	23	20	32	57	66	107	124	24	4.3	5.2	43
29	7.4	24	21	31	---	75	107	151	22	4.0	5.1	43
30	9.1	23	23	29	---	84	100	202	21	4.7	4.8	36
31	9.5	---	33	29	---	97	---	214	---	5.1	4.4	---
TOTAL	771.7	397.9	720	1240	980	2020	5490	3739	2388	289.9	131.1	1188.2
MEAN	24.89	13.26	23.23	40.00	35.00	65.16	183.0	120.6	79.60	9.352	4.229	39.61
MAX	51	42	35	64	59	97	310	214	229	20	5.2	79
MIN	7.4	5.2	18	29	24	52	100	71	21	4.0	3.4	4.0
AC-FT	1530	789	1430	2460	1940	4010	10890	7420	4740	575	260	2360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2002, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002		
MEAN	33.30	22.60	42.58	86.95	73.61	103.7	148.7	230.8	157.8	48.29	10.65	41.62
MAX	49.0	45.5	201	438	200	251	220	379	398	180	38.1	60.2
(WY)	2000	1999	1997	1997	1996	1995	1993	1995	1995	1995	1995	1993
MIN	15.8	8.35	9.73	8.37	11.6	30.9	39.8	64.8	12.4	4.48	3.24	11.6
(WY)	1995	1994	2000	2001	1994	1994	1994	1994	2001	2001	1994	2000

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1993 - 2002
ANNUAL TOTAL	9437.5	19355.8	
ANNUAL MEAN	25.86	53.03	80.56
HIGHEST ANNUAL MEAN			142
LOWEST ANNUAL MEAN			25.9
HIGHEST DAILY MEAN	121	May 16	310
LOWEST DAILY MEAN	2.8	Aug 22	3.4
ANNUAL SEVEN-DAY MINIMUM	2.9	Aug 28	3.8
MAXIMUM PEAK FLOW			412
MAXIMUM PEAK STAGE			5.63
ANNUAL RUNOFF (AC-FT)	18720	38390	58360
10 PERCENT EXCEEDS	67	137	203
50 PERCENT EXCEEDS	15	32	42
90 PERCENT EXCEEDS	4.1	4.7	7.2

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. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	7.3	9.2	17	8.9	26	49	e26	9.3	4.2	3.1	3.6
2	4.8	6.7	e21	18	8.4	21	54	23	8.9	4.1	3.3	3.5
3	4.8	6.5	22	30	8.0	20	60	23	9.0	4.0	3.1	3.5
4	4.9	6.1	18	22	8.1	22	63	22	8.9	3.8	3.1	3.1
5	5.1	6.0	14	17	8.4	23	64	23	8.0	3.8	2.9	3.0
6	5.4	6.2	12	25	8.1	49	64	22	7.5	3.8	2.9	3.1
7	5.6	6.1	12	33	8.7	61	63	22	7.3	3.7	3.0	3.1
8	5.8	6.1	11	30	10	39	63	21	6.6	3.6	3.2	3.3
9	5.7	6.1	11	23	9.5	32	62	20	6.5	3.6	3.3	3.4
10	5.0	6.3	10	19	9.2	30	55	19	7.2	3.5	3.3	3.5
11	5.2	8.1	9.9	16	9.1	29	51	19	7.1	3.5	3.3	3.5
12	5.1	9.3	9.6	15	9.2	39	52	17	6.6	3.6	2.6	3.5
13	5.0	9.8	9.6	13	9.6	39	50	17	6.5	3.7	2.5	3.5
14	5.0	8.4	9.9	12	9.9	32	50	17	6.0	3.7	4.1	3.5
15	5.0	7.4	9.2	11	11	27	55	17	5.4	3.5	4.4	3.4
16	5.2	6.9	9.1	9.8	12	24	44	16	5.2	3.3	3.9	3.3
17	5.2	6.4	9.7	9.8	14	23	40	15	5.0	3.1	3.8	3.4
18	5.1	6.0	9.5	9.5	12	21	37	15	5.0	3.5	3.6	2.8
19	5.5	5.8	9.3	9.4	13	22	34	14	5.0	3.9	3.6	3.7
20	5.3	6.0	9.5	9.2	28	24	32	15	5.0	3.9	3.3	3.6
21	5.3	7.2	9.4	9.5	34	26	29	15	5.0	3.8	3.3	3.5
22	5.2	19	9.4	9.5	36	30	28	14	4.8	3.7	3.3	3.5
23	5.3	14	9.4	8.8	50	38	26	14	4.9	3.5	3.4	3.4
24	5.1	28	8.2	8.7	38	35	26	13	4.7	3.4	3.5	3.4
25	e5.2	26	8.3	8.9	33	30	26	12	4.7	3.2	3.5	3.3
26	e5.2	13	9.1	9.3	31	29	28	11	4.7	3.1	3.5	3.3
27	5.3	9.6	9.1	9.7	31	31	27	10	4.7	3.1	3.5	3.4
28	5.5	9.2	9.7	9.1	29	34	24	10	4.6	3.0	3.6	3.5
29	5.4	9.6	11	9.0	---	39	e32	10	4.4	3.0	3.5	3.7
30	6.5	8.8	12	8.6	---	43	e30	9.6	4.3	3.0	3.6	3.9
31	8.6	---	17	8.5	---	46	---	9.4	---	3.0	3.6	---
TOTAL	166.2	281.9	348.1	448.3	497.1	984	1318	511.0	182.8	109.6	104.6	102.2
MEAN	5.361	9.397	11.23	14.46	17.75	31.74	43.93	16.48	6.093	3.535	3.374	3.407
MAX	8.6	28	22	33	50	61	64	26	9.3	4.2	4.4	3.9
MIN	4.8	5.8	8.2	8.5	8.0	20	24	9.4	4.3	3.0	2.5	2.8
AC-FT	330	559	690	889	986	1950	2610	1010	363	217	207	203

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
MAXIMUM PEAK FLOW	1880 Feb 1 1963
MAXIMUM 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 - 2002, BY WATER YEAR (WY)

MEAN	9.110	16.31	20.57	29.60	35.53	46.81	52.31	56.10	34.59	14.20	9.918	8.923
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1972 - 2002

ANNUAL TOTAL	3315.59	5053.8	
ANNUAL MEAN	9.084	13.85	27.83
HIGHEST ANNUAL MEAN			74.5 1983
LOWEST ANNUAL MEAN			6.90 1977
HIGHEST DAILY MEAN	30 Mar 22	64 Apr 5	626 Mar 1 1986
LOWEST DAILY MEAN	0.89 Jun 27	2.5 Aug 13	0.20 Nov 9 1977
ANNUAL SEVEN-DAY MINIMUM	3.3 Aug 2	3.0 Aug 7	0.21 Nov 9 1977
MAXIMUM PEAK FLOW		70 Mar 6	663 Feb 28 1986
MAXIMUM PEAK STAGE		2.98 Mar 6	6.01 Apr 2 1974
ANNUAL RUNOFF (AC-FT)	6580	10020	20160
10 PERCENT EXCEEDS	18	32	69
50 PERCENT EXCEEDS	8.3	8.9	12
90 PERCENT EXCEEDS	3.9	3.4	4.4

10339400 MARTIS CREEK NEAR TRUCKEE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1975 to current year.

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.—Records good. Interruption in record was due to recording equipment failure. Water temperature is affected by regulation from Martis Creek Lake Dam (station 10339380). Unpublished chemical, 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, Feb. 10, 1999.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 22.0°C, July 10, 11, 14–16; minimum recorded, 1.5°C, Jan. 30.

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
NOV					
01...*	1445	--	.30	10.5	2.00
01...*	1446	--	.30	10.5	5.00
01...*	1447	--	.30	10.5	9.00
01...*	1448	--	.30	10.5	11.0
01...*	1449	--	.30	10.5	14.0
MAR					
01...*	1045	--	.30	3.8	2.00
01...*	1046	--	.30	3.8	6.00
01...*	1047	--	.30	3.8	10.0
01...*	1048	--	.30	3.9	14.0
01...*	1049	--	.30	3.9	18.0
AUG					
01...*	1440	1.00	.30	23.6	2.00
01...*	1442	1.30	.30	22.5	4.00
01...*	1446	1.20	.30	23.0	6.00
01...*	1448	1.35	.30	23.0	8.00
01...*	1450	.92	.30	22.5	10.0
01...*	1452	.67	.30	22.5	12.0
01...*	1454	.80	.30	22.5	14.0
01...*	1456	.82	.30	23.0	16.0
01...*	1458	.80	.30	23.0	18.0
01...*	1500	.72	.30	23.6	20.0

* Instantaneous discharge at the time of cross-sectional measurements: Nov. 1, 7.4 ft³/s; Mar. 1, 25 ft³/s; Aug. 1, 3.3 ft³/s.

PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

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.—Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.—Records good. 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.

EXTREMES (at 0800 hours) 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 hours) FOR CURRENT YEAR.—Maximum contents, 22,600 acre-ft, June 20, 21, maximum elevation, 5,730.55 ft, June 20; minimum, 8,050 acre-ft, Dec. 21, elevation, 5,698.09 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	5,670	2,230	5,700	8,636	5,730	22,220
5,640	143	5,680	3,791	5,710	12,147	5,740	28,949
5,650	491	5,690	5,901	5,720	16,643	5,750	37,046
5,660	1,148						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8180	8200	e8740	8300	8300	8730	e9930	13900	20000	22400	20100	17400
2	8180	8210	e8790	8360	8300	8700	9910	13900	20200	22400	20000	17200
3	8170	8220	e8820	8440	8310	8680	9910	14000	20400	22400	19900	17100
4	8160	8220	e8860	8490	8310	8640	10000	14100	20500	22400	19800	16900
5	8150	8230	8870	8550	8310	8560	10200	14400	20700	22300	19700	16800
6	8140	8240	8890	8630	8320	8500	10400	14600	20900	22300	e19600	16600
7	8120	8230	8910	8830	8320	8560	10400	14900	21100	22200	19500	16500
8	8120	8230	8920	8990	8340	8550	10500	e15200	21300	22200	19500	16400
9	8110	8240	8940	9100	8350	8480	10500	15400	21400	22100	19400	16200
10	8100	8230	8950	9180	8360	8430	10700	15600	21400	22000	19300	16100
11	8100	8260	8850	9180	8370	8350	10800	15700	21500	22000	19300	15900
12	8100	8270	8740	9160	8380	8370	11000	e15900	21600	21900	19200	15800
13	8110	8290	8640	9130	8390	8450	11200	16000	21800	21800	19100	15700
14	8110	8310	e8520	9100	8410	8510	11500	16300	22000	21800	19100	15500
15	8110	8320	e8410	9060	8420	8600	11900	16500	22100	21700	19000	15400
16	8110	8330	e8310	9020	8440	8720	12200	16800	22300	21600	18900	15200
17	8110	8310	e8210	8980	8470	8830	12200	17100	22400	21500	18900	15100
18	8110	8280	8180	8920	8480	8930	12200	17400	22400	21400	18800	15000
19	8120	8260	8120	8870	8500	9030	12300	17700	22500	21300	18700	14800
20	8120	8230	8100	8820	8580	9140	12400	18000	22600	21300	18700	14700
21	8120	8210	8050	8770	8710	9260	12500	18200	22600	21200	18600	14500
22	e8130	8330	8060	8730	8710	9390	12600	18200	22500	21100	18500	14400
23	8120	8460	8080	8670	8740	9510	12800	18300	22500	21000	18500	14300
24	8130	8490	8080	8610	8760	9570	13000	18400	22500	20900	18400	14100
25	8130	8650	8080	8550	8760	e9610	13200	18400	22400	20800	18300	13900
26	8140	8680	8090	8500	8750	9640	13400	18600	22400	20700	18100	13800
27	8140	8690	8100	8460	8740	9680	13500	18700	22400	20600	18000	13700
28	8140	8700	8120	8400	8740	9720	13600	18900	22400	20500	17900	13600
29	8150	e8740	8140	8350	---	9760	13700	19100	22400	20400	e17800	13400
30	8150	e8740	8170	8280	---	9850	13800	19400	22400	20300	17600	13300
31	8180	---	8220	8290	---	9880	---	19700	---	20200	17500	---
MEAN	8131	8360	8450	8733	8485	8988	11742	16752	21787	21506	18894	15310
MAX	8180	8740	8950	9180	8760	9880	13800	19700	22600	22400	20100	17400
MIN	8100	8200	8050	8280	8300	8350	9910	13900	20000	20200	17500	13300
a	5698.53		5698.67	5698.89	5700.34	5703.88	5714.04	5725.74	5730.35	5726.64	5721.71	5712.77
b	-20	+560	-520	+70	+450	+1140	+3920	+5900	+2700	-2200	-2700	-4200

CAL YR 2001 MEAN 9892 MAX 12500 MIN 8050 b -1690
WTR YR 2002 MEAN 13119 MAX 22600 MIN 8050 b +5100

e Estimated.
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.

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.

WATER TEMPERATURE: Water years 1993–98.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	4.9	19	20	23	66	173	95	87	54	54	69
2	9.3	4.9	21	21	23	66	197	80	87	55	54	69
3	9.2	4.9	19	21	23	66	197	80	88	55	53	68
4	9.1	5.0	19	20	23	78	198	80	89	54	53	68
5	9.2	6.3	20	21	23	94	198	81	89	54	53	68
6	9.2	7.1	20	21	23	96	198	81	89	54	43	68
7	9.2	7.3	20	21	23	94	199	81	89	54	34	68
8	9.0	7.3	19	21	23	95	199	81	89	54	34	68
9	7.7	7.3	19	20	23	94	183	81	89	54	34	69
10	5.5	7.2	45	38	23	93	170	81	72	55	34	69
11	4.5	7.5	65	51	23	72	171	82	45	55	34	71
12	4.6	7.5	64	50	23	52	171	82	33	54	33	71
13	4.8	7.4	64	50	23	51	172	82	33	54	33	70
14	4.7	7.4	63	49	23	33	172	82	33	54	33	70
15	4.6	7.2	63	50	23	13	172	83	33	53	33	70
16	4.5	14	63	50	23	11	172	83	33	54	33	70
17	4.5	19	50	49	23	11	158	83	51	53	33	69
18	4.6	19	39	49	23	11	125	83	64	54	32	69
19	4.6	19	39	49	23	11	74	84	64	54	32	69
20	4.8	19	39	49	25	11	61	84	81	54	32	69
21	4.9	19	28	49	51	15	61	84	93	54	32	69
22	5.0	20	19	49	67	31	61	84	93	54	32	69
23	5.0	19	19	49	67	47	61	85	93	54	32	69
24	4.8	20	19	49	67	55	72	85	85	54	47	69
25	4.6	19	19	49	67	55	93	85	76	54	58	68
26	4.6	19	19	49	67	55	103	85	71	53	58	68
27	4.5	19	19	48	67	67	104	85	71	53	58	68
28	4.6	19	20	48	66	88	104	86	65	54	57	67
29	4.8	19	20	48	---	98	105	87	55	54	57	67
30	5.0	19	20	35	---	124	104	87	55	54	64	67
31	4.9	---	20	23	---	145	---	87	---	54	69	---
TOTAL	185.7	381.2	992	1216	981	1898	4228	2589	2095	1674	1338	2063
MEAN	5.990	12.71	32.00	39.23	35.04	61.23	140.9	83.52	69.83	54.00	43.16	68.77
MAX	9.4	20	65	51	67	145	199	95	93	55	69	71
MIN	4.5	4.9	19	20	23	11	61	80	33	53	32	67
AC-FT	368	756	1970	2410	1950	3760	8390	5140	4160	3320	2650	4090

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
MAXIMUM PEAK FLOW	4560 Dec 23 1955
MAXIMUM 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 - 2002, BY WATER YEAR (WY)

MEAN	90.15	39.14	54.85	76.98	73.33	115.8	123.9	207.7	108.6	59.01	48.99	106.3
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1964 - 2002

ANNUAL TOTAL	12391.2	19640.9	
ANNUAL MEAN	33.95	53.81	92.18
HIGHEST ANNUAL MEAN			214 1983
LOWEST ANNUAL MEAN			24.4 1977
HIGHEST DAILY MEAN	164 Mar 27	199 Apr 7	1790 Feb 21 1986
LOWEST DAILY MEAN	4.5 Oct 11	4.5 Oct 11	0.02 Jan 2 1975
ANNUAL SEVEN-DAY MINIMUM	4.6 Oct 11	4.6 Oct 11	0.30 Apr 13 1977
MAXIMUM PEAK FLOW		204 Apr 6	2030 Jan 3 1997
MAXIMUM PEAK STAGE		3.70 Apr 6	6.72 Jan 3 1997
ANNUAL RUNOFF (AC-FT)	24580	38960	66780
10 PERCENT EXCEEDS	88	93	209
50 PERCENT EXCEEDS	23	53	49
90 PERCENT EXCEEDS	7.5	7.5	9.5

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, 18,300 acre-ft, June 5, 2002, elevation, 6,950.38 ft; minimum, 4,750 acre-ft, Nov. 10, 11, 1988, elevation, 6,929.39 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 18,300 acre-ft, June 5, elevation, 6,950.38 ft; minimum, 14,700 acre-ft, Nov. 20, elevation, 6,945.29 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	6,930	5,110	6,940	11,240	6,950	18,000
6,925	2,220	6,935	8,110	6,945	14,530		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15400	14900	15200	15700	16100	16300	17000	17000	18100	18200	17900	17500
2	15300	14900	15400	15700	16100	16300	17000	17000	18200	18200	17900	17500
3	15300	14800	15400	15800	16100	16300	17100	17000	18200	18100	17900	17500
4	15200	14800	15400	15800	16100	16300	17200	17000	18200	18100	17800	17400
5	15200	14800	15500	15800	16100	16400	17300	17100	18300	18100	17800	17400
6	15100	14800	15500	15900	16100	16500	17300	17100	18200	18100	17800	17300
7	15100	14800	15500	15900	16100	16600	17300	17100	18200	18000	17800	17300
8	15000	14800	15500	15900	16100	16600	17300	17200	18100	18000	17800	17300
9	15100	14800	15400	15900	16100	16600	17300	17200	18100	18100	17800	17300
10	15100	14800	15400	15900	16100	16600	17300	17200	18000	18100	17800	17300
11	15000	14800	15400	15900	16100	16600	17300	17200	18000	18100	17800	17300
12	15000	14800	15400	15900	16100	16600	17300	17200	18000	18000	17800	17300
13	15000	14800	15500	15900	16100	16700	17300	17300	17900	18000	17700	17200
14	15000	14800	15500	15900	16100	16700	17400	17300	18000	18000	17700	17100
15	15000	14800	15500	15900	16100	16700	17400	17300	18000	18000	17700	17000
16	e15000	14800	15500	15900	16100	16700	17300	17400	18000	18000	17700	17000
17	e15000	14800	15600	15900	16200	16700	17300	17400	18000	18000	17700	16900
18	e15000	14800	15600	15900	16200	16700	17300	17500	18000	18000	17700	16800
19	15000	14800	15600	15900	16200	16700	17300	17500	18000	18000	17600	16700
20	15000	14700	15600	15900	16200	16700	17200	e17400	18100	18000	17600	16600
21	14900	14900	15600	15900	16200	16800	17100	e17400	18100	18000	17600	16600
22	14900	14900	15600	15900	16300	16800	17100	e17400	18100	18000	17600	16400
23	14900	14900	15600	15900	16300	16800	17100	17400	18200	18000	17600	16300
24	14900	15100	15600	15900	16300	16800	17000	17300	18200	18000	17600	16100
25	14900	15100	15600	15900	16300	16900	17100	17300	18200	18000	17500	16000
26	14900	15100	15600	16100	16300	16900	17100	17400	18200	18000	17500	15900
27	14900	15100	15600	16100	16300	16900	17100	17500	18200	18000	17500	15800
28	14800	15100	15700	16100	16300	16900	17000	17500	18200	17900	17500	15700
29	14800	15100	15700	16100	---	16900	17100	17700	18200	17900	17500	15500
30	14900	15100	15700	16100	---	16900	17000	17800	18200	17900	17500	15400
31	14900	---	15700	16100	---	16900	---	18000	---	17900	17500	---
MAX	15400	15100	15700	16100	16300	16900	17400	18000	18300	18200	17900	17500
MIN	14800	14700	15200	15700	16100	16300	17000	17000	17900	17900	17500	15400
a	6945.50	6945.84	6946.70	6947.24	6947.61	6948.47	6948.61	6949.96	6950.27	6949.88	6949.28	6946.26
b	+100	+200	+600	+400	+200	+600	+100	+1000	+200	-300	-400	-2100

CAL YR 2001 MAX 17500 MIN 13400 b +2300

WTR YR 2002 MAX 18300 MIN 14700 b +600

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA

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

DRAINAGE AREA.—8.10 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	4.4	4.0	4.2	4.2	4.2	5.5	41	28	e15	2.9	1.7
2	21	4.4	e4.2	4.2	4.3	4.2	5.6	40	28	e15	2.6	e1.6
3	21	4.4	4.2	4.2	4.3	4.2	13	40	44	e14	2.7	e1.5
4	21	4.4	e4.0	4.2	4.2	4.2	20	41	59	14	2.8	e2.7
5	20	4.4	e4.0	4.4	4.2	4.2	21	42	74	12	2.7	3.5
6	21	4.4	4.0	4.4	4.2	4.3	33	43	83	11	2.7	3.4
7	21	4.2	4.0	4.4	4.3	4.3	43	45	81	10	2.6	3.3
8	12	4.2	4.1	4.4	4.2	4.2	44	46	78	7.3	2.1	3.2
9	3.5	4.2	4.2	4.4	4.2	4.2	51	47	74	4.2	2.2	3.1
10	3.2	4.2	4.2	4.4	4.4	4.3	58	48	69	3.5	2.2	5.0
11	3.1	4.2	4.2	4.4	4.4	4.3	61	47	66	3.3	2.1	8.6
12	3.1	4.3	4.2	4.4	4.4	4.4	61	47	63	3.2	2.2	17
13	3.1	4.2	4.2	4.4	4.4	4.4	62	48	49	3.3	2.5	31
14	3.1	4.2	4.3	4.4	4.4	4.4	67	50	34	3.1	2.6	40
15	3.1	4.2	4.2	4.4	4.4	4.4	77	54	34	3.0	2.7	39
16	3.1	4.1	4.2	4.3	4.4	4.4	74	58	34	3.1	2.5	39
17	3.0	4.0	4.2	4.3	4.4	4.4	71	62	33	3.1	2.7	39
18	2.9	4.0	4.2	4.3	4.4	4.4	66	69	25	2.7	2.8	38
19	2.8	4.0	4.1	4.2	4.4	4.4	60	72	14	2.2	2.5	38
20	2.8	4.0	4.2	4.2	4.4	4.4	55	72	5.6	2.2	2.2	39
21	2.6	4.0	4.2	4.3	4.4	4.7	51	69	5.3	2.0	2.1	51
22	2.3	4.1	4.3	4.2	4.4	5.0	49	65	5.0	1.8	2.4	61
23	2.2	4.0	4.2	4.2	4.4	5.0	48	62	5.0	2.0	2.5	62
24	3.3	4.1	4.2	4.2	4.4	5.0	47	60	4.7	1.6	2.1	61
25	4.4	4.0	4.2	4.2	4.3	5.0	46	41	4.4	2.4	1.7	61
26	4.4	4.0	4.2	4.4	4.2	5.0	47	27	11	2.8	2.2	61
27	4.4	4.0	4.2	4.3	4.2	5.2	44	27	18	2.4	2.4	61
28	4.4	4.0	4.2	4.4	4.2	5.2	42	27	17	2.0	2.3	60
29	4.4	4.0	4.2	4.4	---	5.2	43	27	17	1.9	2.0	60
30	4.4	4.0	4.2	4.4	---	5.2	42	28	16	2.2	1.7	60
31	4.4	---	4.2	4.3	---	5.3	---	29	---	3.0	1.7	---
TOTAL	235.0	124.6	129.2	133.8	121.0	142.0	1407.1	1474	1079.0	159.3	73.4	955.6
MEAN	7.581	4.153	4.168	4.316	4.321	4.581	46.90	47.55	35.97	5.139	2.368	31.85
MAX	21	4.4	4.3	4.4	4.4	5.3	77	72	83	15	2.9	62
MIN	2.2	4.0	4.0	4.2	4.2	4.2	5.5	27	4.4	1.6	1.7	1.5
AC-FT	466	247	256	265	240	282	2790	2920	2140	316	146	1900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
MEAN	15.20	20.32	11.90	12.96	11.64	14.89	20.56	43.57	54.62	25.89	19.14	21.21
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	0.47	1.36	0.70	1.04	1.07	1.45	1.50	1.51	2.09	1.78	2.05	0.58
(WY)	1980	1989	1993	1993	1974	1977	1977	1977	1977	1977	1976	1979

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1968 - 2002
ANNUAL TOTAL	2585.6	6034.0	
ANNUAL MEAN	7.084	16.53	22.64
HIGHEST ANNUAL MEAN			46.7
LOWEST ANNUAL MEAN			7.07
HIGHEST DAILY MEAN	26	83	295
LOWEST DAILY MEAN	1.9	1.5	0.02
ANNUAL SEVEN-DAY MINIMUM	2.3	1.8	0.02
MAXIMUM PEAK FLOW		85	325
MAXIMUM PEAK STAGE		3.68	8.16
ANNUAL RUNOFF (AC-FT)	5130	11970	16400
10 PERCENT EXCEEDS	21	58	61
50 PERCENT EXCEEDS	4.7	4.4	11
90 PERCENT EXCEEDS	3.2	2.6	2.2

e Estimated.

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1953 to current year.

PRECIPITATION DATA: Water years 1990–96.

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 daily discharges. 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	Discharge Time	Gage height (ft ³ /s)	(ft)
Apr. 14	1730	68	2.80

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.1	3.0	4.6	2.9	5.2	15	17	14	3.2	1.8	1.6
2	1.8	2.1	3.5	5.7	2.9	e5.3	17	18	12	3.1	1.8	1.5
3	1.8	2.1	4.0	6.1	2.9	e5.1	21	20	12	2.9	1.8	1.5
4	1.8	2.0	3.4	4.8	2.9	4.7	24	22	11	2.9	1.8	1.5
5	1.8	2.0	3.3	4.7	2.9	4.8	28	24	11	2.8	1.7	1.5
6	1.8	2.0	3.3	10	2.9	9.3	26	25	11	2.8	1.8	1.6
7	1.8	2.0	3.5	8.0	3.0	8.3	25	26	10	2.7	1.8	1.7
8	1.8	2.1	3.3	6.6	3.0	6.7	27	24	9.8	2.6	1.7	1.7
9	1.8	2.1	3.3	5.8	e3.0	5.9	28	23	9.1	2.6	1.7	1.7
10	1.8	2.1	3.3	5.2	e2.9	5.6	30	22	8.4	2.5	1.6	1.6
11	1.9	3.7	3.1	4.9	2.9	5.7	30	20	7.8	2.4	1.6	1.6
12	1.8	3.4	3.1	4.6	2.9	6.4	32	20	7.3	2.4	1.6	1.6
13	1.9	2.9	3.1	4.5	3.0	6.0	33	20	7.0	2.4	1.6	1.6
14	1.9	2.6	3.2	4.3	3.0	5.5	44	21	6.6	2.3	1.6	1.5
15	1.9	2.4	3.0	e4.2	3.0	e5.4	38	21	6.2	2.2	1.6	1.5
16	1.8	2.4	3.0	e4.1	3.0	5.3	27	20	5.8	2.2	1.6	1.6
17	1.8	2.3	3.1	3.8	3.1	4.9	23	20	5.6	2.2	1.6	1.6
18	1.8	2.3	3.0	e3.7	3.1	e4.9	19	21	5.5	2.4	1.5	1.6
19	1.9	2.3	3.0	3.5	3.6	4.9	17	19	5.4	2.4	1.5	1.6
20	1.9	2.3	3.1	3.6	6.4	5.1	16	21	5.2	2.3	1.6	1.6
21	1.9	5.2	3.0	3.3	5.9	5.8	17	18	4.9	2.2	1.6	1.6
22	1.9	11	3.0	e3.2	6.0	6.7	18	16	4.7	2.0	1.6	1.5
23	1.9	4.1	3.0	3.2	6.8	6.6	20	15	4.5	2.0	1.6	1.5
24	1.9	12	3.0	3.1	5.8	5.8	21	14	4.3	1.9	1.6	1.5
25	1.9	5.4	3.0	3.1	5.5	5.6	23	14	4.1	1.9	1.6	1.5
26	1.9	3.8	3.0	3.1	5.5	5.8	24	13	4.0	1.9	1.6	1.6
27	1.9	3.3	3.0	3.2	5.5	6.7	21	13	3.8	1.9	1.6	1.6
28	1.9	3.1	3.3	e3.1	5.4	8.2	19	13	3.7	1.8	1.6	1.6
29	1.9	3.1	3.5	3.1	---	10	22	13	3.5	1.8	1.6	1.6
30	2.9	2.9	3.7	3.0	---	12	19	13	3.4	1.8	1.6	1.7
31	2.4	---	5.6	2.9	---	13	---	14	---	1.8	1.6	---
TOTAL	59.0	101.1	101.7	137.0	109.7	201.2	724	580	211.6	72.3	50.9	47.4
MEAN	1.903	3.370	3.281	4.419	3.918	6.490	24.13	18.71	7.053	2.332	1.642	1.580
MAX	2.9	12	5.6	10	6.8	13	44	26	14	3.2	1.8	1.7
MIN	1.8	2.0	3.0	2.9	2.9	4.7	15	13	3.4	1.8	1.5	1.5
AC-FT	117	201	202	272	218	399	1440	1150	420	143	101	94

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.448	5.067	7.088	8.529	8.131	10.67	24.50	43.42	25.19	7.209	3.127	2.734
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1954 - 2002	
ANNUAL TOTAL	1436.7		2395.9			
ANNUAL MEAN	3.936		6.564		12.44	
HIGHEST ANNUAL MEAN					30.0 1983	
LOWEST ANNUAL MEAN					2.65 1977	
HIGHEST DAILY MEAN	16	Apr 26	44	Apr 14	800	Jan 1 1997
LOWEST DAILY MEAN	1.6	Jul 27	1.5	Aug 18	1.0	Sep 13 1960
ANNUAL SEVEN-DAY MINIMUM	1.6	Aug 3	1.5	Aug 30	1.1	Sep 9 1960
MAXIMUM PEAK FLOW			68 Apr 14		1230 Jan 1 1997	
MAXIMUM PEAK STAGE			2.80 Apr 14		5.20 Jan 1 1997	
ANNUAL RUNOFF (AC-FT)	2850		4750		9010	
10 PERCENT EXCEEDS	9.4		20		32	
50 PERCENT EXCEEDS	3.0		3.1		4.5	
90 PERCENT EXCEEDS	1.7		1.6		1.9	

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

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

SPECIFIC CONDUCTANCE: November 2000 to current year.

WATER TEMPERATURE: Water years 1970–1974, November 2000 to current year.

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

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: November 2000 to current year.

WATER TEMPERATURE: October 1970 to September 1974, November 2000 to current year.

INSTRUMENTATION.—Water-temperature and specific conductance recorder since November 2000.

REMARKS.—Specific conductance records rated fair. Temperature records are excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 212 microsiemens, Aug. 6, 2002; minimum recorded, 46 microsiemens, Apr. 14, 2002.

WATER TEMPERATURE: Maximum recorded, 20.5°C, June 28, 30, 1973; minimum recorded, –0.5°C, many days in November 2000 through March 2001.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 212 microsiemens, Aug. 6; minimum recorded, 46 microsiemens, Apr. 14.

WATER TEMPERATURE: Maximum recorded, 20.0°C, July 10, 14; minimum recorded, 0.0°C, many days October–March.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	138	134	136	133	115	108	103	100	115	112	93	91
2	138	135	135	132	112	94	103	84	116	112	95	92
3	138	136	135	132	109	102	97	86	116	113	96	93
4	138	136	134	131	112	109	101	97	117	113	95	93
5	138	135	134	131	112	108	102	92	117	113	95	91
6	138	135	133	130	113	109	92	76	116	113	92	73
7	138	135	133	130	112	109	85	80	115	109	82	77
8	137	134	133	130	112	110	90	85	115	110	85	82
9	137	135	133	129	113	111	93	90	117	114	87	85
10	137	134	132	129	114	112	95	93	117	113	89	84
11	137	133	131	121	115	113	97	95	116	113	89	84
12	137	134	127	116	115	114	98	97	115	113	86	82
13	136	134	126	119	115	110	100	98	115	111	86	83
14	136	133	128	124	115	108	101	99	114	112	90	86
15	136	133	129	126	117	113	103	100	114	111	92	86
16	136	133	129	126	117	113	105	102	113	111	92	89
17	136	133	130	127	115	109	106	102	113	110	92	90
18	136	134	130	127	115	114	109	104	113	110	96	89
19	137	133	130	126	116	114	109	105	113	96	94	89
20	136	133	130	126	115	112	110	105	96	89	92	89
21	136	133	129	88	116	115	109	104	94	91	90	84
22	136	133	98	78	116	111	111	107	94	88	86	82
23	136	133	110	98	116	114	114	109	90	86	86	81
24	136	133	111	68	117	115	114	108	91	89	88	86
25	135	132	100	83	117	114	112	109	92	91	89	86
26	135	132	108	100	116	114	111	106	92	90	89	85
27	136	131	112	108	116	113	112	108	91	90	86	81
28	135	132	113	109	115	109	115	110	92	90	82	76
29	135	132	114	108	112	109	116	111	---	---	79	73
30	144	134	116	114	110	98	116	111	---	---	75	71
31	137	134	---	---	100	91	116	111	---	---	72	68
MONTH	144	131	136	68	117	91	116	76	117	86	96	68

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	70	65	58	56	58	55	105	99	143	135	153	150
2	68	62	58	55	60	56	106	101	182	141	153	150
3	65	60	56	53	61	58	108	102	165	145	153	150
4	63	57	56	51	62	60	110	104	180	149	152	150
5	59	55	54	50	63	60	111	106	200	150	152	149
6	58	56	55	49	62	60	113	107	212	150	152	149
7	58	55	53	50	63	60	114	109	191	151	151	149
8	58	54	54	51	65	62	115	110	192	152	151	148
9	56	53	54	51	68	64	118	112	188	152	150	148
10	56	53	55	52	68	67	120	114	160	153	151	148
11	56	52	56	53	71	68	121	115	168	155	151	148
12	55	51	55	52	73	71	160	116	165	156	151	148
13	54	50	54	51	75	73	133	117	171	157	151	148
14	53	46	54	51	77	74	162	118	200	158	151	148
15	51	48	54	51	78	75	129	119	190	158	152	148
16	53	51	54	52	79	76	124	119	181	157	151	148
17	55	53	54	51	81	78	141	119	159	155	151	147
18	56	55	54	51	82	78	124	118	160	155	150	147
19	57	56	54	51	84	79	163	118	156	154	150	147
20	58	57	56	54	86	81	151	120	155	153	150	147
21	58	56	57	55	87	83	165	120	154	152	150	147
22	58	55	58	56	88	84	130	123	155	152	150	147
23	57	54	58	57	90	86	134	123	154	152	150	147
24	56	54	59	57	93	87	132	124	153	151	149	147
25	56	53	59	57	94	89	154	125	153	151	149	146
26	54	53	60	57	95	91	161	124	153	151	149	146
27	56	53	60	58	97	92	148	125	153	150	149	146
28	56	55	60	57	99	93	157	127	152	150	149	145
29	56	55	61	57	101	95	175	131	152	150	149	145
30	57	55	60	56	103	97	175	132	153	150	148	144
31	---	---	58	55	---	---	139	134	152	150	---	---
MONTH	70	46	61	49	103	55	175	99	212	135	153	144

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.5	6.0	5.5	2.0	1.5	0.0	3.5	2.5	1.5	0.5	2.5	0.0
2	11.5	6.0	6.0	2.5	1.0	0.0	3.0	1.5	1.5	0.0	2.5	0.0
3	11.5	0.0	5.5	2.5	0.0	0.0	2.0	1.0	1.5	0.0	3.0	0.0
4	10.5	5.5	6.0	2.5	1.0	0.0	2.0	0.0	1.5	0.0	3.5	0.5
5	9.5	5.0	6.0	3.0	2.0	0.5	3.5	1.5	1.5	0.0	4.0	1.0
6	10.0	5.5	6.0	2.5	2.5	1.5	2.5	1.5	1.5	0.0	2.0	0.0
7	9.5	5.0	5.0	2.0	2.0	1.0	3.0	1.5	2.5	0.0	1.5	0.0
8	9.5	5.5	4.5	1.5	2.5	1.0	3.0	1.5	2.0	0.5	2.5	0.0
9	8.0	3.5	4.5	1.0	3.0	2.0	3.5	2.0	1.5	0.0	3.0	0.0
10	7.5	2.5	5.0	2.0	2.5	1.5	2.5	1.5	2.0	0.0	3.0	0.0
11	9.0	5.5	6.0	4.0	2.5	1.0	3.0	0.5	3.0	0.5	4.5	1.0
12	8.0	3.5	6.0	4.0	2.5	1.0	2.5	1.5	3.0	1.5	3.5	1.5
13	8.0	3.0	5.5	3.5	3.0	0.0	1.5	0.0	3.5	1.5	3.0	0.0
14	8.0	3.5	6.0	3.5	0.5	0.0	1.5	0.0	3.5	2.0	2.5	0.0
15	8.5	3.5	5.5	2.5	1.0	0.0	1.0	0.0	3.5	1.5	1.5	0.0
16	8.5	4.5	6.0	4.0	2.5	0.0	0.5	0.0	3.5	1.5	2.0	0.0
17	8.5	5.0	5.5	3.5	2.5	0.5	1.5	0.0	3.5	1.5	2.5	0.0
18	8.0	3.5	4.5	2.0	1.5	0.5	0.0	0.0	3.5	1.5	2.0	0.0
19	8.0	3.5	5.5	2.0	3.0	1.5	0.5	0.0	3.5	2.0	4.0	0.0
20	8.0	3.5	6.0	4.0	2.5	1.0	1.5	0.0	3.5	1.5	5.0	0.5
21	8.5	4.0	5.0	3.5	2.5	1.5	1.5	0.0	3.5	1.0	5.5	1.5
22	7.5	3.5	4.0	2.5	2.0	1.0	0.5	0.0	4.0	1.5	5.0	1.0
23	7.5	4.5	4.0	1.0	2.5	1.5	0.0	0.0	3.5	1.5	3.0	0.5
24	6.5	2.0	3.0	1.0	2.0	0.5	1.0	0.0	3.5	0.5	3.5	1.5
25	6.5	3.0	3.0	0.5	2.5	0.0	2.0	1.0	3.5	0.5	4.5	0.0
26	7.0	3.0	2.0	0.0	3.5	2.5	1.5	0.0	4.0	0.5	5.5	1.0
27	8.0	4.5	1.5	0.0	3.5	2.5	1.5	0.0	3.5	1.0	5.5	0.5
28	8.0	5.0	2.5	0.0	3.5	2.5	0.5	0.0	3.5	0.0	5.5	1.0
29	7.0	5.0	2.0	0.0	3.5	2.5	0.0	0.0	---	---	5.5	1.0
30	7.0	5.5	2.5	0.5	3.5	2.5	0.0	0.0	---	---	5.5	1.0
31	6.5	4.0	---	---	2.5	2.0	0.5	0.0	---	---	5.5	1.0
MONTH	11.5	0.0	6.0	0.0	3.5	0.0	3.5	0.0	4.0	0.0	5.5	0.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.5	1.0	6.5	2.0	12.0	7.0	18.5	8.0	18.5	9.5	15.0	7.5
2	5.5	1.0	9.5	2.0	13.0	4.0	18.5	9.5	18.0	9.5	15.5	8.0
3	5.5	1.0	10.0	2.5	14.0	5.0	18.0	9.0	17.5	9.0	14.5	8.0
4	6.0	1.0	10.0	2.5	15.0	6.0	18.0	8.0	17.0	10.0	14.5	8.5
5	5.0	1.0	10.0	2.5	16.0	6.5	18.0	8.0	16.0	8.5	14.0	8.5
6	5.5	1.0	10.0	2.5	16.0	6.5	18.5	8.0	15.5	7.0	12.0	7.5
7	6.0	1.0	9.0	2.5	15.5	6.5	18.5	9.0	15.5	6.5	11.0	4.5
8	6.0	1.5	9.0	2.0	14.0	6.5	18.5	8.0	15.5	6.0	11.5	4.5
9	4.0	2.0	9.5	2.5	12.5	4.5	19.5	8.5	16.0	7.0	12.0	5.0
10	6.5	2.0	7.5	3.0	14.0	4.5	20.0	9.5	16.5	7.5	12.0	5.0
11	6.0	1.5	10.0	2.5	15.0	5.0	18.0	10.0	16.5	8.0	12.5	6.0
12	7.0	1.5	10.5	2.5	16.0	6.5	16.5	11.0	17.5	8.5	12.5	6.0
13	7.5	1.5	9.0	3.5	16.5	7.0	19.5	10.5	17.5	9.0	13.0	6.0
14	7.5	2.0	11.5	3.5	16.5	7.0	20.0	10.5	17.5	9.5	12.5	6.0
15	4.0	1.0	11.5	4.0	16.0	5.5	18.5	10.0	17.5	9.5	13.0	8.0
16	3.5	0.5	12.0	3.5	16.0	5.5	19.5	10.5	17.0	9.0	11.5	5.5
17	3.5	0.5	12.5	4.5	16.5	7.5	17.0	9.5	16.5	8.0	11.0	5.5
18	3.0	1.0	12.0	5.5	17.0	8.0	13.5	9.5	16.0	7.0	11.5	5.0
19	5.0	1.0	10.0	5.0	17.0	7.5	16.5	9.0	15.0	7.0	11.5	5.0
20	6.0	0.5	6.5	3.5	17.0	8.0	18.0	9.0	14.0	6.5	12.0	5.0
21	8.5	1.0	9.0	3.0	17.0	8.0	18.0	10.0	14.0	5.5	12.0	5.5
22	9.0	1.0	10.5	2.0	15.5	8.0	18.5	9.0	14.0	6.0	12.0	6.0
23	9.5	1.5	11.0	3.0	17.0	7.5	17.5	7.5	14.0	5.5	12.0	6.0
24	8.5	2.0	12.0	3.5	17.0	7.0	18.0	9.0	14.0	5.5	11.5	5.5
25	9.0	3.0	12.5	4.5	17.5	8.0	17.0	7.5	14.0	5.5	11.0	4.5
26	6.5	3.0	12.5	4.0	18.5	9.5	17.5	7.5	14.0	6.0	10.5	4.5
27	6.5	2.0	12.5	5.0	18.0	8.0	18.0	9.0	14.0	6.5	11.0	7.0
28	7.0	2.0	14.0	5.5	18.0	8.5	18.5	9.0	14.0	6.5	9.0	5.0
29	6.0	1.5	15.0	5.5	18.5	8.5	18.0	8.5	14.5	7.0	9.0	4.5
30	7.5	2.0	15.0	6.0	18.5	8.5	17.5	9.5	15.0	7.5	8.5	4.0
31	---	---	14.5	5.5	---	---	18.5	9.0	14.5	8.0	---	---
MONTH	9.5	0.5	15.0	2.0	18.5	4.0	20.0	7.5	18.5	5.5	15.5	4.0

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA—Continued

CROSS SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL						
09...*	1300	1.10	.50	15.5	113	1.00
09...*	1301	1.20	.50	15.5	114	3.00
09...*	1302	1.30	.50	15.5	114	5.00
09...*	1303	1.30	.50	15.5	114	7.00
09...*	1304	1.20	.50	15.0	114	9.00
09...*	1305	1.10	.50	15.0	114	11.0

* Instantaneous discharge at the time of cross-sectional measurements: Jul. 9, 26 ft³/s.

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.—Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.—Records good. 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](#).

EXTREMES (at 0800 hours) 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 hours) FOR CURRENT YEAR.—Maximum contents, 160,200 acre-ft, Oct. 1, elevation, 5,927.51 ft, Oct. 1; minimum, 109,700 acre-ft, Sept. 19, elevation, 5,907.35 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160200	156500	155500	154100	153900	153500	151800	143200	133000	120600	113600	110800
2	160100	156500	155800	154200	154000	153400	151900	e142100	132400	120500	113500	110700
3	160000	156300	156000	154200	154000	153300	152100	141000	131800	120300	113300	110700
4	159800	156300	156000	154200	154000	153300	152400	140100	131200	120100	113200	110500
5	159700	156200	156000	154200	154000	153300	152900	139300	130500	119900	113000	110400
6	159600	156100	155800	154200	154000	153300	153300	138600	129900	119700	e112800	110300
7	159400	156000	155700	154200	154000	e153600	153700	138200	129400	119500	112700	110200
8	159300	155900	155600	154200	154200	153600	154100	137900	128800	119200	112600	110100
9	159100	155900	155500	154300	154100	153500	154400	137700	128100	119000	112500	110000
10	158900	155800	155400	154200	154100	153400	154600	137400	127300	118800	112400	110000
11	158800	155800	155300	154200	154100	e153300	154500	137000	126500	118600	112400	109900
12	158600	155800	155100	154200	154100	153300	154400	e136600	125800	118400	e112300	109900
13	158500	155800	155000	154100	154000	153200	154200	136200	125400	118100	112300	109800
14	158400	155700	155200	154200	154000	153100	154100	136000	124800	117900	112200	109800
15	158200	155600	155000	154100	153900	153000	154300	136000	124200	117700	112100	109900
16	158100	155600	154800	154000	153900	152800	154400	136000	123800	117400	112100	109800
17	158000	155500	e154900	154000	153900	152700	154100	136000	123200	117200	112000	109800
18	157900	155400	154700	153900	153800	152500	153600	135900	122800	117000	111900	109800
19	e157800	155300	154700	153900	153700	152300	153100	136100	122400	116800	111800	109700
20	157700	155200	154700	153800	153700	152200	152500	136200	122200	116500	111700	109800
21	157600	155100	154500	153900	153700	152100	151900	136100	122000	116100	e111600	109800
22	e157400	155400	154400	153900	153700	152000	151200	135800	121800	115800	e111500	109800
23	157400	155500	154400	153800	153700	e152000	150500	135600	121700	115400	111400	109900
24	157100	155700	154300	153700	153700	152000	149600	135200	121700	115000	111300	e109900
25	157100	155800	154200	153800	153600	e152000	148900	134900	121500	114700	111300	109900
26	156900	155700	154200	153800	153600	151900	148000	134500	121400	114400	111200	110000
27	156900	155600	154100	154000	153600	151900	147200	134100	121200	e114300	111100	110100
28	156800	155700	154200	153900	153600	151800	146100	133900	121100	114200	111000	110100
29	156700	e155700	154200	153900	---	151700	145200	133700	120900	114000	111000	110100
30	156700	155600	154200	153900	---	151700	144300	133700	120800	113900	110900	110100
31	156600	---	154200	153900	---	151700	---	133300	---	113800	110800	---
MAX	160200	156500	156000	154300	154200	153600	154600	143200	133000	120600	113600	110800
MIN	156600	155100	154100	153700	153600	151700	144300	133300	120800	113800	110800	109700
a	5926.27	5925.88	5925.37	5925.28	5925.16	5924.48	5921.64	5917.38	5912.18	5909.10	5907.82	5907.49
b	-3700	-1000	-1400	-300	-300	-1900	-7400	-11000	-12500	-7000	-3000	-700

CAL YR 2001 MAX 200700 MIN 154100 b -46800
WTR YR 2002 MAX 160200 MIN 109700 b -50200

e Estimated.

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: 1903–04, 1906–07, 1910, drainage area at site used in 1903–07.

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 good. Flow regulated by Independence Lake (station 10342900) since 1939 and Stampede Reservoir (station 10344300) since 1969. There is one transbasin diversion to Sierra Valley. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Water years 1939–68, prior to construction of Stampede Dam, 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, 3.0 ft³/s, Nov. 30, 1954. Maximum discharge since construction of Stampede Dam in 1969, 3,850 ft³/s, Jan. 3, 1997, gage height, 5.26 ft; minimum daily, 0.30 ft³/s, Sept. 16–21, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	52	86	67	e34	105	230	781	590	97	68	32
2	83	54	90	68	e34	104	225	781	590	97	68	32
3	83	54	67	68	e34	104	222	735	589	97	67	32
4	83	54	81	67	e34	104	222	702	589	97	67	32
5	83	54	83	67	e34	105	225	701	588	110	67	32
6	83	54	85	67	e34	112	224	641	588	118	59	32
7	83	54	85	67	e34	133	223	521	587	118	41	32
8	83	54	85	67	33	147	268	480	585	118	33	32
9	83	54	86	67	e34	147	355	479	584	118	33	32
10	83	54	86	67	e34	147	441	485	583	118	32	32
11	83	55	86	67	60	148	536	490	525	118	33	32
12	71	55	86	67	80	153	581	489	428	118	32	32
13	62	54	86	66	80	153	581	442	388	118	32	32
14	62	54	86	65	80	150	582	393	387	118	32	32
15	62	54	85	65	81	149	584	393	387	117	32	32
16	62	54	86	65	81	149	585	393	387	117	32	32
17	62	54	86	65	81	149	584	393	328	118	32	32
18	62	54	86	58	81	147	584	393	272	143	32	32
19	62	54	86	52	82	148	583	393	223	164	32	32
20	62	54	85	52	83	149	582	393	169	159	32	32
21	62	55	73	51	84	151	581	393	121	163	32	32
22	62	57	65	52	97	155	581	391	100	163	32	32
23	77	54	65	e51	107	151	638	392	99	163	32	32
24	64	59	65	e51	107	150	676	391	99	162	32	32
25	58	56	65	51	106	148	739	391	99	127	32	32
26	51	54	65	52	106	149	782	390	98	75	32	32
27	50	54	65	51	107	150	784	390	98	67	32	32
28	50	70	66	e44	106	196	782	388	98	68	32	32
29	50	86	66	e34	---	231	786	388	98	68	32	32
30	51	84	67	e34	---	231	783	442	98	68	32	32
31	51	---	67	e34	---	230	---	545	---	68	32	---
TOTAL	2094	1709	2421	1799	1948	4645	15549	14979	10375	3570	1208	960
MEAN	67.55	56.97	78.10	58.03	69.57	149.8	518.3	483.2	345.8	115.2	38.97	32.00
MAX	83	86	90	68	107	231	786	781	590	164	68	32
MIN	50	52	65	34	33	104	222	388	98	67	32	32
AC-FT	4150	3390	4800	3570	3860	9210	30840	29710	20580	7080	2400	1900

e Estimated.

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.—Water-stage recorder. 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](#).

EXTREMES (at 0800 hours) 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 hours) FOR CURRENT YEAR.—Maximum contents, 40,100 acre-ft, July 25–27, maximum elevation, 5,604.27 ft, July 25; minimum, 5,020 acre-ft, Nov. 22, elevation, 5,550.21 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	5,555	6,725	5,580	20,002	5,600	36,128
5,545	3,513	5,560	8,778	5,590	27,488	5,605	40,868
5,550	4,970	5,570	13,768				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8580	7650	5520	6660	7890	8790	17400	31800	35100	38800	39800	39000
2	8520	7570	5640	6740	7750	8960	17900	32500	34800	38900	39800	38800
3	8480	7490	5810	6890	7620	9120	18300	33200	34500	38900	39700	38600
4	8420	7420	5870	7040	7490	9270	18700	33700	34400	38900	39700	38400
5	8370	7350	5950	7150	7360	9430	19200	34200	34300	38800	39700	38000
6	8330	7270	6030	7250	7240	9620	19600	34700	34400	38800	39700	37700
7	8280	7190	6120	7400	7250	9900	20000	35100	34600	38900	39700	37300
8	8230	7070	6210	7540	7220	10200	20400	35300	34700	38900	39700	36900
9	8180	6930	6300	7680	7150	10400	20800	35500	34900	38900	39700	36500
10	8120	6760	6390	7810	7080	10700	21400	35600	35100	38900	39700	36000
11	8080	6610	6480	7940	7020	11000	21900	35800	35500	38900	39700	e35600
12	8050	6480	6540	8080	7030	11300	22600	e36000	35900	38900	39700	35200
13	8000	6360	6570	8210	7060	11600	23300	36300	36200	39000	39700	34700
14	7980	6240	6630	8290	7100	11900	e23900	36300	36400	39000	39700	34400
15	7980	6120	6660	8370	7120	12100	24500	36400	36700	39000	39700	34000
16	7970	5970	6700	8450	7160	12400	25100	36500	36900	39100	39700	33600
17	7950	5820	6730	8500	7190	12600	25800	36600	37200	39100	39700	33300
18	7950	5670	6760	8530	7230	12800	26400	36500	37300	39200	39700	32900
19	7930	5520	6790	8540	7260	13000	26900	36500	37400	39400	39700	32500
20	7920	5340	6830	8540	7320	13200	27400	36500	e37600	39500	39700	32100
21	7910	5160	6850	8530	7390	13400	27900	36500	37800	39600	39700	31700
22	e7900	5020	6840	8540	7520	13700	28300	36500	37800	39800	39700	31300
23	7890	5060	6840	8490	7710	14000	28600	36200	37900	39900	39700	30900
24	7910	5110	6820	8440	7900	14300	29000	35800	38000	40000	39600	30500
25	7900	5180	6800	8400	8080	e14600	29300	35600	38100	40100	39600	30100
26	7900	5210	6780	8360	8250	14900	29700	35400	38200	40100	39600	e29700
27	7910	5240	6760	8340	8440	15200	30200	35300	38300	40100	39600	29300
28	7910	5260	6750	8290	8620	15500	30600	35300	38400	40000	39600	28800
29	7860	5360	6750	8220	---	15900	30900	35400	38500	39900	39400	28400
30	7810	5440	6700	8140	---	16400	31200	35500	38700	39900	39300	27900
31	7740	---	6620	8020	---	16900	---	35400	---	39800	39100	---
MAX	8580	7650	6850	8540	8620	16900	31200	36600	38700	40100	39800	39000
MIN	7740	5020	5520	6660	7020	8790	17400	31800	34300	38800	39100	27900
a	5557.62	5551.45	5554.77	5558.31	5559.70	5575.34	5594.54	5599.26	5602.73	5603.93	5603.20	5590.49
b	-830	-2300	+1180	+1400	+600	+8280	+14300	+4200	+3300	+1100	-700	-11200

CAL YR 2001 MAX 21500 MIN 5020 b -4680
WTR YR 2002 MAX 40100 MIN 5020 b +19330

e Estimated.

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.

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.

WATER TEMPERATURE: Water years 1993–98.

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. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	94	43	47	107	45	45	445	744	19	70	118
2	105	94	44	21	107	44	45	445	742	65	70	122
3	105	94	44	0.65	107	43	45	447	678	92	70	131
4	105	94	44	14	106	43	45	447	643	107	70	163
5	105	94	44	22	105	43	45	444	585	107	53	213
6	105	93	44	10	54	43	45	432	526	107	5.1	229
7	105	111	44	0.55	55	44	45	401	505	107	19	233
8	105	120	44	0.54	71	44	71	401	505	107	19	233
9	104	132	44	0.50	71	44	152	401	479	107	19	250
10	103	139	44	0.48	70	44	170	401	416	107	19	257
11	101	131	52	0.45	70	44	255	401	341	107	19	256
12	86	126	72	0.44	71	45	270	401	298	104	19	250
13	70	118	72	15	71	45	313	401	281	93	19	229
14	62	113	72	26	71	45	314	376	281	93	19	222
15	62	128	72	26	71	45	302	335	279	93	19	219
16	62	135	74	32	71	45	255	377	261	93	19	227
17	62	135	76	50	71	56	296	415	262	93	19	230
18	62	135	76	50	71	74	351	415	245	94	19	230
19	62	145	76	51	71	80	331	414	120	94	19	237
20	62	149	76	52	72	80	375	415	71	94	19	238
21	62	148	76	53	53	63	378	415	65	94	19	228
22	62	81	76	67	43	48	399	497	61	94	19	227
23	62	43	76	75	43	44	480	551	42	94	19	229
24	62	43	76	75	43	44	520	522	42	94	19	238
25	58	43	76	75	44	44	536	504	39	94	19	240
26	43	43	76	75	44	44	553	477	23	94	32	249
27	43	43	76	75	44	45	544	434	22	94	39	259
28	61	43	77	75	44	45	665	399	20	94	64	286
29	74	43	85	75	---	45	644	359	19	94	110	286
30	87	43	120	e89	---	45	561	374	19	94	107	285
31	94	---	77	e104	---	45	---	702	---	88	107	---
TOTAL	2433	2953	2048	1257.61	1921	1508	9050	13448	8614	2911	1158.1	6814
MEAN	78.48	98.43	66.06	40.57	68.61	48.65	301.7	433.8	287.1	93.90	37.36	227.1
MAX	105	149	120	104	107	80	665	702	744	107	110	286
MIN	43	43	43	0.44	43	43	45	335	19	19	5.1	118
AC-FT	4830	5860	4060	2490	3810	2990	17950	26670	17090	5770	2300	13520

e Estimated.

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

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

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

SUMMARY STATISTICS

WATER YEARS 1911 - 1915

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

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

MEAN	89.7	106	144	156	160	132	264	426	315	159	146	120
MAX	303	611	856	649	606	442	808	1647	974	389	408	414
(WY)	1968	1951	1951	1965	1963	1967	1952	1952	1967	1967	1958	1952
MIN	.000	.12	.20	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1940	1967	1960	1939	1939	1939	1939	1939	1939	1939	1939	1939

SUMMARY STATISTICS

WATER YEARS 1939 - 1969

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2002, BY WATER YEAR (WY)

MEAN	106.7	77.33	96.20	115.9	91.44	126.5	277.1	479.6	308.9	204.3	152.8	115.4
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	0.000	0.020	0.11	0.001	1.60	0.13	0.39	0.31	2.63	0.75	13.6	0.55
(WY)	1995	1991	1978	1995	1995	1995	1988	1988	1977	1981	1984	1970

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1970 - 2002

ANNUAL TOTAL	42950.55	54115.71	
ANNUAL MEAN	117.7	148.3	179.8
HIGHEST ANNUAL MEAN			470 1983
LOWEST ANNUAL MEAN			55.6 1992
HIGHEST DAILY MEAN	252 Jun 8	744 Jun 1	2530 Jan 9 1997
LOWEST DAILY MEAN	0.24 Apr 26	0.44 Jan 12	0.00 Sep 13 1994
ANNUAL SEVEN-DAY MINIMUM	0.28 Apr 21	1.9 Jan 6	0.00 Sep 13 1994
MAXIMUM PEAK FLOW		749 May 31	2720 Jan 8 1997
MAXIMUM PEAK STAGE		3.91 May 31	6.14 Jan 8 1997
ANNUAL RUNOFF (AC-FT)	85190	107300	130300
10 PERCENT EXCEEDS	203	406	457
50 PERCENT EXCEEDS	126	77	91
90 PERCENT EXCEEDS	31	22	0.60

10345490 GRAY CREEK NEAR FLORISTON, CA

LOCATION.—Lat 39°22'22", long 120°01'49", in NE 1/4 NE 1/4 sec.36, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank, about 400 ft upstream from Truckee River, and about 1.6 mi southwest of Floriston.

DRAINAGE AREA.—17.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—November 2001 to September 2002.

GAGE.—Water-stage recorder. Elevation of gage is 5,420 ft above sea level, from topographic map.

REMARKS.—Records fair, including estimated daily discharges. See schematic diagram of Truckee River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 116 ft³/s, May 30, 2002, gage height, 2.79 ft, maximum gage height, 3.87 ft, backwater from ice, Jan. 24, 2002; minimum, 5.7 ft³/s, Jan. 25, 2002, gage height, 2.01 ft.

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)
May 30	1815	116	2.79

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	e7.4	7.8	e7.4	e8.0	16	21	57	19	11	8.3
2	---	---	e7.8	8.9	7.2	e8.0	16	20	50	19	11	8.3
3	---	---	e8.5	9.2	7.3	e7.4	18	22	43	18	11	8.3
4	---	---	e8.0	e8.2	e7.1	e7.4	20	24	48	18	11	8.3
5	---	---	e7.8	8.1	6.9	8.1	18	28	56	18	11	8.3
6	---	---	e7.9	9.9	6.7	9.6	17	33	61	18	11	8.5
7	---	---	7.9	10	7.0	e9.8	17	34	62	18	10	8.6
8	---	---	e7.5	9.6	7.0	e8.3	18	32	58	17	10	8.5
9	---	---	7.4	9.0	7.6	e7.4	18	32	52	17	10	8.3
10	---	---	7.9	8.6	7.5	8.5	18	31	44	16	9.8	8.1
11	---	---	7.9	e8.0	7.0	8.7	19	29	41	16	9.7	8.0
12	---	---	7.9	8.1	7.1	9.2	20	32	37	16	9.5	8.0
13	---	---	7.3	e8.0	7.2	e8.5	22	36	36	16	9.4	7.9
14	---	---	e7.3	e8.0	7.3	e8.2	30	40	34	15	9.3	7.9
15	---	---	e8.2	e8.0	7.4	e7.8	40	46	32	15	9.3	7.8
16	---	---	e8.2	e7.8	7.4	e7.8	29	50	28	14	9.1	7.9
17	---	---	e7.5	e8.0	7.4	e7.7	26	55	26	15	9.0	7.9
18	---	---	e7.3	e7.8	7.4	e7.9	24	49	26	e16	9.1	7.9
19	---	---	7.1	e7.8	7.5	e8.0	22	57	26	14	9.0	7.8
20	---	---	7.4	e7.8	8.0	8.3	21	41	26	14	9.0	7.8
21	---	---	7.2	e7.6	8.2	8.6	20	33	25	13	9.1	7.8
22	---	---	7.3	e7.4	8.6	9.1	21	27	25	13	9.1	7.7
23	---	---	7.9	e7.0	9.0	9.6	23	23	24	13	9.0	7.7
24	---	---	e7.7	e7.0	8.6	9.4	24	24	24	12	8.9	7.6
25	---	---	e7.5	e7.0	9.4	9.2	26	28	23	12	8.8	7.6
26	---	---	e7.3	6.9	9.4	9.4	27	32	22	12	8.7	7.6
27	---	---	7.2	7.1	8.5	9.9	24	32	21	12	8.7	7.6
28	---	e7.3	7.4	e7.2	e8.2	11	23	39	20	12	8.7	7.7
29	---	7.2	7.5	e7.2	---	12	24	56	19	11	8.6	7.8
30	---	e7.3	7.7	e7.2	---	15	22	68	20	11	8.5	7.8
31	---	---	7.7	e7.2	---	16	---	59	---	11	8.4	---
TOTAL	---	---	236.6	247.4	215.3	283.8	663	1133	1066	461	294.7	239.3
MEAN	---	---	7.632	7.981	7.689	9.155	22.10	36.55	35.53	14.87	9.506	7.977
MAX	---	---	8.5	10	9.4	16	40	68	62	19	11	8.6
MIN	---	---	7.1	6.9	6.7	7.4	16	20	19	11	8.4	7.6
AC-FT	---	---	469	491	427	563	1320	2250	2110	914	585	475

e Estimated.

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—November 2001 to September 2002.

WATER TEMPERATURE: December 2001 to September 2002.

SPECIFIC CONDUCTANCE: December 2001 to September 2002.

PH: December 2001 to September 2002.

TURBIDITY: December 2001 to September 2002.

SEDIMENT: November 2001 to September 2002.

PERIOD OF DAILY RECORD.—December 2001 to September 2002.

WATER TEMPERATURE: December 2001 to September 2002.

SPECIFIC CONDUCTANCE: December 2001 to September 2002.

PH: December 2001 to September 2002.

TURBIDITY: December 2001 to September 2002.

INSTRUMENTATION.—Water-quality monitor since December 2001.

REMARKS.—Water temperature records rated excellent. Specific conductance, pH, and turbidity records rated good. Interruptions in record due to malfunction of recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, July 10, 2002; minimum recorded, 0.0°C, several days in December 2001 and many days in 2002.

SPECIFIC CONDUCTANCE: Maximum recorded, 215 microsiemens, Jan. 16, 2002; minimum recorded, 76 microsiemens, May 29, 2002.

PH: Maximum recorded, 8.7 standard units, Mar. 26, 27, 2002; minimum recorded, 7.7 standard units, May 19, 2002.

TURBIDITY: Maximum recorded, 3400 NTU, Apr. 14, 2002; minimum recorded, 0.0 NTU, Sept. 11, 14, 15, 21, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, July 10; minimum recorded, 0.0°C, many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 215 microsiemens, Jan. 16; minimum recorded, 76 microsiemens, May 29.

PH: Maximum recorded, 8.7 standard units, Mar. 26, 27; minimum recorded, 7.7 standard units, May 19.

TURBIDITY: Maximum recorded, 3400 NTU, Apr. 14; minimum recorded, 0.0 NTU, Sept. 11, 14, 15, 21.

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	4.5	2.0	1.0	0.0	2.0	0.0
2	---	---	---	---	---	---	4.5	2.5	1.0	0.0	2.0	0.0
3	---	---	---	---	---	---	3.0	0.0	1.0	0.0	3.5	0.0
4	---	---	---	---	---	---	1.0	0.0	0.5	0.0	6.0	0.0
5	---	---	---	---	---	---	4.0	0.0	1.0	0.0	7.0	0.5
6	---	---	---	---	---	---	5.0	2.5	1.5	0.0	4.5	0.0
7	---	---	---	---	2.0	0.0	5.0	2.0	2.0	1.0	4.5	0.0
8	---	---	---	---	3.0	0.0	4.5	1.5	2.0	0.0	2.0	0.0
9	---	---	---	---	2.5	0.5	4.5	1.5	1.5	0.0	5.0	0.0
10	---	---	---	---	1.5	0.0	2.5	0.0	2.0	0.0	4.5	1.0
11	---	---	---	---	1.5	0.0	3.0	0.0	3.0	0.5	8.0	1.0
12	---	---	---	---	1.0	0.0	3.0	0.0	3.5	1.0	6.0	1.5
13	---	---	---	---	3.5	0.5	0.0	0.0	3.0	1.0	3.5	0.0
14	---	---	---	---	1.5	0.0	0.0	0.0	4.0	1.5	4.0	0.0
15	---	---	---	---	0.0	0.0	0.0	0.0	3.5	0.5	0.0	0.0
16	---	---	---	---	0.0	0.0	0.0	0.0	4.5	1.0	1.0	0.0
17	---	---	---	---	2.0	0.0	0.0	0.0	3.0	0.5	3.5	0.0
18	---	---	---	---	0.5	0.0	0.0	0.0	4.0	1.0	2.0	0.0
19	---	---	---	---	2.5	0.0	0.0	0.0	4.5	1.5	7.0	0.0
20	---	---	---	---	2.0	0.0	0.0	0.0	5.5	2.0	8.5	0.5
21	---	---	---	---	1.5	0.5	0.0	0.0	6.0	1.0	9.0	1.5
22	---	---	---	---	2.5	0.5	0.0	0.0	6.5	1.5	9.0	1.5
23	---	---	---	---	2.0	0.0	0.0	0.0	4.5	1.5	6.0	1.5
24	---	---	---	---	0.0	0.0	0.0	0.0	5.5	0.0	7.5	1.5
25	---	---	---	---	0.0	0.0	1.5	0.0	5.0	0.0	8.0	0.5
26	---	---	---	---	3.5	0.0	1.5	0.5	6.0	0.0	9.5	1.0
27	---	---	---	---	3.5	2.0	2.0	0.0	6.0	0.5	10.0	0.5
28	---	---	---	---	3.0	1.5	0.0	0.0	5.5	0.0	10.5	1.5
29	---	---	---	---	4.5	2.0	0.0	0.0	---	---	10.5	2.0
30	---	---	---	---	4.0	2.5	0.0	0.0	---	---	10.5	1.5
31	---	---	---	---	4.0	2.5	0.0	0.0	---	---	11.0	1.5
MONTH	---	---	---	---	---	---	5.0	0.0	6.5	0.0	11.0	0.0

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	2.0	7.0	1.5	11.0	5.5	19.0	7.5	20.5	10.5	18.0	9.5
2	11.5	2.5	11.5	2.0	13.0	3.5	19.5	9.5	20.5	11.0	19.0	9.5
3	14.0	3.0	13.0	3.5	13.5	5.0	18.5	9.0	20.0	10.5	18.0	9.5
4	11.5	3.5	12.0	3.5	15.5	5.5	18.0	7.5	18.5	9.5	17.0	10.0
5	9.0	3.0	13.0	3.0	16.0	6.0	18.5	8.0	18.0	9.0	16.5	9.5
6	10.0	2.5	13.0	3.0	15.5	6.0	19.0	8.0	17.5	7.5	16.0	8.5
7	11.0	3.0	12.0	3.5	15.0	5.0	19.5	10.0	17.5	7.0	13.0	5.5
8	11.0	3.5	10.5	1.5	13.0	5.0	18.5	8.0	17.5	7.0	14.0	4.5
9	7.0	4.0	11.5	2.5	11.5	3.0	20.0	9.0	18.0	7.5	15.0	5.5
10	10.5	3.5	8.5	3.0	13.0	3.5	21.5	10.0	19.5	8.5	15.5	5.5
11	11.5	4.5	12.0	2.0	15.0	4.5	20.5	11.0	19.5	9.0	16.0	6.5
12	12.0	3.0	13.0	2.5	16.0	5.5	18.5	12.5	20.0	10.0	16.5	7.0
13	12.5	3.0	12.0	4.0	16.5	6.5	20.0	11.5	20.5	10.5	16.5	7.5
14	12.0	4.5	13.0	4.0	16.0	5.5	20.5	11.5	21.0	11.5	16.0	7.5
15	5.0	1.5	13.0	4.0	15.5	4.5	20.5	11.0	20.5	11.0	16.5	9.0
16	4.0	1.0	13.5	3.5	15.5	5.0	20.5	10.5	20.5	11.0	14.5	6.5
17	5.0	0.5	14.0	4.5	16.5	6.5	16.0	11.0	18.5	9.5	14.0	7.0
18	4.5	0.5	13.5	5.0	17.0	8.0	14.5	10.0	19.0	8.0	14.5	6.5
19	7.0	1.0	11.5	5.0	16.5	7.0	19.5	9.5	17.5	7.5	14.5	5.5
20	7.5	0.5	6.0	3.0	17.0	7.5	21.0	10.5	16.5	7.5	15.5	6.5
21	11.5	1.5	7.5	2.0	15.0	7.5	19.0	11.0	16.5	6.0	15.5	7.0
22	12.0	2.0	11.0	1.0	16.0	7.0	19.0	9.5	16.5	7.5	16.0	7.0
23	12.5	2.0	12.5	2.0	17.0	7.5	19.0	8.0	16.5	7.0	15.5	7.0
24	11.0	3.0	13.5	3.0	17.0	6.5	19.5	9.5	17.0	6.5	15.0	6.5
25	11.5	4.0	13.5	4.5	17.0	8.0	18.5	8.0	17.0	6.5	14.0	5.5
26	7.5	4.5	13.5	3.5	18.5	9.0	19.0	8.0	17.0	7.0	13.5	5.0
27	9.5	3.0	12.5	4.0	18.0	7.5	20.0	10.0	17.0	7.5	14.0	7.5
28	9.0	1.5	14.5	5.0	18.0	8.0	20.0	10.0	17.5	8.5	11.5	5.5
29	6.5	1.5	15.5	5.0	18.5	8.5	20.5	9.5	16.5	8.5	11.5	5.0
30	5.5	1.5	15.0	5.5	18.5	7.5	19.5	11.0	17.0	9.0	11.0	4.5
31	---	---	14.5	5.5	---	---	20.5	10.5	18.5	9.5	---	---
MONTH	14.0	0.5	15.5	1.0	18.5	3.0	21.5	7.5	21.0	6.0	19.0	4.5

PYRAMID AND WINNEMUCCA LAKES BASIN

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	188	183	174	166	193	165
2	---	---	---	---	---	---	189	173	174	162	203	171
3	---	---	---	---	---	---	193	186	172	161	194	163
4	---	---	---	---	---	---	205	179	171	161	171	157
5	---	---	---	---	---	---	191	183	177	164	171	165
6	---	---	---	---	---	---	184	177	178	172	168	154
7	---	---	---	---	182	144	196	183	177	157	168	161
8	---	---	---	---	184	172	198	196	179	166	174	163
9	---	---	---	---	177	171	198	193	179	167	177	165
10	---	---	---	---	176	162	198	187	180	166	173	169
11	---	---	---	---	179	168	192	174	178	175	174	171
12	---	---	---	---	180	168	190	185	180	175	175	170
13	---	---	---	---	170	129	203	177	180	173	178	171
14	---	---	---	---	137	112	199	177	182	176	182	172
15	---	---	---	---	136	123	207	193	182	174	195	166
16	---	---	---	---	136	130	215	197	184	178	188	168
17	---	---	---	---	146	134	200	181	181	176	180	170
18	---	---	---	---	151	144	202	184	178	174	190	165
19	---	---	---	---	152	146	192	182	177	157	184	170
20	---	---	---	---	153	147	192	177	165	155	179	175
21	---	---	---	---	161	150	182	177	163	153	181	176
22	---	---	---	---	172	161	186	180	157	152	183	177
23	---	---	---	---	172	160	191	181	176	154	184	177
24	---	---	---	---	174	164	185	177	178	170	185	181
25	---	---	---	---	175	170	180	162	180	156	186	181
26	---	---	---	---	181	161	174	155	179	138	188	183
27	---	---	---	---	166	159	159	152	178	176	187	184
28	---	---	---	---	176	163	160	153	188	172	188	172
29	---	---	---	---	181	175	166	160	---	---	172	153
30	---	---	---	---	184	176	171	165	---	---	155	122
31	---	---	---	---	186	176	173	157	---	---	147	127
MONTH	---	---	---	---	---	---	215	152	188	138	203	122
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	143	113	130	121	91	83	105	101	133	129	---	---
2	171	102	131	128	94	85	105	101	132	129	---	---
3	167	120	136	122	95	89	106	103	133	130	---	---
4	162	131	123	111	97	86	107	103	133	130	---	---
5	155	138	136	111	95	82	108	104	132	129	138	---
6	154	143	133	117	93	84	108	105	132	128	137	133
7	161	147	126	104	96	86	109	105	132	127	135	132
8	162	138	113	103	97	90	110	106	133	130	132	130
9	152	139	107	100	97	92	112	107	133	129	132	129
10	154	141	111	100	97	91	113	108	133	130	132	129
11	147	127	118	109	94	88	115	109	134	130	132	127
12	144	128	118	99	93	86	112	110	135	132	132	130
13	149	123	111	95	92	86	113	110	136	133	132	129
14	143	120	107	96	93	87	116	111	137	134	132	131
15	139	123	106	95	93	89	116	112	138	134	132	130
16	148	139	108	88	93	90	117	113	138	135	135	128
17	154	147	103	90	94	90	116	114	138	135	135	133
18	157	154	95	84	94	90	---	---	139	135	134	133
19	164	157	98	85	93	90	123	120	139	135	134	133
20	170	164	95	90	95	91	125	121	138	134	133	132
21	170	143	99	94	95	92	125	122	137	132	136	130
22	154	134	102	99	96	92	126	122	136	133	136	134
23	136	110	102	97	98	95	127	122	136	132	135	134
24	118	109	103	91	99	96	129	125	138	133	134	133
25	115	107	100	84	100	96	128	125	139	135	133	127
26	112	104	93	82	102	97	129	126	139	134	138	127
27	112	104	92	81	102	99	130	126	138	---	139	138
28	117	111	91	79	103	100	131	127	---	---	139	136
29	123	113	89	76	102	101	132	128	---	---	138	137
30	123	119	88	78	103	100	132	129	---	---	138	137
31	---	---	86	81	---	---	132	129	---	---	---	---
MONTH	171	102	136	76	103	82	---	---	---	---	---	---

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

PYRAMID AND WINNEMUCCA LAKES BASIN

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	21	6.0	---	---	280	2.1
2	---	---	---	---	---	---	98	0.1	---	---	210	1.6
3	---	---	---	---	---	---	44	9.0	---	---	140	1.8
4	---	---	---	---	---	---	97	2.8	---	---	31	4.2
5	---	---	---	---	---	---	22	6.3	---	---	110	5.7
6	---	---	---	---	---	---	42	11	---	---	150	6.3
7	---	---	---	---	64	7.5	42	11	29	2.8	42	6.5
8	---	---	---	---	73	4.6	20	7.6	22	2.9	210	2.0
9	---	---	---	---	25	6.6	29	5.4	62	3.8	68	2.4
10	---	---	---	---	29	6.0	22	4.6	29	3.2	98	4.6
11	---	---	---	---	28	4.4	52	4.0	12	3.1	31	3.8
12	---	---	---	---	52	3.4	11	2.6	12	2.9	23	6.8
13	---	---	---	---	19	4.9	32	1.7	33	2.9	50	5.1
14	---	---	---	---	34	1.4	13	1.3	32	3.9	42	3.4
15	---	---	---	---	18	0.6	6.8	0.7	19	3.4	85	1.3
16	---	---	---	---	28	1.3	8.3	0.7	24	3.6	83	1.9
17	---	---	---	---	80	7.7	13	2.3	50	3.0	37	1.7
18	---	---	---	---	39	3.8	11	1.5	38	2.9	150	0.9
19	---	---	---	---	18	5.1	18	2.3	31	3.3	65	2.3
20	---	---	---	---	16	4.1	13	2.6	47	7.0	76	4.9
21	---	---	---	---	21	3.6	19	4.5	25	6.4	82	4.8
22	---	---	---	---	14	2.6	7.8	1.9	48	5.3	75	6.5
23	---	---	---	---	12	3.7	8.5	1.9	62	7.7	25	6.4
24	---	---	---	---	19	1.4	8.3	2.1	120	5.4	30	5.2
25	---	---	---	---	24	1.4	---	---	22	4.3	18	4.4
26	---	---	---	---	71	7.4	---	---	24	4.2	13	4.2
27	---	---	---	---	22	5.3	---	---	170	5.0	31	4.1
28	---	---	---	---	98	5.3	---	---	40	3.6	57	6.7
29	---	---	---	---	22	5.3	---	---	---	---	150	12
30	---	---	---	---	49	4.1	8.4	2.3	---	---	160	21
31	---	---	---	---	46	8.9	16	1.8	---	---	190	25
MONTH	---	---	---	---	---	---	---	---	---	---	280	0.9
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	280	25	50	3.5	94	30	11	3.5	4.6	0.9	7.6	0.6
2	440	32	21	3.2	79	20	11	3.3	37	1.0	5.6	0.3
3	930	6.5	32	3.2	230	19	19	3.4	7.6	1.1	8.1	0.3
4	550	69	40	5.0	74	14	14	3.1	6.9	0.5	7.4	0.7
5	160	38	93	5.9	110	16	23	2.6	13	0.9	7.5	0.6
6	60	25	110	12	660	26	9.8	2.5	16	0.9	15	0.6
7	49	18	72	15	260	21	11	2.7	6.7	0.9	6.9	0.2
8	60	17	40	12	180	24	10	2.4	6.6	0.6	7.5	0.1
9	43	15	290	9.1	88	14	16	1.5	4.8	0.8	19	0.3
10	33	11	33	8.5	42	12	10	1.5	7.6	1.2	2.9	0.1
11	87	12	22	4.5	34	11	13	2.4	12	1.2	6.2	0.0
12	79	16	91	6.4	22	8.5	6.8	1.7	17	1.4	24	0.3
13	440	15	220	10	29	7.9	8.8	2.1	6.1	1.3	4.8	0.2
14	3400	34	---	---	25	7.6	17	1.9	9.7	1.1	8.1	0.0
15	---	---	---	---	18	7.7	6.0	1.6	7.3	1.1	14	0.0
16	---	---	---	---	16	7.0	12	1.7	9.9	1.1	9.8	0.1
17	---	---	---	---	19	7.2	9.7	0.7	7.1	0.7	6.7	0.1
18	---	---	---	---	18	7.2	---	---	10	0.6	13	0.1
19	---	---	---	---	16	7.5	180	2.0	7.3	0.6	4.8	0.1
20	31	8.0	130	15	20	6.1	10	2.0	9.5	0.9	16	0.1
21	32	5.7	26	10	18	7.3	8.6	1.5	6.9	0.5	8.5	0.0
22	29	6.7	19	7.6	19	5.5	7.3	1.3	7.5	0.5	7.9	0.3
23	40	6.8	220	6.0	32	5.7	11	1.7	4.1	0.5	6.0	0.1
24	56	7.6	52	8.1	16	4.5	6.9	1.6	7.1	0.5	6.1	0.0
25	47	8.3	77	7.1	31	5.5	9.2	1.4	6.3	0.1	4.7	0.2
26	36	10	190	9.8	19	5.6	8.5	1.2	15	0.7	8.7	0.1
27	26	7.4	110	11	17	4.7	7.9	1.3	12	0.5	14	0.1
28	20	4.9	110	11	17	4.3	11	1.6	8.0	0.5	4.0	0.1
29	21	5.5	400	17	14	3.8	12	1.7	6.9	0.6	7.2	0.2
30	16	4.2	590	24	16	3.5	12	1.4	5.6	0.4	14	0.1
31	---	---	220	35	---	---	16	1.4	5.9	0.5	---	---
MONTH	---	---	---	---	660	3.5	---	---	37	0.1	24	0.0

10345490 GRAY CREEK NEAR FLORISTON, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV						
27...	1410	e7.8	0.0	102	e2.1	--
DEC						
06...	1720	e7.9	3.0	100	e2.1	--
JAN						
03...	1520	9.2	1.5	70	1.7	--
25...	1115	e7.0	0.0	26	e.49	--
FEB						
28...	1200	e8.2	4.0	112	e2.5	--
MAR						
28...	1340	10	10.0	34	.92	--
APR						
19...	1310	21	3.5	46	2.6	--
MAY						
07...	1835	33	9.0	286	25.5	--
16...	1740	60	12.5	596	96.6	28
16...	1940	66	9.5	864	154	39
19...	1935	49	7.5	314	41.5	20
31...	1005	35	7.5	245	23.2	--
JUN						
12...	1450	30	15.0	21	1.7	--
JUL						
16...	1255	15	18.0	6.0	.24	--
AUG						
07...	1400	11	16.5	4.0	.12	--
27...	1305	8.9	15.0	3.0	.07	--

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DEPTH BOTTOM AT SAMPLE LOCATION (FEET) (81903)	SAMPLING DEPTH (FEET) (00003)	TURBIDITY (NTU) (00076)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)
JUL								
16...*	1251	1.50	.70	4.0	8.2	120	17.9	.50
16...*	1252	1.50	.70	4.0	8.2	120	17.9	1.50
16...*	1253	1.60	.70	4.0	8.2	120	17.9	2.50
16...*	1254	1.50	.70	4.0	8.2	120	18.0	3.50
16...*	1255	1.50	.70	4.0	8.2	120	18.0	4.50

* Instantaneous discharge at time of cross-sectional measurement: 15 ft³/s.
 e Estimated.

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.

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, 1993–98.

WATER TEMPERATURE: Water years 1964–81, 1993–98.

SUSPENDED SEDIMENT: Water years 1974, 1978.

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, respectively), 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494	344	316	330	e285	402	708	965	1640	384	468	447
2	483	339	393	301	284	384	798	932	1530	520	466	447
3	481	335	312	328	284	372	869	966	1370	550	465	444
4	479	324	280	301	280	377	989	1040	1320	557	460	450
5	475	323	319	293	275	400	1070	1100	1290	566	451	490
6	474	319	320	364	281	486	996	1140	1220	563	391	496
7	470	322	320	426	300	554	966	1130	1170	563	395	494
8	468	327	279	339	331	485	990	1080	1110	577	392	485
9	465	328	226	297	320	456	1120	1040	1010	571	399	494
10	410	334	226	282	318	446	1070	1010	874	569	398	495
11	395	342	297	286	340	417	1210	942	757	580	398	496
12	373	336	322	279	344	413	1270	953	704	580	397	502
13	370	339	322	282	348	424	1330	1010	693	568	388	499
14	366	317	336	291	350	391	1430	1050	702	565	388	510
15	364	325	320	281	355	343	1550	1040	673	568	398	502
16	360	329	320	296	350	329	1200	1090	629	566	395	502
17	359	327	340	301	354	328	1120	1170	627	569	393	499
18	361	320	319	279	333	334	1070	1240	642	587	392	494
19	356	327	315	277	339	336	921	1200	520	573	390	496
20	353	325	332	273	417	344	913	1080	450	567	388	491
21	348	330	327	279	398	342	892	975	473	562	398	495
22	351	474	321	289	401	361	901	989	463	555	395	492
23	359	329	321	291	448	411	1010	1040	474	553	397	490
24	354	424	316	298	423	411	1100	1010	463	556	394	492
25	352	430	332	293	408	397	1190	1030	481	554	402	491
26	326	357	339	294	406	392	1320	1050	501	566	403	493
27	319	333	341	290	412	409	1180	1040	489	563	404	491
28	316	319	349	284	408	452	1260	1040	473	561	410	495
29	326	327	320	295	---	512	1270	1060	452	561	451	490
30	338	325	341	292	---	578	1180	1150	446	561	445	483
31	363	---	366	e285	---	646	---	1560	---	550	446	---
TOTAL	12108	10230	9887	9296	9792	12932	32893	33122	23646	17285	12757	14645
MEAN	390.6	341.0	318.9	299.9	349.7	417.2	1096	1068	788.2	557.6	411.5	488.2
MAX	494	474	393	426	448	646	1550	1560	1640	587	468	510
MIN	316	317	226	273	275	328	708	932	446	384	388	444
AC-FT	24020	20290	19610	18440	19420	25650	65240	65700	46900	34280	25300	29050

e Estimated.

10346000 TRUCKEE RIVER AT FARAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	385.9	420.9	534.4	598.2	661.6	803.3	1273	1722	1267	659.5	512.9	469.0
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1909 - 2002	
ANNUAL TOTAL	182936		198593			
ANNUAL MEAN	501.2		544.1		768.8	
HIGHEST ANNUAL MEAN					2443 1983	
LOWEST ANNUAL MEAN					184 1931	
HIGHEST DAILY MEAN	713	May 16	1640	Jun 1	13400	Dec 23 1955
LOWEST DAILY MEAN	226	Dec 9	226	Dec 9	37	Sep 15 1933
ANNUAL SEVEN-DAY MINIMUM	281	Dec 4	281	Dec 4	40	Sep 9 1933
MAXIMUM PEAK FLOW			1770	Apr 14	17500	Nov 21 1950
MAXIMUM PEAK STAGE			5.39	Apr 14	14.50	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	362900		393900		557000	
10 PERCENT EXCEEDS	593		1070		1680	
50 PERCENT EXCEEDS	530		424		505	
90 PERCENT EXCEEDS	327		301		205	

10346000 TRUCKEE RIVER AT FARAD, CA—Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.— April 1999 to current year.

INSTRUMENTATION.—Recording-weighing gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily precipitation, 1.97 in., Jan. 24, 2000, Dec. 2, 2001; no precipitation for many days in each year.

EXTREMES FOR CURRENT YEAR.—Maximum daily precipitation, 1.97 in., Dec. 2; no precipitation for many days.

PRECIPITATION, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	1.97	0.70	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
3	0.00	0.00	0.50	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.07	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.05	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.04	0.50	0.29	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.04	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.03	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
12	0.00	0.46	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.15	0.00	0.00
13	0.00	0.00	0.10	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.46	0.00	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.03	0.00	0.11	0.00	0.09	0.00	0.00	0.00	0.00	0.00
16	0.00	0.04	0.00	0.00	0.00	0.07	0.15	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.44	0.03	0.14	0.00	0.09	0.00	0.00	0.49	0.00	0.00
18	0.00	0.00	0.00	0.03	0.00	0.03	0.14	0.03	0.00	0.03	0.00	0.00
19	0.00	0.00	0.00	0.00	0.36	0.00	0.06	0.00	0.00	0.00	0.00	0.00
20	0.00	0.03	0.18	0.00	0.04	0.00	0.03	0.10	0.00	0.00	0.00	0.00
21	0.00	0.70	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.82	0.15	0.00	0.00	0.11	0.00	0.11	0.00	0.00	0.00	0.00
23	0.00	0.00	0.05	0.00	0.03	0.14	0.00	0.06	0.00	0.04	0.00	0.00
24	0.00	1.27	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
26	0.00	0.03	0.00	0.32	0.00	0.00	0.22	0.09	0.03	0.00	0.00	0.00
27	0.00	0.00	0.00	0.16	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
28	0.00	0.18	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.23	0.07	0.00	---	0.03	0.60	0.00	0.00	0.00	0.00	0.00
30	0.40	0.00	0.26	0.03	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.03	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.40	4.10	4.87	1.55	1.27	2.55	1.59	0.46	0.07	0.71	0.00	0.00

BUENA VISTA LAKE BASIN

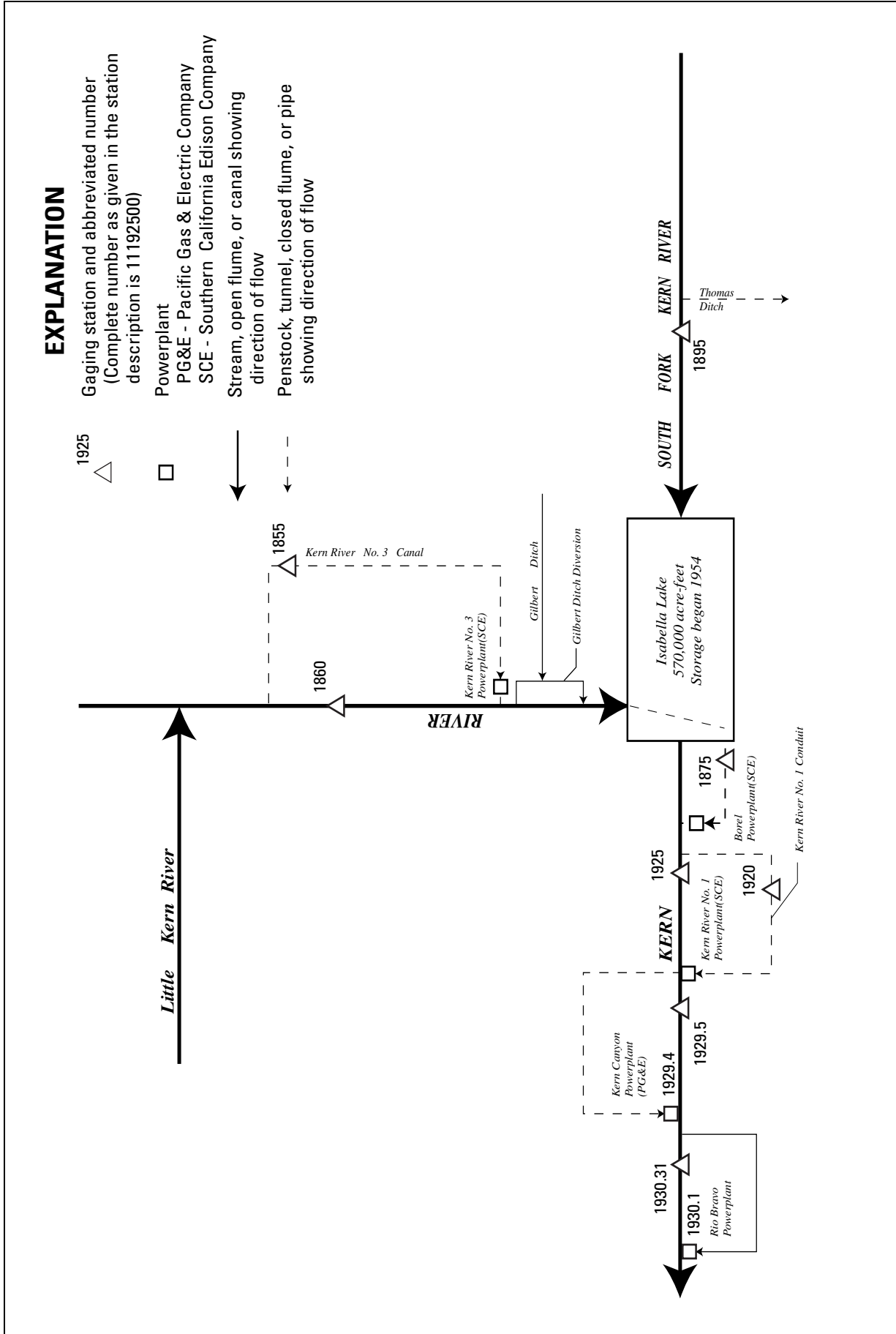


Figure 23. Diversions and storage in Kern River Basin.

BUENA VISTA LAKE BASIN

11186000 KERN RIVER NEAR KERNVILLE, CA

LOCATION.—Lat 35°56'43", long 118°28'36", unsurveyed, **Tulare County**, Hydrologic Unit 18030001, on left bank, at Packsaddle Canyon Creek, 100 ft downstream from diversion dam, and 13.4 mi north of Kernville.

DRAINAGE AREA.—846 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. For records of combined discharge of river and canal, see station 11186001. See schematic diagram of [Kern River Basin](#).

COOPERATION.—Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2290.

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, 76 ft³/s, Dec. 22, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	183	48	49	51	82	110	114	1230	134	138	83
2	78	168	50	48	51	82	109	116	1070	142	138	82
3	79	161	49	49	52	82	135	116	935	133	134	75
4	80	156	47	49	49	81	207	115	891	134	133	79
5	83	152	49	49	48	80	253	124	879	135	131	81
6	80	153	49	50	48	81	217	214	1020	136	129	91
7	79	144	48	50	49	81	205	341	1130	137	126	93
8	78	148	49	49	49	82	249	379	939	138	120	93
9	118	126	50	46	48	83	304	382	758	140	115	92
10	125	102	48	46	48	84	315	386	532	142	114	87
11	126	147	49	46	48	79	385	330	405	144	108	84
12	126	161	50	46	48	77	518	300	369	142	102	82
13	127	186	49	46	47	81	644	344	390	140	105	81
14	125	120	49	46	47	79	748	466	421	139	102	79
15	125	47	48	46	46	79	939	591	393	138	96	76
16	124	46	47	47	46	78	655	728	376	137	96	75
17	125	46	48	50	45	79	457	932	337	136	94	77
18	120	45	48	50	44	78	309	1090	296	136	93	75
19	116	45	47	47	46	78	244	1120	312	137	92	75
20	121	46	48	47	49	79	180	894	334	138	93	73
21	127	45	48	48	49	83	159	757	319	139	92	73
22	126	42	48	48	47	79	125	599	244	156	90	74
23	127	41	49	49	47	80	120	495	138	158	90	73
24	128	195	48	47	201	80	162	404	128	152	89	75
25	127	200	48	50	319	80	198	397	115	146	87	75
26	124	47	49	52	329	81	245	486	115	149	85	70
27	124	49	47	51	205	82	212	640	114	149	84	71
28	127	50	47	49	53	81	150	781	111	147	83	71
29	131	49	332	49	---	82	124	882	111	140	83	76
30	142	48	405	52	---	82	115	1050	113	138	84	80
31	218	---	60	51	---	83	---	1210	---	138	84	---
TOTAL	3614	3148	2151	1502	2209	2498	8793	16783	14525	4370	3210	2371
MEAN	116.6	104.9	69.39	48.45	78.89	80.58	293.1	541.4	484.2	141.0	103.5	79.03
MAX	218	200	405	52	329	84	939	1210	1230	158	138	93
MIN	78	41	47	46	44	77	109	114	111	133	83	70
AC-FT	7170	6240	4270	2980	4380	4950	17440	33290	28810	8670	6370	4700

BUENA VISTA LAKE BASIN

11186000 KERN RIVER NEAR KERNVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.48	55.37	124.6	175.4	150.4	265.1	591.7	1491	1601	738.2	215.1	110.0
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	0.98	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	79251		65174		466.0	
ANNUAL MEAN	217.1		178.6		1727	
HIGHEST ANNUAL MEAN					1969	
LOWEST ANNUAL MEAN					3.65	
HIGHEST DAILY MEAN	1960	May 17	1230	Jun 1	33600	Dec 6 1966
LOWEST DAILY MEAN	41	Nov 23	41	Nov 23	0.20	Dec 16 1960
ANNUAL SEVEN-DAY MINIMUM	44	Feb 12	44	Nov 17	0.26	Dec 12 1960
MAXIMUM PEAK FLOW			1550	May 30	60000	Dec 6 1966
MAXIMUM PEAK STAGE			5.69	May 30	22.77	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	157200		129300		337600	
10 PERCENT EXCEEDS	593		400		1470	
50 PERCENT EXCEEDS	106		96		82	
90 PERCENT EXCEEDS	47		48		29	

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, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	184	236	509	245	378	562	627	1810	588	189	123
2	121	169	264	420	249	365	623	614	1650	577	199	122
3	121	162	371	440	242	350	720	610	1520	534	188	115
4	121	157	286	394	239	344	793	635	1480	502	181	121
5	120	153	251	351	236	343	841	693	1460	479	176	124
6	119	154	259	334	234	351	804	795	1610	461	173	134
7	121	155	248	329	234	413	792	921	1720	440	171	135
8	124	154	241	327	237	405	836	962	1530	418	164	134
9	135	153	237	321	237	378	889	967	1340	396	159	132
10	127	146	228	308	236	377	899	972	1120	380	158	127
11	128	152	224	298	240	363	969	914	990	378	155	124
12	128	165	199	297	251	373	1100	883	954	378	152	122
13	129	190	212	296	259	403	1230	928	975	378	151	121
14	127	172	229	294	262	379	1330	1050	1010	383	148	120
15	127	171	218	288	272	351	1520	1180	979	352	145	117
16	126	172	197	270	274	347	1240	1310	962	319	144	115
17	127	169	223	257	287	337	1030	1520	923	301	142	119
18	123	162	214	254	280	354	891	1680	883	308	141	119
19	124	158	211	252	273	347	828	1700	900	298	139	118
20	126	157	216	259	286	357	764	1480	917	275	136	115
21	129	158	228	261	290	358	744	1340	900	255	136	115
22	128	161	217	258	299	357	708	1180	824	243	135	116
23	129	214	225	237	319	391	696	1080	719	239	134	115
24	130	414	219	222	330	390	745	990	674	234	133	117
25	129	516	213	260	321	370	782	982	651	223	130	117
26	127	263	217	247	331	368	829	1070	626	221	127	110
27	128	234	220	254	349	371	793	1220	604	220	125	113
28	130	223	228	252	374	384	729	1360	610	218	124	115
29	133	271	811	239	---	407	704	1470	618	210	123	120
30	144	256	987	210	---	451	663	1630	614	204	124	124
31	220	---	642	222	---	508	---	1770	---	199	124	---
TOTAL	4020	5965	8971	9160	7686	11670	26054	34533	31573	10611	4626	3619
MEAN	129.7	198.8	289.4	295.5	274.5	376.5	868.5	1114	1052	342.3	149.2	120.6
MAX	220	516	987	509	374	508	1520	1770	1810	588	199	135
MIN	119	146	197	210	234	337	562	610	604	199	123	110
AC-FT	7970	11830	17790	18170	15250	23150	51680	68500	62630	21050	9180	7180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

MEAN	243.2	264.1	356.7	458.2	508.0	694.8	1117	2059	2149	1146	497.8	302.7
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1961 - 2002

ANNUAL TOTAL	162953	158488		
ANNUAL MEAN	446.4	434.2	817.2	
HIGHEST ANNUAL MEAN			2264	1983
LOWEST ANNUAL MEAN			228	1961
HIGHEST DAILY MEAN	2540	May 17	1810	Jun 1
LOWEST DAILY MEAN	116	Sep 24	110	Sep 26
ANNUAL SEVEN-DAY MINIMUM	118	Sep 19	115	Sep 21
ANNUAL RUNOFF (AC-FT)	323200		314400	592100
10 PERCENT EXCEEDS	1180		984	2050
50 PERCENT EXCEEDS	220		262	381
90 PERCENT EXCEEDS	128		124	156

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 18030003, 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 Federal Energy Regulatory Commission project no. 382.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	337	209	247	316	277	400	407	392	528	544	526	220
2	330	213	262	397	290	404	406	381	521	547	525	235
3	317	195	303	500	267	405	404	384	518	543	525	250
4	342	183	331	502	256	405	428	386	517	546	529	242
5	350	178	331	453	270	404	454	400	519	543	532	230
6	325	171	329	414	267	403	411	419	518	540	533	228
7	292	169	302	407	259	405	393	453	516	539	538	192
8	263	176	282	408	261	409	394	518	517	538	533	165
9	236	177	281	407	296	414	478	551	518	537	447	162
10	255	178	277	408	315	415	519	559	518	535	326	169
11	254	177	254	407	315	416	495	534	519	535	414	194
12	239	179	231	398	316	416	459	545	515	537	480	207
13	209	178	221	385	321	416	438	559	513	536	501	188
14	278	178	222	383	331	415	484	541	513	537	521	173
15	349	195	232	381	341	413	510	542	514	539	537	200
16	346	204	249	376	352	412	480	555	515	530	527	200
17	357	203	248	352	351	412	464	553	511	532	494	187
18	357	203	259	327	350	414	496	553	510	538	496	174
19	323	187	263	316	350	411	514	552	509	538	538	162
20	237	174	263	318	348	411	465	553	510	537	536	148
21	185	183	265	317	369	412	426	550	512	536	534	136
22	175	192	264	315	383	412	422	549	510	517	534	124
23	170	191	263	316	384	411	463	540	511	498	502	114
24	183	222	266	316	394	410	505	536	514	511	470	106
25	164	283	265	315	403	410	513	538	515	523	448	97
26	152	316	265	314	402	406	470	539	524	528	429	89
27	144	291	264	314	387	408	408	534	532	527	407	79
28	143	255	274	315	378	409	382	534	532	526	351	70
29	143	243	313	307	---	409	380	533	536	525	293	64
30	147	246	338	286	---	407	403	531	542	523	277	58
31	172	---	312	270	---	407	---	532	---	528	240	---
TOTAL	7774	6149	8476	11240	9233	12701	13471	15846	15547	16513	14543	4863
MEAN	250.8	205.0	273.4	362.6	329.8	409.7	449.0	511.2	518.2	532.7	469.1	162.1
MAX	357	316	338	502	403	416	519	559	542	547	538	250
MIN	143	169	221	270	256	400	380	381	509	498	240	58
AC-FT	15420	12200	16810	22290	18310	25190	26720	31430	30840	32750	28850	9650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2002, BY WATER YEAR (WY)

	245.8	238.3	266.6	305.1	383.9	461.8	507.2	520.7	537.2	489.5	401.0	301.5
MEAN	245.8	238.3	266.6	305.1	383.9	461.8	507.2	520.7	537.2	489.5	401.0	301.5
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.23	2.25	0.000	0.000
(WY)	1973	1946	1973	1952	1951	1973	1990	1914	1914	1990	1972	1931

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1910 - 2002
ANNUAL TOTAL	142429	136356	
ANNUAL MEAN	390.2	373.6	387.4
HIGHEST ANNUAL MEAN			585
LOWEST ANNUAL MEAN			106
HIGHEST DAILY MEAN	600	Aug 9	634
LOWEST DAILY MEAN	143	Oct 28	58
ANNUAL SEVEN-DAY MINIMUM	147	Jan 1	80
ANNUAL RUNOFF (AC-FT)	282500	270500	280600
10 PERCENT EXCEEDS	590	536	586
50 PERCENT EXCEEDS	375	398	438
90 PERCENT EXCEEDS	187	179	127

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 fair. Lowell and Thomas Ditches divert upstream from station for irrigation downstream of station, combined capacity, 15 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)
Dec. 30	0500	228	4.99

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	30	34	112	38	62	96	62	37	4.2	1.1	0.65
2	4.7	31	36	94	40	60	102	60	37	3.8	1.1	0.64
3	10	29	63	82	39	58	105	60	35	3.5	1.1	0.63
4	14	28	48	76	39	57	108	59	34	3.4	1.1	0.63
5	14	28	38	67	38	63	108	59	33	3.3	1.1	0.63
6	14	27	33	62	38	59	106	59	31	3.2	1.1	0.67
7	15	26	34	65	38	67	99	59	29	3.0	1.0	0.70
8	15	25	34	64	40	64	92	59	27	2.9	1.0	0.78
9	16	21	33	61	38	53	96	57	24	2.7	1.0	0.83
10	16	19	33	59	35	54	94	56	22	1.8	0.98	0.81
11	15	18	33	55	34	56	93	55	21	1.2	1.0	0.81
12	16	20	30	53	37	64	95	54	20	1.2	1.1	0.80
13	16	25	30	52	39	80	95	51	18	1.2	1.1	0.79
14	16	24	35	49	41	81	93	49	17	1.2	0.99	0.79
15	15	23	31	49	41	65	94	48	16	1.2	0.79	0.80
16	16	27	28	43	42	57	93	47	15	1.1	0.64	0.80
17	12	29	32	38	45	51	84	47	14	1.1	0.62	0.82
18	9.9	30	34	39	44	54	78	46	12	1.1	0.61	0.82
19	11	29	32	39	43	53	73	46	12	1.2	0.60	0.81
20	11	26	33	40	45	56	71	46	11	1.2	0.61	0.79
21	11	25	35	41	48	61	68	53	9.4	1.3	0.61	0.79
22	11	28	34	43	51	67	66	58	8.0	1.3	0.63	0.79
23	11	31	36	36	45	70	64	59	8.0	1.3	0.65	0.77
24	11	59	35	32	46	70	63	58	7.4	1.2	0.67	0.76
25	11	85	31	37	47	66	64	52	7.0	1.2	0.68	0.83
26	11	50	33	40	50	57	66	48	6.3	1.3	0.69	0.94
27	10	37	36	44	56	63	68	44	5.8	1.2	0.73	0.98
28	9.6	34	37	43	61	65	66	42	5.4	1.2	0.71	1.00
29	9.8	41	90	34	---	71	65	40	5.1	1.2	0.69	1.1
30	13	44	183	27	---	78	64	38	4.7	1.2	0.67	3.6
31	25	---	133	33	---	88	---	37	---	1.1	0.66	---
TOTAL	394.4	949	1387	1609	1198	1970	2529	1608	532.1	57.0	26.03	26.56
MEAN	12.72	31.63	44.74	51.90	42.79	63.55	84.30	51.87	17.74	1.839	0.840	0.885
MAX	25	85	183	112	61	88	108	62	37	4.2	1.1	3.6
MIN	4.4	18	28	27	34	51	63	37	4.7	1.1	0.60	0.63
AC-FT	782	1880	2750	3190	2380	3910	5020	3190	1060	113	52	53

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.32	36.16	57.25	65.86	95.06	161.6	349.7	429.1	172.2	49.52	23.61	18.84
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	0.19	0.20	0.10
(WY)	1962	1930	1949	1931	1961	1961	1961	1961	1924	1961	1934	1961

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1912 - 2002
ANNUAL TOTAL	23912.9	12286.09	
ANNUAL MEAN	65.51	33.66	124.3
HIGHEST ANNUAL MEAN			605 1969
LOWEST ANNUAL MEAN			11.5 1961
HIGHEST DAILY MEAN	413 Apr 2	183 Dec 30	14000 Dec 6 1966
LOWEST DAILY MEAN	1.1 Sep 18	0.60 Aug 19	0.00 Sep 1 1934
ANNUAL SEVEN-DAY MINIMUM	1.5 Aug 20	0.62 Aug 16	0.00 Jul 23 1961
MAXIMUM PEAK FLOW		228 Dec 30	28700 Dec 6 1966
MAXIMUM PEAK STAGE		4.99 Dec 30	18.90 Dec 6 1966
ANNUAL RUNOFF (AC-FT)	47430	24370	90070
10 PERCENT EXCEEDS	212	68	289
50 PERCENT EXCEEDS	30	33	41
90 PERCENT EXCEEDS	4.4	0.81	7.0

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA

LOCATION.—Lat 35°31'15", long 118°40'34", in NE 1/4 SE 1/4 sec.6, T.28 S., R.31 E., Kern County, Hydrologic Unit 18030003, on left bank, 1.0 mi southwest of Democrat Springs, and 2.1 mi upstream from Cow Creek.

DRAINAGE AREA.—2,258 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. For records of combined discharge of river and conduit, see station 11192501. See schematic diagram of Kern River Basin.

COOPERATION.—Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2290.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	22	23	85	19	20	17	24	262	709	528	54
2	26	22	21	95	20	23	17	17	279	793	459	55
3	26	22	26	163	175	20	16	16	416	574	384	55
4	26	22	31	161	262	19	16	16	422	601	404	55
5	26	22	28	140	281	20	65	16	416	675	359	55
6	26	22	21	88	282	20	27	34	385	655	358	55
7	25	22	21	73	273	20	16	41	376	549	339	54
8	25	22	21	74	268	20	16	113	315	646	386	54
9	25	21	21	81	140	20	37	139	368	734	222	54
10	25	26	21	66	22	20	120	161	452	653	66	53
11	25	27	21	51	20	20	105	145	472	917	81	53
12	25	27	21	77	19	20	81	132	402	986	186	53
13	25	139	20	52	19	20	38	164	408	941	216	53
14	25	191	20	52	19	20	59	148	363	999	234	53
15	24	194	20	50	19	20	120	140	338	1300	388	53
16	24	211	20	49	19	20	94	185	406	1070	350	53
17	24	209	20	31	19	20	80	168	617	752	237	63
18	32	208	20	23	19	21	74	157	579	603	199	54
19	26	205	20	20	19	20	132	165	441	658	287	54
20	25	185	20	19	19	20	93	236	403	613	256	74
21	25	100	21	19	20	19	53	213	500	599	266	54
22	25	46	21	18	31	19	26	159	630	694	413	54
23	24	46	20	19	21	19	58	180	561	610	379	53
24	24	67	25	19	19	23	106	298	820	548	230	53
25	23	103	33	19	19	19	128	251	820	417	200	53
26	23	127	43	19	19	18	111	209	730	453	274	52
27	23	52	61	20	19	18	45	236	732	341	195	52
28	23	30	52	19	19	18	17	211	757	277	130	52
29	23	31	34	20	---	18	15	256	830	325	56	52
30	22	28	72	19	---	18	19	216	841	328	56	51
31	22	---	87	19	---	17	---	260	---	417	55	---
TOTAL	784	2449	905	1660	2100	609	1801	4706	15341	20437	8193	1633
MEAN	25.3	81.6	29.2	53.5	75.0	19.6	60.0	152	511	659	264	54.4
MAX	42	211	87	163	282	23	132	298	841	1300	528	74
MIN	22	21	20	18	19	17	15	16	262	277	55	51
AC-FT	1560	4860	1800	3290	4170	1210	3570	9330	30430	40540	16250	3240

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	325	246	144	174	297	503	741	1001	1509	1468	1047	457
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	0.53	0.18	0.13	0.16	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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1961 - 2002
ANNUAL TOTAL	78595	60618	
ANNUAL MEAN	215	166	661
HIGHEST ANNUAL MEAN			2837
LOWEST ANNUAL MEAN			23.7
HIGHEST DAILY MEAN	1150	Jun 20	1300
LOWEST DAILY MEAN	15	Mar 28	15
ANNUAL SEVEN-DAY MINIMUM	19	Feb 9	17
MAXIMUM PEAK FLOW			1300
MAXIMUM PEAK STAGE			9.45
ANNUAL RUNOFF (AC-FT)	155900	120200	479000
10 PERCENT EXCEEDS	644	511	1890
50 PERCENT EXCEEDS	58	53	245
90 PERCENT EXCEEDS	21	19	2.1

11192501 KERN RIVER NEAR DEMOCRAT SPRINGS, CA—Continued

KERN RIVER AND KERN RIVER NO. 1 CONDUIT NEAR DEMOCRAT SPRINGS, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	351	207	265	433	286	382	414	419	651	1090	873	270
2	358	236	266	441	306	405	413	397	665	1170	804	282
3	316	213	306	508	298	397	414	400	800	953	728	301
4	344	203	345	508	264	396	411	401	809	979	748	310
5	359	193	347	488	283	396	475	402	805	1050	702	277
6	354	191	338	434	284	395	437	428	773	1030	702	293
7	305	183	330	419	275	398	398	434	763	924	681	262
8	302	190	297	419	271	402	399	508	702	1020	727	215
9	237	188	295	421	298	407	426	534	754	1020	563	213
10	270	196	296	421	325	409	528	556	836	1040	406	208
11	265	200	280	412	324	409	513	540	861	1020	411	228
12	267	208	256	419	323	410	485	526	794	988	525	263
13	230	200	238	395	322	406	440	557	799	942	554	245
14	236	193	244	394	335	409	461	540	752	1000	571	223
15	367	196	241	391	338	409	522	533	725	1300	723	244
16	353	213	264	391	353	411	495	578	793	1270	685	330
17	368	211	264	373	356	411	480	560	1000	1090	570	377
18	417	210	268	353	354	425	474	549	964	935	532	344
19	374	207	278	331	352	411	531	558	825	990	619	362
20	290	186	276	332	350	413	492	630	786	943	587	390
21	207	195	297	332	354	413	452	608	883	931	597	366
22	205	209	285	327	387	413	424	555	1010	1020	743	352
23	183	209	277	328	380	418	456	576	944	940	709	298
24	212	230	279	328	384	431	504	692	1200	882	559	278
25	193	290	280	328	395	427	525	645	1200	751	529	276
26	175	414	279	327	396	416	509	596	1110	789	602	245
27	166	332	283	333	389	417	441	626	1110	677	523	284
28	162	280	283	335	375	417	407	603	1140	613	459	256
29	160	267	328	332	---	418	398	647	1210	662	363	240
30	165	268	416	313	---	415	406	606	1220	670	342	233
31	177	---	434	288	---	412	---	651	---	762	319	---
TOTAL	8368	6718	9135	11854	9357	12698	13730	16855	26884	29451	18456	8465
MEAN	269.9	223.9	294.7	382.4	334.2	409.6	457.7	543.7	896.1	950.0	595.4	282.2
MAX	417	414	434	508	396	431	531	692	1220	1300	873	390
MIN	160	183	238	288	264	382	398	397	651	613	319	208
AC-FT	16600	13330	18120	23510	18560	25190	27230	33430	53320	58420	36610	16790

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2002, BY WATER YEAR (WY)

MEAN	563.4	468.8	399.7	463.2	616.0	827.8	1066	1347	1876	1792	1358	720.3
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1955 - 2002

ANNUAL TOTAL	192229	171971		
ANNUAL MEAN	526.7	471.2	959.9	
HIGHEST ANNUAL MEAN			3173	1983
LOWEST ANNUAL MEAN			246	1961
HIGHEST DAILY MEAN	1540	Jun 20	7030	Jun 7 1969
LOWEST DAILY MEAN	160	Jan 1	10	Dec 17 1968
ANNUAL SEVEN-DAY MINIMUM	165	Jan 1	12	Dec 11 1968
ANNUAL RUNOFF (AC-FT)	381300	341100	695400	
10 PERCENT EXCEEDS	1050	877	2140	
50 PERCENT EXCEEDS	416	405	601	
90 PERCENT EXCEEDS	207	220	204	

11192950 KERN RIVER BELOW KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA

LOCATION.—Lat 35°27'37", long 118°46'43", in SE 1/4 SE 1/4 sec.29, T.28 S., R.30 E., Kern County, Hydrologic Unit 18030003, Sequoia National Forest, on right bank, 100 ft downstream of diversion dam, and 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 to 35 ft³/s), October 1996 to current year. Prior to October 1996 published as "Kern River Fishwater Release at Kern County Powerhouse Dam, near Bakersfield". Prior to Oct. 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. Water is diverted upstream of gage to Kern Canyon Powerplant (station 11192940) and returned to the river approximately 5 mi downstream.

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 Federal Energy Regulatory Commission project no. 178.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,770 ft³/s, July 3, 1998, gage height, 7.61 ft; minimum daily, 6 ft³/s, Dec. 18, 1988.

DISCHARGE,CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	38	26	26	132	49	28	27	37	442	229	15
2	25	41	26	27	155	298	28	27	38	523	173	15
3	25	40	26	28	130	351	28	27	161	336	103	15
4	26	40	26	112	113	362	28	27	185	318	109	15
5	26	40	26	213	132	386	28	27	184	399	79	16
6	25	40	26	300	138	392	27	27	154	407	70	16
7	25	40	26	379	130	398	27	27	148	268	51	16
8	25	40	26	375	131	402	27	28	93	371	108	16
9	25	40	26	393	212	404	27	28	115	376	14	16
10	26	42	27	419	186	407	29	28	205	406	17	16
11	26	40	27	393	162	407	26	28	240	340	16	17
12	25	40	27	405	148	407	26	28	172	312	16	17
13	25	68	27	394	148	406	26	28	178	288	14	18
14	26	88	27	383	94	408	27	28	138	270	14	18
15	26	27	27	380	28	407	27	28	112	669	97	18
16	26	27	27	380	28	410	26	56	119	656	58	17
17	27	26	27	371	28	410	26	40	357	456	19	16
18	27	26	27	341	28	422	26	15	336	282	14	15
19	27	26	27	309	28	411	27	15	210	327	15	15
20	27	26	31	308	28	411	26	44	176	306	14	16
21	27	52	27	308	28	412	26	15	183	261	15	16
22	27	26	27	306	28	398	27	16	396	373	101	56
23	28	26	27	306	28	372	27	16	266	305	79	16
24	28	26	27	306	28	328	27	75	533	245	27	16
25	30	27	27	289	28	156	28	33	551	140	15	16
26	27	28	27	288	28	81	232	27	455	155	15	17
27	27	25	27	233	28	28	138	17	455	73	15	18
28	26	26	27	174	27	28	27	15	464	17	16	17
29	26	26	27	161	---	28	27	33	559	39	16	17
30	27	26	27	143	---	28	28	19	567	38	15	17
31	31	---	27	126	---	28	---	33	---	117	15	---
TOTAL	820	1083	832	8576	2402	9435	1127	882	7787	9515	1559	529
MEAN	26.45	36.10	26.84	276.6	85.79	304.4	37.57	28.45	259.6	306.9	50.29	17.63
MAX	31	88	31	419	212	422	232	75	567	669	229	56
MIN	25	25	26	26	27	28	26	15	37	17	14	15
AC-FT	1630	2150	1650	17010	4760	18710	2240	1750	15450	18870	3090	1050
a	11770	8140	13530	4500	11240	4570	22990	30100	34330	35220	31250	13690

a Diversion, in acre-feet, to Kern Canyon Powerplant (station 11192940), provided by Pacific Gas and Electric Co.

11192950 KERN RIVER BELOW KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124.7	113.8	121.5	149.0	237.1	246.0	206.8	360.0	594.2	571.9	362.6	154.5
MAX	1134	1093	1212	630	1234	1634	1543	3378	4191	3375	2667	1442
(WY)	1999	1999	1997	1998	1998	1997	1998	1998	1998	1998	1998	1998
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	48128		44547			
ANNUAL MEAN	131.9		122.0		483.4	
HIGHEST ANNUAL MEAN					1631 1998	
LOWEST ANNUAL MEAN					24.8 1994	
HIGHEST DAILY MEAN	1040	Jun 20	669	Jul 15	4520	Jul 5 1998
LOWEST DAILY MEAN	25	Mar 23	14	Aug 9	6.0	Dec 18 1988
ANNUAL SEVEN-DAY MINIMUM	25	Apr 3	15	Aug 29	9.5	May 20 1988
MAXIMUM PEAK FLOW			799	Jul 16	4770	Jul 3 1998
MAXIMUM PEAK STAGE			3.86	Jul 16	7.61	Jul 3 1998
ANNUAL RUNOFF (AC-FT)	95460		88360		350200	
10 PERCENT EXCEEDS	405		393		1420	
50 PERCENT EXCEEDS	34		28		36	
90 PERCENT EXCEEDS	26		16		26	

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, Parshall flume and drain gate. Elevation 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 three components which are combined for publication: flow over a broad-crested weir (station 11193020), flow through a Parshall flume (station 11193030) and bypass flow through a sand ejector and drain gate in dam (station 11193032). 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 Federal Energy Regulatory Commission project no. 4129.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (combined), 5,160 ft³/s, Feb. 23, 1998; minimum daily, 46 ft³/s, Feb. 22, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	126	255	54	288	60	63	64	75	77	86	269
2	55	155	256	53	306	70	67	66	74	82	92	280
3	57	134	297	53	257	61	68	66	84	68	86	302
4	55	128	337	53	266	62	69	68	77	77	91	314
5	56	119	340	53	285	63	72	70	79	79	90	279
6	128	117	263	53	289	64	68	78	76	71	84	295
7	332	112	74	55	275	60	62	76	73	84	84	266
8	350	118	244	57	277	58	61	68	68	86	86	216
9	281	115	249	58	284	60	63	67	66	112	85	210
10	304	120	252	59	326	61	67	66	70	81	87	197
11	303	124	235	58	333	60	63	66	86	69	81	211
12	296	131	209	57	336	60	69	70	82	70	89	248
13	267	117	194	57	334	59	65	68	91	71	83	231
14	174	196	202	55	263	71	66	64	84	82	82	207
15	55	189	201	59	61	62	64	63	82	86	101	148
16	55	210	220	58	71	60	65	67	80	102	91	73
17	55	211	218	57	75	62	62	68	117	85	103	72
18	55	209	225	58	75	62	65	70	86	79	93	76
19	111	210	235	95	76	62	63	72	102	81	88	74
20	343	187	232	340	79	63	58	73	88	79	74	75
21	187	229	257	338	110	60	62	68	109	77	74	75
22	178	196	244	341	73	60	63	67	86	86	74	78
23	167	199	235	341	72	60	63	66	76	73	87	174
24	177	202	235	342	51	62	62	66	93	76	86	272
25	161	283	233	339	53	63	67	61	85	72	82	269
26	150	404	229	335	56	65	128	70	71	74	90	235
27	143	325	229	340	58	61	79	69	78	84	91	277
28	145	275	244	338	60	62	65	74	89	82	84	249
29	147	256	285	340	---	64	63	81	98	81	91	231
30	148	262	243	325	---	61	63	78	91	79	81	225
31	164	---	57	305	---	64	---	81	---	84	119	---
TOTAL	5157	5659	7229	5126	5089	1922	2015	2151	2516	2489	2715	6128
MEAN	166.4	188.6	233.2	165.4	181.8	62.00	67.17	69.39	83.87	80.29	87.58	204.3
MAX	350	404	340	342	336	71	128	81	117	112	119	314
MIN	55	112	57	53	51	58	58	61	66	68	74	72
AC-FT	10230	11220	14340	10170	10090	3810	4000	4270	4990	4940	5390	12150
a	6400	0	1590	13350	9130	22230	23830	29920	48490	53230	31090	4150

a Diversion, in acre-feet, through Rio Bravo Powerplant (station 11193010), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	145.3	188.3	228.8	173.9	331.0	315.0	328.5	463.5	625.4	513.2	537.0	214.8
MAX	283	407	759	348	1762	1639	2014	2009	2705	1943	2665	586
(WY)	2001	1999	1997	1995	1997	1997	1995	1998	1998	1998	1995	1998
MIN	60.5	63.1	57.8	58.8	59.2	59.8	49.5	51.5	51.6	52.1	55.7	61.0
(WY)	1994	1996	1998	1998	1994	1994	1991	1991	1991	1991	2001	1993

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	47161		48196			
ANNUAL MEAN	129.2		132.0		345.1	
HIGHEST ANNUAL MEAN					1056	1995
LOWEST ANNUAL MEAN					106	1994
HIGHEST DAILY MEAN	404	Nov 26	404	Nov 26	3870	Aug 17 1995
LOWEST DAILY MEAN	53	Jun 1	51	Feb 24	46	Feb 22 1996
ANNUAL SEVEN-DAY MINIMUM	54	Aug 30	53	Jan 1	47	Jun 14 1991
MAXIMUM PEAK FLOW			507	Nov 26	5160	Feb 23 1998
ANNUAL RUNOFF (AC-FT)	93540		95600		250000	
10 PERCENT EXCEEDS	263		283		1230	
50 PERCENT EXCEEDS	72		82		91	
90 PERCENT EXCEEDS	54		60		56	

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. December 1978 to current year at datum 5.00 ft higher.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,720 ft³/s, Feb. 23, 1998, gage height, 4.53 ft, from rating curve extended above 646 ft³/s, on basis of slope-area measurement, maximum gage height, 7.49 ft, Feb. 14, 2000; 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)
Dec. 3	1430	130	5.85	Jan. 28	0945	45	5.66
Dec. 22	0030	68	5.69	Mar. 8	1715	73	5.70
Dec. 30	0630	263	6.24	Mar. 18	0615	60	5.68
Jan. 3	2330	106	5.78	Mar. 25	0045	156	5.93

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	1.8	101	9.9	0.55	25	18	0.83	0.00	0.00	0.00
2	0.00	0.00	1.7	64	9.7	0.47	21	16	1.3	0.00	0.00	0.00
3	0.00	0.00	55	66	8.7	0.56	19	13	1.1	0.00	0.00	0.00
4	0.00	0.00	42	83	6.9	0.79	17	11	0.83	0.00	0.00	0.00
5	0.00	0.00	14	45	5.7	0.81	17	8.2	0.57	0.00	0.00	0.00
6	0.00	0.00	6.9	27	5.5	1.7	17	7.6	0.27	0.00	0.00	0.00
7	0.00	0.00	4.6	21	e4.0	15	16	7.1	0.07	0.00	0.00	0.00
8	0.00	0.00	4.0	17	e3.5	51	10	8.0	0.01	0.00	0.00	0.00
9	0.00	0.00	4.6	14	e3.7	23	8.3	7.2	0.02	0.00	0.00	0.00
10	0.00	0.00	5.0	10	e3.9	11	7.5	7.0	0.04	0.00	0.00	0.00
11	0.00	0.00	4.0	7.4	e3.2	8.0	9.0	7.8	0.02	0.00	0.00	0.00
12	0.00	0.00	3.0	5.8	e3.2	7.0	7.2	7.1	0.00	0.00	0.00	0.00
13	0.00	0.00	2.5	5.4	e2.9	5.5	6.2	5.5	0.00	0.00	0.00	0.00
14	0.00	0.00	5.7	5.3	e2.5	5.2	5.8	4.9	0.00	0.00	0.00	0.00
15	0.00	0.00	12	4.6	e1.4	5.3	5.5	4.6	0.00	0.00	0.00	0.00
16	0.00	0.00	7.6	3.7	1.2	7.2	5.6	3.9	0.00	0.00	0.00	0.00
17	0.00	0.00	5.9	3.4	1.3	14	5.7	3.6	0.00	0.00	0.00	0.00
18	0.00	0.00	5.4	3.1	3.2	43	7.1	3.6	0.00	0.00	0.00	0.00
19	0.00	0.00	5.3	3.0	2.2	26	7.3	4.5	0.00	0.00	0.00	0.00
20	0.00	0.00	5.8	2.8	1.4	22	6.8	10	0.00	0.00	0.00	0.00
21	0.00	0.00	33	2.9	2.2	24	6.3	27	0.00	0.00	0.00	0.00
22	0.00	0.00	46	3.1	1.9	25	6.7	31	0.00	0.00	0.00	0.00
23	0.00	0.00	29	2.9	1.6	30	7.7	22	0.00	0.00	0.00	0.00
24	0.00	0.00	25	2.6	1.4	116	7.3	16	0.00	0.00	0.00	0.00
25	0.00	0.00	21	3.2	1.0	133	8.3	14	0.00	0.00	0.00	0.00
26	0.00	0.00	15	3.7	1.1	101	19	9.5	0.00	0.00	0.00	0.00
27	0.00	0.00	17	9.6	0.88	79	34	5.3	0.00	0.00	0.00	0.00
28	0.00	0.00	19	32	0.67	59	29	4.2	0.00	0.00	0.00	0.00
29	0.00	0.01	57	17	---	47	20	3.6	0.00	0.00	0.00	0.00
30	0.00	1.1	199	15	---	34	18	2.3	0.00	0.00	0.00	0.00
31	0.00	---	129	11	---	30	---	1.3	---	0.00	0.00	---
TOTAL	0.00	1.11	786.8	595.5	94.75	926.08	380.3	294.8	5.06	0.00	0.00	0.00
MEAN	0.000	0.037	25.38	19.21	3.384	29.87	12.68	9.510	0.169	0.000	0.000	0.000
MAX	0.00	1.1	199	101	9.9	133	34	31	1.3	0.00	0.00	0.00
MIN	0.00	0.00	1.7	2.6	0.67	0.47	5.5	1.3	0.00	0.00	0.00	0.00
AC-FT	0.00	2.2	1560	1180	188	1840	754	585	10	0.00	0.00	0.00

e Estimated.

TULARE LAKE BASIN

11199500 WHITE RIVER NEAR DUCOR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.533	2.435	6.519	14.38	20.94	33.99	23.59	12.57	5.133	1.254	0.373	0.300
MAX	8.05	20.6	36.5	97.0	155	260	165	87.9	58.8	20.6	8.30	5.36
(WY)	1984	1984	1984	1997	1998	1943	1998	1998	1998	1998	1983	1998
MIN	0.000	0.000	0.000	0.084	0.76	1.79	0.85	0.19	0.000	0.000	0.000	0.000
(WY)	1943	1943	1948	1949	1991	1977	1977	1992	1950	1947	1943	1943

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1943 - 2002	
ANNUAL TOTAL	2916.49		3084.40			
ANNUAL MEAN	7.990		8.450		10.25	
HIGHEST ANNUAL MEAN					52.0	
LOWEST ANNUAL MEAN					0.58	
HIGHEST DAILY MEAN	199	Dec 30	199	Dec 30	1320	Mar 9 1943
LOWEST DAILY MEAN	0.00	May 23	0.00	Oct 1	0.00	Oct 1 1942
ANNUAL SEVEN-DAY MINIMUM	0.00	May 23	0.00	Oct 1	0.00	Oct 1 1942
MAXIMUM PEAK FLOW			263		2720	
MAXIMUM PEAK STAGE			6.24		7.49	
ANNUAL RUNOFF (AC-FT)	5780		6120		7420	
10 PERCENT EXCEEDS	22		22		23	
50 PERCENT EXCEEDS	0.00		0.79		2.2	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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)
Dec. 29	2330	592	6.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.71	5.9	15	68	15	15	37	22	8.1	3.1	0.58	0.00
2	0.72	4.2	14	52	15	15	35	21	6.2	5.2	0.45	0.00
3	0.85	3.9	67	79	14	15	33	20	8.3	4.5	0.32	0.00
4	0.80	3.9	34	65	14	15	32	19	7.9	4.3	0.30	0.00
5	0.85	3.2	22	49	14	15	32	16	6.9	4.3	0.13	0.00
6	0.96	3.8	18	40	14	16	32	17	6.3	4.4	0.12	0.00
7	1.3	3.4	17	36	14	26	32	17	6.0	3.3	0.01	0.00
8	1.4	3.5	16	34	14	41	30	17	5.9	2.8	0.00	0.20
9	1.4	3.4	16	32	15	27	28	16	5.7	4.4	0.00	0.71
10	1.6	3.6	16	30	14	23	28	16	7.2	4.3	0.00	0.57
11	1.6	3.4	15	27	14	21	28	15	7.4	3.5	0.00	0.51
12	1.2	4.3	14	25	15	21	27	12	6.4	3.8	0.00	0.31
13	1.2	16	13	24	14	20	27	14	6.8	3.0	0.00	0.20
14	1.2	8.0	15	22	14	20	25	13	6.6	1.6	0.00	0.08
15	1.1	6.7	21	21	14	19	25	13	6.5	1.2	0.00	0.00
16	1.6	6.1	16	20	14	20	24	13	5.0	2.2	0.00	0.00
17	0.95	5.4	15	19	16	22	23	13	5.5	1.8	0.00	0.00
18	1.4	5.5	15	18	21	27	24	12	6.2	1.8	0.00	0.00
19	1.1	4.7	14	18	17	26	23	10	5.7	0.94	0.00	0.18
20	1.9	5.3	14	17	17	26	22	14	5.6	2.3	0.00	0.26
21	1.3	5.0	29	16	18	29	19	25	5.0	1.3	0.00	0.03
22	1.3	5.0	29	16	18	30	19	21	4.8	1.0	0.00	0.00
23	1.4	6.1	25	16	18	44	19	19	5.0	1.6	0.00	0.00
24	2.2	13	24	15	17	92	18	19	4.3	1.6	0.00	0.11
25	1.9	54	21	15	17	73	18	16	5.5	1.6	0.00	0.00
26	2.0	19	19	14	16	61	24	13	5.3	1.2	0.00	0.07
27	1.9	14	19	18	16	53	35	14	5.2	1.0	0.00	0.09
28	2.1	12	20	24	16	50	28	13	4.7	0.60	0.00	0.25
29	2.3	13	151	19	---	46	24	12	5.0	0.63	0.00	1.0
30	3.1	22	246	16	---	43	22	11	3.8	0.59	0.00	1.4
31	5.9	---	98	15	---	40	---	9.9	---	0.69	0.00	---
TOTAL	49.24	267.3	1068	880	435	991	793	482.9	178.8	74.55	1.91	5.97
MEAN	1.588	8.910	34.45	28.39	15.54	31.97	26.43	15.58	5.960	2.405	0.062	0.199
MAX	5.9	54	246	79	21	92	37	25	8.3	5.2	0.58	1.4
MIN	0.71	3.2	13	14	14	15	18	9.9	3.8	0.59	0.00	0.00
AC-FT	98	530	2120	1750	863	1970	1570	958	355	148	3.8	12

TULARE LAKE BASIN

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.012	13.33	23.93	54.13	74.06	80.37	67.26	42.43	23.14	9.503	4.206	3.534
MAX	23.5	62.8	145	440	364	443	318	211	153	66.9	32.1	20.1
(WY)	1984	1984	1997	1997	1998	1983	1998	1998	1998	1998	1983	1998
MIN	0.77	3.35	4.88	6.69	4.65	8.38	4.12	2.96	0.71	0.000	0.000	0.000
(WY)	1978	1991	1991	1991	1991	1977	1977	1992	1992	1972	1972	1972

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1968 - 2002	
ANNUAL TOTAL	4203.79		5227.67			
ANNUAL MEAN	11.52		14.32		33.27	
HIGHEST ANNUAL MEAN					143 1983	
LOWEST ANNUAL MEAN					4.29 1977	
HIGHEST DAILY MEAN	246	Dec 30	246	Dec 30	2080	Jan 3 1997
LOWEST DAILY MEAN	0.00	Aug 8	0.00	Aug 8	0.00	Jun 24 1972
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 15	0.00	Aug 8	0.00	Jun 30 1972
MAXIMUM PEAK FLOW			592	Dec 29	3790	Jan 3 1997
MAXIMUM PEAK STAGE			6.18	Dec 29	10.32	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	8340		10370		24100	
10 PERCENT EXCEEDS	25		29		74	
50 PERCENT EXCEEDS	6.8		13		11	
90 PERCENT EXCEEDS	0.06		0.00		0.94	

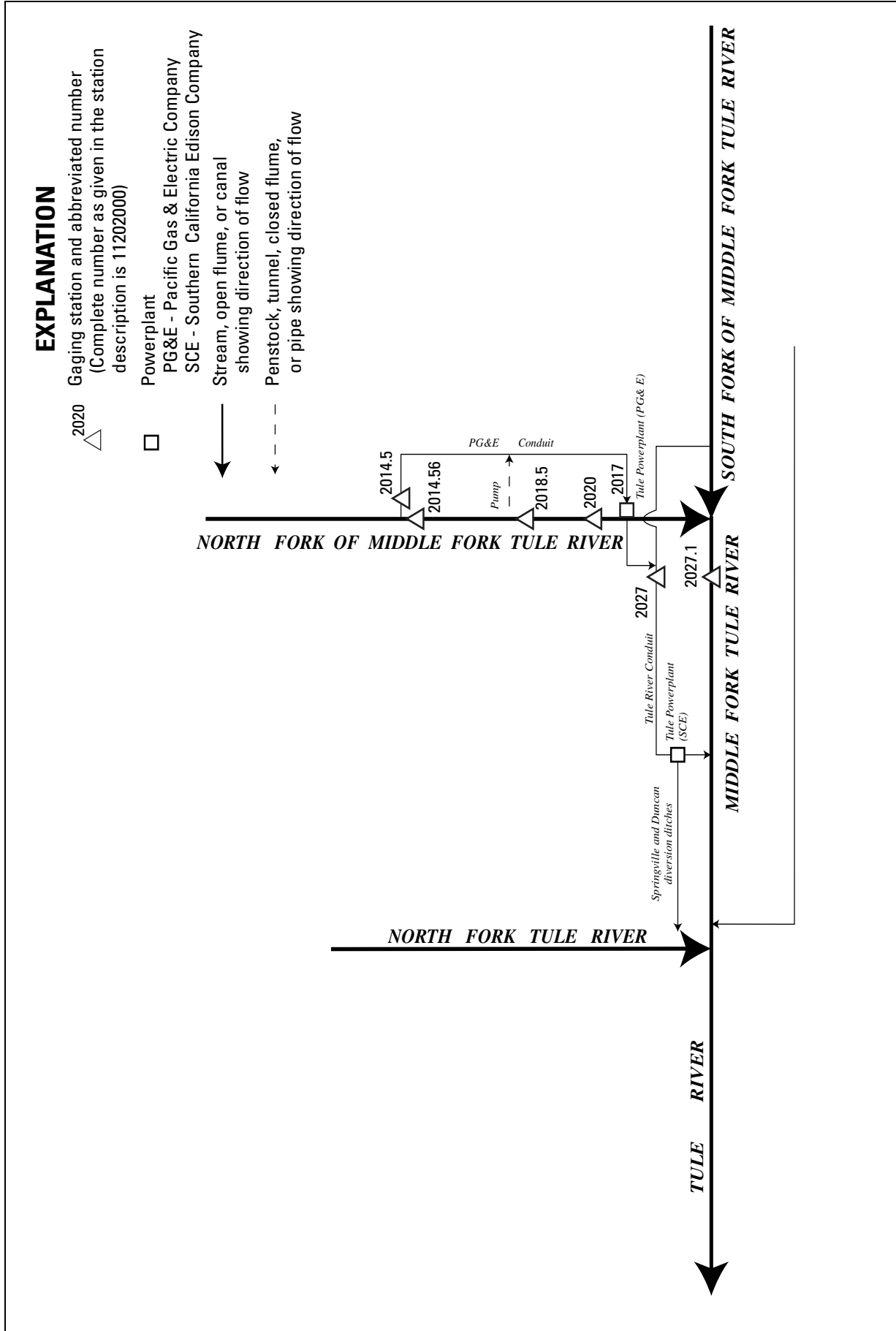


Figure 24. Diversions and storage in Tule River Basin.

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 Federal Energy Regulatory Commission project no. 1333.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 66 ft³/s, Apr. 28, May 1, 2, 2001; minimum daily, 0.10 ft³/s, Oct. 10, 1999.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	6.7	12	49	16	29	57	42	58	13	6.0	1.1
2	3.2	5.4	23	47	16	27	59	40	53	12	5.9	1.1
3	3.1	4.8	26	52	16	26	60	40	48	12	5.8	1.1
4	3.2	4.6	17	45	16	25	61	42	45	12	5.6	1.2
5	2.6	4.5	14	40	16	25	61	46	43	5.9	5.4	1.5
6	2.0	4.3	14	36	16	28	60	53	42	2.0	5.5	1.8
7	2.1	4.3	16	36	16	36	59	56	40	1.8	5.4	1.8
8	2.2	4.2	16	33	17	34	59	57	37	1.7	5.2	1.7
9	2.3	4.1	16	31	17	31	59	57	35	1.4	4.8	1.5
10	2.3	4.1	14	29	18	30	60	57	32	6.0	4.5	1.3
11	1.7	4.7	13	29	19	30	61	54	30	9.7	4.5	1.1
12	2.2	7.4	12	29	20	33	61	53	28	9.6	4.4	1.1
13	2.2	12	12	28	20	35	61	54	26	9.5	4.3	1.1
14	2.2	8.5	13	27	19	32	61	56	25	9.4	4.2	1.0
15	2.2	8.3	12	25	20	29	62	58	24	9.0	4.1	1.0
16	2.3	7.0	12	24	20	29	61	58	23	8.7	2.9	1.4
17	0.96	6.2	12	22	23	27	60	59	22	8.6	2.1	1.7
18	0.42	5.8	11	21	22	27	58	59	21	8.6	2.1	1.6
19	1.4	5.3	12	20	21	28	55	57	20	8.0	2.0	1.6
20	2.7	5.0	12	20	22	31	51	56	20	7.4	2.1	1.6
21	2.9	5.0	14	19	24	32	47	55	19	7.1	2.2	1.6
22	3.0	9.3	13	19	27	33	45	51	18	7.4	1.9	1.5
23	3.2	8.8	14	18	28	39	46	52	17	7.2	1.6	1.5
24	3.2	8.0	13	17	27	38	49	54	16	7.0	1.6	1.5
25	3.0	15	13	17	27	37	52	54	16	7.0	1.5	1.6
26	2.9	18	13	17	28	38	55	54	15	6.9	1.4	1.5
27	2.9	14	13	18	29	41	55	54	15	6.7	1.4	1.7
28	3.1	11	18	17	30	45	50	53	15	6.6	1.3	1.9
29	3.1	17	27	17	---	48	49	53	14	6.6	1.3	2.2
30	7.7	13	24	16	---	53	45	54	13	6.3	1.3	2.4
31	12	---	45	16	---	56	---	57	---	6.1	1.1	---
TOTAL	91.38	236.3	496	834	590	1052	1679	1645	830	231.2	103.4	44.7
MEAN	2.948	7.877	16.00	26.90	21.07	33.94	55.97	53.06	27.67	7.458	3.335	1.490
MAX	12	18	45	52	30	56	62	59	58	13	6.0	2.4
MIN	0.42	4.1	11	16	16	25	45	40	13	1.4	1.1	1.0
AC-FT	181	469	984	1650	1170	2090	3330	3260	1650	459	205	89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2002, BY WATER YEAR (WY)

MEAN	5.267	9.332	15.23	23.19	34.57	44.41	54.54	58.46	38.18	23.38	10.86	7.678
MAX	13.5	20.0	50.0	55.0	58.5	59.8	61.1	62.4	62.8	59.3	31.7	19.2
(WY)	1999	1997	1997	1997	1997	1997	1996	1995	1995	1995	1998	1998
MIN	1.68	4.05	4.93	6.48	10.8	22.7	38.9	53.1	13.7	5.27	1.39	1.49
(WY)	2000	1995	2000	2001	2001	1999	1999	2002	2001	2001	2001	2002

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1995 - 2002	
ANNUAL TOTAL	6113.42		7832.98			
ANNUAL MEAN	16.75		21.46		27.03	
HIGHEST ANNUAL MEAN					37.8	1997
LOWEST ANNUAL MEAN					15.9	2001
HIGHEST DAILY MEAN	66	Apr 28	62	Apr 15	66	Apr 28 2001
LOWEST DAILY MEAN	0.42	Oct 18	0.42	Oct 18	0.10	Oct 10 1999
ANNUAL SEVEN-DAY MINIMUM	0.58	Sep 9	1.1	Sep 10	0.21	Oct 4 1995
ANNUAL RUNOFF (AC-FT)	12130		15540		19580	
10 PERCENT EXCEEDS	56		54		61	
50 PERCENT EXCEEDS	8.9		16		18	
90 PERCENT EXCEEDS	1.5		1.7		2.8	

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 Federal Energy Regulatory Commission project no. 1333.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	5.0	5.0	22	5.2	5.1	9.6	5.3	11	4.9	4.9	6.9
2	4.9	4.9	7.2	7.7	5.2	5.0	13	5.3	6.2	4.9	4.9	6.9
3	4.9	4.8	8.4	7.2	5.2	5.0	17	5.3	5.6	4.9	4.9	6.9
4	4.9	4.8	5.0	4.9	5.2	4.9	22	5.3	5.6	4.9	4.9	6.7
5	5.2	4.8	4.9	4.6	5.2	4.9	20	5.4	5.3	9.5	4.9	6.7
6	5.8	4.8	4.8	4.5	5.2	5.0	13	6.4	5.3	14	4.9	6.7
7	5.8	4.8	4.9	5.2	5.2	5.3	9.0	8.3	5.2	14	4.9	6.7
8	5.6	4.8	4.9	6.7	5.2	5.2	12	9.3	5.1	14	4.9	6.7
9	5.8	4.8	4.9	6.7	5.2	5.1	15	9.5	5.1	14	5.0	6.7
10	5.6	4.7	4.9	6.6	5.2	5.0	18	8.6	5.0	9.8	5.0	6.7
11	6.1	4.8	4.8	6.3	5.2	5.0	23	6.6	4.9	4.9	5.0	6.7
12	5.5	4.9	4.8	6.1	5.2	5.1	31	6.3	4.9	4.9	5.0	6.7
13	5.4	5.1	4.8	5.9	5.2	5.2	40	6.7	4.9	4.9	5.0	6.7
14	5.5	4.9	4.7	5.9	5.2	5.0	47	8.6	4.9	4.9	5.0	6.7
15	5.4	4.9	4.7	5.9	5.2	5.0	56	11	4.9	4.9	5.0	6.5
16	5.3	4.8	4.7	5.7	5.2	5.0	35	12	4.8	4.9	5.7	6.4
17	6.8	4.8	4.7	5.6	5.2	4.9	25	13	4.8	4.8	6.4	6.4
18	7.5	4.7	5.2	5.4	5.2	4.9	12	14	4.8	4.8	6.4	6.4
19	6.5	4.7	4.7	5.4	5.2	4.9	7.0	12	4.7	5.0	6.4	6.4
20	5.1	4.7	4.7	5.3	5.2	5.0	5.8	15	4.7	5.3	6.4	6.2
21	4.9	4.7	4.7	5.3	5.3	5.1	5.5	11	4.7	5.3	6.4	6.1
22	4.7	4.9	4.7	5.3	5.4	5.1	5.4	6.1	4.7	5.0	6.6	6.1
23	4.8	4.9	5.0	5.2	5.4	5.3	5.4	10	4.7	4.9	6.9	6.1
24	4.9	---	4.8	5.2	5.4	5.3	5.6	11	4.8	4.9	6.9	6.1
25	4.9	---	4.8	5.2	5.3	5.2	5.9	9.3	4.9	4.9	6.9	5.9
26	5.0	6.2	4.8	5.2	5.3	5.2	7.4	8.1	4.9	4.9	7.0	5.9
27	5.0	5.7	4.8	5.2	5.3	5.1	6.7	8.6	4.9	4.9	7.1	5.9
28	5.0	6.0	4.8	5.2	5.2	5.1	5.6	8.4	4.9	4.9	7.1	5.9
29	4.9	5.8	---	5.2	---	5.3	5.6	8.7	4.9	4.9	7.1	5.9
30	5.3	5.3	---	5.2	---	6.9	5.4	9.6	4.9	4.9	7.1	5.9
31	5.9	---	---	5.2	---	8.2	---	7.9	---	4.9	7.0	---
TOTAL	167.8	---	---	191.0	146.6	162.3	488.9	272.6	156.0	198.6	181.6	192.5
MEAN	5.413	---	---	6.161	5.236	5.235	16.30	8.794	5.200	6.406	5.858	6.417
MAX	7.5	---	---	22	5.4	8.2	56	15	11	14	7.1	6.9
MIN	4.7	---	---	4.5	5.2	4.9	5.4	5.3	4.7	4.8	4.9	5.9
AC-FT	333	---	---	379	291	322	970	541	309	394	360	382

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 (station 11201700). For records of combined discharge of river and powerplant, [see station 11202001](#). 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 Federal Energy Regulatory Commission project no. 1333.

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; minimum daily, 0.06 ft³/s, Nov. 2, 1979.

Combined flow: Maximum discharge, 16,900 ft³/s, Dec. 6, 1966; minimum daily, 4.9 ft³/s, Dec. 24, 26, 1999, July 9, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	5.6	6.2	33	6.7	7.1	e14	7.9	16	16	4.5	9.7
2	8.2	5.1	9.2	14	6.7	6.9	e17	7.4	19	e10	4.7	9.7
3	8.2	5.1	23	20	6.7	6.7	e20	7.2	14	5.2	4.7	8.8
4	8.2	6.1	8.9	13	6.7	6.6	e25	7.2	13	5.1	4.7	7.9
5	8.5	6.0	7.0	9.7	6.8	6.5	e27	7.8	17	5.2	4.7	9.6
6	9.3	5.4	6.5	8.4	6.8	e7.0	e23	9.0	20	5.1	4.7	9.5
7	9.2	4.9	6.4	8.0	6.7	e8.5	e19	11	21	5.0	4.7	9.4
8	9.1	4.7	6.3	9.7	6.7	e7.8	e19	11	20	5.0	6.5	9.5
9	9.3	5.0	6.4	9.3	6.7	e7.3	e19	11	19	4.9	9.1	9.4
10	9.1	6.0	6.2	8.9	6.7	e7.4	e21	9.1	19	5.0	9.1	9.5
11	9.6	7.7	6.0	8.4	6.7	e7.2	25	8.4	18	5.2	9.3	9.3
12	9.0	7.2	5.8	8.0	6.7	e7.3	34	8.4	17	13	9.5	9.2
13	8.9	8.3	5.8	8.0	6.7	e7.4	48	9.6	17	31	9.5	9.1
14	8.9	5.6	6.4	7.8	6.7	e7.0	56	12	16	30	9.7	9.1
15	8.9	5.1	6.1	7.7	6.6	e6.9	71	13	16	25	10	9.0
16	8.6	4.9	6.1	7.5	6.5	e6.9	59	14	15	11	10	9.0
17	9.2	4.9	6.2	7.4	8.0	e6.8	38	15	15	4.8	10	9.0
18	8.0	5.0	6.7	7.1	7.9	e6.8	28	15	15	4.8	10	9.0
19	8.7	4.9	5.8	7.0	7.4	e6.8	19	14	14	4.8	9.8	9.0
20	8.6	4.6	6.0	7.0	7.4	e7.0	11	17	15	4.8	9.9	9.2
21	8.5	4.7	7.8	6.9	7.5	e7.2	8.4	20	21	4.7	10	9.2
22	8.4	5.3	9.9	6.8	7.5	e7.2	8.9	21	20	4.6	10	9.2
23	8.5	5.4	9.5	6.7	7.5	e8.2	11	19	16	4.6	9.8	9.3
24	8.5	60	6.7	6.6	7.5	e8.1	10	19	17	4.4	9.7	9.3
25	8.4	50	6.5	6.5	7.4	e7.8	11	18	17	4.3	9.7	9.1
26	8.3	7.9	6.2	6.5	7.2	e7.8	11	18	17	4.2	9.6	9.1
27	8.3	6.3	6.2	7.4	7.2	e7.6	13	15	17	4.1	9.6	9.0
28	8.3	6.6	6.9	7.3	7.2	e7.6	21	15	17	4.1	9.8	9.0
29	8.4	8.0	297	7.1	---	e7.8	14	15	16	4.2	9.9	9.0
30	9.2	6.7	183	6.7	---	e10	11	18	16	4.0	9.8	7.8
31	8.8	---	82	6.8	---	e12	---	19	---	4.1	9.8	---
TOTAL	269.3	273.0	768.7	285.2	196.8	233.2	712.3	412.0	510	248.2	262.8	273.9
MEAN	8.687	9.100	24.80	9.200	7.029	7.523	23.74	13.29	17.00	8.006	8.477	9.130
MAX	9.6	60	297	33	8.0	12	71	21	21	31	10	9.7
MIN	8.0	4.6	5.8	6.5	6.5	6.5	8.4	7.2	13	4.0	4.5	7.8
AC-FT	534	541	1520	566	390	463	1410	817	1010	492	521	543

e Estimated.

TULARE LAKE BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.741	12.31	26.08	28.84	27.09	33.35	49.36	80.16	47.79	12.53	4.966	4.099
MAX	19.1	362	786	353	182	337	229	381	316	136	16.2	22.7
(WY)	1953	1951	1967	1997	1986	1943	1969	1969	1983	1998	1996	1952
MIN	0.53	0.76	0.73	0.81	0.80	1.21	1.13	1.03	0.61	0.34	0.32	0.31
(WY)	1965	1963	1991	1991	1991	1977	1977	1992	1992	1961	1964	1961

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	4692.7		4445.4			
ANNUAL MEAN	12.86		12.18		27.27	
HIGHEST ANNUAL MEAN					129	
LOWEST ANNUAL MEAN					1.25	
HIGHEST DAILY MEAN	297	Dec 29	297	Dec 29	13300	Dec 6 1966
LOWEST DAILY MEAN	4.6	Nov 20	4.0	Jul 30	0.06	Nov 2 1979
ANNUAL SEVEN-DAY MINIMUM	4.9	Nov 15	4.1	Jul 25	0.20	Aug 24 1964
MAXIMUM PEAK FLOW			582	Dec 29	16900	Dec 6 1966
MAXIMUM PEAK STAGE			5.32	Dec 29	13.83	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	9310		8820		19760	
10 PERCENT EXCEEDS	15		19		72	
50 PERCENT EXCEEDS	8.3		8.4		5.5	
90 PERCENT EXCEEDS	6.0		5.1		0.80	

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, CA
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	16	21	90	27	42	e76	58	79	35	17	9.7
2	8.2	15	36	72	27	41	e78	51	82	e30	16	9.7
3	8.2	15	54	80	27	41	e88	59	66	26	16	8.8
4	8.2	14	29	70	26	34	e91	61	65	24	16	7.9
5	8.5	12	38	56	27	34	e94	56	67	13	16	9.6
6	9.3	12	25	50	27	e36	e89	70	68	5.1	16	9.5
7	9.2	12	22	50	28	e42	e82	74	68	5.0	16	9.4
8	9.1	12	25	53	28	e50	e84	75	63	5.0	18	9.5
9	9.3	13	25	46	28	e51	e85	76	60	4.9	20	9.4
10	9.1	13	25	44	29	e41	e83	73	60	9.1	19	9.5
11	9.6	7.7	25	42	30	e41	83	72	55	16	19	9.3
12	9.0	17	19	41	32	e46	100	71	51	28	20	9.2
13	8.9	22	19	41	31	e48	115	71	50	45	20	9.1
14	8.9	17	20	40	31	e42	123	74	48	44	20	9.1
15	8.9	16	19	39	32	e42	137	76	48	40	23	9.0
16	8.6	17	27	32	32	e40	125	78	45	27	16	9.0
17	9.2	16	16	21	33	e39	104	81	44	20	10	9.0
18	8.0	14	22	26	34	e38	91	79	42	20	10	9.0
19	8.7	15	18	26	32	e37	84	79	40	19	9.8	9.0
20	8.6	15	22	26	33	e44	73	79	40	18	9.9	9.2
21	8.5	14	26	26	36	e44	64	83	44	19	14	9.2
22	8.4	14	20	25	38	e37	66	78	55	19	10	9.2
23	8.5	14	28	27	39	e44	67	76	38	19	9.8	9.3
24	8.5	75	25	29	38	e55	67	82	39	16	9.7	9.3
25	8.4	66	24	28	38	e53	69	81	38	16	9.7	9.1
26	8.3	28	24	28	38	e50	71	81	38	16	9.6	9.1
27	8.3	23	23	29	38	e53	80	76	38	17	9.6	9.0
28	8.3	22	27	30	40	e55	84	74	38	16	9.8	9.0
29	8.4	28	332	29	---	e65	73	74	36	16	9.9	9.0
30	9.2	22	222	23	---	e69	70	77	35	16	9.8	7.8
31	17	---	136	16	---	e73	---	81	---	16	9.8	---
TOTAL	277.5	596.7	1394	1235	899	1427	2596	2276	1540	620.1	439.4	273.9
MEAN	8.952	19.89	44.97	39.84	32.11	46.03	86.53	73.42	51.33	20.00	14.17	9.130
MAX	17	75	332	90	40	73	137	83	82	45	23	9.7
MIN	8.0	7.7	16	16	26	34	64	51	35	4.9	9.6	7.8
AC-FT	550	1180	2760	2450	1780	2830	5150	4510	3050	1230	872	543

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

MEAN	17.57	27.66	48.49	54.20	60.37	74.50	103.7	139.0	92.61	40.28	21.71	17.76
MAX	44.3	375	794	417	241	381	296	445	384	202	72.3	42.6
(WY)	1983	1951	1967	1997	1980	1943	1969	1969	1983	1998	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 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1940 - 2002

ANNUAL TOTAL	11821.3	13574.6	
ANNUAL MEAN	32.39	37.19	58.11
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			15.1
HIGHEST DAILY MEAN	332	Dec 29	13300
LOWEST DAILY MEAN	7.7	Nov 11	4.9
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 28	8.3
MAXIMUM PEAK FLOW			604
ANNUAL RUNOFF (AC-FT)	23450	26930	42100
10 PERCENT EXCEEDS	74	78	133
50 PERCENT EXCEEDS	20	28	28
90 PERCENT EXCEEDS	9.2	9.0	13

e Estimated.

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. For records of combined discharge of river and conduit, [see station 11202711](#). See schematic diagram of [Tule River Basin](#).

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 372.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	e29	e56	e108	e10	e33	97	62	70	11	11	11
2	e12	e24	e85	e81	e10	e23	102	63	60	11	11	11
3	e12	e23	e171	e114	e11	e20	100	60	56	11	11	11
4	e12	e17	e96	e86	e11	e20	106	63	52	10	11	12
5	e13	e14	e75	e75	e11	e20	109	67	47	9.7	11	11
6	e14	e20	e63	e65	e11	e25	100	78	45	9.0	11	11
7	e14	e23	e54	e62	e12	e41	88	81	42	9.6	11	11
8	e14	e23	e40	e62	e13	e47	92	82	38	11	11	11
9	e14	e22	e41	e62	e14	e37	100	82	36	11	11	11
10	e14	e20	e36	e62	e16	e35	104	81	32	12	11	11
11	e14	e22	e37	e39	e15	e32	111	76	27	12	11	11
12	e14	e30	e36	e35	e16	36	124	73	24	12	11	11
13	e14	e41	e26	e33	e15	40	136	74	22	11	11	11
14	e13	e29	e24	e33	e14	35	145	76	21	12	11	11
15	e13	e26	e22	e27	e15	30	153	78	20	12	11	11
16	e14	e23	e22	e23	e17	30	118	80	18	12	11	11
17	e13	e22	e26	e22	e39	28	105	79	16	11	11	11
18	e13	e21	e27	e21	e23	29	90	78	15	11	11	11
19	e14	e20	e22	e20	e19	e30	81	77	e15	12	11	11
20	e13	e20	e20	e18	e20	35	76	88	e15	12	11	11
21	e14	e20	e25	e26	e23	37	71	96	e14	12	11	12
22	e14	e26	e21	e28	e31	37	68	82	e14	11	11	11
23	e14	e27	e22	e19	e32	61	70	86	e14	11	11	10
24	e14	e301	e21	e14	e27	64	73	87	e14	11	11	10
25	e16	e156	e21	e14	e28	56	e77	80	e12	11	11	10
26	e19	e87	e21	e14	e30	56	83	64	11	11	11	10
27	e19	e74	e22	e16	e30	57	88	e58	11	11	11	10
28	e19	e66	e26	e14	e29	60	75	e50	11	11	11	10
29	e20	e89	e548	e12	---	64	80	e45	11	11	11	10
30	e25	e75	e333	e10	---	71	76	e40	11	11	11	10
31	e50	---	e163	e11	---	79	---	66	---	11	11	---
TOTAL	490	1390	2202	1226	542	1268	2898	2252	794	344.3	341	324
MEAN	15.81	46.33	71.03	39.55	19.36	40.90	96.60	72.65	26.47	11.11	11.00	10.80
MAX	50	301	548	114	39	79	153	96	70	12	11	12
MIN	12	14	20	10	10	20	68	40	11	9.0	11	10
AC-FT	972	2760	4370	2430	1080	2520	5750	4470	1570	683	676	643

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.46	23.22	35.69	108.3	78.85	95.83	120.4	146.9	109.5	47.76	17.30	14.95
MAX	40.9	94.4	236	976	241	239	303	390	614	303	69.7	41.8
(WY)	1998	1997	1997	1997	1998	1995	1998	1998	1998	1998	1998	1998
MIN	6.25	5.72	5.50	6.41	8.21	15.5	32.9	22.6	12.1	11.0	10.8	10.4
(WY)	2000	2001	2001	1994	1990	1992	1990	1992	1992	2000	1996	1996

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	13105.1		14071.3			
ANNUAL MEAN	35.90		38.55		67.94	
HIGHEST ANNUAL MEAN					199	
LOWEST ANNUAL MEAN					15.6	
HIGHEST DAILY MEAN	548	Dec 29	548	Dec 29	6030	Jan 3 1997
LOWEST DAILY MEAN	5.3	Jan 5	9.0	Jul 6	4.8	Oct 3 1996
ANNUAL SEVEN-DAY MINIMUM	5.3	Jan 2	10	Sep 23	5.1	Oct 2 1996
MAXIMUM PEAK FLOW			1380		19400	
MAXIMUM PEAK STAGE			5.18		11.82	
ANNUAL RUNOFF (AC-FT)	25990		27910		49220	
10 PERCENT EXCEEDS	91		84		172	
50 PERCENT EXCEEDS	14		21		19	
90 PERCENT EXCEEDS	11		11		6.5	

11202711 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA—Continued

MIDDLE FORK TULE RIVER BELOW INTAKE AND
SOUTHERN CALIFORNIA EDISON CO.'S TULE RIVER CONDUIT ABOVE SPRINGVILLE, CA
DISCHARGE, CUBIC FEET PER SECONDS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e18	e29	e66	e115	e49	e70	124	98	107	38	24	20
2	e18	e24	e95	e85	e48	e59	127	95	97	37	24	20
3	e18	e23	e178	e127	e48	e56	137	96	93	36	23	19
4	e18	e20	e102	e108	e48	e56	143	99	89	35	23	20
5	e19	e25	e80	e96	e49	e56	147	103	84	32	23	19
6	e20	e24	e68	e87	e48	e62	138	110	82	34	23	21
7	e20	e23	e59	e84	e50	e78	126	117	79	33	23	21
8	e20	e23	e45	e85	e51	e84	130	118	75	33	22	21
9	e20	e23	e46	e85	e52	e74	138	118	73	31	22	21
10	e20	e23	e41	e88	e54	e72	141	118	69	32	21	20
11	e20	e25	e39	e70	e53	e69	148	114	64	31	21	20
12	e20	e33	e36	e71	e54	73	161	111	61	30	21	19
13	e20	e43	e26	e68	e53	78	172	112	59	30	21	20
14	e19	e31	e24	e68	e52	72	181	114	58	30	21	19
15	e19	e28	e22	e62	e52	67	189	116	57	29	21	19
16	e20	e25	e22	e57	e54	67	154	117	55	28	19	19
17	e19	e24	e26	e56	e76	65	141	116	53	28	19	20
18	e19	e23	e27	e55	e60	66	126	115	52	27	20	20
19	e20	e22	e24	e53	e55	e67	117	114	e52	27	20	20
20	e19	e22	e30	e52	e56	72	112	125	e52	27	20	19
21	e20	e23	e39	e49	e59	74	107	133	e51	26	21	20
22	e20	e30	e35	e48	e67	74	104	119	e50	26	21	19
23	e20	e31	e36	e48	e69	98	106	123	e49	25	21	18
24	e20	e305	e35	e49	e64	101	109	124	e48	25	21	18
25	e20	e159	e35	e49	e65	92	e113	117	e44	25	21	18
26	e19	e90	e35	e48	e67	92	119	102	42	25	20	18
27	e19	e77	e36	e52	e67	93	124	e96	42	25	20	18
28	e19	e68	e40	e52	e66	97	111	e87	42	25	20	19
29	e20	e93	e557	e50	---	101	107	e82	41	25	20	20
30	e25	e84	e336	e47	---	109	102	e77	39	25	20	20
31	e50	---	e171	e50	---	116	---	103	---	24	20	---
TOTAL	638	1473	2411	2114	1586	2410	3954	3389	1859	904	656	585
MEAN	20.58	49.10	77.77	68.19	56.64	77.74	131.8	109.3	61.97	29.16	21.16	19.50
MAX	50	305	557	127	76	116	189	133	107	38	24	21
MIN	18	20	22	47	48	56	102	77	39	24	19	18
AC-FT	1270	2920	4780	4190	3150	4780	7840	6720	3690	1790	1300	1160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

MEAN	29.81	41.37	57.10	135.3	112.7	132.0	157.1	181.9	141.2	70.53	34.02	28.17
MAX	62.5	121	266	999	275	276	337	420	650	340	106	77.8
(WY)	1999	1997	1997	1997	1997	1995	1998	1998	1998	1998	1998	1998
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1989 - 2002

ANNUAL TOTAL	20476	21979	
ANNUAL MEAN	56.10	60.22	93.32
HIGHEST ANNUAL MEAN			224
LOWEST ANNUAL MEAN			34.0
HIGHEST DAILY MEAN	557	Dec 29	6030
LOWEST DAILY MEAN	18	Sep 24	6.5
ANNUAL SEVEN-DAY MINIMUM	19	Sep 29	13
ANNUAL RUNOFF (AC-FT)	40610	43600	67610
10 PERCENT EXCEEDS	125	117	207
50 PERCENT EXCEEDS	35	49	47
90 PERCENT EXCEEDS	19	20	20

e Estimated.

11203580 SOUTH FORK TULE RIVER NEAR CHOLOLLO CAMPGROUND, NEAR PORTERVILLE, CA

LOCATION.—Lat 36°02'54", long 118°39'12", unsurveyed, T.22 S., R.31 E., [Tulare County](#), Hydrologic Unit 18030005, Tule River Indian Reservation, on right bank at bridge, 20 mi southeast of Porterville, and 0.5 mi south of Cholollo Campground.

DRAINAGE AREA.—20.0 mi².

PERIOD OF RECORD.—January 2000 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 3,700 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 361 ft³/s, Dec. 29, 2001, gage height, 5.56 ft; minimum daily, 1.7 ft³/s, Sept. 24, 2001.

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. 24	1600	131	4.75	Dec. 29	1700	361	5.56
Dec. 2	2200	70	4.35	Jan. 1	0645	96	4.54

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.3	7.9	40	12	14	31	20	17	7.9	3.3	2.2
2	2.1	3.4	20	33	11	14	31	19	16	7.6	3.3	2.1
3	2.1	3.1	23	59	11	13	32	18	16	7.4	3.2	2.0
4	2.1	3.1	11	37	11	13	32	18	15	7.3	3.2	2.1
5	2.3	3.2	9.4	30	11	13	31	18	15	7.2	3.1	2.3
6	2.6	3.2	9.1	27	11	16	31	18	14	6.8	3.2	2.9
7	2.6	3.2	9.7	26	10	26	28	18	14	6.5	3.2	2.8
8	2.6	2.9	9.4	26	11	24	28	18	14	6.4	3.1	2.7
9	2.8	2.9	9.2	24	11	19	27	17	13	5.9	2.8	2.5
10	2.7	2.9	8.3	23	11	18	28	17	13	5.5	2.7	2.2
11	2.5	3.3	7.4	21	12	18	28	17	12	5.6	2.6	2.1
12	2.6	7.3	6.8	21	12	18	29	17	12	5.4	2.6	2.1
13	2.5	10	6.6	20	12	19	30	16	12	5.4	2.5	2.1
14	2.3	6.9	7.5	19	12	18	31	16	11	5.6	2.4	2.0
15	2.2	6.2	7.4	18	12	17	32	16	11	5.2	2.4	1.9
16	2.2	5.3	7.2	18	12	17	29	16	11	5.0	2.3	2.1
17	2.3	4.8	7.9	17	15	17	27	16	11	4.7	2.3	2.5
18	2.4	4.5	7.6	16	14	18	25	16	11	4.7	2.4	2.5
19	2.4	4.1	7.3	16	13	18	23	16	11	4.6	2.4	2.3
20	2.3	4.0	7.8	15	14	19	22	20	10	4.4	2.5	2.2
21	2.4	4.1	9.4	15	14	20	21	24	9.9	4.2	2.6	2.1
22	2.6	6.4	8.8	14	15	20	20	21	9.7	4.3	2.6	2.0
23	2.7	5.6	10	14	15	31	20	22	9.5	4.0	2.6	1.9
24	2.6	42	9.3	13	14	30	20	22	9.3	3.9	2.6	1.9
25	2.4	17	8.8	13	14	29	20	22	9.0	3.9	2.6	1.9
26	2.3	8.8	8.6	12	14	29	24	21	8.8	3.8	2.5	2.0
27	2.3	6.7	9.5	14	14	29	25	19	8.7	3.7	2.5	2.1
28	2.5	5.8	14	13	14	30	22	19	8.7	3.8	2.4	2.4
29	2.6	14	191	12	---	31	21	18	8.5	4.0	2.4	2.8
30	6.0	9.5	98	11	---	32	21	17	8.2	3.7	2.5	2.9
31	11	---	62	12	---	32	---	17	---	3.3	2.3	---
TOTAL	87.0	208.5	619.9	649	352	662	789	569	349.3	161.7	83.1	67.6
MEAN	2.806	6.950	20.00	20.94	12.57	21.35	26.30	18.35	11.64	5.216	2.681	2.253
MAX	11	42	191	59	15	32	32	24	17	7.9	3.3	2.9
MIN	2.0	2.9	6.6	11	10	13	20	16	8.2	3.3	2.3	1.9
AC-FT	173	414	1230	1290	698	1310	1560	1130	693	321	165	134

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
MEAN	3.987	5.685	12.11	13.11	14.49	23.94	27.47	20.87	10.49	5.110	2.978	2.602
MAX	5.17	6.95	20.0	20.9	21.5	31.2	31.8	24.5	12.4	5.94	3.65	3.49
(WY)	2001	2002	2002	2002	2000	2000	2000	2000	2000	2000	2000	2000
MIN	2.81	4.42	4.23	5.29	9.14	19.3	24.3	18.4	7.41	4.17	2.61	2.07
(WY)	2002	2001	2001	2001	2001	2001	2001	2002	2001	2001	2001	2001

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 2000 - 2002

ANNUAL TOTAL	3769.4	4598.1	
ANNUAL MEAN	10.33	12.60	10.79
HIGHEST ANNUAL MEAN			12.6
LOWEST ANNUAL MEAN			8.98
HIGHEST DAILY MEAN	191	Dec 29	191
LOWEST DAILY MEAN	1.7	Sep 24	1.9
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 20	2.0
MAXIMUM PEAK FLOW			361
MAXIMUM PEAK STAGE			5.56
ANNUAL RUNOFF (AC-FT)	7480	9120	7820
10 PERCENT EXCEEDS	24	26	25
50 PERCENT EXCEEDS	6.5	10	6.9
90 PERCENT EXCEEDS	2.3	2.4	2.3

11204100 SOUTH FORK TULE RIVER NEAR RESERVATION BOUNDARY, NEAR PORTERVILLE, CA

LOCATION.—Lat 36°01'27", long 118°48'45", unsurveyed, T.22 S., R.29 E., [Tulare County](#), Hydrologic Unit 18030006, Tule River Indian Reservation, on left bank, 0.5 mi east of Reservation Boundary, and 12 mi southeast of Porterville.

DRAINAGE AREA.—95.8 mi².

PERIOD OF RECORD.—September 2000 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 970 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,390 ft³/s, Dec. 29, 2001, gage height, 8.82 ft; minimum daily, 0.77 ft³/s, Aug. 21, 2001.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 75 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 24	1930	553	7.70	Jan. 3	1000	375	7.32
Dec. 3	0230	317	7.17	Mar. 8	0415	114	6.41
Dec. 29	2230	1,390	8.82	Mar. 24	1015	317	7.17

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	5.2	13	125	e26	26	74	35	21	9.7	3.8	2.8
2	2.1	3.1	18	82	e25	25	69	34	20	9.1	3.7	2.8
3	1.8	2.6	136	221	e25	23	67	32	19	8.7	3.1	2.9
4	1.7	2.4	34	126	e25	23	66	31	18	8.5	2.9	2.7
5	2.2	2.3	20	81	e25	22	66	30	17	8.3	2.7	3.1
6	3.1	2.1	17	66	25	25	65	29	16	8.2	2.7	3.7
7	4.3	1.8	17	e57	25	50	60	28	15	7.9	3.1	4.8
8	4.1	2.2	17	e50	25	68	57	28	14	7.8	3.2	4.6
9	3.5	1.9	17	e44	25	41	55	28	14	6.9	3.1	4.2
10	3.9	1.9	17	e41	25	36	55	26	13	6.0	2.7	3.7
11	4.0	2.3	14	e38	24	33	55	25	13	5.6	2.4	3.2
12	3.8	5.9	13	e37	24	34	55	24	12	6.1	2.1	2.6
13	4.0	21	12	e35	24	35	56	23	12	5.6	1.7	2.5
14	3.2	8.0	23	e34	24	32	56	23	11	6.0	1.6	2.7
15	2.3	5.8	20	e33	24	32	59	22	11	5.6	1.6	2.5
16	2.4	4.8	16	e31	24	34	53	22	10	5.1	1.5	2.2
17	2.9	4.2	16	e30	32	38	50	22	9.4	5.1	1.4	2.4
18	3.3	3.7	16	e30	33	44	45	21	9.2	5.1	1.5	3.1
19	3.3	3.5	14	e29	27	39	41	21	9.2	4.6	1.5	2.9
20	3.5	3.3	16	e28	28	44	38	29	9.0	4.6	1.7	2.7
21	3.6	3.3	32	e29	29	48	36	50	8.2	4.3	1.8	2.8
22	3.9	3.7	23	e28	30	48	34	36	8.3	4.1	1.9	2.6
23	4.2	6.6	25	e27	30	113	32	33	8.0	4.1	2.2	2.0
24	4.8	122	23	e27	29	220	32	35	7.5	3.9	2.9	2.1
25	4.8	83	20	e27	27	148	32	33	6.9	4.2	2.8	2.1
26	4.4	18	18	e27	26	119	44	29	6.4	4.2	2.4	2.1
27	4.4	12	18	e27	26	100	63	27	6.9	4.2	2.4	2.3
28	4.2	9.3	21	e26	26	91	42	25	9.2	4.6	3.0	2.6
29	3.9	15	592	e26	---	85	38	24	9.9	4.9	2.8	3.3
30	5.6	21	487	e26	---	82	37	22	9.9	5.1	2.9	3.9
31	15	---	232	e25	---	78	---	21	---	4.5	3.0	---
TOTAL	120.8	381.9	1957	1513	738	1836	1532	868	354.0	182.6	76.1	87.9
MEAN	3.897	12.73	63.13	48.81	26.36	59.23	51.07	28.00	11.80	5.890	2.455	2.930
MAX	15	122	592	221	33	220	74	50	21	9.7	3.8	4.8
MIN	1.7	1.8	12	25	24	22	32	21	6.4	3.9	1.4	2.0
AC-FT	240	757	3880	3000	1460	3640	3040	1720	702	362	151	174

e Estimated.

11204100 SOUTH FORK TULE RIVER NEAR RESERVATION BOUNDARY, NEAR PORTERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.850	10.92	36.02	30.38	25.16	47.35	50.48	28.11	9.220	5.213	1.988	2.535
MAX	7.80	12.7	63.1	48.8	26.4	59.2	51.1	28.2	11.8	5.89	2.45	2.93
(WY)	2001	2002	2002	2002	2002	2002	2002	2001	2002	2002	2002	2002
MIN	3.90	9.10	8.90	12.0	24.0	35.5	49.9	28.0	6.64	4.54	1.52	2.14
(WY)	2002	2001	2001	2001	2001	2001	2001	2002	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	7424.57		9647.3			
ANNUAL MEAN	20.34		26.43		21.10	
HIGHEST ANNUAL MEAN					26.4	
LOWEST ANNUAL MEAN					15.8	
HIGHEST DAILY MEAN	592	Dec 29	592	Dec 29	592	Dec 29 2001
LOWEST DAILY MEAN	0.77	Aug 21	1.4	Aug 17	0.77	Aug 21 2001
ANNUAL SEVEN-DAY MINIMUM	0.91	Aug 15	1.5	Aug 13	0.91	Aug 15 2001
MAXIMUM PEAK FLOW			1390		1390	
MAXIMUM PEAK STAGE			8.82		8.82	
ANNUAL RUNOFF (AC-FT)	14730		19140		15290	
10 PERCENT EXCEEDS	43		55		46	
50 PERCENT EXCEEDS	10		17		9.9	
90 PERCENT EXCEEDS	1.9		2.5		2.2	

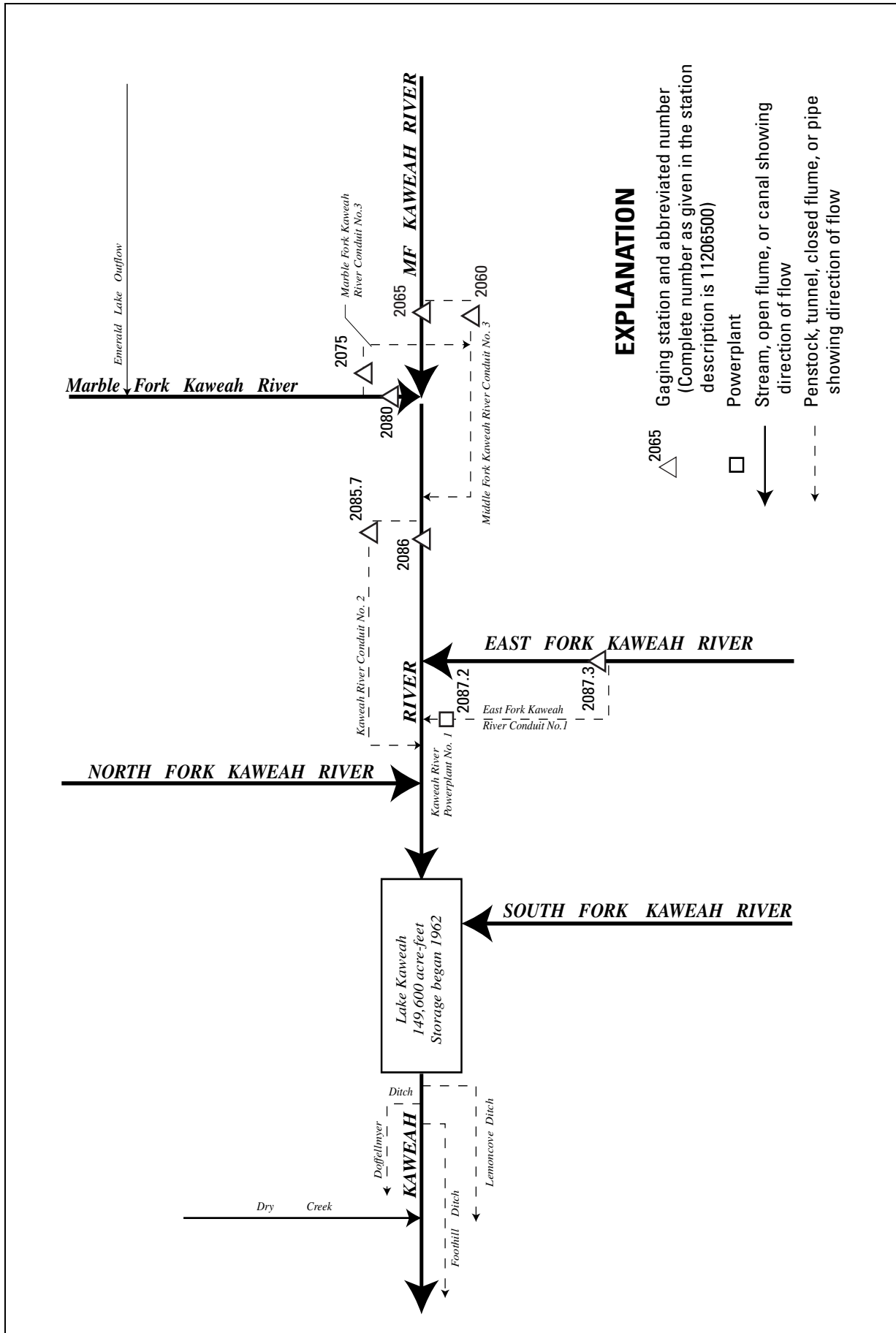


Figure 25. Diversions and storage in Kaweah River Basin.

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. For records of combined discharge of river and diversion to Middle Fork Kaweah No. 3 Conduit, [see station 11206501](#). 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 Federal Energy Regulatory Commission project no. 268.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e11	32	e125	29	75	199	149	519	86	17	16
2	e11	e11	119	e102	28	65	225	140	403	80	17	16
3	e11	e11	151	e90	27	61	255	144	381	71	17	16
4	e11	e11	65	e120	28	61	287	180	384	62	17	15
5	e11	e11	e50	e85	28	60	294	220	410	56	17	16
6	e11	e11	e48	e80	27	78	264	280	469	51	17	17
7	e12	e11	e45	e74	27	120	248	309	438	45	17	17
8	e12	e11	e42	e71	27	109	278	323	373	41	17	17
9	e12	e11	e41	63	30	88	297	341	310	34	17	17
10	e12	e11	e42	57	35	84	296	332	257	31	17	16
11	e12	e16	e37	54	40	81	335	285	233	29	17	15
12	e12	e20	e32	55	42	96	379	299	234	29	17	15
13	e13	e15	e29	54	43	106	422	328	245	28	17	15
14	e12	18	e27	54	42	85	461	381	244	26	20	15
15	e12	20	e21	50	44	74	491	417	239	24	21	14
16	e11	16	e16	45	40	70	323	446	225	22	21	14
17	e12	13	e15	41	51	64	270	504	207	21	20	15
18	e12	12	e16	36	45	65	216	523	198	20	20	15
19	e11	12	e14	34	46	67	186	489	199	19	20	15
20	e11	12	e15	31	50	80	167	425	188	19	20	14
21	e12	12	e16	30	55	82	159	354	164	18	20	14
22	e11	51	e17	30	63	83	162	285	134	18	20	14
23	e11	34	e16	26	71	103	193	266	121	17	19	14
24	e11	365	e17	25	62	100	232	272	117	17	19	14
25	e12	168	e17	25	64	91	258	301	111	17	19	14
26	e11	87	e16	24	70	90	294	342	107	17	18	13
27	e11	55	e18	35	74	98	244	378	102	20	18	13
28	e11	38	e30	33	76	112	204	396	99	24	17	14
29	e13	74	e330	29	---	120	193	450	96	17	17	15
30	e15	43	e210	27	---	147	167	501	92	17	17	15
31	e30	---	e160	29	---	176	---	528	---	17	17	---
TOTAL	380	1191	1704	1634	1264	2791	7999	10588	7299	993	564	450
MEAN	12.26	39.70	54.97	52.71	45.14	90.03	266.6	341.5	243.3	32.03	18.19	15.00
MAX	30	365	330	125	76	176	491	528	519	86	21	17
MIN	11	11	14	24	27	60	159	140	92	17	17	13
AC-FT	754	2360	3380	3240	2510	5540	15870	21000	14480	1970	1120	893

e Estimated.

TULARE LAKE BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.54	26.30	55.02	91.37	102.9	137.9	238.9	434.4	389.3	172.7	47.47	22.61
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	0.92	1.07	1.08	0.36	0.60	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	32176		36857			
ANNUAL MEAN	88.15		101.0		144.7	
HIGHEST ANNUAL MEAN					417	
LOWEST ANNUAL MEAN					25.2	
HIGHEST DAILY MEAN	610	May 11	528	May 31	10500	Dec 6 1966
LOWEST DAILY MEAN	11	Sep 23	11	Oct 1	0.30	Dec 27 1960
ANNUAL SEVEN-DAY MINIMUM	11	Sep 23	11	Nov 1	0.30	Dec 27 1960
MAXIMUM PEAK FLOW			1610		46800	
MAXIMUM PEAK STAGE			8.05		29.00	
ANNUAL RUNOFF (AC-FT)	63820		73110		104800	
10 PERCENT EXCEEDS	299		304		423	
50 PERCENT EXCEEDS	18		40		33	
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, CA

DISCHARGE, CUIBC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e17	87	e185	82	130	252	198	572	141	33	16
2	e11	e23	176	e162	80	120	279	188	456	136	33	16
3	e11	e22	208	e150	78	116	309	193	425	127	32	16
4	e11	e21	120	e180	79	116	341	229	438	117	31	15
5	e11	e21	e104	e144	81	115	348	268	464	111	30	16
6	e11	e20	e102	e139	82	134	319	326	524	106	29	17
7	e12	e20	e100	e133	82	176	302	361	493	99	28	17
8	e12	e20	e97	e129	82	165	332	374	427	95	27	17
9	e12	e19	e96	e121	85	143	352	390	364	87	26	17
10	e12	e19	e96	115	91	139	351	384	310	82	25	16
11	e12	e27	e90	112	96	136	390	336	286	80	24	15
12	e12	e34	e83	113	99	151	434	349	287	81	23	15
13	e13	e42	e79	112	100	161	476	378	299	80	23	15
14	e12	52	e79	112	99	140	514	434	299	77	22	15
15	e12	56	e72	107	102	129	545	470	294	72	21	14
16	e11	53	e67	101	98	124	376	499	280	67	21	14
17	e12	47	e67	97	109	118	323	558	262	63	20	15
18	e12	40	e66	91	103	118	268	577	253	61	20	15
19	e11	35	e62	88	104	120	238	543	254	57	20	15
20	e11	32	e66	84	108	134	219	479	243	53	20	14
21	e12	31	e69	83	113	136	211	408	219	49	20	14
22	e11	89	e70	83	119	137	214	338	189	47	20	14
23	e11	74	e70	76	127	157	245	319	176	44	19	14
24	e11	403	e70	75	118	154	285	325	172	41	19	14
25	e12	200	e69	75	120	144	311	353	166	40	19	14
26	e11	119	e67	74	126	143	347	395	162	39	18	13
27	e11	100	e68	89	130	151	297	430	157	41	18	13
28	e11	86	e83	87	131	165	256	448	154	44	17	14
29	e13	124	e380	82	---	173	245	503	151	36	17	15
30	e16	95	e248	77	---	200	218	554	147	35	17	15
31	e33	---	e209	81	---	230	---	581	---	34	17	---
TOTAL	384	1941	3320	3357	2824	4475	9597	12188	8923	2242	709	450
MEAN	12.39	64.70	107.1	108.3	100.9	144.4	319.9	393.2	297.4	72.32	22.87	15.00
MAX	33	403	380	185	131	230	545	581	572	141	33	17
MIN	11	17	62	74	78	115	211	188	147	34	17	13
AC-FT	762	3850	6590	6660	5600	8880	19040	24170	17700	4450	1410	893

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2002, BY WATER YEAR (WY)

MEAN	32.15	50.07	95.10	122.8	141.6	181.5	285.7	481.6	437.3	205.4	70.01	39.08
MAX	177	201	743	746	540	556	683	1225	1318	839	395	202
(WY)	1983	1983	1956	1997	1986	1986	1982	1969	1983	1998	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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1955 - 2002

ANNUAL TOTAL	44498	50410		
ANNUAL MEAN	121.9	138.1	178.5	
HIGHEST ANNUAL MEAN			468	1983
LOWEST ANNUAL MEAN			53.5	1977
HIGHEST DAILY MEAN	668	May 11	581	May 31
LOWEST DAILY MEAN	11	Sep 24	11	Oct 1
ANNUAL SEVEN-DAY MINIMUM	11	Sep 24	11	Oct 1
MAXIMUM PEAK FLOW			1650	Nov 24
ANNUAL RUNOFF (AC-FT)	88260	99990	46800	Dec 23 1955
10 PERCENT EXCEEDS	357	356	473	
50 PERCENT EXCEEDS	67	95	85	
90 PERCENT EXCEEDS	13	14	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.—WP 1930: Drainage area.

GAGE.—Water-stage recorder on river; water-stage recorder and concrete control for conduit diversion. Elevation of gage is 2,150 ft above sea level, from topographic map.

REMARKS.—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. For records of combined discharge of river and conduit, [see station 11208001](#). 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 Federal Energy Regulatory Commission project no. 298.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.6	5.5	2.0	41	8.4	32	106	73	371	14	7.6	4.4
2	e3.6	1.8	13	30	8.4	25	128	68	218	10	7.7	4.4
3	3.7	1.7	23	38	8.4	24	147	74	205	8.9	7.4	4.2
4	3.7	1.6	7.9	28	8.4	24	165	105	198	8.4	7.3	3.3
5	3.7	1.6	3.2	21	8.4	24	166	117	225	8.1	6.6	4.0
6	4.0	1.6	2.6	19	8.4	28	135	153	252	7.7	6.7	4.1
7	4.2	1.8	5.2	20	8.8	45	138	179	211	8.0	6.9	4.1
8	4.2	2.2	5.0	20	8.9	32	170	188	166	8.0	6.6	4.5
9	4.2	2.3	5.3	18	9.1	27	181	202	130	8.0	6.3	4.2
10	4.4	2.7	2.8	16	9.7	26	181	195	106	8.1	6.0	3.6
11	4.3	3.1	2.7	15	12	25	216	153	98	8.4	6.6	3.3
12	4.2	5.0	2.7	16	13	35	245	172	103	8.4	6.6	3.2
13	4.2	8.5	2.5	16	14	44	279	206	110	8.4	6.5	3.2
14	4.1	5.4	3.6	15	13	30	311	256	106	8.2	6.4	3.4
15	3.8	5.0	3.9	14	15	24	314	271	105	8.0	6.5	3.2
16	3.7	3.0	2.8	11	13	23	182	288	93	8.0	6.5	3.5
17	3.7	1.9	2.8	11	15	21	152	333	84	8.0	6.4	4.2
18	3.9	1.9	2.8	10	13	21	117	339	80	7.6	6.3	4.6
19	4.1	1.8	2.8	9.4	12	21	98	295	78	7.6	5.3	4.7
20	4.0	1.7	3.2	9.2	13	25	85	218	72	7.8	5.5	4.4
21	4.1	1.8	3.4	8.5	16	28	80	164	59	8.0	5.4	4.3
22	4.2	13	3.2	8.5	21	29	86	132	44	7.6	5.5	4.4
23	4.2	6.7	3.2	8.9	26	34	117	130	37	7.6	5.5	4.2
24	4.4	228	3.4	8.8	23	30	151	147	38	7.6	5.2	4.1
25	4.3	102	3.3	8.4	24	27	167	176	35	7.6	5.3	3.8
26	4.2	45	3.2	8.4	27	27	152	205	31	7.6	5.3	3.8
27	4.2	20	3.2	8.8	30	31	119	222	26	7.9	5.3	4.0
28	4.2	7.0	7.1	8.4	31	42	100	234	24	8.5	5.1	4.9
29	4.2	11	196	8.4	---	50	96	272	21	8.0	5.0	6.1
30	5.0	5.3	94	8.9	---	70	83	300	20	8.0	5.3	6.8
31	18	---	68	8.6	---	90	---	321	---	7.8	5.6	---
TOTAL	140.3	499.9	487.8	472.2	417.9	1014	4667	6188	3346	255.8	190.2	124.9
MEAN	4.526	16.66	15.74	15.23	14.93	32.71	155.6	199.6	111.5	8.252	6.135	4.163
MAX	18	228	196	41	31	90	314	339	371	14	7.7	6.8
MIN	3.6	1.6	2.0	8.4	8.4	21	80	68	20	7.6	5.0	3.2
AC-FT	278	992	968	937	829	2010	9260	12270	6640	507	377	248

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.120	9.984	28.78	41.63	45.37	63.57	139.0	287.6	248.3	95.72	19.18	9.167
MAX	60.5	72.5	385	417	259	278	396	812	799	578	135	103
(WY)	1983	1983	1956	1997	1986	1986	1982	1969	1998	1998	1983	1978
MIN	0.38	0.39	0.44	0.15	0.17	0.92	32.7	46.5	9.58	0.57	0.83	0.38
(WY)	1963	1963	1962	1961	1961	1961	1975	1977	1976	1961	1962	1962

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1955 - 2002	
ANNUAL TOTAL	19885.3		17804.0			
ANNUAL MEAN	54.48		48.78		82.95	
HIGHEST ANNUAL MEAN					235	
LOWEST ANNUAL MEAN					10.9	
HIGHEST DAILY MEAN	507	May 11	371	Jun 1	5700	Dec 23 1955
LOWEST DAILY MEAN	1.6	Nov 4	1.6	Nov 4	0.10	Jan 10 1961
ANNUAL SEVEN-DAY MINIMUM	1.8	Nov 2	1.8	Nov 2	0.10	Jan 10 1961
MAXIMUM PEAK FLOW			1060		12500	
MAXIMUM PEAK STAGE			6.31		13.40	
ANNUAL RUNOFF (AC-FT)	39440		35310		60090	
10 PERCENT EXCEEDS	205		174		252	
50 PERCENT EXCEEDS	7.1		8.8		12	
90 PERCENT EXCEEDS	3.2		3.3		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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.7	8.0	30	79	35	75	151	114	413	47	8.1	4.4
2	e3.7	6.0	46	66	34	66	170	108	258	45	8.2	4.4
3	3.8	5.0	62	76	34	64	190	115	238	41	7.9	4.2
4	3.9	4.5	44	64	35	64	208	147	242	36	7.8	3.5
5	3.9	4.5	36	57	36	64	209	160	268	33	7.0	4.3
6	4.2	4.4	35	55	36	69	177	197	296	30	7.1	4.6
7	4.4	4.4	38	57	38	89	180	224	254	27	7.2	4.7
8	4.4	4.7	37	57	38	74	213	233	208	25	6.9	5.0
9	4.4	4.8	38	54	39	68	224	247	170	23	6.5	4.7
10	4.6	5.2	34	52	38	67	223	239	145	21	6.2	4.2
11	4.4	6.2	32	51	42	65	259	196	136	20	6.7	3.9
12	4.3	12	30	52	45	77	289	216	141	20	6.7	3.8
13	4.3	22	28	53	46	87	323	251	149	19	6.5	3.8
14	4.2	23	32	52	46	70	355	301	145	18	6.4	3.9
15	3.9	29	30	51	49	62	357	316	144	17	6.5	3.7
16	3.8	26	30	46	48	61	221	333	132	16	6.5	4.0
17	3.8	22	30	45	51	58	192	379	122	15	6.4	4.7
18	4.0	17	29	41	49	58	157	384	117	14	6.3	5.1
19	4.2	13	28	41	48	58	139	338	115	13	5.3	5.2
20	4.1	11	30	40	51	65	128	260	109	12	5.5	4.8
21	4.2	10	31	40	56	68	123	206	94	12	5.4	4.7
22	4.3	30	31	40	63	69	130	175	79	11	5.5	4.8
23	4.3	28	30	37	69	75	163	173	72	10	5.5	4.7
24	4.5	248	29	37	65	70	198	192	73	9.7	5.2	4.5
25	4.4	102	29	36	66	66	199	221	70	9.5	5.3	4.2
26	4.3	45	28	36	70	67	197	250	64	9.3	5.3	4.2
27	4.3	33	29	40	74	72	162	267	62	9.2	5.3	4.5
28	4.3	30	35	38	75	86	142	278	63	9.4	5.1	5.3
29	4.3	35	220	39	---	95	139	317	58	8.8	5.0	6.5
30	5.8	32	118	36	---	117	125	344	53	8.8	5.3	7.2
31	20	---	108	37	---	138	---	364	---	8.4	5.6	---
TOTAL	146.7	825.7	1387	1505	1376	2284	5943	7545	4490	598.1	194.2	137.5
MEAN	4.732	27.52	44.74	48.55	49.14	73.68	198.1	243.4	149.7	19.29	6.265	4.583
MAX	20	248	220	79	75	138	357	384	413	47	8.2	7.2
MIN	3.7	4.4	28	36	34	58	123	108	53	8.4	5.0	3.5
AC-FT	291	1640	2750	2990	2730	4530	11790	14970	8910	1190	385	273

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2002, BY WATER YEAR (WY)

	12.82	21.72	43.06	57.53	67.61	90.96	169.1	317.8	276.6	114.8	29.90	16.76
MEAN	12.82	21.72	43.06	57.53	67.61	90.96	169.1	317.8	276.6	114.8	29.90	16.76
MAX	88.8	103	385	419	295	315	426	840	840	621	184	134
(WY)	1983	1983	1956	1997	1986	1986	1982	1969	1983	1998	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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1955 - 2002

ANNUAL TOTAL	26638.0	26432.2	
ANNUAL MEAN	72.98	72.42	101.6
HIGHEST ANNUAL MEAN			257 1969
LOWEST ANNUAL MEAN			24.7 1977
HIGHEST DAILY MEAN	550 May 11	413 Jun 1	5700 Dec 23 1955
LOWEST DAILY MEAN	2.6 Sep 2	3.5 Sep 4	0.82 Oct 4 1977
ANNUAL SEVEN-DAY MINIMUM	2.9 Aug 28	3.9 Sep 10	1.0 Sep 2 1977
ANNUAL RUNOFF (AC-FT)	52840	52430	73610
10 PERCENT EXCEEDS	245	218	282
50 PERCENT EXCEEDS	26	38	34
90 PERCENT EXCEEDS	3.9	4.4	5.1

e Estimated.

11208600 KAWEAH RIVER BELOW CONDUIT NO. 2, 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 recorders on river and conduit diversion. Elevation of gage is 1,360 ft above sea level, from topographic map.

REMARKS.—Kaweah River Conduit No. 2 (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 Federal Energy Regulatory Commission project no. 398.

EXTREMES FOR PERIOD OF RECORD.—River only: Maximum discharge, 29,000 ft³/s, Jan. 2, 1997, gage height unknown; 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	33	95	207	33	120	329	250	932	108	21	16
2	12	24	160	158	31	105	382	232	685	97	21	16
3	12	21	257	192	29	99	437	240	628	86	21	15
4	12	20	125	147	31	98	494	311	640	71	22	15
5	12	19	77	118	34	97	512	367	682	62	21	15
6	12	18	47	106	36	112	446	477	767	54	21	16
7	13	20	53	109	36	176	421	542	712	46	24	17
8	13	21	51	105	36	168	498	565	604	39	25	17
9	13	20	50	95	44	131	543	598	502	31	23	17
10	13	20	38	86	53	127	533	591	410	27	23	16
11	13	23	28	81	62	119	608	492	370	25	22	15
12	13	37	23	83	67	142	662	521	375	26	24	16
13	13	94	21	82	69	165	738	581	396	24	24	15
14	13	70	29	86	67	133	808	683	392	23	21	15
15	13	76	23	87	74	119	856	737	387	22	22	15
16	12	72	22	80	68	110	570	771	360	22	21	16
17	13	62	23	73	84	100	475	867	328	22	21	16
18	13	52	21	66	75	100	371	894	308	22	20	16
19	13	45	68	64	76	99	310	839	308	22	20	16
20	13	41	77	58	80	118	278	718	293	22	19	15
21	13	39	30	57	86	125	263	584	254	21	19	15
22	13	98	28	56	97	130	273	474	200	21	19	15
23	13	103	28	47	112	151	336	441	171	21	19	14
24	14	577	23	48	101	148	430	466	163	21	19	14
25	13	332	21	47	105	135	455	526	154	21	19	14
26	13	162	19	38	109	133	505	596	146	21	19	14
27	13	131	21	46	116	140	416	651	136	21	18	14
28	13	110	29	44	118	169	342	676	134	21	18	14
29	13	141	767	39	---	184	325	763	128	21	17	15
30	14	101	443	30	---	233	282	840	120	21	17	16
31	85	---	314	34	---	287	---	877	---	21	17	---
TOTAL	470	2582	3011	2569	1929	4273	13898	18170	11685	1082	637	460
MEAN	15.16	86.07	97.13	82.87	68.89	137.8	463.3	586.1	389.5	34.90	20.55	15.33
MAX	85	577	767	207	118	287	856	894	932	108	25	17
MIN	12	18	19	30	29	97	263	232	120	21	17	14
AC-FT	932	5120	5970	5100	3830	8480	27570	36040	23180	2150	1260	912

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
MEAN	24.47	40.44	59.62	197.0	180.1	254.9	440.3	794.3	690.9	350.2	73.82	24.78
MAX	62.2	152	271	1250	439	521	633	1051	2009	1571	254	90.1
(WY)	1999	1997	1997	1997	1996	1995	1996	1996	1998	1998	1998	1998
MIN	11.8	5.70	5.93	20.1	32.1	81.1	230	451	150	11.7	11.2	8.05
(WY)	1996	1995	1995	1994	2001	1999	1999	1994	2001	1994	1994	1994

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1994 - 2002
ANNUAL TOTAL	55804	60766	
ANNUAL MEAN	152.9	166.5	261.1
HIGHEST ANNUAL MEAN			512
LOWEST ANNUAL MEAN			99.2
HIGHEST DAILY MEAN	1150	932	9800
LOWEST DAILY MEAN	12	12	5.5
ANNUAL SEVEN-DAY MINIMUM	12	12	5.6
MAXIMUM PEAK FLOW		2330	29000
MAXIMUM PEAK STAGE		6.94	unknown
ANNUAL RUNOFF (AC-FT)	110700	120500	189200
10 PERCENT EXCEEDS	550	537	761
50 PERCENT EXCEEDS	29	67	66
90 PERCENT EXCEEDS	13	15	12

11208601 KAWEAH RIVER BELOW CONDUIT NO. 2, NEAR HAMMOND, CA—Continued

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	45	117	288	116	204	416	331	1020	189	40	19
2	14	34	193	238	114	187	467	313	765	181	39	20
3	14	30	295	278	111	180	523	321	708	170	38	18
4	14	29	165	234	113	179	578	395	721	154	38	18
5	14	28	142	205	116	179	596	450	765	143	35	19
6	14	27	126	192	118	195	528	562	850	134	34	20
7	16	27	135	195	117	261	503	628	794	123	34	21
8	15	26	132	191	117	249	582	651	684	114	33	21
9	16	25	131	180	120	212	626	684	581	104	30	21
10	16	25	118	171	126	208	616	676	490	96	30	20
11	16	28	107	165	138	199	693	575	449	93	28	18
12	16	42	99	168	144	225	747	606	454	95	28	18
13	16	99	95	167	146	249	822	667	478	91	28	18
14	16	75	105	164	143	210	891	769	475	89	25	18
15	16	81	96	156	149	195	940	823	470	83	26	18
16	14	76	96	146	142	190	651	858	442	77	25	19
17	15	66	97	138	160	180	557	951	410	74	25	18
18	16	56	91	132	148	181	453	978	390	72	24	19
19	16	49	92	129	148	180	394	923	391	67	24	19
20	16	44	99	122	155	200	363	801	374	64	23	18
21	16	43	108	120	166	207	348	666	332	61	23	18
22	16	104	106	120	180	213	358	557	280	60	23	18
23	16	108	107	110	195	235	423	527	251	57	23	17
24	17	582	100	111	183	231	517	552	244	54	23	17
25	16	336	97	109	184	217	540	612	234	52	23	17
26	16	169	93	108	192	216	591	682	225	52	23	17
27	16	137	97	125	200	224	499	739	215	49	22	16
28	16	115	110	126	202	254	424	763	214	46	22	17
29	15	151	830	121	---	269	408	846	207	45	21	18
30	18	129	497	109	---	319	364	922	197	43	21	19
31	101	---	397	116	---	374	---	959	---	42	20	---
TOTAL	568	2786	5073	4934	4143	6822	16418	20787	14110	2774	851	554
MEAN	18.32	92.87	163.6	159.2	148.0	220.1	547.3	670.5	470.3	89.48	27.45	18.47
MAX	101	582	830	288	202	374	940	978	1020	189	40	21
MIN	14	25	91	108	111	179	348	313	197	42	20	16
AC-FT	1130	5530	10060	9790	8220	13530	32570	41230	27990	5500	1690	1100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)

MEAN	38.51	70.55	106.5	246.4	250.9	333.6	517.6	874.7	769.5	415.3	105.3	48.00
MAX	70.6	192	341	1283	514	600	710	1124	2076	1649	334	162
(WY)	1999	1997	1997	1997	1996	1995	1996	1996	1998	1998	1998	1998
MIN	18.3	30.7	25.0	44.6	86.4	158	304	532	228	55.5	20.8	16.9
(WY)	2002	1994	2000	1994	1994	1999	1999	1994	2001	1994	1994	2001

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1994 - 2002

ANNUAL TOTAL	72296	79820		
ANNUAL MEAN	198.1	218.7	314.8	
HIGHEST ANNUAL MEAN			575	1998
LOWEST ANNUAL MEAN			142	1994
HIGHEST DAILY MEAN	1240	May 11	1020	Jun 1 1997
LOWEST DAILY MEAN	14	Oct 2	14	Oct 2 1996
ANNUAL SEVEN-DAY MINIMUM	14	Sep 30	14	Oct 1 1994
ANNUAL RUNOFF (AC-FT)	143400		158300	228100
10 PERCENT EXCEEDS	609		614	839
50 PERCENT EXCEEDS	92		126	131
90 PERCENT EXCEEDS	16		18	25

11208730 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CA

LOCATION.—Lat 36°27'06", long 118°47'18", in NW 1/4 sec.14, T.17 S., R.29 E., [Tulare County](#), Hydrologic Unit 18030007, 1.9 mi downstream of Grunigen Creek confluence, and 8.2 mi east of Three Rivers.

DRAINAGE AREA.—85.8 mi².

PERIOD OF RECORD.—May 1952 to September 1955, October 1957 to September 1978, 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. May 15, 1952, to Sept. 30, 1955, at site 200 ft downstream at different datum.

REMARKS.—East Fork Kaweah River Conduit No. 1 (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. For records of combined discharges of river and conduit, [see station 11208731](#). 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 Federal Energy Regulatory Commission project no. 298.

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; 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	12	14	114	29	46	125	145	377	54	9.4	6.3
2	5.6	7.3	56	85	27	41	144	140	330	50	8.7	6.3
3	5.6	6.9	87	107	26	39	166	152	306	46	8.3	6.3
4	5.6	6.6	31	77	26	38	184	175	302	41	7.3	6.8
5	5.6	6.3	21	58	26	38	190	191	307	37	6.6	7.7
6	5.6	6.3	18	50	26	48	176	239	321	33	6.3	7.2
7	5.6	6.3	18	51	22	83	169	265	310	29	6.3	6.3
8	5.6	6.3	17	50	21	77	191	272	282	27	6.3	6.3
9	8.1	6.3	17	45	22	57	207	276	247	24	6.3	6.3
10	11	6.3	15	39	23	51	211	278	212	21	6.3	6.3
11	9.9	6.6	12	36	25	47	241	257	191	20	6.7	6.3
12	9.5	13	11	35	26	54	270	262	183	21	6.7	6.9
13	9.4	20	10	34	27	61	299	283	181	21	6.9	6.9
14	9.2	7.2	14	34	27	51	320	312	177	19	6.9	6.6
15	9.1	6.9	12	31	27	45	349	334	169	16	6.9	6.3
16	8.8	5.6	12	29	27	45	283	353	157	14	6.9	6.3
17	7.9	5.6	12	28	34	43	250	376	142	13	6.5	6.3
18	7.7	5.6	11	26	30	44	211	381	138	13	6.3	6.2
19	7.7	5.6	9.6	27	29	45	187	364	138	14	6.3	6.3
20	7.7	6.6	12	26	31	52	168	337	129	15	6.6	6.3
21	7.7	9.8	16	26	31	53	156	307	116	16	6.9	6.3
22	7.7	28	14	25	35	51	162	260	101	15	6.9	6.3
23	7.9	21	17	23	39	68	180	255	89	14	6.9	6.3
24	8.4	207	14	24	36	70	205	261	83	14	6.9	6.3
25	7.8	95	13	23	37	59	215	271	78	13	6.4	6.3
26	7.7	37	12	23	41	56	218	284	74	13	6.3	6.0
27	7.7	24	13	28	42	57	199	307	74	13	6.3	5.6
28	7.7	17	24	27	44	64	185	321	69	14	6.3	5.9
29	7.7	46	572	27	---	70	183	341	63	13	6.3	6.3
30	13	25	223	25	---	86	162	365	56	14	6.3	6.3
31	34	---	167	31	---	107	---	367	---	13	6.3	---
TOTAL	268.1	663.1	1494.6	1264	836	1746	6206	8731	5402	680	210.3	191.8
MEAN	8.648	22.10	48.21	40.77	29.86	56.32	206.9	281.6	180.1	21.94	6.784	6.393
MAX	34	207	572	114	44	107	349	381	377	54	9.4	7.7
MIN	5.6	5.6	9.6	23	21	38	125	140	56	13	6.3	5.6
AC-FT	532	1320	2960	2510	1660	3460	12310	17320	10710	1350	417	380

TULARE LAKE BASIN

11208730 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.406	10.12	38.12	61.20	56.05	74.14	153.7	352.4	345.4	128.1	25.93	10.39
MAX	22.4	83.9	594	674	219	251	350	944	1017	775	148	73.9
(WY)	1970	1997	1967	1997	1969	1995	1969	1969	1998	1998	1967	1978
MIN	0.32	0.48	0.23	0.55	0.37	2.28	45.2	54.8	21.3	0.85	0.34	0.23
(WY)	1959	1963	1959	1961	1961	1977	1977	1977	1976	1959	1955	1953

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1952 - 2002	
ANNUAL TOTAL	23699.4		27692.9			
ANNUAL MEAN	64.93		75.87		104.2	
HIGHEST ANNUAL MEAN					300 1969	
LOWEST ANNUAL MEAN					15.9 1977	
HIGHEST DAILY MEAN	572	Dec 29	572	Dec 29	8000	Dec 6 1966
LOWEST DAILY MEAN	5.6	Oct 1	5.6	Oct 1	0.00	Jan 22 1962
ANNUAL SEVEN-DAY MINIMUM	5.6	Oct 1	5.6	Oct 1	0.10	Sep 28 1953
MAXIMUM PEAK FLOW			1070	Dec 29	13000	Dec 6 1966
MAXIMUM PEAK STAGE			6.39	Dec 29	21.00	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	47010		54930		75520	
10 PERCENT EXCEEDS	244		260		312	
50 PERCENT EXCEEDS	14		26		22	
90 PERCENT EXCEEDS	6.3		6.3		0.70	

11208731 EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CA—Continued

EAST FORK KAWEAH RIVER AND EAST FORK KAWEAH RIVER CONDUIT NO. 1 NEAR THREE RIVERS, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	19	37	117	46	67	149	169	401	78	21	11
2	9.7	15	80	98	45	62	168	164	354	74	24	11
3	9.6	14	111	127	45	61	190	176	330	70	24	11
4	9.6	13	54	97	45	60	207	199	326	65	24	14
5	9.6	13	43	79	45	60	214	215	331	61	23	19
6	10	13	40	72	45	70	200	263	345	57	22	21
7	10	13	40	73	42	104	193	289	334	53	22	20
8	10	13	39	72	44	98	215	296	306	51	21	19
9	11	12	39	67	45	78	231	300	271	48	20	18
10	12	12	36	61	46	72	235	302	236	45	19	17
11	11	13	33	58	47	68	264	281	215	44	19	17
12	11	22	32	57	48	75	293	286	207	45	19	16
13	11	35	31	56	49	82	322	307	205	45	19	16
14	10	21	36	56	49	72	343	336	201	43	18	15
15	10	22	33	53	49	66	372	358	193	39	18	14
16	10	19	34	51	49	66	306	377	181	37	18	14
17	9.2	18	34	50	56	64	273	400	166	36	16	15
18	9.0	16	33	48	52	65	234	405	162	35	16	13
19	9.0	15	32	49	51	66	210	388	162	35	16	13
20	9.1	15	34	48	53	73	191	361	153	34	16	12
21	9.1	15	39	48	53	73	179	331	140	33	16	11
22	9.2	36	36	48	57	72	184	284	125	32	16	11
23	9.4	30	40	45	61	89	204	279	113	30	15	10
24	9.9	213	36	46	58	91	229	285	107	28	14	10
25	9.2	98	35	45	58	81	239	295	102	27	13	10
26	9.1	46	33	45	61	79	242	308	97	26	13	10
27	9.1	38	35	51	64	80	223	331	96	25	12	9.8
28	9.1	33	47	50	65	87	209	345	92	25	12	10
29	9.1	63	577	47	---	93	207	365	87	24	12	12
30	16	44	224	43	---	109	186	389	80	24	12	12
31	39	---	169	46	---	130	---	391	---	22	12	---
TOTAL	338.5	949	2122	1903	1428	2413	6912	9475	6118	1291	542	411.8
MEAN	10.92	31.63	68.45	61.39	51.00	77.84	230.4	305.6	203.9	41.65	17.48	13.73
MAX	39	213	577	127	65	130	372	405	401	78	24	21
MIN	9.0	12	31	43	42	60	149	164	80	22	12	9.8
AC-FT	671	1880	4210	3770	2830	4790	13710	18790	12140	2560	1080	817

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2002, BY WATER YEAR (WY)

MEAN	21.11	27.09	55.61	78.58	77.51	96.13	176.8	376.0	369.7	150.9	45.44	27.30
MAX	42.2	98.2	597	674	223	270	368	966	1036	793	174	99.5
(WY)	1970	1997	1967	1997	1969	1995	1969	1969	1998	1998	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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1952 - 2002

ANNUAL TOTAL	29202.3		33903.3		
ANNUAL MEAN	80.01		92.89		124.2
HIGHEST ANNUAL MEAN					317
LOWEST ANNUAL MEAN					34.0
HIGHEST DAILY MEAN	577	Dec 29	577	Dec 29	8000
LOWEST DAILY MEAN	9.0	Oct 18	9.0	Oct 18	3.5
ANNUAL SEVEN-DAY MINIMUM	9.1	Oct 17	9.1	Oct 17	6.3
ANNUAL RUNOFF (AC-FT)	57920		67250		89960
10 PERCENT EXCEEDS	268		284		331
50 PERCENT EXCEEDS	34		47		45
90 PERCENT EXCEEDS	11		11		15

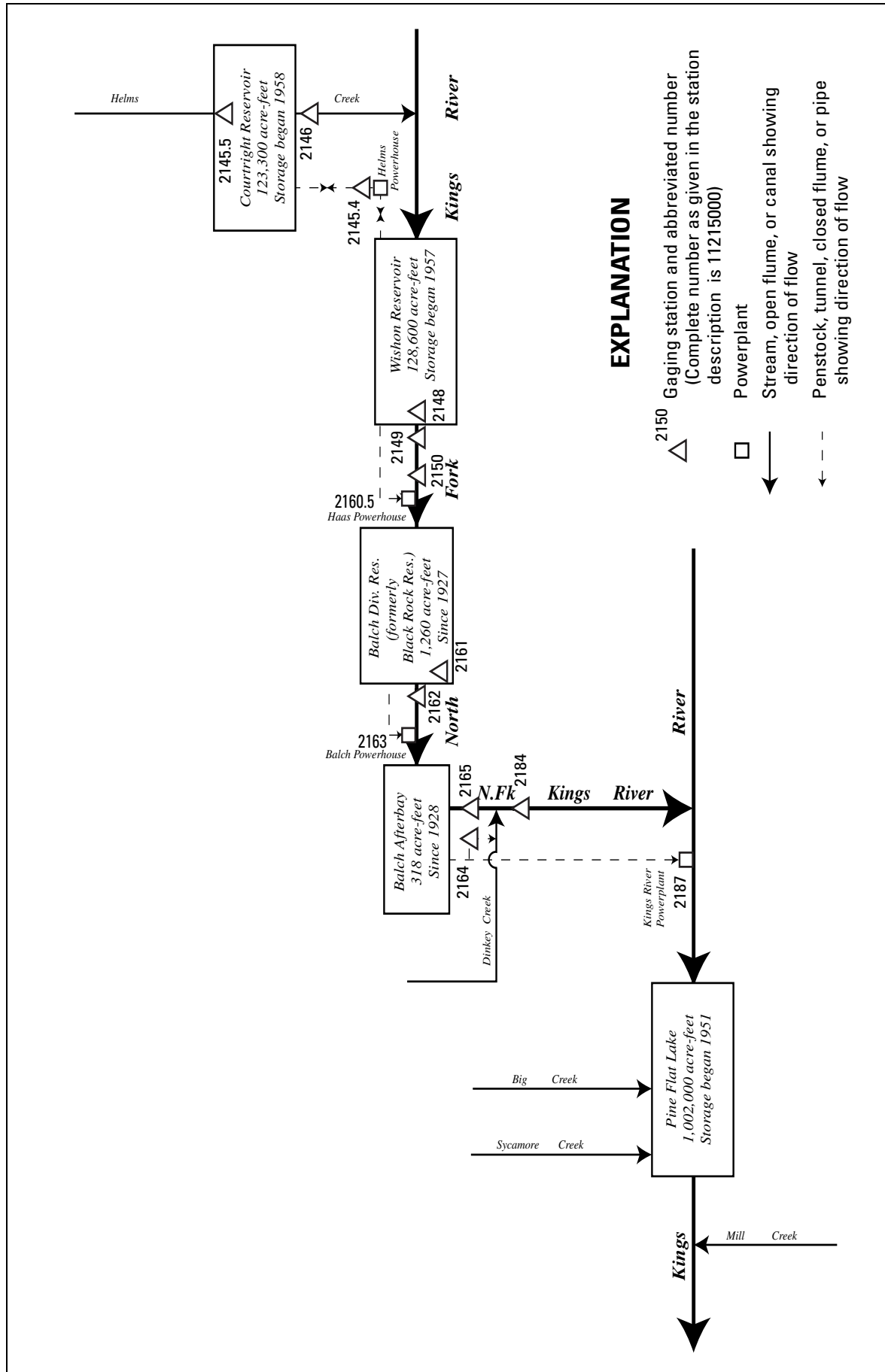


Figure 26. Divisions and storage in Kings River Basin.

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 Federal Energy Regulatory Commission project nos. 175 and 1988.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 5,440 ft³/s, Dec. 22, 1998; maximum daily pumpage, 6,860 ft³/s, Jan. 5, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-214	472	-368	-499	473	-116	-21	-22	-1550	730	1130	1600
2	542	551	-546	308	68	-516	-27	-300	-1660	634	948	1630
3	253	-33	-172	1120	-109	-561	162	90	-355	-418	615	810
4	540	251	267	1480	291	-58	-129	-332	974	-1430	126	532
5	504	300	382	-415	420	-41	-213	-546	1340	-749	1540	157
6	-159	240	294	-519	380	-74	-1080	-307	1360	-1040	484	58
7	302	409	-148	109	373	-182	-587	22	-144	-867	510	-3.5
8	330	271	-562	562	366	-308	-206	-141	-1510	394	1190	-799
9	828	364	-537	349	177	-675	-360	-220	-1630	1400	1430	1530
10	316	-269	-7.1	436	498	-741	-360	-570	-586	1230	809	512
11	-78	-230	284	108	7.1	-208	-275	-869	-568	895	1050	757
12	20	20	258	-639	24	-131	-97	-160	0.00	1120	1040	739
13	-1.0	278	159	-558	120	-88	-1040	-274	15	224	1840	398
14	-387	95	132	-105	200	2.5	-1210	-246	232	-809	568	-89
15	-40	207	-330	-60	353	-34	-712	-200	-454	385	549	-371
16	353	328	-489	426	-255	-150	-747	794	-402	-18	537	-244
17	474	90	66	342	-229	3.5	-600	330	87	576	100	-240
18	456	-63	350	392	-236	15	-624	-282	623	520	-60	1440
19	456	577	415	172	-25	1.5	-694	-1170	908	639	-351	1080
20	-440	244	604	150	-62	-124	-1560	-605	300	-722	-429	994
21	-605	28	745	437	67	-76	-1340	-828	6.6	-1080	-211	-153
22	-21	-558	-429	415	134	-69	-380	-932	-1220	67	-122	-717
23	448	-92	-548	393	-212	-664	13	382	-1260	233	-165	770
24	473	-384	-177	405	125	-590	-190	836	236	493	2320	587
25	486	-565	-501	439	245	-4.5	-56	-1190	700	56	-17	459
26	469	-259	598	277	279	381	-132	-1360	643	23	45	319
27	-397	376	312	271	569	291	-1110	-353	737	-741	1780	-429
28	-679	749	498	340	-55	317	-644	-75	734	-874	2300	-66
29	226	324	-942	496	---	-147	-606	1510	-525	98	2600	-305
30	344	-101	-647	472	---	-571	23	1490	184	663	762	-151
31	305	---	-573	451	---	-549	---	782	---	803	1410	---
TOTAL	5104.0	3620	-1612.1	7555	3986.1	-5666.0	-14802	-4746	-2784.40	2435	24328	10804.5
MEAN	164.6	120.7	-52.00	243.7	142.4	-182.8	-493.4	-153.1	-92.81	78.55	784.8	360.1
MAX	828	749	745	1480	569	381	162	1510	1360	1400	2600	1630
MIN	-679	-565	-942	-639	-255	-741	-1560	-1360	-1660	-1430	-429	-799
AC-FT	10120	7180	-3200	14990	7910	-11240	-29360	-9410	-5520	4830	48250	21430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	148.3	-98.89	25.94	32.50	81.77	43.73	-67.83	-280.2	6.297	142.5	377.3	329.1		
MAX	499	298	358	500	469	371	370	194	405	627	850	894		
(WY)	1996	2001	1999	2001	1999	1995	1995	1995	2000	1989	1999	1991		
MIN	-110	-734	-203	-844	-285	-315	-734	-722	-239	-209	177	-169		
(WY)	1993	1992	1996	1997	2000	1989	2001	1992	1997	1997	1990	2000		

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	8168.4		28222.10			
ANNUAL MEAN	22.38		77.32		61.77	
HIGHEST ANNUAL MEAN					177	
LOWEST ANNUAL MEAN					-77.5	
HIGHEST DAILY MEAN	3950	Jan 11	2600	Aug 29	5440	Dec 22 1998
LOWEST DAILY MEAN	-3570	Apr 21	-1660	Jun 2	-6860	Jan 5 1997
ANNUAL SEVEN-DAY MINIMUM	-2730	Apr 16	-897	Apr 15	-2730	Apr 16 2001
ANNUAL RUNOFF (AC-FT)	16200		55980		44750	
10 PERCENT EXCEEDS	1090		798		1190	
50 PERCENT EXCEEDS	171		24		0.00	
90 PERCENT EXCEEDS	-1320		-668		-997	

11214550 COURTRIGHT RESERVOIR NEAR NELSON MOUNTAIN, CA

LOCATION.—Lat 37°04'45", long 118°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, 123,300 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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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, 117,000 acre-ft, June 23, July 7, elevation, 8,180.08 ft; minimum, 25,200 acre-ft, Feb. 27, elevation, 8,089.82 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62500	50000	44500	48500	31800	25600	38700	81500	110000	110000	102000	52200
2	61400	48800	45700	47900	31700	26700	39100	82300	114000	109000	100000	48800
3	60900	48900	46100	45800	31900	27800	39100	82500	114000	109000	98600	47500
4	59800	48400	45500	42800	31400	27900	39700	83600	113000	112000	98300	46000
5	58800	47700	44800	43600	30500	28000	40400	85400	110000	114000	95900	45700
6	59000	47200	44200	44600	29700	28300	42900	86800	108000	116000	94900	45500
7	58300	46400	44400	44500	29000	28700	44400	87500	108000	117000	93900	45500
8	57700	45800	45500	43400	28300	29400	45300	88600	111000	116000	91500	47100
9	56000	45200	46600	42700	28000	30800	46500	89700	114000	114000	88700	44300
10	55300	45600	46600	41800	27000	32400	47700	91400	116000	111000	87000	43000
11	55400	46100	46000	41600	27000	32800	49000	93500	115000	109000	84900	41500
12	55400	46000	45500	42900	27000	33100	50000	94400	115000	107000	82800	40000
13	55300	45600	45200	44000	26800	33300	53000	95600	115000	107000	79200	39300
14	56000	45300	45100	44200	26400	33400	56300	96700	114000	108000	78000	39400
15	56100	45000	46000	44200	25700	33500	58500	97800	115000	107000	76900	40100
16	55300	44200	46900	43200	26200	33900	60400	97000	116000	107000	75800	40500
17	54400	44000	46700	42600	26700	33900	62000	97100	116000	106000	75500	40900
18	53400	44100	46000	41800	27200	33900	63500	98300	115000	105000	75200	38200
19	52500	42900	45200	41500	27300	33900	65300	101000	113000	104000	75600	36100
20	53300	42400	44200	41200	27400	34200	68600	103000	112000	105000	76400	33200
21	54500	42500	42600	40300	27200	34600	71400	105000	112000	107000	76700	33400
22	54500	43500	43400	39600	27000	34600	72400	107000	115000	107000	76900	34800
23	53500	43700	44500	38800	27500	36100	72800	107000	117000	106000	77200	33300
24	52500	44700	44900	38100	27300	37300	73800	105000	116000	105000	72600	32100
25	51500	45900	45800	37200	26800	37300	74400	108000	115000	105000	72600	31500
26	50500	46400	44600	36700	26300	36700	75200	111000	114000	105000	72400	30500
27	51300	45600	44000	36200	25200	36100	77800	112000	112000	106000	69000	31000
28	52600	44100	43100	35600	25300	35600	79400	113000	111000	108000	64400	31100
29	52100	43500	45100	34600	---	35900	81000	110000	112000	108000	59400	32100
30	51600	43600	46400	33700	---	37100	81200	108000	111000	106000	57800	32300
31	51000	---	47500	32800	---	38400	---	107000	---	105000	55400	---
MAX	62500	50000	47500	48500	31900	38400	81200	113000	117000	117000	102000	52200
MIN	50500	42400	42600	32800	25200	25600	38700	81500	108000	104000	55400	30500
a	8125.64	8116.84	8121.58	8102.15	8089.99	8110.09	8154.47	8173.55	8176.21	8172.20	8130.48	8101.40
b	-11100	-7400	+3900	-14700	-7500	+13100	+42800	+25800	+4000	-6000	-49600	-23100

CAL YR 2001 b -2050

WTR YR 2002 b -29800

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA

LOCATION.—Lat 37°04'35", long 118°58'04", in SW 1/4 NW 1/4 sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank, 500 ft downstream from Courtright Dam, 2.5 mi upstream from North Fork Kings River, and 17 mi southeast of town of Huntington Lake.

DRAINAGE AREA.—39.7 mi².

PERIOD OF RECORD.—October 1958 to February 1986, May 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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.8	12	17	14	12	17	30	39	41	35	23
2	13	8.7	13	17	14	12	17	31	40	40	35	23
3	12	8.8	13	17	15	12	17	31	41	40	34	22
4	13	8.7	13	16	14	12	17	31	41	41	34	22
5	13	8.7	13	16	14	13	17	32	40	41	33	22
6	13	8.9	12	16	14	13	18	32	39	42	33	22
7	13	9.1	12	17	14	13	19	32	39	42	33	21
8	13	13	13	16	14	13	19	33	39	43	32	21
9	13	10	13	16	13	13	19	33	40	43	32	21
10	13	9.6	13	16	13	14	20	33	41	42	32	20
11	13	9.9	13	16	13	14	21	34	41	41	31	20
12	13	10	14	16	13	14	21	34	41	40	31	19
13	14	10	14	17	13	14	21	35	41	40	31	18
14	14	10	14	17	13	14	22	35	41	40	30	18
15	14	10	14	18	12	14	23	35	41	40	30	18
16	14	10	14	17	12	14	23	35	42	40	30	18
17	14	11	14	17	12	14	24	35	42	40	29	18
18	14	11	14	17	12	14	24	35	41	40	29	18
19	14	11	14	17	12	14	25	36	41	39	28	17
20	14	11	15	16	12	14	25	37	41	39	28	16
21	14	11	14	17	12	15	26	38	41	38	28	15
22	14	11	14	16	12	15	27	38	41	38	28	15
23	14	11	15	16	12	15	28	39	42	37	27	15
24	13	12	15	16	12	15	28	39	43	38	26	14
25	13	12	15	15	12	16	28	39	42	37	25	14
26	13	12	15	16	12	15	28	40	42	36	25	13
27	13	12	15	16	12	15	29	41	42	36	24	13
28	12	12	15	15	11	15	29	42	41	35	24	13
29	11	12	16	15	---	15	30	41	41	35	23	13
30	9.1	12	16	15	---	16	30	39	41	36	23	13
31	9.1	---	16	15	---	16	---	38	---	35	23	---
TOTAL	402.2	315.2	433	504	358	435	692	1103	1227	1215	906	535
MEAN	12.97	10.51	13.97	16.26	12.79	14.03	23.07	35.58	40.90	39.19	29.23	17.83
MAX	14	13	16	18	15	16	30	42	43	43	35	23
MIN	9.1	8.7	12	15	11	12	17	30	39	35	23	13
AC-FT	798	625	859	1000	710	863	1370	2190	2430	2410	1800	1060

TULARE LAKE BASIN

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1983, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.4	25.7	25.0	43.0	31.3	43.3	77.0	83.9	73.4	111	209	146
MAX	235	145	212	373	408	642	645	488	410	576	734	890
(WY)	1970	1964	1979	1979	1979	1983	1983	1961	1961	1968	1980	1969
MIN	2.29	.42	.051	.095	.17	.42	1.53	3.35	4.02	3.38	2.39	1.97
(WY)	1973	1971	1971	1971	1971	1971	1971	1971	1971	1976	1977	1977

SUMMARY STATISTICS

WATER YEARS 1959 - 1983

ANNUAL MEAN	75.4
HIGHEST ANNUAL MEAN	185 1983
LOWEST ANNUAL MEAN	2.29 1971
HIGHEST DAILY MEAN	986 Aug 29 1969
LOWEST DAILY MEAN	.00 Nov 21 1970
ANNUAL SEVEN-DAY MINIMUM	.00 Dec 3 1970
MAXIMUM PEAK FLOW	1340 Aug 29 1969
MAXIMUM PEAK STAGE	7.70 Aug 23 1978
ANNUAL RUNOFF (AC-FT)	54610
10 PERCENT EXCEEDS	287
50 PERCENT EXCEEDS	10
90 PERCENT EXCEEDS	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2002, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	12.48	8.581	7.851	7.887	8.127	7.613	9.948	13.63	19.21	20.51	18.19	13.87						
MAX	58.3	24.0	22.0	20.6	19.7	19.0	30.5	35.6	41.8	41.5	38.8	33.8						
(WY)	1985	1999	1999	1999	1999	2000	2001	2002	2001	2001	1999	2000						
MIN	5.32	4.15	2.92	3.47	3.30	3.48	3.24	5.15	6.80	6.82	6.07	5.71						
(WY)	1991	1986	1987	1987	1991	1991	1998	1990	1990	1990	1992	1990						

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1985 - 2002

ANNUAL TOTAL	8455.6	8125.4	
ANNUAL MEAN	23.17	22.26	12.49
HIGHEST ANNUAL MEAN			25.1 2001
LOWEST ANNUAL MEAN			5.65 1987
HIGHEST DAILY MEAN	44 Jul 10	43 Jun 24	679 Oct 13 1984
LOWEST DAILY MEAN	3.4 Jan 13	8.7 Nov 2	0.90 Apr 17 1998
ANNUAL SEVEN-DAY MINIMUM	3.5 Jan 13	8.8 Oct 31	1.5 Apr 16 1998
MAXIMUM PEAK FLOW		43 Jun 17	1340 Aug 29 1969
MAXIMUM PEAK STAGE		3.87 Nov 1	7.70 Aug 23 1978
ANNUAL RUNOFF (AC-FT)	16770	16120	9050
10 PERCENT EXCEEDS	42	40	27
50 PERCENT EXCEEDS	22	17	8.0
90 PERCENT EXCEEDS	6.8	12	4.2

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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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, 92,100 acre-ft, June 10, elevation, 6,511.34 ft; minimum, 34,900 acre-ft, Apr. 2, elevation, 6,432.00 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 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50500	50700	48800	51300	55500	48400	37300	42500	74300	88600	61400	67900
2	50900	51400	48100	48100	54800	45500	34900	42800	79200	87200	60800	71900
3	50600	51100	46800	48900	54200	48100	37600	44800	75300	87200	60600	72200
4	51200	51500	46500	51300	53200	47300	38300	42900	82100	88600	62000	68500
5	51700	51700	47200	54400	52900	46500	39600	42500	80700	87800	63000	76100
6	51400	51700	48100	53200	53000	46100	40500	43000	81300	87400	63900	78500
7	52000	52000	48800	51800	53200	45800	41200	43400	84100	85900	64400	78400
8	52200	52100	48700	52100	53200	45500	40200	43700	87800	82400	63800	79100
9	53400	52400	47600	53300	53200	45000	40200	44200	91600	79700	64900	78700
10	53600	51600	46700	54200	52900	44200	41300	45600	92100	76700	64800	78400
11	53000	50800	46800	55300	53200	43000	41700	46900	90000	74200	64600	77800
12	52600	50500	47500	55600	52500	41700	42600	47900	87400	74100	65700	75800
13	52600	50700	48100	54500	51800	41100	43600	48300	86200	75800	67400	78100
14	51500	50500	48500	53500	51400	40700	45300	48300	87300	77100	68000	78400
15	51100	50500	48900	53500	51000	40500	45700	49900	87300	77800	69200	79100
16	51400	50700	48100	53500	50900	40300	46100	50900	87500	79000	70100	79700
17	52000	50600	47200	54500	49500	40000	47000	52400	87900	78900	72500	79600
18	52500	50300	47400	55300	48300	39800	46700	54000	87600	76600	72600	78700
19	52900	51000	48200	55200	47000	40000	46400	57800	87300	76100	72400	77500
20	51800	51100	49100	54700	46600	39700	46000	60900	87700	75000	72400	76400
21	50400	50800	50400	54200	46500	39400	45100	63500	89000	74900	71800	75300
22	49800	49800	52100	54200	46300	39000	42700	63800	90600	74900	71200	77600
23	50500	49400	51400	54200	46300	38500	40800	64300	90900	75000	69700	78800
24	51000	49600	50400	54400	46200	38500	40600	64200	90600	72600	67700	80900
25	51500	48400	50200	54300	46700	37400	41600	63500	88100	69600	65700	79900
26	52000	47700	49300	54400	47100	36400	42400	65200	85200	68900	63800	77900
27	51000	48100	50600	54600	47600	36200	43600	67900	85100	68200	61900	78800
28	49400	49200	51300	54400	48600	36800	44800	67200	85800	68300	65000	79200
29	49500	49600	52500	54300	---	37200	43800	66400	86700	67200	63600	79000
30	49900	49200	51000	54500	---	37800	43500	67700	87700	66300	62500	79400
31	50200	---	50000	54600	---	37800	---	69400	---	64000	64500	---
MAX	53600	52400	52500	55600	55500	48400	47000	69400	92100	88600	72600	80900
MIN	49400	47700	46500	48100	46200	36200	34900	42500	74300	64000	60600	67900
a	6459.40	6455.85	6457.09	6464.02	6454.92	6437.13	6446.73	6484.06	6506.27	6477.05	6477.71	6496.43
b	-1440	-1000	+800	+4600	-6000	-10800	+5700	+25900	+18300	-23700	+500	+14900

CAL YR 2001 b 16840

WTR YR 2002 b 27760

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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	21	21	22	22	22	20	18	---	---	24	---
2	21	21	21	22	22	21	20	18	---	---	24	---
3	21	20	---	22	22	21	20	18	---	---	24	---
4	21	21	22	22	22	21	20	18	---	---	24	---
5	21	21	21	22	22	21	20	18	---	---	24	---
6	21	21	20	22	22	21	20	18	---	---	24	---
7	21	21	20	22	22	21	19	18	---	---	24	---
8	21	21	20	22	22	21	19	19	---	---	24	---
9	21	21	21	22	22	20	20	19	---	---	24	---
10	21	21	21	22	22	20	20	19	---	---	24	---
11	21	21	21	22	22	20	20	19	---	---	24	---
12	21	21	20	22	22	21	20	19	---	---	25	---
13	21	21	21	22	22	20	20	19	---	---	25	---
14	21	21	21	22	22	20	20	20	---	---	25	---
15	21	21	20	22	22	20	20	20	---	---	25	---
16	21	21	20	22	22	19	20	21	---	---	25	---
17	21	21	20	22	22	19	21	21	---	---	25	---
18	21	21	20	22	21	19	20	22	---	---	25	---
19	21	21	20	22	21	19	20	23	---	---	25	---
20	21	21	21	22	21	20	20	23	---	---	25	---
21	21	21	21	22	22	20	19	24	---	---	24	---
22	21	21	21	22	22	19	19	24	---	25	24	---
23	21	21	21	22	22	19	18	24	---	25	24	---
24	21	21	21	22	21	19	18	24	---	25	24	---
25	21	21	21	22	22	19	18	24	---	25	24	---
26	21	21	21	22	22	19	19	24	---	25	24	---
27	21	21	21	22	22	20	19	24	---	24	24	---
28	21	21	22	22	22	20	18	24	---	24	24	---
29	21	21	---	22	---	20	18	25	---	24	25	---
30	21	21	23	22	---	20	18	---	---	24	25	---
31	21	---	---	22	---	20	---	---	---	24	25	---
TOTAL	651	629	---	682	612	621	583	---	---	---	756	---
MEAN	21.00	20.97	---	22.00	21.86	20.03	19.43	---	---	---	24.39	---
MAX	21	21	---	22	22	22	21	---	---	---	25	---
MIN	21	20	---	22	21	19	18	---	---	---	24	---
AC-FT	1290	1250	---	1350	1210	1230	1160	---	---	---	1500	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1990, BY WATER YEAR (WY)

	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990
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	1987	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
LOWEST ANNUAL MEAN	10.1
HIGHEST DAILY MEAN	30
LOWEST DAILY MEAN	7.2
ANNUAL SEVEN-DAY MINIMUM	7.8
MAXIMUM PEAK FLOW	35
MAXIMUM PEAK STAGE	3.59
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. Elevation 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. 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. 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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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.

EXTREME FOR CURRENT YEAR (Maximum only).—Maximum discharge, 329 ft³/s, Nov. 24, gage height, 4.96 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	32	25	33	38	---	28	27	---	---
2	---	---	27	31	25	30	39	---	28	27	---	25
3	---	---	27	32	25	29	39	---	27	27	---	26
4	---	---	---	31	25	29	38	---	27	27	---	26
5	---	---	---	30	26	28	36	---	28	26	---	26
6	---	---	---	30	26	29	33	---	29	26	---	26
7	---	---	25	32	26	33	31	---	29	25	---	26
8	---	---	25	31	27	31	33	---	29	25	---	25
9	---	---	---	30	28	29	33	---	29	25	---	25
10	---	---	---	30	28	29	33	---	28	25	---	26
11	---	---	---	29	28	29	33	---	28	25	---	26
12	---	---	---	29	28	32	33	---	28	26	---	26
13	---	---	---	29	28	33	32	---	28	26	---	27
14	---	---	---	29	30	29	32	---	28	26	---	26
15	---	---	---	28	30	27	32	---	28	25	---	26
16	---	---	---	27	29	26	28	---	28	25	---	25
17	---	---	---	26	30	25	29	---	28	25	---	25
18	---	---	---	26	28	25	28	---	28	25	---	25
19	---	---	---	26	28	26	27	---	28	25	---	26
20	---	---	---	25	31	28	26	28	28	25	---	27
21	---	---	---	25	32	29	25	33	28	---	---	27
22	---	26	---	25	33	28	25	32	28	---	---	26
23	---	---	---	25	34	29	---	30	27	---	---	26
24	---	77	---	25	33	29	---	29	27	---	---	26
25	---	27	---	25	33	28	---	28	27	---	---	26
26	---	---	---	25	34	28	26	26	27	---	---	26
27	---	---	---	25	34	30	27	26	27	---	---	26
28	---	---	29	25	35	32	25	26	27	---	---	26
29	---	---	72	25	---	35	---	26	28	---	---	26
30	25	---	38	25	---	36	---	27	27	---	---	44
31	---	---	40	25	---	37	---	28	---	---	---	---
TOTAL	---	---	---	858	819	921	---	---	835	---	---	---
MEAN	---	---	---	27.68	29.25	29.71	---	---	27.83	---	---	---
MAX	---	---	---	32	35	37	---	---	29	---	---	---
MIN	---	---	---	25	25	25	---	---	27	---	---	---
AC-FT	---	---	---	1700	1620	1830	---	---	1660	---	---	---
a	11210	10690	1200	13680	20510	9610	71350	13590	16460	31200	35750	18600

a Diversion, in acre-feet, to Haas Powerplant (station 11216050), 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)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.3	49.3	84.9	62.2	93.6	197	709	1670	1177	211	27.7	9.45
MAX	121	550	605	300	212	402	1210	3232	3395	1161	131	37.4
(WY)	1946	1951	1956	1956	1945	1956	1926	1952	1938	1938	1938	1938
MIN	5.54	6.25	7.00	11.6	20.3	36.0	306	357	35.7	5.52	1.83	1.60
(WY)	1956	1930	1931	1924	1948	1924	1948	1934	1924	1924	1924	1924

SUMMARY STATISTICS

WATER YEARS 1922 - 1957

ANNUAL MEAN	360
HIGHEST ANNUAL MEAN	749 1938
LOWEST ANNUAL MEAN	80.2 1924
HIGHEST DAILY MEAN	7460 Dec 23 1955
LOWEST DAILY MEAN	1.3 Sep 9 1924
ANNUAL SEVEN-DAY MINIMUM	1.4 Sep 9 1924
MAXIMUM PEAK FLOW	14000 Dec 11 1937
MAXIMUM PEAK STAGE	18.00 Dec 11 1937
ANNUAL RUNOFF (AC-FT)	260600
10 PERCENT EXCEEDS	1240
50 PERCENT EXCEEDS	63
90 PERCENT EXCEEDS	6.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1990, BY WATER YEAR (WY)

	1960	1960	1963	1964	1964	1961	1961	1961	1961	1964	1961	1964
MEAN	16.30	17.47	15.78	17.84	18.42	20.68	36.11	96.10	172.9	97.26	17.90	19.12
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	45.52
HIGHEST ANNUAL MEAN	241 1969
LOWEST ANNUAL MEAN	10.0 1964
HIGHEST DAILY MEAN	3040 Jul 1 1967
LOWEST DAILY MEAN	3.9 Dec 9 1967
ANNUAL SEVEN-DAY MINIMUM	4.2 Dec 6 1967
MAXIMUM PEAK FLOW	5110 Sep 5 1978
MAXIMUM PEAK STAGE	11.96 Sep 5 1978
ANNUAL RUNOFF (AC-FT)	32970
10 PERCENT EXCEEDS	29
50 PERCENT EXCEEDS	17
90 PERCENT EXCEEDS	8.6

11216100 BLACK ROCK RESERVOIR NEAR BALCH CAMP, CA

LOCATION.—Lat 36°55'13", long 119°01'20", in NW 1/4 NW 1/4 sec.6, T.12 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank, at intake tower on North Fork Kings River, and 5.6 mi east-northeast of Balch Camp.

DRAINAGE AREA.—233 mi².

PERIOD OF RECORD.—October 1986 to current year.

GAGE.—Water-stage recorder. Elevation 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. 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 Federal Energy Regulatory Commission project nos. 175 and 1988.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,324 acre-ft, July 7, 1998, elevation, 4,099.81 ft; minimum, 359 acre-ft, Nov. 3, 1986, elevation, 4,064.51 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,210 acre-ft, Oct. 24, 30, elevation, 4,096.50 ft; minimum, 580 acre-ft, Jan. 6, elevation, 4,074.90 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	1030	760	953	1160	1040	1130	937	921	1060	1000	966
2	1050	999	986	758	1130	992	982	985	859	1080	985	933
3	1050	986	1110	798	1110	930	1000	1050	823	1060	985	877
4	1050	988	1060	757	1120	1040	1060	1070	921	1090	985	871
5	1060	966	1010	775	1130	1120	1030	1150	1020	1040	981	826
6	1110	974	991	580	1120	944	944	988	1060	996	1090	818
7	1110	975	1010	723	1130	950	900	826	1080	981	1090	791
8	1160	984	1000	872	1090	826	1040	947	975	927	1050	772
9	1160	965	1030	960	1110	819	1040	849	968	956	1010	774
10	1170	987	1040	896	1070	815	982	739	960	996	951	1070
11	1170	959	1020	838	1060	874	1050	762	996	1020	890	1150
12	1160	1010	999	993	1070	933	975	791	1090	1060	797	1020
13	1190	1050	958	1070	1020	1010	982	853	978	1060	819	1010
14	1100	1080	962	867	1020	1040	967	968	1000	1070	861	1070
15	1100	1100	969	990	1040	957	1030	1040	1060	1110	918	1110
16	1100	1130	978	1040	1090	996	912	1010	1070	1080	953	1080
17	1110	1150	980	1090	1150	1050	982	1070	1070	1060	1030	1040
18	1130	1180	970	1140	1100	1120	968	994	985	1060	1110	972
19	1140	1190	930	1150	1110	1140	931	950	954	1060	1080	996
20	1140	1150	906	1110	941	1090	919	908	947	1100	1140	1030
21	1170	977	938	1050	996	1070	1060	900	994	1090	1160	1070
22	1160	940	945	1040	1080	1020	1090	982	998	1060	1150	1060
23	1150	845	945	1110	1100	1020	1030	1060	1010	1070	1080	1100
24	1210	844	954	1120	1110	1050	944	1030	1050	1050	1040	1150
25	1140	846	938	1100	1010	1100	1000	1050	1130	1100	1040	1130
26	1120	984	937	1010	1020	1090	907	1070	1090	996	1070	1090
27	1130	843	874	1040	1030	1060	979	1050	1110	1090	1050	1060
28	1170	823	723	1080	1040	1030	787	985	1110	1110	1000	1090
29	1140	772	663	1140	---	1090	762	908	1100	1120	1030	1090
30	1210	727	782	1170	---	1140	887	962	1050	1040	1060	1100
31	1020	---	914	1160	---	1140	---	648	---	1030	1010	---
MAX	1210	1190	1110	1170	1160	1140	1130	1150	1130	1120	1160	1150
MIN	1020	727	663	580	941	815	762	648	823	927	797	772
a	4090.80	4080.70	4080.30	4095.10	4091.40	4094.50	4086.40	4077.70	4091.70	4091.10	4090.40	4093.30
b	-44	-293	+187	+246	-120	+100	-253	-239	+402	-20	-20	+90

CAL YR 2001 b -113

WTR YR 2002 b +36

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 Balch Diversion 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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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, 0.62 ft³/s, Oct. 19, 2000.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.5	7.3	7.7	9.1	9.3	8.7	7.1	6.8	6.3	6.1	5.9
2	7.1	7.5	8.2	7.7	9.2	9.4	8.6	8.1	6.7	6.3	6.0	5.8
3	7.2	7.5	9.5	7.6	8.8	9.4	8.4	9.9	6.4	6.2	6.0	5.7
4	7.2	8.0	8.7	7.4	8.7	9.1	8.5	8.3	6.4	6.3	5.9	5.6
5	7.2	7.3	8.9	7.2	8.8	13	8.5	8.3	6.6	6.3	5.9	5.6
6	7.2	13	8.5	7.3	8.9	15	8.3	8.4	6.8	6.1	6.0	5.5
7	7.3	11	8.0	7.2	8.9	12	8.1	7.8	6.9	6.0	6.2	5.4
8	7.1	7.6	7.9	7.2	8.8	11	8.4	7.1	6.8	5.9	6.2	5.3
9	7.1	7.5	7.8	8.5	8.7	10	9.9	7.1	6.5	5.8	6.0	5.2
10	7.1	6.8	7.9	9.5	8.6	10	8.8	7.1	6.4	5.9	5.9	5.2
11	7.2	9.8	23	9.0	8.6	10	8.2	6.6	6.5	6.0	5.8	6.1
12	7.7	9.1	15	8.6	8.6	10	8.0	6.5	6.6	6.1	5.5	6.3
13	8.9	7.2	11	8.1	8.4	10	8.3	6.6	6.8	6.2	5.3	6.1
14	7.1	9.8	10	8.3	8.2	9.8	8.3	6.9	6.4	6.2	5.4	6.0
15	6.8	19	9.9	8.2	8.2	9.6	8.4	7.3	6.4	6.2	5.5	6.2
16	6.7	9.4	15	8.2	8.7	9.4	8.4	7.3	6.6	6.3	5.7	6.2
17	6.6	8.5	11	8.3	13	9.4	8.2	7.2	6.7	6.2	5.9	6.1
18	6.7	7.9	9.9	8.4	15	9.3	8.3	7.3	6.5	6.2	6.1	6.0
19	6.5	7.5	9.2	8.5	10	9.3	8.0	7.1	6.3	6.2	6.3	5.9
20	6.5	7.5	8.7	8.5	9.4	9.1	7.2	9.6	6.2	6.2	6.2	6.0
21	6.5	7.6	8.6	9.2	9.1	8.9	7.1	9.0	6.2	6.3	6.3	6.1
22	6.5	7.8	8.8	9.2	9.1	9.0	7.1	8.1	6.2	6.2	6.3	6.1
23	6.5	7.4	8.5	8.8	9.2	8.9	6.9	8.0	6.2	6.2	6.3	6.1
24	6.9	7.1	7.7	8.7	9.5	8.7	6.5	8.0	6.3	6.2	6.1	6.2
25	6.7	7.0	7.3	8.6	9.3	8.8	6.5	7.7	6.4	6.3	6.0	6.3
26	9.0	7.8	7.6	8.5	9.3	8.8	6.8	7.6	6.5	6.3	6.1	6.3
27	7.2	8.0	7.9	8.4	9.2	8.6	7.2	7.5	6.5	6.1	6.2	6.2
28	7.2	7.2	7.4	8.4	9.3	8.7	7.4	7.5	6.5	6.2	6.1	6.2
29	7.2	7.5	7.3	8.5	---	8.7	7.2	7.2	6.5	6.3	6.0	6.3
30	7.3	7.8	7.6	9.9	---	9.1	7.3	6.8	6.4	6.3	6.1	6.3
31	7.4	---	7.7	9.9	---	9.0	---	6.8	---	6.2	6.1	---
TOTAL	220.6	254.6	291.8	259.5	260.6	301.3	237.5	235.8	195.0	191.5	185.5	178.2
MEAN	7.116	8.487	9.413	8.371	9.307	9.719	7.917	7.606	6.500	6.177	5.984	5.940
MAX	9.0	19	23	9.9	15	15	9.9	9.9	6.9	6.3	6.3	6.3
MIN	6.5	6.8	7.3	7.2	8.2	8.6	6.5	6.5	6.2	5.8	5.3	5.2
AC-FT	438	505	579	515	517	598	471	468	387	380	368	353
a	12250	13500	5020	17400	23940	15100	17750	25430	20920	33140	37530	19270

a Diversion, in acre-feet, to Balch Powerplant (station 11216300), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.705	8.402	7.697	31.57	32.69	47.04	76.47	172.8	303.6	135.4	7.294	6.556
MAX	10.9	26.4	23.5	440	201	441	541	1004	1792	1194	23.7	10.7
(WY)	2000	1984	1997	1997	1997	1986	1986	1995	1998	1998	1998	1998
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1984 - 2002	
ANNUAL TOTAL	2616.8		2811.9			
ANNUAL MEAN	7.169		7.704		69.65	
HIGHEST ANNUAL MEAN					353	1995
LOWEST ANNUAL MEAN					3.97	1987
HIGHEST DAILY MEAN	23	Dec 11	23	Dec 11	4990	Jul 8 1998
LOWEST DAILY MEAN	4.1	Jan 6	5.2	Sep 9	0.62	Oct 19 2000
ANNUAL SEVEN-DAY MINIMUM	4.3	Jan 1	5.4	Sep 4	0.74	Oct 19 2000
MAXIMUM PEAK FLOW			54	Nov 6	7690	Jan 2 1997
MAXIMUM PEAK STAGE			2.33	Nov 6	10.54	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	5190		5580		50460	
10 PERCENT EXCEEDS	9.0		9.4		31	
50 PERCENT EXCEEDS	7.1		7.3		6.7	
90 PERCENT EXCEEDS	5.1		6.1		3.7	

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.—Ultrasonic 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 Federal Energy Regulatory Commission Project nos. 175 and 1988.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	11	11	e11	e11	e13	11	11	12	11	11
2	11	11	11	10	e11	e11	e15	11	11	11	11	11
3	11	12	11	11	e11	e11	e15	11	11	11	11	11
4	11	12	11	11	e11	e11	15	11	8.9	11	11	11
5	11	12	11	10	e11	e11	15	11	9.7	11	11	11
6	11	12	11	10	e11	e11	15	11	13	11	11	11
7	11	12	11	11	e11	e11	16	11	11	11	11	11
8	11	12	11	11	e11	e11	15	11	11	11	11	11
9	11	12	11	11	e11	e11	15	11	11	11	11	11
10	11	12	11	11	e11	e11	15	11	11	11	11	11
11	11	12	11	11	e11	e11	15	11	11	11	11	11
12	11	12	11	11	e11	e11	16	11	11	11	11	11
13	11	12	11	11	e11	e11	15	11	11	11	11	11
14	11	11	11	11	e11	e11	13	11	11	11	11	11
15	11	11	11	11	e11	e11	11	11	11	11	11	11
16	11	11	11	11	e11	e11	11	11	12	11	11	11
17	11	12	10	10	e11	e11	11	11	12	11	11	11
18	11	11	11	10	e11	e11	11	11	12	11	11	11
19	11	11	10	10	e11	e11	11	11	12	11	11	11
20	11	11	11	10	e11	e11	11	11	12	11	11	11
21	11	11	11	10	e11	e11	11	11	12	11	11	12
22	11	12	11	10	e11	e11	11	11	12	11	11	12
23	11	12	11	10	e11	e11	11	11	12	11	11	11
24	12	11	11	10	e11	e11	11	11	12	11	11	12
25	12	11	11	10	e11	e11	11	11	12	11	11	12
26	12	11	11	10	e11	e11	11	12	12	11	11	11
27	12	11	11	10	e11	e11	11	11	12	11	11	12
28	12	11	11	e11	e11	e11	11	11	12	11	11	12
29	12	11	11	e11	---	e11	11	11	12	11	11	12
30	12	11	11	e11	---	e11	11	11	12	11	11	12
31	12	---	11	e11	---	e11	---	11	---	11	11	---
TOTAL	349	345	339	327	308	341	384	342	343.6	342	341	338
MEAN	11.26	11.50	10.94	10.55	11.00	11.00	12.80	11.03	11.45	11.03	11.00	11.27
MAX	12	12	11	11	11	11	16	12	13	12	11	12
MIN	11	11	10	10	11	11	11	11	8.9	11	11	11
AC-FT	692	684	672	649	611	676	762	678	682	678	676	670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

MEAN	6.706	2.689	1.453	0.917	0.769	0.703	1.494	1.383	3.125	6.706	8.110	9.133
MAX	15.4	11.5	10.9	10.5	11.0	11.0	12.8	11.1	11.5	16.6	14.4	15.0
(WY)	2000	2002	2002	2002	2002	2002	2002	2001	2002	1997	1994	1992
MIN	0.15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.09	5.33
(WY)	1996	1987	1987	1987	1987	1987	1987	1987	1991	1993	1998	1987

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1987 - 2002

ANNUAL TOTAL	3067.80	4099.6	
ANNUAL MEAN	8.405	11.23	3.615
HIGHEST ANNUAL MEAN			11.2
LOWEST ANNUAL MEAN			0.73
HIGHEST DAILY MEAN	13	May 8	16
LOWEST DAILY MEAN	0.00	Jan 1	8.9
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	10
ANNUAL RUNOFF (AC-FT)	6080		8130
10 PERCENT EXCEEDS	12		12
50 PERCENT EXCEEDS	11		11
90 PERCENT EXCEEDS	0.00		11

e Estimated.

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 Cipolletti 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 Balch Diversion 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 Federal Energy Regulatory Commission project nos. 175 and 1988.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	18	20	19	19	18	18	20	23	23	19
2	19	19	18	20	19	19	18	18	20	23	23	19
3	19	19	19	18	19	19	18	18	20	23	23	19
4	18	19	19	19	19	19	18	18	19	23	23	19
5	18	19	19	20	19	19	18	19	18	22	23	19
6	18	18	19	21	19	18	18	18	21	22	22	19
7	18	19	19	20	19	18	18	18	23	23	21	19
8	18	18	19	19	19	18	18	19	26	23	18	19
9	19	19	19	19	19	19	18	19	22	23	18	20
10	18	19	19	19	19	19	18	19	21	23	19	21
11	19	18	19	20	19	18	18	19	22	22	19	20
12	19	19	19	30	19	18	18	19	22	22	19	19
13	19	19	19	20	19	19	18	19	22	23	19	20
14	18	19	20	20	18	18	18	19	21	23	19	19
15	18	19	19	30	19	19	18	19	22	23	19	20
16	18	19	19	20	19	18	19	19	22	23	19	20
17	19	19	19	20	18	19	18	19	21	23	19	20
18	18	19	20	19	18	18	18	20	21	23	19	20
19	19	18	19	19	18	19	19	20	21	23	19	19
20	18	20	19	19	18	19	18	19	21	23	19	19
21	18	19	19	19	19	18	18	18	22	24	19	20
22	18	20	19	19	19	18	18	18	24	24	19	20
23	18	20	19	19	18	18	18	18	24	24	19	20
24	19	20	19	19	19	18	19	18	23	24	19	20
25	19	20	19	19	19	18	18	18	23	23	19	19
26	18	19	19	19	19	18	18	18	23	23	19	20
27	18	19	19	18	19	18	18	18	23	24	19	20
28	19	19	20	18	18	18	18	18	24	24	19	20
29	19	19	30	18	---	18	18	18	23	24	19	20
30	20	18	22	17	---	19	18	18	24	23	19	19
31	19	---	20	19	---	19	---	20	---	24	19	---
TOTAL	574	570	605	616	525	572	543	576	658	717	612	587
MEAN	18.52	19.00	19.52	19.87	18.75	18.45	18.10	18.58	21.93	23.13	19.74	19.57
MAX	20	20	30	30	19	19	19	20	26	24	23	21
MIN	18	18	18	17	18	18	18	18	18	22	18	19
AC-FT	1140	1130	1200	1220	1040	1130	1080	1140	1310	1420	1210	1160

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1930, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.2	69.3	65.4	66.4	132	280	779	1877	1136	164	29.0	15.3
MAX	52.1	225	130	111	397	498	1434	3040	3200	472	73.8	41.2
(WY)	1921	1928	1923	1923	1927	1921	1926	1922	1922	1922	1922	1923
MIN	10.0	11.2	18.7	24.1	42.2	54.6	389	552	42.2	9.50	5.40	5.09
(WY)	1922	1922	1930	1926	1924	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS

WATER YEARS 1920 - 1930

ANNUAL MEAN	387
HIGHEST ANNUAL MEAN	646 1922
LOWEST ANNUAL MEAN	102 1924
HIGHEST DAILY MEAN	4890 Jun 4 1922
LOWEST DAILY MEAN	4.0 Aug 29 1924
ANNUAL SEVEN-DAY MINIMUM	4.2 Aug 28 1924
MAXIMUM PEAK FLOW	6080 Jun 4 1922
MAXIMUM PEAK STAGE	12.18 Jun 4 1922
ANNUAL RUNOFF (AC-FT)	280500
10 PERCENT EXCEEDS	1300
50 PERCENT EXCEEDS	74
90 PERCENT EXCEEDS	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	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	1998	1999	2000	2001	2002
MEAN	17.72	20.12	25.94	57.67	49.53	44.09	66.23	209.9	308.3	166.3	44.37	27.59																															
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1960 - 2002

ANNUAL TOTAL	7312	7155	
ANNUAL MEAN	20.03	19.60	83.58
HIGHEST ANNUAL MEAN			406 1983
LOWEST ANNUAL MEAN			8.47 1977
HIGHEST DAILY MEAN	269 Mar 28	30 Dec 29	7680 Dec 6 1966
LOWEST DAILY MEAN	12 Jan 21	17 Jan 30	0.30 Nov 3 1964
ANNUAL SEVEN-DAY MINIMUM	12 Mar 19	18 Mar 21	4.3 May 30 1977
MAXIMUM PEAK FLOW		53 Jun 8	14000 Feb 1 1963
MAXIMUM PEAK STAGE		1.62 Jun 8	13.24 Feb 1 1963
ANNUAL RUNOFF (AC-FT)	14500	14190	60550
10 PERCENT EXCEEDS	19	23	148
50 PERCENT EXCEEDS	18	19	16
90 PERCENT EXCEEDS	13	18	8.5

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 Balch Diversion 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 Federal Energy Regulatory Commission project nos. 175 and 1988.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	68	89	245	106	250	492	356	404	65	35	36
2	37	50	102	190	105	217	549	340	370	62	35	36
3	36	46	223	233	103	210	611	379	322	60	35	36
4	36	43	122	207	105	208	645	459	296	58	35	35
5	36	41	109	170	108	209	628	537	290	57	36	37
6	36	41	101	155	110	226	552	591	288	55	35	36
7	36	41	104	160	113	263	505	604	252	54	35	37
8	36	40	109	159	117	229	639	588	226	52	35	38
9	37	40	108	153	127	207	673	565	203	51	44	38
10	36	40	102	189	128	200	648	548	188	48	38	37
11	36	40	95	210	137	188	749	476	172	47	38	36
12	36	42	92	186	143	236	826	469	157	47	37	37
13	36	76	87	149	147	273	885	488	147	46	38	38
14	36	73	94	182	144	219	913	530	140	45	37	38
15	36	64	94	245	152	188	906	548	137	44	37	37
16	36	62	88	131	151	184	595	548	127	43	37	37
17	36	54	91	124	163	173	553	563	118	42	37	37
18	36	50	89	121	158	168	459	564	113	41	36	37
19	36	47	85	114	156	174	403	539	110	41	36	37
20	36	46	88	112	158	218	371	537	107	40	36	38
21	36	45	103	112	191	228	362	486	102	39	36	37
22	36	48	96	112	205	245	383	445	97	38	36	37
23	36	127	95	104	223	250	447	446	91	37	37	37
24	37	284	94	101	214	239	533	461	86	37	37	36
25	37	595	91	104	212	221	556	469	82	37	37	37
26	36	154	90	104	227	215	606	456	78	37	36	37
27	36	109	92	109	239	221	539	433	76	36	37	36
28	36	90	99	114	242	275	445	417	74	35	37	37
29	36	92	317	110	---	312	418	407	72	35	37	36
30	37	95	453	116	---	397	388	411	69	36	36	39
31	82	---	291	104	---	453	---	407	---	35	36	---
TOTAL	1167	2643	3893	4625	4384	7296	17279	15067	4994	1400	1134	1107
MEAN	37.65	88.10	125.6	149.2	156.6	235.4	576.0	486.0	166.5	45.16	36.58	36.90
MAX	82	595	453	245	242	453	913	604	404	65	44	39
MIN	36	40	85	101	103	168	362	340	69	35	35	35
AC-FT	2310	5240	7720	9170	8700	14470	34270	29890	9910	2780	2250	2200
a	11440	12500	4270	16500	23660	15100	18150	25680	21000	34210	38380	18710

a Diversion, in acre-feet, to Kings River Powerplant (station 11218700), provided by Pacific Gas & Electric Co.

TULARE LAKE BASIN

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.93	87.04	134.8	240.6	281.0	363.1	614.9	1014	844.2	304.0	59.84	48.79
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	64159		64989			
ANNUAL MEAN	175.8		178.1		336.6	
HIGHEST ANNUAL MEAN					1045	
LOWEST ANNUAL MEAN					49.2	
HIGHEST DAILY MEAN	1090	May 1	913	Apr 14	14900	Dec 6 1966
LOWEST DAILY MEAN	35	Aug 19	35	Jul 28	6.4	Oct 3 1977
ANNUAL SEVEN-DAY MINIMUM	36	Oct 10	35	Jul 28	9.6	Oct 2 1977
MAXIMUM PEAK FLOW			3650	Nov 24	27400	Feb 1 1963
MAXIMUM PEAK STAGE			8.70	Nov 24	19.20	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	127300		128900		243800	
10 PERCENT EXCEEDS	543		487		837	
50 PERCENT EXCEEDS	74		104		94	
90 PERCENT EXCEEDS	37		36		30	

11224500 LOS GATOS CREEK ABOVE NUÑEZ 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, 135 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)
Jan. 3	0600	7.0	3.56

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	1.6	0.46	0.33	0.27	0.14	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	1.5	0.48	0.33	0.25	0.14	0.00	0.00	0.00	0.00
3	0.00	0.00	0.04	5.1	0.44	0.33	0.24	0.13	0.00	0.00	0.00	0.00
4	0.00	0.00	0.16	3.0	0.44	0.33	0.22	0.11	0.00	0.00	0.00	0.00
5	0.00	0.00	0.17	1.9	0.44	0.33	0.22	0.10	0.00	0.00	0.00	0.00
6	0.00	0.00	0.17	1.5	0.43	0.33	0.20	0.09	0.00	0.00	0.00	0.00
7	0.00	0.00	0.17	1.3	0.39	0.33	0.20	0.09	0.00	0.00	0.00	0.00
8	0.00	0.00	0.21	1.1	0.39	0.33	0.20	0.08	0.00	0.00	0.00	0.00
9	0.00	0.00	0.23	1.1	0.37	0.32	0.19	0.06	0.00	0.00	0.00	0.00
10	0.00	0.00	0.26	1.1	0.39	0.30	0.17	0.05	0.00	0.00	0.00	0.00
11	0.00	0.00	0.27	1.0	0.39	0.30	0.15	0.05	0.00	0.00	0.00	0.00
12	0.00	0.00	0.27	1.0	0.39	0.30	0.15	0.05	0.00	0.00	0.00	0.00
13	0.00	0.00	0.27	0.94	0.39	0.30	0.15	0.04	0.00	0.00	0.00	0.00
14	0.00	0.00	0.37	0.92	0.39	0.32	0.15	0.04	0.00	0.00	0.00	0.00
15	0.00	0.00	0.38	0.92	0.39	0.34	0.15	0.03	0.00	0.00	0.00	0.00
16	0.00	0.00	0.34	0.88	0.39	0.36	0.15	0.03	0.00	0.00	0.00	0.00
17	0.00	0.00	0.32	0.81	0.39	0.35	0.15	0.02	0.00	0.00	0.00	0.00
18	0.00	0.00	0.30	0.72	0.38	0.44	0.15	0.02	0.00	0.00	0.00	0.00
19	0.00	0.00	0.30	0.66	0.36	0.44	0.15	0.01	0.00	0.00	0.00	0.00
20	0.00	0.00	0.35	0.65	0.36	0.42	0.15	0.01	0.00	0.00	0.00	0.00
21	0.00	0.00	1.9	0.68	0.36	0.39	0.15	0.01	0.00	0.00	0.00	0.00
22	0.00	0.00	1.6	0.66	0.36	0.39	0.15	0.01	0.00	0.00	0.00	0.00
23	0.00	0.00	0.90	0.59	0.36	0.39	0.15	0.01	0.00	0.00	0.00	0.00
24	0.00	0.00	0.80	0.54	0.36	0.38	0.14	0.01	0.00	0.00	0.00	0.00
25	0.00	0.00	0.73	0.53	0.36	0.36	0.14	0.01	0.00	0.00	0.00	0.00
26	0.00	0.00	0.66	0.53	0.36	0.36	0.14	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.62	0.60	0.36	0.36	0.14	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.62	0.62	0.33	0.36	0.14	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.99	0.60	---	0.30	0.14	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	2.2	0.53	---	0.27	0.14	0.00	0.00	0.00	0.00	0.00
31	0.00	---	2.1	0.47	---	0.27	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	17.70	34.05	10.91	10.66	5.09	1.34	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.571	1.098	0.390	0.344	0.170	0.043	0.000	0.000	0.000	0.000
MAX	0.00	0.00	2.2	5.1	0.48	0.44	0.27	0.14	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.47	0.33	0.27	0.14	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	35	68	22	21	10	2.7	0.00	0.00	0.00	0.00

TULARE LAKE BASIN

11224500 LOS GATOS CREEK ABOVE NUÑEZ CANYON, NEAR COALINGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.280	0.902	3.599	13.34	24.06	20.76	8.954	3.165	1.087	0.298	0.103	0.251
MAX	7.18	18.2	36.3	139	287	236	160	43.0	16.4	5.71	2.92	8.33
(WY)	1946	1966	1967	1969	1978	1995	1958	1998	1983	1983	1983	1976
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1947	1948	1948	1948	1948	1961	1949	1948	1948	1947	1945	1945

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1945 - 2002	
ANNUAL TOTAL	1415.13		79.75			
ANNUAL MEAN	3.877		0.218		6.312	
HIGHEST ANNUAL MEAN					48.5	1983
LOWEST ANNUAL MEAN					0.000	1989
HIGHEST DAILY MEAN	622	Mar 5	5.1	Jan 3	2940	Mar 10 1995
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Jul 5 1945
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Jul 5 1945
MAXIMUM PEAK FLOW			7.0	Jan 3	5700	Mar 10 1995
MAXIMUM PEAK STAGE			3.56	Jan 3	13.95	Jan 16 1978
ANNUAL RUNOFF (AC-FT)	2810		158		4570	
10 PERCENT EXCEEDS	4.7		0.59		6.8	
50 PERCENT EXCEEDS	0.03		0.00		0.01	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

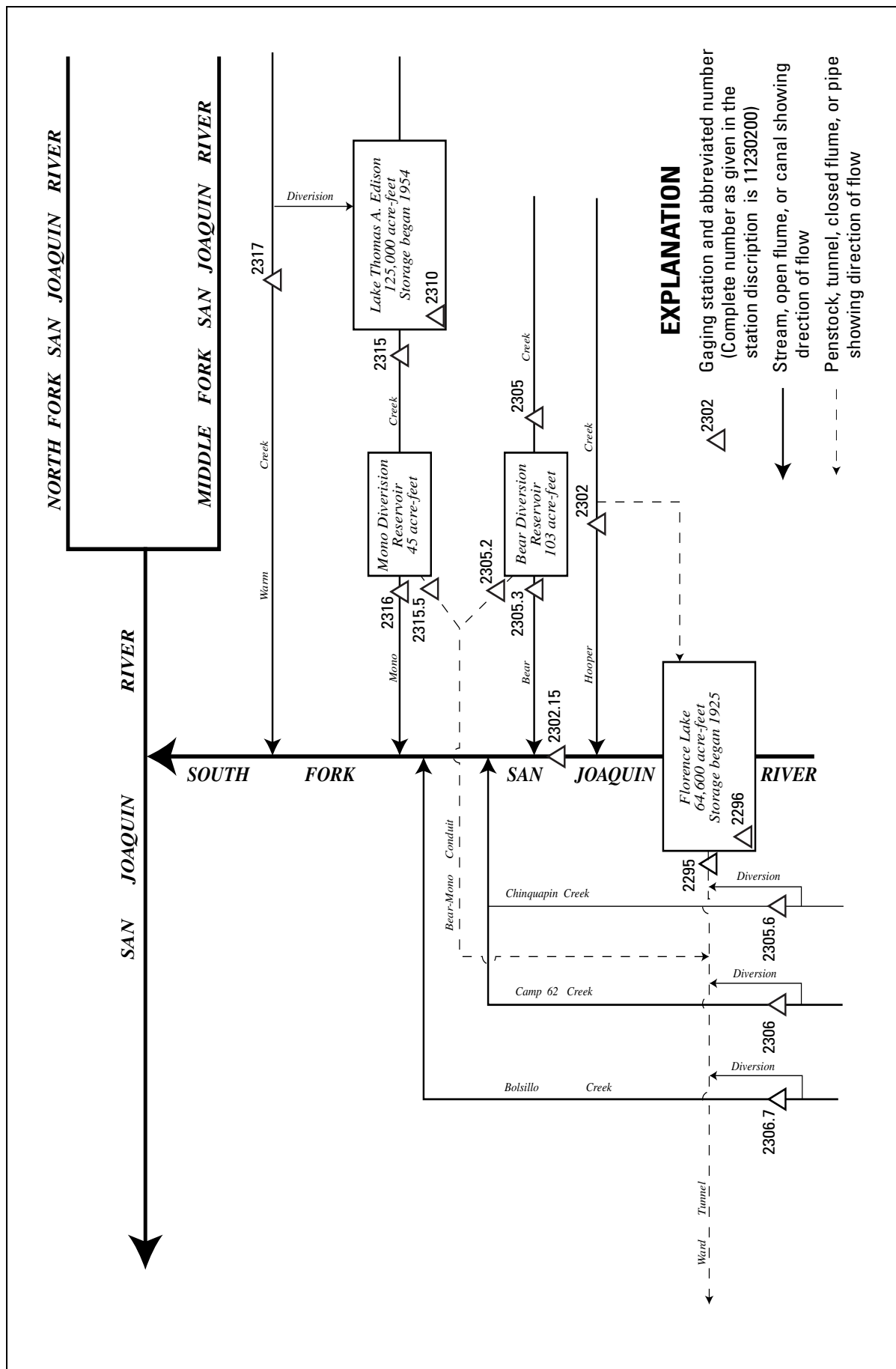


Figure 27. Diversions and storage in upper San Joaquin River Basin.

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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	418	7.3	6.3	100	42	103	223	210	559	444	443	431
2	412	7.5	6.3	92	40	93	270	211	752	280	499	498
3	406	7.5	6.6	90	37	83	321	210	1010	275	502	518
4	399	7.3	7.2	85	36	81	369	210	1200	263	503	290
5	392	7.2	7.3	82	35	80	389	210	1210	91	503	233
6	385	7.0	7.5	78	33	84	368	213	1180	126	500	232
7	376	6.7	7.7	76	33	87	347	218	1230	386	496	231
8	367	6.4	7.8	73	34	88	256	114	1250	366	495	229
9	358	6.3	8.2	69	34	90	148	113	1360	382	495	227
10	348	6.3	117	63	36	88	159	114	1280	312	495	224
11	337	5.9	273	62	41	80	168	115	595	308	483	222
12	325	5.8	259	64	46	93	183	116	472	307	461	220
13	311	5.6	245	63	50	105	198	116	616	315	436	218
14	296	5.6	225	61	51	91	209	118	739	365	406	216
15	281	5.6	204	57	54	74	220	80	593	368	387	214
16	265	5.6	119	48	54	74	227	26	558	260	385	212
17	243	5.6	60	46	54	67	230	8.1	583	109	347	209
18	200	5.1	48	45	52	62	231	8.1	707	207	340	208
19	28	4.8	46	43	58	62	230	7.8	619	555	434	156
20	9.5	4.8	46	40	67	67	230	56	473	805	431	77
21	8.6	4.8	47	43	73	71	229	112	349	359	437	2.6
22	8.3	4.9	51	42	80	78	229	168	320	345	436	2.5
23	8.1	5.2	53	32	90	79	236	524	329	400	433	2.4
24	7.8	5.3	52	33	85	83	223	835	355	413	515	2.4
25	7.8	5.8	51	37	84	84	200	546	421	428	520	2.4
26	7.8	5.6	51	35	96	83	204	422	539	451	520	2.3
27	7.7	5.8	50	35	105	83	207	551	731	450	502	2.3
28	6.0	5.8	51	36	107	95	208	502	531	447	495	2.3
29	3.4	5.8	98	39	---	105	193	500	338	445	488	2.3
30	5.2	6.2	130	36	---	140	194	523	259	442	481	2.3
31	7.3	---	114	41	---	179	---	759	---	441	464	---
TOTAL	6234.5	179.1	2454.9	1746	1607	2732	7099	7916.0	21158	11145	14332	5088.8
MEAN	201.1	5.970	79.19	56.32	57.39	88.13	236.6	255.4	705.3	359.5	462.3	169.6
MAX	418	7.5	273	100	107	179	389	835	1360	805	520	518
MIN	3.4	4.8	6.3	32	33	62	148	7.8	259	91	340	2.3
AC-FT	12370	355	4870	3460	3190	5420	14080	15700	41970	22110	28430	10090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2002, BY WATER YEAR (WY)

MEAN	232.6	127.0	106.4	75.87	75.73	112.3	273.0	463.4	566.8	535.8	426.0	345.0
MAX	634	745	1064	546	240	297	588	949	1161	1199	856	897
(WY)	1996	1938	1946	1939	1986	1986	1997	1974	1974	1967	1995	1998
MIN	0.000	0.47	1.61	2.13	0.64	22.5	35.4	0.85	1.49	90.1	48.3	1.50
(WY)	1946	1965	2000	1991	1991	1977	1991	1939	1938	1931	1977	1949

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1925 - 2002

ANNUAL TOTAL	73375.84	81692.3	
ANNUAL MEAN	201.0	223.8	280.3
HIGHEST ANNUAL MEAN			460
LOWEST ANNUAL MEAN			98.1
HIGHEST DAILY MEAN	1220	May 29	1360
LOWEST DAILY MEAN	0.38	Jan 3	2.3
ANNUAL SEVEN-DAY MINIMUM	0.73	Jan 1	2.3
ANNUAL RUNOFF (AC-FT)	145500	162000	203100
10 PERCENT EXCEEDS	459	502	674
50 PERCENT EXCEEDS	116	119	162
90 PERCENT EXCEEDS	6.1	6.3	11

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. Records, including extremes, represent contents at 2400 hours. 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 Federal Energy Regulatory Commission project nos. 67 and 120. 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, 63,187 acre-ft, July 6, elevation, 7,326.23 ft; minimum, 1,056 acre-ft, Oct. 29, elevation, 7,231.08.

REVISIONS.—The extremes for water year 2001 have been revised to: Maximum contents, 61,473 acre-ft, June 3, 2001, elevation, 7,324.43 ft; minimum, 1,042 acre-ft, Jan. 3, 2001, elevation, 7,231.00 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Aug. 26, 1926)

7,220.80	0	7,235	1,774	7,255	8,950	7,290	31,966
7,222	63	7,240	2,976	7,260	11,608	7,310	48,284
7,225	281	7,245	4,666	7,270	17,755	7,330	66,826
7,230	887	7,250	6,648	7,280	24,588		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAILY OBSERVATION AT 2400 HOURS

(REVISED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23057	23359	10322	1044	1185	1308	1556	4282	60668	47571	46053	36272
2	23043	23401	9449	1044	1187	1312	1443	5645	61369	47346	45472	35987
3	23029	23436	8599	1042	1193	1314	1359	6163	61473	47268	44986	35987
4	23008	23443	7772	1045	1168	1343	1332	6661	61150	47311	44596	35610
5	22988	23464	6973	1045	1149	1379	1298	7430	60243	47536	44274	34982
6	22966	23478	6199	1045	1148	1398	1285	8725	59301	47945	44300	34077
7	22945	23486	5451	1056	1145	1402	1257	10590	59105	48872	44206	33172
8	22924	23450	4696	1054	1219	1404	1296	12897	59528	49672	44122	32273
9	22924	22952	3945	1050	1221	1407	1282	15351	59699	50264	44045	31381
10	22960	22047	3216	1127	1225	1405	1285	18194	59389	50717	43961	30473
11	22973	21124	2578	1166	1238	1404	1273	21489	58940	51110	43886	29580
12	22994	20215	2030	1159	1247	1404	1280	24411	58351	51172	43793	28687
13	23008	19328	1526	1154	1262	1403	1278	26414	57514	50887	43692	27787
14	23022	18430	1209	1149	1277	1396	1282	28354	56874	50558	43600	26894
15	23036	17541	1132	1147	1277	1382	1309	30919	56681	50398	43122	26009
16	23050	16664	1105	1146	1276	1364	1350	34271	56224	50317	42705	25483
17	23064	15779	1091	1147	1276	1325	1375	37423	55576	49963	42321	24923
18	23078	14927	1081	1144	1277	1269	1371	40169	55281	49654	42363	24335
19	23092	14092	1079	1146	1282	1221	1339	42579	54647	49548	42413	23573
20	23099	13554	1079	1142	1286	1185	1328	45352	54062	49495	42371	22782
21	23113	13543	1076	1149	1290	1184	1352	48381	53460	49416	41923	21997
22	23106	13530	1068	1147	1291	1211	1355	51431	52871	49337	41467	21213
23	23113	13513	1068	1151	1291	1226	1398	54464	52302	49098	41006	20424
24	23113	13507	1064	1160	1297	1291	1484	56766	51691	48757	40521	19642
25	23113	13494	1061	1164	1301	1305	1621	58767	51030	48398	40007	18835
26	23120	13489	1057	1172	1305	1322	1846	60007	50318	48032	39493	17971
27	23134	13476	1057	1178	1307	1342	2120	60290	49558	47675	39023	17107
28	23141	12998	1056	1182	1308	1400	2362	60243	48880	47302	38595	16243
29	23232	12085	1056	1184	---	1423	2500	60064	48285	47033	38192	15320
30	23274	11186	1052	1184	---	1432	3036	59941	47780	46809	37703	14416
31	23324	---	1047	1186	---	1507	---	59969	---	46473	37081	---
MAX	23324	23486	10322	1186	1308	1507	3036	60290	61473	51172	46053	36272
MIN	22924	11186	1047	1042	1145	1184	1257	4282	47780	46473	37081	14416
a	7278.21	7259.24	7231.03	7231.85	7232.53	7233.62	7240.19	7322.84	7309.42	7307.91	7296.56	7264.73
b	+246	-12138	-10139	+139	+122	+199	+1529	+56933	-12189	-1307	-9392	-22665

CAL YR 2000 b +112

WTR YR 2001 b -8662

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

11229600 FLORENCE LAKE NEAR BIG CREEK, CA—Continued

RESERVOIR STORAGE, (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13531	1169	2402	1290	1217	1151	1389	11333	49231	61121	50673	22714
2	12655	1183	2549	1306	1206	1141	1438	11328	50264	61558	49795	21667
3	11798	1192	2688	1330	1197	1141	1484	11368	50549	61891	48906	20587
4	10960	1197	2899	1340	1188	1141	1537	11485	50709	62157	47997	19959
5	10142	1205	3121	1347	1178	1148	1529	11821	51217	62719	47086	19448
6	9326	1214	3312	1357	1169	1162	1483	12654	52050	63187	46173	18948
7	8530	1219	3483	1371	1168	1181	1483	13615	52563	63044	45249	18443
8	7754	1219	3641	1371	1174	1183	1756	14583	52680	62881	44334	17931
9	6991	1217	3787	1357	1181	1183	2290	15670	51987	62624	43407	17431
10	6260	1214	3634	1350	1193	1175	2778	16759	51092	62481	42496	16933
11	5545	1221	3077	1354	1205	1184	3562	17625	51637	62319	41575	16433
12	4815	1237	2583	1347	1212	1213	4547	18534	52464	62195	40668	15937
13	4085	1250	2138	1344	1216	1216	5621	19803	53142	62052	39811	15439
14	3379	1271	1741	1333	1219	1196	6631	21421	53623	61767	39007	14946
15	2724	1289	1389	1325	1220	1186	7722	23235	54345	61425	38232	14445
16	2176	1307	1221	1321	1216	1190	8249	25511	55078	61246	37471	13958
17	1659	1314	1168	1322	1224	1188	8569	28332	55667	61349	36787	13470
18	1202	1319	1156	1304	1235	1183	8725	31274	56045	61246	36130	12986
19	1201	1325	1157	1287	1251	1183	8808	33867	56701	60412	35272	12607
20	1191	1334	1168	1289	1260	1186	8828	35672	57637	59048	34419	12407
21	1180	1352	1182	1286	1257	1198	8818	36970	58655	58533	33542	12383
22	1167	1458	1193	1268	1248	1200	8838	37831	59301	58019	32671	12354
23	1152	1503	1208	1261	1218	1203	8961	37911	59809	57396	31799	12330
24	1134	1721	1214	1263	1196	1217	9289	37447	60233	56738	30753	12295
25	1118	1806	1217	1255	1169	1214	9837	37831	60479	56045	29692	12272
26	1095	1908	1218	1246	1142	1209	10469	38853	60470	55299	28636	12236
27	1074	1987	1226	1237	1150	1217	10828	39924	60026	54546	27610	12212
28	1062	2075	1245	1239	1154	1235	11058	41385	60045	53778	26596	12183
29	1056	2176	1299	1223	---	1262	11242	43205	60423	53024	25591	12154
30	1110	2280	1286	1229	---	1303	11332	45352	60942	52248	24602	12126
31	1151	---	1282	1228	---	1348	---	47155	---	51467	23640	---
MAX	13531	2280	3787	1371	1260	1348	11332	47155	60942	63187	50673	22714
MIN	1056	1169	1156	1223	1142	1141	1389	11328	49231	51467	23640	12126
a	7231.64	7237.29	7232.39	7232.09	7231.66	7232.76	7259.50	7308.70	7323.87	7313.60	7278.66	7260.90
b	-13265	+1129	-998	-54	-74	+194	+9984	+35823	+13787	-9475	-27827	-11514

CAL YR 2001 b +235

WTR YR 2002 b -2290

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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.9	2.3	2.2	1.9	3.0	3.8	2.2	2.7	2.3	2.8	2.0
2	1.7	1.8	2.5	2.1	1.8	2.9	2.4	2.2	2.6	2.3	2.8	1.9
3	1.7	1.8	2.7	2.2	1.9	2.8	2.6	2.2	2.6	2.3	2.8	1.9
4	1.7	1.8	e2.6	2.1	1.9	2.8	2.6	2.2	2.6	2.3	2.8	2.0
5	1.7	1.8	2.5	2.0	1.9	2.8	2.7	2.3	2.6	2.3	2.8	2.0
6	1.8	1.8	2.0	2.1	1.9	2.9	2.6	2.4	2.6	2.2	2.8	2.0
7	1.8	1.8	1.9	2.0	1.9	2.9	2.6	2.4	2.6	2.2	2.8	2.0
8	1.8	1.7	2.0	2.0	1.9	3.8	2.6	2.3	2.5	2.3	2.8	2.0
9	1.8	1.7	1.8	2.0	2.0	2.9	2.6	2.3	2.5	2.3	2.7	2.0
10	1.8	1.7	1.7	2.0	2.0	2.8	2.6	2.2	2.4	2.4	2.7	2.0
11	1.8	1.9	1.6	2.0	2.0	2.9	2.6	2.2	2.4	2.4	2.6	1.9
12	1.7	1.9	1.6	2.0	2.1	3.0	2.6	2.2	2.4	2.4	2.6	1.9
13	1.7	2.1	1.7	2.0	2.1	2.9	2.6	2.2	2.4	2.4	2.5	1.8
14	1.7	2.0	1.9	2.0	2.1	e2.9	2.6	2.2	2.4	2.4	2.5	1.8
15	1.7	2.0	1.8	e2.3	2.1	e2.9	2.5	2.2	2.4	2.4	2.5	1.8
16	1.7	1.9	1.8	e2.3	2.1	e2.9	2.4	14	2.4	2.4	2.4	1.8
17	1.7	1.8	1.8	e2.3	2.1	e2.9	2.4	2.5	2.4	3.1	2.3	1.8
18	1.7	1.8	1.8	e2.3	2.3	e2.9	2.5	2.5	2.4	3.1	2.3	1.8
19	1.7	1.8	1.8	2.1	2.2	e2.9	2.4	2.5	2.3	3.0	2.3	1.8
20	1.7	1.8	1.8	2.1	2.5	e2.9	2.2	2.6	2.3	2.9	2.3	1.8
21	1.7	2.3	1.9	2.0	2.5	e2.9	2.3	2.6	2.4	2.9	2.3	1.8
22	1.7	3.3	1.8	1.9	2.6	2.7	2.2	2.5	2.3	2.9	2.4	1.8
23	1.7	2.1	1.9	1.6	2.7	2.7	2.3	2.5	2.3	2.8	2.3	1.7
24	1.7	2.7	1.8	1.6	2.6	2.8	2.2	2.5	2.3	2.8	2.2	1.7
25	1.7	2.6	1.8	2.0	2.8	2.7	11	2.5	2.3	2.8	2.1	1.7
26	1.7	2.4	1.8	2.0	2.9	2.7	15	2.6	2.3	2.8	2.1	1.7
27	1.7	2.3	1.9	2.0	3.0	2.9	7.8	2.6	2.3	2.8	2.1	1.7
28	1.7	2.5	1.9	1.9	3.1	3.0	2.2	2.6	2.3	2.8	2.0	1.8
29	1.7	3.0	2.9	2.0	---	3.4	2.2	2.6	2.3	2.8	2.0	1.8
30	3.7	2.6	2.6	1.9	---	3.8	2.2	2.7	2.3	2.8	2.0	1.8
31	2.4	---	2.4	1.9	---	4.3	---	2.7	---	2.8	2.0	---
TOTAL	56.1	62.6	62.3	62.9	62.9	92.6	101.3	86.2	72.6	80.4	75.6	55.5
MEAN	1.810	2.087	2.010	2.029	2.246	2.987	3.377	2.781	2.420	2.594	2.439	1.850
MAX	3.7	3.3	2.9	2.3	3.1	4.3	15	14	2.7	3.1	2.8	2.0
MIN	1.7	1.7	1.6	1.6	1.8	2.7	2.2	2.2	2.3	2.2	2.0	1.7
AC-FT	111	124	124	125	125	184	201	171	144	159	150	110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	2001	2002	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2002
MEAN	2.702	2.593	2.388	2.751	2.624	3.733	6.566	10.68	12.99	12.30	4.734	2.769					
MAX	4.75	4.54	3.57	10.2	5.14	8.03	18.8	60.9	45.7	68.3	18.8	4.76					
(WY)	1996	1999	1999	1997	1997	1997	1997	1997	1998	1995	1995	1998					
MIN	1.68	1.82	1.59	1.55	1.55	2.10	3.07	2.50	2.42	2.59	2.32	1.85					
(WY)	1991	1991	1989	1991	1991	1990	1996	1991	2002	2002	1989	2002					

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	1080.9		871.0			
ANNUAL MEAN	2.961		2.386		5.584	
HIGHEST ANNUAL MEAN					15.6	1995
LOWEST ANNUAL MEAN					2.39	2002
HIGHEST DAILY MEAN	10	Apr 25	15	Apr 26	112	Jul 17 1995
LOWEST DAILY MEAN	1.6	Dec 11	1.6	Dec 11	1.2	Apr 25 1989
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 12	1.7	Oct 12	1.3	Oct 10 1990
ANNUAL RUNOFF (AC-FT)	2140		1730		4050	
10 PERCENT EXCEEDS	4.7		2.9		7.3	
50 PERCENT EXCEEDS	2.4		2.3		2.9	
90 PERCENT EXCEEDS	1.8		1.8		1.9	

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 September 1997, October 1998 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 Federal Energy Regulatory Commission project nos. 67 and 120.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 5,950 ft³/s, Sept. 26, 1982, gage height, 11.42 ft; minimum daily, 3.9 ft³/s, Oct. 24, 1979.

DISCHARGE, CUBIC FEET PER SECONDS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	14	16	22	e15	12	20	30	37	28	29	28
2	18	14	17	21	e15	e12	17	30	37	29	28	28
3	14	14	17	21	15	12	15	30	36	29	28	28
4	13	14	18	20	e15	12	15	30	31	28	28	29
5	14	14	17	20	16	11	14	30	30	28	31	29
6	15	14	16	19	e17	12	14	30	31	28	31	29
7	14	13	16	19	18	13	13	30	31	28	30	29
8	14	13	17	19	18	12	13	29	30	28	30	28
9	14	13	17	19	18	12	13	30	30	28	30	28
10	14	13	e16	18	19	12	12	30	29	28	30	28
11	14	14	e16	e17	19	11	12	30	29	30	30	28
12	14	14	e16	e17	19	13	12	30	29	30	29	28
13	15	14	16	e17	19	14	12	31	29	30	29	29
14	15	14	16	e17	20	12	13	31	30	30	29	28
15	15	14	17	e17	20	e12	13	32	30	30	29	28
16	14	14	e16	e17	21	e11	12	41	30	29	29	28
17	14	14	15	e17	21	11	12	34	29	30	29	28
18	14	13	e15	e17	21	15	12	35	29	29	28	28
19	14	13	e15	e17	21	15	12	35	29	33	28	28
20	14	13	15	e17	23	16	12	37	29	33	28	28
21	14	14	15	16	22	16	12	39	29	32	28	28
22	14	19	15	16	23	17	12	38	29	32	28	27
23	14	15	15	e16	24	17	12	37	29	32	28	28
24	14	21	e15	e15	23	18	12	37	29	29	28	27
25	15	18	e15	e15	22	18	21	36	29	29	28	27
26	15	16	15	15	18	17	27	36	29	29	29	27
27	14	e15	15	15	17	17	20	36	29	29	28	28
28	14	14	16	16	14	18	14	36	28	29	28	28
29	14	15	24	e16	---	19	14	36	28	29	29	28
30	17	e16	27	e16	---	20	17	36	28	28	28	28
31	15	---	24	16	---	21	---	37	---	28	28	---
TOTAL	454	436	520	540	533	448	429	1039	902	912	893	841
MEAN	14.65	14.53	16.77	17.42	19.04	14.45	14.30	33.52	30.07	29.42	28.81	28.03
MAX	21	21	27	22	24	21	27	41	37	33	31	29
MIN	13	13	15	15	14	11	12	29	28	28	28	27
AC-FT	901	865	1030	1070	1060	889	851	2060	1790	1810	1770	1670

e Estimated.

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.29	17.19	16.24	18.05	20.48	25.95	29.90	44.94	343.1	286.8	65.58	37.27
MAX	30.5	28.7	25.3	53.0	42.6	49.0	53.1	164	2429	1799	661	268
(WY)	1990	2001	1984	1997	1986	1995	1995	1983	1983	1995	1983	1982
MIN	7.87	11.8	8.93	11.9	12.2	14.5	14.3	20.9	20.5	21.4	13.1	7.19
(WY)	1980	1979	1979	1979	1991	2002	2002	1981	1981	1981	1979	1979

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1979 - 2002	
ANNUAL TOTAL	7526		7947			
ANNUAL MEAN	20.62		21.77		77.17	
HIGHEST ANNUAL MEAN					396	1983
LOWEST ANNUAL MEAN					18.5	1979
HIGHEST DAILY MEAN	37	Mar 28	41	May 16	5200	Sep 26 1982
LOWEST DAILY MEAN	13	Oct 4	11	Mar 5	3.9	Oct 24 1979
ANNUAL SEVEN-DAY MINIMUM	13	Nov 4	12	Mar 5	4.4	Oct 13 1979
MAXIMUM PEAK FLOW			57	May 16	5950	Sep 26 1982
MAXIMUM PEAK STAGE			4.59	May 16	11.42	Sep 26 1982
ANNUAL RUNOFF (AC-FT)	14930		15760		55900	
10 PERCENT EXCEEDS	27		30		47	
50 PERCENT EXCEEDS	21		19		23	
90 PERCENT EXCEEDS	14		13		14	

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA

LOCATION.—Lat 37°20'22", long 118°58'21", unsurveyed, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank, 0.2 mi upstream from diversion dam, 1.7 mi upstream from mouth, 2.1 mi south of Lake Thomas A. Edison, and 2.4 mi northeast of Mono Hot Springs.

DRAINAGE AREA.—52.5 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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	11	27	39	e30	40	88	68	432	161	25	9.1
2	3.5	8.6	27	32	e30	36	105	66	345	156	25	8.6
3	3.5	7.6	31	31	e32	34	122	73	331	139	24	8.3
4	3.5	6.9	e40	33	e37	34	134	87	350	120	22	7.8
5	3.5	7.0	e44	31	e35	33	132	109	412	109	21	8.4
6	3.5	7.0	40	29	e38	34	118	157	467	103	20	8.7
7	3.5	7.0	36	28	e36	33	119	177	438	95	19	10
8	3.5	6.6	35	27	e38	34	140	179	376	88	18	9.4
9	3.5	5.4	34	26	37	36	140	183	284	81	17	8.5
10	3.5	5.0	34	26	40	32	137	177	225	76	16	7.9
11	3.5	5.6	37	28	49	32	171	153	224	74	15	7.4
12	3.5	6.2	36	29	52	39	197	163	242	84	15	7.0
13	3.5	6.8	36	30	34	40	216	201	269	89	15	6.8
14	3.4	8.8	34	30	26	33	256	250	285	78	14	6.5
15	3.2	9.4	e34	31	26	29	238	289	275	68	14	6.2
16	3.1	8.9	e36	29	24	30	149	327	259	61	14	6.0
17	3.0	7.9	33	30	23	29	121	393	244	57	13	5.6
18	3.0	6.7	34	e30	26	29	100	410	245	53	12	5.4
19	3.0	6.2	31	e30	26	28	87	359	266	50	12	5.2
20	3.0	7.2	29	e30	28	30	78	269	260	46	12	5.0
21	3.0	7.2	33	e32	33	33	73	225	248	45	11	4.9
22	3.2	21	34	e30	38	35	77	185	189	42	11	4.8
23	3.5	16	36	e30	39	32	93	172	173	38	11	4.7
24	3.5	23	37	e36	36	33	119	173	172	36	11	4.6
25	3.5	14	35	39	38	32	141	196	166	35	10	4.6
26	3.5	e20	33	37	42	31	152	218	162	34	10	4.6
27	3.5	24	31	36	44	32	115	267	154	32	10	4.6
28	3.5	21	31	e38	43	39	93	314	162	30	9.6	4.6
29	3.5	19	36	e40	---	43	81	376	163	29	9.5	4.8
30	6.6	26	43	e36	---	59	73	446	160	27	9.5	5.0
31	14	---	42	e32	---	72	---	469	---	26	9.5	---
TOTAL	118.5	337.0	1079	985	980	1106	3865	7131	7978	2162	455.1	195.0
MEAN	3.823	11.23	34.81	31.77	35.00	35.68	128.8	230.0	265.9	69.74	14.68	6.500
MAX	14	26	44	40	52	72	256	469	467	161	25	10
MIN	3.0	5.0	27	26	23	28	73	66	154	26	9.5	4.6
AC-FT	235	668	2140	1950	1940	2190	7670	14140	15820	4290	903	387

e Estimated.

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.90	15.36	19.66	22.73	23.91	33.47	87.59	255.0	346.3	201.6	65.49	28.10
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	23445.9		26391.6			
ANNUAL MEAN	64.24		72.31		93.08	
HIGHEST ANNUAL MEAN					201 1983	
LOWEST ANNUAL MEAN					29.2 1924	
HIGHEST DAILY MEAN	448	May 16	469	May 31	2610	Sep 26 1982
LOWEST DAILY MEAN	3.0	Oct 17	3.0	Oct 17	1.2	Sep 29 1924
ANNUAL SEVEN-DAY MINIMUM	3.0	Oct 15	3.0	Oct 15	1.2	Sep 29 1924
MAXIMUM PEAK FLOW			589	May 30	3660	Sep 26 1982
MAXIMUM PEAK STAGE			5.31	May 30	8.35	Sep 26 1982
ANNUAL RUNOFF (AC-FT)	46500		52350		67430	
10 PERCENT EXCEEDS	180		220		292	
50 PERCENT EXCEEDS	31		33		30	
90 PERCENT EXCEEDS	4.1		4.8		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 is 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 Federal Energy Regulatory Commission project nos. 67 and 120.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 504 ft³/s, May 24, 1999, May 27, 2000; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.87	9.4	25	38	e29	39	87	65	417	157	22	5.8
2	1.3	7.1	26	30	e28	34	103	63	342	153	21	5.3
3	1.9	6.1	29	30	e30	32	121	70	327	136	20	4.9
4	1.9	5.5	e39	32	e35	32	132	83	347	117	19	4.5
5	1.9	5.7	e43	29	e33	32	131	106	396	105	18	5.1
6	1.9	5.6	38	27	e36	33	117	154	427	100	17	5.4
7	1.9	5.7	34	26	e34	32	118	174	416	92	16	6.7
8	1.9	5.3	33	26	e35	32	139	175	368	85	14	6.2
9	1.9	4.0	32	25	e35	34	138	180	280	77	13	5.3
10	1.9	3.7	33	25	e37	30	136	174	222	73	13	4.7
11	1.9	4.3	35	26	e47	31	170	150	221	71	12	4.1
12	1.9	4.8	35	27	50	37	195	160	239	80	12	3.7
13	1.9	5.5	34	29	32	38	214	198	266	85	11	3.5
14	1.8	7.4	33	29	24	31	254	247	282	75	11	3.2
15	1.7	8.1	e33	29	23	27	237	286	272	65	10	2.9
16	1.6	7.5	e35	27	22	28	148	324	256	57	10	2.7
17	1.5	6.5	31	28	21	27	119	385	241	54	9.8	2.3
18	1.5	5.4	32	e29	23	27	99	403	242	50	9.1	2.1
19	1.5	4.8	29	e29	23	26	85	354	262	46	8.7	1.9
20	1.5	5.9	27	e29	26	28	77	266	257	43	8.4	1.7
21	1.5	5.9	31	e31	31	31	71	221	245	42	7.9	1.6
22	1.7	20	33	e29	37	33	75	182	186	38	7.7	1.5
23	2.1	14	35	e29	38	30	92	168	169	34	7.7	1.4
24	2.1	22	36	e35	34	31	117	170	169	32	7.4	1.3
25	2.1	12	34	38	37	30	140	193	163	31	7.2	1.3
26	2.1	e19	32	36	41	30	151	215	158	30	6.8	1.3
27	2.0	23	30	35	42	31	113	264	150	28	6.6	1.3
28	2.0	20	30	e37	41	37	90	310	159	27	6.3	1.3
29	2.0	18	34	e39	---	42	78	369	159	25	6.1	1.5
30	5.1	25	42	e35	---	58	69	422	156	24	6.2	1.7
31	12	---	41	e31	---	70	---	433	---	22	6.2	---
TOTAL	68.87	297.2	1034	945	924	1053	3816	6964	7794	2054	351.1	96.2
MEAN	2.222	9.907	33.35	30.48	33.00	33.97	127.2	224.6	259.8	66.26	11.33	3.207
MAX	12	25	43	39	50	70	254	433	427	157	22	6.7
MIN	0.87	3.7	25	25	21	26	69	63	150	22	6.1	1.3
AC-FT	137	589	2050	1870	1830	2090	7570	13810	15460	4070	696	191

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	12.55	12.15	13.04	18.99	19.48	33.08	91.30	217.3	185.8	73.36	45.06	20.39				
MAX	45.3	26.5	33.4	50.8	41.3	52.4	138	345	343	168	181	84.1				
(WY)	1995	1995	2002	1997	1996	1995	1989	1997	1999	1996	1995	1995				
MIN	2.22	3.68	3.23	3.46	0.000	0.000	43.2	59.2	0.000	0.000	10.1	2.56				
(WY)	2002	1991	1991	1991	1997	1997	1991	1995	1995	1995	2001	2001				

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	22281.97		25397.37			
ANNUAL MEAN	61.05		69.58		61.86	
HIGHEST ANNUAL MEAN					82.4	
LOWEST ANNUAL MEAN					49.2	
HIGHEST DAILY MEAN	425		433		504	
LOWEST DAILY MEAN	0.87		0.87		0.00	
ANNUAL SEVEN-DAY MINIMUM	1.3		1.3		0.00	
ANNUAL RUNOFF (AC-FT)	44200		50380		44820	
10 PERCENT EXCEEDS	176		217		201	
50 PERCENT EXCEEDS	27		31		23	
90 PERCENT EXCEEDS	2.0		2.0		3.2	

e Estimated.

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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	1.5	1.3	1.5	e1.3	1.5	1.5	3.4	15	3.3	3.3	3.3
2	2.2	1.4	1.3	1.5	e1.9	1.5	1.5	3.3	3.3	3.3	3.3	3.3
3	1.6	1.4	1.3	1.5	e2.1	1.5	1.5	3.3	3.3	3.3	3.3	3.3
4	1.6	1.4	1.3	1.4	e1.7	1.5	1.5	3.2	3.4	3.3	3.3	3.3
5	1.6	1.4	1.4	1.4	e1.9	1.5	1.5	3.3	16	3.3	3.3	3.3
6	1.6	1.4	1.4	1.5	2.3	1.5	1.5	3.3	39	3.3	3.3	3.3
7	1.6	1.4	1.4	1.5	2.4	1.5	1.5	3.3	23	3.3	3.3	3.3
8	1.6	1.4	1.4	1.5	2.5	1.5	1.5	3.3	8.5	3.3	3.3	3.3
9	1.6	1.4	1.3	1.5	e2.7	1.5	1.5	3.3	3.4	3.3	3.3	3.3
10	1.6	1.4	1.4	1.5	e2.6	1.5	1.5	3.3	3.3	3.3	3.3	3.3
11	1.6	1.4	1.4	1.5	e2.6	1.5	1.5	3.3	3.3	3.3	3.3	3.3
12	1.6	1.4	1.4	1.5	2.6	1.5	1.5	3.3	3.3	3.3	3.3	3.4
13	1.6	1.3	1.3	1.5	2.6	1.5	1.5	3.3	3.3	3.3	3.3	3.3
14	1.6	1.3	1.4	1.5	2.6	1.8	1.5	3.3	3.4	3.3	3.3	3.3
15	1.6	1.3	1.4	1.4	2.6	2.1	1.5	3.4	3.4	3.3	3.3	3.3
16	1.6	1.4	1.4	1.4	2.6	2.1	1.5	3.4	3.4	3.3	3.3	3.3
17	1.6	1.4	1.4	1.4	2.6	2.1	1.5	8.1	3.3	3.3	3.3	3.3
18	1.6	1.3	1.4	1.3	2.6	2.1	1.4	6.3	3.3	3.3	3.3	3.3
19	1.6	1.3	1.4	1.3	2.6	2.1	1.4	4.1	3.4	3.3	3.3	3.3
20	1.6	1.3	1.4	1.4	2.1	2.1	1.5	3.3	3.4	3.3	3.3	3.3
21	1.6	1.3	1.4	1.4	1.5	1.8	1.5	3.3	3.4	3.3	3.3	3.3
22	1.5	1.4	1.4	1.4	1.5	1.5	1.5	3.2	3.3	3.3	3.3	3.3
23	1.4	1.4	1.4	1.4	1.5	1.5	1.5	3.2	3.3	3.3	3.3	3.3
24	1.4	1.4	1.4	1.4	1.5	1.5	1.5	3.2	3.3	3.3	3.3	3.3
25	1.4	1.3	1.3	1.4	1.5	1.5	1.5	3.2	3.3	3.3	3.3	3.3
26	1.4	1.4	1.3	1.4	1.5	1.5	1.5	3.3	3.3	3.4	3.3	3.3
27	1.5	1.3	1.4	1.4	1.5	1.5	2.3	3.3	3.3	3.3	3.3	3.3
28	1.5	1.3	1.4	1.5	1.5	1.5	3.4	3.4	3.3	3.3	3.3	3.3
29	1.5	1.3	1.4	1.4	---	1.5	3.4	6.8	3.3	3.4	3.3	3.3
30	1.5	1.3	1.4	e1.5	---	1.5	3.4	23	3.3	3.3	3.3	3.3
31	1.5	---	1.5	1.3	---	1.5	---	36	---	3.3	3.3	---
TOTAL	49.8	40.9	42.7	44.5	58.9	50.7	51.3	166.7	184.8	102.5	102.3	99.1
MEAN	1.606	1.363	1.377	1.435	2.104	1.635	1.710	5.377	6.160	3.306	3.300	3.303
MAX	2.6	1.5	1.5	1.5	2.7	2.1	3.4	36	39	3.4	3.3	3.4
MIN	1.4	1.3	1.3	1.3	1.3	1.5	1.4	3.2	3.3	3.3	3.3	3.3
AC-FT	99	81	85	88	117	101	102	331	367	203	203	197

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
MEAN	2.809	2.475	2.774	5.586	3.419	5.926	7.914	24.13	109.0	102.2	13.11	3.930
MAX	8.62	6.29	12.5	55.8	20.4	59.8	67.1	121	555	747	109	11.1
(WY)	2001	2001	1996	1997	1997	1997	1997	1995	1995	1995	1995	1996
MIN	1.33	1.36	1.38	1.44	1.35	1.48	1.42	2.57	2.43	2.25	2.25	2.44
(WY)	1988	2002	2002	2002	1995	1988	1990	1991	1994	1994	1994	1994

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1987 - 2002
ANNUAL TOTAL	1169.8	994.2	
ANNUAL MEAN	3.205	2.724	23.78
HIGHEST ANNUAL MEAN			131
LOWEST ANNUAL MEAN			1.98
HIGHEST DAILY MEAN	26	May 16	39
LOWEST DAILY MEAN	1.3	Nov 13	1.3
ANNUAL SEVEN-DAY MINIMUM	1.3	Nov 27	1.3
MAXIMUM PEAK FLOW			113
MAXIMUM PEAK STAGE			1.68
ANNUAL RUNOFF (AC-FT)	2320	1970	17230
10 PERCENT EXCEEDS	4.9	3.3	8.3
50 PERCENT EXCEEDS	2.5	1.9	2.6
90 PERCENT EXCEEDS	1.4	1.4	1.5

e Estimated.

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 September 1998, October 2000 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. Diversion during the current water year occurred Apr. 11 to June 26. 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 Federal Energy Regulatory Commission project nos. 67 and 120.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	e1.2	1.3	---	---	---
2	---	---	---	---	---	---	---	1.2	1.3	---	---	---
3	---	---	---	---	---	---	---	1.2	1.3	---	---	---
4	---	---	---	---	---	---	---	1.2	1.3	---	---	---
5	---	---	---	---	---	---	---	1.2	1.5	---	---	---
6	---	---	---	---	---	---	---	1.2	1.5	---	---	---
7	---	---	---	---	---	---	---	1.2	1.5	---	---	---
8	---	---	---	---	---	---	---	1.2	1.5	---	---	---
9	---	---	---	---	---	---	---	1.2	1.5	---	---	---
10	---	---	---	---	---	---	---	1.2	1.5	---	---	---
11	---	---	---	---	---	---	e0.19	1.2	1.5	---	---	---
12	---	---	---	---	---	---	e0.56	1.2	1.5	---	---	---
13	---	---	---	---	---	---	e0.56	1.2	1.5	---	---	---
14	---	---	---	---	---	---	e0.56	1.1	1.5	---	---	---
15	---	---	---	---	---	---	e0.56	1.1	1.5	---	---	---
16	---	---	---	---	---	---	e0.56	1.2	1.5	---	---	---
17	---	---	---	---	---	---	e0.87	1.2	1.5	---	---	---
18	---	---	---	---	---	---	e0.75	1.2	1.5	---	---	---
19	---	---	---	---	---	---	e0.70	1.1	1.5	---	---	---
20	---	---	---	---	---	---	e0.70	e14	1.5	---	---	---
21	---	---	---	---	---	---	0.70	e9.6	1.5	---	---	---
22	---	---	---	---	---	---	0.70	1.3	1.5	---	---	---
23	---	---	---	---	---	---	0.69	1.4	1.5	---	---	---
24	---	---	---	---	---	---	e1.8	1.4	1.5	---	---	---
25	---	---	---	---	---	---	0.69	1.4	1.4	---	---	---
26	---	---	---	---	---	---	0.67	1.4	1.4	---	---	---
27	---	---	---	---	---	---	0.65	1.3	---	---	---	---
28	---	---	---	---	---	---	0.63	1.3	---	---	---	---
29	---	---	---	---	---	---	0.62	1.4	---	---	---	---
30	---	---	---	---	---	---	0.74	1.4	---	---	---	---
31	---	---	---	---	---	---	---	1.3	---	---	---	---
TOTAL	---	---	---	---	---	---	---	59.7	---	---	---	---
MEAN	---	---	---	---	---	---	---	1.926	---	---	---	---
MAX	---	---	---	---	---	---	---	14	---	---	---	---
MIN	---	---	---	---	---	---	---	1.1	---	---	---	---
AC-FT	---	---	---	---	---	---	---	118	---	---	---	---

e Estimated.

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 September 1998, October 2000 to September 2001. 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 computed only during periods of diversion to Ward Tunnel. Diversion during the current water year occurred Oct. 30, 31, Nov. 22, 24, and Apr. 11 to July 15. Flow over 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 Federal Energy Regulatory Commission project no. 67 and 120.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	0.51	13	0.51	---	---
2	---	---	---	---	---	---	---	0.51	10	0.53	---	---
3	---	---	---	---	---	---	---	0.51	8.9	0.55	---	---
4	---	---	---	---	---	---	---	0.51	9.8	0.55	---	---
5	---	---	---	---	---	---	---	0.51	12	0.54	---	---
6	---	---	---	---	---	---	---	0.53	12	0.53	---	---
7	---	---	---	---	---	---	---	0.54	11	0.52	---	---
8	---	---	---	---	---	---	---	0.54	8.0	0.52	---	---
9	---	---	---	---	---	---	---	0.54	4.9	0.50	---	---
10	---	---	---	---	---	---	---	0.52	3.8	0.49	---	---
11	---	---	---	---	---	---	e0.33	0.51	3.1	0.49	---	---
12	---	---	---	---	---	---	0.36	0.52	3.3	0.47	---	---
13	---	---	---	---	---	---	0.34	0.54	3.6	0.45	---	---
14	---	---	---	---	---	---	0.38	0.55	3.0	0.44	---	---
15	---	---	---	---	---	---	0.42	0.55	2.8	0.44	---	---
16	---	---	---	---	---	---	0.50	0.57	1.7	---	---	---
17	---	---	---	---	---	---	0.58	0.64	2.0	---	---	---
18	---	---	---	---	---	---	0.56	2.1	1.5	---	---	---
19	---	---	---	---	---	---	0.52	0.78	0.75	---	---	---
20	---	---	---	---	---	---	0.52	e0.57	0.54	---	---	---
21	---	---	---	---	---	---	0.51	0.56	0.51	---	---	---
22	---	0.44	---	---	---	---	0.51	0.56	0.51	---	---	---
23	---	---	---	---	---	---	e0.51	0.56	0.51	---	---	---
24	---	0.42	---	---	---	---	e0.51	0.56	0.51	---	---	---
25	---	---	---	---	---	---	0.51	0.73	0.51	---	---	---
26	---	---	---	---	---	---	0.51	2.3	0.51	---	---	---
27	---	---	---	---	---	---	0.51	3.3	0.51	---	---	---
28	---	---	---	---	---	---	0.51	4.2	0.51	---	---	---
29	---	---	---	---	---	---	0.51	8.6	0.51	---	---	---
30	0.30	---	---	---	---	---	0.51	14	0.51	---	---	---
31	0.43	---	---	---	---	---	---	15	---	---	---	---
TOTAL	---	---	---	---	---	---	---	62.92	120.79	---	---	---
MEAN	---	---	---	---	---	---	---	2.030	4.026	---	---	---
MAX	---	---	---	---	---	---	---	15	13	---	---	---
MIN	---	---	---	---	---	---	---	0.51	0.51	---	---	---
AC-FT	---	---	---	---	---	---	---	125	240	---	---	---

e Estimated.

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 September 2000, October 2001 to September 2002.

GAGE.—Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,600 ft above sea level, from topographic map.

REMARKS.—Records of fishery release normally computed only during periods of diversion to Ward Tunnel. Diversion during the current water year occurred Apr. 25 to June 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 Federal Energy Regulatory Commission project nos. 67 and 120.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	0.51	0.52	---	---	---
2	---	---	---	---	---	---	---	0.51	0.44	---	---	---
3	---	---	---	---	---	---	---	0.51	0.44	---	---	---
4	---	---	---	---	---	---	---	0.51	e2.5	---	---	---
5	---	---	---	---	---	---	---	0.51	0.59	---	---	---
6	---	---	---	---	---	---	---	0.51	0.59	---	---	---
7	---	---	---	---	---	---	---	0.51	0.58	---	---	---
8	---	---	---	---	---	---	---	0.51	0.58	---	---	---
9	---	---	---	---	---	---	---	0.51	0.59	---	---	---
10	---	---	---	---	---	---	---	0.51	0.59	---	---	---
11	---	---	---	---	---	---	---	0.51	0.59	---	---	---
12	---	---	---	---	---	---	---	0.51	0.59	---	---	---
13	---	---	---	---	---	---	---	0.52	0.59	---	---	---
14	---	---	---	---	---	---	---	0.52	0.59	---	---	---
15	---	---	---	---	---	---	---	0.52	0.59	---	---	---
16	---	---	---	---	---	---	---	0.47	0.59	---	---	---
17	---	---	---	---	---	---	---	0.53	0.59	---	---	---
18	---	---	---	---	---	---	---	0.78	0.59	---	---	---
19	---	---	---	---	---	---	---	0.66	0.59	---	---	---
20	---	---	---	---	---	---	---	e2.1	0.58	---	---	---
21	---	---	---	---	---	---	---	0.59	0.56	---	---	---
22	---	---	---	---	---	---	---	0.59	0.54	---	---	---
23	---	---	---	---	---	---	---	0.59	0.54	---	---	---
24	---	---	---	---	---	---	---	0.59	0.54	---	---	---
25	---	---	---	---	---	---	0.15	0.59	0.54	---	---	---
26	---	---	---	---	---	---	0.41	0.59	0.54	---	---	---
27	---	---	---	---	---	---	0.44	0.59	0.54	---	---	---
28	---	---	---	---	---	---	0.52	0.57	0.54	---	---	---
29	---	---	---	---	---	---	0.51	0.55	0.52	---	---	---
30	---	---	---	---	---	---	0.51	0.60	---	---	---	---
31	---	---	---	---	---	---	---	0.54	---	---	---	---
TOTAL	---	---	---	---	---	---	---	18.61	---	---	---	---
MEAN	---	---	---	---	---	---	---	0.600	---	---	---	---
MAX	---	---	---	---	---	---	---	2.1	---	---	---	---
MIN	---	---	---	---	---	---	---	0.47	---	---	---	---
AC-FT	---	---	---	---	---	---	---	37	---	---	---	---

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, and 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). Records, including extremes, represent contents at 2400 hours. 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 Federal Energy Regulatory Commission project no. 2086. 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, 101,995 acre-ft, June 30, elevation, 7,629.79 ft; minimum, 42,468 acre-ft, Mar. 29, elevation, 7,591.58 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	7,570	18,137	7,600	53,769	7,630	102,367
7,555	6,147	7,580	28,515	7,610	68,616	7,640	120,424
7,560	9,521	7,590	40,454	7,620	85,006	7,644	127,820

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46684	47704	49711	48945	45814	43608	42570	52374	75999	101871	89620	64958
2	46694	47759	49708	48861	45736	43532	42709	52513	77147	101748	88846	64164
3	46701	47816	49707	48810	45580	43495	42845	52792	78464	101553	88058	63543
4	46715	47876	49704	48675	45502	43441	43048	52933	79627	101358	87220	63120
5	46747	47965	49702	48672	45349	43422	43263	53210	81046	101269	86451	62683
6	46776	48081	49699	48539	45231	43424	43389	53491	82472	101482	85619	62293
7	46802	48292	49698	48392	45114	43427	43684	54051	83788	101695	84887	61831
8	46825	48476	49694	48261	44973	43427	44042	54616	84973	101783	83957	61368
9	46864	48629	49692	48133	44881	43280	44416	55180	85856	101695	83214	60922
10	46896	48765	49691	48136	44831	43276	44699	55893	86639	101658	82405	60480
11	46930	48907	49687	48019	44687	43226	45220	56323	87340	101587	81598	60038
12	46965	49035	49686	47875	44637	43238	45661	56896	88126	101535	80828	59552
13	46994	49059	49683	47753	44547	43204	46268	57473	88949	101482	80042	59128
14	47026	49204	49680	47637	44483	43073	46872	58196	89860	101323	79179	58720
15	47055	49202	49679	47399	44406	42998	47481	59070	90566	101145	78448	58253
16	47088	49330	49676	47334	44262	42990	47851	60097	91343	100863	77689	57832
17	47115	49329	49674	47095	44317	42914	48354	61279	92086	100227	76866	57386
18	47155	49328	49671	47097	44188	42917	48847	62472	92796	99591	76031	56910
19	47195	49325	49640	46940	44125	42919	49224	63680	93754	99010	75264	56493
20	47239	49322	49518	46861	44062	42895	49426	64592	94977	98308	74483	56065
21	47281	49336	49515	46785	44011	42834	49631	65356	96079	97658	73641	55580
22	47315	49450	49382	46641	43948	42741	49904	65973	96977	96864	72802	55180
23	47360	49448	49378	46537	43922	42724	50177	66590	97946	96066	72013	54743
24	47392	49470	49377	46407	43796	42629	50449	67210	98848	95419	71232	54305
25	47427	49576	49375	46409	43758	42535	50859	67834	99788	94724	70418	54051
26	47465	49572	49317	46326	43719	42518	51271	68616	100439	94062	69689	53868
27	47505	49570	49238	46189	43681	42517	51547	69564	100898	93368	68869	53601
28	47552	49569	49235	46031	43670	42484	51822	70674	101358	92658	68069	53197
29	47598	49715	49233	45953	---	42468	51960	71789	101854	91930	67288	52723
30	47619	49713	49167	45796	---	42486	52237	73237	101995	91170	66513	52347
31	47658	---	49097	45798	---	42510	---	74695	---	90395	65709	---
MAX	47658	49715	49711	48945	45814	43608	52237	74695	101995	101871	89620	64958
MIN	46684	47704	49097	45796	43670	42468	42570	52374	75999	90395	65709	52347
a	7595.53	7597.06	7596.60	7594.14	7592.51	7591.61	7598.90	7613.80	7629.79	7623.15	7608.13	7598.98
b	+1297	+2055	-616	-3299	-2128	-1160	+9727	+22458	+27300	-11600	-24686	-13362

CAL YR 2001 b -9914
WTR YR 2002 b +5986

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 Federal Energy Regulatory Commission project no. 2086.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	17	18	18	82	83	85	62	20	282	426	403
2	34	17	18	18	82	83	85	62	20	282	426	403
3	28	17	18	18	82	83	85	62	20	282	426	334
4	28	17	18	18	82	83	85	62	20	282	426	231
5	28	17	18	18	82	83	87	62	20	219	424	226
6	28	17	18	18	82	83	87	50	20	35	421	226
7	28	17	18	18	83	83	89	25	19	45	421	226
8	28	17	18	18	83	83	64	20	19	86	421	226
9	28	17	18	70	83	83	59	20	19	173	421	226
10	28	17	18	102	83	83	59	20	19	169	421	226
11	28	17	18	103	83	83	59	20	19	169	421	226
12	28	17	18	103	83	83	61	20	19	169	420	226
13	28	17	18	103	83	83	61	20	19	169	416	226
14	28	17	18	93	83	83	61	20	19	169	416	226
15	28	18	18	82	83	83	61	20	19	169	416	226
16	28	18	18	82	83	83	61	20	19	252	416	226
17	28	18	18	82	83	83	61	20	19	385	416	226
18	20	18	18	82	83	83	61	20	19	385	416	226
19	15	18	18	82	83	83	61	20	19	385	416	226
20	17	18	17	82	83	83	61	20	20	386	416	226
21	17	18	17	82	83	84	61	21	20	389	412	226
22	17	18	17	82	83	85	61	21	20	389	410	226
23	17	18	17	82	83	85	61	20	20	389	407	226
24	17	18	17	82	83	85	61	20	20	389	407	226
25	17	18	17	82	83	85	61	20	20	389	407	153
26	17	18	17	82	83	85	61	20	20	389	407	80
27	17	18	17	82	83	85	62	20	20	389	407	146
28	17	18	17	82	83	85	62	20	20	389	407	217
29	17	18	18	82	---	85	62	20	20	389	403	217
30	18	18	18	82	---	85	62	20	159	409	403	217
31	18	---	18	82	---	85	---	20	---	426	403	---
TOTAL	726	526	549	2112	2318	2594	2007	867	726	8829	12875	6921
MEAN	23.42	17.53	17.71	68.13	82.79	83.68	66.90	27.97	24.20	284.8	415.3	230.7
MAX	34	18	18	103	83	85	89	62	159	426	426	403
MIN	15	17	17	18	82	83	59	20	19	35	403	80
AC-FT	1440	1040	1090	4190	4600	5150	3980	1720	1440	17510	25540	13730

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 Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	10	12	12	75	78	80	48	6.5	269	413	389
2	e27	10	12	12	75	78	80	48	6.5	269	413	389
3	e18	10	12	12	75	78	80	48	6.4	269	413	320
4	e19	10	12	12	76	78	80	48	6.4	269	411	217
5	e19	10	12	12	75	78	81	48	6.4	206	409	212
6	e19	11	12	12	74	78	82	36	5.9	21	407	212
7	e19	11	12	12	74	78	83	12	5.6	31	407	212
8	e19	11	12	12	75	78	59	6.6	5.6	72	407	212
9	e19	11	12	64	75	78	54	6.7	5.6	159	407	212
10	e19	11	12	96	75	78	54	6.7	5.5	155	407	212
11	e19	11	12	97	75	78	54	6.6	5.5	155	407	212
12	e19	11	12	97	75	78	55	6.6	5.5	155	406	212
13	e19	11	12	97	75	78	55	6.6	5.5	155	403	212
14	e19	11	12	87	70	78	55	6.5	5.5	155	403	212
15	e19	12	12	76	68	78	55	6.5	5.6	155	403	212
16	e18	12	12	76	70	78	55	6.5	5.6	238	403	212
17	e17	12	12	76	75	78	55	6.4	5.7	371	403	212
18	e8.9	12	12	76	76	78	55	6.4	5.7	371	403	212
19	e0.15	12	12	76	76	78	55	6.3	5.8	371	403	212
20	6.7	12	11	76	76	78	55	6.4	5.8	372	403	212
21	8.2	12	11	76	78	79	55	6.9	5.9	375	399	212
22	7.9	12	11	75	78	80	55	6.9	5.9	375	396	213
23	8.2	12	11	75	78	80	55	6.8	5.9	375	393	213
24	10	12	11	75	78	80	55	6.8	6.0	375	393	213
25	10	12	11	75	78	80	55	6.8	6.0	375	393	139
26	10	12	11	75	78	80	56	6.7	6.1	375	393	66
27	10	12	11	75	78	80	57	6.7	6.3	376	393	132
28	10	12	11	75	78	80	57	6.7	6.4	376	393	203
29	10	12	12	75	---	80	57	6.6	6.6	376	389	203
30	11	12	12	75	---	80	51	6.6	145	396	389	203
31	10	---	12	75	---	80	---	6.5	---	413	389	---
TOTAL	449.05	341	363	1916	2109	2439	1835	446.8	316.7	8405	12451	6504
MEAN	14.49	11.37	11.71	61.81	75.32	78.68	61.17	14.41	10.56	271.1	401.6	216.8
MAX	27	12	12	97	78	80	83	48	145	413	413	389
MIN	0.15	10	11	12	68	78	51	6.3	5.5	21	389	66
AC-FT	891	676	720	3800	4180	4840	3640	886	628	16670	24700	12900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	97.92	140.3	132.9	99.82	93.55	155.3	116.3	58.14	62.19	181.5	283.8	197.0				
MAX	311	426	421	364	395	464	400	207	203	417	409	440				
(WY)	1998	1999	1987	1999	1996	1996	1996	1995	1997	1989	1999	1994				
MIN	0.81	0.27	1.39	4.08	0.000	8.00	5.47	6.00	6.00	0.000	93.0	11.8				
(WY)	2001	2001	1991	1991	1997	1990	2001	2001	2001	1995	1996	1989				

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	33502.05		37575.55			
ANNUAL MEAN	91.79		102.9		135.3	
HIGHEST ANNUAL MEAN					227	
LOWEST ANNUAL MEAN					50.5	
HIGHEST DAILY MEAN	416		413		499	
LOWEST DAILY MEAN	0.15		0.15		-18	
ANNUAL SEVEN-DAY MINIMUM	5.0		5.5		0.00	
ANNUAL RUNOFF (AC-FT)	66450		74530		98000	
10 PERCENT EXCEEDS	375		376		406	
50 PERCENT EXCEEDS	19		57		68	
90 PERCENT EXCEEDS	6.0		6.5		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. Discharge, including extremes, represents the combined flow at Mono Creek and spill at diversion dam. See schematic diagram of [upper San Joaquin River Basin](#).

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.2	5.8	5.8	6.9	5.4	5.5	14	14	14	13	14
2	e7.4	7.2	5.8	5.8	6.9	5.4	5.5	14	14	14	13	14
3	e9.7	7.2	5.8	5.8	6.7	5.5	5.5	14	14	14	13	14
4	e9.5	7.2	5.8	5.8	6.0	5.4	5.5	14	14	14	15	14
5	e9.4	7.2	5.8	5.8	7.2	5.4	5.5	14	14	14	15	14
6	e9.4	6.6	5.8	5.8	8.2	5.4	5.5	14	14	14	14	14
7	e9.3	5.8	5.8	5.8	8.2	5.4	5.4	14	14	14	14	14
8	e9.3	5.8	5.8	5.8	8.2	5.4	5.4	14	14	14	14	14
9	e9.4	5.8	5.8	5.9	8.2	5.4	5.4	14	14	14	14	14
10	e9.4	5.8	5.8	6.1	8.2	5.4	5.4	14	14	13	14	14
11	e9.4	5.8	5.8	6.0	8.2	5.4	5.4	14	14	13	14	14
12	e9.4	5.8	5.8	6.0	8.2	5.4	5.4	14	14	14	14	14
13	e9.4	5.8	5.8	6.0	8.4	5.4	5.4	14	14	13	14	14
14	e9.4	5.8	5.8	6.0	14	5.4	5.4	14	14	14	14	14
15	e9.4	5.8	5.8	5.8	15	5.4	5.4	14	14	13	14	14
16	e10	5.8	5.8	5.8	13	5.4	5.4	14	14	14	14	14
17	e11	5.8	5.8	5.8	8.2	5.4	5.4	14	14	14	14	14
18	e11	5.8	5.8	5.8	7.3	5.4	5.4	14	14	14	14	14
19	e15	5.8	5.8	5.8	7.7	5.4	5.4	14	14	14	14	14
20	10	5.8	5.8	5.8	7.8	5.5	5.4	14	14	14	14	14
21	8.4	5.8	5.8	6.1	5.5	5.4	5.4	14	14	14	14	14
22	8.8	5.8	5.8	6.9	5.5	5.4	5.4	14	14	14	14	14
23	8.7	5.8	5.8	6.9	5.5	5.4	5.4	14	14	14	14	14
24	7.2	5.8	5.8	6.9	5.5	5.4	5.4	14	14	14	14	14
25	7.2	5.8	5.8	6.9	5.4	5.4	5.4	14	14	14	14	14
26	7.2	5.8	5.8	6.9	5.5	5.4	5.4	14	14	14	14	14
27	7.2	5.8	5.8	6.9	5.4	5.4	5.4	14	14	13	14	14
28	7.2	5.8	5.8	6.9	5.5	5.4	5.4	14	14	13	14	14
29	7.2	5.8	5.8	6.9	---	5.5	5.4	14	14	13	14	14
30	7.2	5.8	5.8	6.9	---	5.5	11	14	14	13	14	14
31	7.2	---	5.8	6.9	---	5.5	---	14	---	13	14	---
TOTAL	281.3	181.8	179.8	192.3	216.3	167.9	168.2	434	420	425	433	420
MEAN	9.074	6.060	5.800	6.203	7.725	5.416	5.607	14.00	14.00	13.71	13.97	14.00
MAX	15	7.2	5.8	6.9	15	5.5	11	14	14	14	15	14
MIN	7.2	5.8	5.8	5.8	5.4	5.4	5.4	14	14	13	13	14
AC-FT	558	361	357	381	429	333	334	861	833	843	859	833

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	10.22	9.739	9.315	8.564	8.892	8.514	9.406	13.00	41.34	69.73	22.07	12.89				
MAX	22.9	23.1	27.0	20.9	25.5	17.7	18.5	18.6	336	684	141	16.9				
(WY)	2001	1996	1996	1997	1997	1997	1995	1995	1997	1995	1995	1998				
MIN	6.72	5.62	5.69	5.66	5.69	5.42	5.61	9.45	9.98	9.91	9.85	9.67				
(WY)	1995	1992	1993	1993	1993	2002	2002	1994	1990	1991	1994	1994				

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1987 - 2002

ANNUAL TOTAL	3898.3	3519.6		
ANNUAL MEAN	10.68	9.643	18.72	
HIGHEST ANNUAL MEAN			79.4	1995
LOWEST ANNUAL MEAN			7.83	1992
HIGHEST DAILY MEAN	15	Jul 1	1300	Jul 11 1995
LOWEST DAILY MEAN	5.8	Nov 7	4.1	Dec 12 1990
ANNUAL SEVEN-DAY MINIMUM	5.8	Nov 7	4.2	Dec 12 1990
ANNUAL RUNOFF (AC-FT)	7730	6980	13560	
10 PERCENT EXCEEDS	13	14	16	
50 PERCENT EXCEEDS	12	8.2	10	
90 PERCENT EXCEEDS	5.8	5.4	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 Apr. 10 to June 30. See schematic diagram of [upper San Joaquin River Basin](#).

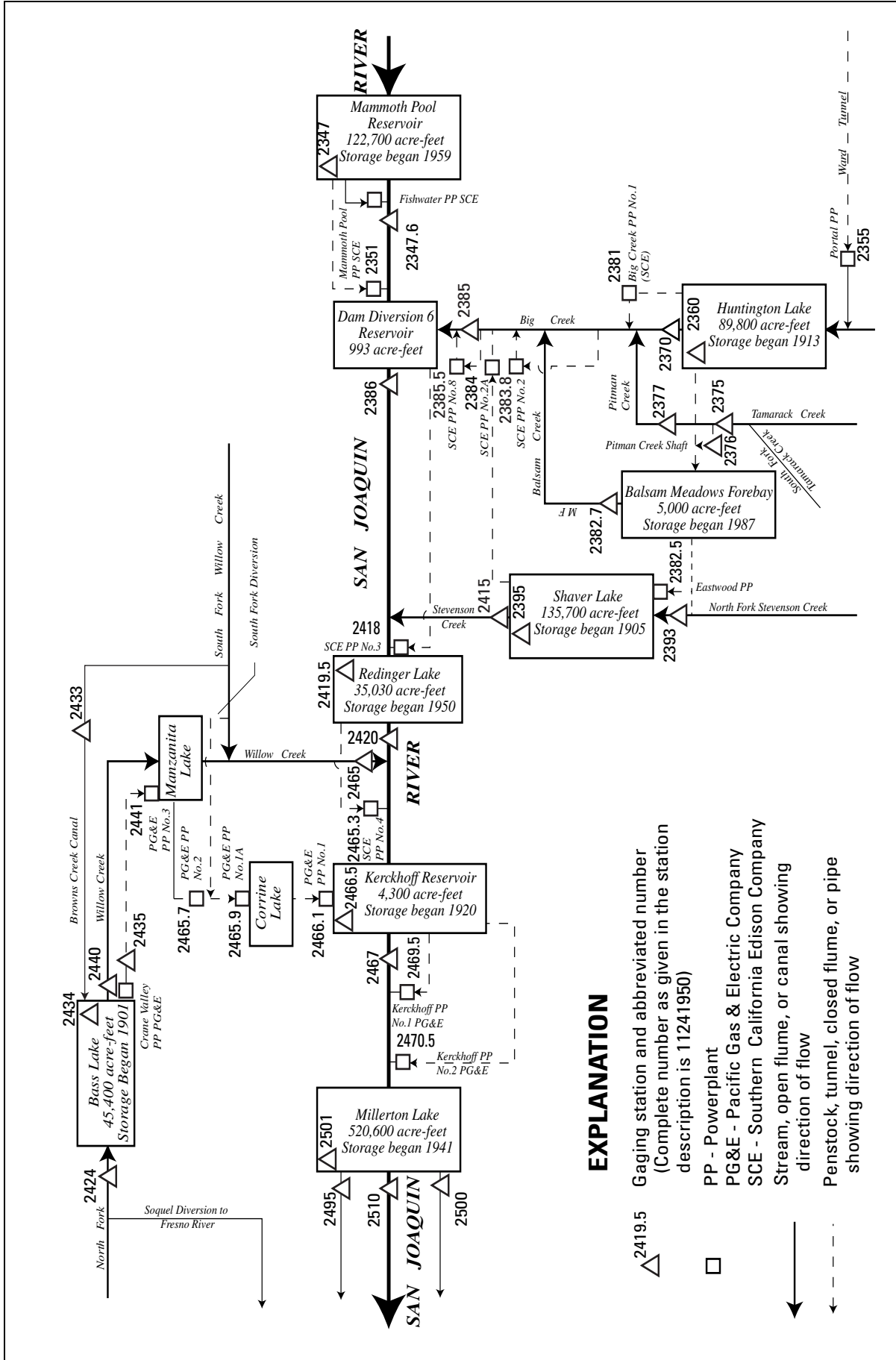
COOPERATION.—Records were collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2086.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	0.40	e0.36	---	---	---
2	---	---	---	---	---	---	---	0.38	e0.39	---	---	---
3	---	---	---	---	---	---	---	0.38	e0.38	---	---	---
4	---	---	---	---	---	---	---	0.39	e0.37	---	---	---
5	---	---	---	---	---	---	---	0.39	e0.37	---	---	---
6	---	---	---	---	---	---	---	0.39	e0.37	---	---	---
7	---	---	---	---	---	---	---	0.39	e0.37	---	---	---
8	---	---	---	---	---	---	---	0.40	e0.37	---	---	---
9	---	---	---	---	---	---	---	0.39	e0.36	---	---	---
10	---	---	---	---	---	---	0.59	0.36	e0.36	---	---	---
11	---	---	---	---	---	---	0.38	0.35	e0.35	---	---	---
12	---	---	---	---	---	---	0.35	0.36	e0.35	---	---	---
13	---	---	---	---	---	---	0.35	0.38	e0.34	---	---	---
14	---	---	---	---	---	---	0.36	0.39	e0.32	---	---	---
15	---	---	---	---	---	---	0.38	0.38	e0.32	---	---	---
16	---	---	---	---	---	---	0.37	0.37	e0.31	---	---	---
17	---	---	---	---	---	---	0.34	0.39	e0.30	---	---	---
18	---	---	---	---	---	---	0.34	0.38	e0.32	---	---	---
19	---	---	---	---	---	---	0.37	0.38	e0.35	---	---	---
20	---	---	---	---	---	---	0.38	0.38	e0.33	---	---	---
21	---	---	---	---	---	---	0.38	0.38	e0.32	---	---	---
22	---	---	---	---	---	---	0.39	0.38	e0.30	---	---	---
23	---	---	---	---	---	---	0.39	0.38	e0.30	---	---	---
24	---	---	---	---	---	---	0.40	0.37	e0.32	---	---	---
25	---	---	---	---	---	---	0.40	0.37	e0.35	---	---	---
26	---	---	---	---	---	---	0.40	0.38	e0.34	---	---	---
27	---	---	---	---	---	---	0.39	e0.38	e0.33	---	---	---
28	---	---	---	---	---	---	0.38	e0.37	e0.31	---	---	---
29	---	---	---	---	---	---	0.38	e0.38	e0.30	---	---	---
30	---	---	---	---	---	---	0.38	e0.35	e0.37	---	---	---
31	---	---	---	---	---	---	---	e0.36	---	---	---	---
TOTAL	---	---	---	---	---	---	---	11.73	10.23	---	---	---
MEAN	---	---	---	---	---	---	---	0.378	0.341	---	---	---
MAX	---	---	---	---	---	---	---	0.40	0.39	---	---	---
MIN	---	---	---	---	---	---	---	0.35	0.30	---	---	---
AC-FT	---	---	---	---	---	---	---	23	20	---	---	---

e Estimated.



EXPLANATION

- △ 2419.5 Gaging station and abbreviated number (Complete number as given in the station description is 11241950)
- PP - Powerplant
PG&E - Pacific Gas & Electric Company
SCE - Southern California Edison Company
- Stream, open flume, or canal showing direction of flow
- Penstock, tunnel, closed flume, or pipe showing direction of flow

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, and 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 Federal Energy Regulatory Commission project no. 2085. 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, 111,626 acre-ft, June 9, elevation, 3,322.20 ft; minimum, 12,538 acre-ft, Mar. 28, elevation, 3,174.89 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 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26606	16147	19232	33570	21006	19818	13473	38780	104071	105661	94518	61971
2	25855	16037	20639	33910	19597	19512	13223	37784	105519	105006	93684	60675
3	25240	16042	21873	e34404	18145	19847	13719	37095	106247	105338	92844	59487
4	24995	15812	22522	e34700	16846	19203	14960	40072	106979	106521	91968	58391
5	24458	15696	22864	e34997	16002	18778	16076	41884	108174	107622	91256	57431
6	23964	15601	23056	e35298	15290	18551	16300	43703	109595	108657	90387	56323
7	23419	15509	23331	35635	14665	19033	16640	45675	110561	108914	90368	55638
8	22402	15231	23960	34729	14598	20830	17898	47340	111281	109315	89475	54865
9	21308	15030	24287	33684	14694	22438	19426	48917	111626	109212	88587	54091
10	20333	15135	24790	33123	14697	22301	21277	50134	111093	109120	88753	53281
11	19579	15243	24963	32477	15522	21366	23975	49948	110582	109182	88614	52477
12	19077	15196	25229	32643	16412	20423	27298	50072	110280	108821	87565	51656
13	18652	15526	25400	32620	17356	19954	31919	51698	109968	108842	86411	50861
14	18479	15656	25809	31826	18288	19330	36882	54262	109865	108564	85227	51007
15	18023	15706	25964	30777	18821	18731	42253	57564	110207	108225	84339	50293
16	17717	15746	26973	29610	19394	18080	44100	61465	110592	107775	82896	49639
17	17400	15592	27292	28392	20140	17363	45027	66306	110457	107193	81803	48802
18	17217	15371	27592	27303	20432	16966	44164	72757	110331	106603	80840	47798
19	16960	14971	27995	27293	20567	18226	43181	78576	110280	104875	79650	46921
20	16639	14555	28417	27207	20684	19322	42768	83139	110529	103800	79046	46099
21	16551	14590	28753	26363	20797	19168	41679	85073	111207	104091	77169	45324
22	16667	15202	29678	26125	20855	18462	40898	86164	110936	103139	75523	43716
23	16507	15656	30451	24153	21099	17276	40542	86602	110488	102260	74118	42762
24	16233	17667	30478	24290	21183	16430	40763	86987	110031	101344	72529	41909
25	16050	18641	30986	24973	20946	15339	41393	87868	109223	100364	71125	41196
26	15954	18750	31115	25652	20626	14249	43295	89058	108513	99477	69587	40448
27	15979	17435	31403	26294	20283	12958	43678	90611	108041	98676	68213	39962
28	15971	17695	31937	26030	20501	12538	42498	92354	107101	97872	66823	39405
29	16043	18178	32501	25065	---	12593	41151	94717	106552	97054	65590	38717
30	15985	18666	32854	23617	---	14069	39828	98065	105883	96287	64583	38334
31	16315	---	33231	22394	---	14211	---	101077	---	95334	63624	---
MAX	26606	18750	33231	35635	21183	22438	45027	101077	111626	109315	94518	61971
MIN	15954	14555	19232	22394	14598	12538	13223	37095	104071	95334	63624	38334
a	3186.89	3193.27	3223.88	3202.28	3197.86	3180.48	3235.22	3311.82	3316.62	3305.90	3269.57	3232.75
b	-10791	+2351	+14565	-10837	-1893	-6290	+25617	+61249	+4806	-10549	-31710	-25290

CAL YR 2001 b +16547

WTR YR 2002 b +11228

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA

LOCATION.—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 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 Federal Energy Regulatory Commission project no. 2085.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	12	12	13	14	15	28	29	33	e32	34
2	13	15	12	12	13	14	13	28	27	33	e32	34
3	13	15	12	12	13	14	12	28	27	33	e32	34
4	13	15	12	12	13	14	12	28	27	33	e32	34
5	13	13	12	12	13	14	12	28	27	34	e32	34
6	13	11	12	12	13	14	12	28	28	34	e32	34
7	13	11	12	12	13	16	12	28	28	34	e33	34
8	13	13	12	12	13	16	12	28	28	34	e33	34
9	13	15	12	11	13	16	12	28	28	34	e33	34
10	13	15	12	11	13	16	12	29	28	34	e33	34
11	13	15	12	11	13	18	12	29	28	34	e33	33
12	13	15	12	11	13	17	13	29	28	34	e33	33
13	13	15	11	11	13	16	13	29	28	e35	e33	34
14	13	15	11	11	13	16	14	29	28	e40	e33	33
15	13	15	11	11	13	16	14	29	28	e41	e33	33
16	13	15	11	11	13	16	14	30	28	e39	e33	31
17	15	15	11	11	14	16	14	30	28	e38	e33	29
18	15	15	12	11	14	16	14	30	28	e35	e33	29
19	15	15	12	11	14	16	14	31	28	e34	e33	29
20	15	15	12	11	14	16	14	31	28	e33	34	28
21	15	15	12	11	14	16	14	31	28	e33	33	28
22	15	15	12	11	14	15	14	31	28	e33	34	28
23	15	15	12	11	14	15	14	31	31	e33	34	28
24	15	12	12	12	14	15	14	31	34	e33	34	28
25	15	10	12	13	14	15	14	31	34	e33	34	28
26	15	11	12	13	14	15	14	31	34	e33	34	28
27	15	11	12	13	14	15	14	31	34	e33	34	27
28	15	12	12	13	14	15	14	31	34	e33	34	27
29	15	12	12	13	---	15	14	31	34	e33	34	27
30	15	12	12	13	---	15	22	32	34	e33	35	27
31	15	---	12	13	---	15	---	32	---	e32	34	---
TOTAL	433	413	367	364	376	477	408	921	882	1061	1029	928
MEAN	13.97	13.77	11.84	11.74	13.43	15.39	13.60	29.71	29.40	34.23	33.19	30.93
MAX	15	15	12	13	14	18	22	32	34	41	35	34
MIN	13	10	11	11	13	14	12	28	27	32	32	27
AC-FT	859	819	728	722	746	946	809	1830	1750	2100	2040	1840
a	15320	13290	17400	41710	33600	61630	124000	114900	103300	34220	40070	33650

e Estimated.

a Diversion, in acre-feet, to Mammoth Pool Powerplant (station 11235100), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.24	13.01	14.96	92.65	64.92	93.00	198.1	1361	2060	914.3	74.50	23.93
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	0.82	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1960 - 2002	
ANNUAL TOTAL	9299		7659			
ANNUAL MEAN	25.48		20.98		412.0	
HIGHEST ANNUAL MEAN					2022 1983	
LOWEST ANNUAL MEAN					13.2 1961	
HIGHEST DAILY MEAN	416	May 27	41	Jul 15	26000	Jan 3 1997
LOWEST DAILY MEAN	10	Nov 25	10	Nov 25	0.30	Oct 14 1959
ANNUAL SEVEN-DAY MINIMUM	11	Dec 11	11	Jan 9	0.57	Dec 1 1959
MAXIMUM PEAK FLOW			69	Mar 21	80000	Jan 2 1997
MAXIMUM PEAK STAGE			3.53	Mar 21	32.00	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	18440		15190		298500	
TOTAL DIVERSION (AC-FT) a	582300		633000			
10 PERCENT EXCEEDS	37		34		407	
50 PERCENT EXCEEDS	15		15		15	
90 PERCENT EXCEEDS	12		12		12	

a Diversion, in acre-feet, to Mammoth Pool Powerplant (station 11235100), 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. Elevation of gage is 6,980 ft above sea level, from topographic map. 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 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 Federal Energy Regulatory Commission project no. 2174.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	517	0.00	92	185	163	298	466	358	1120	981	947	904
2	462	66	0.00	167	162	165	527	360	1200	774	963	921
3	471	49	134	130	162	214	610	418	1400	762	987	930
4	470	0.00	0.00	132	161	292	661	426	1620	700	983	640
5	469	34	119	138	160	201	701	426	1730	529	980	500
6	435	12	12	153	139	196	579	483	1730	146	977	546
7	443	34	41	161	120	265	554	487	1730	568	970	478
8	400	15	116	142	111	222	637	396	1730	585	968	482
9	437	0.00	0.00	118	153	176	366	455	1730	679	903	514
10	413	0.00	124	211	136	246	451	411	1700	610	935	528
11	421	50	335	253	159	248	454	313	887	574	937	481
12	389	0.00	343	231	205	246	534	338	822	580	936	512
13	325	70	251	230	162	247	540	419	927	679	925	472
14	384	69	308	188	116	247	621	487	1090	560	864	486
15	385	7.1	284	174	232	193	706	491	1030	661	855	515
16	277	3.0	232	180	169	176	511	491	882	655	873	498
17	251	3.5	69	134	169	208	475	497	881	582	796	503
18	265	3.5	92	213	171	197	456	502	1000	631	796	527
19	145	124	68	126	195	195	455	567	954	992	785	498
20	11	10	113	119	194	195	437	401	823	1330	822	390
21	10	3.0	95	211	195	202	405	411	659	844	928	197
22	0.00	12	49	141	196	273	414	481	597	842	928	230
23	0.00	116	118	125	269	203	417	698	604	819	928	225
24	84	3.0	87	161	227	223	475	1090	572	881	928	234
25	25	7.6	87	119	230	212	480	925	642	896	933	197
26	3.5	45	87	208	231	205	530	709	704	899	933	18
27	0.00	105	105	96	233	211	446	897	966	902	958	188
28	0.00	36	95	176	291	246	457	921	756	902	935	208
29	89	0.00	146	193	---	239	409	1010	601	902	941	248
30	0.00	13	225	120	---	327	356	1090	549	902	940	227
31	0.00	---	192	110	---	354	---	1330	---	907	937	---
TOTAL	7581.50	890.70	4019.00	5045	5111	7122	15130	18288	31636	23274	28491	13297
MEAN	244.6	29.69	129.6	162.7	182.5	229.7	504.3	589.9	1055	750.8	919.1	443.2
MAX	517	124	343	253	291	354	706	1330	1730	1330	987	930
MIN	0.00	0.00	0.00	96	111	165	356	313	549	146	785	18
AC-FT	15040	1770	7970	10010	10140	14130	30010	36270	62750	46160	56510	26370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

MEAN	327.8	264.3	272.0	252.7	254.9	295.5	521.0	853.9	924.1	834.1	669.2	503.8
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	0.82	0.81	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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1928 - 2002

ANNUAL TOTAL	140542.20	159885.20	
ANNUAL MEAN	385.0	438.0	499.0
HIGHEST ANNUAL MEAN			748
LOWEST ANNUAL MEAN			196
HIGHEST DAILY MEAN	1680	May 27	1730
LOWEST DAILY MEAN	0.00	Oct 22	0.00
ANNUAL SEVEN-DAY MINIMUM	13	Oct 26	13
ANNUAL RUNOFF (AC-FT)	278800	317100	361500
10 PERCENT EXCEEDS	722	935	1090
50 PERCENT EXCEEDS	369	358	464
90 PERCENT EXCEEDS	39	39	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 No. 1 on Big Creek, and 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. Records, including extremes, represent 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 Federal Energy Regulatory Commission project no. 2175. 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, 88,620 acre-ft, June 10, elevation, 6,949.62 ft; minimum, 34,297 acre-ft, Feb. 22, elevation, 6,903.84 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	6,860	7,427	6,900	30,862	6,940	75,344
6,840	2,354	6,870	11,294	6,910	40,217	6,950	89,166
6,845	3,324	6,880	16,371	6,920	50,813	6,951	90,606
6,850	4,480	6,890	22,883	6,930	62,555		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79641	71153	59830	45622	37738	35207	43219	79340	87750	87673	87622	87736
2	79408	70739	59541	45557	37631	35132	44375	79681	87338	88016	87636	87837
3	79395	70428	58941	45515	37476	34648	45750	79928	87240	88001	87693	87552
4	79218	69488	58250	45282	37226	35123	47284	80460	87596	88001	87693	86771
5	79327	68566	57715	45303	37149	35468	48952	81105	88214	88502	87821	85922
6	79001	68247	56794	45367	36957	35874	50389	81903	88518	88059	88008	85345
7	78866	67980	55973	45419	36776	36422	51880	82624	88536	88059	88093	84714
8	79055	67458	55424	45430	36412	36403	53542	83151	88513	87973	88236	84210
9	79137	67105	54844	45102	36137	36700	54740	83944	88373	87693	88336	83609
10	79314	66600	54439	44776	35874	37025	55832	83833	88620	87723	88423	82873
11	79749	66499	53840	44501	35817	37476	57066	84056	88089	87951	88408	82014
12	79626	66246	53852	44208	35761	37951	58596	84434	87507	87452	88494	81325
13	79340	66121	53427	43936	35600	38378	60265	84461	87267	87595	88366	80542
14	79490	65620	53278	43562	35346	38820	62237	84714	87567	87268	88408	79777
15	79804	64696	53496	43167	35113	39134	64410	85585	88054	86799	88208	79042
16	79804	64236	53256	42755	34751	39451	65808	85965	87898	86870	88107	78351
17	79504	63640	52572	42272	34547	39778	67244	86699	87686	86672	88437	77702
18	79300	62814	52345	41966	34611	39858	68274	87878	87645	86105	88093	77473
19	78879	62249	51385	41548	34611	39609	69270	87821	87734	86785	88165	77069
20	78214	61577	50468	41496	34547	39501	70209	87837	87977	87878	88066	76895
21	77581	61479	50067	41476	34528	39431	70984	87126	87936	87979	88107	76159
22	76813	61405	49282	41283	34297	39600	72104	86587	88053	87951	88121	74866
23	76212	61479	48742	40779	34491	39620	73401	86756	87769	87821	87908	73743
24	75772	61736	48250	39729	34760	39789	74920	87481	87475	87837	87693	72770
25	75013	61565	47815	39321	34992	40066	76305	87595	87404	87894	87693	71621
26	74324	61405	47500	39381	35039	40297	77177	87566	86992	87878	87552	70054
27	73559	61198	46594	39232	35197	40568	77891	87894	87560	87878	87566	69348
28	73203	60992	46219	39262	34946	40809	78377	87993	87830	88036	87693	68924
29	72455	60640	45952	38986	---	41172	79015	88066	87788	87851	87922	68490
30	72104	60277	46091	38555	---	41486	79096	88137	87574	87750	88093	68362
31	71608	---	45878	38057	---	42221	---	88265	---	87636	88093	---
MAX	79804	71153	59830	45622	37738	42221	79096	88265	88620	88502	88494	87837
MIN	71608	60277	45878	38057	34297	34648	43219	79340	86992	86105	87552	68362
a	6937.16	6928.13	6915.48	6907.81	6904.54	6911.98	6942.79	6949.37	6948.89	6948.93	6949.25	6934.64
b	-8196	-11331	-14399	-7821	-3111	+7275	+36875	+9169	-691	+62	+457	-19731

CAL YR 2001 b +6546

WTR YR 2002 b -11442

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 Federal Energy Regulatory Commission project no. 2175.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.2	3.0	3.1	e2.5	2.4	3.6	4.2	6.7	5.3	5.2	4.8
2	3.4	3.2	3.0	3.0	e2.5	2.4	3.7	4.2	6.3	5.3	5.2	4.7
3	3.3	3.2	3.0	3.0	e2.5	2.3	3.9	4.2	6.1	5.3	5.2	4.7
4	3.3	3.1	3.0	3.0	e2.5	2.3	4.0	4.2	6.1	5.3	5.2	4.7
5	3.4	3.1	3.0	2.9	e2.5	2.3	3.9	4.2	6.1	5.3	5.2	4.7
6	3.4	3.1	3.0	2.9	e2.4	2.3	3.9	4.2	6.3	5.3	5.2	4.6
7	3.3	3.1	3.0	2.9	e2.4	2.3	3.9	4.2	6.4	5.2	5.2	4.6
8	3.3	3.1	2.9	2.8	e2.4	2.3	4.1	6.2	6.3	5.2	5.2	4.5
9	3.3	3.1	2.9	2.8	e2.4	2.2	4.1	8.2	6.1	5.1	5.2	4.3
10	3.3	3.1	2.9	2.8	e2.4	2.3	4.2	8.3	6.1	5.1	5.2	4.2
11	3.3	3.1	2.8	2.8	2.4	2.3	4.2	8.1	6.0	5.1	5.1	4.0
12	3.3	3.2	2.8	2.8	2.4	2.4	4.3	8.0	5.7	5.1	5.1	3.7
13	3.3	3.2	2.8	2.8	2.4	2.4	4.3	7.9	5.5	5.1	4.9	3.6
14	3.3	3.1	2.9	2.8	2.4	2.4	4.3	7.9	5.5	5.1	4.9	3.6
15	3.3	3.1	2.8	2.8	2.4	2.4	4.3	8.0	5.5	5.1	4.9	3.6
16	3.3	3.1	2.8	2.8	2.4	2.4	4.1	8.0	5.5	5.1	4.8	3.6
17	3.4	3.0	2.8	2.7	2.3	2.4	4.1	8.0	5.5	5.1	4.9	3.6
18	3.4	3.0	2.8	2.7	2.2	2.4	4.0	8.0	5.4	5.0	4.9	3.5
19	3.4	3.0	2.8	2.7	2.1	2.4	3.9	7.8	5.4	5.0	4.8	3.5
20	3.4	3.0	2.8	2.7	2.2	2.5	4.0	7.6	5.4	5.0	4.8	3.5
21	3.4	3.0	2.8	2.6	2.2	2.5	4.0	7.8	5.4	5.1	4.8	3.5
22	3.4	3.6	2.8	2.6	2.2	2.5	4.0	7.7	5.4	5.1	4.8	3.5
23	3.3	3.1	2.7	2.6	2.3	2.5	4.0	7.4	5.4	5.1	4.8	3.4
24	3.3	4.2	2.7	2.6	2.3	2.5	4.1	7.6	5.3	5.1	4.8	3.4
25	3.3	3.4	2.7	e2.6	2.3	2.5	4.1	7.6	5.3	5.1	4.8	3.4
26	3.3	3.2	2.7	e2.6	2.4	2.6	4.3	7.2	5.2	5.1	4.8	3.4
27	3.3	3.1	2.7	e2.6	2.4	2.7	4.3	7.0	5.2	5.1	4.8	3.4
28	3.3	3.1	2.8	e2.6	2.4	2.8	4.2	7.0	5.3	5.1	4.8	3.4
29	3.3	3.1	4.1	e2.5	---	3.1	4.3	7.0	5.4	5.1	4.8	3.4
30	3.7	3.0	3.4	e2.5	---	3.3	4.2	7.0	5.4	5.1	4.8	3.4
31	3.3	---	3.3	e2.5	---	3.4	---	7.0	---	5.2	4.8	---
TOTAL	103.7	94.9	90.5	85.1	66.2	77.5	122.3	211.7	171.2	159.3	153.9	116.2
MEAN	3.345	3.163	2.919	2.745	2.364	2.500	4.077	6.829	5.707	5.139	4.965	3.873
MAX	3.7	4.2	4.1	3.1	2.5	3.4	4.3	8.3	6.7	5.3	5.2	4.8
MIN	3.3	3.0	2.7	2.5	2.1	2.2	3.6	4.2	5.2	5.0	4.8	3.4
AC-FT	206	188	180	169	131	154	243	420	340	316	305	230
a	11890	6770	11760	14750	12700	6410	5810	26010	32050	26530	32880	24660

e Estimated.

a Diversion, in acre-feet, to Big Creek Powerplant No. 1 (station 11238100), provided by Southern California Edison Co.

SAN JOAQUIN RIVER BASIN

11237000 BIG CREEK BELOW HUNTINGTON LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.542	1.554	1.593	1.400	1.393	1.748	2.822	8.941	8.942	9.844	2.158	1.682
MAX	4.79	4.55	4.70	6.45	3.53	5.90	7.09	297	242	293	8.34	5.18
(WY)	1994	1994	1956	1997	1995	1995	1995	1926	1926	1925	1969	2001
MIN	0.16	0.23	0.18	0.20	0.30	0.38	0.47	0.46	0.43	0.31	0.16	0.12
(WY)	1932	1932	1932	1932	1931	1948	1934	1934	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1925 - 2002	
ANNUAL TOTAL	1489.2		1452.5			
ANNUAL MEAN	4.080		3.979		3.251	
HIGHEST ANNUAL MEAN					45.9 1926	
LOWEST ANNUAL MEAN					0.35 1931	
HIGHEST DAILY MEAN	8.7	May 11	8.3	May 10	1160	May 23 1926
LOWEST DAILY MEAN	2.0	Mar 11	2.1	Feb 19	0.10	Jan 18 1931
ANNUAL SEVEN-DAY MINIMUM	2.1	Mar 6	2.2	Feb 17	0.10	Aug 21 1931
MAXIMUM PEAK FLOW			9.0 Nov 24		2040 Jun 23 1925	
MAXIMUM PEAK STAGE			2.71 Nov 24		11.30 Jun 23 1925	
ANNUAL RUNOFF (AC-FT)	2950		2880		2350	
TOTAL DIVERSION (AC-FT) a	168800		212200			
10 PERCENT EXCEEDS	6.3		5.6		4.3	
50 PERCENT EXCEEDS	3.4		3.4		1.6	
90 PERCENT EXCEEDS	2.3		2.4		0.40	

a Diversion, in acre-feet, to Big Creek Powerplant No. 1 (station 11238100), 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, yearly estimate published in WSP 1315-A.

REVISED RECORDS.—WSP 931: 1940. WSP 1315-A: 1944. WSP 1395: 1928–29, 1938. WSP 1515: 1929. WSP 1930: Drainage area.

GAGE.—Water-stage recorder, Parshall flume and concrete control. Elevation of gage is 7,020 ft above sea level, from topographic map. Prior to Sept. 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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.16	e1.2	4.1	e12	e1.5	e26	90	95	104	6.6	0.44	0.14
2	e0.16	e0.80	4.9	e9.0	e1.8	e22	103	100	89	6.1	0.44	0.14
3	e0.15	e0.62	5.4	e9.0	e2.0	e22	116	122	79	5.8	0.44	0.14
4	e0.14	e0.54	5.5	e9.0	e3.0	e22	126	145	75	5.4	0.41	0.16
5	e0.14	e0.49	4.5	e8.0	e4.0	e22	124	164	72	4.9	0.38	0.18
6	e0.15	e0.45	4.2	e8.0	e4.0	e23	116	175	67	4.5	0.36	0.19
7	e0.15	e0.42	4.0	e8.0	e4.5	e22	121	172	61	4.3	0.34	0.21
8	e0.17	e0.40	4.2	e8.0	e5.0	e19	140	166	54	3.9	0.33	0.21
9	e0.19	e0.40	4.1	e8.0	e7.0	e19	142	159	46	3.4	0.31	0.18
10	e0.17	e0.39	4.6	e7.0	e9.0	20	154	148	37	3.0	0.29	0.18
11	e0.18	e0.64	4.1	e7.0	e9.5	20	169	138	33	2.9	0.27	0.18
12	e0.19	e0.86	3.8	e7.0	e10	24	185	138	29	3.1	0.23	0.17
13	e0.18	e1.4	4.0	e7.0	e11	26	198	146	27	2.6	0.21	0.17
14	e0.18	e1.2	4.5	e6.0	10	e22	207	156	25	2.4	0.21	0.15
15	e0.18	e1.2	4.8	e5.0	11	e21	193	157	23	2.1	0.20	0.14
16	e0.18	e1.2	4.3	e4.5	11	e19	146	154	21	1.9	0.20	0.14
17	e0.18	e1.1	4.4	e4.0	12	e18	130	156	19	1.8	0.19	0.15
18	e0.18	e0.97	4.5	e3.7	e11	e18	110	151	18	1.7	0.18	0.15
19	e0.18	e0.88	4.5	e3.5	e11	e17	101	139	17	1.6	0.18	0.15
20	e0.18	e0.79	4.7	e2.8	e11	22	94	129	16	1.5	0.18	0.14
21	e0.18	e0.89	5.2	e3.2	14	24	94	119	15	1.3	0.18	0.14
22	e0.18	4.5	5.5	e2.8	16	27	106	119	14	1.1	0.18	0.14
23	e0.18	3.4	5.5	e2.0	19	26	131	133	13	0.99	0.18	0.14
24	e0.18	27	5.4	e2.0	18	24	149	144	11	0.88	0.18	0.14
25	e0.18	16	5.1	e2.8	19	22	159	142	11	0.82	0.18	0.14
26	e0.18	8.3	5.2	e2.0	22	21	157	132	9.9	0.77	0.18	0.13
27	e0.19	6.0	5.5	e1.8	24	22	133	121	9.6	0.71	0.18	0.13
28	e0.19	5.1	5.8	e1.2	26	27	122	115	9.0	0.68	0.15	0.14
29	e0.20	4.9	e8.0	e1.0	---	41	116	114	8.2	0.62	0.15	0.14
30	e1.3	4.4	e8.5	e0.80	---	66	103	112	7.5	0.55	0.15	0.14
31	e1.9	---	e10	e1.2	---	79	---	106	---	0.48	0.15	---
TOTAL	8.25	96.44	158.8	157.30	307.3	803	4035	4267	1020.2	78.40	7.65	4.65
MEAN	0.266	3.215	5.123	5.074	10.97	25.90	134.5	137.6	34.01	2.529	0.247	0.155
MAX	1.9	27	10	12	26	79	207	175	104	6.6	0.44	0.21
MIN	0.14	0.39	3.8	0.80	1.5	17	90	95	7.5	0.48	0.15	0.13
AC-FT	16	191	315	312	610	1590	8000	8460	2020	156	15	9.2

e Estimated.

SAN JOAQUIN RIVER BASIN

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.852	5.354	10.47	11.74	14.06	27.77	93.94	199.4	116.9	20.30	2.349	1.354
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	0.13	0.18	0.20	0.20	0.20	0.30	16.6	24.3	7.82	0.67	0.11	0.10
(WY)	1989	1930	1932	1930	1949	1949	1975	1977	1976	1934	1931	1928

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1928 - 2002
ANNUAL TOTAL	10745.23	10943.99	
ANNUAL MEAN	29.44	29.98	42.44
HIGHEST ANNUAL MEAN			118 1983
LOWEST ANNUAL MEAN			6.16 1977
HIGHEST DAILY MEAN	333 May 8	207 Apr 14	2200 Jan 2 1997
LOWEST DAILY MEAN	0.14 Oct 4	0.13 Sep 26	0.00 Oct 15 1931
ANNUAL SEVEN-DAY MINIMUM	0.15 Oct 1	0.14 Sep 21	0.04 Oct 13 1931
MAXIMUM PEAK FLOW		265 Apr 14	5500 Jan 2 1997
MAXIMUM PEAK STAGE		4.25 Apr 14	12.65 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	21310	21710	30750
10 PERCENT EXCEEDS	102	127	131
50 PERCENT EXCEEDS	3.2	4.9	5.5
90 PERCENT EXCEEDS	0.17	0.18	0.30

11237600 PITMAN CREEK SHAFT BELOW TAMARACK CREEK, NEAR BIG 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 December 1995, April to November 1996, and March 1997 to current year.

GAGE.—Discharge computed as difference between Pitman Creek below Tamarack Creek (station 11237500) and Pitman Creek near Tamarack Mountain (station 11237700). Elevation of diversion point is 7,010 ft above sea level, from topographic map.

REMARKS.—Flow is diversion from Pitman Creek into Huntington–Shaver Conduit for power development in Big Creek powerplants. See schematic diagram of [lower San Joaquin River Basin](#).

COOPERATION.—Records were collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project nos. 67 and 120.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge unknown, Jan. 2, 1997; no flow for many days each year.

DISCHARGE, CUBIC FEET PR SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	e0.00	e3.5	e11	e1.2	e0.00	e88	95	102	5.3	0.00	0.00
2	e0.00	e0.00	e4.4	e8.5	e1.5	e0.00	e101	99	87	4.8	0.00	0.00
3	e0.00	e0.00	e5.0	e8.5	e1.7	e0.00	e115	121	78	4.5	0.00	0.00
4	e0.00	e0.00	e5.1	e8.5	e2.7	e0.00	e124	144	73	4.0	0.00	0.00
5	e0.00	e0.00	e4.2	e7.6	e3.7	e0.00	123	163	70	3.6	0.00	0.00
6	e0.00	e0.00	e3.8	e7.6	e3.7	e0.00	114	174	66	3.3	0.00	0.00
7	e0.00	e0.00	e3.7	e7.6	e4.1	e0.00	119	170	59	3.0	0.00	0.00
8	e0.00	e0.00	e3.8	e7.6	e4.6	e0.00	139	165	52	2.6	0.00	0.00
9	e0.00	e0.00	e3.7	e7.6	e6.5	e0.00	80	158	44	2.2	0.00	0.00
10	e0.00	e0.00	e4.2	e6.6	e8.4	e0.00	153	147	36	1.8	0.00	0.00
11	e0.00	e0.00	e3.8	e6.6	e8.9	e0.00	167	137	31	1.7	0.00	0.00
12	e0.00	e0.00	e3.4	e6.6	e9.4	e9.8	183	137	28	1.8	0.00	0.00
13	e0.00	e0.00	e3.6	e6.6	e11	e25	196	145	26	1.4	0.00	0.00
14	e0.00	e0.00	e4.2	e5.6	e2.5	e21	206	155	23	1.1	0.00	0.00
15	e0.00	e0.00	e4.5	e4.6	e1.2	e20	191	156	21	0.91	0.00	0.00
16	e0.00	e0.00	e4.0	e4.2	e1.5	e18	145	153	19	0.70	0.00	0.00
17	e0.00	e0.00	e4.1	e3.7	e2.0	e17	128	155	18	0.54	0.00	0.00
18	e0.00	e0.00	e4.2	e3.4	e1.0	e17	108	150	16	0.45	0.00	0.00
19	e0.00	e0.00	e4.2	e3.2	e1.0	e16	95	138	16	0.37	0.00	0.00
20	e0.00	e0.00	e4.4	e2.5	e0.00	e20	93	128	15	0.29	0.00	0.00
21	e0.00	e0.00	e4.9	e2.9	e0.00	e22	94	118	14	0.10	0.00	0.00
22	e0.00	2.0	e5.2	e2.5	e0.00	e25	106	118	13	0.03	0.00	0.00
23	e0.00	1.0	e5.2	e1.7	e0.00	e24	130	132	11	0.02	0.00	0.00
24	e0.00	24	e5.0	e1.7	e0.00	e23	148	143	10	0.00	0.00	0.00
25	e0.00	15	e4.7	e2.5	e0.00	e21	158	141	9.2	0.00	0.00	0.00
26	e0.00	7.6	e4.8	e1.7	e0.00	e20	156	130	8.5	0.00	0.00	0.00
27	e0.00	5.2	e5.1	e1.5	e0.00	e20	132	120	8.2	0.00	0.00	0.00
28	e0.00	4.3	e5.3	e0.90	e0.00	e26	121	114	7.7	0.00	0.00	0.00
29	e0.00	4.0	e7.1	e0.70	---	e40	115	113	6.9	0.00	0.00	0.00
30	e0.00	e3.6	e7.7	e0.50	---	e64	102	111	6.1	0.00	0.00	0.00
31	e0.00	---	e9.3	e0.90	---	e78	---	104	---	0.00	0.00	---
TOTAL	0.00	66.70	146.1	145.60	76.60	526.80	3930	4234	974.6	44.51	0.00	0.00
MEAN	0.000	2.223	4.713	4.697	2.736	16.99	131.0	136.6	32.49	1.436	0.000	0.000
MAX	0.00	24	9.3	11	11	78	206	174	102	5.3	0.00	0.00
MIN	0.00	0.00	3.4	0.50	0.00	0.00	80	95	6.1	0.00	0.00	0.00
AC-FT	0.00	132	290	289	152	1040	7800	8400	1930	88	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	0.459	1.038	1.562	3.690	6.461	22.71	85.56	139.8	59.46	9.501	1.285	0.132				
MAX	3.22	6.24	7.33	22.5	25.6	78.5	157	440	365	76.0	13.7	0.90				
(WY)	1995	1995	1995	1995	1995	1995	2000	1993	1995	1995	1995	1995				
MIN	0.000	0.000	0.000	0.000	0.000	0.000	40.7	53.3	9.14	0.83	0.000	0.000				
(WY)	1989	1989	1989	1987	1987	1992	1995	1997	1992	1994	1988	1988				

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	9648.59		10144.91			
ANNUAL MEAN	26.43		27.79		29.52	
HIGHEST ANNUAL MEAN					67.8	1993
LOWEST ANNUAL MEAN					13.5	1987
HIGHEST DAILY MEAN	329	May 8	206	Apr 14	888	May 16 1996
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Nov 12 1986
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 19	0.00	Oct 1	0.00	Dec 5 1986
ANNUAL RUNOFF (AC-FT)	19140		20120		21390	
10 PERCENT EXCEEDS	70		123		100	
50 PERCENT EXCEEDS	2.0		3.2		1.8	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 December 1995, April to November 1996, and March 1997 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. 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 Federal Energy Regulatory Commission project nos. 67 and 120.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge unknown, Jan. 2, 1997; no flow Feb. 15 to Apr. 4, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.16	1.2	e0.60	e0.60	e0.30	e26	e1.8	0.96	2.1	1.3	0.48	0.16
2	0.16	0.80	e0.50	e0.50	e0.30	e22	e1.6	0.95	1.9	1.3	0.46	0.16
3	0.15	0.62	e0.40	e0.45	e0.30	e22	e1.4	0.99	1.9	1.3	0.46	0.16
4	0.14	0.54	e0.40	e0.45	e0.35	e22	e1.3	1.1	1.8	1.3	0.43	0.16
5	0.14	0.49	e0.35	e0.45	e0.35	e22	1.4	1.1	1.8	1.3	0.39	0.17
6	0.15	0.45	e0.35	e0.45	e0.35	e23	1.4	1.2	1.7	1.3	0.38	0.18
7	0.15	0.42	e0.35	e0.45	e0.40	e22	1.3	1.1	1.7	1.3	0.36	0.20
8	0.17	0.40	e0.35	e0.45	e0.45	e19	1.4	1.1	1.6	1.3	0.35	0.21
9	0.19	0.40	e0.35	e0.45	e0.50	e19	61	1.1	1.6	1.3	0.34	0.20
10	0.17	0.39	e0.35	e0.45	e0.60	e20	1.4	1.1	1.6	1.2	0.31	0.18
11	0.18	0.64	e0.35	e0.45	e0.60	e20	1.5	1.0	1.5	1.2	0.29	0.16
12	0.19	0.86	e0.35	e0.45	e0.60	e14	1.5	1.0	1.5	1.2	0.27	0.17
13	0.18	1.4	e0.35	e0.45	e0.50	e1.5	1.6	1.0	1.5	1.2	0.25	0.16
14	0.18	1.2	e0.30	e0.40	e8.0	e1.3	1.6	1.1	1.5	1.2	0.24	0.15
15	0.18	1.2	e0.30	e0.35	e10	e1.0	1.6	1.1	1.5	1.2	0.22	0.14
16	0.18	1.2	e0.30	e0.30	e10	e0.80	1.4	1.0	1.4	1.2	0.21	0.14
17	0.18	1.1	e0.30	e0.30	e10	e0.60	1.4	1.0	1.4	1.2	0.21	0.15
18	0.18	0.97	e0.30	e0.30	e10	e1.0	1.4	1.0	1.4	1.2	0.20	0.14
19	0.18	0.88	e0.30	e0.30	e10	e1.4	5.7	1.0	1.4	1.2	0.19	0.15
20	0.18	0.79	e0.30	e0.30	e11	e1.6	0.85	1.0	1.4	1.2	0.18	0.14
21	0.18	0.89	e0.30	e0.30	e14	e1.8	0.70	1.0	1.4	1.2	0.18	0.14
22	0.18	2.5	e0.30	e0.30	e16	e1.6	0.82	1.0	1.4	1.1	0.19	0.13
23	0.18	2.4	e0.30	e0.30	e19	e1.3	0.95	1.1	1.4	0.97	0.19	0.13
24	0.18	2.7	e0.40	e0.30	e18	e1.2	1.0	1.1	1.4	0.88	0.19	0.12
25	0.18	0.59	e0.40	e0.30	e19	e1.2	1.0	1.1	1.3	0.83	0.19	0.13
26	0.18	0.69	e0.40	e0.30	e22	e1.4	1.1	1.0	1.3	0.77	0.18	0.12
27	0.19	0.82	e0.40	e0.30	e24	e1.5	1.0	1.0	1.3	0.72	0.18	0.12
28	0.19	0.83	e0.45	e0.30	e26	e1.6	0.99	0.99	1.3	0.69	0.18	0.13
29	0.20	0.86	e0.90	e0.30	---	e1.6	1.0	0.98	1.3	0.64	0.17	0.13
30	1.3	e0.80	e0.80	e0.30	---	e1.7	0.99	1.5	1.3	0.55	0.17	0.14
31	1.9	---	e0.70	e0.30	---	e1.8	---	2.2	---	0.51	0.17	---
TOTAL	8.25	29.03	12.50	11.60	232.60	276.90	102.10	33.87	45.6	33.76	8.21	4.57
MEAN	0.266	0.968	0.403	0.374	8.307	8.932	3.403	1.093	1.520	1.089	0.265	0.152
MAX	1.9	2.7	0.90	0.60	26	26	61	2.2	2.1	1.3	0.48	0.21
MIN	0.14	0.39	0.30	0.30	0.30	0.60	0.70	0.95	1.3	0.51	0.17	0.12
AC-FT	16	58	25	23	461	549	203	67	90	67	16	9.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

MEAN	0.640	0.904	0.922	1.198	2.273	5.559	22.08	36.02	44.86	17.20	0.981	0.589
MAX	1.61	1.74	1.50	2.17	8.31	24.8	126	265	506	132	6.17	2.92
(WY)	1999	1990	1990	1990	2002	1990	1997	1995	1998	1998	1998	1998
MIN	0.13	0.31	0.40	0.37	0.35	0.000	0.99	1.09	0.66	0.52	0.16	0.13
(WY)	1989	1991	2002	2002	1991	1991	1999	2002	1990	1992	1994	1987

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	1097.83		798.99			
ANNUAL MEAN	3.008		2.189		10.43	
HIGHEST ANNUAL MEAN					56.5	
LOWEST ANNUAL MEAN					0.79	
HIGHEST DAILY MEAN	106	Apr 1	61	Apr 9	762	May 16 1996
LOWEST DAILY MEAN	0.14	Oct 4	0.12	Sep 24	0.00	Feb 15 1991
ANNUAL SEVEN-DAY MINIMUM	0.15	Oct 1	0.13	Sep 22	0.00	Feb 15 1991
ANNUAL RUNOFF (AC-FT)	2180		1580		7550	
10 PERCENT EXCEEDS	2.9		1.9		3.0	
50 PERCENT EXCEEDS	0.90		0.79		1.1	
90 PERCENT EXCEEDS	0.18		0.17		0.24	

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 Federal Energy Regulatory Commission project nos. 67 and 120.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	365	192	197	446	337	279	450	641	1270	676	557	629
2	189	201	194	286	306	253	291	638	1180	432	402	738
3	205	196	317	258	371	453	375	645	1150	358	373	836
4	191	277	221	374	204	0.00	365	537	1180	599	376	565
5	194	194	218	244	0.00	0.00	235	609	1170	550	372	397
6	193	201	201	295	185	0.00	371	692	1230	382	340	416
7	184	175	335	304	282	0.00	406	641	1380	553	374	377
8	194	62	200	296	24	0.00	0.00	569	1330	453	373	506
9	193	195	195	304	295	0.00	398	646	1290	362	373	404
10	174	190	209	0.00	221	0.00	368	653	1270	515	373	495
11	191	383	369	284	307	0.00	444	548	832	491	299	406
12	187	360	193	272	266	0.00	567	622	735	689	368	404
13	202	206	198	277	316	293	532	936	465	386	532	404
14	151	103	201	227	309	303	624	830	645	575	526	407
15	194	295	241	224	344	277	567	806	553	611	546	430
16	176	267	382	307	307	276	254	753	654	458	461	403
17	192	254	488	271	357	366	530	841	642	477	0.00	404
18	172	248	195	208	0.00	365	465	110	716	547	395	405
19	201	277	357	306	389	0.00	368	967	465	611	471	513
20	192	246	377	208	333	399	479	832	550	653	551	0.00
21	0.00	0.00	371	0.00	202	0.00	463	832	258	630	476	297
22	450	232	193	385	107	98	413	834	569	555	550	510
23	185	245	301	370	199	104	580	899	652	600	685	532
24	195	240	284	722	326	98	519	672	586	588	648	454
25	196	411	368	257	283	369	682	1010	537	497	653	459
26	194	0.00	355	312	196	0.00	644	733	385	374	648	461
27	194	0.00	442	287	289	7.6	658	867	378	367	580	198
28	190	0.00	382	283	101	187	748	872	372	370	593	0.00
29	197	25	187	99	---	0.00	516	1080	460	392	588	279
30	188	318	261	98	---	374	543	1010	459	378	627	0.00
31	2.5	---	429	115	---	343	---	1250	---	376	562	---
TOTAL	5931.50	5993.00	8861	8319.00	6856.00	4844.60	13855.00	23575	23363	15505	14672.00	12329.00
MEAN	191.3	199.8	285.8	268.4	244.9	156.3	461.8	760.5	778.8	500.2	473.3	411.0
MAX	450	411	488	722	389	453	748	1250	1380	689	685	836
MIN	0.00	0.00	187	0.00	0.00	0.00	0.00	110	258	358	0.00	0.00
AC-FT	11770	11890	17580	16500	13600	9610	27480	46760	46340	30750	29100	24450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

MEAN	314.6	235.5	278.6	280.9	242.7	250.5	438.1	804.2	885.3	691.8	561.7	427.9
MAX	600	571	540	534	574	684	1081	1605	1502	1343	837	702
(WY)	1996	1996	1997	1997	1997	1997	1996	1993	1993	1995	1997	1996
MIN	0.000	0.000	21.4	6.19	0.000	19.5	29.3	159	270	156	181	81.7
(WY)	1988	1988	1991	1990	1996	1991	1991	1991	1990	1992	1992	1992

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1988 - 2002

ANNUAL TOTAL	136551.10	144104.10		
ANNUAL MEAN	374.1	394.8	452.0	
HIGHEST ANNUAL MEAN			720	1997
LOWEST ANNUAL MEAN			141	1990
HIGHEST DAILY MEAN	1310	May 24	1380	Jun 7
LOWEST DAILY MEAN	0.00	Jan 26	0.00	Oct 21
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 12	0.00	Mar 4
ANNUAL RUNOFF (AC-FT)	270800		285800	
10 PERCENT EXCEEDS	688		687	327500
50 PERCENT EXCEEDS	357		369	971
90 PERCENT EXCEEDS	0.00		100	396
				0.00

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, and 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 Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.91	0.64	0.62	0.67	0.63	0.63	0.69	0.64	1.1	1.1	1.3	1.2
2	0.61	0.66	0.64	0.68	0.62	0.62	0.70	0.64	1.1	1.2	1.2	1.2
3	0.62	0.62	0.63	0.67	0.63	0.64	0.72	0.65	1.1	1.1	1.2	1.2
4	0.64	0.62	0.62	0.67	0.64	0.62	0.71	0.67	1.1	1.1	1.2	1.2
5	0.64	0.63	0.62	0.66	0.59	0.60	0.69	0.68	1.1	1.1	1.2	1.2
6	0.61	0.66	0.61	0.66	0.66	0.63	0.70	0.66	1.1	1.1	1.2	1.2
7	0.63	0.64	0.63	0.63	0.64	0.62	0.72	0.67	1.1	1.2	1.3	1.2
8	0.65	0.63	0.61	0.65	0.64	0.62	0.70	0.69	1.1	1.1	1.2	1.2
9	0.62	0.63	0.61	0.66	0.63	0.63	0.72	0.65	1.1	1.4	1.2	1.2
10	0.64	0.64	0.62	0.63	0.61	0.63	0.73	0.64	1.1	1.2	1.3	1.2
11	0.63	0.66	0.65	0.65	0.63	0.63	0.74	0.64	1.1	1.3	1.2	1.2
12	0.64	0.67	0.62	0.63	0.62	0.63	0.73	0.65	1.1	1.5	1.2	1.2
13	0.64	0.65	0.62	0.62	0.63	0.65	0.75	0.63	1.1	1.3	1.2	1.2
14	0.64	0.65	0.66	0.63	0.63	0.64	0.72	0.63	1.2	1.3	1.2	1.2
15	0.63	0.66	0.63	0.65	0.63	0.63	0.71	0.65	1.1	1.4	1.2	1.2
16	0.67	0.65	0.63	0.68	0.63	0.63	0.64	0.66	1.1	1.4	1.2	1.3
17	0.62	0.64	0.72	0.65	0.65	0.63	0.67	0.66	1.0	1.4	1.2	1.3
18	0.63	0.65	0.64	0.62	0.64	0.63	0.67	0.62	1.0	1.4	1.2	1.3
19	0.62	0.64	0.68	0.66	0.64	0.65	0.67	0.63	1.2	1.4	1.2	1.2
20	0.64	0.65	0.71	0.63	0.63	0.65	0.66	0.66	1.2	1.4	1.2	1.1
21	0.65	0.62	0.79	0.64	0.61	0.64	0.67	0.68	1.2	1.3	1.2	1.2
22	0.66	0.67	0.71	0.63	0.61	0.62	0.66	0.66	1.2	1.3	1.2	1.2
23	0.64	0.68	0.64	0.64	0.64	0.64	0.71	0.66	1.1	1.3	1.2	1.2
24	0.64	0.67	0.73	0.68	0.61	0.65	0.68	0.65	1.3	1.1	1.2	1.2
25	0.62	0.68	0.65	0.64	0.64	0.64	0.69	0.65	1.1	1.1	1.2	1.2
26	0.65	0.63	0.69	0.65	0.62	0.62	0.68	0.69	1.1	1.1	1.2	1.2
27	0.64	0.66	0.62	0.69	0.64	0.61	0.70	0.69	1.2	1.2	1.2	1.2
28	0.64	0.64	0.67	0.64	0.62	0.71	0.65	0.65	1.2	1.2	1.2	1.2
29	0.62	0.67	0.66	0.61	---	0.64	0.65	0.65	1.2	1.2	1.2	1.2
30	0.67	0.63	0.66	0.63	---	0.66	0.65	0.84	1.2	1.2	1.2	1.2
31	0.65	---	0.82	0.59	---	0.66	---	1.1	---	1.2	1.2	---
TOTAL	20.01	19.44	20.41	20.04	17.61	19.70	20.78	20.94	33.9	38.6	37.5	36.2
MEAN	0.645	0.648	0.658	0.646	0.629	0.635	0.693	0.675	1.130	1.245	1.210	1.207
MAX	0.91	0.68	0.82	0.69	0.66	0.71	0.75	1.1	1.3	1.5	1.3	1.3
MIN	0.61	0.62	0.61	0.59	0.59	0.60	0.64	0.62	1.0	1.1	1.2	1.1
AC-FT	40	39	40	40	35	39	41	42	67	77	74	72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	0.819	0.743	0.786	0.775	0.785	0.907	0.997	0.839	1.248	1.279	1.289	1.294	1.294	1.294
MAX	1.21	1.22	1.44	1.26	1.29	2.20	2.75	1.28	1.45	1.38	1.48	1.50	1.50	1.50
(WY)	2001	2001	1992	2001	2001	1992	1992	1995	1995	1992	1992	1992	1992	1992
MIN	0.59	0.57	0.58	0.56	0.57	0.56	0.57	0.60	1.10	1.11	1.10	1.11	1.11	1.11
(WY)	1998	1997	1998	1996	1996	1996	1996	1996	1998	2001	2001	2001	2001	2001

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	372.95		305.13			
ANNUAL MEAN	1.022		0.836		0.980	
HIGHEST ANNUAL MEAN					1.38	
LOWEST ANNUAL MEAN					0.81	
HIGHEST DAILY MEAN	1.5	Feb 13	1.5	Jul 12	3.4	Apr 2 1992
LOWEST DAILY MEAN	0.61	Oct 2	0.59	Jan 31	0.31	Feb 4 1989
ANNUAL SEVEN-DAY MINIMUM	0.62	Dec 4	0.62	Dec 4	0.51	Nov 1 1996
MAXIMUM PEAK FLOW					unknown	
MAXIMUM PEAK STAGE					unknown	
ANNUAL RUNOFF (AC-FT)	740		605		710	
10 PERCENT EXCEEDS	1.3		1.2		1.4	
50 PERCENT EXCEEDS	1.1		0.66		0.84	
90 PERCENT EXCEEDS	0.64		0.62		0.61	

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). Big Creek Powerplant No. 2 (station 11238380) diverts water from Big Creek and then returns it between Big Creek below Huntington Lake (station 11237000) and this station. 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 Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.5	2.4	2.5	1.7	1.7	2.1	3.1	3.3	3.5	3.4	3.3
2	2.5	2.5	2.9	2.7	1.7	1.7	2.1	3.1	3.3	3.5	3.4	3.3
3	2.4	2.5	4.2	4.4	1.7	1.7	2.0	3.1	3.3	3.6	3.4	3.7
4	2.4	2.5	2.6	3.0	1.7	1.7	2.2	3.0	3.3	3.5	3.4	3.4
5	2.4	2.5	2.4	2.6	1.7	1.6	9.1	3.0	3.3	3.5	3.4	3.3
6	2.4	3.3	2.2	2.4	1.7	1.6	20	3.0	3.3	3.5	3.4	3.3
7	3.0	13	2.2	2.3	1.7	2.1	31	3.0	3.3	3.5	3.4	3.3
8	2.5	2.8	2.2	2.2	2.0	1.6	38	3.1	3.3	3.4	3.4	3.3
9	2.5	2.6	2.3	2.2	1.8	1.5	26	3.1	3.3	3.4	3.4	3.3
10	2.5	2.5	2.2	2.1	1.8	1.5	2.1	3.1	3.3	3.4	3.4	3.3
11	2.5	2.6	2.1	2.1	1.9	1.5	2.1	3.1	3.3	3.4	3.4	3.3
12	2.5	3.6	2.1	2.1	2.0	1.4	2.0	3.1	3.3	3.4	3.4	3.3
13	2.5	2.7	2.1	2.0	2.0	1.4	2.0	3.1	3.3	3.4	3.4	3.3
14	2.5	2.5	2.5	2.0	2.0	1.3	2.0	3.1	3.3	3.4	3.3	3.3
15	2.5	2.5	2.2	2.0	2.1	1.3	2.3	3.1	3.4	3.4	3.3	3.3
16	2.5	2.5	2.1	2.0	2.1	1.4	2.6	3.1	3.4	3.4	3.3	3.3
17	2.4	3.7	2.2	2.0	2.7	1.4	3.0	3.1	3.4	3.4	3.3	3.3
18	2.3	2.6	2.2	1.9	2.3	1.3	2.8	3.1	3.4	3.4	3.3	3.3
19	2.3	2.6	2.1	1.9	2.2	2.7	2.7	3.1	3.4	3.4	3.3	3.3
20	2.4	3.5	2.5	1.9	2.2	1.4	2.7	3.6	3.5	3.4	3.3	3.3
21	2.6	2.6	2.4	1.8	2.2	1.4	2.7	3.6	3.5	3.4	3.3	3.3
22	2.5	2.9	2.3	1.8	2.2	1.3	10	3.3	3.5	4.2	3.3	3.3
23	2.6	2.6	2.3	1.7	2.2	2.0	28	3.2	3.5	3.3	3.3	3.3
24	2.5	3.4	2.1	1.7	2.2	1.8	22	3.1	3.5	3.3	3.3	3.3
25	2.5	2.7	1.9	1.7	2.1	1.6	2.7	3.1	3.5	3.5	3.3	3.3
26	2.7	2.4	1.9	1.7	1.8	4.5	2.9	3.1	4.4	3.4	3.3	3.3
27	2.5	2.1	1.9	1.9	1.7	1.6	2.8	3.1	3.5	3.4	3.3	3.3
28	2.5	2.1	2.4	1.7	1.7	1.5	2.8	3.1	3.5	3.4	3.3	3.3
29	2.5	2.7	6.3	1.6	---	1.9	2.9	3.1	3.5	3.4	3.3	3.3
30	2.9	2.2	3.3	1.7	---	2.0	3.2	3.1	3.5	3.4	3.3	3.3
31	2.6	---	2.9	1.7	---	2.1	---	3.3	---	3.4	3.3	---
TOTAL	77.8	91.2	77.4	65.3	55.1	53.5	238.8	97.2	102.6	106.9	103.6	99.5
MEAN	2.510	3.040	2.497	2.106	1.968	1.726	7.960	3.135	3.420	3.448	3.342	3.317
MAX	3.0	13	6.3	4.4	2.7	4.5	38	3.6	4.4	4.2	3.4	3.7
MIN	2.3	2.1	1.9	1.6	1.7	1.3	2.0	3.0	3.3	3.3	3.3	3.3
AC-FT	154	181	154	130	109	106	474	193	204	212	205	197
a	11870	6680	11890	14850	12690	6620	6150	26010	32040	26540	32930	24710
b	22740	11960	19000	35830	39130	17030	11800	46740	64880	54420	66740	52600

a Diversion, in acre-feet, to Big Creek Powerplant No. 2 (station 11238380), provided by Southern California Edison Co.

b Diversion, in acre-feet, to Big Creek Powerplant No. 8 (station 11238550), provided by Southern California Edison Co.

SAN JOAQUIN RIVER BASIN

11238500 BIG CREEK NEAR MOUTH, NEAR BIG CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.967	41.79	57.90	54.94	25.57	41.17	11.72	34.03	58.74	26.05	5.358	5.218
MAX	88.9	357	554	786	331	377	58.3	327	569	137	26.7	25.4
(WY)	1999	1999	1997	1997	1997	1995	1995	1995	1998	1998	1998	1998
MIN	2.44	1.97	1.28	1.61	1.69	1.73	2.35	2.23	2.23	2.20	2.27	2.33
(WY)	1988	1988	1995	1989	1988	2002	1989	1987	1987	1987	1988	1987

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	1205.0		1168.9			
ANNUAL MEAN	3.301		3.202		31.01	
HIGHEST ANNUAL MEAN					171	
LOWEST ANNUAL MEAN					2.34	
HIGHEST DAILY MEAN	15	Mar 5	38	Apr 8	3540	Jan 2 1997
LOWEST DAILY MEAN	1.9	Dec 25	1.3	Mar 14	1.0	Dec 8 1994
ANNUAL SEVEN-DAY MINIMUM	2.1	Dec 21	1.4	Mar 12	1.1	Dec 4 1994
MAXIMUM PEAK FLOW			230		7400	
MAXIMUM PEAK STAGE			2.98		10.34	
ANNUAL RUNOFF (AC-FT)	2390		2320		22470	
TOTAL DIVERSION (AC-FT) a	167400		213000			
TOTAL DIVERSION (AC-FT) b	342100		442900		490900	
10 PERCENT EXCEEDS	4.4		3.5		15	
50 PERCENT EXCEEDS	2.9		2.8		3.7	
90 PERCENT EXCEEDS	2.4		1.7		2.0	

a Diversion, in acre-feet, to Big Creek Powerplant No. 2 (station 11238380), provided by Southern California Edison Co.

b Diversion, in acre-feet, to Big Creek Powerplant No. 8 (station 11238550), 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, and 4.4 mi west of town of Big Creek 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 and water-stage recorder on Dam 6 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 Federal Energy Regulatory Commission project no. 120.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	259	e3.5	e3.5	3.5
2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	259	e3.5	e3.5	3.5
3	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e389	e3.5	3.5	18
4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	e328	e3.5	3.5	3.5
5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	e281	e3.5	3.5	3.5
6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	e271	e3.5	3.5	6.8
7	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	e254	e3.5	3.5	3.5
8	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e172	e3.5	3.5	3.5
9	3.2	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
10	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.4	3.5
11	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	e3.4	e3.5	3.5	3.5
12	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.4	e3.4	e3.5	3.5	3.5
13	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e8.3	3.5	3.5
14	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
15	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
16	3.5	3.7	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
17	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	e3.4	e3.5	3.5	3.5
18	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.5	e31	e3.5	3.5	3.5
19	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.5	e3.4	e3.5	3.5	3.5
20	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	e3.4	e3.5	3.5	3.5
21	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	e3.4	e3.5	3.5	3.5
22	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
23	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
24	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
25	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
26	3.5	3.5	3.5	3.5	3.4	3.5	3.5	3.4	e3.4	e3.5	3.5	3.5
27	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	e3.4	e3.5	3.5	3.5
28	3.5	3.5	3.4	3.5	3.5	3.5	3.4	3.4	e3.4	e3.5	3.5	3.5
29	3.5	3.5	3.3	3.5	---	3.5	3.4	3.4	e3.4	e3.5	3.5	3.5
30	3.5	3.5	3.2	3.5	---	3.5	3.4	3.4	e3.4	e3.5	3.5	3.6
31	3.5	---	3.4	3.5	---	3.5	---	333	---	e3.5	3.5	---
TOTAL	108.2	105.2	107.8	108.5	97.9	109.0	104.2	437.3	2315.4	113.3	108.4	122.9
MEAN	3.490	3.507	3.477	3.500	3.496	3.516	3.473	14.11	77.18	3.655	3.497	4.097
MAX	3.6	3.7	3.5	3.5	3.5	4.0	3.5	333	389	8.3	3.5	18
MIN	3.2	3.5	3.2	3.5	3.4	3.5	3.4	3.4	3.4	3.5	3.4	3.5
AC-FT	215	209	214	215	194	216	207	867	4590	225	215	244
a	38020	25530	38110	78180	72800	79440	136600	161100	160700	89670	107300	86260

e Estimated.

a Diversion, in acre-feet, to Big Creek Powerplant No. 3 (station 11241800), provided by Southern California Edison Co.

SAN JOAQUIN RIVER BASIN

11238600 SAN JOAQUIN RIVER ABOVE STEVENSON CREEK, NEAR BIG CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.535	3.422	23.17	663.7	292.1	216.6	175.3	1194	1816	533.8	36.14	4.699
MAX	34.5	3.95	200	6605	1841	954	621	3726	7614	3623	291	11.7
(WY)	1999	1987	1997	1997	1997	1996	1996	1993	1998	1998	1998	2000
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	7069.9		3838.1			
ANNUAL MEAN	19.37		10.52		413.8	
HIGHEST ANNUAL MEAN					1202	
LOWEST ANNUAL MEAN					3.38	
HIGHEST DAILY MEAN	616	May 27	389	Jun 3	32000	Jan 3 1997
LOWEST DAILY MEAN	3.2	Mar 5	3.2	Oct 9	3.0	Dec 4 1993
ANNUAL SEVEN-DAY MINIMUM	3.3	May 17	3.4	Dec 25	3.1	Oct 6 1992
MAXIMUM PEAK FLOW			475	May 31	72500	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	14020		7610		299800	
TOTAL DIVERSION (AC-FT) a	923800		1074000		1149000	
10 PERCENT EXCEEDS	3.5		3.5		995	
50 PERCENT EXCEEDS	3.5		3.5		3.5	
90 PERCENT EXCEEDS	3.4		3.4		3.3	

a Diversion, in acre-feet, to Big Creek Powerplant No. 3 (station 11241800), 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 Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.8	4.3	6.3	4.4	6.4	8.6	9.0	5.4	7.5	5.9	5.8
2	4.4	3.7	5.0	6.0	4.3	6.1	9.4	8.8	5.0	6.5	5.9	5.6
3	4.0	3.8	5.1	7.3	4.3	6.4	11	9.3	6.5	6.6	5.8	5.8
4	4.2	4.1	4.5	6.0	4.3	6.0	11	10	11	6.6	5.9	5.8
5	4.0	4.1	4.4	5.5	4.3	6.0	11	11	9.4	6.1	5.8	5.6
6	4.1	3.9	4.6	5.5	4.4	e6.1	11	11	8.4	6.0	5.8	5.4
7	3.9	3.8	4.7	5.6	4.4	e5.3	10	11	8.4	6.2	5.7	5.4
8	3.8	3.8	4.5	5.5	4.8	e4.6	11	11	8.2	6.3	5.7	5.4
9	3.9	3.7	4.6	5.4	4.6	4.6	11	11	8.1	6.4	5.6	5.4
10	3.9	3.9	4.4	5.2	4.7	4.5	12	10	7.9	5.9	5.6	5.4
11	3.7	4.0	e4.4	5.1	4.7	e4.4	13	9.5	7.1	6.1	5.7	5.6
12	3.9	4.5	e4.2	5.2	4.8	5.1	14	9.1	7.0	6.3	5.6	5.5
13	3.9	4.4	4.4	5.1	4.9	4.6	15	9.1	6.6	5.9	5.6	5.4
14	3.8	4.3	4.5	5.0	5.1	4.0	16	9.0	6.5	6.1	5.3	5.4
15	3.6	4.4	e4.1	e4.9	5.2	4.1	16	8.9	6.2	6.3	5.6	5.4
16	3.7	4.0	e4.3	e5.1	5.2	e3.8	13	8.5	6.2	5.9	5.5	5.5
17	3.9	4.0	e4.0	e5.1	5.6	e3.9	13	8.2	6.1	4.7	4.9	5.4
18	3.8	4.0	3.9	e4.8	5.1	e3.9	11	7.8	6.1	6.1	5.4	5.2
19	3.8	4.0	4.3	e4.7	5.1	e3.8	10	7.3	6.0	6.1	5.5	5.2
20	3.8	4.0	4.4	e4.7	5.6	3.9	9.9	8.4	5.9	6.0	5.5	4.7
21	3.8	4.0	4.3	e4.5	5.8	4.1	9.7	8.9	5.7	6.0	5.6	4.9
22	3.8	5.1	4.1	e4.4	6.1	4.3	9.9	8.7	5.6	5.9	5.6	5.5
23	3.7	4.2	4.1	e4.5	6.2	4.5	11	9.0	5.9	5.9	5.7	5.4
24	3.7	9.9	4.4	e4.8	6.0	4.2	11	8.9	5.8	5.9	6.0	5.2
25	3.8	6.3	e4.1	e4.6	6.1	4.2	12	8.6	5.4	5.9	5.5	5.4
26	3.8	4.6	4.0	4.4	6.3	4.3	12	7.9	5.6	5.9	5.7	5.4
27	3.8	4.3	4.4	4.4	6.5	5.1	11	7.1	5.4	5.9	5.6	5.2
28	3.7	4.2	5.1	4.4	6.7	5.9	11	6.6	5.4	5.9	5.6	4.8
29	3.8	4.4	13	e4.5	---	6.7	10	6.1	7.4	6.1	5.6	4.9
30	5.4	4.1	7.6	e4.5	---	7.6	9.7	5.7	7.6	5.9	5.5	4.8
31	4.4	---	7.9	4.6	---	8.2	---	5.4	---	5.9	5.5	---
TOTAL	123.3	131.3	151.6	157.6	145.5	156.6	344.2	270.8	201.8	188.8	174.2	160.4
MEAN	3.977	4.377	4.890	5.084	5.196	5.052	11.47	8.735	6.727	6.090	5.619	5.347
MAX	5.5	9.9	13	7.3	6.7	8.2	16	11	11	7.5	6.0	5.8
MIN	3.6	3.7	3.9	4.4	4.3	3.8	8.6	5.4	5.0	4.7	4.9	4.7
AC-FT	245	260	301	313	289	311	683	537	400	374	346	318

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

MEAN	5.673	7.402	6.768	11.94	10.84	15.05	26.69	28.72	24.88	8.965	6.110	5.844
MAX	14.7	22.1	14.1	71.8	52.2	40.7	59.6	108	178	36.2	11.3	11.5
(WY)	2001	1998	1992	1997	1996	1995	2000	1996	1995	1995	1996	2000
MIN	3.65	3.80	4.29	4.59	3.89	5.05	8.99	5.80	4.66	4.00	4.08	4.14
(WY)	1991	1993	1993	1992	1991	2002	1994	1990	1989	1989	1989	1991

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1989 - 2002
ANNUAL TOTAL	3348.5	2206.1	
ANNUAL MEAN	9.174	6.044	13.69
HIGHEST ANNUAL MEAN			34.7
LOWEST ANNUAL MEAN			5.57
HIGHEST DAILY MEAN	31	16	1750
LOWEST DAILY MEAN	3.6	3.6	1.6
ANNUAL SEVEN-DAY MINIMUM	3.8	3.8	2.0
MAXIMUM PEAK FLOW		31	3220
MAXIMUM PEAK STAGE		2.84	9.58
ANNUAL RUNOFF (AC-FT)	6640	4380	9920
10 PERCENT EXCEEDS	16	9.8	25
50 PERCENT EXCEEDS	7.8	5.5	6.5
90 PERCENT EXCEEDS	4.0	3.9	4.3

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, and 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 No. 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. Records, including extremes, represent 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 Federal Energy Regulatory Commission project nos. 67 and 120. 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, 130,096 acre-ft, June 11, 12, elevation, 5,367.60 ft; minimum, 83,813 acre-ft, Mar. 22, elevation, 5,344.12 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	5,265	3,206	5,300	24,004	5,340	76,741
5,250	700	5,270	4,748	5,310	34,455	5,350	94,568
5,255	1,254	5,280	9,189	5,320	46,797	5,371	137,476
5,260	2,070	5,290	15,598	5,330	60,942		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103776	105350	111766	121414	108428	86787	85459	97697	119004	126011	118011	110093
2	103307	105547	112473	121414	108069	86231	85675	e97632	120226	125780	117684	110151
3	102564	105784	113104	121581	107591	86088	86140	e97692	121184	125758	117374	110212
4	102058	106140	113368	121665	107154	85836	86625	e97750	122247	126201	117005	110293
5	101611	106398	113631	121267	106637	85585	87218	e97807	123317	126539	116695	110093
6	101204	106756	113855	120830	106040	85620	87454	99158	124617	126011	116325	109852
7	100893	107094	114364	120539	105370	85764	87780	99541	126075	125950	115978	109550
8	100990	107034	114609	120226	103952	85140	87926	99716	127495	126011	115589	109490
9	101107	107272	114956	119915	103482	84432	88778	99966	128749	125886	115241	109210
10	101244	107511	115221	119480	102486	84309	89015	100526	129968	125506	114914	109110
11	101437	107770	115772	119294	101611	84380	89512	101514	130096	125378	114892	108949
12	101592	108009	115936	119273	100622	84451	90081	102740	130096	124935	114545	108830
13	101785	108028	116161	118879	99716	85104	90560	103620	129797	124010	114545	108689
14	101921	108028	116530	118549	98772	85228	91226	104443	129475	123736	114158	108628
15	102115	108472	116448	118239	97850	85370	91767	105231	129091	123422	113792	108569
16	102270	108571	116633	117951	97086	85496	91972	105626	129026	123043	113631	108387
17	102486	108751	116900	117559	96263	85496	92289	106338	128834	122436	112575	108207
18	102623	109270	116715	116510	94778	85442	92420	105824	128643	121976	112454	108808
19	102818	109572	117169	115630	94511	84327	92456	107173	128006	121559	112087	109531
20	103053	109912	117827	114771	93567	84451	92569	108248	127856	121559	112149	108708
21	102915	109893	118384	113306	92774	84097	92456	108910	127028	121310	111664	108028
22	103542	110053	118487	113042	91990	83813	92792	109632	126964	120934	111605	108088
23	103698	110112	118859	112454	91152	84149	93360	110112	126837	120663	111502	108108
24	103874	110939	118736	112555	90302	84290	93757	110496	126667	120289	111260	107989
25	104068	111343	118922	111747	89403	84962	94435	111323	126603	119811	110939	107910
26	104225	111040	119067	110981	88452	85033	95310	112070	126414	119480	110837	107869
27	104443	110919	119543	109912	87890	85140	95939	112961	126201	119128	110455	107690
28	104639	110858	119977	109531	87363	85424	96415	113833	125758	119004	110232	106894
29	104797	110839	120705	109290	---	84732	96550	115098	125568	118736	110093	106657
30	105231	111404	120850	109010	---	84910	97065	116201	125378	118361	110052	105961
31	105173	---	121227	108730	---	85069	---	117559	---	118011	109811	---
MAX	105231	111404	121227	121665	108428	86787	97065	117559	130096	126539	118011	110293
MIN	100893	105350	111766	108730	87363	83813	85459	97632	119004	118011	109811	105961
a	5355.49	5358.61	5363.40	5357.28	5346.11	5344.83	5351.31	5361.63	5365.38	5361.85	5357.82	5355.89
b	+1339	+6231	+9823	-12497	-21367	-2294	+11996	+20494	+7819	-7367	-8200	-3850

CAL YR 2001 b +37008

WTR YR 2002 b +2127

e Estimated.

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 Highway 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; auxiliary gage, acoustic-velocity meters on Shaver Lake Dam. 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 Federal Energy Regulatory Commission project no. 67.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.5	2.5	2.8	2.5	2.4	3.2	3.3	3.2	3.3	3.1	3.4
2	3.4	3.5	3.3	2.9	2.5	2.4	3.2	3.2	3.2	3.3	3.1	3.4
3	3.4	3.5	2.9	3.3	2.5	2.4	3.2	3.2	3.2	3.3	3.1	3.4
4	3.4	3.5	2.6	2.8	2.5	2.4	3.2	3.2	3.2	3.3	3.1	3.4
5	3.4	3.5	2.5	2.7	2.5	2.4	3.2	3.2	3.2	3.3	3.1	3.4
6	3.4	3.5	2.5	2.7	2.5	2.5	3.2	3.2	3.2	3.3	3.1	3.4
7	3.4	3.5	2.5	2.7	2.5	2.7	3.2	3.2	3.2	3.3	3.1	3.4
8	3.4	3.5	2.5	2.7	2.6	2.6	3.2	3.2	3.2	3.3	3.1	3.4
9	3.4	3.5	2.5	2.6	2.6	2.5	3.2	3.2	3.2	3.3	3.1	3.4
10	3.4	3.5	2.5	2.6	2.5	2.5	3.2	3.2	3.6	3.3	3.1	3.4
11	3.4	3.5	2.4	2.6	2.5	2.5	3.2	3.2	4.2	3.3	3.1	3.4
12	3.4	3.8	2.4	2.6	2.5	2.4	3.2	3.2	4.5	3.3	3.1	3.4
13	3.4	3.7	2.4	2.6	2.5	2.3	3.1	3.2	3.3	3.3	3.1	3.4
14	3.4	3.6	2.5	2.6	2.5	2.1	3.1	3.2	3.3	3.3	3.3	3.4
15	3.4	3.6	2.4	2.6	2.5	2.1	3.1	3.2	3.3	3.3	3.4	3.3
16	3.4	3.5	2.4	2.6	2.5	2.1	3.1	3.2	3.2	3.3	3.4	3.4
17	3.4	3.5	2.5	2.6	2.6	2.1	3.2	3.2	3.2	3.2	3.5	3.4
18	3.4	3.5	2.5	2.6	2.5	2.1	3.2	3.2	3.3	3.2	3.5	3.4
19	3.4	3.5	2.5	2.5	2.5	2.1	3.2	3.2	3.2	3.2	3.4	3.3
20	3.4	3.5	2.5	2.5	2.5	2.1	3.2	3.3	3.2	3.2	3.4	3.3
21	3.4	3.5	2.5	2.5	2.5	2.1	3.2	3.4	3.2	3.1	3.5	3.3
22	3.4	3.7	2.5	2.5	2.5	2.1	3.1	3.3	3.2	3.1	3.5	3.3
23	3.4	3.6	2.5	2.5	2.5	2.2	3.1	3.3	3.2	3.1	3.5	3.3
24	3.4	3.6	2.5	2.5	2.5	2.2	3.1	3.3	3.2	3.1	3.5	3.3
25	3.4	2.6	2.5	2.5	2.4	2.2	3.1	3.2	3.2	3.1	3.5	3.3
26	3.4	2.5	2.5	2.5	2.4	2.2	3.4	3.2	3.2	3.1	3.4	3.3
27	3.5	2.4	2.5	2.5	2.4	2.1	3.4	3.2	3.2	3.1	3.4	3.3
28	3.5	2.4	2.8	2.5	2.4	2.5	3.3	3.2	3.2	3.2	3.4	3.3
29	3.5	2.5	4.0	2.5	---	3.2	3.3	3.2	3.3	3.2	3.4	3.3
30	3.7	2.5	3.0	2.5	---	3.2	3.3	3.2	3.2	3.2	3.4	3.4
31	3.6	---	3.0	2.5	---	3.2	---	3.2	---	3.1	3.4	---
TOTAL	106.2	100.0	81.1	81.1	69.9	73.9	95.9	99.9	99.2	100.0	102.1	100.8
MEAN	3.426	3.333	2.616	2.616	2.496	2.384	3.197	3.223	3.307	3.226	3.294	3.360
MAX	3.7	3.8	4.0	3.3	2.6	3.2	3.4	3.4	4.5	3.3	3.5	3.4
MIN	3.4	2.4	2.4	2.5	2.4	2.1	3.1	3.2	3.2	3.1	3.1	3.3
AC-FT	211	198	161	161	139	147	190	198	197	198	203	200
a	10650	4960	6390	20570	25980	9480	4910	20370	32590	27600	33470	27540

a Diversion, in acre-feet, to Big Creek Powerplant No. 2A (station 11238400), provided by Southern California Edison Co.

SAN JOAQUIN RIVER BASIN

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 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	12.61	3.319	2.766	18.45	27.11	42.06	44.35	75.77	120.1	78.31	14.12	3.573				
MAX	147	3.91	3.83	253	280	304	289	382	556	495	98.4	4.90				
(WY)	1999	2001	2001	1997	1997	1997	1997	1996	1995	1995	1995	1997				
MIN	3.26	2.92	2.18	2.21	2.39	2.38	3.20	3.22	3.23	3.03	3.16	3.11				
(WY)	1997	1993	2000	1996	1990	2002	2002	2002	1994	1997	1996	1998				

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1987 - 2002

ANNUAL TOTAL	1330.4	1110.1	
ANNUAL MEAN	3.645	3.041	36.88
HIGHEST ANNUAL MEAN			156 1995
LOWEST ANNUAL MEAN			3.04 2002
HIGHEST DAILY MEAN	5.7 Jun 12	4.5 Jun 12	688 Jun 25 1995
LOWEST DAILY MEAN	2.4 Nov 27	2.1 Mar 14	1.2 Dec 1 1991
ANNUAL SEVEN-DAY MINIMUM	2.4 Dec 10	2.1 Mar 14	1.9 Nov 26 1991
MAXIMUM PEAK FLOW		6.1 Jun 12	816 Jun 13 1995
MAXIMUM PEAK STAGE		a3.92 Oct 15	7.64 Apr 26 1993
ANNUAL RUNOFF (AC-FT)	2640	2200	26720
TOTAL DIVERSION (AC-FT) b	166100	224500	241800
10 PERCENT EXCEEDS	4.5	3.5	194
50 PERCENT EXCEEDS	3.5	3.2	3.4
90 PERCENT EXCEEDS	3.1	2.5	2.5

a Backwater from log.

b Diversion, in acre-feet, to Big Creek Powerplant No. 2A (station 11238400), 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, and 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). Records, including extremes, represent 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 Federal Energy Regulatory Commission project no. 2017. 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, 25,520 acre-ft, Jan. 9, elevation, 1,401.70 ft; minimum, 13,428 acre-ft, Oct. 3, elevation, 1,371.65 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	4,282	1,360	9,651	1,380	16,455	1,400	24,748
1,350	6,809	1,370	12,858	1,390	20,427	1,405	27,058

RESERVOIR STORAGE (ACRE-FEET) WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14072	23311	23302	23605	23746	23158	24171	23902	24264	23985	24640	24336
2	13494	23482	23658	23768	24242	23838	24225	23838	24322	23905	24820	24385
3	13428	23307	24296	24287	24861	24497	24278	24083	24416	24145	24951	24029
4	14039	23535	24493	24605	24757	23777	24600	23524	24600	24016	25195	24216
5	13894	23049	24654	24866	24582	23548	24461	22714	24748	24078	24372	24587
6	15520	22672	24847	24888	24372	23579	24372	22603	24789	24091	24479	24965
7	17033	22503	25019	25087	24834	24016	24399	22899	24816	24363	24533	25051
8	18385	22563	24983	25033	24802	24193	24551	23009	24578	24225	24439	24658
9	19680	23005	24969	25520	24654	24233	24136	22712	23733	24171	23772	24685
10	20236	22832	24942	25492	24390	24065	23746	23428	23434	24775	23355	23971
11	20928	22624	24888	25506	24145	24358	23337	23663	24042	24145	23535	23878
12	21303	22741	24924	24951	24225	24726	24211	23212	23865	23931	24118	23764
13	21453	22236	24997	24969	24091	24488	24811	23311	23883	23865	24309	23640
14	21725	22078	25087	25305	24131	24025	24202	23918	23711	23759	24149	22957
15	22218	22271	25497	25328	24145	23794	24003	23905	23693	23825	23684	23132
16	22296	22322	25214	25355	24176	23698	23530	24358	23971	23816	24519	24131
17	22806	22728	25182	25355	24322	23847	23398	23654	23759	24136	24753	24358
18	23075	23246	24537	25150	24636	24596	24069	23539	23799	24211	24631	24345
19	23263	23772	24452	24412	24430	24193	24167	23614	23429	24775	24627	24385
20	23315	24047	24555	23808	24202	23552	24011	24131	23407	24296	25128	24735
21	24171	23759	24744	23552	24569	23548	24605	24225	23737	23856	25255	24938
22	24176	23838	24708	23368	24372	23434	23088	23720	25037	24296	25447	24627
23	24269	23658	24439	23132	24457	24242	23618	23706	24493	24176	24979	24605
24	24448	23989	24349	23075	24278	24466	24816	23825	23945	24211	25141	24640
25	24291	23684	24136	24029	24211	24327	24703	24269	23627	23989	25168	24762
26	23892	23834	24114	24291	24247	24025	24304	24479	23892	24109	25087	24951
27	23614	24997	24051	24694	24122	23949	24349	24578	23698	24185	24902	24699
28	23548	24425	23980	24074	23246	23816	24605	24560	23958	24390	24843	24712
29	23259	24007	24475	23522	---	23892	24603	24884	24051	24560	24345	25033
30	23429	23517	23750	23263	---	24140	24453	24322	24162	24573	24385	25195
31	22979	---	23368	23106	---	24096	---	24145	---	24667	24412	---
MAX	24448	24997	25497	25520	24861	24726	24816	24884	25037	24775	25447	25195
MIN	13428	22078	23302	23075	23246	23158	23088	22603	23407	23759	23355	22957
a	1396.00	1397.23	1396.89	1396.29	1396.61	1398.54	1399.34	1398.65	1398.69	1399.82	1399.25	1400.99
b	+4006	+538	-149	-262	+140	+850	+357	-308	+17	+505	-255	+783

CAL YR 2001 b -1048

WTR YR 2002 b +6222

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 Powerplant No. 4 (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 Federal Energy Regulatory Commission project no. 2017.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	23	23	24	27	24	24	23	23	23	23	23
2	24	23	24	24	23	24	24	23	23	23	23	23
3	25	23	30	33	23	24	27	23	23	23	23	23
4	25	23	40	24	23	24	24	23	23	23	23	23
5	25	30	33	24	23	24	24	23	23	23	23	23
6	26	38	24	24	31	24	24	23	23	23	23	23
7	26	38	23	23	37	24	24	23	23	23	23	23
8	27	38	23	23	36	24	24	23	23	23	23	23
9	27	37	23	24	36	24	24	23	23	23	23	23
10	27	38	23	23	36	24	24	23	23	23	24	23
11	25	32	23	23	136	24	24	23	23	23	23	23
12	23	24	23	23	36	24	24	23	23	23	24	23
13	23	24	23	23	36	24	24	23	23	24	24	23
14	23	23	23	24	36	24	24	23	23	37	23	23
15	34	28	23	24	36	24	24	23	23	31	23	23
16	27	24	23	24	36	27	24	23	23	23	24	25
17	23	24	23	24	36	31	24	23	24	23	23	29
18	23	24	23	24	36	24	24	23	23	23	23	36
19	23	23	23	24	36	24	24	23	23	23	23	36
20	23	23	23	24	36	24	24	23	23	23	23	36
21	23	23	23	24	36	24	24	23	23	23	23	36
22	23	23	23	24	32	24	24	23	23	23	23	36
23	23	23	23	24	24	24	24	23	23	23	23	36
24	23	23	23	24	24	24	24	23	23	23	23	36
25	23	23	23	24	24	24	23	23	23	23	23	32
26	23	23	23	24	24	24	23	23	23	23	23	23
27	23	23	23	24	24	24	24	23	23	23	23	26
28	23	23	24	24	24	24	24	23	23	24	23	23
29	23	23	24	24	---	24	24	23	23	24	23	23
30	24	23	23	50	---	24	24	23	23	24	23	23
31	23	---	25	23	---	24	---	23	---	23	23	---
TOTAL	755	790	753	772	967	754	721	713	691	739	717	801
MEAN	24.35	26.33	24.29	24.90	34.54	24.32	24.03	23.00	23.03	23.84	23.13	26.70
MAX	34	38	40	50	136	31	27	23	24	37	24	36
MIN	22	23	23	23	23	24	23	23	23	23	23	23
AC-FT	1500	1570	1490	1530	1920	1500	1430	1410	1370	1470	1420	1590
a	35070	24910	42440	81560	72810	78920	137600	164300	169500	89910	108500	85280

a Diversion, in acre-feet, to Big Creek Powerplant No. 4 (station 11246530), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.45	21.01	105.7	154.7	115.4	153.3	398.9	1596	2165	878.8	71.29	22.18
MAX	61.2	76.2	3501	4156	1255	1456	2739	10410	12700	7739	1343	46.9
(WY)	2001	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1951 - 2002	
ANNUAL TOTAL	9105		9173			
ANNUAL MEAN	24.95		25.13		470.3	
HIGHEST ANNUAL MEAN					2409	
LOWEST ANNUAL MEAN					11.4	
HIGHEST DAILY MEAN	274	May 17	136	Feb 11	47700	Dec 23 1955
LOWEST DAILY MEAN	21	Jul 7	22	Oct 1	0.00	Sep 25 1951
ANNUAL SEVEN-DAY MINIMUM	22	Sep 25	23	Oct 17	0.38	Oct 17 1982
MAXIMUM PEAK FLOW			619	Jan 30	99200	Jan 2 1997
MAXIMUM PEAK STAGE			7.67	Jan 30	65.17	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	18060		18190		340700	
TOTAL DIVERSION (AC-FT) a	956100		1092000			
10 PERCENT EXCEEDS	24		31		1010	
50 PERCENT EXCEEDS	23		23		21	
90 PERCENT EXCEEDS	23		23		5.3	

a Diversion, in acre-feet, to Big Creek Powerplant No. 4 (station 11246530), 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. 24	1400	126	3.74	Dec. 2	2245	103	3.63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.7	9.0	21	16	20	40	40	41	7.6	3.2	1.6
2	1.9	3.2	26	19	15	19	45	39	36	7.3	3.1	1.6
3	1.9	3.0	64	40	21	18	52	41	33	7.3	3.0	1.6
4	1.9	3.0	19	23	14	18	55	45	31	6.8	3.0	1.7
5	1.9	2.9	9.6	14	12	17	52	50	30	6.6	2.9	1.8
6	1.9	2.9	8.5	14	12	26	47	55	27	6.4	2.8	2.3
7	2.0	2.9	9.2	17	11	45	45	57	25	6.2	2.3	2.4
8	1.9	3.0	8.3	16	16	33	50	55	23	6.0	2.2	2.1
9	1.9	3.0	10	16	13	21	51	54	22	5.6	2.2	2.0
10	1.9	3.0	9.5	14	11	20	51	53	21	5.2	2.1	1.9
11	1.9	3.9	8.7	13	11	20	55	50	20	5.1	2.0	1.7
12	1.9	7.5	6.8	12	11	22	59	50	19	5.0	2.0	1.7
13	1.9	8.4	6.7	11	12	21	66	52	18	4.8	1.9	1.6
14	1.9	6.3	12	11	13	19	69	55	17	4.9	1.8	1.6
15	1.8	5.7	7.3	14	14	20	68	58	16	5.1	1.9	1.6
16	1.8	5.0	7.2	15	14	20	53	58	15	4.9	1.9	1.6
17	1.8	4.4	7.5	11	21	21	52	58	15	4.8	1.9	1.7
18	1.9	4.0	7.0	11	13	26	47	56	14	4.7	1.9	1.6
19	1.9	3.8	6.8	10	13	19	44	52	14	4.6	1.9	1.6
20	1.8	3.8	12	10	18	20	41	59	13	4.4	1.9	1.6
21	1.9	4.3	17	9.9	18	20	41	52	13	4.2	2.0	1.6
22	1.9	15	8.3	9.4	18	20	42	50	12	4.1	1.9	1.5
23	2.0	6.8	7.8	11	19	26	45	50	12	3.8	1.9	1.5
24	2.0	35	7.1	10	18	23	50	50	10	3.3	1.9	1.6
25	2.0	15	7.1	9.7	18	24	51	49	9.7	3.2	1.8	1.5
26	1.9	9.1	6.8	9.1	19	23	52	47	9.4	3.1	1.8	1.5
27	1.9	7.3	7.0	18	20	23	51	47	9.2	3.1	1.8	1.6
28	2.0	6.5	13	18	21	28	46	45	8.8	3.0	1.7	1.7
29	2.0	9.8	49	25	---	44	45	44	8.4	3.0	1.7	1.9
30	8.2	6.6	36	23	---	40	43	44	8.1	3.0	1.7	1.9
31	7.0	---	36	23	---	38	---	41	---	3.2	1.7	---
TOTAL	70.5	198.8	450.2	478.1	432	754	1508	1556	550.6	150.3	65.8	51.6
MEAN	2.274	6.627	14.52	15.42	15.43	24.32	50.27	50.19	18.35	4.848	2.123	1.720
MAX	8.2	35	64	40	21	45	69	59	41	7.6	3.2	2.4
MIN	1.8	2.9	6.7	9.1	11	17	40	39	8.1	3.0	1.7	1.5
AC-FT	140	394	893	948	857	1500	2990	3090	1090	298	131	102

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.603	9.301	14.59	30.38	29.86	40.58	51.42	77.93	50.69	17.38	5.850	4.285
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	0.41	1.63	1.20	1.84	2.07	2.04	1.78	2.40	1.84	0.99	0.66	0.38
(WY)	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	6671.1		6265.9			
ANNUAL MEAN	18.28		17.17		28.05	
HIGHEST ANNUAL MEAN					82.7	
LOWEST ANNUAL MEAN					1.57	
HIGHEST DAILY MEAN	113	May 8	69	Apr 14	1600	Jan 2 1997
LOWEST DAILY MEAN	1.8	Sep 10	1.5	Sep 22	0.27	Oct 4 1987
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 10	1.5	Sep 20	0.29	Oct 11 1977
MAXIMUM PEAK FLOW			126	Nov 24	2750	Jan 13 1980
MAXIMUM PEAK STAGE			3.74	Nov 24	7.41	Jan 13 1980
ANNUAL RUNOFF (AC-FT)	13230		12430		20320	
10 PERCENT EXCEEDS	51		50		78	
50 PERCENT EXCEEDS	8.2		10		8.5	
90 PERCENT EXCEEDS	1.9		1.9		1.9	

SAN JOAQUIN RIVER BASIN

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 September 1998, October 2000 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 Federal Energy Regulatory Commission project no. 1354.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	8.9	12	14	42	76	48	25	4.1	0.00	0.00
2	0.00	0.00	19	12	14	38	77	45	23	3.8	0.00	0.00
3	0.00	0.00	19	12	15	36	77	45	22	3.6	0.00	0.00
4	0.00	0.00	17	28	14	35	77	48	20	3.3	0.00	0.00
5	0.00	0.00	13	33	14	34	77	50	19	3.1	0.00	0.00
6	0.00	0.00	11	31	14	38	76	51	18	2.9	0.00	0.00
7	0.00	0.00	15	35	16	58	76	51	17	2.3	0.00	0.00
8	0.00	0.00	14	34	23	48	77	50	16	1.4	0.00	0.00
9	0.00	0.00	14	32	23	42	78	48	16	1.2	0.00	0.00
10	0.00	0.00	11	30	23	39	78	45	15	0.97	0.00	0.00
11	0.00	0.00	9.6	29	24	40	78	42	15	0.86	0.00	0.00
12	0.00	0.22	8.9	30	25	46	78	41	14	0.76	0.00	0.00
13	0.00	0.23	8.7	28	26	48	78	40	13	0.66	0.00	0.00
14	0.00	0.02	11	28	27	39	78	39	12	0.49	0.00	0.00
15	0.00	2.4	9.5	25	27	35	77	39	12	0.09	0.00	0.00
16	0.00	4.3	9.3	23	27	34	73	37	11	0.00	0.00	0.00
17	0.00	3.4	11	21	31	32	74	36	9.0	0.00	0.00	0.00
18	0.00	2.6	10	19	28	31	63	31	8.7	0.00	0.00	0.00
19	0.00	1.9	9.8	19	26	33	57	30	8.6	0.00	0.00	0.00
20	0.00	1.7	11	17	33	40	53	48	8.3	0.00	0.00	0.00
21	0.00	1.7	11	17	35	45	52	48	8.0	0.00	0.00	0.00
22	0.00	14	10	17	39	47	52	46	7.8	0.00	0.00	0.00
23	0.00	9.2	10	15	40	51	53	46	7.6	0.00	0.00	0.00
24	0.00	10	9.9	16	37	48	56	45	7.3	0.00	0.00	0.00
25	0.00	11	9.3	16	37	46	58	39	6.9	0.00	0.00	0.00
26	0.00	13	9.5	16	40	45	64	34	6.5	0.00	0.00	0.00
27	0.00	7.4	11	17	41	47	69	32	6.1	0.00	0.00	0.00
28	0.00	8.4	12	15	43	56	57	30	5.6	0.00	0.00	0.00
29	0.00	9.5	13	15	---	69	53	28	4.7	0.00	0.00	0.00
30	0.13	8.5	12	15	---	76	52	26	4.5	0.00	0.00	0.00
31	0.10	---	12	19	---	76	---	24	---	0.00	0.00	---
TOTAL	0.23	109.47	360.4	676	756	1394	2044	1262	367.6	29.53	0.00	0.00
MEAN	0.007	3.649	11.63	21.81	27.00	44.97	68.13	40.71	12.25	0.953	0.000	0.000
MAX	0.13	14	19	35	43	76	78	51	25	4.1	0.00	0.00
MIN	0.00	0.00	8.7	12	14	31	52	24	4.5	0.00	0.00	0.00
AC-FT	0.5	217	715	1340	1500	2760	4050	2500	729	59	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

MEAN	1.568	4.644	9.624	18.24	31.04	47.51	53.51	39.15	18.55	6.130	1.736	0.808
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	0.000	0.000	0.88	3.01	0.64	0.45	0.54	0.27	0.000	0.000	0.000	0.000
(WY)	1989	1996	1998	1991	1998	1998	1998	1998	1998	1998	1987	1987

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1987 - 2002

ANNUAL TOTAL	6156.04		6999.23		19.29		1995	
ANNUAL MEAN	16.87		19.18		39.0		1998	
HIGHEST ANNUAL MEAN					1.58		1998	
LOWEST ANNUAL MEAN					86		Mar 8 1989	
HIGHEST DAILY MEAN	84	May 4	78	Apr 9	0.00	Oct 1	0.00	Jul 3 1987
LOWEST DAILY MEAN	0.00	Apr 21	0.00	Oct 1	0.00	Oct 1	0.00	Jul 3 1987
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 16	0.00	Oct 1	0.00	Jul 3	0.00	1987
ANNUAL RUNOFF (AC-FT)	12210		13880		13970			
10 PERCENT EXCEEDS	72		51		71			
50 PERCENT EXCEEDS	7.4		11		6.0			
90 PERCENT EXCEEDS	0.00		0.00		0.00			

11243400 BASS LAKE NEAR BASS LAKE, CA

LOCATION.—Lat 37°17'33", long 119°31'43", in SE 1/4 NE 1/4 sec.26, T.7 S., R.22 E., [Madera County](#), Hydrologic Unit 18040006, Sierra National Forest, at outlet tower at dam, on North Fork Willow Creek, 2.2 mi southeast of town of Bass Lake, and 5 mi north of North Fork.

DRAINAGE AREA.—50.4 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 Federal Energy Regulatory Commission project no. 1354. 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, 44,601 acre-ft, May 23, elevation, 3,375.70 ft; minimum, 22,363 acre-ft, Oct. 28, elevation, 3,353.44 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 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29834	22521	24131	27509	24553	27953	32321	41061	44196	43770	42100	38598
2	29569	22521	24692	27490	24605	28084	32640	41258	44101	43770	42122	38305
3	29286	22521	24892	27647	24674	28223	32960	41455	43995	43770	42134	37999
4	29014	22529	24997	27601	24744	28352	33305	41677	43888	43758	42122	37693
5	28733	22529	25075	27555	24813	28482	33631	41899	43770	43747	42122	37377
6	28454	22537	25137	27472	24874	29126	33949	42145	43641	43723	42122	37095
7	28176	22546	25215	27417	24953	29683	34248	42402	43477	43723	41788	36791
8	27898	22537	25277	27343	25110	29939	34559	42662	43337	43536	41788	36489
9	27601	22537	25356	27251	25207	30130	34892	42917	43173	43278	41799	36177
10	27325	22546	25409	27141	25303	30302	35197	43150	43185	42987	41799	35888
11	27051	22571	25453	27041	25400	30484	35536	43383	43243	42743	41799	35579
12	26761	22779	25506	26933	25497	30696	35877	43618	43302	42503	41810	35282
13	26472	22829	25524	26824	25586	30880	36230	43841	43372	42256	41799	34976
14	26185	22837	25657	26697	25693	31044	36608	44078	43407	42212	41799	34673
15	25889	22862	25702	26571	25809	31180	36943	44172	43454	42223	41799	34372
16	25604	22887	25764	26427	25925	31336	37280	44220	43489	42223	41799	34073
17	25321	22913	25836	26293	26176	31483	37627	44244	43512	42223	41799	33775
18	25032	22929	25889	26131	26293	31620	37889	44267	43559	42212	41799	33489
19	24761	22946	25925	25970	26419	31767	38152	44291	43594	42201	41788	33193
20	24475	22954	26140	25809	26580	31816	38359	44481	43629	42201	41732	32900
21	24174	22971	26221	25675	26734	31796	38587	44565	43641	42189	41699	32600
22	23901	23088	26302	25515	26887	31806	38805	44589	43664	42178	41577	32321
23	23612	23139	26374	25330	27041	32023	39034	44601	43700	42167	41291	32023
24	23324	23578	26454	25189	27178	32013	39264	44589	43723	42156	40985	31737
25	23046	23688	26508	25014	27334	31964	39547	44589	43747	42156	40691	31453
26	22762	23747	26553	24840	27490	31914	39840	44565	43770	42145	40387	31151
27	22463	23781	26625	24753	27638	31904	40179	44529	43735	42122	40091	30860
28	22363	23798	26869	24605	27805	31974	40430	44470	43747	42111	39786	30590
29	22372	23969	27536	24441	---	32003	40658	44422	43747	42111	39503	30311
30	22479	24020	27610	24415	---	32063	40876	44351	43770	42111	39209	30197
31	22504	---	27592	24484	---	32122	---	44279	---	42100	38903	---
MAX	29834	24020	27610	27647	27805	32122	40876	44601	44196	43770	42134	38598
MIN	22363	22521	24131	24415	24553	27953	32321	41061	43173	42100	38903	30197
a	3353.62	3355.40	3359.42	3355.96	3359.83	3364.19	3372.45	3375.42	3374.99	3373.55	3370.61	3362.21
b	-7607	+1516	+3572	-3108	+3321	+4317	+8754	+3403	-509	-1670	-3197	-8706

CAL YR 2001 b +6333

WTR YR 2002 b +86

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 Federal Energy Regulatory Commission project no. 1354.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	1.1	4.1	117	3.6	1.3	56	1.6	121	1.4	0.00	149
2	145	0.97	3.4	117	3.6	0.44	1.6	1.6	121	1.4	0.00	149
3	146	0.74	0.35	117	2.6	0.48	1.3	1.6	122	1.4	0.00	149
4	147	0.63	0.34	117	1.8	0.72	0.81	1.6	122	1.4	0.00	148
5	147	0.63	0.36	117	1.8	1.2	0.57	1.6	122	1.4	0.00	148
6	147	0.63	0.41	117	1.8	1.3	1.1	1.6	122	1.4	0.00	148
7	147	0.63	0.41	117	1.8	1.3	1.7	1.6	122	1.4	0.00	148
8	147	0.55	0.41	117	1.8	1.2	1.7	1.6	122	96	0.00	147
9	147	0.40	0.41	117	1.8	0.84	1.7	1.6	122	145	0.00	147
10	147	0.46	0.96	117	1.8	0.79	1.7	1.6	37	145	0.00	147
11	147	0.44	2.3	117	1.8	0.79	1.7	1.6	1.3	145	0.00	147
12	148	0.38	1.8	117	1.8	0.79	1.7	1.6	1.5	145	0.00	147
13	148	0.34	1.5	117	1.8	0.72	1.7	1.6	1.6	145	0.00	147
14	147	0.34	0.69	117	1.8	0.63	1.7	1.6	1.2	45	0.00	148
15	147	0.34	0.41	117	1.8	0.63	1.7	78	0.71	0.08	0.00	148
16	148	0.27	0.41	118	1.8	0.63	1.7	110	0.71	0.00	0.00	148
17	149	0.20	0.41	120	1.8	0.63	1.6	110	0.71	0.00	0.00	148
18	148	0.24	0.41	120	1.8	0.61	1.6	110	0.74	0.00	0.00	148
19	147	0.24	0.41	120	1.8	0.61	1.1	110	0.96	0.00	1.7	148
20	147	0.25	0.75	120	1.8	60	0.71	110	1.7	0.00	18	148
21	146	0.29	0.80	120	1.8	99	0.71	116	1.7	0.00	2.4	148
22	145	0.29	0.48	120	1.8	99	0.71	120	1.2	0.00	52	149
23	145	0.29	0.48	120	1.8	133	0.88	122	1.1	0.00	139	149
24	144	0.40	0.48	120	1.8	149	2.1	122	1.2	0.00	148	149
25	143	0.43	0.48	120	2.4	149	2.1	121	1.4	0.00	148	147
26	142	0.60	0.43	120	2.4	139	2.1	120	1.4	0.00	148	151
27	142	0.94	0.34	120	2.4	115	2.1	120	28	0.00	148	152
28	56	1.4	0.34	120	2.4	104	1.8	121	1.0	0.00	148	147
29	0.20	2.4	40	120	---	117	1.6	121	1.4	0.00	144	152
30	0.23	3.7	116	120	---	128	1.6	121	1.4	0.00	145	e149
31	0.49	---	117	78	---	131	---	121	---	0.00	149	---
TOTAL	4004.92	20.52	297.07	3631	57.2	1438.61	99.09	1975.4	1183.93	875.88	1391.10	4450
MEAN	129.2	0.684	9.583	117.1	2.043	46.41	3.303	63.72	39.46	28.25	44.87	148.3
MAX	149	3.7	117	120	3.6	149	56	122	122	145	149	152
MIN	0.20	0.20	0.34	78	1.8	0.44	0.57	1.6	0.71	0.00	0.00	147
AC-FT	7940	41	589	7200	113	2850	197	3920	2350	1740	2760	8830
a	6620	0.00	520	5780	0.00	2420	99	3030	1850	1340	2390	7760
b	7260	0.00	704	6960	105	165	0.00	0.00	0.00	0.00	0.00	0.00
c	7990	0.00	750	8760	0.00	3100	216	4130	2530	1610	2580	9180
d	7870	597	1920	8230	1040	4040	2080	4620	2670	1760	2370	8670

e Estimated.

a Diversion, in acre-feet, to San Joaquin Powerplant No. 3 (station 11244100), provided by Pacific Gas & Electric Co.

b Diversion, in acre-feet, to San Joaquin Powerplant No. 2 (station 11246570), provided by Pacific Gas & Electric Co.

c Diversion, in acre-feet, to San Joaquin Powerplant No. 1A (station 11246590), provided by Pacific Gas & Electric Co.

d Diversion, in acre-feet, to San Joaquin Powerplant No. 1 (station 11246610), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	69.48	44.43	55.23	59.99	69.75	76.28	61.35	61.73	60.14	81.76	99.06	88.00
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	0.000	0.000	0.042	0.19	0.079	0.12	0.12	0.090	0.060	0.52	9.43	0.23
(WY)	1988	1968	1954	1954	1977	1947	1947	1977	1942	1977	1977	1996

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1941 - 2002	
ANNUAL TOTAL	16693.81		19424.72			
ANNUAL MEAN	45.74		53.22		68.99	
HIGHEST ANNUAL MEAN					128 1983	
LOWEST ANNUAL MEAN					14.4 1977	
HIGHEST DAILY MEAN	149	Oct 17	152	Sep 27	167	Jun 23 1965
LOWEST DAILY MEAN	0.00	Jul 16	0.00	Jul 16	0.00	Nov 6 1940
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 16	0.00	Jul 16	0.00	Feb 8 1941
ANNUAL RUNOFF (AC-FT)	33110		38530		49980	
TOTAL DIVERSION (AC-FT) a	27980		31820			
TOTAL DIVERSION (AC-FT) b	32010		15190			
TOTAL DIVERSION (AC-FT) c	32760		40840			
TOTAL DIVERSION (AC-FT) d	45530		45870			
10 PERCENT EXCEEDS	145		147		151	
50 PERCENT EXCEEDS	1.4		1.8		67	
90 PERCENT EXCEEDS	0.24		0.20		0.03	

a Diversion, in acre-feet, to San Joaquin Powerplant No. 3 (station 11244100), provided by Pacific Gas & Electric Co.

b Diversion, in acre-feet, to San Joaquin Powerplant No. 2 (station 11246570), provided by Pacific Gas & Electric Co.

c Diversion, in acre-feet, to San Joaquin Powerplant No. 1A (station 11246590), provided by Pacific Gas & Electric Co.

d Diversion, in acre-feet, to San Joaquin Powerplant No. 1 (station 11246610), 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 Federal Energy Regulatory Commission project no. 1354.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.1	1.4	1.6	1.2	1.1	1.0	2.7	1.9	1.5	1.2	1.0
2	1.2	1.2	3.3	1.7	1.2	1.1	1.0	2.7	1.9	1.6	1.2	1.1
3	1.2	1.2	3.0	2.9	1.2	1.1	1.1	2.7	1.8	1.6	1.2	1.1
4	1.2	1.2	1.8	1.8	1.2	1.1	1.1	2.8	1.8	1.5	1.2	1.1
5	1.2	1.2	1.5	1.5	1.2	1.1	1.1	2.7	1.7	1.5	1.2	1.1
6	1.2	1.2	1.4	1.4	1.2	2.3	1.6	2.5	1.7	1.5	1.2	1.0
7	1.2	1.2	1.4	1.3	1.2	3.1	1.9	2.6	1.6	1.4	1.2	1.0
8	1.2	1.2	1.3	1.2	1.3	2.1	1.6	2.6	1.6	1.4	1.2	1.1
9	1.2	1.2	1.3	1.2	1.2	1.5	1.6	2.7	1.5	1.3	1.2	1.1
10	1.2	1.2	1.3	1.1	1.2	1.4	1.6	2.7	1.5	1.3	1.2	1.1
11	1.2	1.2	1.3	1.1	1.1	1.3	1.8	2.7	1.5	1.2	1.2	1.1
12	1.2	1.5	1.3	1.3	1.1	1.3	1.7	2.7	1.5	1.2	1.2	1.1
13	1.2	1.3	1.3	1.3	1.1	1.3	1.6	2.8	1.5	1.1	1.2	1.1
14	1.2	1.2	1.5	1.2	1.0	1.3	1.4	2.8	1.5	1.1	1.1	1.1
15	1.2	1.2	1.4	1.2	1.0	1.2	1.4	2.8	1.5	1.1	1.1	1.0
16	1.2	1.2	1.3	1.2	1.0	1.2	1.3	2.8	1.5	1.1	1.1	0.98
17	1.2	1.2	1.3	1.2	1.3	1.2	1.5	2.6	1.5	1.2	1.1	0.98
18	1.2	1.2	1.3	1.2	1.1	1.3	1.5	2.5	1.5	1.2	1.1	0.98
19	1.2	1.2	1.3	1.2	1.1	1.2	1.4	2.4	1.5	1.2	1.1	0.98
20	1.2	1.2	1.7	1.2	1.1	1.1	1.4	2.3	1.4	1.3	1.1	0.98
21	1.2	1.2	1.8	1.2	1.1	1.1	1.5	2.2	1.4	1.3	1.1	0.98
22	1.2	1.3	1.5	1.2	1.1	1.1	1.6	2.2	1.4	1.3	1.1	1.0
23	1.2	1.2	1.5	1.2	1.1	2.2	1.7	2.2	1.4	1.3	1.1	1.0
24	1.2	2.5	1.4	1.2	1.1	1.7	1.8	2.1	1.4	1.3	1.1	1.1
25	1.1	1.8	1.3	1.2	1.1	1.3	2.1	2.1	1.4	1.3	1.0	0.94
26	1.1	1.3	1.3	1.2	1.1	1.1	2.4	2.1	1.4	1.3	1.0	0.94
27	1.1	1.3	1.3	1.3	1.1	1.1	2.6	2.0	1.5	1.3	1.0	0.94
28	1.1	1.2	1.6	1.2	1.1	1.1	2.6	2.0	1.5	1.3	0.98	1.1
29	1.1	1.6	4.8	1.2	---	1.1	2.7	2.0	1.5	1.2	0.98	1.2
30	1.2	1.4	2.3	1.2	---	1.0	2.7	2.0	1.5	1.2	1.0	1.1
31	1.2	---	2.1	1.2	---	1.0	---	1.9	---	1.2	1.0	---
TOTAL	36.7	39.1	52.3	41.1	31.8	42.1	50.3	75.9	46.3	40.3	34.66	31.30
MEAN	1.184	1.303	1.687	1.326	1.136	1.358	1.677	2.448	1.543	1.300	1.118	1.043
MAX	1.2	2.5	4.8	2.9	1.3	3.1	2.7	2.8	1.9	1.6	1.2	1.2
MIN	1.1	1.1	1.3	1.1	1.0	1.0	1.0	1.9	1.4	1.1	0.98	0.94
AC-FT	73	78	104	82	63	84	100	151	92	80	69	62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

MEAN	3.341	4.035	7.141	23.52	27.25	34.64	19.51	29.35	23.86	4.971	3.978	4.138
MAX	77.8	54.6	106	524	380	387	272	317	244	73.6	66.4	103
(WY)	1949	1958	1947	1997	1986	1995	1982	1995	1998	1983	1963	1963
MIN	0.18	0.26	0.21	0.22	0.18	0.24	0.30	0.23	0.24	0.21	0.24	0.26
(WY)	1991	1992	1987	1991	1991	1977	1977	1977	1977	1977	1977	1976

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1941 - 2002

ANNUAL TOTAL	608.8	521.86	
ANNUAL MEAN	1.668	1.430	15.42
HIGHEST ANNUAL MEAN			92.4
LOWEST ANNUAL MEAN			0.26
HIGHEST DAILY MEAN	4.8	Dec 29	4.8
LOWEST DAILY MEAN	1.0	Aug 8	0.94
ANNUAL SEVEN-DAY MINIMUM	1.0	Aug 5	0.98
MAXIMUM PEAK FLOW			9.6
MAXIMUM PEAK STAGE			2.13
ANNUAL RUNOFF (AC-FT)	1210	1040	11170
10 PERCENT EXCEEDS	2.6	2.2	20
50 PERCENT EXCEEDS	1.4	1.2	0.80
90 PERCENT EXCEEDS	1.2	1.1	0.30

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 Federal Energy Regulatory Commission project no. 2017.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.16	1.9	4.4	66	9.3	18	56	20	7.5	2.1	2.6	0.04
2	0.16	1.1	24	31	9.0	16	40	19	7.3	1.9	2.4	0.00
3	0.16	0.80	176	170	8.9	15	40	18	6.9	1.7	2.3	0.00
4	0.16	0.71	21	76	9.0	15	43	18	6.6	1.6	2.4	0.00
5	0.16	0.69	13	29	9.5	15	39	17	6.2	1.5	2.4	0.00
6	0.15	0.65	8.1	22	9.2	15	35	16	5.8	1.4	2.2	0.02
7	0.12	0.65	7.1	20	9.0	41	32	15	5.4	1.4	2.1	0.04
8	0.12	0.65	6.8	18	12	34	32	14	5.1	1.3	2.0	0.03
9	0.12	0.65	6.6	17	13	22	33	14	5.0	1.2	1.8	0.00
10	0.12	0.65	6.5	16	11	20	32	13	5.0	1.1	1.7	0.00
11	0.12	0.65	5.6	14	11	18	33	12	4.8	0.92	1.7	0.00
12	0.14	2.0	5.1	14	11	19	32	12	24	0.86	1.3	0.00
13	0.24	8.8	4.8	13	11	22	32	11	9.4	0.84	1.1	0.00
14	0.27	16	6.7	13	11	19	30	11	5.2	0.75	1.0	0.00
15	0.28	11	7.2	12	12	17	29	10	4.5	6.4	1.5	0.00
16	0.28	8.3	5.6	11	12	17	25	9.9	4.1	2.8	1.2	0.00
17	0.28	4.7	5.5	14	16	16	28	9.5	3.7	3.5	1.0	0.00
18	0.28	3.3	6.1	11	15	16	25	9.1	3.6	4.8	0.89	0.00
19	0.28	2.1	5.8	10	13	15	23	8.7	3.5	5.3	0.74	0.00
20	0.26	1.6	6.2	9.6	15	17	22	13	3.4	5.2	0.66	0.00
21	0.24	1.4	8.5	9.6	16	18	22	32	3.2	4.6	0.49	0.00
22	0.22	2.1	7.2	10	16	23	22	19	3.1	4.2	0.30	0.00
23	0.20	7.0	6.7	8.4	16	60	21	16	3.0	3.9	0.22	0.00
24	0.20	65	6.6	9.0	16	87	20	14	2.9	3.7	0.18	0.00
25	0.20	45	5.9	8.8	16	61	20	12	15	3.6	0.28	0.00
26	0.24	8.6	5.6	8.5	16	51	24	10	15	3.6	0.38	0.00
27	0.24	5.6	5.5	10	17	33	31	9.4	5.8	3.5	0.27	0.00
28	0.24	5.4	6.7	13	17	30	25	8.9	4.7	3.1	0.20	0.00
29	0.24	5.2	309	11	---	32	22	8.5	2.9	2.9	0.18	0.00
30	0.35	6.0	157	9.4	---	43	21	8.0	2.4	2.8	0.16	0.00
31	1.8	---	117	9.3	---	56	---	7.4	---	2.8	0.12	---
TOTAL	8.03	218.20	967.8	693.6	356.9	881	889	415.4	185.0	85.27	35.77	0.13
MEAN	0.259	7.273	31.22	22.37	12.75	28.42	29.63	13.40	6.167	2.751	1.154	0.004
MAX	1.8	65	309	170	17	87	56	32	24	6.4	2.6	0.04
MIN	0.12	0.65	4.4	8.4	8.9	15	20	7.4	2.4	0.75	0.12	0.00
AC-FT	16	433	1920	1380	708	1750	1760	824	367	169	71	0.3

SAN JOAQUIN RIVER BASIN

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.498	15.98	54.39	120.5	134.1	146.8	139.3	147.6	60.87	10.29	2.521	2.803
MAX	24.6	150	652	1108	1255	1033	995	747	614	102	12.6	28.3
(WY)	1983	1997	1956	1997	1986	1983	1982	1967	1998	1998	1983	1982
MIN	0.000	0.54	1.13	2.13	1.89	2.63	2.36	3.61	1.93	0.000	0.000	0.000
(WY)	1956	1978	1991	1991	1991	1977	1977	1977	1961	1961	1959	1960

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1952 - 2002
ANNUAL TOTAL	5249.48	4736.10	
ANNUAL MEAN	14.38	12.98	68.14
HIGHEST ANNUAL MEAN			344 1983
LOWEST ANNUAL MEAN			1.71 1977
HIGHEST DAILY MEAN	309 Dec 29	309 Dec 29	7500 Dec 23 1955
LOWEST DAILY MEAN	0.03 Sep 24	0.00 Sep 2	0.00 Sep 4 1955
ANNUAL SEVEN-DAY MINIMUM	0.05 Sep 20	0.00 Sep 9	0.00 Sep 4 1955
MAXIMUM PEAK FLOW		621 Dec 29	15700 Dec 23 1955
MAXIMUM PEAK STAGE		8.75 Dec 29	31.65 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	10410	9390	49360
10 PERCENT EXCEEDS	38	30	164
50 PERCENT EXCEEDS	5.9	6.6	8.2
90 PERCENT EXCEEDS	0.17	0.13	0.35

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 (station 11246950) and No. 2 (station 11247050) 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 Federal Energy Regulatory Commission project no. 96.

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, 4,280 acre-ft, July 18, elevation, 985.85 ft; minimum, 3,420 acre-ft, Apr. 12, elevation, 980.22 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3780	3710	3780	3560	3890	3870	3890	3800	4060	3920	4150	3610
2	3440	3820	3800	3620	3650	3640	3890	3570	3990	3800	3970	3840
3	3850	3860	4000	3900	3770	3840	3920	3710	3550	4160	4140	3940
4	3760	3880	3780	3720	3790	3810	4040	3870	3850	4140	4080	3830
5	3890	3870	3660	3570	3790	3840	3970	3940	3820	3750	3890	3990
6	3720	3800	3980	3680	3960	3980	3780	3960	3920	3740	3990	3640
7	3720	3810	3850	3820	3770	3990	3730	3560	4100	3700	3940	3980
8	3860	3990	3850	3720	3940	3750	3770	3680	4000	3870	4030	3970
9	3700	3820	3710	3910	3960	3690	3820	4080	4080	3650	3920	4020
10	3640	3920	3610	3590	3790	3660	3960	3880	3860	3850	3830	4000
11	3680	3950	3690	3590	4070	3930	3910	4150	4010	3890	3710	4010
12	3740	3910	3590	3770	4020	3890	3420	3900	4010	4070	3990	4000
13	3620	3920	3530	3740	4020	3830	3650	3740	4120	4120	3800	3900
14	3620	3940	3590	3680	3830	3690	3560	4110	4040	3960	3800	3840
15	3760	3880	3640	3680	3870	3830	3800	4080	3840	4010	3750	3770
16	3770	3970	3620	3780	3960	3990	3760	4030	3860	3970	3990	3920
17	3730	3650	3590	3800	3990	3800	3920	4270	3890	4020	4070	3870
18	3610	3760	3940	3980	3750	4090	3920	3800	4110	4280	4080	4020
19	3690	3940	3890	4140	3860	4000	4220	3860	4070	4120	4090	3970
20	3880	3960	3620	3750	3750	3910	3840	4140	4040	4020	4010	3970
21	3800	3770	3550	3820	3750	3830	4040	4070	4030	3990	4060	3850
22	3850	3800	3670	4040	4050	3920	3950	4120	3750	3880	4080	3830
23	3750	3790	3690	3850	3770	3940	3760	3840	3780	3770	3990	4170
24	3880	3730	3770	3880	3950	3890	3780	3990	3990	3790	4040	3760
25	3800	3760	3710	3990	4020	3740	4000	4090	3920	4010	3950	3820
26	3600	3710	3580	3740	3950	3620	3760	4090	3770	3720	3980	3740
27	3850	3830	3460	4010	3790	3690	4150	4010	4080	3770	3950	3740
28	3820	3820	3440	4180	3830	3560	4010	3830	4060	3760	4090	3830
29	3510	3860	3560	4190	---	3840	3720	3890	4190	3930	3990	3900
30	3770	3740	3760	3910	---	3740	3580	3970	3990	4010	3920	4000
31	3840	---	3640	3940	---	3710	---	3810	---	4020	3610	---
MAX	3890	3990	4000	4190	4070	4090	4220	4270	4190	4280	4150	4170
MIN	3440	3650	3440	3560	3650	3560	3420	3560	3550	3650	3610	3610
a	983.01	982.34	981.68	983.67	982.94	982.14	981.28	982.81	984.00	984.20	981.48	984.07
b	+15	-100	-100	+300	-110	-120	-130	+230	+180	+30	-410	+390

CAL YR 2001 b -364

WTR YR 2002 b +180

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 Powerplants No. 1 and 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 Federal Energy Regulatory Commission project no. 96.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	31	30	42	39	36	35	36	37	35	34	34
2	31	31	32	42	39	37	35	36	36	35	34	34
3	30	31	31	43	39	36	35	36	36	35	34	34
4	31	31	31	42	38	37	35	41	36	36	34	34
5	31	31	30	41	38	36	35	36	36	36	34	35
6	31	31	30	41	38	37	35	37	37	35	33	36
7	31	31	30	42	38	37	34	36	37	35	33	36
8	31	31	30	40	38	37	34	36	37	34	34	35
9	32	32	30	40	39	36	34	37	37	34	34	35
10	31	31	29	40	38	36	34	36	37	35	34	36
11	31	32	29	39	39	36	34	36	37	36	34	35
12	32	32	29	40	39	35	34	37	37	36	34	36
13	32	32	29	40	39	35	33	36	37	35	34	36
14	31	32	29	40	38	34	34	36	37	35	34	35
15	31	32	29	40	38	34	34	37	36	34	34	35
16	31	32	29	39	39	34	34	36	36	34	34	35
17	31	31	29	40	38	34	34	37	36	34	34	35
18	31	30	218	40	38	35	35	37	37	35	34	35
19	30	31	231	40	38	35	34	36	36	35	35	35
20	31	32	49	40	38	35	34	36	36	34	35	36
21	31	31	46	40	38	34	34	36	36	34	35	35
22	31	31	46	40	38	34	35	36	37	35	34	35
23	30	31	46	40	38	35	34	36	37	34	35	35
24	31	32	46	40	38	34	41	36	36	35	34	35
25	31	30	45	39	38	35	36	36	36	35	35	35
26	31	30	44	38	38	34	36	36	36	35	34	35
27	31	30	42	40	37	34	36	36	36	34	34	35
28	31	30	44	40	37	34	37	36	36	34	34	36
29	30	30	44	40	---	34	36	36	36	34	34	35
30	30	30	43	39	---	34	36	37	36	34	34	35
31	31	---	43	39	---	35	---	37	---	34	34	---
TOTAL	959	932	1493	1246	1070	1089	1047	1129	1093	1076	1057	1053
MEAN	30.94	31.07	48.16	40.19	38.21	35.13	34.90	36.42	36.43	34.71	34.10	35.10
MAX	32	32	231	43	39	37	41	41	37	36	35	36
MIN	30	30	29	38	37	34	33	36	36	34	33	34
AC-FT	1900	1850	2960	2470	2120	2160	2080	2240	2170	2130	2100	2090
a	.00	23720	10060	.00	268	.00	83	13810	24060	173	.00	.00
b	36390	1850	32430	82950	71860	80670	128300	137900	131700	83630	100000	81650

a Discharge, in acre-feet, to Kerckhoff Powerplant No. 1 (station 11246950), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Kerckhoff Powerplant No. 2 (station 11247050), provided by Pacific Gas & Electric Co.

11246700 SAN JOAQUIN RIVER NEAR AUBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.14	63.30	33.33	226.1	39.71	90.08	75.47	415.7	839.6	591.4	36.35	32.29
MAX	167	265	51.1	2571	144	881	534	2683	5452	5217	89.3	45.6
(WY)	2000	2001	2000	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	11623		13244			
ANNUAL MEAN	31.84		36.28		207.5	
HIGHEST ANNUAL MEAN					1263	
LOWEST ANNUAL MEAN					18.2	
HIGHEST DAILY MEAN	231	Dec 19	231	Dec 19	35200	Jan 3 1997
LOWEST DAILY MEAN	26	Jan 15	29	Dec 10	16	May 9 1987
ANNUAL SEVEN-DAY MINIMUM	26	Jan 26	29	Dec 10	16	May 9 1987
MAXIMUM PEAK FLOW			5560		80600	
MAXIMUM PEAK STAGE			11.98		35.62	
ANNUAL RUNOFF (AC-FT)	23050		26270		150400	
10 PERCENT EXCEEDS	36		40		42	
50 PERCENT EXCEEDS	30		35		31	
90 PERCENT EXCEEDS	27		31		19	

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.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	842	344	0.00	189	244	523	594	598	2940	3070	2700	1000
2	972	247	0.00	190	245	500	702	626	3140	3290	2580	1140
3	1070	207	0.00	80	246	500	757	621	3300	3290	2420	1240
4	1070	208	88	0.00	248	560	797	547	3270	3190	2460	1260
5	951	263	153	0.00	249	602	742	589	3450	3000	2680	1210
6	714	303	90	0.00	250	569	702	852	3720	2760	3120	1080
7	734	303	0.00	0.00	251	520	702	1110	3580	2860	3460	727
8	937	244	0.00	118	253	455	703	1260	3320	3210	3480	887
9	1030	202	0.00	205	254	381	756	1240	3370	3530	3150	1140
10	1010	201	0.00	86	385	349	824	1120	3390	3820	2670	1260
11	903	201	0.00	0.00	451	410	846	947	3410	3950	2240	1330
12	727	297	94	0.00	452	478	793	989	3510	3660	2260	1390
13	649	269	162	142	452	527	749	1110	3260	3310	2390	1240
14	643	201	163	215	453	549	806	1240	2670	3460	2480	993
15	820	162	164	217	481	549	965	1440	2240	3430	2220	1040
16	937	134	164	219	654	549	1080	1510	2180	2990	1590	1300
17	967	134	165	221	842	549	1110	1330	2260	2550	1240	1440
18	907	134	166	267	902	551	1050	1110	2330	2330	1280	1460
19	703	56	167	304	934	553	899	1220	2430	2110	1450	1360
20	597	0.00	168	307	1010	553	689	1410	2480	1920	1580	1120
21	592	0.00	169	309	1050	491	703	1570	2320	2020	1580	919
22	713	0.00	170	311	996	428	866	1710	1980	2180	1460	919
23	841	0.00	171	314	775	414	1070	1780	1940	2170	1290	1110
24	842	0.00	72	316	645	414	1160	1680	2060	2150	1080	1260
25	774	0.00	0.00	269	682	467	1130	1570	2240	2060	1180	1240
26	667	0.00	0.00	236	763	473	842	1670	2410	1860	1350	1170
27	602	0.00	0.00	236	742	393	608	1960	2610	1790	1430	1030
28	659	0.00	103	237	614	353	543	2390	2850	2080	1460	789
29	643	0.00	183	239	---	316	543	2860	2840	2400	1420	795
30	513	0.00	184	241	---	290	575	3000	2860	2600	1230	931
31	422	---	186	243	---	385	---	3000	---	2660	1000	---
TOTAL	24451	4110.00	2982.00	5711.00	15523	14651	24306	44059	84360	85700	61930	33780
MEAN	788.7	137.0	96.19	184.2	554.4	472.6	810.2	1421	2812	2765	1998	1126
MAX	1070	344	186	316	1050	602	1160	3000	3720	3950	3480	1460
MIN	422	0.00	0.00	0.00	244	290	543	547	1940	1790	1000	727
AC-FT	48500	8150	5910	11330	30790	29060	48210	87390	167300	170000	122800	67000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

MEAN	866.4	320.5	95.95	221.6	1198	1216	1378	1713	2694	2959	2563	1506
MAX	3085	1364	926	1349	4505	3551	4476	4238	4529	4905	4339	4033
(WY)	1979	1979	1999	1966	1965	1965	1962	1993	1993	1993	1967	1967
MIN	0.000	0.000	0.000	0.000	0.000	5.13	32.2	87.5	598	262	384	1.33
(WY)	1950	1950	1950	1950	1950	1991	1998	1977	1977	1949	1949	1950

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	391232.00		401563.00			
ANNUAL MEAN	1072		1100		1405	
HIGHEST ANNUAL MEAN					2356	
LOWEST ANNUAL MEAN					270	
HIGHEST DAILY MEAN	3860		3950		5330	
LOWEST DAILY MEAN	0.00		0.00		0.00	
ANNUAL SEVEN-DAY MINIMUM	0.00		0.00		0.00	
ANNUAL RUNOFF (AC-FT)	776000		796500		1018000	
10 PERCENT EXCEEDS	2910		2850		3540	
50 PERCENT EXCEEDS	704		789		996	
90 PERCENT EXCEEDS	0.00		112		0.00	

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, and 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. Elevation 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. 17,400 acre-ft not available for release. 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 and capacity table were provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 528,800 acre-ft, July 21, 1998, elevation, 579.68 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, 513,000 acre-ft, May 28, elevation, 576.45 ft; minimum, 164,500 acre-ft, Nov. 2, elevation, 481.13 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated 1941)

400	36,400	460	117,500	520	279,400	560	436,500
420	57,000	480	161,700	540	353,000	580	530,400
440	83,300	500	215,000				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192700	164600	176300	215100	292100	336700	392500	472100	512100	451300	293400	226900
2	194200	164500	177200	216800	294100	338300	396100	474500	511900	446100	289100	227400
3	194000	164600	178800	219400	296000	339500	399400	477200	511800	439200	284800	227500
4	193200	164600	179800	221700	298800	341400	402300	478000	511500	431700	280600	227600
5	193400	165200	180900	223900	300900	342900	405700	481000	510800	423700	277600	227100
6	192300	165300	181300	226400	303000	344100	409200	483200	509300	417000	272400	227400
7	190900	165000	182400	228600	305100	346200	412700	485300	507700	410600	266000	228000
8	188900	165000	183100	231700	307200	346900	415800	487200	506600	403600	260100	228900
9	187500	164900	184100	234300	309300	347400	418900	489300	505600	397600	255200	229000
10	185500	164700	184800	237700	311400	349200	420700	491300	503800	389700	250400	229600
11	183700	164600	186000	240800	311900	350600	422600	493100	501000	382500	245800	229200
12	182500	165100	187000	243300	312600	352100	426800	495800	498300	376500	241900	228600
13	181800	165400	188000	244700	313300	353700	427800	497900	496100	370500	238700	228400
14	180400	165800	189100	248800	314200	355700	430200	498200	494900	364800	235600	228300
15	178600	166100	189400	251000	315400	357100	431700	499100	493700	358700	232800	228100
16	176600	166300	189800	254100	316400	358300	433700	499600	491800	352600	230600	226400
17	174800	166800	190800	257000	317500	359500	435500	501100	490400	348300	229200	225400
18	173600	166700	192000	260600	318000	359700	437700	502000	488600	344300	228200	223600
19	172600	166900	192800	263600	319000	360600	440300	502000	487900	341400	226800	222500
20	171700	167300	194100	265600	320000	361800	443100	501400	485300	339000	223700	222000
21	170900	168000	194900	268600	320400	363700	445500	502600	481700	335200	222400	222000
22	169900	168300	195300	271200	321700	366400	449200	504300	479000	331700	221400	223100
23	169100	168700	196200	274600	323100	368700	450800	506400	477700	328600	222000	222800
24	168000	169200	197300	276200	324900	371400	451300	508300	476200	325200	222800	222700
25	167500	170400	198500	276400	326900	373900	452600	509600	474200	321800	223600	222000
26	167400	171200	199600	277800	329300	376700	455600	511200	471500	318700	224200	221300
27	166800	172100	201200	278600	331500	379300	458400	512400	467900	315700	224800	221000
28	165900	173100	203100	280800	334300	381800	462100	513000	464200	311500	224500	221300
29	165500	173400	207200	283900	---	384100	466000	512100	460300	307300	225000	221800
30	165000	175500	210200	287300	---	385800	469600	512000	456200	302700	224900	221100
31	164700	---	213300	290000	---	388800	---	512400	---	298300	225700	---
MAX	194200	175500	213300	290000	334300	388800	469600	513000	512100	451300	293400	229600
MIN	164700	164500	176300	215100	292100	336700	392500	472100	456200	298300	214000	221000
a	481.20	485.48	499.20	523.06	535.17	548.89	567.32	576.33	564.39	525.40	503.37	501.85
b	-23200	+10800	-37800	+76700	+44300	+54500	+80800	+42800	-56200	-157900	-72600	-4600

CAL YR 2001 b -60500

WTR YR 2002 b +33200

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, and 2 mi downstream from Friant Dam 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 daily, 54 ft³/s, Sept. 15, 1924. 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 daily, 11 ft³/s, Jan. 8, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	143	e118	96	95	109	169	196	177	202	209	183
2	197	120	e121	105	92	110	167	195	175	200	209	184
3	195	120	e123	124	93	109	166	191	175	200	209	182
4	196	118	e119	106	93	110	167	191	175	204	207	182
5	196	118	e121	101	95	108	169	189	175	200	211	184
6	197	116	e124	98	96	109	167	187	175	201	201	184
7	197	117	e122	99	95	110	167	186	180	205	190	186
8	198	117	e124	98	95	110	165	192	180	202	186	186
9	192	115	e122	97	94	109	164	193	180	208	186	186
10	191	115	e124	96	e93	109	165	197	180	238	186	186
11	191	120	e128	95	e93	109	163	198	180	253	188	183
12	191	123	e124	93	e93	109	160	196	180	261	191	185
13	191	121	e122	89	e94	107	159	190	188	267	191	185
14	191	116	e120	91	e95	106	159	188	191	267	191	186
15	189	117	e118	90	e95	124	159	189	191	265	191	186
16	186	117	e116	89	e93	148	157	188	194	246	190	186
17	179	119	e114	89	e89	148	157	186	197	233	189	181
18	186	118	e111	90	e90	151	159	186	196	233	190	199
19	186	121	e108	89	e90	150	161	186	196	231	188	190
20	186	119	e105	88	87	150	159	192	194	231	188	186
21	186	117	103	88	86	152	159	185	194	231	186	186
22	183	118	97	90	86	151	159	178	196	239	186	186
23	186	120	95	90	86	153	159	177	198	224	185	186
24	188	121	94	94	103	155	182	177	196	215	184	186
25	188	120	95	93	106	156	196	176	194	213	185	186
26	187	120	93	92	108	154	194	175	200	211	184	187
27	186	122	93	91	108	151	194	175	200	209	184	186
28	186	e122	93	95	108	149	197	175	207	209	184	188
29	186	e124	99	95	---	150	194	176	209	209	184	188
30	174	e118	97	93	---	150	195	176	209	209	183	188
31	161	---	97	94	---	161	---	175	---	209	183	---
TOTAL	5839	3592	3440	2938	2651	4077	5088	5761	5682	6925	5919	5577
MEAN	188.4	119.7	111.0	94.77	94.68	131.5	169.6	185.8	189.4	223.4	190.9	185.9
MAX	198	143	128	124	108	161	197	198	209	267	211	199
MIN	161	115	93	88	86	106	157	175	175	200	183	181
AC-FT	11580	7120	6820	5830	5260	8090	10090	11430	11270	13740	11740	11060

e Estimated.

SAN JOAQUIN RIVER BASIN

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1940, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	628	609	868	1276	1704	2246	3805	5876	6085	2765	1166	772
MAX	1678	1317	3589	4507	4391	6854	8010	11170	15870	9635	2312	1361
(WY)	1919	1928	1910	1909	1937	1938	1916	1938	1911	1911	1914	1938
MIN	164	196	301	333	393	419	1262	1703	635	335	264	156
(WY)	1932	1932	1909	1918	1924	1924	1912	1934	1924	1924	1924	1931

SUMMARY STATISTICS

WATER YEARS 1908 - 1940

ANNUAL TOTAL	
ANNUAL MEAN	2343
HIGHEST ANNUAL MEAN	4961 1938
LOWEST ANNUAL MEAN	698 1924
HIGHEST DAILY MEAN	38800 Jan 31 1911
LOWEST DAILY MEAN	54 Sep 15 1924
ANNUAL SEVEN-DAY MINIMUM	105 Sep 16 1931
MAXIMUM PEAK FLOW	77200 Dec 11 1937
MAXIMUM PEAK STAGE	23.80 Dec 11 1937
ANNUAL RUNOFF (AC-FT)	1698000
10 PERCENT EXCEEDS	6100
50 PERCENT EXCEEDS	1190
90 PERCENT EXCEEDS	394

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
MEAN	349.5	258.7	396.2	730.7	1058	1193	1692	1844	1659	1021	576.7	457.3
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1941 - 2002

ANNUAL TOTAL	62940	57489	
ANNUAL MEAN	172.4	157.5	934.5
HIGHEST ANNUAL MEAN			4385 1983
LOWEST ANNUAL MEAN			66.9 1971
HIGHEST DAILY MEAN	900 Sep 6	267 Jul 13	36800 Jan 3 1997
LOWEST DAILY MEAN	82 Mar 25	86 Feb 21	11 Jan 8 1977
ANNUAL SEVEN-DAY MINIMUM	84 Mar 20	88 Feb 17	20 Jan 22 1990
MAXIMUM PEAK FLOW		284 Jul 15	60300 Jan 3 1997
MAXIMUM PEAK STAGE		2.89 Jul 15	22.97 Jan 3 1997
ANNUAL RUNOFF (AC-FT)	124800	114000	677000
10 PERCENT EXCEEDS	244	201	2860
50 PERCENT EXCEEDS	145	175	152
90 PERCENT EXCEEDS	93	94	53

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)
Mar. 17	1600	1.2	0.74	Mar. 19	1130	1.2	0.74

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.55	0.26	0.27	0.11	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.48	0.25	0.29	0.11	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.04	0.43	0.23	0.24	0.08	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.45	0.43	0.25	0.21	0.08	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.09	0.44	0.33	0.36	0.06	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.42	0.39	0.43	0.04	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.41	0.40	0.31	0.04	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.38	0.38	0.30	0.03	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.07	0.34	0.39	0.24	0.03	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.09	0.32	0.41	0.23	0.03	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.13	0.32	0.35	0.18	0.02	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.20	0.37	0.36	0.13	0.02	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.28	0.36	0.31	0.13	0.03	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.37	0.43	0.31	0.11	0.03	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.47	0.40	0.31	0.10	0.04	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.52	0.40	e0.31	0.11	0.02	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.55	0.44	e0.64	0.13	0.02	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.53	0.52	0.83	0.14	0.02	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.53	0.47	0.77	0.14	0.03	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.51	0.44	0.61	0.11	0.06	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.47	0.40	0.60	0.09	0.09	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.50	0.39	0.66	0.06	0.08	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.48	0.35	0.68	0.03	0.07	0.00	0.00	0.00	e0.00
24	0.00	0.00	0.00	0.47	0.30	0.68	0.04	0.07	0.00	0.00	0.00	e0.00
25	0.00	0.00	0.00	0.51	0.32	0.63	0.04	0.05	0.00	0.00	0.00	e0.00
26	0.00	0.00	0.00	0.54	0.33	0.68	0.08	0.03	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.57	0.34	0.62	0.09	0.03	0.00	0.00	0.00	0.00
28	e0.00	0.00	0.00	0.65	0.32	0.56	0.11	0.05	0.00	0.00	0.00	0.00
29	e0.00	0.00	0.00	0.73	---	0.44	0.09	0.05	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.64	---	0.39	0.10	0.02	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.58	---	0.33	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	10.97	11.10	14.36	4.89	1.44	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.354	0.396	0.463	0.163	0.046	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.73	0.55	0.83	0.43	0.11	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.30	0.23	0.03	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	22	22	28	9.7	2.9	0.00	0.00	0.00	0.00

e Estimated.

SAN JOAQUIN RIVER BASIN

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.097	0.339	1.330	6.639	10.52	13.15	4.789	2.529	1.098	0.403	0.112	0.138
MAX	1.40	2.82	11.2	44.0	65.4	101	23.2	17.4	7.64	3.83	1.83	1.41
(WY)	1984	1973	1984	1969	1998	1995	1983	1983	1983	1983	1983	1976
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1967	1967	1969	1975	1976	1989	1972	1972	1968	1968	1968	1968

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1967 - 2002
ANNUAL TOTAL	1103.68	42.76	
ANNUAL MEAN	3.024	0.117	3.396
HIGHEST ANNUAL MEAN			18.9 1983
LOWEST ANNUAL MEAN			0.003 1989
HIGHEST DAILY MEAN	498 Mar 5	0.83 Mar 18	1070 Mar 10 1995
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1966
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 18	0.00 Oct 1	0.00 Oct 1 1966
MAXIMUM PEAK FLOW		1.2 Mar 17	3420 Mar 1 1983
MAXIMUM PEAK STAGE		0.74 Mar 17	7.38 Mar 10 1995
ANNUAL RUNOFF (AC-FT)	2190	85	2460
10 PERCENT EXCEEDS	4.2	0.44	6.2
50 PERCENT EXCEEDS	0.00	0.00	0.08
90 PERCENT EXCEEDS	0.00	0.00	0.00

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, and 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 San Luis & Delta Mendota Water Authority and 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.

EXTREMES FOR CURRENT YEAR.—No flow for 2002 water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	52.20	136.6	210.1	331.1	332.2	497.8	693.4	841.9	539.6	243.2	34.75	24.70
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1948	1948	1948	1948	1948	1948	1948	1954	1953	1948	1948	1949

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1948 - 2002a
ANNUAL TOTAL	0.00	0.00	
ANNUAL MEAN	0.000	0.000	305.0
HIGHEST ANNUAL MEAN			3189 1983
LOWEST ANNUAL MEAN			0.000 1954
HIGHEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	5360 Mar 3 1983
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1947
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1947
ANNUAL RUNOFF (AC-FT)	0.00	0.00	221000
10 PERCENT EXCEEDS	0.00	0.00	625
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

a Does not include water years 1955 to 1972 (see Period of Record).

11255575 PANOCHÉ CREEK AT INTERSTATE 5, NEAR SILVER CREEK, CA

LOCATION.—Lat 36°39'09", long 120°37'52", in NE 1/4 SW 1/4 sec.2 T.15 S., R.12 E., Fresno County, Hydrologic Unit 18040001, on left bank, at downstream side of Interstate Highway 5 bridge over Panoche Creek, 7.3 mi southwest of Silver Creek Township, and 11.8 mi east of Panoche.

DRAINAGE AREA.— 305 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.— December 1997 to current year (seasonal records only). Record is published seasonally, Dec. 1 to June 30 of each water year. Peak discharges determined for entire year.

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

REMARKS.—Records poor. No known regulation or diversions upstream of station. A gravel operation located about 1 mile upstream of gage excavates the dry stream bed each season. This creates a large depression which traps an unknown volume of water and sediment before it reaches the gage location.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,940 ft³/s, Feb. 3, 1998, gage height, 13.46 ft, from rating curve extended above 1,500 ft³/s, on the basis of slope-area measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft³/s, or maximum. No peak greater than 150 ft³/s occurred outside of period of published record during this water year:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun. 29	0900	30	5.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
2	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
3	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
4	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
5	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
6	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
7	---	---	0.00	0.00	0.11	0.00	0.00	0.00	0.00	---	---	---
8	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
9	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
10	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
11	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
12	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
13	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
14	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
15	---	---	0.00	0.31	0.00	0.00	0.00	0.00	0.00	---	---	---
16	---	---	0.00	0.01	0.00	0.00	0.00	0.00	0.00	---	---	---
17	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
18	---	---	0.01	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
19	---	---	1.4	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
20	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.51	---	---	---
21	---	---	0.00	0.00	0.00	0.00	0.00	0.00	3.1	---	---	---
22	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.26	---	---	---
23	---	---	0.00	0.00	0.00	0.00	0.00	0.00	3.2	---	---	---
24	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
25	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
26	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
27	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
28	---	---	0.00	0.00	0.00	0.00	0.00	0.00	1.4	---	---	---
29	---	---	0.00	0.00	---	0.00	0.00	0.00	13	---	---	---
30	---	---	0.00	0.00	---	0.00	0.00	0.00	0.47	---	---	---
31	---	---	0.00	0.00	---	0.00	---	0.00	---	---	---	---
TOTAL	---	---	1.41	0.32	0.11	0.00	0.00	0.00	21.94	---	---	---
MEAN	---	---	0.045	0.010	0.004	0.000	0.000	0.000	0.731	---	---	---
MAX	---	---	1.4	0.31	0.11	0.00	0.00	0.00	13	---	---	---
MIN	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---
AC-FT	---	---	2.8	0.6	0.2	0.00	0.00	0.00	44	---	---	---

1125575 PANOCHE CREEK AT INTERSTATE 5, NEAR SILVER CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	0.009	0.525	63.21	5.419	2.232	0.904	0.861	---	---	---
MAX	---	---	0.045	2.59	316	23.2	10.9	4.26	1.81	---	---	---
(WY)	---	---	2002	1998	1998	2001	1998	1998	1999	---	---	---
MIN	---	---	0.000	0.000	0.000	0.000	0.000	0.000	0.20	---	---	---
(WY)	---	---	1998	2000	2001	2002	2000	2000	2001	---	---	---

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1998 - 2002	
ANNUAL TOTAL	736.98		23.78			
ANNUAL MEAN	3.476		0.112		9.840	
HIGHEST ANNUAL MEAN					44.8	1998
LOWEST ANNUAL MEAN					0.11	2002
HIGHEST DAILY MEAN	625	Mar 5	13	Jun 29	3250	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Dec 1	0.00	Dec 1 1997
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Dec 1	0.00	Dec 1 1997
MAXIMUM PEAK FLOW			30	Jun 29	9940	Feb 3 1998
MAXIMUM PEAK STAGE			5.18	Jun 29	13.46	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	1460		47		7130	
10 PERCENT EXCEEDS	0.38		0.00		2.4	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11255575 PANOCHE CREEK AT INTERSTATE 5, NEAR SILVER CREEK, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 1998 to current year.

CHEMICAL DATA: January 1998 to current year.

SEDIMENT DATA: January 1998 to current year.

REMARKS.—Zero bed-load discharge observed for flows less than 0.54 ft³/s during current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	PH WATER FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
JUN 28...	1015	.54	2500	749	8.7	100	8.1	726	21.0	84
Date	Time	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, AD-SORPTION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKALINITY WATER FIELD (MG/L AS CACO3) (39086)	BICARBONATE WATER FIELD (MG/L AS HCO3) (00453)	CARBONATE WATER FIELD (MG/L AS CO3) (00452)
JUN 28...	170	45.4	12.8	8.30	2	59.9	43	81	97	<1
Date	Time	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (UG/L AS SE) (01145)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01147)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01147)
JUN 28...	82.3	.2	17.6	53.2	.60	441	329	<2	<2	

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DIS-CHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)
JUN 28...	1045	.54	21.0	3320	4.8	58	73	80	89	95	98	100

< Actual value is known to be less than value shown.

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. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	111	157	107	133	228	171	135	70	153	148	106
2	43	121	166	121	130	240	161	134	110	143	135	104
3	44	118	195	137	129	241	160	124	159	137	136	116
4	54	121	205	169	135	236	163	121	163	136	127	120
5	69	128	209	204	143	267	164	111	138	153	152	117
6	78	145	221	169	138	307	164	114	100	175	168	121
7	81	159	226	146	143	326	160	96	87	166	159	123
8	101	145	209	134	160	338	155	91	96	152	143	127
9	121	135	197	129	174	348	135	93	96	147	144	125
10	117	134	192	131	173	322	133	80	107	143	144	116
11	113	136	176	128	165	296	140	67	144	125	139	87
12	117	143	142	124	146	282	142	76	156	111	135	75
13	139	172	128	120	149	282	149	84	164	125	129	76
14	158	207	107	118	151	265	167	82	161	134	125	82
15	164	203	81	118	158	262	178	73	155	144	133	74
16	163	190	72	116	160	273	154	94	150	134	131	62
17	163	179	70	109	166	296	124	97	138	131	137	61
18	152	157	68	89	197	319	131	119	136	136	146	57
19	122	145	63	92	241	352	130	171	133	152	166	69
20	91	136	66	96	244	361	139	187	136	151	181	84
21	84	132	68	110	241	320	142	199	131	156	166	86
22	86	131	69	110	227	267	145	186	140	160	135	70
23	87	133	70	109	231	278	123	170	147	173	128	76
24	81	135	68	111	225	309	127	179	179	166	126	83
25	74	142	61	105	214	300	133	185	175	150	128	77
26	74	148	57	108	208	275	133	181	175	141	141	72
27	76	156	58	105	198	247	129	150	169	149	137	66
28	77	148	61	100	209	203	145	117	163	163	129	50
29	76	147	66	105	---	189	152	86	156	180	112	61
30	80	163	85	114	---	181	156	95	158	210	93	81
31	95	---	96	126	---	168	---	83	---	192	88	---
TOTAL	3032	4420	3709	3760	4988	8578	4405	3780	4192	4688	4261	2624
MEAN	97.81	147.3	119.6	121.3	178.1	276.7	146.8	121.9	139.7	151.2	137.5	87.47
MAX	164	207	226	204	244	361	178	199	179	210	181	127
MIN	43	111	57	89	129	168	123	67	70	111	88	50
AC-FT	6010	8770	7360	7460	9890	17010	8740	7500	8310	9300	8450	5200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	154.1	171.1	140.5	165.5	285.8	357.0	249.7	205.5	209.7	228.6	237.5	157.9					
MAX	255	273	237	426	631	512	419	355	339	376	411	289					
(WY)	1990	1990	1996	1997	1998	1996	1986	1987	1987	1986	1986	1986					
MIN	41.3	65.2	63.4	60.6	83.4	231	147	75.2	72.0	61.7	57.1	39.4					
(WY)	1993	1993	1991	1991	1991	1992	2002	1992	1992	1992	1992	1992					

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1986 - 2002	
ANNUAL TOTAL	65793		52437			
ANNUAL MEAN	180.3		143.7		213.2	
HIGHEST ANNUAL MEAN					289	
LOWEST ANNUAL MEAN					96.6	
HIGHEST DAILY MEAN	717	Mar 8	361	Mar 20	810	Feb 20 1986
LOWEST DAILY MEAN	42	Sep 22	43	Oct 2	24	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	49	Sep 17	60	Oct 1	31	Dec 25 1992
MAXIMUM PEAK FLOW			367	Mar 20	unknown	Feb 20 1986
MAXIMUM PEAK STAGE			67.46	Mar 20	unknown	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	130500		104000		154500	
10 PERCENT EXCEEDS	296		212		365	
50 PERCENT EXCEEDS	167		136		190	
90 PERCENT EXCEEDS	68		76		85	

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, April to August 2001.

SPECIFIC CONDUCTANCE: Water years 1985–94, October 1995 to current year.

WATER TEMPERATURE: Water years 1985–94, October 1995 to current year.

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.—Specific conductance records rated excellent except for Oct. 1–5, Nov. 21 to Dec. 6, Dec. 19 to Jan. 15, Feb. 10 to Mar. 5, Mar. 19 to Apr. 17, Apr. 26 to May 13, June 13 to July 6, Aug. 13–21, Sept. 12–30, which are rated good; May 14–26, which are rated fair; and May 27–29, which are rated poor. Water-temperature records rated excellent except for Nov. 6 to Dec. 6, May 12–29, which are rated good; July 5, which is rated fair; and July 6, which is rated poor. 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, July 12, 1999; minimum recorded, 0.5°C, Dec. 26, 1985, Dec. 23, 1990.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 2,420 microsiemens Dec. 27, 28; minimum recorded, 732 microsiemens, July 31.

WATER TEMPERATURE: Maximum recorded, 31.0°C, May 30, 31, July 1, but may have been higher during period of missing record; minimum recorded, 7.0°C, Jan. 20, 24, 30, 31, Feb. 1.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
23 . . . *	1524	1.37	1670	23.0	3.50
23 . . . *	1525	1.90	1670	23.0	10.5
23 . . . *	1526	1.83	1670	23.0	17.5
23 . . . *	1527	1.86	1670	23.0	24.5
23 . . . *	1528	1.74	1670	23.0	31.5
23 . . . *	1529	1.70	1680	23.0	38.5
23 . . . *	1530	1.60	1680	23.0	45.5
23 . . . *	1531	1.82	1680	23.0	52.5
23 . . . *	1532	1.88	1680	23.0	59.5
23 . . . *	1533	.92	1680	23.0	66.5
JUL					
30 . . . *	1134	2.05	826	24.5	3.60
30 . . . *	1136	3.10	827	24.5	11.0
30 . . . *	1137	2.93	827	24.5	18.2
30 . . . *	1138	2.87	827	24.5	25.6
30 . . . *	1140	2.91	827	24.5	32.8
30 . . . *	1141	2.60	827	24.5	40.2
30 . . . *	1142	2.75	827	24.5	47.4
30 . . . *	1143	2.98	828	24.5	54.8
30 . . . *	1144	2.71	828	24.5	62.0
30 . . . *	1145	1.68	827	24.5	69.4

* Instantaneous discharge at time of cross-sectional measurement: 119 ft³/s, Apr. 23; 212 ft³/s, July 30.

SAN JOAQUIN RIVER BASIN

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1620	1530	1640	1410	1510	1460	2150	2110	1840	1680	1630	1540
2	1770	1620	1500	1390	1510	1410	2120	2060	1780	1690	1720	1620
3	1790	1740	1520	1500	1410	1400	2080	1950	1780	1600	1760	1680
4	1780	1450	1520	1480	1450	1410	1980	1920	1600	1530	1770	1700
5	1450	1400	1490	1410	1450	1440	2030	1970	1550	1470	1730	1610
6	1550	1410	1410	1250	1440	1390	2040	2010	1660	1500	1640	1550
7	1570	1450	1350	1280	1460	1380	2020	2000	1630	1510	1610	1540
8	1470	1140	1480	1340	1490	1430	2110	2020	1530	1370	1590	1560
9	1280	1130	1540	1480	1510	1470	2170	2060	1490	1370	1650	1580
10	1320	1140	1510	1440	1550	1500	2060	2030	1540	1490	1760	1650
11	1540	1140	1460	1440	1690	1550	2070	2040	1550	1510	1760	1680
12	1530	1280	1470	1360	1810	1680	2080	2060	1620	1550	1720	1670
13	1280	1190	1360	1250	1820	1780	2110	2080	1660	1600	1760	1670
14	1200	1110	1250	1170	2020	1820	2150	2100	1680	1630	1780	1700
15	1140	1110	1340	1210	2130	2020	2150	2070	1640	1610	1810	1640
16	1130	1100	1390	1340	2210	2130	2160	2080	1660	1630	1690	1620
17	1150	1090	1430	1370	2250	2180	2190	2150	1670	1530	1670	1630
18	1220	1150	1460	1430	2250	2230	2240	2190	1530	1370	1680	1580
19	1600	1220	1470	1450	2320	2240	2230	2120	1400	1320	1640	1610
20	1650	1600	1520	1470	2350	2260	2120	2060	1400	1350	1680	1640
21	1650	1620	1520	1490	2310	2250	2060	1980	1490	1310	1840	1660
22	1630	1570	1530	1510	2300	2230	2050	1970	1550	1440	1920	1840
23	1590	1560	1520	1500	2250	2230	2030	1930	1510	1420	1920	1800
24	1600	1530	1560	1490	2320	2240	1990	1940	1510	1440	1800	1730
25	1690	1560	1570	1530	2340	2300	1960	1900	1550	1470	1810	1740
26	1720	1670	1560	1480	2400	2340	2000	1940	1630	1480	1900	1800
27	1720	1680	1520	1470	2420	2370	2060	1960	1640	1560	1970	1830
28	1680	1640	1620	1520	2420	2360	2160	2060	1590	1510	1990	1930
29	1720	1640	1630	1460	2410	2340	2110	2020	---	---	1940	1790
30	1730	1640	1460	1400	2340	2190	2120	2010	---	---	1850	1780
31	1640	1590	---	---	2270	2150	2010	1810	---	---	1800	1680
MONTH	1790	1090	1640	1170	2420	1380	2240	1810	1840	1310	1990	1540
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1680	1610	1590	1240	1530	1320	1120	1030	845	788	1430	1220
2	1720	1600	1590	1410	1440	1000	1140	1040	858	783	1320	1220
3	1850	1700	1650	1410	1010	958	1200	1080	824	799	1230	1090
4	1790	1710	1670	1590	1030	968	1250	1120	886	811	1170	1090
5	1760	1680	1770	1610	1100	975	1170	1060	881	867	1130	1070
6	1710	1610	1790	1600	1300	1100	1080	---	870	856	1100	1070
7	1690	1610	1800	1610	1420	1270	---	---	862	848	1100	1030
8	1710	1650	1810	1770	1430	1350	---	---	856	836	1100	1030
9	1890	1670	1810	1680	1430	1390	---	---	1110	856	1070	1020
10	1880	1680	1940	1800	1470	1320	---	---	1110	997	1110	1040
11	1700	1640	1950	1890	1320	1150	---	---	1070	1000	1290	1110
12	1740	1620	1930	1660	1230	1180	---	---	1110	1050	1350	1270
13	1700	1530	1660	1570	1230	1180	---	---	1130	1080	1360	1290
14	1570	1430	1650	1540	1290	1200	---	---	1150	1120	1310	1240
15	1440	1410	1760	1650	1330	1240	---	---	1130	1020	1270	1200
16	1780	1440	1720	1430	1320	1260	1350	1270	1100	1020	1340	1260
17	1880	1600	1450	1410	1300	1240	1330	1190	1090	1050	1350	1200
18	1630	1580	1450	1260	1300	1170	1220	1070	1060	1030	1430	1230
19	1760	1570	1270	1110	1250	1160	1090	939	1060	1030	1410	1210
20	1590	1490	1140	1120	1260	1210	1020	941	1050	1020	1230	1120
21	1520	1380	1130	1070	1270	1220	1030	914	1130	1020	1140	1080
22	1450	1390	1240	1120	1240	1170	923	865	1140	1100	1190	1100
23	1700	1450	1250	1170	1190	1090	906	858	1170	1100	1190	1070
24	1750	1680	1220	1130	1090	1010	946	856	1280	1170	1270	1120
25	1730	1640	1140	1080	1100	999	1040	919	1270	1160	1300	1230
26	1810	1580	1150	1090	1090	997	1020	935	1180	1150	1320	1210
27	1900	1660	1290	1140	1110	1040	1010	954	1230	1120	1370	1230
28	1670	1480	1320	1250	1100	1050	955	874	1300	1110	1510	1350
29	1480	1310	1530	1320	1130	1060	876	767	1330	1240	1520	1390
30	1330	1240	1450	1230	1120	1070	768	733	1440	1330	1390	1260
31	---	---	1540	1270	---	---	803	732	1470	1420	---	---
MONTH	1900	1240	1950	1070	1530	958	---	---	1470	783	1520	1020

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	26.0	20.0	18.5	15.5	11.0	10.5	14.5	13.5	9.5	7.0	15.0	12.0
2	26.5	20.5	18.5	16.0	11.5	10.5	14.0	13.5	10.5	7.5	14.0	11.5
3	27.0	20.5	18.5	16.0	12.0	10.5	14.5	12.5	11.0	8.0	15.0	12.5
4	25.5	20.0	18.5	16.0	11.5	10.0	13.0	11.5	11.0	8.5	16.0	13.0
5	24.0	20.0	18.5	16.0	10.0	10.0	12.0	11.5	11.0	9.0	16.5	14.0
6	22.5	18.5	18.0	16.0	11.5	9.5	12.0	11.0	12.0	9.0	16.0	15.0
7	23.0	18.0	17.0	15.0	12.5	11.0	12.0	11.0	12.5	10.0	15.5	14.0
8	22.0	18.5	17.0	14.5	12.0	11.0	12.5	11.0	13.5	11.5	14.0	12.5
9	21.0	18.0	17.0	14.5	11.5	10.0	13.5	12.0	13.0	10.5	13.0	11.5
10	21.0	17.5	17.0	15.0	10.5	9.0	13.0	12.0	13.5	10.5	14.0	12.0
11	20.5	18.0	18.0	15.5	10.0	8.5	12.0	11.5	13.5	11.5	16.0	13.0
12	20.0	16.5	17.0	15.5	10.5	9.0	12.0	11.5	14.0	11.5	17.0	14.5
13	20.5	17.5	16.5	15.0	11.0	9.5	12.0	10.5	13.0	12.0	16.0	14.0
14	21.0	18.0	16.0	15.5	11.0	8.5	10.5	9.5	14.0	11.5	14.5	13.0
15	21.5	19.0	16.5	15.0	10.0	7.5	11.0	9.0	14.0	12.0	13.5	12.0
16	21.5	19.5	16.5	15.0	10.0	7.5	10.5	8.5	14.0	12.0	14.0	11.5
17	21.0	19.0	16.0	14.5	10.5	9.0	10.0	7.5	13.5	12.5	13.0	11.0
18	21.0	18.5	15.5	14.5	11.5	9.5	10.5	7.5	13.5	12.0	12.0	9.0
19	20.5	18.0	15.0	14.0	11.0	10.0	9.5	7.5	13.0	12.5	13.0	10.5
20	21.5	17.0	15.0	14.0	12.0	10.0	10.0	7.0	15.5	12.5	15.5	12.5
21	21.0	17.0	15.0	14.0	12.0	10.5	10.5	8.0	16.0	14.5	17.0	14.5
22	20.0	16.0	16.0	14.5	11.0	10.5	10.5	8.0	16.0	14.5	17.0	15.5
23	20.5	16.5	15.5	14.0	12.5	10.5	10.0	7.5	16.0	14.5	16.5	15.0
24	18.5	14.5	15.0	13.0	12.0	10.0	10.0	7.0	15.5	13.5	17.0	14.5
25	19.0	14.5	13.5	12.0	11.5	10.0	10.5	7.5	16.0	14.0	17.0	14.5
26	20.0	15.0	13.0	11.0	12.0	10.0	10.0	8.5	16.5	14.0	17.5	15.0
27	19.5	16.0	12.0	10.0	12.0	10.5	11.5	9.0	17.0	14.5	18.5	15.5
28	19.5	15.5	10.5	9.5	12.0	11.0	11.0	8.5	17.0	15.0	19.5	16.0
29	19.0	16.0	11.5	9.5	13.0	11.5	10.5	8.0	---	---	20.5	17.0
30	19.0	16.5	12.0	10.0	13.5	12.5	10.0	7.0	---	---	21.5	18.0
31	19.0	16.0	---	---	14.5	13.0	9.5	7.0	---	---	22.0	18.5
MONTH	27.0	14.5	18.5	9.5	14.5	7.5	14.5	7.0	17.0	7.0	22.0	9.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22.5	19.0	19.5	15.5	27.0	22.0	31.0	26.5	28.5	24.0	28.0	23.5
2	23.0	19.5	21.5	17.0	24.5	19.0	30.5	27.0	29.0	24.5	28.5	24.0
3	21.5	19.0	22.5	18.0	24.5	20.0	29.5	26.0	27.5	24.0	28.5	24.5
4	20.0	17.5	23.0	18.0	26.0	21.0	28.5	25.0	25.5	22.0	26.0	23.5
5	19.5	17.0	24.5	19.0	28.5	23.0	28.5	25.0	26.0	22.0	24.0	21.5
6	20.0	17.0	24.5	19.5	29.5	25.0	28.0	24.5	25.5	22.0	24.5	20.5
7	20.5	17.0	24.0	19.0	29.0	23.5	---	---	25.5	22.0	23.5	20.0
8	22.0	18.0	22.5	17.5	26.0	21.5	---	---	26.5	22.0	23.5	19.5
9	20.0	18.0	24.0	18.0	22.0	17.0	---	---	27.5	23.0	24.5	20.0
10	21.0	17.0	23.5	18.0	24.5	18.0	---	---	28.0	24.0	25.5	21.0
11	22.0	18.0	23.5	17.0	26.5	21.0	---	---	28.0	24.5	26.5	21.5
12	22.5	18.5	24.5	18.5	26.5	23.0	---	---	28.0	24.0	27.0	21.5
13	23.0	19.0	25.0	19.5	26.5	22.5	---	---	28.5	24.5	26.5	21.5
14	24.5	21.0	25.0	19.0	26.0	22.0	---	---	28.0	24.5	26.0	21.0
15	22.0	17.0	25.5	19.5	26.5	21.5	29.0	---	28.5	24.0	26.0	21.5
16	18.5	15.5	25.0	20.5	26.5	22.5	28.0	24.0	27.5	24.5	25.0	19.5
17	18.5	15.5	25.5	20.0	26.5	22.5	28.0	23.5	27.0	23.5	25.5	20.0
18	18.0	14.5	25.0	20.5	27.5	23.5	28.0	24.0	26.5	22.5	25.5	20.5
19	18.5	13.5	22.5	20.5	27.5	24.0	28.0	24.0	26.0	22.5	26.5	20.5
20	20.0	15.5	20.5	18.5	27.5	23.5	29.0	24.5	25.0	21.5	27.0	22.0
21	20.5	16.5	19.5	17.0	25.0	21.0	28.0	24.5	25.0	21.0	26.5	22.5
22	22.0	17.5	21.5	17.5	25.5	20.5	27.0	23.0	25.0	21.5	26.5	21.5
23	23.5	18.5	22.5	18.5	27.0	22.5	27.5	23.5	24.5	20.5	27.0	21.5
24	23.0	19.0	24.5	19.5	27.5	23.0	27.5	23.5	25.0	20.5	26.5	22.0
25	22.0	19.0	25.0	22.0	29.0	24.0	27.5	23.5	25.5	21.0	26.0	22.0
26	19.5	17.0	25.5	21.5	29.0	25.0	27.5	23.5	25.5	21.5	25.5	20.5
27	17.5	15.5	26.0	21.5	28.0	24.0	27.5	24.0	26.0	22.0	23.0	20.0
28	19.0	15.0	27.0	21.5	28.5	24.0	27.0	24.0	27.5	23.0	22.0	18.0
29	18.5	16.5	28.5	22.0	28.0	24.0	26.0	23.5	26.5	22.0	23.0	17.5
30	18.0	15.5	31.0	24.0	29.5	25.0	27.0	23.5	27.0	22.0	22.5	18.5
31	---	---	31.0	25.5	---	---	27.5	24.0	28.0	22.5	---	---
MONTH	24.5	13.5	31.0	15.5	29.5	17.0	---	---	29.0	20.5	28.5	17.5

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CA

LOCATION.—Lat 37°18'34", long 120°55'50", in NW 1/4 SE 1/4, sec.24, T.7 S., R.9 E., Merced County, Hydrologic Unit 18040001, on left bank 20 ft upstream from Fremont Ford Bridge. 2.1 mi downstream of Salt Slough, 4.5 mi west of Stevinson, and 6.7 mi upstream from Merced River.

DRAINAGE AREA.—7,615 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—March 1937 to September 1970, October 1985 to September 1989, October 2001 to September 2002. Monthly discharge only for some periods, published in WSP 1315-A. Prior to September 1970, records did not include flow bypassing station.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is North American Vertical Datum of 1988. Oct. 1, 1985, to Sept. 30, 1989, at datum 3.23 ft higher. Prior to Oct. 1, 1959, at site 170 ft downstream at datum 0.54 ft lower. Oct. 1, 1959, to Sept. 30, 1970, at site 120 ft downstream at datum 3.23 higher.

REMARKS.—Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, ground withdrawals, diversions for irrigation, and imported water from Delta-Mendota Canal (station 11313000). Low flows consist mainly of return water from irrigated areas. Stage affected at times by backwater from the Merced River.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 18,100 ft³/s, Mar. 18, 1986, maximum gage height, 67.65 ft, Mar. 18, 1986, datum then in use; minimum daily, 10 ft³/s, Nov. 8, 1959, Oct. 30 to Nov. 1, 1960.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e82	e135	189	1160	210	286	204	172	113	170	187	106
2	e74	e145	191	1310	209	304	199	158	117	165	152	113
3	e76	e143	207	1100	200	307	204	159	155	156	153	117
4	e85	e144	231	1360	202	303	219	151	181	144	149	117
5	e100	e151	301	2090	206	310	219	157	178	149	152	118
6	e107	e167	308	1740	207	336	215	145	148	169	176	118
7	e110	e179	295	1170	205	357	211	142	116	172	181	123
8	e129	e167	275	801	211	369	210	129	110	163	167	125
9	e147	e158	251	607	230	384	197	131	111	161	156	136
10	e142	e157	235	500	236	383	182	126	116	157	154	129
11	e138	e159	225	421	233	361	187	107	137	140	163	119
12	e140	e167	197	363	223	349	198	104	158	122	156	101
13	e162	e196	170	328	213	342	202	116	166	122	141	94
14	e178	e234	156	303	211	341	206	112	166	137	134	91
15	e183	e230	133	277	215	327	213	110	163	146	132	101
16	e182	e218	117	258	220	328	218	113	163	140	131	94
17	e182	e205	110	237	223	343	182	123	156	137	141	89
18	e170	e185	108	214	244	363	174	118	146	143	149	e74
19	e140	e174	107	194	297	371	174	151	137	151	166	e79
20	e111	e165	106	194	344	384	175	182	130	166	187	90
21	e104	e163	105	196	347	376	179	197	131	169	195	96
22	e106	e161	111	198	327	337	186	201	144	175	168	88
23	e107	e164	117	194	318	315	178	188	151	180	150	86
24	e105	e166	124	192	314	334	160	188	174	187	141	94
25	e100	e173	120	194	302	352	156	198	189	186	143	91
26	e99	e181	116	187	290	335	160	208	178	167	146	88
27	e101	e190	112	181	280	315	158	198	192	167	151	85
28	e102	e185	117	173	274	285	169	166	174	173	150	71
29	e100	177	120	175	---	243	179	136	176	181	127	68
30	e105	183	164	193	---	234	177	126	164	200	113	82
31	e120	---	605	209	---	215	---	121	---	214	102	---
TOTAL	3787	5222	5723	16719	6991	10189	5691	4633	4540	5009	4713	2983
MEAN	122.2	174.1	184.6	539.3	249.7	328.7	189.7	149.5	151.3	161.6	152.0	99.43
MAX	183	234	605	2090	347	384	219	208	192	214	195	136
MIN	74	135	105	173	200	215	156	104	110	122	102	68
AC-FT	7510	10360	11350	33160	13870	20210	11290	9190	9010	9940	9350	5920

e Estimated.

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1970, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	143.1	196.6	529.1	1102	1554	1289	1383	1451	1391	546.7	195.6	197.1
MAX	723	1008	2448	4135	6054	6027	4985	5035	5060	3375	1020	534
(WY)	1946	1946	1951	1956	1969	1969	1969	1969	1969	1938	1938	1969
MIN	24.0	26.8	50.1	90.7	63.1	63.2	125	144	103	49.8	39.0	56.4
(WY)	1961	1962	1950	1962	1948	1948	1961	1950	1961	1939	1939	1960

SUMMARY STATISTICS

WATER YEARS 1937 - 1970

ANNUAL TOTAL	
ANNUAL MEAN	808.9
HIGHEST ANNUAL MEAN	2650 1969
LOWEST ANNUAL MEAN	89.0 1961
HIGHEST DAILY MEAN	9110 Feb 26 1969
LOWEST DAILY MEAN	10 Nov 8 1959
ANNUAL SEVEN-DAY MINIMUM	11 Oct 28 1960
MAXIMUM PEAK FLOW	9180 Feb 26 1969
MAXIMUM PEAK STAGE	a68.05 Feb 26 1969
ANNUAL RUNOFF (AC-FT)	586000
10 PERCENT EXCEEDS	3090
50 PERCENT EXCEEDS	214
90 PERCENT EXCEEDS	62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)

MEAN	258.3	217.3	197.1	295.5	1095	2427	1787	483.9	436.3	314.0	329.6	303.3
MAX	437	280	237	539	4346	10440	7774	1354	1064	486	513	602
(WY)	1987	1988	1986	2002	1986	1986	1986	1986	1986	1986	1986	1986
MIN	122	174	166	201	250	329	190	149	151	162	152	99.4
(WY)	2002	2002	1988	1989	2002	2002	2002	2002	2002	2002	2002	2002

SUMMARY STATISTICS

FOR 2002 WATER YEAR

WATER YEARS 1986 - 2002

ANNUAL TOTAL	76200	
ANNUAL MEAN	208.8	675.4
HIGHEST ANNUAL MEAN		2273 1986
LOWEST ANNUAL MEAN		209 2002
HIGHEST DAILY MEAN	2090 Jan 5	18100 Mar 18 1986
LOWEST DAILY MEAN	68 Sep 29	68 Sep 29 2002
ANNUAL SEVEN-DAY MINIMUM	83 Sep 24	83 Sep 24 2002
MAXIMUM PEAK FLOW	2170 Jan 5	unknown Mar 18 1986
MAXIMUM PEAK STAGE	64.75 Jan 5	a 67.65 Mar 18 1986
ANNUAL RUNOFF (AC-FT)	151100	489300
10 PERCENT EXCEEDS	327	580
50 PERCENT EXCEEDS	169	279
90 PERCENT EXCEEDS	106	157

a Datum then in use.

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1988 to September 1989, December 2001 to September 2002. 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 the files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: October 1988 to September 1989, December 2001 to September 2002.

WATER TEMPERATURE: October 1988 to September 1989, December 2001 to September 2002.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1988 to September 1989, December 2001 to September 2002.

WATER TEMPERATURE: October 1988 to September 1989, December 2001 to September 2002.

INSTRUMENTATION.—Water-quality monitor from October 1985 to September 1989, and since December 2001.

REMARKS.—Specific conductance records rated excellent except for Mar. 15 to Apr. 3, May 4–30, June 25 to July 10, Aug. 2–23, Sept. 17–24, Sept. 27–30, which are rated good; and Apr. 4–17, which are fair. Water-temperature records rated excellent. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 2,930 microsiemens, Feb. 27, 1989; minimum recorded, 184 microsiemens, Jan. 5, 2002.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 2, 11, 12, 2002; minimum recorded, 4.0°C, Feb. 5, 6, 1989.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 2,730 microsiemens Dec. 21; minimum recorded, 184 microsiemens, Jan. 5.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 2, 11, 12; minimum recorded, 7.0°C, several days during December to February.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
24 . . . *	1019	1.46	2080	19.5	4.00
24 . . . *	1020	1.30	2080	19.5	12.5
24 . . . *	1021	1.38	2070	19.5	21.0
24 . . . *	1022	1.50	2070	19.5	29.5
24 . . . *	1023	1.92	2070	19.5	38.0
24 . . . *	1024	2.58	2070	19.5	46.5
24 . . . *	1026	2.78	2070	19.5	55.0
24 . . . *	1027	2.78	2070	19.5	63.5
24 . . . *	1028	2.12	2070	19.5	72.0
24 . . . *	1030	1.20	2070	19.5	80.5
JUL					
30 . . . *	0818	1.70	868	23.5	4.00
30 . . . *	0820	1.38	867	23.5	12.0
30 . . . *	0821	1.48	867	23.5	20.0
30 . . . *	0822	1.12	867	23.5	29.0
30 . . . *	0823	1.25	866	23.5	37.0
30 . . . *	0825	1.80	865	23.5	45.0
30 . . . *	0826	2.90	866	23.5	53.0
30 . . . *	0827	3.42	867	23.5	62.0
30 . . . *	0829	2.28	865	23.5	70.0
30 . . . *	0830	1.42	867	23.0	78.0

* Instantaneous discharge at time of cross-sectional measurement: 162 ft³/s, Apr. 24; 195 ft³/s, July 30.

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	295	199	1770	1720	1730	1650
2	---	---	---	---	---	---	538	281	1720	1670	1740	1670
3	---	---	---	---	---	---	632	538	1810	1710	1790	1720
4	---	---	---	---	---	---	594	187	1750	1640	1840	1790
5	---	---	---	---	1490	1400	461	184	1640	1580	1830	1730
6	---	---	---	---	1400	1260	680	461	1690	1570	1730	1680
7	---	---	---	---	1340	1270	787	680	1750	1650	1720	1630
8	---	---	---	---	1420	1340	854	787	1660	1620	1700	1640
9	---	---	---	---	1480	1420	965	854	1640	1480	1690	1650
10	---	---	---	---	1530	1480	1040	965	1590	1500	1790	1690
11	---	---	---	---	1590	1520	1150	1040	1660	1590	1860	1790
12	---	---	---	---	1790	1590	1240	1150	1750	1640	1850	1810
13	---	---	---	---	1930	1790	1290	1240	1750	1680	1900	1830
14	---	---	---	---	2050	1930	1380	1290	1800	1730	1930	1840
15	---	---	---	---	2320	2050	1510	1380	1820	1680	1990	1900
16	---	---	---	---	2470	2320	1610	1510	1800	1720	1900	1840
17	---	---	---	---	2530	2470	1750	1610	1830	1720	1840	1810
18	---	---	---	---	2570	2500	1860	1750	1750	1510	1850	1820
19	---	---	---	---	2690	2550	1960	1860	1510	1320	1820	1780
20	---	---	---	---	2710	2610	1980	1920	1480	1360	1820	1800
21	---	---	---	---	2730	2640	1930	1910	1470	1330	1940	1820
22	---	---	---	---	2640	2460	1920	1880	1480	1350	2050	1940
23	---	---	---	---	2470	2400	1960	1910	1530	1420	2060	2020
24	---	---	---	---	2400	2320	1920	1890	1520	1460	2020	1910
25	---	---	---	---	2410	2340	1920	1870	1590	1490	1940	1880
26	---	---	---	---	2410	2320	1940	1900	1630	1580	2030	1930
27	---	---	---	---	2400	2350	2030	1940	1700	1630	2030	1970
28	---	---	---	---	2400	2250	2100	2030	1720	1600	2230	2020
29	---	---	---	---	2310	2230	2150	2000	---	---	2260	2200
30	---	---	---	---	2230	1210	2010	1900	---	---	2220	2110
31	---	---	---	---	1210	209	1920	1770	---	---	2190	2160
MONTH	---	---	---	---	---	---	2150	184	1830	1320	2260	1630
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2200	2060	1860	1580	2140	1890	1240	1160	1100	968	1660	1400
2	2100	2060	2000	1860	2140	1660	1340	1230	1200	1100	1400	1310
3	2150	2100	1900	1790	1660	1180	1280	1190	1190	1160	1400	1130
4	2120	2020	2050	1900	1220	1160	1400	1280	1280	1160	1170	1100
5	2070	2020	2010	1860	1360	1220	1360	1260	1280	1200	1150	1100
6	2030	1980	2140	1930	1690	1360	1260	1160	1200	1080	1110	1040
7	2040	1970	2110	1950	1830	1690	1180	1090	1140	1080	1040	1000
8	2030	1990	2240	2110	1950	1820	1280	1170	1190	1140	1040	996
9	2120	2010	2240	2100	1870	1750	1260	1180	1170	1120	1020	928
10	2230	2120	2260	2100	1770	1740	1280	1210	1180	1120	983	927
11	2140	1980	2530	2260	1770	1380	1510	1240	1160	1060	1160	983
12	2020	1970	2540	2390	1380	1310	1720	1510	1160	1120	1340	1160
13	2020	1940	2390	2090	1370	1320	1730	1470	1200	1130	1450	1340
14	1950	1760	2150	2020	1380	1290	1470	1300	1280	1200	1500	1450
15	1760	1630	2210	2020	1420	1360	1330	1280	1290	1200	1490	1300
16	1730	1610	2310	2020	1410	1350	1410	1280	1200	1130	1350	1300
17	2110	1730	2020	1780	1460	1380	1410	1290	1220	1140	1450	1340
18	2100	1870	1840	1690	1500	1410	1290	1230	1180	1130	1560	1450
19	2000	1890	1690	1280	1410	1360	1230	1110	1130	1100	1670	1560
20	2020	1820	1280	1220	1470	1360	1120	1040	1120	1100	1670	1550
21	1820	1780	1240	1130	1460	1380	1150	1080	1180	1080	1550	1350
22	1790	1690	1250	1140	1460	1330	1080	1030	1280	1180	1440	1320
23	1930	1690	1400	1240	1400	1320	1040	975	1280	1180	1490	1420
24	2080	1930	1360	1310	1350	1170	1070	996	1290	1200	1420	1260
25	2130	2030	1310	1220	1200	1140	1160	1070	1380	1290	---	---
26	2090	1880	1270	1230	1220	1130	1200	1150	1350	1240	---	---
27	2140	1920	1440	1270	1260	1120	1150	1120	1310	1240	1400	1330
28	2120	1850	1640	1440	1260	1210	1120	1050	1320	1210	1470	1330
29	1850	1680	1910	1640	1270	1140	1050	962	1460	1260	1640	1350
30	1700	1610	1960	1790	1270	1220	962	871	1580	1410	1640	1400
31	---	---	1890	1790	---	---	968	872	1670	1580	---	---
MONTH	2230	1610	2540	1130	2140	1120	1730	871	1670	968	---	---

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	13.0	12.5	9.0	7.0	15.5	12.0
2	---	---	---	---	---	---	13.5	13.0	9.5	7.0	14.5	11.0
3	---	---	---	---	---	---	13.5	12.5	10.0	7.5	15.0	12.0
4	---	---	---	---	11.0	---	12.5	11.5	10.5	8.0	16.0	12.5
5	---	---	---	---	10.5	9.5	12.0	11.0	10.5	8.5	16.5	13.5
6	---	---	---	---	11.5	9.5	11.5	11.0	11.0	8.5	16.5	15.0
7	---	---	---	---	12.0	10.5	11.0	10.5	12.0	10.0	16.0	14.0
8	---	---	---	---	11.5	10.5	11.5	10.5	13.0	11.0	14.5	12.5
9	---	---	---	---	11.0	9.5	12.0	11.5	12.5	10.0	14.0	11.5
10	---	---	---	---	10.0	8.5	12.0	11.5	13.0	10.0	14.5	12.5
11	---	---	---	---	9.5	8.0	12.0	11.5	13.5	10.5	16.0	12.5
12	---	---	---	---	10.0	8.5	11.5	11.0	13.5	11.0	17.0	14.0
13	---	---	---	---	10.0	8.5	11.5	10.5	12.5	11.5	16.0	13.5
14	---	---	---	---	10.5	8.5	10.5	9.5	14.0	11.0	15.0	12.5
15	---	---	---	---	9.0	7.0	10.5	9.0	13.5	11.5	14.5	11.5
16	---	---	---	---	9.0	7.0	10.0	8.5	13.5	11.5	14.5	12.0
17	---	---	---	---	9.5	8.0	9.5	7.5	13.0	12.0	13.0	11.0
18	---	---	---	---	10.5	8.5	9.5	7.5	14.0	11.5	13.0	9.5
19	---	---	---	---	10.0	9.5	9.5	7.5	13.0	12.0	14.0	10.0
20	---	---	---	---	10.5	9.5	9.0	7.0	15.5	12.5	16.0	11.5
21	---	---	---	---	11.5	9.5	9.5	7.5	16.0	13.5	17.5	14.0
22	---	---	---	---	11.0	10.0	9.5	8.0	16.0	14.0	17.0	15.0
23	---	---	---	---	11.5	10.0	9.0	7.0	16.0	14.0	17.0	15.0
24	---	---	---	---	10.5	9.0	9.0	7.0	16.0	13.0	17.5	14.5
25	---	---	---	---	11.0	9.5	9.0	7.5	16.5	13.0	17.5	14.5
26	---	---	---	---	11.0	9.5	9.0	8.5	16.5	13.5	18.5	14.5
27	---	---	---	---	11.0	10.0	10.5	9.0	17.0	14.0	19.0	15.0
28	---	---	---	---	11.0	10.5	10.0	8.0	17.0	14.5	20.0	16.0
29	---	---	---	---	12.0	11.0	9.5	8.0	---	---	21.0	17.0
30	---	---	---	---	12.5	12.0	9.0	7.0	---	---	22.0	17.5
31	---	---	---	---	12.5	11.5	9.0	7.0	---	---	22.5	18.0
MONTH	---	---	---	---	---	---	13.5	7.0	17.0	7.0	22.5	9.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	23.0	18.5	20.0	15.5	28.0	23.5	30.5	25.0	29.0	24.0	28.5	23.0
2	23.5	19.5	22.0	16.0	26.5	20.5	31.5	26.0	30.0	24.5	29.0	23.5
3	22.5	19.5	22.5	18.0	25.5	20.5	30.0	25.0	29.0	24.5	29.0	24.0
4	21.0	18.5	23.5	18.0	26.5	21.0	29.0	23.5	27.0	22.5	27.5	24.0
5	20.5	17.5	24.0	19.0	28.5	23.0	28.5	23.0	26.5	21.5	24.5	21.0
6	21.5	17.5	24.5	19.5	29.0	24.5	28.5	23.5	26.5	21.5	25.0	20.5
7	22.0	17.5	24.0	19.5	28.5	23.0	28.5	23.5	26.0	21.5	24.0	19.0
8	22.5	18.5	22.5	17.5	26.0	20.5	27.5	23.0	27.5	21.5	24.0	19.0
9	21.0	19.0	23.5	18.0	22.0	16.5	29.5	23.0	28.0	22.5	24.5	19.5
10	22.0	17.5	23.0	18.5	24.5	17.5	31.0	24.5	29.0	23.5	25.5	20.0
11	22.0	18.0	23.5	17.5	27.0	20.0	31.5	26.0	29.0	24.0	26.0	21.0
12	23.0	19.0	24.5	18.5	27.5	22.0	31.5	26.5	29.0	24.0	26.5	21.5
13	24.0	19.0	25.0	20.0	27.5	22.0	31.0	25.5	29.5	24.0	26.5	21.5
14	25.5	20.5	24.5	19.0	26.5	22.0	31.0	25.5	29.0	24.5	26.0	21.0
15	23.0	19.5	25.5	19.5	27.0	21.0	30.0	25.0	29.5	24.0	25.5	21.5
16	19.5	16.5	25.5	20.5	27.0	21.5	29.0	23.5	28.5	24.5	25.0	20.0
17	19.0	16.5	26.0	20.0	27.0	21.5	29.0	23.5	28.0	23.5	25.0	20.0
18	19.0	15.0	25.5	20.5	28.0	22.5	29.0	23.5	27.0	22.5	25.5	20.5
19	18.5	14.0	23.0	20.0	28.0	23.0	29.5	23.5	27.0	22.5	26.5	20.5
20	20.5	15.0	21.0	18.5	28.5	23.0	30.0	24.5	26.0	22.0	27.0	21.5
21	21.0	16.0	20.0	17.0	27.0	21.5	29.5	25.0	26.0	21.0	26.5	22.0
22	22.0	17.0	22.0	16.5	26.0	20.5	28.5	24.0	26.0	21.5	26.5	21.5
23	23.5	18.0	23.0	17.5	27.0	21.5	28.5	23.5	25.5	21.0	26.5	21.5
24	23.5	19.0	25.0	19.0	27.5	22.0	28.5	23.5	25.5	20.5	26.5	21.5
25	22.5	19.0	25.5	21.0	29.0	23.0	28.0	23.5	26.0	21.0	26.0	22.0
26	21.0	18.0	26.0	21.5	29.5	24.5	28.5	23.0	26.5	21.5	25.0	20.5
27	18.0	16.0	26.0	21.5	29.0	24.0	29.0	23.5	26.5	22.0	23.5	20.0
28	19.5	15.5	26.5	21.5	29.0	23.5	28.5	24.0	28.0	22.5	22.0	19.0
29	19.0	16.0	28.5	22.5	28.5	23.5	27.5	23.5	27.5	23.0	23.0	17.5
30	18.5	15.5	30.5	24.0	29.5	24.0	28.0	23.0	27.5	22.5	22.5	18.0
31	---	---	30.0	25.0	---	---	28.5	24.0	28.0	22.5	---	---
MONTH	25.5	14.0	30.5	15.5	29.5	16.5	31.5	23.0	30.0	20.5	29.0	17.5

11262895 SAN LUIS DRAIN, SITE B, NEAR STEVINSON, CA

LOCATION.—Lat 37°14'27", long 120°52'37", in SE 1/4 NW 1/4 sec.16, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, Kesterson National Wildlife Refuge, on left bank, 1.8 mi upstream of terminus of drain, and 6.2 mi southwest of Stevinson.

DRAINAGE AREA.—Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 75 ft above sea level, from topographic map.

REMARKS.—Records fair. Drain intercepts subsurface drainage water from irrigated farmland and conveys it into Mud Slough and the San Joaquin River.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily, 82 ft³/s, Aug. 29, 1999, Mar. 8, 2001; minimum daily, 9.2 ft³/s, Sept. 28, 2001.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	20	23	24	33	67	34	46	55	46	49	48
2	11	18	22	25	39	64	36	43	51	52	57	49
3	9.5	19	26	29	40	60	34	39	51	63	57	44
4	11	20	28	39	42	59	34	39	52	58	58	43
5	14	22	23	31	42	56	34	37	52	58	59	49
6	16	21	20	27	42	57	35	33	49	58	58	44
7	21	20	20	25	42	60	37	32	51	58	55	42
8	21	20	20	25	49	61	38	36	52	61	56	41
9	22	19	21	24	51	58	37	35	56	58	55	40
10	23	17	21	25	50	58	34	34	50	55	52	36
11	28	18	20	24	51	59	34	34	56	58	51	43
12	29	21	19	23	50	60	35	32	53	55	55	39
13	23	27	18	23	49	62	38	33	51	52	58	30
14	19	37	23	24	51	60	39	32	54	53	61	27
15	19	28	22	25	53	54	40	35	59	55	60	29
16	19	24	22	27	50	57	44	35	62	55	63	31
17	18	24	18	29	50	60	43	35	64	54	63	32
18	18	24	17	29	52	66	46	34	69	54	60	34
19	17	23	16	30	51	69	50	36	69	54	58	28
20	17	22	16	29	49	64	47	42	66	54	58	25
21	20	19	18	27	51	57	46	53	66	56	58	23
22	19	21	16	28	51	54	48	57	66	55	56	25
23	18	22	17	27	52	51	47	56	63	53	58	23
24	17	20	15	25	55	48	44	56	60	51	57	22
25	15	21	15	24	53	44	42	52	62	47	53	21
26	15	23	15	25	56	43	44	54	54	46	55	18
27	16	21	15	28	59	41	46	57	43	50	52	19
28	17	21	16	27	61	40	46	53	46	45	47	22
29	16	21	18	29	---	39	46	54	45	43	47	19
30	17	22	26	31	---	37	46	57	47	42	45	16
31	18	---	28	28	---	33	---	61	---	44	46	---
TOTAL	555.5	655	614	836	1374	1698	1224	1332	1674	1643	1717	962
MEAN	17.92	21.83	19.81	26.97	49.07	54.77	40.80	42.97	55.80	53.00	55.39	32.07
MAX	29	37	28	39	61	69	50	61	69	63	63	49
MIN	9.5	17	15	23	33	33	34	32	43	42	45	16
AC-FT	1100	1300	1220	1660	2730	3370	2430	2640	3320	3260	3410	1910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	25.44	24.03	22.48	27.60	55.04	55.44	39.08	44.35	57.73	58.51	58.02	31.34
MAX	33.2	28.8	23.7	27.9	59.6	56.8	44.8	48.2	61.0	63.0	63.6	40.3
(WY)	1999	2000	2001	2001	1999	2001	2000	1999	2000	1999	1999	1999
MIN	17.9	19.8	19.8	27.0	49.1	54.2	34.9	39.9	53.4	53.0	55.4	22.8
(WY)	2002	2001	2002	2002	2002	2000	1999	2001	2001	2002	2002	2001

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1999 - 2002

ANNUAL TOTAL	14186.5	14284.5	41.53	
ANNUAL MEAN	38.87	39.14		
HIGHEST ANNUAL MEAN			44.6	1999
LOWEST ANNUAL MEAN			39.1	2002
HIGHEST DAILY MEAN	82	Mar 8	82	Aug 29 1999
LOWEST DAILY MEAN	9.2	Sep 28	9.5	Oct 3
ANNUAL SEVEN-DAY MINIMUM	10	Sep 27	14	Oct 1
ANNUAL RUNOFF (AC-FT)	28140	28330	30080	
10 PERCENT EXCEEDS	60	58	62	
50 PERCENT EXCEEDS	37	40	41	
90 PERCENT EXCEEDS	17	18	21	

11262895 SAN LUIS DRAIN, SITE B, NEAR STEVINSON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 1999 to current year.

SPECIFIC CONDUCTANCE: Water year 1999 to current year.

WATER TEMPERATURE: Water year 1999 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1998 to current year.

WATER TEMPERATURE: October 1998 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1998.

REMARKS.—Specific conductance records rated excellent except for Oct. 1–12, Oct. 26 to Nov. 2, Nov. 23 to Dec. 12, Dec. 21 to Jan. 3, Jan. 28 to Feb. 4, Feb. 22 to Mar. 20, Mar. 24–31, Apr. 7–18, May 8–21, June 14–26, July 6–8, 11–15, Aug. 10–21, Aug. 30 to Sept. 4, Sept. 12–28, which are good; Apr. 1, 19–26, May 22–29, July 16–19, Sept. 29, 30, which are fair; and Apr. 27 to May 1, July 20–31, which are poor. Water-temperature records rated excellent except for Mar. 24 to Apr. 1, Apr. 21 to May 1, which are good. Water quality is influenced by subsurface drainage from irrigated farmland. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 6,030 microsiemens, Apr. 6, 1999; minimum recorded, 2,770 microsiemens, Aug. 20, 21, 2000.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 13, 1999; minimum recorded, 4.0°C, Dec. 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 5,170 microsiemens, Mar. 31, but may have been higher during period of missing record; minimum recorded, 3,030 microsiemens, July 30.

WATER TEMPERATURE: Maximum recorded, 30.0°C, July 11, 12, 14; minimum recorded, 7.0°C, Jan. 30, 31.

CROSS-SECTIONAL ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
01...*	1316	1.25	5580	22.5	1.40
01...*	1317	3.00	5590	21.5	4.20
01...*	1318	4.70	5560	21.5	7.00
01...*	1319	5.60	5520	21.5	9.80
01...*	1320	5.20	5490	21.5	12.6
01...*	1321	5.20	5460	21.5	15.4
01...*	1322	5.70	5420	21.5	18.2
01...*	1323	4.60	5370	21.5	21.0
01...*	1324	2.80	5320	22.5	23.8
01...*	1325	1.00	5270	22.5	26.6
JUN					
26...*	1155	1.00	4270	26.0	1.40
26...*	1156	3.00	4280	26.0	4.30
26...*	1157	4.50	4280	26.0	7.20
26...*	1158	6.00	4280	26.0	10.1
26...*	1159	6.00	4280	26.0	13.0
26...*	1200	5.50	4280	26.0	15.9
26...*	1201	6.00	4280	26.0	18.8
26...*	1202	4.50	4280	26.0	21.7
26...*	1203	2.50	4270	26.5	24.6
26...*	1204	1.50	4270	26.5	27.5
AUG					
21...*	1210	1.20	3470	23.0	1.50
21...*	1211	3.20	3480	23.0	4.50
21...*	1212	5.20	3480	23.0	7.50
21...*	1213	5.90	2480	23.0	10.5
21...*	1214	5.50	3480	23.0	13.5
21...*	1215	5.80	3480	23.0	16.5
21...*	1216	6.00	3480	23.0	19.5
21...*	1217	4.20	3480	23.0	22.5
21...*	1218	2.40	3480	23.0	25.5
21...*	1219	1.20	3480	23.5	27.5

* Instantaneous discharge at time of cross-sectional measurement: 34 ft³/s, Apr. 1; 61 ft³/s, June 26; 56 ft³/s, Aug. 21.

11262895 SAN LUIS DRAIN, SITE B, NEAR STEVINSON, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4080	4030	4060	3880	3830	3860	4300	4140	4240	4260	4050	4220
2	4140	4040	4100	---	3830	---	4280	4090	4190	4250	4060	4180
3	4100	3930	4020	3880	3830	3860	4260	3910	4140	4200	3950	4070
4	3960	3900	3920	3970	3870	3910	4000	3800	3940	4040	3740	3980
5	4090	3960	4030	3980	3890	3940	4170	3850	4030	3840	3710	3760
6	4250	4080	4150	3900	3440	3700	4340	4060	4190	3980	3840	3940
7	4270	3910	4120	3520	3420	3480	4380	4230	4330	3990	3940	3970
8	3940	3770	3900	3840	3520	3730	4390	4180	4320	4240	3990	4130
9	3860	3690	3740	3780	3520	3620	4380	4170	4290	4170	3830	3940
10	4500	3860	4180	4070	3670	3910	4230	4090	4190	4070	3870	3980
11	4500	4080	4240	4160	3870	4070	4170	4060	4120	4210	4070	4140
12	---	3810	---	3870	3280	3560	---	4140	---	4250	4210	4230
13	3810	3470	3590	3560	3290	3430	4240	4180	4210	4310	4230	4260
14	3590	3260	3420	3580	3330	3430	4310	4230	4270	4290	4240	4260
15	3380	3050	3190	3550	3360	3400	4360	4300	4320	4340	4240	4300
16	3700	3080	3340	3820	3550	3750	4370	4330	4350	4340	4160	4250
17	3750	3700	3730	3820	3780	3800	4410	4320	4360	4270	4140	4190
18	3740	3580	3650	4040	3780	3950	4430	4390	4410	4370	4260	4330
19	3750	3680	3700	3980	3500	3790	4460	4400	4450	4450	4360	4380
20	3970	3740	3860	3500	3260	3340	4470	4380	4440	4530	4400	4450
21	4140	3970	4050	3560	3280	3370	4400	4210	4330	4620	4490	4540
22	4140	3970	4050	3900	3560	3810	4220	4140	4170	4650	4490	4570
23	4160	3980	4110	4030	3900	3940	4180	3960	4050	4620	4520	4580
24	4140	3970	4040	4110	4030	4080	4130	3960	4050	4570	4510	4550
25	3970	3860	3920	4140	3990	4090	4180	4130	4150	4560	4470	4530
26	3860	3760	3800	4010	3860	3930	4190	4070	4120	4500	4450	4470
27	3940	3770	3830	3920	3860	3890	4180	4060	4120	4500	4440	4480
28	4060	3940	4000	4210	3920	4120	4230	4180	4210	4520	4410	4470
29	4070	3970	4030	4180	4110	4150	4300	4200	4250	4560	4510	4540
30	3970	3880	3920	4200	4120	4160	4260	4060	4210	4560	4500	4530
31	3930	3860	3900	---	---	---	4230	4060	4190	4610	4500	4570
MONTH	---	3050	---	---	3260	---	---	3800	---	4650	3710	4280
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4680	4580	4630	4680	4220	4440	---	5020	---	4800	4590	4710
2	4830	4680	4760	4530	4190	4350	5090	4760	4970	4610	4310	4490
3	4970	4330	4580	4590	4250	4410	4960	4770	4890	4420	4320	4380
4	---	4080	---	4470	4260	4370	5030	4880	4960	4430	4190	4330
5	4080	3940	4020	4550	4200	4340	4920	4740	4850	4220	4130	4170
6	4060	3800	3890	4520	4250	4370	4930	4680	4800	4160	3970	4050
7	4010	3850	3930	4570	4120	4270	5000	4820	4920	4310	4110	4210
8	4030	3810	3930	4590	4310	4420	4890	4660	4780	4350	4240	4310
9	4090	3990	4040	4490	4180	4320	4840	4650	4770	4390	4180	4300
10	4230	4020	4150	4540	4190	4340	4800	4700	4750	4410	4270	4320
11	4060	3810	3940	4580	4330	4450	4830	4670	4750	4400	4260	4340
12	4200	3980	4050	4580	4400	4490	4790	4650	4730	4390	4290	4320
13	4210	4010	4110	4610	4270	4420	4760	4580	4670	4370	4300	4330
14	4200	4120	4150	4440	4130	4280	4790	4560	4660	4490	4370	4450
15	4300	4120	4200	4140	4010	4080	4600	4410	4510	4820	4460	4680
16	4490	4280	4370	4290	4120	4230	4540	4360	4430	4730	4560	4640
17	4500	3800	4130	4560	4220	4380	4550	4400	4490	4620	4420	4530
18	4260	4040	4200	4560	4220	4420	4640	4490	4550	4620	4450	4540
19	4440	4190	4370	4220	4060	4140	4720	4530	4600	4720	4530	4630
20	4520	4440	4470	4100	3850	3970	4680	4180	4430	4640	4340	4470
21	4550	4370	4460	3920	3810	3850	4270	3950	4160	4760	3990	4470
22	4550	4430	4500	4100	3810	3910	4380	4200	4300	4140	3590	3860
23	4650	4540	4580	4420	4100	4190	4570	4320	4450	4240	3730	3980
24	4660	4440	4550	4520	4420	4480	4790	4350	4570	4040	3660	3890
25	4650	4520	4610	4750	4510	4680	4830	4500	4690	3790	3540	3650
26	4660	4540	4620	4860	4670	4790	4620	4440	4530	3880	3460	3620
27	4560	4450	4520	4890	4760	4830	4640	4440	4550	4020	3530	3770
28	4690	4300	4600	4990	4800	4920	4680	4570	4640	4090	3760	3890
29	---	---	---	5050	4980	5030	4720	4620	4670	4020	3710	3830
30	---	---	---	5120	5040	5080	4810	4620	4720	4000	3590	3790
31	---	---	---	5170	5080	5130	---	---	---	4100	3740	3920
MONTH	---	3800	---	5170	3810	4430	---	3950	---	4820	3460	4220

11262895 SAN LUIS DRAIN, SITE B, NEAR STEVINSON, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3880	3740	3820	3840	3460	3660	---	---	---	3580	3330	3420
2	4070	3710	3920	3920	3480	3640	3570	3480	3530	3640	3380	3540
3	4100	3820	3940	4170	3870	4010	3680	3460	3590	3550	3430	3490
4	4150	3980	4050	3930	3710	3810	3770	3460	3570	---	3250	---
5	4250	4100	4200	3980	3800	3880	3800	3610	3730	3430	3230	3280
6	---	4040	---	4050	3680	3850	3780	3590	3700	3810	3430	3710
7	4100	3990	4040	3940	3770	3830	3680	3440	3550	4130	3420	3820
8	4170	4060	4110	---	3890	---	3750	3580	3670	3870	3380	3620
9	4210	4080	4140	4170	3920	4020	3740	3620	3690	4010	3630	3770
10	4210	3960	4080	4160	3940	4060	3710	3470	3570	3950	3530	3630
11	4070	3830	3940	4150	3970	4050	3650	3360	3490	4140	3620	3930
12	4040	3810	3920	4100	3800	3940	3600	3460	3530	3900	3390	3580
13	4060	3640	3860	4050	3690	3800	3660	3550	3590	4630	3900	4330
14	4280	3750	4110	4000	3580	3790	3680	3400	3540	4660	3640	4300
15	4190	4040	4110	4130	3740	3950	3590	3260	3390	3830	3580	3710
16	4290	4010	4170	4140	3840	3980	3560	3270	3380	3720	3250	3440
17	4160	3900	4000	4330	3930	4160	3490	3240	3370	4060	3720	3930
18	4100	3690	3910	4330	4050	4100	3350	3180	3290	4550	4060	4370
19	4140	3920	4010	4340	4110	4240	3550	3170	3350	4650	4470	4580
20	3970	3750	3820	4120	3980	4060	3470	3280	3340	4530	4220	4330
21	3910	3730	3790	4120	3950	4010	3480	3320	3390	4350	4120	4220
22	3950	3430	3770	4010	3710	3890	3560	3360	3440	4150	3990	4070
23	3870	---	---	3950	3720	3840	3700	3550	3610	4000	3510	3740
24	3860	3410	3680	4000	3730	3850	3550	3350	3450	4060	3510	3710
25	3850	3410	3720	4000	3740	3800	3550	3310	3380	4230	4060	4180
26	3980	3640	3840	4060	3600	3810	3360	3180	3270	4300	4230	4280
27	4040	3820	3940	3900	3540	3720	3460	3180	3290	4620	4280	4470
28	3960	3790	3870	3650	3240	3400	3510	3210	3300	4630	4370	4500
29	3960	3700	3790	3410	3270	3360	3450	3200	3280	4620	4500	4560
30	3850	3620	3760	3340	3030	3260	3520	3300	3430	4580	4510	4540
31	---	---	---	3460	3090	3300	3460	3340	3410	---	---	---
MONTH	---	---	---	---	3030	---	---	---	---	---	3230	---

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.0	22.5	23.5	19.0	16.5	17.5	11.0	11.0	11.0	13.5	12.5	13.0
2	25.5	23.0	24.0	18.5	17.0	17.5	11.5	10.5	11.0	13.5	13.0	13.0
3	26.0	23.5	24.5	19.0	17.0	18.0	12.0	10.5	11.0	14.0	13.0	13.5
4	25.5	23.5	24.0	19.0	17.0	18.0	11.5	10.5	11.0	13.5	12.5	13.0
5	24.5	22.5	23.5	19.0	17.0	18.0	11.0	10.0	10.5	12.5	12.0	12.5
6	23.5	21.5	22.5	19.0	17.0	18.0	12.0	10.5	11.0	12.0	11.5	12.0
7	23.5	21.0	22.0	18.0	16.5	17.0	12.5	11.5	12.0	12.0	11.5	11.5
8	23.0	20.5	21.5	18.0	16.0	16.5	12.0	11.0	11.5	12.5	11.0	12.0
9	21.5	20.0	20.5	18.0	16.0	17.0	11.5	10.5	11.0	13.0	12.0	12.5
10	21.5	18.5	20.0	17.5	16.0	17.0	10.5	9.5	10.0	12.5	12.0	12.5
11	21.5	19.0	20.0	18.0	16.5	17.5	10.0	9.0	9.5	12.5	12.0	12.0
12	20.5	18.0	19.0	17.5	16.0	17.0	10.5	9.0	9.5	12.0	11.5	11.5
13	21.5	18.0	19.5	17.0	15.5	16.0	10.5	9.5	10.0	11.5	11.0	11.5
14	21.5	19.0	20.0	17.0	16.0	16.5	10.5	9.0	10.0	11.0	10.0	10.5
15	23.0	19.5	21.0	17.5	16.0	16.5	9.0	7.5	8.0	10.5	9.5	10.0
16	22.5	20.0	21.5	17.5	16.0	16.5	8.0	7.5	8.0	10.0	9.0	9.5
17	22.0	20.0	21.0	16.5	16.0	16.5	8.5	8.0	8.5	9.5	8.0	9.0
18	22.0	19.5	20.5	16.5	15.5	16.0	9.0	8.0	8.5	9.0	8.0	8.5
19	21.5	19.5	20.5	16.0	15.0	15.5	9.0	8.5	9.0	9.0	7.5	8.5
20	22.0	19.5	20.5	15.5	15.0	15.5	9.5	8.5	9.0	9.0	7.5	8.0
21	21.5	19.0	20.0	15.5	15.0	15.0	10.0	9.0	9.5	9.5	8.0	8.5
22	20.5	18.5	19.5	16.5	15.0	15.5	9.5	9.0	9.5	9.5	8.5	9.0
23	20.0	18.5	19.5	15.5	14.5	15.0	10.5	9.5	10.0	9.0	7.5	8.5
24	19.0	17.0	18.0	15.0	14.0	14.5	10.0	9.5	9.5	9.0	7.5	8.0
25	19.5	16.5	17.5	14.0	13.0	13.5	10.0	9.5	9.5	9.0	7.5	8.5
26	20.5	16.5	18.0	13.5	12.0	12.5	10.0	9.5	10.0	9.0	8.5	9.0
27	19.5	17.5	18.5	12.0	11.0	11.5	10.0	9.5	10.0	10.0	8.5	9.0
28	20.0	17.0	18.0	11.5	10.5	11.0	10.5	10.0	10.5	9.5	8.5	9.0
29	19.0	17.5	18.0	11.0	9.5	10.5	11.5	10.5	11.0	9.0	8.0	8.5
30	19.0	17.5	18.0	12.0	10.5	11.0	12.0	11.0	11.5	8.5	7.0	8.0
31	19.0	17.0	18.0	---	---	---	13.0	12.0	12.5	9.0	7.0	8.0
MONTH	26.0	16.5	20.4	19.0	9.5	15.6	13.0	7.5	10.1	14.0	7.0	10.3

11262895 SAN LUIS DRAIN, SITE B, NEAR STEVINSON, CA—Continued

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.0	7.5	8.5	16.0	12.5	13.5	22.5	19.5	21.0	19.0	16.5	17.5
2	9.5	8.0	8.5	15.0	12.5	14.0	23.5	20.5	22.0	20.5	17.5	19.0
3	10.0	8.5	9.0	15.5	13.5	14.5	22.5	20.5	21.5	21.5	18.5	20.0
4	10.5	8.5	9.5	16.0	13.5	15.0	21.0	19.5	20.0	22.0	19.0	20.5
5	10.5	9.0	10.0	17.0	14.0	15.5	21.0	19.0	19.5	23.0	20.0	21.5
6	11.0	9.0	10.0	16.5	15.5	16.0	20.5	18.5	19.5	23.5	20.5	22.0
7	12.0	10.5	11.0	16.0	14.5	15.5	21.0	18.0	19.5	23.5	21.0	22.0
8	13.0	11.0	12.0	15.0	13.5	14.0	21.5	19.0	20.0	22.0	20.0	21.0
9	12.5	11.0	11.5	14.5	13.0	14.0	20.5	19.0	19.5	22.5	19.5	21.0
10	13.0	11.5	12.5	15.0	13.5	14.0	21.0	18.5	19.5	22.5	19.5	21.0
11	14.0	12.0	13.0	15.5	13.0	14.5	21.5	19.0	20.0	21.5	19.0	20.0
12	13.5	12.0	13.0	17.0	14.5	15.5	22.0	19.5	21.0	23.0	19.5	21.0
13	13.0	12.5	12.5	16.0	14.5	15.0	23.0	20.0	21.5	23.0	20.5	21.5
14	13.5	12.0	13.0	15.0	13.5	14.0	24.5	21.5	23.0	23.5	20.5	22.0
15	13.5	12.5	13.0	14.5	12.5	13.5	23.0	19.5	21.0	24.0	21.0	22.5
16	13.5	12.5	13.0	14.5	12.5	13.5	20.0	18.0	19.0	24.0	21.5	23.0
17	13.0	12.5	13.0	13.0	11.0	12.5	19.0	17.0	18.0	25.0	21.5	23.0
18	14.5	12.5	13.5	12.0	9.5	11.0	18.0	16.5	17.5	25.0	22.0	23.5
19	14.0	13.0	13.5	13.0	10.5	12.0	17.5	14.5	16.0	23.5	22.0	22.5
20	15.5	13.0	14.5	14.0	11.5	13.0	19.0	15.5	17.0	22.0	20.0	21.0
21	15.5	14.5	15.0	16.5	13.5	15.0	19.5	16.5	18.0	20.5	18.5	20.0
22	16.5	15.0	15.5	17.0	15.5	16.0	20.5	18.0	19.0	22.0	19.0	20.5
23	17.0	15.0	16.0	17.0	15.5	16.0	22.0	19.0	20.5	22.0	19.5	20.5
24	16.5	14.5	15.5	17.5	15.5	16.5	22.5	20.0	21.0	24.0	20.0	22.0
25	17.0	15.0	16.0	17.5	15.5	16.5	22.5	20.0	21.0	25.0	21.5	23.0
26	17.5	15.0	16.5	18.0	15.5	16.5	21.0	18.5	19.5	25.0	22.0	23.5
27	17.5	15.5	16.5	18.5	16.0	17.0	18.5	17.0	18.0	25.5	22.5	24.0
28	18.0	15.5	16.5	19.0	16.5	18.0	19.0	17.0	18.0	26.0	22.5	24.5
29	---	---	---	20.0	17.5	18.5	19.0	17.5	18.0	27.0	23.5	25.0
30	---	---	---	21.0	18.0	19.5	18.0	16.5	17.5	28.5	25.0	26.5
31	---	---	---	22.0	18.5	20.0	---	---	---	29.0	26.5	27.5
MONTH	18.0	7.5	12.9	22.0	9.5	15.2	24.5	14.5	19.6	29.0	16.5	22.0
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	27.0	24.5	25.5	29.0	26.0	27.5	28.0	25.5	26.5	27.0	25.0	26.0
2	25.0	22.5	23.5	29.5	27.0	28.5	28.5	26.0	27.0	27.5	25.5	26.5
3	24.5	22.0	23.5	29.0	27.0	28.0	28.0	25.5	26.5	28.5	26.0	27.0
4	25.0	22.0	23.5	28.5	26.0	27.0	26.5	24.0	25.5	27.0	25.5	26.0
5	27.0	23.5	25.0	27.5	25.0	26.5	26.0	23.5	25.0	25.5	24.0	24.5
6	28.0	25.5	26.5	27.5	24.5	26.0	26.0	23.5	24.5	25.0	23.0	23.5
7	28.0	25.5	27.0	27.0	24.5	26.0	25.5	23.5	24.5	24.0	22.0	23.0
8	27.0	23.0	24.5	26.5	24.0	25.5	26.0	23.0	24.5	23.5	21.5	22.5
9	23.0	19.0	20.5	28.0	24.5	26.5	27.0	24.0	25.5	24.0	21.5	22.5
10	23.0	19.0	21.0	29.5	26.0	27.5	28.0	25.0	26.5	25.0	22.0	23.0
11	25.0	21.0	23.0	30.0	27.0	28.0	28.0	25.5	27.0	25.0	23.0	24.0
12	26.0	22.5	24.0	30.0	27.0	28.5	28.0	25.5	27.0	25.5	23.0	24.0
13	26.5	23.0	24.5	29.5	27.0	28.5	28.5	26.0	27.5	26.0	23.5	24.5
14	26.0	23.5	24.5	30.0	27.5	29.0	28.5	26.0	27.5	26.5	23.5	24.5
15	26.0	23.0	24.5	29.5	27.0	28.5	29.0	26.0	27.5	26.0	23.5	24.5
16	26.0	23.5	24.5	28.5	26.0	27.5	28.5	26.5	27.5	25.0	22.5	24.0
17	26.0	23.5	25.0	28.0	25.5	27.0	27.5	25.5	26.5	25.0	22.5	24.0
18	27.0	24.0	25.5	27.5	25.0	26.5	27.0	25.0	26.0	24.5	22.5	23.5
19	26.5	24.5	25.5	27.5	25.0	26.5	26.5	24.5	25.5	26.0	22.5	24.0
20	26.5	24.0	25.5	28.5	25.5	27.0	26.0	23.5	24.5	26.5	23.0	24.5
21	24.5	22.5	24.0	28.0	25.5	26.5	25.5	22.5	24.0	26.0	23.5	24.5
22	24.5	21.5	23.0	27.5	24.5	26.0	25.0	22.5	24.0	26.0	24.0	25.0
23	25.5	22.5	24.0	27.5	24.5	26.0	24.5	22.0	23.0	26.5	24.0	25.0
24	26.5	23.5	25.0	27.0	24.5	26.0	24.5	21.5	23.0	26.5	24.0	25.0
25	27.5	24.5	26.0	27.0	24.5	26.0	25.0	22.0	23.5	25.5	24.0	25.0
26	28.0	25.5	26.5	27.0	25.0	26.0	25.0	22.5	24.0	25.5	23.5	24.5
27	28.0	25.0	26.5	28.0	25.5	26.5	25.5	23.0	24.0	24.0	22.5	23.5
28	27.0	25.0	26.0	27.5	25.5	26.5	26.5	23.5	25.0	23.0	21.5	22.0
29	27.0	25.0	26.0	27.0	25.5	26.0	26.0	24.0	25.0	23.0	20.5	21.5
30	27.5	25.0	26.5	27.5	25.0	26.0	26.0	24.0	25.0	23.0	20.5	21.5
31	---	---	---	27.5	25.5	26.5	26.5	24.0	25.5	---	---	---
MONTH	28.0	19.0	24.7	30.0	24.0	26.9	29.0	21.5	25.4	28.5	20.5	24.1

11262900 MUD SLOUGH NEAR GUSTINE, CA

LOCATION.—Lat 37°15'45", long 120°54'20", in SE 1/4 SE 1/4 sec.6, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, Kesterson National Wildlife Refuge, on right bank at footbridge, 400 ft northwest of terminus of San Luis Drain, and 5.2 mi east of Gustine.

DRAINAGE AREA.—Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1985 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 70 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. 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 discharge, 1,060 ft³/s, Feb. 8, 1998, gage height, 11.11 ft, maximum gage height, 12.03 ft, Jan. 28, 1997; minimum daily, 0.01 ft³/s, Sept. 24, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	144	151	170	126	174	85	52	66	54	64	54
2	95	144	159	185	128	205	77	50	77	55	71	55
3	100	143	175	217	142	209	62	46	84	68	71	50
4	106	157	182	230	145	203	53	45	77	76	68	47
5	110	167	176	229	147	181	49	45	71	77	78	54
6	114	168	e170	222	154	156	54	56	63	95	77	50
7	128	161	e160	209	159	154	53	53	62	101	56	48
8	142	161	e140	199	162	162	51	43	56	101	72	45
9	139	165	e130	189	162	149	47	47	59	91	54	45
10	137	166	e135	179	157	138	42	54	61	73	62	39
11	140	187	e125	172	155	143	41	64	65	67	53	47
12	147	209	e110	164	153	142	40	69	62	57	57	44
13	149	252	e100	152	147	135	49	63	59	53	69	36
14	159	281	98	149	148	126	47	66	66	54	77	34
15	173	282	94	137	149	113	44	55	73	55	62	35
16	159	276	104	131	147	112	49	57	71	55	62	42
17	143	263	98	130	146	118	50	54	79	53	65	47
18	136	258	99	126	146	131	59	53	100	58	81	48
19	128	242	102	118	148	135	59	50	98	68	89	46
20	140	228	110	111	143	131	65	55	104	84	83	47
21	146	219	122	111	147	134	60	73	100	96	88	50
22	144	182	124	111	155	138	65	79	96	97	97	56
23	139	160	128	102	151	138	83	86	95	108	99	67
24	125	171	131	99	154	137	71	99	95	101	101	68
25	118	199	126	102	150	126	67	96	86	81	99	60
26	113	194	121	104	146	115	57	96	66	77	78	50
27	111	179	121	108	144	110	57	90	45	79	64	47
28	112	162	115	109	157	115	61	76	52	65	56	62
29	114	159	133	115	---	111	59	95	62	72	53	70
30	120	158	157	121	---	97	54	75	61	76	52	56
31	134	---	170	125	---	93	---	75	---	70	53	---
TOTAL	4015	5837	4066	4626	4168	4331	1710	2017	2211	2317	2211	1499
MEAN	129.5	194.6	131.2	149.2	148.9	139.7	57.00	65.06	73.70	74.74	71.32	49.97
MAX	173	282	182	230	162	209	85	99	104	108	101	70
MIN	94	143	94	99	126	93	40	43	45	53	52	34
AC-FT	7960	11580	8060	9180	8270	8590	3390	4000	4390	4600	4390	2970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)

	71.39	87.09	98.64	152.0	205.8	176.0	81.73	52.39	50.57	48.79	43.19	30.10
MEAN	71.39	87.09	98.64	152.0	205.8	176.0	81.73	52.39	50.57	48.79	43.19	30.10
MAX	189	195	305	545	958	563	229	123	130	114	100	105
(WY)	1999	2002	1997	1997	1998	1998	1986	1998	1986	1998	1987	1998
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1986 - 2002

ANNUAL TOTAL	44699	39008		
ANNUAL MEAN	122.5	106.9		90.93
HIGHEST ANNUAL MEAN				252
LOWEST ANNUAL MEAN				17.6
HIGHEST DAILY MEAN				1060
LOWEST DAILY MEAN	429	Mar 11	282	Nov 15
ANNUAL SEVEN-DAY MINIMUM	38	Sep 16	34	Sep 14
MAXIMUM PEAK FLOW	42	Sep 14	40	Sep 10
MAXIMUM PEAK STAGE			296	Nov 14
ANNUAL RUNOFF (AC-FT)	88660	77370	7.08	Nov 14
10 PERCENT EXCEEDS	219	170		1060
50 PERCENT EXCEEDS	94	99		12.03
90 PERCENT EXCEEDS	58	50		65880
				194
				60
				5.7

e Estimated.

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, 1999, April 2001 to October 2001 (discontinued).

SPECIFIC CONDUCTANCE: October 1985 to current year.

WATER TEMPERATURE: October 1985 to current year.

SEDIMENT DATA: Water years 1985–94, 1999, April 2001 to October 2001 (discontinued).

PERIOD OF DAILY RECORD.—October 1985 to current year.

SPECIFIC CONDUCTANCE: October 1985 to current year.

WATER TEMPERATURE: October 1985 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1985.

REMARKS.—Specific conductance records rated excellent except for Feb. 28 to Mar. 5, Mar. 27 to Apr. 16, May 8–29, June 17 to July 9, July 22 to Aug. 14, Sept. 19–30, which are rated good; and Aug. 15–21, which are rated fair. Water-temperature records are rated excellent except for Apr. 6–16, Apr. 21 to May 6, July 28 to Aug. 10, which are rated good. Maximum and minimum values are affected by the drainage of holding ponds located immediately upstream and the terminus of San Luis Drain 400 ft upstream from the station. Interruptions in record were due to malfunction of the recording instrument. Chemical Data for water year 2000 available in the files of the U.S. Geological Survey.

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, 4,900 microsiemens, Apr. 16; minimum recorded, 1,310 microsiemens, Oct. 15, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 2, 14; minimum recorded, 5.5°C, Jan. 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	
		SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L) AS CACO3 (00900)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	SODIUM AD- SORP- TION RATIO (MG/L AS NA) (00930)
OCT									
04...	1130	105	19	.424	.335	757	8.2	7.6	
31...	1000	133	23	.341	.258	760	5.9	8.0	
OCT									
04...	1590	23.0	120	320	66.5	36.2	7.67	5	198
31...	1900	18.0	160	380	78.6	43.4	6.03	5	240
OCT									
04...	57	200	231	.2	24.7	258	24	6	1.37
31...	58	210	269	.3	18.3	329	74	8	1.60

SAN JOAQUIN RIVER BASIN

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)
OCT									
04...	1000	945	<.04	1.2	1.7	.66	.018	.60	.51
31...	1180	1120	.14	1.1	1.4	1.26	.037	.30	.27

DATE	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L) AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
OCT							
04...	.82	13.8	2.1	11.5	18.9	146	678
31...	.45	11.7	.8	5.4	13.2	50	226

PARTICLE SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
04...SS	1130	105	23.0	24	6.8	46
31...SS	1000	133	18.0	29	10.4	82

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
23...*	0921	1.28	3320	18.5	2.50
23...*	0922	1.85	3310	18.5	7.50
23...*	0923	1.50	3320	18.5	12.5
23...*	0924	1.78	3310	18.5	17.5
23...*	0925	1.82	3280	18.5	22.5
23...*	0926	1.75	3290	18.5	27.5
23...*	0927	1.42	3300	18.5	32.5
23...*	0928	1.53	3280	18.5	37.5
23...*	0929	1.90	3280	18.5	42.5
23...*	0930	1.80	3300	18.5	47.5
JUL					
30...*	0945	.92	2540	24.5	2.50
30...*	0947	1.50	2540	24.5	7.50
30...*	0948	1.42	2540	24.5	12.5
30...*	0949	1.48	2540	24.5	17.5
30...*	0950	1.46	2540	24.5	22.5
30...*	0952	1.44	2540	24.5	27.5
30...*	0953	1.42	2540	24.5	32.5
30...*	0954	1.44	2540	24.5	37.5
30...*	0955	1.60	2540	24.5	42.5
30...*	0956	1.75	2540	24.5	47.5

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

* Instantaneous discharge at time of cross-sectional measurement: 88 ft³/s, Apr. 23; 77 ft³/s, July 30.

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	1740	1700	---	---	2120	2070	2870	2710	3100	2760
2	---	---	1740	1720	---	---	2100	1960	2940	2870	2880	2670
3	---	---	1780	1720	---	---	1960	1910	2910	2670	2860	2710
4	1580	1550	1720	1680	---	---	2020	1940	2910	2670	2900	2690
5	1590	1530	1720	1690	---	---	1990	1910	2910	2610	2960	2790
6	1610	1560	1720	1690	---	---	1980	1910	2660	2490	3140	2940
7	1630	1550	---	---	---	---	1990	1970	2560	2510	3120	3010
8	1550	1430	---	---	---	---	2060	1980	2660	2510	3330	3070
9	1480	1360	---	---	---	---	2070	2040	2760	2620	3450	3330
10	1640	1470	---	---	---	---	2100	2050	2820	2680	3570	3340
11	1750	1630	---	---	---	---	2130	2090	2810	2620	3340	3200
12	1670	1580	---	---	---	---	2190	2120	2810	2730	3430	3280
13	1610	1440	---	---	---	---	2260	2190	2870	2780	3570	3390
14	1450	1350	---	---	2530	2420	2280	2230	2910	2780	3620	3400
15	1350	1310	---	---	2610	2460	2470	2280	2930	2840	3580	3400
16	1440	1330	---	---	2470	2440	2490	2450	2920	2840	3680	3470
17	1610	1440	---	---	2480	2430	2490	2430	2980	2730	3740	3600
18	1640	1550	---	---	2440	2390	2590	2470	2940	2770	3750	3670
19	1630	1570	---	---	2420	2350	2710	2590	2950	2890	3740	3660
20	1590	1550	---	---	2440	2310	2760	2700	3010	2920	3680	3490
21	1640	1580	---	---	2330	2220	2730	2680	3080	2880	3490	3420
22	1670	1620	---	---	2260	2170	2760	2600	3000	2900	3440	3380
23	1680	1580	---	---	2180	2110	2840	2760	3050	2980	3500	3400
24	1780	1650	---	---	2110	2090	2840	2740	3080	2960	3560	3430
25	1800	1780	---	---	2210	2110	2790	2740	3100	2960	3650	3550
26	1820	1780	---	---	2210	2150	2770	2740	3230	3070	3750	3610
27	1840	1800	---	---	2230	2140	2770	2740	3290	3130	3760	3690
28	1880	1840	---	---	2270	2220	2790	2690	3200	3060	3920	3700
29	1900	1850	---	---	2250	2140	2760	2680	---	---	3920	3790
30	1920	1800	---	---	2180	2140	2790	2690	---	---	4030	3890
31	1810	1700	---	---	2170	2070	2710	2660	---	---	3890	3790
MONTH	---	---	---	---	---	---	2840	1910	3290	2490	4030	2670
DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4090	3820	4550	4320	3800	3570	4080	3310	3130	2640	3210	3000
2	4120	4060	4460	4270	3640	3120	3940	3560	3230	3100	3230	3000
3	4140	4090	4270	4040	3150	2920	4360	3660	3360	3130	3240	3030
4	4170	4110	4260	4050	3400	2980	4280	3130	3400	3290	3270	3060
5	4230	4120	4230	3440	3590	3310	3440	3200	3460	3110	3130	2990
6	4250	4200	3440	2960	3680	3360	3450	2720	3660	3230	3390	2990
7	4310	4240	3560	2890	3770	3630	3050	2700	3780	3090	3620	3370
8	4360	4240	4150	3560	4010	3700	3160	3010	3680	2920	3450	3020
9	4410	4300	4010	3750	4040	3760	3410	3090	3830	3680	3480	3240
10	4460	4400	3750	3150	4050	3760	3760	3290	3800	2980	3510	3040
11	4520	4420	3360	2990	4010	3760	4030	3640	3560	3200	3730	3180
12	4580	4500	3070	2900	3900	3650	4070	3760	3700	3400	3770	2960
13	4670	4560	3180	2890	3920	3560	4070	3280	3470	3230	3400	2990
14	4740	4650	3370	2870	3880	3550	3830	3330	3450	2810	3690	3400
15	4780	4640	3910	3350	4080	3520	3960	3480	3590	3220	3440	2830
16	4900	4450	3900	3350	4110	3900	4010	3590	3690	3320	3080	2460
17	4640	4160	3730	3500	4210	3420	4150	3560	3480	3330	3020	2450
18	4340	3900	3640	3350	3600	3250	3940	3650	3340	2420	3340	2860
19	4450	4050	4050	3480	3650	3240	3710	3170	2710	2540	3290	3050
20	4090	3650	4140	3890	3350	3060	3330	2460	2830	2710	3090	2530
21	3920	3590	4190	3610	3340	3060	2760	2520	2830	2450	2530	2340
22	4130	3040	3630	3150	3470	3060	2780	2230	2520	2440	2420	2130
23	3400	3010	3370	2980	3300	2860	2540	2190	2740	2510	2130	1860
24	3410	3080	3100	2830	3090	2840	2640	2270	2570	2390	1870	1730
25	3710	3140	2850	2580	3540	2930	2690	2490	2450	2320	2120	1860
26	3920	3580	2860	2530	3900	3490	2800	2530	2920	2390	2440	2090
27	3980	3750	3140	2780	4310	3770	2910	2600	3080	2790	2570	2280
28	4050	3680	3200	3060	4370	3420	3020	2400	3090	2920	2470	2100
29	4270	3730	3270	2700	3270	3200	2520	2340	3170	2920	2130	2010
30	4320	4120	3630	3270	3630	3220	2570	2420	3120	2870	2780	2040
31	---	---	3780	3440	---	---	2640	2420	3130	3020	---	---
MONTH	4900	3010	4550	2530	4370	2840	4360	2190	3830	2320	3770	1730

11262900 MUD SLOUGH NEAR GUSTINE, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	19.0	16.5	---	---	13.5	12.5	9.0	6.5	15.5	11.0
2	---	---	18.5	16.5	---	---	13.5	13.0	10.0	7.0	14.0	11.0
3	---	---	19.0	16.5	---	---	14.0	12.5	10.5	7.5	15.0	12.0
4	25.0	22.5	19.0	16.5	---	---	13.0	11.5	11.0	8.0	16.0	13.0
5	23.5	20.5	19.0	17.0	10.5	9.5	12.0	11.0	11.0	8.5	17.0	14.0
6	22.5	19.5	18.5	16.5	11.5	9.5	11.5	10.5	11.0	9.0	17.0	15.5
7	22.5	19.0	---	---	12.5	11.0	11.5	10.5	12.5	10.0	16.0	14.0
8	22.0	19.5	---	---	12.0	10.5	12.0	10.5	13.0	11.0	14.5	12.0
9	21.0	19.0	---	---	11.5	10.0	13.0	11.5	12.5	10.0	14.0	11.5
10	20.5	17.5	---	---	10.0	8.5	12.5	11.5	13.0	10.0	15.0	12.5
11	21.0	18.0	---	---	9.5	8.0	12.0	11.5	13.5	11.0	16.5	13.0
12	20.0	17.0	---	---	---	---	11.5	11.0	14.0	11.5	17.5	14.0
13	20.5	17.5	---	---	---	---	11.5	10.5	13.0	12.0	16.0	13.5
14	21.5	18.5	---	---	10.5	10.5	10.5	9.0	14.0	11.0	14.5	12.0
15	22.5	19.0	---	---	9.0	7.0	9.5	8.0	13.5	12.0	14.5	11.0
16	22.0	20.0	---	---	8.0	7.0	9.0	7.5	13.5	12.0	14.5	12.0
17	21.5	19.0	---	---	8.5	7.5	8.5	6.5	13.5	12.0	13.5	11.0
18	21.5	18.5	---	---	9.5	8.0	8.5	6.5	14.0	11.5	12.5	8.5
19	21.0	18.5	---	---	9.0	8.5	9.0	6.5	13.5	12.5	14.5	10.0
20	21.5	18.5	---	---	10.0	8.5	9.0	6.5	16.0	12.5	16.5	12.0
21	21.0	18.5	---	---	10.5	9.0	9.5	7.0	16.0	14.0	18.0	14.5
22	20.0	17.5	---	---	10.5	9.5	9.5	7.5	16.0	14.5	17.0	15.0
23	20.5	17.5	---	---	11.0	9.5	9.0	6.5	16.5	14.0	17.0	15.0
24	18.5	15.5	---	---	10.0	9.0	9.0	6.5	16.0	13.0	18.0	14.0
25	18.5	15.0	---	---	10.0	9.0	9.5	7.0	16.5	13.5	18.0	14.0
26	19.5	16.0	---	---	10.0	9.0	9.0	8.5	17.0	14.0	19.0	14.5
27	19.5	17.0	---	---	10.0	9.5	10.5	8.5	17.5	15.0	19.5	15.0
28	19.5	16.5	---	---	10.5	10.0	9.5	7.5	17.5	15.0	20.5	16.0
29	19.0	17.0	---	---	11.5	10.5	9.0	7.5	---	---	21.5	17.0
30	19.0	17.5	---	---	12.0	11.5	8.5	6.0	---	---	22.5	17.5
31	19.0	16.5	---	---	13.0	12.0	8.5	5.5	---	---	23.0	18.0
MONTH	---	---	---	---	---	---	14.0	5.5	17.5	6.5	23.0	8.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	24.0	18.5	19.5	16.0	26.5	24.0	30.0	25.5	29.0	24.5	28.0	23.5
2	24.0	19.5	22.0	16.5	26.5	21.0	30.5	26.5	29.5	25.0	28.5	24.0
3	23.0	19.0	22.5	17.5	26.0	21.5	29.5	26.5	28.5	25.0	29.0	24.5
4	21.5	18.0	23.0	17.5	26.5	21.5	29.0	24.0	27.0	23.0	27.5	25.0
5	21.5	17.5	24.0	18.5	28.0	23.0	28.5	24.5	26.5	23.0	25.0	23.0
6	22.0	17.5	25.0	19.0	28.5	24.0	28.5	24.5	26.0	22.5	25.5	21.5
7	22.0	17.0	24.0	19.0	28.0	24.0	28.0	24.5	25.5	23.0	24.5	20.5
8	23.0	18.0	22.5	18.0	26.0	22.0	27.0	24.0	26.5	22.5	24.5	20.0
9	20.0	18.0	24.0	18.0	22.0	17.5	29.0	24.0	26.5	23.5	25.0	20.5
10	22.0	17.5	23.5	18.0	23.5	18.5	30.0	25.5	28.5	24.0	25.5	20.5
11	22.0	17.5	23.5	17.5	25.5	20.5	30.0	26.5	28.0	25.0	26.0	21.5
12	23.0	18.0	24.5	18.5	26.5	22.0	30.0	27.0	28.0	25.0	26.5	22.0
13	24.0	18.5	24.5	19.5	27.0	22.5	30.0	27.0	29.0	25.0	26.5	22.0
14	25.0	20.5	24.5	19.5	26.5	22.5	30.5	27.0	28.5	25.0	26.5	21.5
15	22.0	18.5	25.0	20.0	26.5	22.5	30.0	27.0	28.5	25.0	26.0	22.0
16	20.5	17.0	25.0	20.5	26.5	22.5	28.5	25.5	28.0	25.5	25.5	21.0
17	20.0	17.0	26.0	20.0	27.0	23.0	28.0	25.5	27.5	25.0	25.5	21.0
18	19.0	16.0	26.0	20.0	27.5	23.5	28.5	25.0	27.5	23.5	25.5	21.5
19	18.0	14.0	24.0	20.0	27.0	24.0	29.0	24.0	27.0	23.5	27.0	21.5
20	20.0	15.0	21.5	19.0	27.5	24.0	30.0	24.5	26.5	23.0	27.0	22.5
21	20.5	16.0	21.0	18.0	26.0	22.5	28.5	25.0	26.0	22.0	27.0	22.5
22	22.0	17.0	22.5	17.5	25.5	21.0	27.5	24.5	26.0	22.0	27.0	22.5
23	23.0	18.0	22.5	18.5	26.5	22.0	27.5	24.0	25.0	21.5	27.0	22.5
24	23.5	18.5	24.5	19.5	27.0	22.5	27.5	24.0	25.0	21.5	27.0	22.5
25	22.5	19.0	25.5	21.0	28.5	23.5	27.5	24.0	25.5	21.5	26.0	23.0
26	21.0	18.0	26.0	21.5	29.0	25.0	28.0	24.0	25.5	22.0	26.0	22.0
27	19.0	16.0	26.0	22.0	28.0	25.0	28.5	24.5	25.5	22.5	24.0	21.0
28	20.0	16.0	26.5	22.0	29.5	25.0	28.5	24.5	27.0	23.0	22.5	20.0
29	19.0	17.0	27.5	23.0	29.0	24.5	27.5	24.0	27.0	23.0	23.0	19.5
30	18.5	16.0	29.0	24.0	29.0	25.0	28.0	24.0	27.0	23.0	23.5	19.5
31	---	---	29.0	25.5	---	---	28.5	24.5	27.5	23.0	---	---
MONTH	25.0	14.0	29.0	16.0	29.5	17.5	30.5	24.0	29.5	21.5	29.0	19.5

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 remnants of 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—August 1915 to current year.

REVISED RECORDS.—WSP 1215: 1938(M).

GAGE.—Water-stage recorder. Datum of gage is 4,016.58 ft above sea level. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft lower.

REMARKS.—Records good. 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)
May 31	0330	2,290	6.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	10	83	146	79	230	569	420	2000	374	39	7.9
2	5.3	10	99	138	74	206	691	427	1580	351	38	7.5
3	5.1	10	98	148	73	193	790	518	1350	336	37	7.2
4	5.1	9.6	101	131	71	191	912	685	1360	273	34	7.4
5	5.0	9.1	105	124	73	187	948	823	1560	234	32	7.7
6	4.9	8.7	102	128	73	204	794	1040	1630	215	30	8.9
7	4.8	8.6	98	137	76	209	819	1190	1470	205	27	13
8	4.7	8.6	97	131	85	184	934	1180	1300	193	26	13
9	4.7	8.6	96	124	85	175	978	1150	1010	180	24	14
10	4.6	8.4	89	119	88	166	865	1070	779	166	22	14
11	4.5	8.6	80	119	96	157	1000	872	773	162	21	14
12	4.4	11	82	122	106	180	1120	934	788	171	19	13
13	4.4	21	81	125	116	174	1250	1110	827	168	18	11
14	4.3	23	84	125	115	155	1400	1340	857	154	17	9.8
15	4.2	28	76	115	117	139	1480	1480	778	142	17	9.1
16	4.0	30	84	105	114	137	905	1560	725	131	17	8.8
17	4.0	30	82	104	121	131	709	1750	672	115	16	8.5
18	4.0	27	77	95	113	128	584	1920	662	104	16	8.2
19	4.0	23	78	95	118	130	490	1860	724	98	16	7.9
20	4.0	21	79	92	136	146	434	1470	678	86	16	7.6
21	4.2	26	81	93	144	168	410	1100	636	77	16	6.6
22	4.0	177	84	87	164	180	434	863	514	72	13	5.9
23	3.9	99	84	77	188	178	554	793	443	65	12	5.8
24	3.9	213	78	83	178	168	728	827	438	57	12	5.4
25	3.5	151	79	81	183	155	821	1040	408	53	11	5.3
26	3.2	104	81	82	210	149	983	1210	393	53	11	5.1
27	3.2	84	82	85	231	156	735	1350	388	53	11	5.1
28	3.2	83	88	80	241	193	579	1440	373	48	10	5.1
29	3.2	84	161	84	---	249	519	1590	375	46	10	5.1
30	4.0	81	167	97	---	355	472	1900	355	43	10	5.1
31	15	---	169	94	---	461	---	1990	---	41	9.4	---
TOTAL	142.9	1416.2	2925	3366	3468	5834	23907	36902	25846	4466	607.4	253.0
MEAN	4.610	47.21	94.35	108.6	123.9	188.2	796.9	1190	861.5	144.1	19.59	8.433
MAX	15	213	169	148	241	461	1480	1990	2000	374	39	14
MIN	3.2	8.4	76	77	71	128	410	420	355	41	9.4	5.1
AC-FT	283	2810	5800	6680	6880	11570	47420	73200	51270	8860	1200	502

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.93	60.93	83.44	90.09	108.4	191.4	543.4	1262	1218	473.8	112.6	43.76
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1916 - 2002	
ANNUAL TOTAL	86494.7		109133.5			
ANNUAL MEAN	237.0		299.0		352.6	
HIGHEST ANNUAL MEAN					802 1983	
LOWEST ANNUAL MEAN					84.9 1977	
HIGHEST DAILY MEAN	2010	May 9	2000	Jun 1	9030	Jan 2 1997
LOWEST DAILY MEAN	3.2	Oct 26	3.2	Oct 26	1.5	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	3.4	Oct 23	3.4	Oct 23	1.9	Oct 14 1964
MAXIMUM PEAK FLOW			2290	May 31	10100	Jan 2 1997
MAXIMUM PEAK STAGE			6.18	May 31	13.27	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	171600		216500		255400	
10 PERCENT EXCEEDS	845		980		1130	
50 PERCENT EXCEEDS	49		102		99	
90 PERCENT EXCEEDS	5.9		5.5		11	

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1966–96, October 2000 to current year.

CHEMICAL DATA: Water years 1968–96, October 2000 to current year.

BIOLOGICAL DATA: Water years 1973–81.

WATER TEMPERATURE: Water years 1966–77, 1979–93.

SEDIMENT DATA: Water years 1970–71, 1973–96, October 2000 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1965 to September 1977, October 1978 to September 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	PH WATER FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00020)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 28...	0940	90	660	--	--	6.8	32	1.5	.9	8	2.91
MAY 14...	1240	1220	661	10.7	102	7.6	9	9.0	7.0	2	.81
JUL 30...	1030	48	661	7.7	89	6.8	20	15.0	15.4	5	1.71
SEP 05...	1015	6.2	660	8.1	99	7.0	34	13.5	12.2	8	2.85

Date	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	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)
NOV 28...	.280	.43	.4	2.40	37	7	9	--	4.85	--	5.87
MAY 14...	.091	.20	.2	.71	37	5	6	--	.46	--	4.49
JUL 30...	.155	.30	.3	1.42	37	6	7	--	2.19	--	4.40
SEP 05...	.291	.62	.4	2.48	37	10	12	--	4.51	--	8.00

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
NOV 28...	1.32	.04	28	23	<.015	<.10	.025	--	<.004	<.007	1.8
MAY 14...	.39	.02	15	10	<.015	e.07	.017	--	<.004	<.007	2.6
JUL 30...	.59	.01	11	14	<.015	<.10	.013	--	<.004	<.007	.7
SEP 05...	.63	.03	21	25	<.015	<.10	.048	--	<.004	<.007	--

< Actual value is known to be less than the value shown.
e Estimated.

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
NOV 28...	0915	81	1.0	82	3.0	.66
MAY 14...	1120	1330	7.0	20	12	43.1
JUL 30...	1000	43	15.5	30	4.0	.46
SEP 05...	0955	7.7	12.0	84	2.0	.04

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, 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)
Apr. 15	0315	3,410	7.31	May 18	0415	3,530	7.42

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	24	156	346	144	463	1180	905	3100	472	66	24
2	15	22	201	322	137	408	1410	921	2460	451	64	24
3	15	22	198	339	136	381	1590	1090	2050	435	62	23
4	15	21	184	297	133	379	1830	1360	2010	370	60	23
5	15	20	196	276	136	374	1920	1670	2180	322	57	23
6	15	20	194	273	138	402	1670	2000	2270	292	55	24
7	15	20	191	296	143	427	1720	2240	2060	279	52	25
8	15	19	191	283	166	358	1900	2200	1860	262	49	26
9	14	19	190	265	160	347	2010	2150	1540	246	46	26
10	14	19	174	249	162	333	1820	2020	1230	226	44	26
11	14	20	153	244	177	310	2050	1690	1160	217	42	26
12	14	23	156	250	196	358	2220	1770	1150	224	41	25
13	14	31	154	250	218	345	2470	2010	1180	269	39	24
14	14	e40	163	250	219	300	2740	2390	1210	298	38	24
15	14	e46	141	241	222	264	2950	2610	1120	221	37	23
16	14	e49	156	237	217	267	1880	2710	1030	195	36	22
17	14	e48	158	251	232	251	1480	2980	936	172	35	22
18	13	e43	144	222	209	233	1210	3200	909	153	35	22
19	13	e38	147	219	224	261	1040	3100	983	143	34	21
20	13	35	156	198	258	295	921	2570	924	130	33	21
21	13	36	151	196	284	345	875	2010	861	118	32	20
22	13	244	159	186	320	382	939	1630	731	109	31	19
23	13	190	161	154	378	374	1160	1530	628	102	31	19
24	13	443	144	168	350	349	1480	1550	602	94	30	18
25	13	350	150	165	354	322	1670	1760	565	87	29	18
26	13	216	157	168	409	311	2070	2000	535	84	28	17
27	13	165	161	171	447	325	1570	2160	524	82	28	17
28	13	156	176	154	478	407	1240	2260	501	79	27	17
29	13	161	326	144	---	533	1120	2440	495	76	26	17
30	16	149	369	128	---	744	1020	2870	471	73	26	17
31	19	---	387	141	---	944	---	3010	---	69	25	---
TOTAL	438	2689	5744	7083	6647	11792	49155	64806	37275	6350	1238	653
MEAN	14.13	89.63	185.3	228.5	237.4	380.4	1638	2091	1242	204.8	39.94	21.77
MAX	19	443	387	346	478	944	2950	3200	3100	472	66	26
MIN	13	19	141	128	133	233	875	905	471	69	25	17
AC-FT	869	5330	11390	14050	13180	23390	97500	128500	73930	12600	2460	1300

e Estimated.

SAN JOAQUIN RIVER BASIN

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.31	120.5	182.7	201.2	246.9	420.9	1109	2334	1915	645.5	149.8	65.01
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1917 - 2002	
ANNUAL TOTAL	151379		193870			
ANNUAL MEAN	414.7		531.2		621.9	
HIGHEST ANNUAL MEAN					1466	
LOWEST ANNUAL MEAN					127	
HIGHEST DAILY MEAN	3400	May 8	3200	May 18	21000	Jan 2 1997
LOWEST DAILY MEAN	13	Oct 18	13	Oct 18	5.4	Oct 26 1977
ANNUAL SEVEN-DAY MINIMUM	13	Oct 18	13	Oct 18	5.6	Oct 20 1977
MAXIMUM PEAK FLOW			3530	May 18	24600	Jan 3 1997
MAXIMUM PEAK STAGE			7.42	May 18	23.43	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	300300		384500		450600	
10 PERCENT EXCEEDS	1450		1890		1920	
50 PERCENT EXCEEDS	90		196		182	
90 PERCENT EXCEEDS	17		18		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 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.24	1.1	3.5	9.0	e4.0	9.3	13	23	21	3.7	0.00	0.24
2	0.23	0.95	4.3	8.6	e4.4	9.3	13	23	19	3.7	0.17	0.38
3	0.21	0.89	3.5	9.6	e4.4	9.9	13	23	18	3.6	0.14	0.27
4	0.21	0.85	6.7	8.7	e5.0	9.8	13	24	17	3.5	0.03	0.18
5	0.19	0.84	5.8	8.2	e5.2	9.8	13	24	16	3.4	0.02	0.15
6	0.21	0.84	5.8	8.1	e5.4	10	13	25	15	3.4	0.02	0.12
7	0.21	0.86	7.1	8.1	e5.8	11	12	25	14	3.4	0.01	0.17
8	0.21	0.86	6.1	8.0	e10	10	13	25	13	3.4	0.00	0.21
9	0.20	0.87	5.3	7.8	e8.5	9.5	12	26	8.1	3.2	0.06	0.11
10	0.20	0.87	4.8	7.6	e7.5	9.2	12	26	5.5	3.0	0.08	0.04
11	0.19	1.6	4.3	7.2	e6.5	9.3	12	25	5.4	2.9	0.03	0.08
12	0.20	2.4	7.0	7.2	6.5	9.5	13	25	5.1	2.8	0.03	0.04
13	0.20	2.9	7.5	7.1	7.0	9.6	13	26	5.0	2.6	0.02	0.11
14	0.20	2.5	6.7	6.9	7.3	9.5	13	26	4.8	2.5	0.02	0.14
15	0.21	2.4	5.6	e6.0	8.0	9.9	12	26	4.8	1.3	0.01	0.22
16	0.21	2.3	6.8	e5.5	8.0	9.8	12	26	4.9	0.31	0.01	0.65
17	0.21	2.0	9.8	e5.0	7.9	11	11	26	4.8	0.21	0.02	0.60
18	0.21	1.8	7.7	e4.5	7.5	13	11	25	3.1	0.18	0.48	0.54
19	0.21	1.7	5.9	e4.0	7.5	14	11	25	2.1	0.13	0.55	0.48
20	0.21	1.6	3.0	e4.0	8.9	10	11	27	2.0	0.09	0.20	0.47
21	0.20	2.1	3.7	e4.0	8.8	11	11	26	2.0	0.12	0.20	0.47
22	0.18	7.8	3.7	e7.0	8.9	11	11	26	2.0	0.13	0.15	0.46
23	0.18	3.6	4.0	e6.0	9.2	11	11	26	2.0	0.08	0.19	0.46
24	0.18	8.4	3.5	e5.0	9.1	11	11	26	2.0	0.06	0.25	0.47
25	0.28	6.7	3.7	e5.5	9.2	11	16	26	1.9	0.08	0.20	0.40
26	0.09	4.3	3.1	e6.0	9.4	11	26	26	1.9	0.06	0.19	0.34
27	0.08	3.8	3.3	e8.0	9.4	11	26	26	1.8	0.04	0.18	0.30
28	0.13	4.2	5.6	e6.0	9.3	12	25	26	3.2	0.02	0.18	0.25
29	0.75	3.1	10	e5.2	---	12	24	25	3.8	0.01	0.13	0.23
30	4.5	3.7	9.6	e4.6	---	13	24	24	3.8	0.00	0.13	0.18
31	2.4	---	9.9	e4.2	---	13	---	21	---	0.00	0.16	---
TOTAL	13.13	77.83	177.3	202.6	208.6	330.4	431	779	213.0	47.92	3.86	8.76
MEAN	0.424	2.594	5.719	6.535	7.450	10.66	14.37	25.13	7.100	1.546	0.125	0.292
MAX	4.5	8.4	10	9.6	10	14	26	27	21	3.7	0.55	0.65
MIN	0.08	0.84	3.0	4.0	4.0	9.2	11	21	1.8	0.00	0.00	0.04
AC-FT	26	154	352	402	414	655	855	1550	422	95	7.7	17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2002, BY WATER YEAR (WY)

MEAN	1.345	3.727	6.356	7.910	9.675	16.80	23.67	28.94	17.13	3.974	0.909	0.756
MAX	7.61	11.9	31.3	35.8	32.7	37.3	43.3	56.2	58.0	22.3	3.14	3.46
(WY)	1970	1997	1997	1970	1970	1972	1993	1975	1998	1998	1973	1995
MIN	0.026	1.10	0.75	0.76	0.19	0.32	3.21	2.65	0.025	0.52	0.025	0.000
(WY)	1989	1991	1991	1996	1997	1996	1995	1995	1995	1995	1988	1987

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1970 - 2002

ANNUAL TOTAL	2886.29	2493.40	
ANNUAL MEAN	7.908	6.831	10.60
HIGHEST ANNUAL MEAN			19.3 1993
LOWEST ANNUAL MEAN			3.67 1995
HIGHEST DAILY MEAN	33 Apr 27	27 May 20	66 Jun 1 1975
LOWEST DAILY MEAN	0.08 Oct 27	0.00 Jul 30	0.00 Jul 1 1973
ANNUAL SEVEN-DAY MINIMUM	0.16 Oct 22	0.02 Jul 26	0.00 Aug 1 1987
ANNUAL RUNOFF (AC-FT)	5720	4950	7680
10 PERCENT EXCEEDS	28	21	34
50 PERCENT EXCEEDS	3.2	4.5	4.0
90 PERCENT EXCEEDS	0.26	0.13	0.21

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 Exchequer Powerplant (station 11269700) down the Merced River to a diversion dam for Merced Irrigation District's main canal.

COOPERATION.—Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2179.

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, 608,700 acre-ft, June 9, elevation, 796.34 ft; minimum, 332,700 acre-ft, Sept. 30, minimum elevation, 724.98 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	439500	384500	366600	391600	417100	437500	461400	526000	596300	569300	469300	384600
2	438300	383100	368000	394300	417400	438700	463500	523900	599500	566500	466100	382500
3	437200	382000	370900	398700	418000	439800	466700	521800	602000	563200	463500	380600
4	435700	381000	371300	400500	418100	440800	470500	520200	602800	560300	460300	378600
5	434200	380800	371600	402100	418400	442600	473700	520100	604300	557100	456900	375800
6	432900	379600	372000	403500	418600	443400	476700	521000	606200	553700	453700	374300
7	432000	378400	372200	405100	418900	445300	478800	522900	607500	550400	450600	372200
8	430900	376500	372300	406600	419300	447500	481700	525100	608500	547400	447500	370200
9	429800	375200	372500	408000	420000	448800	485700	527400	608700	544100	444600	368100
10	428400	374000	372400	409300	420400	450100	488100	528600	608300	540600	442100	366300
11	427400	373300	372200	410500	420700	451300	491800	528600	607500	537300	439600	365000
12	426100	372600	371600	410500	421000	452300	496000	529600	606600	534400	436200	363500
13	424600	372200	371200	410500	421300	453300	500900	531600	605600	530900	433100	362100
14	423400	371600	371100	411600	421600	454300	506200	534700	604600	527500	430100	360200
15	422000	371000	371200	412600	421900	454700	513200	538600	603600	524400	427300	358400
16	419900	370100	371300	413200	422500	454700	516800	543100	602300	521700	424300	357200
17	417300	369500	371200	413900	423400	455000	518800	547900	601100	518000	421400	354900
18	415500	368900	371100	414500	424900	454900	519900	553400	599100	514400	418400	353500
19	413600	368300	370800	415100	425700	454900	520100	558900	596500	510600	415800	351700
20	410900	367500	370700	415700	426700	453800	519800	563100	595100	507600	413300	350200
21	409100	366800	370800	416200	427800	453300	519400	565400	593900	504100	410900	348700
22	406800	366200	370900	416500	428900	453100	518900	567500	591700	500700	408300	347400
23	404500	366100	371000	416800	430000	454400	518700	568600	589600	497400	405100	344600
24	401600	366400	370800	417100	431200	455600	519700	570100	587200	494200	403100	343000
25	399000	368200	370800	416500	432300	456300	521600	572300	584900	490500	400800	341100
26	396500	368300	370900	416800	433400	456700	524400	575400	582300	487600	398900	339200
27	394000	368200	371000	416800	435000	456900	526600	578100	580400	484000	396100	337400
28	391600	367800	371600	417000	436400	457000	527700	581700	577400	480700	393600	335600
29	389500	367300	380000	416900	---	457400	527700	583900	575600	477700	391300	333900
30	387600	366900	385000	416800	---	458500	527400	587500	572200	474800	389200	332700
31	385700	---	389100	416900	---	459500	---	592000	---	472000	386800	---
MAX	439500	384500	389100	417100	436400	459500	527700	592000	608700	569300	469300	384600
MIN	385700	366100	366600	391600	417100	437500	461400	520100	572200	472000	386800	332700
a	741.39	735.78	742.38	750.28	755.60	761.69	778.35	792.79	788.45	764.89	741.71	724.98
b	-54800	-18800	+22200	+27800	+19500	+23100	+67900	+64600	-19800	-100200	-85200	-54100
c	55840	30440	24700	9620	13200	34290	85400	120100	109400	114700	87370	55650

CAL YR 2001 b -203300

WTR YR 2002 b -107800

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Diversion, in acre-feet, through Exchequer Powerplant (station 11269700), provided by Pacific Gas & Electric Co.

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: 1901–09, 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 (station 11269700), McSwain Powerplant (station 11270610), and Merced Falls Powerplant, Lake McClure (station 11269500) since 1926, enlarged 1967, and McSwain Reservoir (station 11270600) since 1966, capacity, 9,200 acre-ft.

COOPERATION.—Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2179.

EXTREMES FOR PERIOD OF RECORD (water years 1901–13, 1916–2001).—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.

Since construction of Exchequer Dam in 1926: Maximum discharge, 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	516	590	418	252	242	250	900	2170	1570	1770	1500	1100
2	519	579	406	304	250	253	959	2340	1600	1760	1500	1110
3	744	590	411	274	242	250	990	2360	1670	1770	1520	1110
4	677	600	407	247	241	249	1040	2320	1620	1840	1550	1050
5	526	600	407	247	242	249	1110	2290	1640	1850	1550	997
6	533	613	406	252	251	248	1130	2320	1670	1850	1540	959
7	512	630	404	252	244	244	1190	2410	1680	1840	1550	921
8	527	640	409	247	244	244	1290	2140	1630	1840	1510	885
9	556	638	401	248	244	244	1350	2140	1630	1800	1400	849
10	574	581	407	250	244	242	1350	2160	1650	1810	1400	820
11	603	450	417	252	244	242	1270	2330	1670	1820	1380	822
12	608	436	410	246	244	243	1170	2290	1680	1830	1380	778
13	607	441	405	256	245	242	1160	1870	1670	1810	1380	736
14	567	440	405	257	249	244	1180	1730	1710	1820	1410	794
15	698	435	403	245	249	501	1210	1550	1770	1810	1420	794
16	998	434	403	247	248	673	1280	1490	1770	1780	1410	795
17	1160	440	403	246	244	672	1360	1520	1770	1780	1400	819
18	1150	435	403	244	244	671	1370	1560	1780	1750	1390	799
19	1120	441	403	245	248	670	1420	1580	1820	1760	1330	792
20	1130	447	414	253	244	773	1480	1580	1780	1760	1260	743
21	1120	436	404	248	244	824	1510	1570	1760	1750	1220	697
22	1120	429	403	243	244	827	1540	1520	1720	1790	1220	704
23	1200	431	406	241	244	834	1530	1460	1690	1660	1220	840
24	1310	431	403	242	244	825	1520	1430	1730	1660	1220	851
25	1300	431	408	242	244	827	1500	1400	1720	1650	1200	841
26	1270	430	411	243	244	806	1460	1380	1750	1650	1170	873
27	1240	428	405	243	244	746	1420	1380	1770	1630	1090	854
28	1210	427	403	243	245	755	1380	1440	1730	1660	1100	851
29	1120	427	458	248	---	801	1440	1480	1800	1550	1140	788
30	953	438	410	248	---	885	1690	1510	1770	1560	1140	708
31	748	---	356	247	---	884	---	1540	---	1530	1120	---
TOTAL	26916	14768	12609	7752	6856	16418	39199	56260	51220	54140	41620	25680
MEAN	868.3	492.3	406.7	250.1	244.9	529.6	1307	1815	1707	1746	1343	856.0
MAX	1310	640	458	304	251	885	1690	2410	1820	1850	1550	1110
MIN	512	427	356	241	241	242	900	1380	1570	1530	1090	697
AC-FT	53390	29290	25010	15380	13600	32570	77750	111600	101600	107400	82550	50940
a	8720	8950	8660	9220	8930	8110	9150	9450	8660	9260	9200	9170
b	53620	4400	0.00	0.00	0.00	26990	79840	112300	101100	107600	82000	53910

a End of month contents, in acre-feet, McSwain Reservoir (station 11270600), provided by Pacific Gas & Electric Co.

b Total discharge, in acre-feet, McSwain Powerplant (station 11270610), provided by Pacific Gas & Electric Co.

SAN JOAQUIN RIVER BASIN

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	1.00	208	314	774	1478	212	61.3	29.9	20.5
(WY)	1914	1922	1906	1918	1913	1924	1912	1924	1924	1924	1924	1924

SUMMARY STATISTICS

WATER YEARS 1901 - 1925

ANNUAL MEAN	1443
HIGHEST ANNUAL MEAN	2937 1907
LOWEST ANNUAL MEAN	348 1924
HIGHEST DAILY MEAN	37200 Jan 30 1911
LOWEST DAILY MEAN	1.0 Nov 21 1901
ANNUAL SEVEN-DAY MINIMUM	20 Sep 4 1924
MAXIMUM PEAK FLOW	47700 Jan 31 1911
MAXIMUM PEAK STAGE	23.30 Jan 31 1911
ANNUAL RUNOFF (AC-FT)	1045000
10 PERCENT EXCEEDS	4340
50 PERCENT EXCEEDS	488
90 PERCENT EXCEEDS	80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1964, BY WATER YEAR (WY)

MEAN	223	57.8	267	402	694	1059	1892	3143	2737	1739	1400	884
MAX	638	385	4698	3869	3155	5375	3876	7249	7426	2384	1713	1313
(WY)	1945	1951	1951	1956	1938	1938	1958	1952	1938	1938	1963	1952
MIN	20.8	25.2	26.0	20.7	35.1	33.3	275	1049	1090	210	171	17.2
(WY)	1932	1932	1934	1940	1960	1948	1948	1955	1934	1931	1961	1931

SUMMARY STATISTICS

WATER YEARS 1927 - 1964

ANNUAL MEAN	1210
HIGHEST ANNUAL MEAN	2738 1938
LOWEST ANNUAL MEAN	360 1931
HIGHEST DAILY MEAN	24000 Dec 4 1950
LOWEST DAILY MEAN	4.5 Feb 11 1960
ANNUAL SEVEN-DAY MINIMUM	8.7 Jan 12 1940
MAXIMUM PEAK FLOW	46200 Dec 4 1950
MAXIMUM PEAK STAGE	22.60 Dec 4 1950
ANNUAL RUNOFF (AC-FT)	876500
10 PERCENT EXCEEDS	2510
50 PERCENT EXCEEDS	1150
90 PERCENT EXCEEDS	38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

MEAN	900.2	389.8	546.2	764.6	1110	1318	1812	2251	2285	2108	1722	1347
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1968 - 2002

ANNUAL TOTAL	364452	353438	
ANNUAL MEAN	998.5	968.3	1381
HIGHEST ANNUAL MEAN			3779 1983
LOWEST ANNUAL MEAN			363 1977
HIGHEST DAILY MEAN	2800	2410	8020 Jan 4 1997
LOWEST DAILY MEAN	250	241	46 Oct 3 1968
ANNUAL SEVEN-DAY MINIMUM	253	242	74 Oct 12 1977
MAXIMUM PEAK FLOW		2460	9360 Jun 1 1969
MAXIMUM PEAK STAGE		7.47	12.40 Jun 1 1969
ANNUAL RUNOFF (AC-FT)	722900	701000	1000000
TOTAL DIVERSION (AC-FT) a	627700	621700	
10 PERCENT EXCEEDS	1870	1770	2820
50 PERCENT EXCEEDS	798	849	1180
90 PERCENT EXCEEDS	260	245	188

a Total discharge, in acre-feet, McSwain Powerplant (station 11270610), provided by Pacific Gas & Electric Co.

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 Federal Energy Regulatory Commission project no. 2179.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	---	---	---	---	186	194	---	---	167	e117	100
2	128	---	---	---	---	188	189	---	---	164	e117	107
3	120	---	---	---	---	189	176	---	---	160	e120	102
4	122	---	---	---	---	192	179	---	---	155	e122	103
5	115	---	---	---	---	194	---	---	---	158	e127	106
6	110	---	---	---	---	---	---	---	---	157	e123	94
7	130	---	---	---	---	---	---	---	---	161	e118	90
8	131	---	---	---	---	---	---	---	---	165	e113	105
9	136	---	---	---	196	---	---	---	---	133	e123	108
10	136	---	---	---	193	---	---	---	---	121	e124	101
11	135	---	---	---	191	---	---	---	---	126	e121	98
12	135	---	---	---	191	---	---	---	---	134	e119	96
13	134	---	---	---	188	---	---	---	---	130	e117	99
14	134	---	---	---	190	---	---	---	---	129	e121	96
15	136	---	---	---	193	195	---	---	---	133	e115	93
16	---	---	---	---	192	198	---	---	---	118	e110	91
17	---	---	---	---	---	---	---	---	---	109	e113	92
18	---	---	---	---	---	---	---	---	192	114	e121	90
19	---	---	---	---	194	---	---	---	186	109	e125	95
20	---	---	---	---	195	---	---	---	182	e118	e100	98
21	---	---	---	---	193	---	---	---	---	e122	e94	102
22	---	---	---	---	192	---	---	---	---	e127	105	105
23	---	---	---	---	191	---	---	---	---	e118	104	114
24	---	---	---	---	191	---	---	---	---	e121	100	99
25	---	---	---	---	190	---	---	---	---	e117	99	92
26	---	---	---	---	190	---	---	---	---	e121	107	93
27	---	---	---	---	191	---	---	---	175	e120	100	88
28	---	---	---	---	189	---	---	---	161	e125	107	97
29	---	---	---	---	---	---	---	---	172	e115	108	100
30	---	---	---	---	---	---	---	---	170	e125	110	101
31	---	---	---	---	---	---	---	---	---	e128	99	---
TOTAL	---	---	---	---	---	---	---	---	---	4100	3499	2955
MEAN	---	---	---	---	---	---	---	---	---	132.3	112.9	98.50
MAX	---	---	---	---	---	---	---	---	---	167	127	114
MIN	---	---	---	---	---	---	---	---	---	109	94	88
AC-FT	---	---	---	---	---	---	---	---	---	8130	6940	5860

e Estimated.

11272500 MERCED RIVER NEAR STEVINSON, CA

LOCATION.—Lat 37°22'15", long 120°55'46", in SW 1/4 NE 1/4 sec.36, T.6 S., R.9 E., Merced County, Hydrologic Unit 18040002, on right bank, 4.4 mi upstream from mouth, and 5.3 mi northwest of Stevinson.

DRAINAGE AREA.—1,273 mi².

PERIOD OF RECORD.—October 1940 to September 1995, October 2001 to September 2002.

SPECIFIC CONDUCTANCE: Water years 1989–92.

WATER TEMPERATURE: Water years 1989–92.

REVISED RECORDS.—WSP 1930: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is sea level. October 1940 to Aug. 15, 1955, at datum 55.74 ft higher; Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

REMARKS.—Practically entire flow is diverted upstream from station for irrigation of 120,000 acres during low runoff years. Some return flow enters upstream from station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft, the largest of which is Lake McClure (station 11269500).

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 13,600 ft³/s, Dec. 5, 1950, elevation, 73.79 ft, present datum; no flow July 19 to Aug. 21, 1961, result of temporary dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	797	433	1030	264	237	240	764	238	150	e75	e99
2	92	690	434	599	259	233	221	1110	242	140	e73	e99
3	94	652	433	757	259	234	209	1280	269	e120	e78	e92
4	96	627	436	956	255	236	200	1310	262	e113	e88	e86
5	102	591	421	557	251	238	190	1340	209	e117	e88	e81
6	117	583	418	456	250	240	220	1330	190	e117	e85	e103
7	117	581	413	413	249	243	245	1280	194	e119	e78	e86
8	151	587	411	381	249	264	261	1170	190	e120	e75	e74
9	143	601	411	361	248	280	253	972	201	e108	e75	e116
10	129	595	407	343	245	301	267	899	227	e100	e82	e101
11	132	603	405	332	241	286	268	912	200	e96	e88	e110
12	131	567	414	323	239	251	266	982	191	e90	e83	e108
13	153	519	409	312	234	246	271	866	192	e85	e77	e85
14	149	493	403	302	232	224	312	610	199	e95	e73	e85
15	159	458	405	300	231	217	326	506	211	e93	e73	e114
16	145	446	400	295	233	222	359	358	198	e75	e73	e96
17	266	437	400	289	239	238	361	299	212	e65	e88	e105
18	536	437	403	286	245	236	384	247	188	e70	e108	e104
19	638	430	404	283	258	221	393	249	176	e67	e108	e93
20	700	430	408	278	259	233	431	276	166	e66	e91	e73
21	718	439	421	278	249	230	443	268	145	e90	e81	e69
22	747	434	437	277	241	225	454	271	144	e100	e97	e87
23	759	431	443	274	237	230	470	262	161	e95	e85	e99
24	768	433	436	270	235	247	469	245	151	e94	e95	e83
25	782	444	431	268	234	254	461	226	145	e93	e97	e83
26	791	438	434	265	234	227	456	227	153	e92	e107	e82
27	825	428	433	264	237	229	489	237	155	e85	e102	e93
28	781	428	436	265	238	223	500	233	158	e93	e90	e96
29	811	425	454	275	---	227	490	242	151	e95	e92	e111
30	817	424	1350	274	---	235	535	238	144	e78	e94	e109
31	813	---	1050	268	---	245	---	203	---	e83	e82	---
TOTAL	12807	15448	14593	11831	6845	7452	10444	19412	5662	3004	2681	2822
MEAN	413.1	514.9	470.7	381.6	244.5	240.4	348.1	626.2	188.7	96.90	86.48	94.07
MAX	825	797	1350	1030	264	301	535	1340	269	150	108	116
MIN	92	424	400	264	231	217	190	203	144	65	73	69
AC-FT	25400	30640	28950	23470	13580	14780	20720	38500	11230	5960	5320	5600

e Estimated.

11272500 MERCED RIVER NEAR STEVINSON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	360.4	301.1	514.3	706.8	827.9	1018	1029	1288	1066	388.3	223.8	303.4
MAX	2739	1314	4718	4568	4695	5478	4949	5792	4545	3593	1192	1716
(WY)	1984	1970	1951	1956	1983	1983	1983	1952	1983	1983	1983	1983
MIN	11.4	69.9	105	109	69.2	94.4	59.7	65.1	19.2	6.18	8.91	11.3
(WY)	1978	1962	1962	1962	1991	1977	1961	1977	1977	1991	1977	1977

SUMMARY STATISTICS

FOR 2002 WATER YEAR

WATER YEARS 1941 - 2002

ANNUAL TOTAL	113001		
ANNUAL MEAN	309.6	667.6	
HIGHEST ANNUAL MEAN		3155	1983
LOWEST ANNUAL MEAN		78.8	1961
HIGHEST DAILY MEAN	1350	Dec 30	12000
LOWEST DAILY MEAN	65	Jul 17	0.00
ANNUAL SEVEN-DAY MINIMUM	75	Jul 15	0.00
MAXIMUM PEAK FLOW	1790	Dec 30	13600
MAXIMUM PEAK STAGE	62.22	Dec 30	73.79
ANNUAL RUNOFF (AC-FT)	224100		483700
10 PERCENT EXCEEDS	606		1780
50 PERCENT EXCEEDS	242		233
90 PERCENT EXCEEDS	87		99

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 18040002, on upstream side of River Road Bridge, near right bank, just downstream from Hatfield State Park, and 1.1 river miles upstream from confluence with the San Joaquin River.

DRAINAGE AREA.—1,276 mi².

PERIOD OF RECORD.—April 1992 to current year. Published as "Merced River near Stevinson" (11272500) water years 1985–94.

CHEMICAL DATA: Water years 1994–95, February 1997 to September 1999, October 2000 to current year.

SEDIMENT DATA: Water years 1994–95, February 1997 to current year.

SPECIFIC CONDUCTANCE: April 1992 to current year.

WATER TEMPERATURE: April 1992 to current year.

PERIOD OF DAILY RECORD.—April 1992 to current year.

SPECIFIC CONDUCTANCE: April 1992 to current year.

WATER TEMPERATURE: April 1992 to current year.

INSTRUMENTATION.—Water-quality monitor since April 1992.

REMARKS.—Specific conductance records rated excellent except for Oct. 22 to Nov. 11, which are rated good; and Nov. 12–28, which are rated fair. Water-temperature records rated excellent except for Nov. 8–28, Jan. 23–29, Mar. 19 to Apr. 3, Apr. 21–23, May 14–31, which are rated good; Jan. 30 to Feb. 6, Mar. 4, which are rated fair; and Feb. 7 to Mar. 3, which are rated poor. Interruptions in record were due to malfunction of the recording instruments. Specific-conductance and water-temperature values are affected by irrigation return flow. Discharges based on upstream California Department of Water Resources gage 11272500 with appropriate travel times taken into account. Chemical data for water year 2000 available in the files of the 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, 34.0°C, July 12, 13, 1999; minimum recorded, 4.5°C, Dec. 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 655 microsiemens, July 23, but may have been higher during period of missing record; minimum recorded, 39 microsiemens, Oct. 19.

WATER TEMPERATURE: Maximum recorded, 32.0°C, July 11, 12; minimum recorded, 7.0°C, Jan. 24, Jan. 30 to Feb. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LITY WAT. DIS GRAN T. FIELD CACO3 (MG/L) (29802)
OCT									
09...	1220	e155	759	9.0	98	7.9	260	19.5	62
NOV									
06...	1130	e584	758	9.0	--	8.1	--	15.5	20
DEC									
04...	1040	e442	763	10.0	89	7.5	58	10.5	25
JAN									
17...	1110	e289	763	--	--	7.9	171	9.0	52
30...	1220	e276	766	11.2	94	7.6	153	8.0	--
FEB									
07...	1100	e248	764	10.9	97	7.1	177	10.5	44
28...	1150	e239	765	9.8	97	7.0	189	15.0	--
MAR									
13...	1120	e254	769	9.2	--	7.7	--	15.0	53
27...	1100	e237	761	9.3	--	7.0	--	17.0	--
APR									
09...	1040	e254	765	9.1	97	7.5	138	18.5	42
23...	1000	e481	763	9.3	98	7.7	77	18.0	--
MAY									
06...	1220	e1350	769	9.8	99	7.3	46	16.5	16
20...	1300	e291	760	8.6	94	7.5	167	19.5	--
JUN									
12...	1210	e196	762	8.3	100	7.5	253	24.5	62
26...	1110	e149	765	9.1	111	7.4	196	25.5	--
JUL									
03...	1140	e118	760	8.1	102	7.4	260	27.0	--
10...	1200	e100	762	7.6	96	7.4	260	27.5	73
26...	1130	e92	765	6.3	76	7.6	310	25.0	--
AUG									
06...	1130	e85	764	--	--	7.6	253	23.0	74
SEP									
11...	1250	e108	760	9.8	117	7.5	362	24.0	84

e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, PAR TICULATE WAT FLT SUSP (MG/L AS N) (49570)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT									
09...	21.7	13.8	<.04	.20	2.55	.013	.08	e.02	.037
NOV									
06...	5.70	3.0	<.04	.20	.50	<.008	.07	<.02	.040
DEC									
04...	4.17	3.7	<.04	.14	.65	<.008	.08	<.02	.024
JAN									
17...	11.6	11.4	e.04	.24	2.15	.023	.12	.03	.041
30...	--	--	e.03	.17	1.55	.013	--	e.01	.025
FEB									
07...	11.7	10.8	.12	1.4	.75	.052	.03	.05	.150
28...	--	--	<.04	.36	1.84	.015	--	e.01	.045
MAR									
13...	11.0	10.2	<.04	.24	1.71	.015	--	e.01	.050
27...	--	--	.51	.86	1.42	.016	--	.08	.157
APR									
09...	8.45	8.0	<.04	.19	1.27	.016	.06	.02	.056
23...	--	--	<.04	.19	.38	e.004	--	e.01	.032
MAY									
06...	1.60	2.4	<.04	.17	e.05	e.005	.12	<.02	.042
20...	--	--	<.04	.20	1.77	.017	--	e.01	.047
JUN									
12...	25.2	14.9	<.04	.27	2.13	.021	.03	.03	.057
26...	--	--	e.03	.34	1.70	.021	--	.04	.080
JUL									
03...	--	15.0	--	--	--	--	--	--	--
10...	21.9	16.1	<.04	.26	2.24	.021	.06	.03	.060
26...	26.5	16.1	.74	1.4	2.89	.037	--	.23	.31
AUG									
06...	19.7	14.8	<.04	.27	2.25	.016	.13	.03	.064
SEP									
11...	32.0	19.5	<.04	.33	4.18	.022	.07	.03	.054

DATE	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR- GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	MERCURY WATER, FLTRD (NG/L) (50287)	1,4- NAPTHO QUINON WATER, FLTRD REC (UG/L) (61611)	1-NAPH THOL, WATER, FLTRD, GF 0.7U REC (UG/L) (49295)	2 (4TERT BUTYL- PHENOXY CYCLO- HEXANOL FLT REC (UG/L) (61637)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)
OCT									
09...	.6	<.1	2.2	.6	--	<.05	<.09	<.01	<.009
NOV									
06...	.6	<.1	1.8	.6	--	--	--	--	<.009
DEC									
04...	.6	<.1	2.1	.6	--	--	--	--	<.009
JAN									
17...	.4	<.1	2.5	.4	--	--	--	--	<.009
30...	--	--	--	--	--	--	--	--	<.009
FEB									
07...	.9	<.1	2.5	.9	--	--	--	--	<.009
28...	--	--	--	--	--	--	--	--	<.009
MAR									
13...	--	--	3.0	--	--	--	--	--	<.009
27...	--	--	--	--	--	--	--	--	<.009
APR									
09...	.8	<.1	2.0	.8	--	--	--	--	<.009
23...	--	--	--	--	--	--	--	--	<.009
MAY									
06...	.7	<.1	2.3	.7	--	--	--	--	<.009
20...	--	--	--	--	--	--	--	--	<.009
JUN									
12...	.4	<.1	2.4	.4	--	--	--	--	<.009
26...	--	--	--	--	--	--	--	--	<.009
JUL									
03...	--	--	2.0	--	.57	--	--	--	--
10...	.4	<.1	2.4	.4	--	--	--	--	<.009
26...	--	--	--	--	--	--	--	--	<.009
AUG									
06...	1.0	<.1	3.1	.9	--	--	--	--	<.009
SEP									
11...	.4	<.1	2.7	.4	--	--	--	--	<.009

< Actual value is known to be less than the value shown.
e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	2,4-D, DIS- SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,5-DI- CHLORO- ANILINE WATER FLTRD REC (UG/L) (61614)	2,6-DI- ETHYL ANILINE WAT FLT GF, REC (UG/L) (82660)	2-[2- ETHYL- 6-METHY PANOL WAT FLT REC (UG/L) (61615)	2AMINON ISOPROP PYLBEN ZAMIDE WAT FLT REC (UG/L) (61617)	2CHLORO -2,6- DIETHYL ACET- ANILIDE FLT REC (UG/L) (61618)	3HYDRXY CARBO- FURAN WAT, FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO- FURAN WATER FLTRD REC (UG/L) (50295)
OCT									
09...	e.01	<.02	<.03	<.002	<.1	<.005	<.005	<.006	<2
NOV									
06...	<.02	<.02	--	<.002	--	--	--	<.006	<2
DEC									
04...	<.02	<.02	--	<.002	--	--	--	<.006	<2
JAN									
17...	<.02	<.02	--	<.006	--	--	--	<.006	<2
30...	.03	<.02	--	<.002	--	--	--	<.006	<2
FEB									
07...	<.02	<.02	--	<.006	--	--	--	<.006	<2
28...	<.02	<.02	--	<.006	--	--	--	<.006	<2
MAR									
13...	<.02	<.02	--	<.006	--	--	--	<.006	<2
27...	<.02	<.02	--	<.006	--	--	--	<.006	<2
APR									
09...	<.02	<.02	--	<.006	--	--	--	<.006	<2
23...	<.02	<.02	--	<.006	--	--	--	<.006	<2
MAY									
06...	<.02	<.02	--	<.006	--	--	--	<.006	<2
20...	<.02	<.02	--	<.006	--	--	--	<.006	<2
JUN									
12...	<.02	<.02	--	<.006	--	--	--	<.006	<2
26...	<.02	<.02	--	<.006	--	--	--	<.006	<2
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.02	<.02	--	<.006	--	--	--	<.006	<2
26...	.25	<.02	--	--	--	--	--	<.006	<2
AUG									
06...	.02	<.02	--	<.006	--	--	--	<.006	<2
SEP									
11...	.09	<.02	--	<.006	--	--	--	<.006	<2
DATE	4CHLORO 2-METH- YL- PHENOL WAT FLT REC (UG/L) (61633)	4CHLORO BENZYL METHYL SULFONE WAT FLT REC (UG/L) (61634)	ACETO- CHLOR ESA FLTRD GF REC (UG/L) (61029)	ACETO- CHLOR OA FLTRD GF REC (UG/L) (61030)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL- UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA- CHLOR OA FLTRD GF REC (UG/L) (61031)	ALA- CHLOR ESA WAT FLT GF REC (UG/L) (50009)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
OCT									
09...	<.006	<.03	<.05	<.05	<.004	<.007	<.05	<.05	<.002
NOV									
06...	--	--	<.05	<.05	<.004	<.007	<.05	<.05	<.002
DEC									
04...	--	--	<.05	<.05	<.004	<.007	<.05	<.05	<.002
JAN									
17...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
30...	--	--	<.05	<.05	<.004	<.007	<.05	<.05	<.002
FEB									
07...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
28...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
MAR									
13...	--	--	<.05	<.05	<.006	<.200	<.05	<.05	<.004
27...	--	--	<.05	<.05	<.006	<.097	<.05	<.05	<.004
APR									
09...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
23...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
MAY									
06...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
20...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
JUN									
12...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
26...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
26...	--	--	<.05	<.05	--	<.007	<.05	<.05	--
AUG									
06...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004
SEP									
11...	--	--	<.05	<.05	<.006	<.007	<.05	<.05	<.004

e Estimated.

< Actual value is known to be less than the value shown.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ALDI-CARB SULFONE WAT, FLT GF 0.7U (UG/L) (49313)	ALDICA-RB SULFOXIDE, WAT, FLT GF 0.7U (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ANILINE 2-ETHYL 6METHYL WATER FLTRD REC (UG/L) (61620)	ANILINE 3,4-DI-CHLORO WATER FLTRD REC (UG/L) (61625)	ANILINE 3,5-DI-CHLORO WATER FLTRD REC (UG/L) (61627)	ANILINE 3-TRI-FLUORO-METHYL WAT FLT REC (UG/L) (61630)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
OCT									
OCT 09...	<.02	<.008	<.04	<.005	<.004	<.004	<.005	<.01	<.009
NOV									
NOV 06...	<.02	<.008	<.04	<.005	--	--	--	--	<.009
DEC									
DEC 04...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
JAN									
JAN 17...	<.02	<.008	<.04	<.005	--	--	--	--	<.009
JAN 30...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
FEB									
FEB 07...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
FEB 28...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
MAR									
MAR 13...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
MAR 27...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
APR									
APR 09...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
APR 23...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
MAY									
MAY 06...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
MAY 20...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
JUN									
JUN 12...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
JUN 26...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
JUL									
JUL 03...	--	--	--	--	--	--	--	--	--
JUL 10...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
JUL 26...	<.02	<.008	<.04	--	--	--	--	--	--
AUG									
AUG 06...	<.02	<.008	<.04	<.005	--	--	--	--	<.007
SEP									
SEP 11...	<.02	<.008	<.04	<.005	--	--	--	--	<.007

DATE	AZIN-METHYL-OXON WAT FLT REC (UG/L) (61635)	BENDIO-CARB, WATER FLTRD (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U (UG/L) (38711)	BENZO-PHENONE 4,4-DI-CHLORO WAT FLT REC (UG/L) (61631)	BENZYL ALCOHOL 3-PHEN-OXY WAT FLT REC (UG/L) (61629)	BI-FENTH-RIN WATER FLTRD REC (UG/L) (61580)
OCT									
OCT 09...	<.02	<.03	<.010	<.004	<.02	<.01	<.003	<.05	<.005
NOV									
NOV 06...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
DEC									
DEC 04...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JAN									
JAN 17...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JAN 30...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
FEB									
FEB 07...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
FEB 28...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
MAR									
MAR 13...	--	<.03	<.010	.015	<.02	<.01	--	--	--
MAR 27...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
APR									
APR 09...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
APR 23...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
MAY									
MAY 06...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
MAY 20...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JUN									
JUN 12...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JUN 26...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JUL									
JUL 03...	--	--	--	--	--	--	--	--	--
JUL 10...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
JUL 26...	--	<.03	--	<.004	<.02	<.01	--	--	--
AUG									
AUG 06...	--	<.03	<.010	<.004	<.02	<.01	--	--	--
SEP									
SEP 11...	--	<.03	<.010	<.004	<.02	<.01	--	--	--

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11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAF- FEINE, WATER, FLTRD REC (UG/L) (50305)	CAR- BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR- BARYL, WATER, FLTRD GF, REC (UG/L) (82680)	CARBO- FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO- FURAN, WATER, FLTRD GF, REC (UG/L) (82674)	CHLOR- AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)
OCT									
09...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
NOV									
06...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
DEC									
04...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
JAN									
17...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
30...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
FEB									
07...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
28...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
MAR									
13...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
27...	<.03	e.01	<.002	<.010	<.03	<.041	<.006	<.020	<.02
APR									
09...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
23...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
MAY									
06...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
20...	<.03	<.02	<.002	<.010	<.03	e.003	.007	e.011	<.02
JUN									
12...	e.01	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
26...	<.03	<.02	<.002	<.010	<.03	e.004	<.006	<.020	<.02
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
26...	<.03	<.02	--	<.010	<.03	--	<.006	--	<.02
AUG									
06...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
SEP									
11...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020	<.02
DATE	CHLORI- MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO- THALO- NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CHLOR- PYRIFOS ANALOG WAT FLT REC (UG/L) (61636)	CIS- CARBOX- YATE WATER FLTRD REC (UG/L) (79842)	CIS- PROPI- CONAZ- OLE WAT FLT REC (UG/L) (79846)	CLOPYR- ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	CY- CLOATE, WATER, DISS, REC (UG/L) (04031)
OCT									
09...	<.010	<.04	<.005	<.06	<.04	<.008	<.01	<.018	<.005
NOV									
06...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
DEC									
04...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
JAN									
17...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
30...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
FEB									
07...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
28...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
MAR									
13...	<.010	<.04	.005	--	--	--	<.01	<.018	<.01
27...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
APR									
09...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
23...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
MAY									
06...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
20...	<.010	<.04	e.002	--	--	--	<.01	<.018	<.01
JUN									
12...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
26...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01
26...	<.010	<.04	--	--	--	--	<.01	--	<.01
AUG									
06...	<.010	<.04	.005	--	--	--	<.01	<.018	<.01
SEP									
11...	<.010	<.04	<.005	--	--	--	<.01	<.018	<.01

< Actual value is known to be less than the value shown.
e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CY- FLUTH- RIN WATER FLTRD REC (UG/L) (61585)	CYPER- METHRIN WATER FLTRD REC (UG/L) (61586)	DACTHAL MONO- ACID, WAT, FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04039)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)
OCT									
09...	<.008	<.009	<.01	<.003	<.03	<.01	<.04	<.005	<.01
NOV									
06...	--	--	<.01	<.003	<.03	<.01	<.04	<.005	<.01
DEC									
04...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
JAN									
17...	--	--	<.01	<.003	<.03	<.01	<.04	<.005	<.01
30...	--	--	<.01	<.003	<.006	<.01	<.04	.011	<.01
FEB									
07...	--	--	<.01	<.003	<.006	<.01	<.04	e.003	<.01
28...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
MAR									
13...	--	--	<.01	<.003	<.006	<.01	M	<.005	<.01
27...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
APR									
09...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
23...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
MAY									
06...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
20...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
JUN									
12...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
26...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
26...	--	--	<.01	--	--	<.01	<.04	--	<.01
AUG									
06...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01
SEP									
11...	--	--	<.01	<.003	<.006	<.01	<.04	<.005	<.01

DATE	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DICROT- OPHOS WATER FLTRD REC (UG/L) (38454)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DIMETH- ENAMID OA, WATER FLT, REC (UG/L) (62482)	DIMETH- ENAMID, ESA, WAT FLT (UG/L) (61951)	DIMETH- OATE WATER FLTRD 0.7 U GF, REC (UG/L) (82662)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	DISULF- OTON SULFONE WATER FLTRD REC (UG/L) (61640)
OCT									
09...	<.01	<.08	<.005	<.05	<.05	<.006	<.01	<.03	<.02
NOV									
06...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
DEC									
04...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
JAN									
17...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
30...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
FEB									
07...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
28...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
MAR									
13...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
27...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
APR									
09...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
23...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
MAY									
06...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
20...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
JUN									
12...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
26...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
26...	<.01	--	--	<.05	<.05	--	<.01	<.03	--
AUG									
06...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--
SEP									
11...	<.01	--	<.005	<.05	<.05	--	<.01	<.03	--

< Actual value is known to be less than the value shown.
e Estimated.

M Presence of material verified, but not quantified.

SAN JOAQUIN RIVER BASIN

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	DISULF- OTON SULF- OXIDE WAT FLT REC (UG/L) (61641)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	E-DI- METHO- MORPH WATER FLTRD REC (UG/L) (79844)	ENDO- SULFAN ALPHA DISSOLV (UG/L) (34362)	ENDO- SULFAN BETA DISSOLV (UG/L) (34357)	ENDO- SULFAN ETHER WATER FLTRD REC (UG/L) (61642)	ENDO- SULFAN SULFATE WATER FLTRD REC (UG/L) (61590)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
OCT									
09...	<.002	<.02	e.01	<.02	<.005	<.01	<.004	<.006	.002
NOV									
06...	--	<.02	<.01	--	--	--	--	--	.004
DEC									
04...	--	<.02	.02	--	--	--	--	--	.003
JAN									
17...	--	<.02	.02	--	--	--	--	--	<.040
30...	--	<.02	.04	--	--	--	--	--	<.002
FEB									
07...	--	<.02	e.01	--	--	--	--	--	<.002
28...	--	<.02	.02	--	--	--	--	--	<.002
MAR									
13...	--	<.02	.31	--	--	--	--	--	<.002
27...	--	<.02	e3.26	--	--	--	--	--	.003
APR									
09...	--	<.02	.18	--	--	--	--	--	.006
23...	--	<.02	.16	--	--	--	--	--	<.002
MAY									
06...	--	<.02	e.01	--	--	--	--	--	<.002
20...	--	<.02	.10	--	--	--	--	--	<.002
JUN									
12...	--	<.02	.11	--	--	--	--	--	.002
26...	--	<.02	e.07	--	--	--	--	--	<.002
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	--	<.02	.03	--	--	--	--	--	e.024
26...	--	--	.04	--	--	--	--	--	--
AUG									
06...	--	<.02	.03	--	--	--	--	--	.004
SEP									
11...	--	<.02	.02	--	--	--	--	--	<.004
DATE	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHION DISSOLV (UG/L) (82346)	ETHION MONOXON FLTRD REC (UG/L) (61644)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FENAMI- PHOS SULFONE WATER FLTRD REC (UG/L) (61645)	FENAMI- PHOS SULF- OXIDE WAT FLT REC (UG/L) (61646)	FENAMI- PHOS WATER FLTRD REC (UG/L) (61591)	FEN- THION SULF- OXIDE WAT FLT REC (UG/L) (61647)	FEN- THION WATER FLTRD REC (UG/L) (38801)
OCT									
09...	<.009	<.004	<.03	<.005	<.008	<.03	<.03	<.008	<.02
NOV									
06...	<.009	--	--	<.005	--	--	--	--	--
DEC									
04...	<.009	--	--	<.005	--	--	--	--	--
JAN									
17...	<.009	--	--	<.005	--	--	--	--	--
30...	<.009	--	--	<.005	--	--	--	--	--
FEB									
07...	<.009	--	--	<.005	--	--	--	--	--
28...	<.009	--	--	<.005	--	--	--	--	--
MAR									
13...	<.009	--	--	<.005	--	--	--	--	--
27...	<.009	--	--	<.005	--	--	--	--	--
APR									
09...	<.009	--	--	<.005	--	--	--	--	--
23...	<.009	--	--	<.005	--	--	--	--	--
MAY									
06...	<.009	--	--	<.005	--	--	--	--	--
20...	<.009	--	--	<.005	--	--	--	--	--
JUN									
12...	<.009	--	--	<.005	--	--	--	--	--
26...	<.009	--	--	<.005	--	--	--	--	--
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.009	--	--	<.005	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
AUG									
06...	<.009	--	--	<.005	--	--	--	--	--
SEP									
11...	<.009	--	--	<.005	--	--	--	--	--

< Actual value is known to be less than the value shown.
e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUFEN- ACET, ESA, WAT FLT (UG/L) (61952)	FLUFE- NACET OA, WATER FLT, REC (UG/L) (62483)	FLUME- TRALIN WATER FLTRD REC (UG/L) (61592)	FLUMET- SULAM WATER FLTRD REC (UG/L) (61694)	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS OXYGEN ANALOG WATER FLTRD REC (UG/L) (61649)	FONOFOS WATER DISS REC (UG/L) (04095)	HEXA- ZINONE, WATER, DISS, REC (UG/L) (04025)
	OCT								
09...	<.03	<.05	<.05	<.004	<.01	<.03	<.002	<.003	<.013
NOV									
06...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
DEC									
04...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
JAN									
17...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
30...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
FEB									
07...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
28...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
MAR									
13...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
27...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
APR									
09...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
23...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
MAY									
06...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
20...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
JUN									
12...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
26...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
26...	<.03	<.05	<.05	--	<.01	<.03	--	--	--
AUG									
06...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
SEP									
11...	<.03	<.05	<.05	--	<.01	<.03	--	<.003	--
DATE	HYDROXY ATRA- ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ- AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE- THAPYR WATER FLTRD REC (UG/L) (50407)	IMID- ACLOP- RID WATER FLTRD REC (UG/L) (61695)	I PRO- DIONE WATER FLTRD REC (UG/L) (61593)	ISO FEN- PHOS WATER FLTRD REC (UG/L) (61594)	LAMDA- CYHALO- THRIN WATER FLTRD REC (UG/L) (61595)	LINDANE DIS- SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)
	OCT								
09...	<.008	<.02	<.02	<.007	<1	<.003	<.009	<.004	<.01
NOV									
06...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
DEC									
04...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
JAN									
17...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
30...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
FEB									
07...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
28...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
MAR									
13...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
27...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
APR									
09...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
23...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
MAY									
06...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
20...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
JUN									
12...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
26...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
26...	<.008	<.02	<.02	<.007	--	--	--	--	<.01
AUG									
06...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01
SEP									
11...	<.008	<.02	<.02	<.007	--	--	--	<.004	<.01

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11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- OXON WATER FLTRD REC (UG/L) (61652)	MALA- THION, DIS- SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	MERCURY METHYL, WATER, FLTRD REC, (NG/L) (50285)	META- LAXYL WATER FLTRD REC (UG/L) (61596)	METAL- AXYL WATER FLTRD REC (UG/L) (50359)	METHI- DATHION WATER FLTRD REC (UG/L) (61598)
OCT									
09...	<.035	<.008	<.027	<.02	<.01	--	<.005	<.02	<.006
NOV									
06...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
DEC									
04...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
JAN									
17...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
30...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
FEB									
07...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
28...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
MAR									
13...	<.035	--	<.027	<.20	<.01	--	--	<.02	--
27...	<.035	--	<.027	<.06	<.01	--	--	<.02	--
APR									
09...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
23...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
MAY									
06...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
20...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
JUN									
12...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
26...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
JUL									
03...	--	--	--	--	--	.05	--	--	--
10...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
26...	--	--	--	<.02	<.01	--	--	<.02	--
AUG									
06...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
SEP									
11...	<.035	--	<.027	<.02	<.01	--	--	<.02	--
DATE	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH- OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL AZIN- PHOS WAT FLT GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT GF, REC (UG/L) (82667)	METOLA- CHLOR ESA FLTRD GF REC (UG/L) (61043)	METOLA- CHLOR OA FLTRD GF REC (UG/L) (61044)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	
OCT									
09...	<.008	<.004	<.050	<.006	.11	.11	e.005	<.006	
NOV									
06...	<.008	<.004	<.050	<.006	<.05	<.05	<.013	<.006	
DEC									
04...	<.008	<.004	<.050	<.006	<.05	<.05	<.013	<.006	
JAN									
17...	<.008	<.004	<.050	<.006	.06	.05	<.013	<.006	
30...	<.008	<.004	<.050	<.006	<.05	<.05	e.006	<.006	
FEB									
07...	<.008	<.004	<.050	<.006	.05	<.05	<.013	<.006	
28...	<.008	<.004	<.050	<.006	.05	<.05	<.013	<.006	
MAR									
13...	<.008	<.004	<.050	<.006	.06	.05	e.005	<.006	
27...	<.008	<.004	<.050	<.006	<.05	.05	.016	<.006	
APR									
09...	<.008	<.004	<.050	<.006	.05	.05	<.013	<.006	
23...	<.008	<.004	<.050	<.006	<.05	<.05	<.013	<.006	
MAY									
06...	<.008	<.004	<.050	<.006	<.05	<.05	<.013	<.006	
20...	<.008	<.004	e.070	<.006	.10	<.05	e.003	<.006	
JUN									
12...	<.008	<.004	<.050	<.006	.09	.07	e.005	<.006	
26...	<.008	<.004	e.027	<.050	.07	<.05	e.011	<.006	
JUL									
03...	--	--	--	--	--	--	--	--	
10...	<.008	<.004	<.050	<.006	.09	.07	e.007	<.006	
26...	<.008	<.004	--	--	.20	.16	--	--	
AUG									
06...	<.008	<.004	<.050	<.006	.38	.32	.014	<.006	
SEP									
11...	<.008	<.004	<.050	<.006	.22	.17	e.007	<.006	

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e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	MET- SUL- FURON METHYL WAT FLT	MOL- INATE WATER FLTRD 0.7 U GF, REC	MYCLO- BUTANIL WATER FLTRD REC	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC	NEB- URON, WATER, FLTRD, GF 0.7U REC	NICOSUL FURON WATER FLTRD REC	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC	O-ETHYL O-METHY S-PROPY HIOATE WAT FLT REC	ORY- ZALIN, WATER, FLTRD, GF 0.7U REC
	(UG/L) (61697)	(UG/L) (82671)	(UG/L) (61599)	(UG/L) (82684)	(UG/L) (49294)	(UG/L) (50364)	(UG/L) (49293)	(UG/L) (61660)	(UG/L) (49292)
OCT									
09...	<.03	<.002	<.008	<.007	<.01	<.01	e.01	<.008	<.02
NOV									
06...	<.03	<.002	--	<.007	<.01	<.01	<.02	--	<.02
DEC									
04...	<.03	<.002	--	<.007	<.01	<.01	M	--	<.02
JAN									
17...	<.03	<.002	--	<.007	<.01	<.01	e.01	--	<.02
30...	<.03	<.002	--	<.007	<.01	<.01	M	--	<.02
FEB									
07...	<.03	<.002	--	<.007	<.01	<.01	M	--	<.02
28...	<.03	<.002	--	<.007	<.01	<.01	e.01	--	<.02
MAR									
13...	<.03	<.002	--	<.007	<.01	<.01	e.03	--	<.02
27...	<.03	<.002	--	<.007	<.01	<.01	e.02	--	<.02
APR									
09...	<.03	<.002	--	<.007	<.01	<.01	e.01	--	<.02
23...	<.03	<.002	--	<.007	<.01	<.01	<.02	--	<.02
MAY									
06...	<.03	<.002	--	<.007	<.01	<.01	<.02	--	<.02
20...	<.03	<.002	--	<.007	<.01	<.01	<.02	--	<.02
JUN									
12...	<.03	<.002	--	<.007	<.01	<.01	e.01	--	<.02
26...	<.03	.006	--	<.007	<.01	<.01	<.02	--	<.02
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.03	<.002	--	<.007	<.01	<.01	M	--	<.02
26...	<.03	--	--	--	<.01	<.01	e.02	--	<.02
AUG									
06...	<.03	<.002	--	<.007	<.01	<.01	e.02	--	<.02
SEP									
11...	<.03	<.002	--	<.007	<.01	<.01	e.01	--	<.02

DATE	OXAMYL, WATER, FLTRD, GF 0.7U REC	OXY- FLUOR- FEN WATER FLTRD REC	P, P' DDE DISSOLV REC	PARA- OXON ETHYL WATER FLTRD REC	PARA- OXON METHYL WATER FLTRD REC	PARA- THION, DIS- SOLVED REC	PENDI- METH- ALIN WAT FLT GF, REC
	(UG/L) (38866)	(UG/L) (61600)	(UG/L) (34653)	(UG/L) (61663)	(UG/L) (61664)	(UG/L) (39542)	(UG/L) (82669)
OCT							
09...	<.01	<.007	<.003	<.008	<.03	<.007	<.002
NOV							
06...	<.01	--	<.003	--	--	<.007	<.002
DEC							
04...	<.01	--	<.003	--	--	<.007	<.002
JAN							
17...	<.01	--	<.003	--	--	<.010	<.004
30...	<.01	--	<.003	--	--	<.007	<.002
FEB							
07...	<.01	--	<.003	--	--	<.010	<.004
28...	<.01	--	<.003	--	--	<.010	<.004
MAR							
13...	<.01	--	<.003	--	--	<.010	<.004
27...	<.01	--	<.003	--	--	<.010	<.004
APR							
09...	<.01	--	<.003	--	--	<.010	<.004
23...	<.01	--	<.003	--	--	<.010	<.004
MAY							
06...	<.01	--	<.003	--	--	<.010	<.004
20...	<.01	--	<.003	--	--	<.010	<.004
JUN							
12...	<.01	--	<.003	--	--	<.010	<.004
26...	<.01	--	<.003	--	--	<.010	<.004
JUL							
03...	--	--	--	--	--	--	--
10...	<.01	--	<.003	--	--	<.010	<.004
26...	<.01	--	--	--	--	--	--
AUG							
06...	<.01	--	<.003	--	--	<.010	<.004
SEP							
11...	<.01	--	<.003	--	--	<.010	<.004

< Actual value is known to be less than the value shown.
e Estimated.

M Presence of material verified, but not quantified.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE OXON WATER FLTRD REC (UG/L) (61666)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	PHOSMET OXON WATER FLTRD REC (UG/L) (61668)	PHOSMET WATER FLTRD REC (UG/L) (61601)	PHOSTE- BUPIRIM WATER FLTRD REC (UG/L) (61602)	PIC- LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO- FENOPOS WATER FLTRD REC (UG/L) (61603)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
OCT									
09...	<.006	<.10	<.011	<.06	<.008	<.005	<.02	<.006	<.01
NOV									
06...	<.006	--	<.011	--	--	--	<.02	--	<.01
DEC									
04...	<.006	--	<.011	--	--	--	<.02	--	<.01
JAN									
17...	<.006	--	<.011	--	--	--	<.02	--	<.01
30...	<.006	--	<.011	--	--	--	<.02	--	<.01
FEB									
07...	<.006	--	<.011	--	--	--	<.02	--	<.01
28...	<.006	--	<.011	--	--	--	<.02	--	<.01
MAR									
13...	<.006	--	<.011	--	--	--	<.02	--	<.01
27...	<.006	--	<.011	--	--	--	<.02	--	<.01
APR									
09...	<.006	--	<.011	--	--	--	<.02	--	<.01
23...	<.006	--	<.011	--	--	--	<.02	--	<.01
MAY									
06...	<.006	--	<.011	--	--	--	<.02	--	<.01
20...	<.006	--	<.011	--	--	--	<.02	--	<.01
JUN									
12...	<.006	--	<.011	--	--	--	<.02	--	<.01
26...	<.006	--	<.011	--	--	--	<.02	--	<.01
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.006	--	<.011	--	--	--	<.02	--	<.01
26...	--	--	--	--	--	--	<.02	--	--
AUG									
06...	<.006	--	<.011	--	--	--	<.02	--	<.01
SEP									
11...	<.006	--	<.011	--	--	--	<.02	--	<.01

DATE	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR ESA, WAT FLT GF 0.7U REC (UG/L) (62766)	PROPA-CHLOR OA, WAT FLT GF 0.7U REC (UG/L) (62767)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PROPET-AMPHOS WATER FLTRD REC (UG/L) (61604)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)
OCT									
09...	<.005	<.004	--	--	<.010	<.011	<.02	<.004	<.010
NOV									
06...	--	<.004	--	--	<.010	<.011	<.02	--	<.010
DEC									
04...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
JAN									
17...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
30...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
FEB									
07...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
28...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
MAR									
13...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
27...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
APR									
09...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
23...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
MAY									
06...	--	<.004	<.05	<.05	<.010	<.011	<.02	--	<.010
20...	--	<.004	--	--	<.010	<.011	<.02	--	<.010
JUN									
12...	--	<.004	--	--	<.010	<.011	<.02	--	<.010
26...	--	<.004	--	--	<.010	<.011	.28	--	<.010
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	--	<.004	--	--	<.010	<.011	<.02	--	<.010
26...	--	--	--	--	--	--	--	--	<.010
AUG									
06...	--	<.004	--	--	<.010	<.011	.09	--	<.010
SEP									
11...	--	<.004	--	--	<.010	<.011	<.02	--	<.010

< Actual value is known to be less than the value shown.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	PROP- ICONA- ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO- POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO- MET- RURON METHYL WTR FLT REC (UG/L) (50337)	SULFO- TEPP WATER FLTRD REC (UG/L) (61605)	SUL- PROPOS WATER FLTRD REC (UG/L) (38716)	TEBUPIR IMPHOS OXYGEN ANALOG WAT FLT REC (UG/L) (61669)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
OCT									
09...	<.02	<.008	<.02	e.005	<.009	<.003	<.02	<.006	<.006
NOV									
06...	<.02	<.008	<.02	<.011	<.009	--	--	--	<.006
DEC									
04...	<.02	<.008	<.02	e.003	<.009	--	--	--	<.02
JAN									
17...	<.02	.011	<.02	.016	<.009	--	--	--	<.006
30...	<.02	e.005	<.02	.011	<.009	--	--	--	<.02
FEB									
07...	<.02	<.008	<.02	.007	<.009	--	--	--	<.02
28...	<.02	e.008	<.02	.009	<.009	--	--	--	<.02
MAR									
13...	<.02	<.008	<.02	.035	<.009	--	--	--	<.02
27...	<.02	e.003	<.02	.012	<.009	--	--	--	<.02
APR									
09...	<.02	e.006	<.02	.008	<.009	--	--	--	<.02
23...	<.02	e.007	<.02	e.004	<.009	--	--	--	<.02
MAY									
06...	<.02	.013	<.02	.007	<.009	--	--	--	<.02
20...	<.02	<.008	<.02	.005	<.009	--	--	--	<.02
JUN									
12...	<.02	e.004	<.02	.006	<.009	--	--	--	<.02
26...	<.02	<.008	<.02	.007	<.009	--	--	--	<.02
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.02	e.008	<.02	<.005	<.009	--	--	--	<.02
26...	<.02	.021	<.02	--	<.009	--	--	--	--
AUG									
06...	<.02	<.008	<.02	.005	<.009	--	--	--	<.02
SEP									
11...	<.02	.034	<.02	.007	<.009	--	--	--	<.02
DATE	TEFLU- THRIN METAB- OLITE R119364 FLT REC (UG/L) (61671)	TEFLU- THRIN METAB- OLITE R152912 FLT REC (UG/L) (61672)	TEFLU- THRIN WATER FLTRD REC (UG/L) (61606)	TEME- PHOS WATER FLTRD REC (UG/L) (61607)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TER- BUFOS O-ANA- LOGUE WAT FLT REC (UG/L) (61674)	TER- BUTHYL- AZINE, WATER, DISS, REC (UG/L) (04022)
OCT									
09...	<.02	<.01	<.008	<.3	<.010	<.034	<.02	<.07	U
NOV									
06...	--	--	--	--	<.010	<.034	<.02	--	U
DEC									
04...	--	--	--	--	<.010	<.034	<.02	--	U
JAN									
17...	--	--	--	--	<.010	<.034	<.02	--	U
30...	--	--	--	--	<.010	<.034	<.02	--	U
FEB									
07...	--	--	--	--	<.010	<.034	<.02	--	U
28...	--	--	--	--	<.010	<.034	<.02	--	U
MAR									
13...	--	--	--	--	<.010	<.034	<.02	--	U
27...	--	--	--	--	<.010	<.034	<.02	--	U
APR									
09...	--	--	--	--	<.010	<.034	<.02	--	--
23...	--	--	--	--	<.010	<.034	<.02	--	--
MAY									
06...	--	--	--	--	<.010	<.034	<.02	--	--
20...	--	--	--	--	<.010	<.034	<.02	--	--
JUN									
12...	--	--	--	--	<.010	<.034	<.02	--	--
26...	--	--	--	--	<.010	<.034	<.02	--	--
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	<.010	<.034	<.02	--	--
26...	--	--	--	--	<.010	--	--	--	--
AUG									
06...	--	--	--	--	<.010	<.034	<.02	--	--
SEP									
11...	--	--	--	--	<.010	<.034	<.02	--	--

< Actual value is known to be less than the value shown.
e Estimated.

U Material specifically analyzed for, but not detected.

SAN JOAQUIN RIVER BASIN

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRANS- CARBOX- YATE WATER FLTRD REC (UG/L) (79843)	TRANS- PROPI- CONA- ZOLE WAT FLT REC (UG/L) (79847)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- BENURON METHYL WATER FLTRD (UG/L) (61159)	TRIBU- PHOS WATER FLTRD REC (UG/L) (61610)	TRI- CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI- FLUR- ALIN WAT FLT GF, REC (UG/L) (82661)	UREA 3 (4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)
OCT									
09...	<.005	<.03	<.01	<.002	<.009	<.004	<.02	<.009	<.02
NOV									
06...	<.005	--	--	<.002	<.009	--	<.02	<.009	<.02
DEC									
04...	<.005	--	--	<.002	<.009	--	<.02	<.009	<.02
JAN									
17...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
30...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
FEB									
07...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
28...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
MAR									
13...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
27...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
APR									
09...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
23...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
MAY									
06...	<.005	--	--	<.002	--	--	<.02	e.001	<.02
20...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
JUN									
12...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
26...	<.005	--	--	<.002	--	--	<.02	.019	<.02
JUL									
03...	--	--	--	--	--	--	--	--	--
10...	<.005	--	--	<.002	--	--	<.02	<.009	<.02
26...	--	--	--	--	--	--	<.02	--	<.02
AUG									
06...	<.005	--	--	<.002	--	--	<.02	e.003	<.02
SEP									
11...	<.005	--	--	<.002	--	--	<.02	<.009	<.02

DATE	Z-DI- METHO- MORPH WATER FLTRD REC (UG/L) (79845)	DICHLOR VOS, WATER FLTRD REC (UG/L) (38775)
OCT		
09...	<.05	<.01
NOV		
06...	--	--
DEC		
04...	--	--
JAN		
17...	--	--
30...	--	--
FEB		
07...	--	--
28...	--	--
MAR		
13...	--	--
27...	--	--
APR		
09...	--	--
23...	--	--
MAY		
06...	--	--
20...	--	--
JUN		
12...	--	--
26...	--	--
JUL		
03...	--	--
10...	--	--
26...	--	--
AUG		
06...	--	--
SEP		
11...	--	--

< Actual value is known to be less than the value shown
e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
23...*	1728	1.00	99	21.5	6.50
23...*	1732	1.70	100	21.0	19.5
23...*	1736	2.80	100	21.0	32.5
23...*	1740	2.30	99	21.0	45.5
23...*	1745	3.00	99	21.0	58.5
23...*	1748	3.20	99	21.0	71.5
23...*	1754	2.80	98	21.0	84.5
23...*	1757	3.20	98	21.0	97.5
23...*	1801	3.00	98	21.0	110
23...*	1806	1.60	98	21.0	124
JUL					
29...*	1437	.90	352	27.5	5.00
29...*	1438	1.20	350	27.0	15.0
29...*	1440	.83	349	27.0	26.0
29...*	1441	1.15	349	27.0	36.0
29...*	1442	.98	349	27.0	46.0
29...*	1443	1.15	349	27.0	56.0
29...*	1444	1.30	349	27.0	66.0
29...*	1445	1.28	349	27.0	76.0
29...*	1446	.78	350	27.0	87.0
29...*	1447	.60	352	27.0	97.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
09...SS	1220	e155	19.5	4.0	e1.7	72
NOV						
06...SS	1130	e584	15.5	12	e18.9	87
DEC						
04...SS	1040	e442	10.5	8.0	e9.5	71
JAN						
17...SS	1110	e289	9.0	5.0	e3.9	87
30...SS	1220	e276	8.0	2.0	e1.5	93
FEB						
07...SS	1100	e248	10.5	17	e11.5	72
28...SS	1150	e239	15.0	14	e9.0	76
MAR						
13...SS	1120	e254	15.0	13	e8.9	76
27...SS	1100	e237	17.0	27	e17.3	82
APR						
09...SS	1040	e254	18.5	11	e7.5	80
23...SS	1000	e481	18.0	16	e20.8	90
MAY						
06...SS	1220	e1350	16.5	16	e58.3	81
20...SS	1300	e291	19.5	11	e8.6	76
JUN						
12...SS	1210	e196	24.5	10	e5.3	96
26...SS	1110	e149	25.5	10	e4.0	76
JUL						
03...SS	1140	e118	27.0	8.0	e2.6	73
10...SS	1200	e100	27.5	6.0	e1.6	72
26...SS	1130	e92	25.0	74	e18.4	13
AUG						
06...SS	1130	e85	23.0	13	e3.2	38
SEP						
11...SS	1250	e108	24.0	12	e3.5	61

* Instantaneous discharge at time of cross-sectional measurement: 476 ft³/s, estimated, Apr. 23; 95 ft³/s, estimated, July 29.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

e Estimated.

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	297	244	69	62	83	77	95	79	176	174	187	184
2	373	270	73	68	83	78	112	91	180	176	194	185
3	415	321	83	73	85	78	127	88	179	169	190	185
4	411	309	83	80	---	---	112	90	174	169	185	176
5	354	290	88	83	---	---	131	100	175	172	183	173
6	329	292	89	84	88	86	160	131	174	172	174	170
7	347	290	89	86	86	85	174	160	174	168	173	160
8	368	230	86	79	87	85	183	174	181	168	160	130
9	323	230	79	76	87	83	185	181	176	162	146	118
10	317	277	76	72	86	84	188	184	176	171	135	118
11	314	255	74	66	86	85	188	184	178	175	161	135
12	295	260	77	69	85	77	186	182	187	172	181	161
13	295	254	90	75	87	79	---	---	196	179	178	160
14	289	256	87	77	90	85	---	---	201	185	198	165
15	339	270	98	81	89	83	---	178	191	180	200	186
16	349	275	100	94	88	84	185	179	181	177	190	178
17	358	87	102	94	90	88	188	184	---	---	178	148
18	100	51	105	97	93	90	186	185	176	166	164	142
19	60	39	101	97	98	93	187	184	167	142	179	162
20	58	40	102	97	99	98	187	184	165	136	180	152
21	56	40	101	95	98	89	185	178	184	164	173	155
22	60	40	99	96	95	84	178	175	188	183	166	156
23	53	40	101	97	100	89	178	173	188	185	168	149
24	48	41	102	99	118	100	181	176	187	184	149	131
25	55	41	102	80	113	109	180	178	191	185	148	121
26	58	41	82	78	109	104	181	179	192	185	162	148
27	67	43	88	82	107	105	179	176	192	187	174	153
28	65	55	88	86	108	105	176	168	187	184	189	167
29	63	56	87	83	106	95	171	152	---	---	186	172
30	65	56	83	80	96	60	167	152	---	---	183	165
31	64	61	---	---	83	76	174	167	---	---	201	158
MONTH	415	39	105	62	---	---	---	---	---	---	201	118
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	193	147	71	55	209	137	292	237	526	394	381	289
2	189	154	57	43	181	138	289	226	449	394	396	296
3	216	176	49	43	175	136	321	269	469	403	384	310
4	224	181	59	43	179	---	346	276	484	307	395	304
5	220	207	55	45	223	145	390	335	307	216	423	337
6	209	156	57	46	284	223	388	292	345	218	357	289
7	152	---	58	42	251	204	302	269	383	340	---	---
8	184	129	65	46	205	197	319	260	408	350	---	---
9	---	129	59	48	227	185	279	250	474	373	---	---
10	159	106	58	52	225	159	358	266	506	396	---	---
11	120	102	58	54	269	166	392	358	396	290	---	---
12	142	120	57	50	281	236	424	380	301	247	---	---
13	---	128	58	52	295	207	464	356	337	300	---	---
14	---	83	70	55	226	197	377	335	372	316	---	---
15	96	85	80	71	209	195	399	320	416	360	---	---
16	100	77	107	84	---	---	423	349	412	325	---	---
17	91	80	---	102	---	---	434	372	340	292	---	---
18	103	78	---	---	253	---	476	434	325	265	---	---
19	86	79	196	157	298	243	535	---	295	241	---	---
20	92	77	183	131	320	263	576	---	446	237	---	---
21	86	74	181	137	305	273	542	---	447	358	---	---
22	87	72	---	133	305	244	555	419	430	350	---	---
23	93	72	---	---	264	220	655	392	419	334	---	---
24	99	72	178	---	247	226	402	334	401	337	---	---
25	94	77	237	166	248	220	387	320	355	296	---	---
26	94	81	238	180	233	215	325	288	434	288	---	---
27	105	81	205	166	278	212	420	315	499	304	445	320
28	103	80	209	165	252	224	423	348	362	304	442	332
29	92	80	240	164	331	228	434	338	388	343	356	272
30	100	64	187	154	331	257	372	280	393	303	377	297
31	---	---	211	178	---	---	499	371	382	332	---	---
MONTH	---	---	---	---	---	---	655	---	526	216	---	---

11273500 MERCED RIVER AT RIVER ROAD BRIDGE, NEAR NEWMAN, CA—Continued

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	20.5	16.0	15.0	11.0	10.5	13.0	12.5	9.0	7.0	15.0	12.0
2	25.0	20.5	16.0	14.5	11.5	10.5	13.0	12.5	9.5	7.0	15.5	12.0
3	25.5	20.5	16.5	15.0	11.5	10.5	13.5	12.5	10.0	7.5	16.0	12.5
4	24.0	20.5	16.5	15.0	---	---	12.5	12.0	10.0	7.5	16.5	13.0
5	23.0	19.5	16.5	15.0	---	---	12.0	11.5	10.5	8.0	17.0	13.5
6	22.0	18.5	16.5	15.0	12.0	10.5	12.0	11.5	10.5	8.0	16.5	15.0
7	22.0	18.5	16.0	14.5	12.5	11.5	12.0	11.5	11.5	9.5	16.5	14.0
8	21.5	18.5	15.5	14.0	12.0	10.5	12.0	11.0	12.5	10.5	15.0	12.5
9	21.5	18.0	15.5	14.0	11.5	10.5	13.0	12.0	12.0	9.5	14.5	12.0
10	21.5	17.0	15.5	14.0	11.0	10.0	12.0	11.5	12.5	10.0	15.5	13.0
11	20.5	17.5	16.0	15.0	10.5	9.5	12.0	11.5	12.5	10.5	16.5	13.0
12	20.5	17.0	16.0	15.0	11.0	10.0	11.5	11.0	13.0	10.5	17.5	14.0
13	21.0	17.5	16.0	14.5	10.5	9.5	12.0	11.0	12.0	11.0	16.5	13.5
14	21.5	17.5	15.5	15.0	10.5	9.5	11.0	10.0	13.5	11.0	16.0	12.5
15	22.0	18.5	16.0	14.5	10.0	8.5	10.5	9.0	13.5	11.5	15.5	12.5
16	21.5	19.0	15.5	14.5	9.5	8.5	10.5	8.5	13.5	11.5	16.0	13.0
17	21.0	18.0	15.5	14.5	10.0	9.0	10.0	8.0	13.0	12.0	14.5	12.0
18	20.0	18.5	15.0	14.0	10.5	9.0	9.5	8.0	14.0	11.5	14.5	10.0
19	18.5	17.5	15.0	13.5	10.0	9.5	9.5	8.0	13.5	12.5	16.0	12.0
20	18.0	16.5	14.5	14.0	10.5	10.0	9.0	7.5	15.5	12.5	17.0	13.0
21	17.5	16.5	14.5	14.0	11.0	10.0	9.5	7.5	15.0	13.5	17.5	14.5
22	17.0	16.0	15.5	14.5	11.0	10.5	9.5	8.0	15.0	13.0	16.5	15.0
23	17.0	16.0	14.5	14.0	11.0	10.0	9.0	7.5	16.0	13.0	17.5	15.0
24	16.0	15.0	15.0	13.5	10.5	9.5	9.5	7.0	15.5	13.0	18.5	15.0
25	16.5	15.0	13.5	12.5	11.0	10.0	9.5	7.5	16.0	13.0	18.0	15.0
26	16.5	15.0	13.0	11.5	11.0	10.0	9.5	8.5	16.0	13.0	19.0	15.0
27	16.5	15.5	12.0	10.5	10.5	10.0	10.0	8.5	17.0	14.0	19.5	15.5
28	16.5	15.5	11.0	10.5	11.0	10.5	9.5	8.0	16.5	13.5	20.0	16.0
29	16.0	15.5	11.5	10.0	11.5	10.5	9.5	8.0	---	---	21.0	17.0
30	16.0	15.5	12.0	10.5	12.0	11.5	9.0	7.0	---	---	21.5	17.5
31	16.0	15.0	---	---	12.5	12.0	9.0	7.0	---	---	22.5	18.0
MONTH	25.5	15.0	16.5	10.0	---	---	13.5	7.0	17.0	7.0	22.5	10.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	23.0	18.5	17.0	15.0	27.5	24.0	30.5	25.0	30.0	23.0	28.5	23.0
2	23.5	19.5	16.5	15.0	26.5	22.5	31.5	26.0	30.5	23.5	28.5	23.5
3	22.5	19.0	16.5	15.0	26.0	22.5	30.0	24.5	29.5	23.5	29.0	23.5
4	21.5	18.5	17.0	15.5	27.0	22.5	28.5	22.5	28.0	22.0	27.5	23.5
5	21.5	18.0	17.0	16.0	28.5	23.5	29.0	22.0	28.0	22.0	24.0	20.5
6	21.5	18.0	17.5	16.0	28.5	24.5	29.5	23.0	27.5	21.0	25.5	20.5
7	21.5	18.0	17.5	16.0	28.0	23.5	29.0	23.5	27.5	21.0	---	---
8	22.0	18.5	17.0	15.5	25.5	22.0	28.5	23.0	29.0	21.5	---	---
9	24.5	18.5	17.5	16.0	23.5	19.0	30.0	23.0	29.5	22.0	---	---
10	21.5	17.5	17.5	16.0	25.0	19.5	31.5	24.5	30.0	23.0	---	---
11	21.5	18.0	18.0	16.0	27.0	22.0	32.0	25.5	29.5	24.0	---	---
12	22.0	18.5	17.5	16.5	27.5	22.5	32.0	26.0	30.0	23.5	---	---
13	23.0	18.5	18.5	16.5	27.5	22.5	31.5	25.0	30.0	24.0	---	---
14	23.5	20.0	19.5	17.0	26.5	22.0	31.5	25.5	29.5	24.0	---	---
15	21.5	18.5	21.0	18.0	27.0	21.5	30.5	24.0	30.0	23.5	---	---
16	19.5	16.5	22.0	18.5	---	---	29.5	22.5	28.0	23.5	---	---
17	19.0	16.5	22.5	18.5	---	---	30.0	23.0	28.0	22.5	---	---
18	18.0	15.5	23.0	19.5	---	---	30.0	22.5	27.5	22.5	---	---
19	18.0	14.5	21.5	19.0	28.0	23.5	30.5	22.5	27.0	23.0	---	---
20	19.0	15.0	20.0	18.5	28.5	23.0	31.5	23.5	27.5	21.5	---	---
21	19.5	16.0	20.5	17.5	27.5	22.5	30.0	23.5	27.0	20.5	---	---
22	20.5	17.0	21.5	17.5	28.0	22.0	29.5	22.5	27.0	21.5	---	---
23	21.0	17.5	22.0	18.0	28.0	23.0	29.5	22.0	26.5	21.0	---	---
24	21.0	18.0	23.5	19.0	28.5	22.5	29.5	22.5	26.5	20.5	---	---
25	20.5	18.0	24.0	20.5	29.0	23.5	29.0	22.0	27.0	21.0	---	---
26	19.5	18.0	24.5	20.5	29.0	24.0	29.5	22.0	27.0	22.0	25.5	20.5
27	18.0	16.5	25.0	21.0	29.0	23.5	30.0	23.5	27.5	22.0	23.0	20.5
28	18.0	16.0	25.5	21.0	29.0	23.5	29.5	24.0	29.0	23.0	21.5	19.5
29	17.5	15.5	27.0	22.5	28.5	23.5	28.5	23.0	28.0	22.5	22.5	18.0
30	17.0	15.0	28.5	24.0	29.5	23.5	29.5	23.0	27.5	22.5	22.5	18.5
31	---	---	28.5	24.5	---	---	29.5	23.0	28.5	22.5	---	---
MONTH	24.5	14.5	28.5	15.0	---	---	32.0	22.0	30.5	20.5	---	---

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.—Lat 37°21'02", long 120°58'34", in NW 1/4 SW 1/4 sec.3, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank, 600 ft downstream from bridge on Hills Ferry Road, 650 ft downstream from Merced River, and 3.5 mi northeast of Newman.

DRAINAGE AREA.—9,520 mi².

PERIOD OF RECORD.—April 1912 to current year. Water years 1938–43 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 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 (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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327	1080	911	2000	758	857	721	946	479	440	371	305
2	292	1010	918	1840	758	881	687	1170	481	404	324	329
3	291	995	931	1770	757	906	657	1360	540	387	313	313
4	305	977	965	2130	762	916	627	1420	576	385	322	311
5	326	967	999	2200	766	926	600	1510	549	352	346	301
6	340	958	1020	2110	774	936	582	1510	476	387	371	318
7	336	961	995	1740	778	943	603	1480	430	418	367	311
8	373	976	970	1450	794	965	621	1420	412	413	351	291
9	384	987	943	1290	814	989	624	1240	407	411	327	315
10	378	1000	918	1190	819	990	611	1170	436	390	306	325
11	387	1020	896	1110	812	961	617	1130	429	353	331	320
12	379	1010	878	1050	798	917	626	1180	444	318	339	314
13	411	1000	824	991	777	892	631	1170	453	290	321	299
14	450	1040	795	942	770	862	654	965	463	308	306	296
15	490	1060	765	907	771	828	690	862	481	312	306	307
16	499	1070	745	872	774	817	715	719	469	297	299	317
17	542	1040	743	833	787	833	731	650	473	276	323	311
18	779	1030	737	792	809	859	718	570	453	272	364	311
19	916	995	731	760	858	874	733	551	445	296	395	320
20	960	961	729	755	905	892	753	597	424	327	394	281
21	980	942	741	755	904	883	778	614	403	342	376	267
22	1000	924	782	753	889	850	791	650	419	350	388	278
23	1000	896	805	740	882	825	836	647	449	356	354	283
24	1010	880	807	719	877	840	825	629	450	384	352	288
25	1010	905	793	720	871	869	792	620	479	389	353	287
26	1010	928	779	707	858	828	768	614	486	377	362	279
27	1030	924	765	705	855	808	808	639	469	352	347	269
28	1010	915	769	701	844	780	825	614	450	344	324	266
29	1030	908	811	717	---	744	830	582	439	341	318	275
30	1040	896	1330	740	---	744	829	542	432	362	312	290
31	1060	---	1660	754	---	737	---	484	---	375	294	---
TOTAL	20345	29255	27455	34743	22821	26952	21283	28255	13796	11008	10556	8977
MEAN	656.3	975.2	885.6	1121	815.0	869.4	709.4	911.5	459.9	355.1	340.5	299.2
MAX	1060	1080	1660	2200	905	990	836	1510	576	440	395	329
MIN	291	880	729	701	757	737	582	484	403	272	294	266
AC-FT	40350	58030	54460	68910	45270	53460	42210	56040	27360	21830	20940	17810

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
MAXIMUM PEAK FLOW	20700 Jan 27 1914
MAXIMUM 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)

	1938	1939	1940	1941	1942	1943	1938	1939	1940	1941	1942	1943
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
MAXIMUM PEAK FLOW	33000 Mar 7 1938
MAXIMUM 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 - 2002, BY WATER YEAR (WY)

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	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	1998	1999	2000	2001	2002
MEAN	711.6	677.3	1201	2329	3192	3073	2901	2768	2135	981.7	514.1	614.3																																															
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	122	202	230	180	212	159	141	48.7	45.9	80.4	41.2																																															
(WY)	1978	1978	1950	1991	1991	1948	1977	1977	1977	1977	1977	1977																																															

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1944 - 2002

ANNUAL TOTAL	282937	255446	
ANNUAL MEAN	775.2	699.9	1749
HIGHEST ANNUAL MEAN			11620 1983
LOWEST ANNUAL MEAN			200 1961
HIGHEST DAILY MEAN	2740 Mar 8	2200 Jan 5	36000 Jan 28 1997
LOWEST DAILY MEAN	260 Sep 6	266 Sep 28	20 Oct 26 1977
ANNUAL SEVEN-DAY MINIMUM	272 Sep 19	278 Sep 23	23 Oct 7 1977
MAXIMUM PEAK FLOW		2250 Jan 5	36200 Jan 28 1997
MAXIMUM PEAK STAGE		53.16 Jan 5	66.14 Jan 28 1997
INSTANTANEOUS LOW FLOW			15 Aug 9 1924
ANNUAL RUNOFF (AC-FT)	561200	506700	1267000
10 PERCENT EXCEEDS	1250	1020	4040
50 PERCENT EXCEEDS	789	737	604
90 PERCENT EXCEEDS	327	312	222

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 and crest-stage gage. 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 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 ft, 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 500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 3	0415	425	3.92

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	61	0.32	0.06	0.07	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	59	0.34	0.00	0.01	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	289	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	101	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	50	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	28	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	17	e0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	12	e0.71	0.01	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	9.4	0.68	0.84	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	7.2	0.60	0.82	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	5.2	0.44	0.84	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	4.2	0.51	0.89	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	3.6	0.50	0.67	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	2.8	0.44	0.45	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	2.2	0.19	0.22	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	1.7	e0.19	0.04	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	1.5	e1.8	0.39	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	1.1	e2.0	1.2	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	1.0	e2.1	1.2	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.89	1.8	0.91	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	47	0.91	1.6	0.71	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	29	0.80	1.5	0.63	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	3.9	0.68	1.0	0.63	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.21	0.52	0.79	0.83	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.61	0.57	4.3	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.72	0.44	3.8	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.75	0.49	2.0	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.63	0.40	1.1	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	62	0.52	---	0.71	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	150	0.40	---	0.43	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	91	0.32	---	0.22	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	383.11	664.65	20.40	23.90	0.08	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	12.36	21.44	0.729	0.771	0.003	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	150	289	2.1	4.3	0.07	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.32	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	760	1320	40	47	0.2	0.00	0.00	0.00	0.00	0.00

e Estimated.

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.000	0.895	11.30	45.01	85.76	48.15	21.64	3.283	0.671	0.121	0.001	0.000
MAX	0.000	31.0	181	432	818	345	362	46.9	15.1	5.32	0.045	0.000
(WY)	1933	1951	1956	1997	1998	1995	1958	1983	1941	1941	1958	1932
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1933	1933	1933	1936	1935	1933	1933	1933	1932	1932	1932	1932

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1932 - 2002	
ANNUAL TOTAL	2023.67		1092.14			
ANNUAL MEAN	5.544		2.992		17.72	
HIGHEST ANNUAL MEAN					89.4 1983	
LOWEST ANNUAL MEAN					0.000 1947	
HIGHEST DAILY MEAN	606	Mar 5	289	Jan 3	4550	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	May 9 1932
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	May 9 1932
MAXIMUM PEAK FLOW			425	Jan 3	12000	Mar 10 1995
MAXIMUM PEAK STAGE			3.92	Jan 3	9.51	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	4010		2170		12840	
10 PERCENT EXCEEDS	3.6		1.0		20	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 fair except for estimated daily discharges, which are poor. Flows during summer and fall consist mainly of return water from irrigated areas. During major storm events record can be affected by backwater from the San Joaquin River.

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 for some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	63	41	103	0.08	19	18	6.9	14	15	11	2.8
2	1.2	49	47	82	0.00	6.5	12	8.1	24	16	12	1.9
3	2.7	20	43	207	0.00	34	7.5	9.0	24	13	11	2.7
4	9.8	35	58	97	37	5.2	12	9.4	10	15	11	1.8
5	17	39	86	45	18	0.59	20	9.2	10	16	12	3.4
6	33	26	97	29	37	0.00	6.9	7.6	12	13	14	3.2
7	16	2.1	105	25	57	14	6.2	8.5	12	14	19	2.3
8	40	0.55	96	25	15	17	e6.5	8.2	13	12	19	3.6
9	31	6.4	72	36	6.8	14	e6.0	10	10	14	15	6.0
10	29	54	66	42	35	23	e5.5	7.8	11	14	8.0	4.0
11	15	39	81	41	41	17	e5.7	7.9	10	16	6.4	3.4
12	0.93	68	78	33	27	16	e5.5	8.9	10	19	7.1	5.6
13	0.00	74	48	30	27	16	e5.0	7.7	14	14	10	5.0
14	0.00	64	35	26	12	0.99	e5.2	6.8	13	15	9.7	4.3
15	19	67	25	16	22	2.5	e4.3	11	14	15	8.6	2.7
16	34	71	27	0.59	22	5.8	e4.6	9.3	11	14	8.8	9.6
17	44	79	26	0.34	15	12	6.1	6.3	11	17	10	11
18	61	72	22	0.60	16	14	3.7	8.1	13	17	7.6	2.1
19	76	64	27	7.1	6.5	5.2	5.8	8.5	14	19	4.1	12
20	68	58	33	9.5	3.2	0.93	7.5	8.0	12	18	4.9	6.0
21	69	38	39	8.4	0.63	3.5	5.8	9.1	11	15	4.8	5.4
22	97	27	27	6.1	1.9	7.5	8.9	7.6	12	14	4.4	7.6
23	71	26	21	5.2	8.0	30	11	5.4	11	14	6.1	6.4
24	58	31	21	5.3	18	17	11	4.6	10	18	9.9	6.8
25	68	35	20	3.2	11	12	9.7	7.0	9.9	19	9.3	4.2
26	66	48	19	3.0	1.9	12	9.3	8.6	14	21	7.7	5.8
27	65	57	18	3.0	2.2	9.4	8.5	13	17	21	6.5	7.4
28	76	103	17	2.6	11	7.6	7.0	15	18	14	9.7	2.5
29	68	116	56	2.0	---	17	7.3	13	19	10	6.9	3.1
30	66	65	110	2.4	---	4.8	5.8	10	17	13	4.9	3.7
31	77	---	130	1.1	---	26	---	10	---	9.6	4.7	---
TOTAL	1281.73	1497.05	1591	897.43	452.21	370.51	238.3	270.5	400.9	474.6	284.1	146.3
MEAN	41.35	49.90	51.32	28.95	16.15	11.95	7.943	8.726	13.36	15.31	9.165	4.877
MAX	97	116	130	207	57	34	20	15	24	21	19	12
MIN	0.00	0.55	17	0.34	0.00	0.00	3.7	4.6	9.9	9.6	4.1	1.8
AC-FT	2540	2970	3160	1780	897	735	473	537	795	941	564	290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	31.56	32.87	23.76	109.8	162.8	92.38	57.74	53.98	26.39	29.33	23.49	15.38
MAX	121	101	54.1	596	721	318	185	243	97.3	104	62.2	42.7
(WY)	1999	1999	1997	1997	1998	1995	1998	1998	1998	1998	1998	1998
MIN	2.19	3.82	1.01	11.4	6.15	12.0	7.94	8.73	7.38	14.1	9.16	4.04
(WY)	1995	1995	1995	1994	1995	2002	2002	2002	1992	1992	2002	1992

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1992 - 2002	
ANNUAL TOTAL	13268.17		7904.63			
ANNUAL MEAN	36.35		21.66		55.20	
HIGHEST ANNUAL MEAN					134	
LOWEST ANNUAL MEAN					15.7	
HIGHEST DAILY MEAN	488	Mar 5	207	Jan 3	2250	Feb 3 1998
LOWEST DAILY MEAN	0.00	Oct 13	0.00	Oct 13	0.00	Dec 18 1992
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 8	1.2	Jan 28	0.00	Dec 18 1992
MAXIMUM PEAK FLOW			342	Jan 3	2650	Mar 10 1995
MAXIMUM PEAK STAGE			8.07	Jan 3	19.60	Jan 23 1997
ANNUAL RUNOFF (AC-FT)	26320		15680		39990	
10 PERCENT EXCEEDS	84		64		117	
50 PERCENT EXCEEDS	21		12		20	
90 PERCENT EXCEEDS	4.8		3.1		3.0	

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 1999, October 2000 to current year.

SPECIFIC CONDUCTANCE: April 1992 to current year.

WATER TEMPERATURE: April 1992 to current year.

SEDIMENT DATA: Water years 1992–95, February 1997 to current year.

PERIOD OF DAILY RECORD.—April 1992 to current year.

SPECIFIC CONDUCTANCE: April 1992 to current year.

WATER TEMPERATURE: April 1992 to current year.

INSTRUMENTATION.—Water-quality monitor since April 1992.

REMARKS.—Specific conductance records rated excellent except for Oct. 1–4, Mar. 21 to Apr. 8, June 19 to July 8, July 25–29, Sept. 20–30, which are good. Water-temperature records are rated excellent except for Nov. 28–30, May 28, July 7, 8, 20–26, Aug. 19, 20, which are rated good; and Oct. 1–4, which are rated poor. Interruptions in record were due to malfunction of the recording instruments and when no flow occurred. Specific-conductance, water-temperature, and chemical values are affected by irrigation-return flow from a drainage pipe located 30 ft upstream from gage. Chemical and Sediment Data for water year 2000 available in the files of the U.S. Geological Survey.

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, 32.0°C, May 31, Aug. 7, 2001; minimum recorded, 2.0°C, Dec. 22, 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,040 microsiemens, Mar. 17, Sept. 9, but may have been higher during period of missing record; minimum recorded, 415 microsiemens, Jan. 3.

WATER TEMPERATURE: Maximum recorded, 29.5°C, June 24, July 2, 12; minimum recorded, 3.5°C, Jan. 31, Feb. 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE OF HG (00025)	OXYGEN, SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
OCT										
04...	1500	11	--	.095	.073	757	5.2	--	7.9	968 ¹
09...	1140	31	--	--	--	759	8.4	90	7.9	688
31...	1540	78	12	.087	.064	760	9.0	--	8.2	743 ¹
NOV										
06...	1030	31	--	--	--	758	9.2	93	8.3	744
DEC										
04...	0940	48	--	--	--	763	10.9	--	8.1	--
JAN										
17...	1210	.39	--	--	--	763	--	--	8.2	--
30...	1120	2.2	--	--	--	766	12.7	98	8.5	830
FEB										
07...	1020	86	--	--	--	764	11.4	100	7.7	595
28...	1230	15	--	--	--	--	10.9	--	8.0	--
MAR										
13...	1240	20	--	--	--	769	10.2	--	8.2	--
27...	1150	10	--	--	--	762	11.4	--	8.2	--
APR										
09...	1130	--	--	--	--	765	8.6	88	8.0	956
23...	1050	9.2	--	--	--	763	9.4	97	7.8	678
MAY										
06...	1150	4.1	--	--	--	764	8.5	93	7.9	658
20...	1230	8.3	--	--	--	760	9.1	--	8.0	--
JUN										
12...	1130	12	--	--	--	760	8.2	--	8.0	--
26...	1050	16	--	--	--	760	8.2	--	7.7	--
JUL										
10...	1130	12	--	--	--	761	7.0	85	7.7	555
25...	1300	18	--	--	--	764	7.4	--	7.9	--
AUG										
07...	0920	19	--	--	--	762	--	--	7.8	750
SEP										
11...	1220	3.3	--	--	--	760	9.6	107	8.0	845

¹ Laboratory value.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
OCT									
04...	20.5	120	260	52.5	31.5	4.37	2	88.3	42
09...	18.5	--	--	--	--	--	--	--	--
31...	17.0	49	150	27.7	18.8	3.77	3	82.3	54
NOV									
06...	15.5	--	--	--	--	--	--	--	--
DEC									
04...	9.5	--	--	--	--	--	--	--	--
JAN									
17...	6.0	--	--	--	--	--	--	--	--
30...	4.5	--	--	--	--	--	--	--	--
FEB									
07...	9.5	--	--	--	--	--	--	--	--
28...	14.0	--	--	--	--	--	--	--	--
MAR									
13...	14.0	--	--	--	--	--	--	--	--
27...	15.0	--	--	--	--	--	--	--	--
APR									
09...	16.5	--	--	--	--	--	--	--	--
23...	17.0	--	--	--	--	--	--	--	--
MAY									
06...	19.5	--	--	--	--	--	--	--	--
20...	17.0	--	--	--	--	--	--	--	--
JUN									
12...	22.0	--	--	--	--	--	--	--	--
26...	23.0	--	--	--	--	--	--	--	--
JUL									
10...	25.0	--	--	--	--	--	--	--	--
25...	22.5	--	--	--	--	--	--	--	--
AUG									
07...	19.5	--	--	--	--	--	--	--	--
SEP									
11...	20.5	--	--	--	--	--	--	--	--

DATE	ALKA- LINITY WAT. DIS GRAN T. FIELD CACO3 (MG/L) (29802)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, PENDEDED (MG/L) (00530)	RESIDUE VOLLA- TILE, SUS- SUS- PENDEDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT									
04...	140	140	.1	13.9	118	219	17	.78	572
09...	100	116	--	--	47.6	--	--	--	--
31...	98	126	.1	11.9	57.7	--	6	.56	410
NOV									
06...	99	123	--	--	68.5	--	--	--	--
DEC									
04...	100	97.0	--	--	63.5	--	--	--	--
JAN									
17...	82	72.3	--	--	63.0	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
FEB									
07...	92	74.4	--	--	71.7	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
MAR									
13...	110	83.2	--	--	85.0	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
APR									
09...	220	95.3	--	--	141	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAY									
06...	130	76.9	--	--	77.0	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
JUN									
12...	110	61.2	--	--	88.9	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
JUL									
10...	120	59.4	--	--	69.9	--	--	--	--
25...	--	62.8	--	--	75.5	--	--	--	--
AUG									
07...	120	100	--	--	78.1	--	--	--	--
SEP									
11...	150	108	--	--	86.8	--	--	--	--

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, PAR TICULATE WAT FLT SUSP (MG/L) AS N) (49570)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)
OCT									
04...	548	e.02	.45	.91	3.44	.028	--	.136	.11
09...	--	.26	--	.90	1.42	.021	.28	--	.07
31...	391	e.02	.24	.58	.85	.012	--	.061	.04
NOV									
06...	--	e.03	--	.61	1.50	.012	.28	--	.05
DEC									
04...	--	.25	--	.70	1.37	.018	.22	--	.09
JAN									
17...	--	e.03	--	.70	2.33	.027	.11	--	.13
30...	--	<.04	--	.41	4.10	.007	--	--	.06
FEB									
07...	--	<.04	--	.90	.68	.094	.30	--	<.02
28...	--	<.04	--	.62	1.76	.008	--	--	.02
MAR									
13...	--	<.04	--	.55	1.63	.019	--	--	.09
27...	--	<.04	--	.48	2.95	.036	--	--	.12
APR									
09...	--	.57	--	1.5	4.93	.204	.44	--	.20
23...	--	.04	--	.94	2.60	.024	--	--	.11
MAY									
06...	--	e.03	--	.67	2.48	.024	.28	--	.12
20...	--	<.04	--	.57	4.72	.071	--	--	.10
JUN									
12...	--	<.04	--	.78	3.44	.041	.40	--	.16
26...	--	.13	--	1.6	2.51	.115	--	--	.20
JUL									
10...	--	e.02	--	.97	3.03	.043	.41	--	.16
25...	--	1.60	--	3.7	4.49	.186	--	--	.14
AUG									
07...	--	e.03	--	.79	4.50	.034	.24	--	.10
SEP									
11...	--	<.04	--	.81	2.76	.025	.28	--	.14
DATE	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L) AS C) (00694)	CARBON, INOR- GANIC, PARTIC. TOTAL (MG/L) AS C) (00688)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L) AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
OCT									
04...	.37	--	--	3.7	3.7	6.3	8.1	<10	15.5
09...	.19	2.4	<.1	3.4	2.4	--	--	--	--
31...	.18	--	--	3.1	1.4	3.6	1.6	<10	7.2
NOV									
06...	.19	1.9	<.1	2.8	1.8	--	--	--	--
DEC									
04...	.17	1.7	<.1	e.2	1.6	--	--	--	--
JAN									
17...	.18	.8	<.1	6.7	.8	--	--	--	--
30...	.11	--	--	--	--	--	--	--	--
FEB									
07...	.24	2.6	<.1	5.8	2.6	--	--	--	--
28...	.10	--	--	--	--	--	--	--	--
MAR									
13...	.18	--	--	5.2	--	--	--	--	--
27...	.17	--	--	--	--	--	--	--	--
APR									
09...	.34	2.8	<.1	5.4	2.8	--	--	--	--
23...	.36	--	--	--	--	--	--	--	--
MAY									
06...	.24	1.8	<.1	3.8	1.8	--	--	--	--
20...	.19	--	--	--	--	--	--	--	--
JUN									
12...	.45	2.7	<.1	3.9	2.7	--	--	--	--
26...	.52	--	--	--	--	--	--	--	--
JUL									
10...	.40	3.4	<.1	4.8	3.4	--	--	--	--
25...	.75	--	--	--	--	--	--	--	--
AUG									
07...	.28	1.9	<.1	3.0	1.9	--	--	--	--
SEP									
11...	.24	1.8	<.1	5.5	1.8	--	--	--	--

e Estimated.

< Actual value is known to be less than the value shown.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	1,4-NAPHTHO QUINON WATER FLTRD FLTRD REC, (UG/L) (61611)	1-NAPH THOL, WATER, FLTRD, GF 0.7U REC (UG/L) (49295)	2(4TERT BUTYL- PHENOXY CYCLO- HEXANOL FLTRD REC (UG/L) (61637)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS- SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,5-DI- CHLORO- ANILINE WATER FLTRD REC (UG/L) (61614)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	2-[2- ETHYL- 6-METHY PANOL WAT FLT REC (UG/L) (61615)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.05	<.09	<.01	<.009	.10	<.02	<.03	<.002	<.1
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	--	--	.15	<.02	--	<.002	--
DEC									
04...	--	--	--	--	e.04	<.02	--	<.002	--
JAN									
17...	--	--	--	--	<.02	<.02	--	<.006	--
30...	--	--	--	--	<.02	<.02	--	<.002	--
FEB									
07...	--	--	--	--	<.02	<.02	--	<.006	--
28...	--	--	--	--	.14	<.02	--	<.006	--
MAR									
13...	--	--	--	--	.07	<.02	--	<.006	--
27...	--	--	--	--	.08	e.03	--	<.006	--
APR									
09...	--	--	--	--	<.02	<.02	--	<.006	--
23...	--	--	--	--	.14	<.02	--	<.006	--
MAY									
06...	--	--	--	--	.08	<.02	--	<.006	--
20...	--	--	--	--	.06	<.02	--	<.006	--
JUN									
12...	--	--	--	--	.30	<.02	--	<.006	--
26...	--	--	--	--	.20	<.02	--	<.006	--
JUL									
10...	--	--	--	--	.07	<.02	--	<.006	--
25...	--	--	--	--	.24	<.02	--	<.006	--
AUG									
07...	--	--	--	--	.15	<.02	--	<.006	--
SEP									
11...	--	--	--	--	.11	<.02	--	<.006	--
DATE	2AMINON ISOPROP PYLBEN ZAMIDE WAT FLT REC (UG/L) (61617)	2CHLORO -2,6- DIETHYL ACET- ANILIDE FLT REC (UG/L) (61618)	3HYDRXY CARBO- FURAN WAT, FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO- FURAN WATER FLTRD REC (UG/L) (50295)	4CHLORO 2-METH- YL- PHENOL WAT FLT REC (UG/L) (61633)	4CHLORO BENZYL METHYL SULFONE WAT FLT REC (UG/L) (61634)	ACETO- CHLOR ESA FLTRD 0.7 UM GF REC (UG/L) (61029)	ACETO- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61030)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.005	<.005	<.006	<2	e.009	<.03	<.05	<.05	<.004
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	<.006	<2	--	--	--	--	<.004
DEC									
04...	--	--	<.006	<2	--	--	--	--	<.004
JAN									
17...	--	--	<.006	<2	--	--	--	--	<.006
30...	--	--	<.006	<2	--	--	--	--	<.004
FEB									
07...	--	--	<.006	<2	--	--	--	--	<.006
28...	--	--	<.006	<2	--	--	--	--	<.006
MAR									
13...	--	--	<.006	<2	--	--	--	--	<.006
27...	--	--	<.006	<2	--	--	--	--	<.006
APR									
09...	--	--	<.006	<2	--	--	--	--	<.006
23...	--	--	<.006	<2	--	--	--	--	<.006
MAY									
06...	--	--	<.006	<2	--	--	--	--	<.006
20...	--	--	<.006	<2	--	--	--	--	<.006
JUN									
12...	--	--	<.006	<2	--	--	--	--	<.006
26...	--	--	<.006	<2	--	--	--	--	<.006
JUL									
10...	--	--	<.006	<2	--	--	--	--	<.006
25...	--	--	<.006	<2	--	--	--	--	<.006
AUG									
07...	--	--	<.006	<2	--	--	--	--	<.006
SEP									
11...	--	--	<.006	<2	--	--	--	--	<.006

< Actual value is known to be less than the value shown.
e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ACIFL- UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61031)	ALA- CHLOR ESA WAT FLT GF 0.7U REC (UG/L) (50009)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI- CARB SULFONE WAT, FLT GF 0.7U REC (UG/L) (49313)	ALDICA- RB SUL- FOXIDE, WAT, FLT GF 0.7U REC (UG/L) (49314)	ALDI- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ANILINE 2-ETHYL 6METHYL WATER FLTRD REC (UG/L) (61620)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.007	<.05	<.05	<.002	<.02	<.008	<.04	<.005	<.004
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.007	--	--	<.002	<.02	<.008	<.04	<.005	--
DEC									
04...	<.007	--	--	<.002	<.02	<.008	<.04	<.005	--
JAN									
17...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
30...	<.007	--	--	<.002	<.02	<.008	<.04	<.005	--
FEB									
07...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
28...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
MAR									
13...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
27...	<.097	--	--	<.004	<.02	<.008	<.04	<.005	--
APR									
09...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
23...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
MAY									
06...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
20...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
JUN									
12...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
26...	<.007	--	--	.009	<.02	<.008	<.04	<.005	--
JUL									
10...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
25...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
AUG									
07...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
SEP									
11...	<.007	--	--	<.004	<.02	<.008	<.04	<.005	--
DATE	ANILINE 3,4-DI- CHLORO WATER FLTRD REC (UG/L) (61625)	ANILINE 3,5-DI- CHLORO WATER FLTRD REC (UG/L) (61627)	ANILINE 3-TRI- FLUORO- METHYL WAT FLT REC (UG/L) (61630)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	AZIN- PHOS- METHYL- OXON WAT FLT REC (UG/L) (61635)	BENDIO- CARB, WATER FLTRD REC (UG/L) (50299)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN- SUL- FURON METHYL WAT FLT REC (UG/L) (61693)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.004	<.005	<.01	<.009	<.02	<.03	<.010	<.004	<.02
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	--	<.009	--	<.03	<.010	<.004	<.02
DEC									
04...	--	--	--	<.007	--	<.03	<.010	<.004	<.02
JAN									
17...	--	--	--	<.009	--	<.03	<.010	<.004	<.02
30...	--	--	--	<.007	--	<.03	<.010	<.004	<.02
FEB									
07...	--	--	--	<.009	--	<.03	<.010	<.004	<.02
28...	--	--	--	<.009	--	<.03	<.010	<.004	<.02
MAR									
13...	--	--	--	e.006	--	<.03	<.010	<.004	<.02
27...	--	--	--	<.007	--	<.03	<.010	<.004	<.02
APR									
09...	--	--	--	e.003	--	<.03	<.010	<.004	<.02
23...	--	--	--	e.006	--	<.03	<.010	<.004	<.02
MAY									
06...	--	--	--	.009	--	<.03	<.010	<.004	<.02
20...	--	--	--	e.007	--	<.03	<.010	<.004	<.02
JUN									
12...	--	--	--	.016	--	<.03	<.010	<.004	e.01
26...	--	--	--	.024	--	<.03	<.010	<.004	<.02
JUL									
10...	--	--	--	.015	--	<.03	<.010	<.004	e.01
25...	--	--	--	.007	--	<.03	<.010	<.004	<.02
AUG									
07...	--	--	--	.008	--	<.03	<.010	<.004	<.02
SEP									
11...	--	--	--	e.005	--	<.03	<.010	<.004	<.02

< Actual value is known to be less than the value shown.
e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	BENTA- ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BENZO- PHENONE 4,4-DI- CHLORO WAT FLT REC (UG/L) (61631)	BENZYL ALCOHOL 3-PHEN- OXY WAT FLT REC (UG/L) (61629)	BI- FENTH- RIN WATER FLTRD REC (UG/L) (61580)	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)	BRO- MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAF- FEINE, WATER FLTRD REC (UG/L) (50305)	CAR- BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	e.01	e.006	<.05	<.005	<.03	<.02	<.002	<.010	<.03
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	e.01	--	--	--	<.03	<.02	<.002	<.010	<.03
DEC									
04...	e.01	--	--	--	<.03	<.02	<.002	.041	<.03
JAN									
17...	M	--	--	--	e.02	<.02	<.002	<.010	<.03
30...	<.01	--	--	--	<.03	<.02	<.002	<.010	<.03
FEB									
07...	<.01	--	--	--	e.03	e.01	<.002	.036	<.03
28...	e.01	--	--	--	e.03	<.02	<.002	<.010	<.03
MAR									
13...	<.01	--	--	--	<.03	<.02	<.002	.031	<.03
27...	M	--	--	--	<.03	<.02	<.002	<.010	<.03
APR									
09...	<.01	--	--	--	<.03	<.02	<.002	<.010	<.03
23...	<.01	--	--	--	<.03	<.02	<.002	<.010	e.02
MAY									
06...	M	--	--	--	<.03	<.02	<.002	<.010	<.03
20...	<.01	--	--	--	<.03	<.02	e.001	<.010	M
JUN									
12...	<.01	--	--	--	<.03	<.02	<.002	<.010	M
26...	<.01	--	--	--	<.03	<.02	<.002	<.010	<.03
JUL									
10...	<.01	--	--	--	<.03	<.02	<.002	<.010	<.03
25...	<.01	--	--	--	<.03	<.02	<.002	<.010	e.01
AUG									
07...	<.01	--	--	--	<.03	<.02	<.002	<.010	e.01
SEP									
11...	M	--	--	--	<.03	<.02	<.002	<.010	<.03
DATE	CAR- BARYL WATER, FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN, WATER, FLTRD GF 0.7U REC (UG/L) (49309)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI- MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO- THALO- NIL, WAT, FLT GF 0.7U REC (UG/L) (49306)	CHLOR- PYRIFOS ANALOG DIS- SOLVED REC (UG/L) (38933)	CHLOR- OXYGEN ANALOG WAT FLT REC (UG/L) (61636)	CIS- CARBOX- YATE WATER FLTRD REC (UG/L) (79842)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.06	<.04
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.041	<.006	<.020	<.02	<.010	<.04	<.005	--	--
DEC									
04...	<.041	<.006	<.020	<.02	<.010	<.04	<.005	--	--
JAN									
17...	<.041	<.006	<.020	<.02	<.010	<.04	<.005	--	--
30...	<.041	<.006	<.020	<.02	<.010	<.04	e.005	--	--
FEB									
07...	<.041	<.006	<.020	<.02	.016	<.04	<.005	--	--
28...	<.041	<.006	<.020	<.02	<.010	<.04	<.005	--	--
MAR									
13...	<.041	.009	e.018	<.02	<.010	<.04	.016	--	--
27...	<.041	e.015	e.020	<.02	<.010	<.04	.028	--	--
APR									
09...	e.007	<.006	<.020	<.02	<.010	<.04	.048	--	--
23...	e.028	.013	e.017	<.02	<.010	<.04	<.005	--	--
MAY									
06...	<.041	.013	e.020	<.02	<.010	<.04	.006	--	--
20...	e.004	<.006	e.004	<.02	<.010	<.04	e.005	--	--
JUN									
12...	e.007	<.006	<.020	<.02	<.010	<.04	.009	--	--
26...	e.006	<.006	<.020	<.02	<.010	<.04	<.020	--	--
JUL									
10...	<.041	<.006	<.020	<.02	<.010	<.04	e.025	--	--
25...	e.025	<.006	<.020	<.02	<.010	<.04	<.005	--	--
AUG									
07...	e.013	<.006	<.020	<.02	<.010	<.04	e.004	--	--
SEP									
11...	<.041	<.006	<.020	<.02	<.010	<.04	.045	--	--

e Estimated.

< Actual value is known to be less than the value shown.

M Presence of material verified, but not quantified.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CIS-PROPI- CONAZ- OLE WAT FLT REC (UG/L) (79846)	CLOPYR- ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	CY- CLOATE, WATER, DISS, REC (UG/L) (04031)	CY- FLUTH- RIN WATER FLTRD REC (UG/L) (61585)	CYPER- METHRIN WATER FLTRD REC (UG/L) (61586)	DACTHAL MONO- ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.008	<.01	<.018	<.005	<.008	<.009	<.01	.012	<.03
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.03
DEC									
04...	--	<.01	<.018	<.01	--	--	<.01	e.001	<.006
JAN									
17...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.03
30...	--	<.01	<.018	<.01	--	--	<.01	e.003	<.006
FEB									
07...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.03
28...	--	<.01	<.018	e.08	--	--	<.01	<.003	<.03
MAR									
13...	--	<.01	<.018	<.01	--	--	<.01	e.002	<.006
27...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.006
APR									
09...	--	<.01	<.018	<.01	--	--	<.01	.003	<.006
23...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.006
MAY									
06...	--	<.01	<.018	<.01	--	--	<.01	.004	<.006
20...	--	<.01	<.018	e.03	--	--	<.01	<.003	e.002
JUN									
12...	--	<.01	<.018	<.01	--	--	<.01	e.001	<.006
26...	--	<.01	<.018	<.01	--	--	<.01	<.003	e.005
JUL									
10...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.006
25...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.006
AUG									
07...	--	<.01	<.018	<.01	--	--	<.01	<.003	e.002
SEP									
11...	--	<.01	<.018	<.01	--	--	<.01	<.003	<.006
DATE	DEETHYL DEISO- PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO- PROPYL ATRAZIN DISS, REC (UG/L) (04038)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DICROT- OPHOS WATER FLTRD REC (UG/L) (38454)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DIMETH- ENAMID OA, WATER FLT, REC (UG/L) (62482)	DIMETH- ENAMID, ESA, WAT FLT (UG/L) (61951)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.01	<.04	<.005	<.01	<.01	<.08	<.005	<.05	<.05
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.01	<.04	e.002	<.01	<.01	--	<.005	--	--
DEC									
04...	<.01	<.04	.006	<.01	<.01	--	<.005	--	--
JAN									
17...	<.01	e.01	<.005	<.01	<.01	--	<.005	--	--
30...	<.01	<.04	.016	<.01	<.01	--	<.005	--	--
FEB									
07...	<.01	<.04	.010	<.01	<.01	--	<.005	--	--
28...	<.01	<.04	.006	<.01	<.01	--	<.005	--	--
MAR									
13...	<.01	e.01	.008	<.01	<.01	--	<.005	--	--
27...	<.01	e.02	.007	<.01	<.01	--	<.005	--	--
APR									
09...	<.01	<.04	<.005	<.01	<.01	--	<.005	--	--
23...	<.01	e.01	e.004	<.01	<.01	--	<.005	--	--
MAY									
06...	<.01	<.04	.533	<.01	<.01	--	.006	--	--
20...	<.01	<.04	e.003	<.01	<.01	--	<.005	--	--
JUN									
12...	<.01	<.04	.005	<.01	<.01	--	.008	--	--
26...	<.01	<.04	.019	<.01	<.01	--	.011	--	--
JUL									
10...	<.01	<.04	<.005	<.01	<.01	--	.010	--	--
25...	<.01	<.04	e.005	<.01	<.01	--	.012	--	--
AUG									
07...	<.01	<.04	.527	<.01	<.01	--	.014	--	--
SEP									
11...	<.01	<.04	.007	<.01	<.01	--	.005	--	--

< Actual value is known to be less than the value shown.
e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	DIMETH- OATE WATER FLTRD 0.7 U GF, REC (UG/L) (82662)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	DISULF- OTON SULFONE WATER FLTRD REC (UG/L) (61640)	DISULF- OTON SULF- OXIDE WAT FLT REC (UG/L) (61641)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	E-DI- METHO- MORPH WATER FLTRD REC (UG/L) (79844)	ENDO- SULFAN ALPHA DISSOLV (UG/L) (34362)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	e.006	<.01	<.03	<.02	<.002	<.02	.03	<.02	<.005
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	<.01	<.03	--	--	<.02	e.01	--	--
DEC									
04...	--	M	<.03	--	--	<.02	.10	--	--
JAN									
17...	--	<.01	<.03	--	--	<.02	.65	--	--
30...	--	<.01	<.03	--	--	<.02	.14	--	--
FEB									
07...	--	<.01	<.03	--	--	<.02	.31	--	--
28...	--	<.01	<.03	--	--	<.02	e1.35	--	--
MAR									
13...	--	<.01	<.03	--	--	<.02	e.95	--	--
27...	--	<.01	<.03	--	--	<.02	e1.04	--	--
APR									
09...	--	<.01	<.03	--	--	<.02	.87	--	--
23...	--	<.01	<.03	--	--	<.02	.64	--	--
MAY									
06...	--	<.01	<.03	--	--	<.02	.40	--	--
20...	--	<.01	<.03	--	--	<.02	e1.50	--	--
JUN									
12...	--	<.01	<.03	--	--	<.02	.38	--	--
26...	--	<.01	<.03	--	--	<.02	.15	--	--
JUL									
10...	--	<.01	<.03	--	--	<.02	.07	--	--
25...	--	<.01	<.03	--	--	<.02	.03	--	--
AUG									
07...	--	<.01	<.03	--	--	<.02	.03	--	--
SEP									
11...	--	<.01	<.03	--	--	<.02	.03	--	--
DATE	ENDO- SULFAN BETA DISSOLV (UG/L) (34357)	ENDO- SULFAN ETHER WATER FLTRD REC (UG/L) (61642)	ENDO- SULFAN SULFATE WATER FLTRD REC (UG/L) (61590)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT GF, REC (UG/L) (82663)	ETHION MONOXON FLTRD ETHION DISSOLV (UG/L) (82346)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FENAMI- PHOS SULFONE REC (UG/L) (61645)	
OCT									
04...	--	--	--	--	--	--	--	--	
09...	<.01	<.004	<.006	.005	<.009	<.004	<.03	<.005	
31...	--	--	--	--	--	--	--	--	
NOV									
06...	--	--	--	.019	<.009	--	--	<.005	
DEC									
04...	--	--	--	.003	<.009	--	--	<.005	
JAN									
17...	--	--	--	<.050	<.009	--	--	<.005	
30...	--	--	--	<.002	<.009	--	--	<.005	
FEB									
07...	--	--	--	<.002	<.009	--	--	<.005	
28...	--	--	--	<.002	<.009	--	--	<.005	
MAR									
13...	--	--	--	<.002	<.009	--	--	<.005	
27...	--	--	--	e.002	<.009	--	--	<.005	
APR									
09...	--	--	--	<.004	<.009	--	--	<.005	
23...	--	--	--	.033	<.009	--	--	<.005	
MAY									
06...	--	--	--	e.118	<.009	--	--	<.005	
20...	--	--	--	.016	<.009	--	--	<.005	
JUN									
12...	--	--	--	.005	e.005	--	--	e.003	
26...	--	--	--	.203	<.009	--	--	<.005	
JUL									
10...	--	--	--	.187	<.009	--	--	<.005	
25...	--	--	--	.009	<.009	--	--	<.005	
AUG									
07...	--	--	--	.002	.011	--	--	<.005	
SEP									
11...	--	--	--	<.005	<.009	--	--	<.005	

e Estimated.

< Actual vaue is known to be less than the value shown.

M Presence of material verified, but not quantified.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	FENAMI- PHOS SULF- OXIDE WAT FLT REC (UG/L) (61646)	FENAMI- PHOS WATER FLTRD REC (UG/L) (61591)	FEN- THION SULF- OXIDE WAT FLT REC (UG/L) (61647)	FEN- THION WATER FLTRD REC (UG/L) (38801)	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUFEN- ACET, ESA, WAT FLT REC (UG/L) (61952)	FLUFE- NACET OA, WATER FLT, REC (UG/L) (62483)	FLUME- TRALIN WATER FLTRD REC (UG/L) (61592)	FLUMET- SULAM WATER FLTRD REC (UG/L) (61694)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.03	<.03	<.008	<.02	<.03	<.05	<.05	<.004	<.01
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	--	--	<.03	--	--	--	<.01
DEC									
04...	--	--	--	--	<.03	--	--	--	<.01
JAN									
17...	--	--	--	--	<.03	--	--	--	<.01
30...	--	--	--	--	<.03	--	--	--	<.01
FEB									
07...	--	--	--	--	<.03	--	--	--	<.01
28...	--	--	--	--	<.03	--	--	--	<.01
MAR									
13...	--	--	--	--	<.03	--	--	--	<.01
27...	--	--	--	--	<.03	--	--	--	<.01
APR									
09...	--	--	--	--	<.03	--	--	--	<.01
23...	--	--	--	--	<.03	--	--	--	<.01
MAY									
06...	--	--	--	--	<.03	--	--	--	<.01
20...	--	--	--	--	<.03	--	--	--	<.01
JUN									
12...	--	--	--	--	<.03	--	--	--	<.01
26...	--	--	--	--	<.03	--	--	--	<.01
JUL									
10...	--	--	--	--	<.03	--	--	--	<.01
25...	--	--	--	--	<.03	--	--	--	<.01
AUG									
07...	--	--	--	--	<.03	--	--	--	<.01
SEP									
11...	--	--	--	--	<.03	--	--	--	<.01

DATE	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS OXYGEN ANALOG WATER FLTRD REC (UG/L) (61649)	FONOFOS WATER DISS REC (UG/L) (04095)	HEXA- ZINONE, WATER, DISS REC (UG/L) (04025)	HYDROXY ATRA- ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ- AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE- THAPYR WATER FLTRD REC (UG/L) (50407)	IMID- ACLOP- RID WATER FLTRD REC (UG/L) (61695)	I PRO- DIONE WATER FLTRD REC (UG/L) (61593)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.03	<.002	<.003	.014	e.015	<.02	<.02	<.007	<1
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.03	--	<.003	--	e.006	<.02	<.02	<.007	--
DEC									
04...	<.03	--	<.003	--	e.022	<.02	<.02	<.007	--
JAN									
17...	<.03	--	<.003	--	e.023	<.02	<.02	<.007	--
30...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
FEB									
07...	<.03	--	<.003	--	e.015	<.02	<.02	<.007	--
28...	<.03	--	<.003	--	e.022	<.02	<.02	<.007	--
MAR									
13...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
27...	<.03	--	<.003	--	e.011	<.02	<.02	<.007	--
APR									
09...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
23...	<.03	--	<.003	--	e.016	<.02	e.01	<.007	--
MAY									
06...	<.03	--	<.003	--	e.018	<.02	<.02	<.007	--
20...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
JUN									
12...	<.03	--	<.003	--	e.016	<.02	<.02	<.007	--
26...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
JUL									
10...	<.03	--	<.003	--	e.017	<.02	<.02	<.007	--
25...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
AUG									
07...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--
SEP									
11...	<.03	--	<.003	--	<.008	<.02	<.02	<.007	--

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e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ISOFEN- PHOS WATER FLTRD REC (UG/L) (61594)	LAMDA- CYHALO- THRIN WATER FLTRD REC (UG/L) (61595)	LINDANE DIS- SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN- URON WATER FLTRD GF, REC (UG/L) (82666)	MALA- OXON WATER FLTRD REC (UG/L) (61652)	MALA- THION, DIS- SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)
	OCT								
04...	--	--	--	--	--	--	--	--	--
09...	<.003	<.009	<.004	<.01	<.035	<.008	<.027	<.02	<.01
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
DEC									
04...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
JAN									
17...	--	--	<.004	<.01	<.035	--	<.027	.02	<.01
30...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
FEB									
07...	--	--	<.004	<.01	<.035	--	<.027	.03	<.01
28...	--	--	<.004	<.01	<.035	--	<.027	.08	<.01
MAR									
13...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
27...	--	--	<.004	<.01	<.035	--	e.005	<.06	<.01
APR									
09...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
23...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
MAY									
06...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
20...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
JUN									
12...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
26...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
JUL									
10...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
25...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
AUG									
07...	--	--	<.004	<.01	<.035	--	e.005	<.02	<.01
SEP									
11...	--	--	<.004	<.01	<.035	--	<.027	<.02	<.01
DATE	META- LAXYL WATER FLTRD REC (UG/L) (61596)	META- LAXYL WATER FLTRD REC (UG/L) (50359)	METHI- DATHION WATER FLTRD REC (UG/L) (61598)	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH- OMYL WATER, FLTRD GF, REC (UG/L) (49296)	METHYL AZIN- PHOS WAT FLT 0.7 U (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U (UG/L) (82667)	METOLA- CHLOR ESA FLTRD GF REC (UG/L) (61043)	
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.005	<.02	<.006	<.008	e.014	<.050	<.006	.07	
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	<.02	--	<.008	e.209	<.050	<.006	--	
DEC									
04...	--	M	--	<.008	e.004	<.050	<.006	--	
JAN									
17...	--	e.02	--	<.008	<.004	<.050	<.006	--	
30...	--	M	--	<.008	<.004	<.050	<.006	--	
FEB									
07...	--	<.02	--	<.008	<.004	<.050	<.006	--	
28...	--	e.01	--	<.008	<.004	<.050	<.006	--	
MAR									
13...	--	<.02	--	<.008	<.004	<.050	<.006	--	
27...	--	<.02	--	<.008	<.004	<.050	<.006	--	
APR									
09...	--	<.02	--	<.008	<.004	<.050	<.006	--	
23...	--	e.01	--	<.008	<.004	<.050	<.006	--	
MAY									
06...	--	e.01	--	<.008	<.004	<.050	.042	--	
20...	--	<.02	--	<.008	<.004	<.050	<.006	--	
JUN									
12...	--	e.01	--	<.008	<.004	<.050	<.006	--	
26...	--	<.02	--	<.008	<.004	e.025	.524	--	
JUL									
10...	--	e.01	--	<.008	e.005	<.050	.027	--	
25...	--	<.02	--	<.008	e.005	<.050	<.006	--	
AUG									
07...	--	<.02	--	<.008	e.014	e.010	<.041	--	
SEP									
11...	--	<.02	--	<.008	e.045	<.050	<.006	--	

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e Estimated.

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11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	METOLA- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61044)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET- SUL- FURON METHYL WAT FLT REC (UG/L) (61697)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	MYCLO- BUTANIL WATER FLTRD REC (UG/L) (61599)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB- URON, WATER, FLTRD GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.05	.016	<.006	<.03	<.002	.021	<.007	<.01	<.01
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	e.009	<.006	<.03	<.002	--	<.007	<.01	<.01
DEC									
04...	--	e.004	<.006	<.03	e.002	--	<.007	<.01	<.01
JAN									
17...	--	e.009	.010	<.03	<.002	--	<.007	<.01	<.01
30...	--	.056	<.006	<.03	<.002	--	<.007	<.01	<.01
FEB									
07...	--	e.010	<.006	<.03	.004	--	<.007	<.01	<.01
28...	--	.018	e.005	<.03	<.002	--	<.007	<.01	<.01
MAR									
13...	--	.015	<.006	<.03	<.002	--	<.007	<.01	<.01
27...	--	.028	<.006	<.03	<.002	--	<.007	<.01	<.01
APR									
09...	--	.039	.050	<.03	<.002	--	.095	<.01	<.01
23...	--	.274	<.010	<.03	<.002	--	.148	<.01	<.01
MAY									
06...	--	.072	<.009	<.03	<.002	--	.007	<.01	<.01
20...	--	.024	<.006	<.03	.005	--	<.007	<.01	<.01
JUN									
12...	--	1.11	.025	<.03	.046	--	e.004	<.01	<.01
26...	--	.727	.018	<.03	.092	--	<.007	<.01	<.01
JUL									
10...	--	.584	.016	<.03	.029	--	<.007	<.01	<.01
25...	--	.634	<.006	<.03	.008	--	.012	<.01	<.01
AUG									
07...	--	.175	.008	<.03	<.002	--	.008	<.01	<.01
SEP									
11...	--	.057	<.006	<.03	<.005	--	<.007	<.01	<.01
DATE	NORFLUR AZON, WATER, FLTRD GF 0.7U REC (UG/L) (49293)	O-ETHYL O-METHY S-PROPY _HIOATE WAT FLT REC (UG/L) (61660)	ORY- ZALIN, WATER, FLTRD GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD GF 0.7U REC (UG/L) (38866)	OXY- FLUOR- FEN WATER FLTRD REC (UG/L) (61600)	P, P' DDE DISSOLV (UG/L) (34653)	PARA- OXON ETHYL WATER FLTRD REC (UG/L) (61663)	PARA- OXON METHYL WATER FLTRD REC (UG/L) (61664)	
OCT									
04...	--	--	--	--	--	--	--	--	
09...	e.01	<.008	<.02	<.01	<.007	.007	<.008	<.03	
31...	--	--	--	--	--	--	--	--	
NOV									
06...	e.09	--	<.02	<.01	--	.005	--	--	
DEC									
04...	e.01	--	<.02	<.01	--	<.003	--	--	
JAN									
17...	e.11	--	<.02	<.01	--	<.003	--	--	
30...	e.02	--	<.02	<.01	--	e.003	--	--	
FEB									
07...	e.04	--	<.02	<.01	--	e.004	--	--	
28...	e.05	--	<.02	<.01	--	.004	--	--	
MAR									
13...	e.03	--	<.02	<.01	--	e.004	--	--	
27...	e.05	--	<.02	<.01	--	.005	--	--	
APR									
09...	e.03	--	<.02	<.01	--	.009	--	--	
23...	e.03	--	<.02	.03	--	.010	--	--	
MAY									
06...	e.03	--	<.02	<.01	--	.006	--	--	
20...	e.01	--	<.02	<.01	--	<.003	--	--	
JUN									
12...	e.02	--	<.02	<.01	--	.009	--	--	
26...	e.01	--	<.02	<.01	--	.011	--	--	
JUL									
10...	e.01	--	<.02	<.01	--	.011	--	--	
25...	<.02	--	<.02	<.01	--	.010	--	--	
AUG									
07...	<.02	--	<.02	<.01	--	.011	--	--	
SEP									
11...	e.01	--	<.02	<.01	--	.004	--	--	

< Actual value is known to be less than the value shown.
e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	PARA- THION, DIS- SOLVED	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (39542)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE OXON WATER FLTRD 0.7 U REC (UG/L) (61666)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PHOSMET OXON WATER FLTRD 0.7 U REC (UG/L) (61668)	PHOSMET WATER FLTRD 0.7 U REC (UG/L) (61601)	PHOSTE- BUIRIM WATER FLTRD 0.7 U REC (UG/L) (61602)
	OCT								
04...	--	--	--	--	--	--	--	--	--
09...	<.007	<.002	<.010	<.006	<.10	<.011	<.06	<.008	<.005
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.007	<.002	<.010	<.006	--	<.011	--	--	--
DEC									
04...	<.007	<.002	<.010	<.006	--	<.011	--	--	--
JAN									
17...	<.010	<.004	<.022	<.006	--	<.011	--	--	--
30...	<.007	<.002	<.010	<.006	--	<.011	--	--	--
FEB									
07...	<.010	<.004	<.022	<.006	--	<.011	--	--	--
28...	<.010	<.004	<.022	<.006	--	<.011	--	--	--
MAR									
13...	<.010	<.004	<.022	<.006	--	<.011	--	--	--
27...	<.010	<.004	e.011	<.006	--	<.011	--	--	--
APR									
09...	<.010	<.004	e.019	<.006	--	<.011	--	--	--
23...	<.010	<.004	.036	<.006	--	<.011	--	--	--
MAY									
06...	<.010	<.004	.024	<.006	--	<.011	--	--	--
20...	<.010	<.004	<.022	<.006	--	<.011	--	--	--
JUN									
12...	<.010	<.004	e.012	<.006	--	<.011	--	--	--
26...	<.010	<.004	.262	<.006	--	<.011	--	--	--
JUL									
10...	<.010	<.004	.492	<.006	--	<.011	--	--	--
25...	<.010	<.004	.386	<.006	--	<.011	--	--	--
AUG									
07...	<.010	<.004	.158	<.006	--	<.011	--	--	--
SEP									
11...	<.010	<.004	e.014	<.006	--	<.011	--	--	--

DATE	PIC- LORAM, WATER, FLTRD GF 0.7U REC (UG/L) (49291)	PRO- FENOFOS WATER FLTRD REC (UG/L) (61603)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA- CHLOR, WATER, FLTRD DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO- PARGITE WATER FLTRD 0.7 U REC (UG/L) (61604)
	OCT								
04...	--	--	--	--	--	--	--	--	--
09...	<.02	<.006	<.01	<.005	<.004	<.010	<.011	<.02	<.004
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
DEC									
04...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
JAN									
17...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
30...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
FEB									
07...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
28...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
MAR									
13...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
27...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
APR									
09...	<.02	--	<.01	--	<.004	<.010	<.011	.03	--
23...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
MAY									
06...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
20...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
JUN									
12...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
26...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
JUL									
10...	<.02	--	<.01	--	<.004	<.010	<.011	<.02	--
25...	<.02	--	<.01	--	<.004	<.010	<.011	1.27	--
AUG									
07...	<.02	--	<.01	--	<.004	<.010	<.011	5.11	--
SEP									
11...	<.02	--	<.01	--	<.004	<.010	<.011	.05	--

< Actual value is known to be less than the value shown.
e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	PRO- PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP- ICONA- ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO- POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO- MET- RURON METHYL WTR FLT REC (UG/L) (50337)	SULFO- TEPP WATER FLTRD REC (UG/L) (61605)	SUL- PROFOS WATER FLTRD REC (UG/L) (38716)	TEBUIR IMPHOS OXYGEN ANALOG WAT FLT REC (UG/L) (61669)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.010	<.02	<.008	M	e.007	<.009	<.003	<.02	<.006
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.010	<.02	<.008	<.02	.775	<.009	--	--	--
DEC									
04...	<.010	<.02	<.008	<.02	.014	<.009	--	--	--
JAN									
17...	<.010	<.02	.020	<.02	.152	e.008	--	--	--
30...	<.010	<.02	<.008	<.02	.049	<.009	--	--	--
FEB									
07...	<.010	<.02	e.005	<.02	.079	<.009	--	--	--
28...	<.010	<.02	e.003	<.02	.086	<.009	--	--	--
MAR									
13...	<.010	<.02	.070	<.02	.052	<.009	--	--	--
27...	<.010	<.02	<.008	<.02	.058	e.004	--	--	--
APR									
09...	<.010	<.02	.012	<.02	.064	<.009	--	--	--
23...	<.010	<.02	<.008	<.02	.054	<.009	--	--	--
MAY									
06...	<.010	<.02	.015	<.02	.053	<.009	--	--	--
20...	<.010	<.02	<.008	<.02	.013	<.009	--	--	--
JUN									
12...	<.010	<.02	.037	.02	.046	<.009	--	--	--
26...	<.010	<.02	<.008	<.02	.062	<.009	--	--	--
JUL									
10...	<.010	<.02	e.006	<.02	.013	<.009	--	--	--
25...	<.010	<.02	<.008	<.02	<.005	<.009	--	--	--
AUG									
07...	<.010	<.02	e.005	<.02	.039	<.009	--	--	--
SEP									
11...	<.010	<.02	<.008	e.01	.107	<.009	--	--	--
DATE	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TEFLU- THRIN METAB- OLITE R119364 FLT REC (UG/L) (61671)	TEFLU- THRIN METAB- OLITE R152912 FLT REC (UG/L) (61672)	TEFLU- THRIN WATER FLTRD REC (UG/L) (61606)	TEME- PHOS WATER FLTRD REC (UG/L) (61607)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TER- BUFOS O-ANA- LOGUE WAT FLT REC (UG/L) (61674)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	<.006	<.02	<.01	<.008	<.3	<.010	<.034	<.02	<.07
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	<.006	--	--	--	--	<.010	<.034	<.02	--
DEC									
04...	<.02	--	--	--	--	<.010	<.034	<.02	--
JAN									
17...	e.006	--	--	--	--	<.010	<.034	<.02	--
30...	<.02	--	--	--	--	<.010	<.034	<.02	--
FEB									
07...	e.005	--	--	--	--	<.010	<.034	<.02	--
28...	e.003	--	--	--	--	<.010	<.034	<.02	--
MAR									
13...	<.02	--	--	--	--	<.010	<.034	<.02	--
27...	<.02	--	--	--	--	<.010	<.034	<.02	--
APR									
09...	<.02	--	--	--	--	<.010	<.034	<.02	--
23...	<.02	--	--	--	--	<.010	<.034	<.02	--
MAY									
06...	e.01	--	--	--	--	<.010	<.034	<.02	--
20...	<.02	--	--	--	--	<.010	<.034	<.02	--
JUN									
12...	<.02	--	--	--	--	<.010	<.034	<.02	--
26...	<.02	--	--	--	--	<.010	<.034	<.02	--
JUL									
10...	<.02	--	--	--	--	<.010	<.034	<.02	--
25...	<.02	--	--	--	--	<.010	<.034	<.02	--
AUG									
07...	<.02	--	--	--	--	<.010	<.034	<.02	--
SEP									
11...	<.02	--	--	--	--	<.010	<.034	<.02	--

< Actual value is known to be less than the value shown.

M Presence of material verified, but not quantified.

e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TER- BUTHYL- AZINE, WATER, DISS, REC (UG/L) (04022)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRANS- CARBOX- YATE WATER FLTRD REC (UG/L) (79843)	TRANS- PROPI- CONA- ZOLE WAT FLT REC (UG/L) (79847)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- BENURON METHYL WATER FLTRD REC (UG/L) (61159)	TRIBU- PHOS WATER FLTRD REC (UG/L) (61610)	TRI- CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT									
04...	--	--	--	--	--	--	--	--	--
09...	U	<.005	<.03	<.01	<.002	<.009	<.004	.03	e.008
31...	--	--	--	--	--	--	--	--	--
NOV									
06...	U	<.005	--	--	<.002	<.009	--	<.02	e.005
DEC									
04...	U	<.005	--	--	<.002	<.009	--	.04	e.001
JAN									
17...	U	<.005	--	--	<.002	--	--	.04	<.009
30...	U	<.005	--	--	<.002	--	--	<.02	.009
FEB									
07...	U	<.005	--	--	<.002	--	--	<.02	.010
28...	U	<.005	--	--	<.002	--	--	.03	e.007
MAR									
13...	U	<.005	--	--	<.002	--	--	<.02	<.009
27...	U	<.005	--	--	<.002	--	--	<.02	.014
APR									
09...	--	<.005	--	--	<.002	--	--	<.02	.011
23...	--	<.005	--	--	<.002	--	--	<.02	.036
MAY									
06...	--	<.005	--	--	<.002	<.009	--	e.01	.020
20...	--	<.005	--	--	<.002	--	--	<.02	.025
JUN									
12...	--	.005	--	--	<.002	--	--	<.02	.050
26...	--	<.005	--	--	<.002	--	--	<.02	.051
JUL									
10...	--	<.005	--	--	<.002	--	--	.03	.043
25...	--	<.005	--	--	<.002	--	--	.03	.043
AUG									
07...	--	<.005	--	--	<.002	--	--	.03	.014
SEP									
11...	--	<.005	--	--	<.002	--	--	<.02	e.004

DATE	UREA 3 (4-CHLOROPHENYL METHYL WAT FLT REC (UG/L) (61692)	Z-DI-METHO-MORPH WATER FLTRD REC (UG/L) (79845)	DICHLOR VOS, WATER FLTRD REC (UG/L) (38775)
OCT			
04...	--	--	--
09...	<.02	<.05	<.01
31...	--	--	--
NOV			
06...	<.02	--	--
DEC			
04...	<.02	--	--
JAN			
17...	<.02	--	--
30...	<.02	--	--
FEB			
07...	<.02	--	--
28...	<.02	--	--
MAR			
13...	<.02	--	--
27...	<.02	--	--
APR			
09...	<.02	--	--
23...	<.02	--	--
MAY			
06...	<.02	--	--
20...	<.02	--	--
JUN			
12...	<.02	--	--
26...	<.02	--	--
JUL			
10...	<.02	--	--
25...	<.02	--	--
AUG			
07...	<.02	--	--
SEP			
11...	<.02	--	--

U Material specifically analyzed for, but not detected.
 < Actual value is known to be less than the value shown.
 e Estimated.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
04...SS	1500	11	20.5	239	7.1	97
09...SS	1140	31	18.5	126	10.5	97
31...SS	1540	78	17.0	125	26.3	95
NOV						
06...SS	1030	31	15.5	99	8.3	98
DEC						
04...SS	0940	48	9.5	34	4.4	79
JAN						
17...SS	1210	.39	6.0	20	.02	99
30...SS	1120	2.2	4.5	23	.14	98
FEB						
07...SS	1020	86	9.5	186	43.2	93
28...SS	1230	15	14.0	57	2.3	97
MAR						
13...SS	1240	20	14.0	52	2.8	96
27...SS	1150	10	15.0	39	1.1	98
APR						
09...SS	1130	--	16.5	94	--	95
23...SS	1050	9.2	17.0	218	5.4	99
MAY						
06...SS	1150	4.1	19.5	100	1.1	98
20...SS	1230	8.3	17.0	80	1.8	99
JUN						
12...SS	1130	12	22.0	230	7.5	99
26...SS	1050	16	23.0	363	15.7	98
JUL						
10...SS	1130	12	25.0	291	9.4	96
25...SS	1300	18	22.5	773	37.6	97
AUG						
07...SS	0920	19	19.5	191	9.8	94
SEP						
11...SS	1220	3.3	20.5	101	.90	92

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
22...*	1712	.80	821	21.5	1.00
22...*	1713	1.00	820	21.5	3.00
22...*	1714	1.78	820	21.5	5.00
22...*	1715	2.22	814	21.5	7.00
22...*	1716	2.32	814	21.5	9.00
22...*	1717	2.20	813	21.5	11.0
22...*	1718	2.11	812	21.5	13.0
22...*	1719	1.71	809	21.5	15.0
22...*	1720	.80	808	21.0	17.0
22...*	1721	.35	810	21.0	19.0
JUL					
29...*	1320	.20	700	23.5	1.00
29...*	1321	.60	700	23.5	3.00
29...*	1322	1.41	700	23.5	5.00
29...*	1323	1.87	699	23.5	7.00
29...*	1324	2.22	699	23.5	9.00
29...*	1325	2.28	699	23.5	11.0
29...*	1326	2.20	699	23.5	13.0
29...*	1327	1.53	700	23.5	15.0
29...*	1328	1.08	700	23.5	17.0
29...*	1329	.42	699	23.5	19.0

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

* Instantaneous discharge at time of cross-sectional measurement: 12 ft³/s, Apr. 22; 12 ft³/s, July 29.

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	944	880	752	733	638	562	583	506	---	---	783	641
2	1020	907	757	733	691	601	672	508	---	---	781	689
3	1010	937	744	729	655	604	599	415	---	---	797	625
4	980	752	777	728	655	622	529	425	953	482	742	705
5	818	723	783	748	674	585	576	529	770	572	735	724
6	749	716	773	741	676	592	640	544	815	464	---	---
7	797	741	781	770	698	603	626	527	778	547	895	698
8	808	685	795	780	655	581	645	554	727	510	795	723
9	693	670	969	723	690	632	582	521	735	648	833	765
10	687	674	723	688	685	648	606	508	769	559	807	745
11	691	679	688	671	744	637	586	498	854	568	797	728
12	---	---	674	629	746	621	563	520	715	556	864	705
13	---	---	670	634	707	613	550	511	740	486	859	629
14	---	---	677	656	722	639	555	521	780	643	757	709
15	---	---	684	663	710	658	560	536	759	582	803	742
16	731	695	686	649	688	658	559	543	725	491	956	803
17	753	729	658	632	686	630	575	554	689	566	1040	956
18	739	718	682	630	671	636	662	575	703	543	1030	948
19	761	739	669	649	701	609	662	533	704	629	985	944
20	776	759	695	647	722	615	546	531	673	624	982	932
21	792	776	706	647	664	548	570	537	651	628	969	880
22	796	788	706	654	708	584	594	570	---	---	935	898
23	790	727	759	648	640	584	601	584	772	603	968	693
24	737	696	757	624	651	597	738	600	782	609	820	719
25	717	694	674	614	650	568	797	738	755	634	826	761
26	714	707	714	602	661	590	840	787	643	628	864	826
27	777	709	648	590	689	541	855	834	740	633	888	848
28	777	742	671	610	716	526	850	825	737	629	912	882
29	778	749	675	595	710	550	845	823	---	---	901	871
30	758	731	671	600	685	505	840	802	---	---	871	779
31	752	724	---	---	552	505	853	822	---	---	850	771
MONTH	---	---	969	590	746	505	855	415	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	790	738	777	722	896	717	666	639	819	740	842	791
2	829	790	730	671	734	677	667	626	819	681	967	817
3	802	729	702	655	758	671	683	658	682	601	952	864
4	867	802	743	698	812	700	678	646	701	596	910	889
5	864	762	723	678	796	766	659	634	711	630	952	838
6	810	759	714	651	815	789	665	649	736	696	959	914
7	889	798	747	666	826	805	667	650	778	728	957	933
8	---	875	793	726	812	786	657	622	788	728	1020	925
9	---	---	805	748	786	779	664	519	762	720	1040	912
10	---	---	759	734	787	778	594	511	804	745	940	851
11	---	---	781	729	787	734	607	554	800	709	916	834
12	---	---	753	711	738	730	606	565	857	712	959	853
13	---	---	713	653	832	734	748	606	778	639	978	910
14	---	---	712	635	833	738	751	682	802	704	968	891
15	---	---	698	636	792	723	701	607	859	775	956	917
16	968	---	692	618	769	736	679	598	864	683	965	946
17	936	881	712	682	782	729	635	598	758	701	960	835
18	974	910	727	700	730	668	622	601	756	746	835	767
19	910	743	734	712	685	663	648	622	822	756	876	749
20	792	742	731	707	717	685	660	638	882	822	872	807
21	862	782	707	658	737	717	695	650	878	836	820	807
22	852	622	687	657	735	718	705	675	894	807	901	820
23	696	612	720	663	718	670	725	675	966	862	911	876
24	777	696	725	668	735	674	729	700	920	734	884	846
25	814	777	752	663	761	734	738	660	757	691	910	884
26	804	770	772	733	755	656	738	632	772	681	965	906
27	773	722	762	740	667	658	738	697	861	772	982	911
28	722	711	780	730	662	638	763	670	800	760	957	908
29	713	693	791	731	646	609	677	652	878	775	918	871
30	749	710	800	731	657	643	694	626	920	835	922	833
31	---	---	761	712	---	---	791	694	862	776	---	---
MONTH	---	---	805	618	896	609	791	511	966	596	1040	749

11274538 ORESTIMBA CREEK AT RIVER ROAD, NEAR CROWS LANDING, CA—Continued

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	19.5	18.0	16.0	11.5	11.0	13.0	12.0	---	3.5	14.0	11.0
2	23.0	19.5	17.5	16.0	11.0	10.5	13.0	12.5	---	---	13.5	9.5
3	23.0	19.5	17.0	16.0	11.0	10.0	13.0	11.5	---	---	14.5	11.5
4	23.0	19.0	18.0	15.5	11.0	9.5	12.0	11.0	9.5	5.5	15.0	11.0
5	22.0	18.5	18.0	16.0	10.5	10.0	11.0	10.0	9.5	7.5	15.0	11.0
6	22.0	19.5	17.0	15.5	11.5	9.5	11.0	10.5	10.0	7.5	---	---
7	20.5	18.0	16.0	13.5	12.0	11.0	11.0	10.0	11.5	9.5	15.5	---
8	21.0	18.5	14.0	12.0	11.5	10.5	12.0	9.5	11.0	10.0	13.5	10.5
9	21.0	18.5	15.5	12.0	10.5	9.5	13.0	11.5	10.5	8.5	13.0	9.5
10	19.5	17.0	16.5	15.0	9.5	7.5	12.5	11.0	12.0	8.5	14.0	12.0
11	19.0	17.0	17.5	16.0	9.0	8.0	12.0	11.0	12.0	10.0	15.5	12.0
12	---	15.5	17.0	16.0	10.0	8.5	11.5	10.5	13.0	10.0	17.0	14.0
13	---	---	16.5	15.5	10.0	8.0	11.0	10.5	12.0	11.0	15.0	12.5
14	---	---	16.5	15.5	9.5	8.5	10.5	9.0	12.5	10.0	14.0	10.0
15	21.0	---	17.0	15.5	8.5	6.0	9.0	7.0	13.0	11.0	12.5	8.5
16	21.0	19.0	16.5	15.0	8.0	6.0	7.5	5.5	13.0	11.0	13.0	10.0
17	21.0	19.0	16.0	15.0	8.0	7.0	7.0	4.5	12.5	11.5	11.5	9.5
18	21.0	19.0	15.5	14.5	9.0	7.0	6.5	4.5	12.5	10.0	13.0	8.5
19	20.5	18.5	15.5	14.0	9.0	7.5	6.5	4.5	12.5	12.0	12.5	9.0
20	20.5	18.0	15.5	14.5	9.0	8.0	7.0	5.5	14.5	11.5	15.5	10.0
21	20.0	18.0	15.0	14.5	10.0	8.0	7.5	5.5	15.0	12.5	17.5	12.5
22	19.5	17.5	15.5	14.5	10.0	9.0	7.5	6.5	---	---	16.5	13.5
23	19.5	17.5	15.0	13.5	10.0	9.0	7.0	5.0	15.0	12.5	16.5	14.5
24	18.5	15.5	14.5	13.5	10.0	8.0	6.5	4.5	15.0	11.5	16.5	13.5
25	18.0	15.0	13.5	12.0	10.0	8.5	7.0	4.5	15.0	11.5	15.5	12.5
26	18.5	16.0	12.5	11.5	10.5	9.5	7.5	6.0	15.0	11.5	17.0	13.5
27	18.5	17.0	12.0	10.0	10.5	9.5	8.0	6.5	---	12.0	17.5	13.5
28	18.5	16.5	10.5	10.0	10.5	10.0	7.5	5.5	15.5	12.0	18.0	14.5
29	18.0	17.0	11.0	9.5	11.0	10.0	7.5	5.5	---	---	19.5	15.5
30	18.5	17.5	11.5	10.0	12.0	11.0	6.5	4.5	---	---	20.5	15.5
31	18.5	16.5	---	---	12.5	11.5	6.0	3.5	---	---	21.0	15.0
MONTH	---	---	18.0	9.5	12.5	6.0	13.0	3.5	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22.5	16.5	20.0	14.0	25.0	21.5	28.5	24.0	27.0	21.5	24.5	21.0
2	22.5	17.5	19.5	15.0	23.5	20.0	29.5	24.5	25.5	23.0	26.0	21.0
3	22.0	16.5	19.0	17.0	23.5	19.0	27.0	22.5	25.5	23.5	25.5	21.0
4	19.0	15.5	20.5	16.0	24.5	20.0	26.5	21.0	24.5	22.0	24.5	21.5
5	20.0	16.0	20.5	17.5	26.5	22.0	27.0	21.0	23.5	21.5	21.5	19.0
6	20.5	15.5	22.0	17.5	27.0	22.5	26.5	21.5	23.0	19.5	21.5	19.0
7	21.0	14.5	21.5	16.5	26.0	20.5	26.5	22.5	23.5	19.5	20.5	16.5
8	24.5	16.0	20.5	15.0	23.5	19.0	26.0	21.5	24.5	19.5	19.5	16.5
9	---	---	19.5	15.0	21.0	16.0	26.5	21.5	25.5	20.5	21.5	17.5
10	---	---	19.0	16.0	24.5	17.0	29.0	24.0	25.5	22.0	21.5	19.0
11	---	---	20.0	16.0	24.5	19.5	29.0	25.5	25.5	22.5	23.0	19.5
12	---	---	22.0	16.0	24.5	20.5	29.5	25.0	25.5	21.5	23.5	19.0
13	---	---	22.0	17.0	25.0	21.0	29.0	23.5	25.5	23.0	24.5	18.5
14	---	---	22.5	16.0	23.5	20.5	28.5	23.5	25.5	23.5	22.5	19.0
15	---	---	21.5	16.5	23.5	20.0	26.5	23.0	25.5	23.0	22.5	19.5
16	17.5	14.0	22.5	18.5	24.5	20.0	26.0	21.5	25.5	23.0	22.0	18.0
17	17.0	13.5	24.0	17.0	24.0	19.5	25.5	22.0	25.0	22.0	22.5	19.5
18	16.5	12.0	23.5	17.0	26.0	22.0	25.5	22.0	24.5	20.0	22.5	19.0
19	17.5	11.0	21.0	16.5	25.0	22.0	27.0	22.5	23.5	20.0	23.0	20.0
20	20.0	12.5	19.0	16.0	26.0	21.0	27.0	23.5	22.5	19.5	23.5	21.0
21	21.0	13.0	20.0	15.5	27.0	20.5	27.5	23.5	22.5	19.0	24.5	21.0
22	21.5	14.0	21.0	14.5	25.5	19.5	28.0	21.5	22.5	20.0	23.0	20.0
23	22.5	16.5	21.0	15.0	26.5	20.0	27.0	22.0	23.0	18.0	23.0	20.5
24	23.0	16.0	24.5	17.0	29.5	19.0	26.5	22.0	23.5	18.0	23.0	20.5
25	20.5	15.5	23.5	18.0	28.5	20.5	26.0	21.5	24.0	19.0	23.5	20.5
26	19.5	16.5	24.5	18.0	26.5	21.5	26.5	21.0	25.5	19.0	22.0	19.0
27	17.0	14.5	24.5	18.0	27.0	21.5	27.0	22.0	27.0	19.5	21.0	19.5
28	18.5	13.5	25.0	19.0	27.0	22.5	25.5	22.5	27.5	20.5	19.5	18.0
29	19.0	14.5	27.0	20.0	26.0	22.0	24.5	22.5	24.0	20.5	22.0	17.0
30	18.0	13.5	28.5	22.0	27.5	23.0	25.5	21.5	23.5	20.5	19.5	15.5
31	---	---	27.5	22.0	---	---	25.5	22.0	24.0	20.5	---	---
MONTH	---	---	28.5	14.0	29.5	16.0	29.5	21.0	27.5	18.0	26.0	15.5

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 with crest-stage gages. Datum of gage is sea level.

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, 38,000 ft³/s, Jan. 28, 1997, gage height, 59.23 ft, from rating curve extended above 32,100 ft³/s; minimum daily, 294 ft³/s, Sept. 28, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	1180	959	2020	747	831	696	878	449	511	436	348
2	367	1130	986	2030	744	839	669	1090	489	465	411	403
3	355	1070	992	2010	738	899	647	1320	564	421	387	342
4	379	1060	1030	2230	774	887	614	1440	593	419	409	331
5	412	1050	1090	2270	771	883	580	1520	583	399	436	323
6	450	1020	1130	2270	793	894	569	1550	508	430	424	343
7	437	1000	1130	1960	825	928	630	1530	457	473	443	355
8	483	1010	1100	1660	799	954	658	1500	424	475	429	369
9	477	1030	1050	1470	801	969	627	1330	422	454	400	346
10	475	1080	1020	1340	829	1000	615	1250	458	413	351	354
11	457	1100	998	1250	833	983	603	1190	425	376	364	364
12	452	1120	985	1170	812	937	609	1230	419	378	394	383
13	458	1110	915	1090	789	910	633	1250	422	313	342	350
14	499	1130	871	1030	758	861	629	1070	461	379	347	358
15	558	1160	828	985	754	803	670	936	491	369	338	399
16	588	1180	795	927	763	805	690	781	512	361	351	391
17	621	1160	782	882	770	819	710	671	542	318	370	333
18	792	1140	769	841	787	890	706	605	476	352	434	331
19	984	1110	760	810	811	886	754	572	464	342	478	366
20	1040	1070	771	775	871	898	752	650	451	398	463	322
21	1080	1020	823	772	880	901	781	650	446	401	422	326
22	1120	990	839	783	861	868	787	652	446	392	451	307
23	1110	958	849	758	864	885	822	637	495	398	403	345
24	1090	930	852	733	862	871	837	601	482	427	438	344
25	1130	944	846	726	846	912	810	604	470	435	426	341
26	1130	989	826	712	821	869	776	642	518	444	495	337
27	1150	992	812	702	813	794	814	667	524	444	456	311
28	1130	1020	808	699	805	782	836	620	496	460	425	294
29	1120	1030	887	709	---	768	851	577	496	460	394	352
30	1140	978	1220	728	---	719	813	550	493	447	382	378
31	1170	---	1800	740	---	734	---	487	---	455	351	---
TOTAL	23047	31761	29523	37082	22521	26979	21188	29050	14476	12809	12650	10446
MEAN	743.5	1059	952.4	1196	804.3	870.3	706.3	937.1	482.5	413.2	408.1	348.2
MAX	1170	1180	1800	2270	880	1000	851	1550	593	511	495	403
MIN	355	930	760	699	738	719	569	487	419	313	338	294
AC-FT	45710	63000	58560	73550	44670	53510	42030	57620	28710	25410	25090	20720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MEAN	1249	1006	1467	4785	7672	4210	3262	3000	2298	1679	760.0	722.4
MAX	2338	1228	4364	25600	23390	10130	13980	12090	11890	8176	1757	1842
(WY)	1996	1999	1997	1997	1997	1998	1998	1998	1998	1998	1998	1998
MIN	648	751	687	940	804	870	706	937	483	413	408	348
(WY)	1998	1998	2000	2001	2002	2002	2002	2002	2002	2002	2002	2002

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1996 - 2002

ANNUAL TOTAL	321886	271532	
ANNUAL MEAN	881.9	743.9	2648
HIGHEST ANNUAL MEAN			6775
LOWEST ANNUAL MEAN			744
HIGHEST DAILY MEAN	2720	Mar 8	2270
LOWEST DAILY MEAN	317	Sep 22	294
ANNUAL SEVEN-DAY MINIMUM	344	Sep 19	326
MAXIMUM PEAK FLOW			2330
MAXIMUM PEAK STAGE			42.68
ANNUAL RUNOFF (AC-FT)	638500	538600	1918000
10 PERCENT EXCEEDS	1400	1130	6380
50 PERCENT EXCEEDS	854	740	963
90 PERCENT EXCEEDS	432	365	519

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 1996 to current year.

CHEMICAL DATA: October 2000 to November 2001 (discontinued).

SPECIFIC CONDUCTANCE: January 1996 to current year.

WATER TEMPERATURE: January 1996 to current year.

SEDIMENT DATA: October 2000 to November 2001 (discontinued).

PERIOD OF DAILY RECORD.—January 1996 to current year.

SPECIFIC CONDUCTANCE: January 1996 to current year.

WATER TEMPERATURE: January 1996 to current year.

INSTRUMENTATION.—Water-quality monitor since January 1996.

REMARKS.— Specific conductance records rated excellent except for Oct. 1–3, Nov. 20 to Dec. 5, Dec. 31 to Jan. 13, May 1–15, 20–30, June 10–16, June 19 to July 3, July 19–25, Sept. 17, 19–30, which are rated good; July 4, 5, 7, 9, 10, July 26 to Aug. 2, which are rated fair; and Aug. 3–22, which are rated poor. Water-temperature records are rated excellent except for May 7–15, June 26 to July 10, Aug. 8–22, Sept. 25–30, which are rated good; and May 20–23, 25–30, which are rated fair. Specific conductance and water temperature values are affected by irrigation return flow. Interruptions in record are due to malfunction of the recording instrument. Chemical and Sediment Data for water year 2000 available in the files of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,950 microsiemens, Mar. 30, 2002; minimum recorded, 120 microsiemens, July 11, 12, 16, 1998.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 2, 2002; minimum recorded, 4.0°C, Dec. 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,950 microsiemens, Mar. 30, but may have been higher during periods of missing record; minimum recorded, 411 microsiemens, Jan. 1, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 2; minimum recorded, 7.5°C, Jan. 20, but may have been lower during periods of missing record.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
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OCT									
04...	1030	371	14	.185	.143	757	6.4	--	7.8
18...	1020	773	22	.150	.115	762	7.0	76	8.0
NOV									
01...	1000	1190	14	.108	.079	762	8.8	--	7.9
16...	0920	1190	10	.167	.127	761	7.9	--	7.8

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L) AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)
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OCT									
04...	1350 ¹	21.5	93	260	53.8	31.6	5.05	4	162
18...	846	19.0	49	170	34.6	20.0	3.45	3	102
NOV									
01...	620 ¹	16.0	42	120	24.8	13.6	2.25	3	71.1
16...	840 ¹	15.0	58	170	36.7	20.1	3.72	4	107

DATE	SODIUM PERCENT (00932)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	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)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
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OCT									
04...	57	170	203	.2	19.1	171	60	7	1.08
18...	56	120	123	.2	15.6	100	100	11	.68
NOV									
01...	56	76	87.7	.2	11.5	77.7	58	4	.47
16...	57	120	125	.1	13.6	102	63	6	.69

¹ Laboratory value.

SAN JOAQUIN RIVER BASIN

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)
OCT									
04...	792	757	<.04	.58	.77	1.86	.026	.200	.18
18...	500	476	<.04	.39	.80	1.25	.013	.159	.13
NOV									
01...	346	340	<.04	.26	.57	1.23	.010	.089	.07
16...	506	484	.04	.53	.87	1.24	.014	.138	.12

DATE	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L) AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
OCT							
04...	.330	7.1	.8	12.1	15.7	11	68.9
18...	.310	5.4	2.6	9.2	16.2	22	10.6
NOV							
01...	.185	3.6	.9	3.9	7.8	18	18.9
16...	.240	5.9	1.6	4.0	8.5	23	18.4

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
25...*	1314	1.20	1120	20.5	8.00
25...*	1316	3.50	1120	20.0	24.0
25...*	1318	2.90	1120	20.5	40.0
25...*	1320	2.10	1120	20.5	56.0
25...*	1323	3.70	1120	20.5	72.0
25...*	1325	7.00	1120	20.5	88.0
25...*	1327	7.40	1120	20.5	104
25...*	1330	11.0	1120	20.5	120
25...*	1332	11.2	1120	20.5	136
25...*	1335	6.20	1120	20.5	152
JUL					
29...*	1605	1.43	1280	26.0	9.00
29...*	1606	1.95	1290	26.0	28.0
29...*	1608	1.87	1300	26.0	46.0
29...*	1609	2.11	1300	26.0	65.0
29...*	1611	2.58	1300	26.0	83.0
29...*	1612	2.68	1310	26.0	102
29...*	1614	2.62	1310	26.0	120
29...*	1615	2.52	1310	26.0	139
29...*	1617	2.68	1320	26.5	157
29...*	1618	1.38	1300	26.5	176

< Actual value is known to be less than value shown.

* Instantaneous discharge at time of cross-sectional measurement: 814 ft³/s, Apr. 25; 439 ft³/s, July 29.

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
04...SS	1030	371	21.5	54	54.1	93
18...SS	1020	773	19.0	108	225	90
NOV						
01...SS	1000	1190	16.0	53	170	81
16...SS	0920	1190	15.0	69	222	91

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1210	1150	614	575	1040	984	632	411	---	---	---	---
2	1340	1150	672	587	1010	985	563	462	---	---	---	---
3	1360	1290	679	633	1040	1010	698	562	---	---	---	---
4	---	1200	700	635	1030	974	694	555	---	---	---	---
5	1290	1170	731	700	993	977	555	467	---	---	---	---
6	1200	1140	756	727	983	957	703	499	---	---	---	---
7	1190	1140	766	756	968	940	849	703	---	---	---	---
8	1200	1120	759	729	1000	941	911	849	---	---	---	---
9	1180	1130	747	731	1030	1000	968	911	---	---	---	---
10	1210	1110	780	747	---	---	1030	966	---	---	---	---
11	1170	1130	778	733	---	---	1070	1030	---	---	---	---
12	---	---	780	749	---	---	1120	1070	---	---	---	---
13	---	---	832	780	---	---	1190	1120	---	---	---	---
14	---	---	815	790	---	---	---	---	---	---	---	---
15	---	---	847	811	---	---	---	---	---	---	---	---
16	1060	1010	855	830	---	---	---	---	---	---	1870	1790
17	1080	949	883	855	---	---	1380	1330	---	---	1800	1710
18	949	713	895	881	1240	1200	1430	1380	---	---	1730	1680
19	713	639	913	894	1220	1210	1470	1430	---	---	1750	1700
20	646	612	920	909	1220	1190	1520	1470	---	---	1810	1720
21	638	613	936	912	1190	1170	1540	1520	---	---	1790	1760
22	644	630	944	934	1190	1140	1530	1500	---	---	1840	1730
23	649	631	1000	943	1170	1140	---	---	---	---	1860	1780
24	633	611	1000	990	1170	1140	---	---	---	---	1870	1800
25	623	595	997	953	1180	1150	---	---	---	---	1810	1670
26	628	584	977	942	1180	1170	---	---	---	---	1800	1660
27	603	576	994	976	1180	1160	---	---	---	---	1880	1790
28	627	578	988	948	1170	1150	---	---	---	---	1810	1760
29	629	604	996	956	1170	1100	---	---	---	---	1910	1810
30	612	594	1040	996	1100	544	---	---	---	---	1950	1910
31	611	594	---	---	697	544	---	---	---	---	1920	1740
MONTH	---	---	1040	575	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1870	1770	1080	870	1630	1460	1410	1240	1470	1310	1380	1280
2	1840	1700	870	680	1480	1400	1350	1260	1610	1330	1280	1180
3	1850	1690	680	594	1480	1280	1500	1350	1660	1610	1260	971
4	1860	1770	607	561	1290	1100	1530	1390	1690	1600	989	929
5	1870	1780	665	528	1220	1100	1630	---	1610	1480	1070	976
6	1870	1750	626	564	1390	1190	---	---	1630	1520	1090	1060
7	1760	1430	625	583	1420	1320	1490	1350	1570	1470	1160	1070
8	---	---	614	553	---	---	---	---	1510	1440	1270	1110
9	---	---	726	614	---	---	1450	1380	1610	1400	1320	1130
10	---	---	755	726	1550	1420	1480	1410	1560	1370	1190	1130
11	---	---	772	732	1520	1420	1550	1480	1510	1280	1180	1090
12	1640	1510	744	710	1590	1520	1600	1480	1280	1170	1190	1100
13	1560	1450	756	701	1520	1440	1810	1580	1310	1210	1270	1190
14	1560	1410	860	756	1440	1350	1780	---	1650	1290	1240	1110
15	1440	1250	915	836	1400	1310	---	---	1570	1330	1160	1060
16	1320	1240	---	---	1440	1370	---	---	1400	1270	1110	1050
17	1300	1230	---	---	---	---	---	---	1430	1270	1110	1060
18	1370	1300	---	---	---	---	---	---	1450	1300	---	---
19	1330	1180	---	---	1600	1540	1770	1550	1370	1290	1370	1190
20	1270	1240	---	1080	1560	1490	1610	1470	1390	1340	1530	1290
21	1270	1190	1190	1090	1560	1480	1540	1410	1420	1370	1570	1320
22	1190	1100	1200	1140	1610	1500	1500	1400	1380	1270	1420	1260
23	1120	1060	1200	1120	1600	1400	1490	1380	1450	1280	1310	1150
24	1110	1060	1270	1150	1510	1400	1400	1300	1440	1300	1300	1180
25	1180	1070	1280	1240	1450	1400	1370	1310	1450	1370	1300	1170
26	1210	1100	1240	1150	1400	1310	1430	1330	1370	1170	1270	1190
27	1140	1060	1190	1120	1400	1240	1410	1330	1310	1170	1370	1270
28	1130	1070	1260	1130	1320	1260	1510	1390	1350	1220	1400	1350
29	1110	1060	1300	1260	1410	1300	1480	1320	1350	1250	1390	1280
30	1100	1070	1370	1300	1410	1330	1420	1290	1350	1270	1310	1270
31	---	---	1490	1360	---	---	1340	1220	1380	1300	---	---
MONTH	---	---	---	---	---	---	---	---	1690	1170	---	---

11274550 SAN JOAQUIN RIVER NEAR CROWS LANDING, CA—Continued

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	21.0	16.5	15.0	11.5	11.0	13.0	12.0	---	---	---	---
2	25.0	21.5	16.5	15.0	11.0	10.5	13.0	12.5	---	---	---	---
3	25.0	21.5	17.0	15.0	11.5	10.5	13.5	12.5	---	---	---	---
4	24.0	21.5	17.0	15.0	11.0	10.0	12.5	12.0	---	---	---	---
5	23.0	20.5	17.0	15.5	10.5	10.0	12.0	11.5	---	---	---	---
6	22.0	19.5	16.5	15.5	11.0	10.0	11.5	11.0	---	---	---	---
7	21.5	19.0	16.0	14.5	12.0	11.0	11.0	10.5	---	---	---	---
8	21.0	19.5	15.5	14.0	11.5	11.0	11.5	10.5	---	---	---	---
9	20.5	18.5	16.0	14.5	11.0	10.0	12.5	11.5	---	---	---	---
10	20.0	17.5	15.5	14.5	---	---	12.0	11.5	---	---	---	---
11	19.5	17.5	17.0	15.5	---	---	12.0	11.5	---	---	---	---
12	---	---	16.5	15.5	---	---	11.5	11.0	---	---	---	---
13	---	---	16.0	15.0	---	---	12.0	11.0	---	---	---	---
14	---	---	16.0	15.5	---	---	---	---	---	---	---	---
15	---	---	16.0	15.0	---	---	---	---	---	---	14.5	---
16	21.5	19.5	16.0	15.0	---	---	9.5	---	---	---	15.0	12.5
17	21.0	19.0	15.5	15.0	---	---	9.5	8.0	---	---	13.5	11.5
18	20.5	18.5	15.5	14.5	---	---	9.5	8.0	---	---	12.5	9.5
19	19.5	18.0	15.0	14.0	10.0	9.5	9.5	8.0	---	---	14.0	11.0
20	19.0	17.0	15.0	14.0	10.5	9.5	9.0	7.5	---	---	15.5	12.5
21	18.5	17.0	14.5	14.0	11.0	10.0	9.5	8.0	---	---	17.0	14.5
22	18.0	16.5	15.5	14.5	10.5	10.0	9.5	8.5	---	---	16.5	15.5
23	18.0	16.5	15.0	14.0	11.0	10.0	---	---	---	---	16.5	15.0
24	17.0	15.0	14.5	14.0	10.5	9.5	---	---	---	---	17.0	15.0
25	17.0	14.5	14.0	12.5	10.5	9.5	---	---	---	---	16.5	15.0
26	17.0	15.5	12.5	11.5	11.0	10.0	---	---	---	---	18.0	15.0
27	17.5	15.5	12.0	10.5	10.5	10.5	---	---	---	---	18.5	15.5
28	17.5	15.5	11.0	10.0	11.0	10.5	---	---	---	---	19.0	16.0
29	17.0	16.0	11.0	10.0	11.5	11.0	---	---	---	---	20.5	17.0
30	17.0	16.0	12.0	10.5	12.0	11.5	---	---	---	---	21.0	18.0
31	17.0	15.5	---	---	12.5	11.5	---	---	---	---	21.5	18.5
MONTH	---	---	17.0	10.0	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22.5	19.0	19.0	16.0	27.5	24.5	30.5	26.0	28.5	24.0	28.0	23.0
2	23.0	19.5	19.0	16.0	26.5	23.0	31.5	26.5	29.0	24.5	28.5	23.5
3	22.5	19.5	19.0	16.5	26.0	22.5	30.0	26.0	29.0	24.5	28.5	24.0
4	20.5	19.0	19.5	16.5	27.0	23.0	28.5	24.5	27.0	23.0	26.5	24.0
5	20.5	18.0	20.0	17.0	28.5	24.5	28.5	24.0	26.5	22.5	24.5	21.5
6	21.0	17.5	20.0	17.5	28.5	25.0	29.0	24.5	26.0	22.0	24.5	20.5
7	21.5	18.0	20.0	17.5	27.5	24.0	29.0	25.0	26.0	22.0	23.5	19.5
8	---	19.0	19.0	16.5	---	22.0	27.5	24.0	27.0	22.0	23.5	19.5
9	---	---	20.0	17.0	---	---	29.5	24.0	28.0	23.0	24.5	20.0
10	---	---	20.0	17.5	24.0	18.5	31.0	25.5	28.5	24.0	25.5	21.0
11	21.5	18.5	20.0	17.0	27.0	21.5	31.0	26.5	28.5	24.5	25.5	21.5
12	22.5	18.5	20.5	17.5	27.5	23.0	31.0	26.5	28.5	24.0	26.0	22.0
13	23.0	19.0	21.0	18.0	28.0	23.5	30.5	26.0	29.0	24.5	25.5	21.5
14	24.5	20.5	21.5	18.5	26.5	22.5	30.0	25.5	28.5	24.5	25.0	21.5
15	22.5	19.0	22.5	19.5	27.0	22.5	28.5	25.0	29.0	24.5	24.5	21.5
16	19.5	17.0	---	---	27.0	22.5	28.0	23.0	27.5	24.0	24.0	20.5
17	18.5	17.0	---	---	27.0	22.5	28.0	23.5	27.5	23.5	24.5	20.5
18	18.5	16.0	---	---	28.0	23.5	28.0	23.5	26.5	23.0	24.5	21.0
19	18.0	14.5	---	---	28.0	24.5	29.0	23.5	26.5	23.0	25.5	21.0
20	19.5	15.5	21.0	---	28.0	24.0	29.5	24.5	26.5	22.5	26.0	22.0
21	20.0	16.5	21.0	18.0	28.0	23.5	29.0	24.5	26.0	21.5	26.0	22.0
22	21.0	17.5	22.0	18.0	27.5	23.0	28.5	23.5	26.0	22.0	25.5	22.0
23	22.0	18.5	22.5	17.0	27.5	23.5	28.5	23.5	25.5	21.5	26.0	22.0
24	22.0	19.0	---	---	28.0	23.5	28.0	23.5	25.5	21.0	25.5	22.0
25	21.5	19.0	25.5	---	29.5	24.5	27.5	23.0	26.0	21.5	25.0	21.5
26	20.5	18.5	25.5	21.5	29.0	25.5	27.5	23.0	25.5	22.0	24.5	21.0
27	18.5	17.0	25.5	22.0	29.0	25.0	28.0	24.0	26.0	22.5	23.0	20.5
28	19.0	16.0	26.0	22.0	29.0	25.0	27.5	24.0	27.5	23.0	21.5	19.5
29	18.0	16.5	27.5	23.0	29.0	25.0	27.0	23.0	27.0	23.0	22.0	18.5
30	18.0	16.0	29.0	24.5	30.0	25.5	28.0	23.5	26.5	22.5	22.0	19.0
31	---	---	29.0	25.0	---	---	28.0	24.0	27.5	23.0	---	---
MONTH	---	---	---	---	---	---	31.5	23.0	29.0	21.0	28.5	18.5

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA

LOCATION.—Lat 37°26'09", long 121°01'57", in NW 1/4 NW 1/4 sec.19, T.6 S, R.9 E, Stanislaus County, Hydrologic Unit 18040002, on right bank, 3.0 mi northeast of Crows Landing.

PERIOD OF RECORD.—October 1992 to January 1995, June 2001 to October 2001 (discontinued).

CHEMICAL DATA: October 1992 to December 1994, June 2001 to October 2001 (discontinued).

SPECIFIC CONDUCTANCE: April 1993 to January 1995, June 2001 to October 2001 (discontinued).

WATER TEMPERATURE: April 1993 to January 1995, June 2001 to October 2001 (discontinued).

SEDIMENT DATA: October 1992 to January 1995, June 2001 to October 2001 (discontinued).

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: April 1993 to January 1995.

WATER TEMPERATURE: April 1993 to January 1995.

INSTRUMENTATION.—Water-quality monitor from April 1993 to January 1995.

REMARKS.—Flow consist mainly of irrigation-return water during summer and fall periods.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 3,640 microsiemens, Mar. 1, 2, 1994; minimum recorded, 413 microsiemens, Feb. 8, 1994.

WATER TEMPERATURE: Maximum recorded, 32.0°C, July 7, 1993, July 12, 1994; minimum recorded, 1.5°C, Dec. 10, 11, 1994.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)		
OCT										
02...	1020	2.0	7	.094	.071	757	7.6	7.9		
30...	0950	<.01	--	.124	.094	759	4.0	7.7		
Date	Time	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT										
02...	815	21.0	65	180	34.8	23.0	4.74	3	88.6	
30...	778	17.0	67	180	37.6	21.6	5.08	3	77.9	
Date	Time	ALKA- LINITY WAT. DIS GRAN T. FIELD SODIUM PERCENT (00932)	CHLO- RIDE, DIS- SOLVED CACO3 (MG/L) AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	
OCT										
02...	51	120	139	.1	10.6	61.7	92	8	.61	
30...	47	120	120	.2	8.60	67.3	--	10	.58	
Date	Time	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT										
02...	450	440	.04	.31	.60	1.65	.034	.059	.03	
30...	430	412	e.04	.42	.94	1.03	.024	.092	.07	

< Actual value is known to be less than value shown.

e Estimated.

11274554 SPANISH GRANT COMBINED DRAIN NEAR PATTERSON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT							
02...	.179	3.1	1.8	10.4	6.3	57	15.4
30...	.183	5.1	1.6	4.6	6.7	e10	7.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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, CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
02...SS	1020	2.0	21.0	109	.60	94
30...SS	0950	<.01	17.0	36	<.01	98

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

11274560 HARDING DRAIN AT CARPENTER ROAD, NEAR PATTERSON, CA
(Formerly published as Turlock Irrigation District Lateral No. 5 near Patterson)

LOCATION.—Lat 37°27'52", long 121°01'52", in SE 1/4 SE 1/4 sec.25, T.5 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank, at upstream side of abandoned bridge, upstream of bridge crossing on Carpenter Road, and 7.2 mi east of Patterson.

PERIOD OF RECORD.—April 1992 to December 1994, October 1998 to September 1999, October 2000 to October 2001 (discontinued).

CHEMICAL DATA: April 1992 to November 1994, October 1998 to September 1999, October 2000 to October 2001 (discontinued).

SPECIFIC CONDUCTANCE: April 1992 to December 1994.

WATER TEMPERATURE: April 1992 to December 1994.

SEDIMENT DATA: April 1992 to November 1994, October 1998 to September 1999, June to October 2001 (discontinued).

INSTRUMENTATION.—Water-quality monitor since May 1992.

REMARKS.—No discharge data available due to instrumentation malfunction at gage. Water year 2000 data available in the files of the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	
OCT									
02...	1230	>60	.078	.060	758	7.4	7.8	559	
30...	1200	--	.101	.075	659	6.0	8.0	1040	
Date	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (MG/L AS NA) (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LITY WAT. DIS GRAN T. FIELD CACO3 (MG/L) (29802)
OCT									
02...	22.5	130	36.3	10.2	3.88	2	57.6	48	140
30...	19.0	220	62.8	16.0	9.04	3	113	51	220
Date	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
OCT									
02...	53.5	e.1	29.2	25.4	13	3	.46	338	336
30...	129	.2	46.1	45.3	2	4	.86	632	624
Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
OCT									
02...	1.05	1.7	1.8	7.58	.759	.70	.62	.71	3.4
30...	2.10	3.0	3.3	13.3	1.69	2.58	2.27	2.58	5.2
Date	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO PHYTIN A PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)				
OCT									
02...	.5	5.5	6.3	18	19.3				
30...	.5	4.5	4.5	12	75.3				

> Actual value is known to be greater than value shown.

e Estimated.

11274560 HARDING DRAIN AT CARPENTER ROAD, NEAR PATTERSON, CA—Continued
 (Formerly published as Turlock Irrigation District Lateral No. 5 near Patterson)

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	TEMPER- ATURE WATER (DEG C) (00010)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT				
02...SS	1230	22.5	76	14
30...SS	1200	19.0	81	15

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

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. 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 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, 5,270 ft³/s, Feb. 3, 1998, gage height, 14.92 ft, from rating curve extended above 3,400 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)
Jan. 3	0515	79	3.41

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	10	2.6	1.7	1.3	0.82	0.19	0.00	0.00	0.00
2	0.00	0.00	0.00	9.2	2.4	1.6	1.3	0.79	0.24	0.00	0.00	0.00
3	0.00	0.00	0.00	51	2.3	1.5	1.4	0.74	0.27	0.00	0.00	0.00
4	0.00	0.00	0.00	25	2.1	1.4	1.3	0.70	0.26	0.00	0.00	0.00
5	0.00	0.00	0.00	14	2.1	1.5	1.3	0.65	0.27	0.00	0.00	0.00
6	0.00	0.00	0.00	9.8	2.1	1.5	1.4	0.60	0.25	0.00	0.00	0.00
7	0.00	0.00	0.00	7.6	2.1	1.8	1.4	0.54	0.21	0.00	0.00	0.00
8	0.00	0.00	0.00	6.7	2.4	2.1	1.4	0.48	0.17	0.00	0.00	0.00
9	0.00	0.00	0.00	6.2	2.3	1.9	1.3	0.44	0.13	0.00	0.00	0.00
10	0.00	0.00	0.00	5.8	2.1	2.0	1.4	0.43	0.09	0.00	0.00	0.00
11	0.00	0.00	0.00	5.4	2.0	2.2	1.4	0.41	0.05	0.00	0.00	0.00
12	0.00	0.00	0.00	5.1	2.1	2.0	1.3	0.36	0.01	0.00	0.00	0.00
13	0.00	0.00	0.00	4.8	2.1	1.6	1.2	0.40	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	4.7	2.1	1.4	1.1	0.36	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	4.4	2.1	1.3	0.99	0.31	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	4.1	2.0	1.3	0.98	0.29	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	4.0	3.4	2.3	0.95	0.25	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	3.7	3.4	3.6	0.96	0.21	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	3.7	2.7	2.3	0.91	0.19	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	3.3	2.3	1.7	0.91	0.18	0.00	0.00	0.00	0.00
21	0.00	0.00	14	3.4	2.1	1.4	0.88	0.22	0.00	0.00	0.00	0.00
22	0.00	0.00	6.9	3.3	2.1	1.3	0.79	0.23	0.00	0.00	0.00	0.00
23	0.00	0.00	3.7	3.1	2.1	1.7	0.71	0.21	0.00	0.00	0.00	0.00
24	0.00	0.00	2.3	2.8	1.9	2.0	0.67	0.18	0.00	0.00	0.00	0.00
25	0.00	0.00	1.6	3.0	1.8	1.9	0.64	0.18	0.00	0.00	0.00	0.00
26	0.00	0.00	1.3	3.1	1.8	1.6	0.63	0.17	0.00	0.00	0.00	0.00
27	0.00	0.00	1.1	3.3	1.9	1.4	0.64	0.16	0.00	0.00	0.00	0.00
28	0.00	0.00	1.8	3.1	1.8	1.3	0.68	0.16	0.00	0.00	0.00	0.00
29	0.00	0.00	33	3.5	---	1.3	0.73	0.15	0.00	0.00	0.00	0.00
30	0.00	0.00	30	2.7	---	1.3	0.80	0.16	0.00	0.00	0.00	0.00
31	0.00	---	16	2.6	---	1.3	---	0.17	---	0.00	0.00	---
TOTAL	0.00	0.00	111.70	222.4	62.2	53.2	31.37	11.14	2.14	0.00	0.00	0.00
MEAN	0.000	0.000	3.603	7.174	2.221	1.716	1.046	0.359	0.071	0.000	0.000	0.000
MAX	0.00	0.00	33	51	3.4	3.6	1.4	0.82	0.27	0.00	0.00	0.00
MIN	0.00	0.00	0.00	2.6	1.8	1.3	0.63	0.15	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	222	441	123	106	62	22	4.2	0.00	0.00	0.00

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.134	0.988	3.493	18.69	34.40	24.97	9.237	3.953	1.840	0.345	0.094	0.183
MAX	2.15	9.38	31.8	130	340	218	54.1	31.5	31.3	5.56	2.06	4.48
(WY)	1984	1983	1984	1997	1998	1983	1983	1983	1983	1983	1983	1990
MIN	0.000	0.000	0.000	0.000	0.000	0.062	0.002	0.000	0.000	0.000	0.000	0.000
(WY)	1966	1967	1969	1977	1977	1977	1990	1992	1966	1965	1965	1965

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	877.46		494.15			
ANNUAL MEAN	2.404		1.354		8.054	
HIGHEST ANNUAL MEAN					47.7 1983	
LOWEST ANNUAL MEAN					0.030 1977	
HIGHEST DAILY MEAN	175	Mar 5	51	Jan 3	1870	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jun 23	0.00	Oct 1	0.00	Jul 1 1965
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 23	0.00	Oct 1	0.00	Jul 1 1965
MAXIMUM PEAK FLOW			79	Jan 3	5270	Feb 3 1998
MAXIMUM PEAK STAGE			3.41	Jan 3	14.92	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	1740		980		5840	
10 PERCENT EXCEEDS	5.0		3.0		14	
50 PERCENT EXCEEDS	0.03		0.00		0.15	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

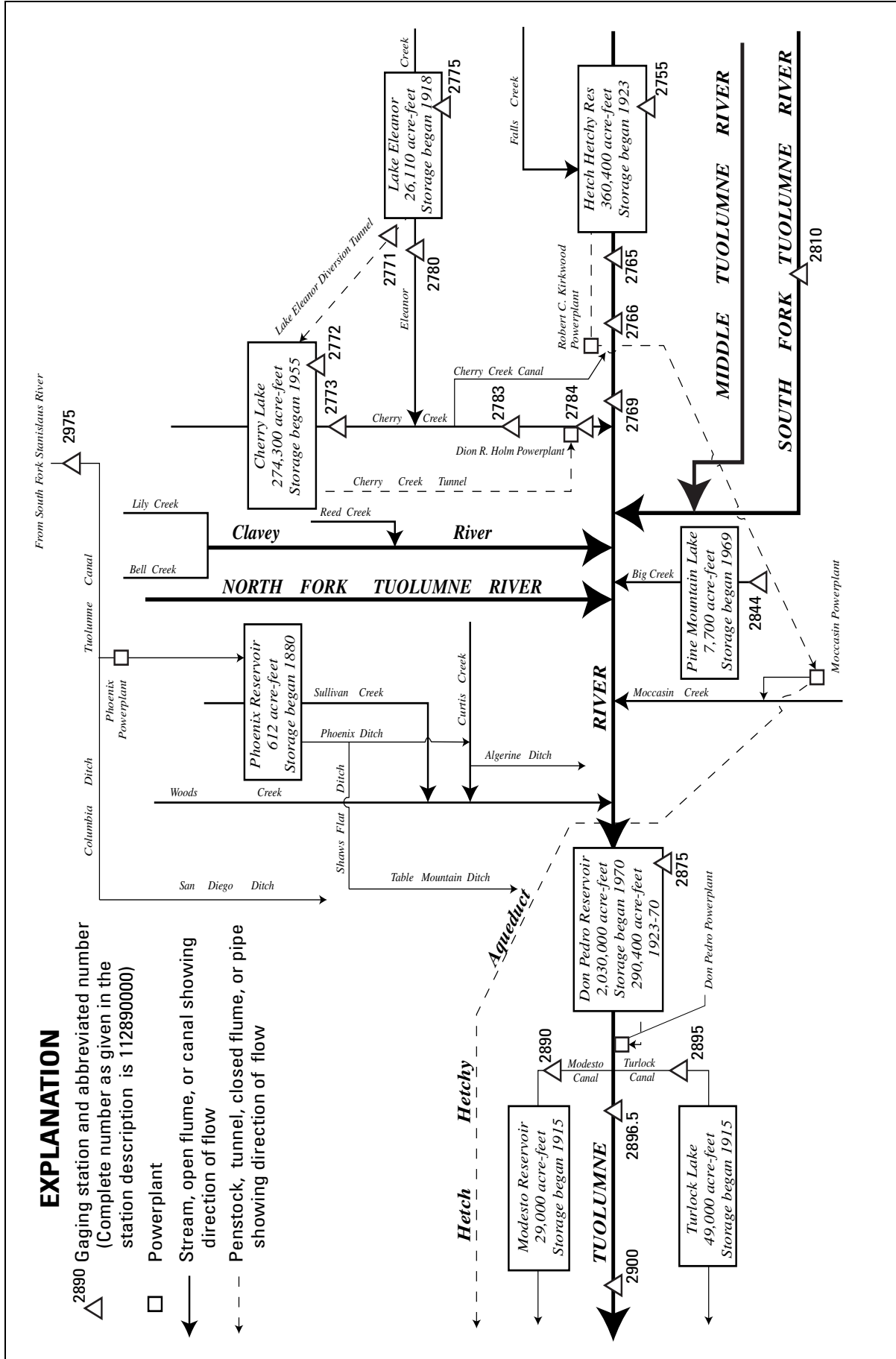


Figure 29. Diversions and storage in Tuolumne River Basin.

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, and 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. Records, including extremes for current year, represent contents at 2400 hours. See schematic diagram of Tuolumne River Basin.

EXTREMES (AT 0800) FOR PERIOD OF RECORD.—Maximum contents, 369,100 acre-ft, Dec. 3, 1950, gage height, 3,810.4 ft; no contents at times in 1929–31.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 362,100 acre-ft, June 14, gage height, 3,807.01 ft; minimum, 112,900 acre-ft, estimated, Mar. 29, minimum gage height unknown.

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	3,540	8,700	3,640	97,000	3,740	238,900
3,513	51	3,560	22,900	3,660	119,900	3,760	273,700
3,515	154	3,580	39,500	3,680	146,200	3,780	310,400
3,520	410	3,600	57,400	3,700	175,000	3,800	348,600
3,530	3,300	3,620	76,500	3,720	206,000	3,810.4	369,100

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252100	221300	202600	191000	145400	e124300	e115900	179500	321200	360000	336800	300800
2	251200	220100	203100	189800	e144300	e124000	e117900	179300	328800	359600	335700	299800
3	249900	219200	203200	188800	e143600	e123500	e120300	179600	334100	359500	334700	298600
4	248700	218400	203000	187100	e142700	e123100	e123700	180900	339400	359400	333600	297500
5	247400	217600	202800	185400	e142000	e122600	e127200	183700	345200	359000	332500	296400
6	246200	216400	202900	183900	e141200	e122300	e130300	187100	351300	358500	331400	295300
7	245100	215700	203000	182400	e140300	e122100	e133400	191400	356500	358100	330200	294300
8	244000	214900	203300	180700	e139300	e121800	e137000	195600	359900	357500	329000	293300
9	242900	214100	203500	178900	e138200	e121600	e140700	199700	361000	357000	327800	292200
10	241900	213300	203400	177000	e137000	e121100	e144300	203000	361000	356300	326700	291000
11	240900	212400	203400	175200	e135900	e120500	e148000	205100	361300	355700	325600	289800
12	239800	211600	203500	173300	e134900	e120000	e152200	208100	361500	354900	324400	288700
13	238700	210700	203600	171400	e133900	e119700	e156600	211300	362000	354400	323200	287500
14	237800	209900	203800	169500	e132800	e119200	e162100	216200	362100	353700	322000	286500
15	236800	209100	203700	167500	e131700	e118600	e167600	221900	361800	353000	320900	285300
16	235900	208200	203700	165400	e130900	e118000	e170300	228100	361600	352200	319700	284000
17	234900	207600	203800	163300	e130000	e117300	171400	235600	361400	351400	318600	e282700
18	234000	206800	203000	161100	e129100	e116700	171700	244100	361500	350500	317400	e281800
19	232900	205800	202100	159100	e128200	e116000	171600	252100	361700	349600	316300	e280900
20	232000	204900	201500	157100	e127300	e115500	171200	257800	361600	348800	315100	e280000
21	231000	204200	200700	155100	e126600	e115200	170600	260800	361300	348000	313900	e278200
22	229900	204600	199900	153100	e126200	e115000	170300	262700	360700	347100	312700	e277300
23	229000	204100	199200	152300	e125700	e114900	170600	264100	360000	346200	311500	e276400
24	228100	205100	198500	151500	e125100	e114900	171800	265800	359700	345200	310300	e275500
25	227200	205200	197700	150700	e124900	e114600	173800	268700	359600	344100	309100	e273700
26	226200	204900	196900	150100	e124600	e114200	176700	273400	359500	343100	308000	e272800
27	225300	204300	195600	149600	e124600	e113500	178300	279200	359700	342200	306800	e271900
28	224400	203700	193900	148900	e124500	e113000	179300	284700	359700	341200	305700	e271000
29	223500	203300	193900	148000	---	e112900	179600	291900	359800	340200	304600	e270100
30	222600	202800	192900	147100	---	e113600	179800	301200	359900	339100	303300	e268400
31	222000	---	192300	146300	---	e114600	---	311100	---	337900	302000	---
MAX	252100	221300	203800	191000	145400	e124300	179800	311100	362100	360000	336800	300800
MIN	222000	202800	192300	146300	e124500	e112900	e115900	179300	321200	337900	302000	e268400
a	3729.86	3717.98	3711.35	3680.07	---	---	3703.13	3780.39	3805.77	3794.48	3775.51	---
b	-30800	-19200	-10500	-46000	-21800	-9900	+65200	+131300	+48800	-22000	-35900	-33600

CAL YR 2001 b -23500

WTR YR 2002 b +15600

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 except for estimated daily discharges, which are fair. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	58	58	112	59	62	68	165	118	e124	128	131
2	57	58	72	121	61	62	73	176	124	e124	128	131
3	57	58	62	131	61	61	73	167	120	133	129	117
4	57	58	57	126	63	61	74	162	168	137	129	106
5	57	58	57	125	64	61	75	163	202	136	132	103
6	57	57	57	124	64	61	75	164	204	135	134	103
7	57	57	57	123	64	62	72	165	200	132	134	105
8	56	55	57	122	63	61	71	167	609	128	133	106
9	56	55	57	121	63	61	71	170	1020	127	133	105
10	55	55	57	120	63	60	72	173	740	126	132	109
11	55	55	57	119	62	60	72	164	546	125	132	110
12	55	56	57	118	62	60	73	166	652	124	132	110
13	55	55	56	117	65	60	107	163	789	124	132	110
14	55	55	57	116	68	60	138	162	1040	126	132	110
15	55	55	56	115	68	60	143	167	959	126	131	110
16	55	55	56	122	65	59	146	172	774	125	133	110
17	55	55	57	128	65	58	148	193	e570	127	135	110
18	55	55	56	127	64	58	148	194	444	129	134	110
19	55	54	56	126	64	58	148	169	521	127	134	110
20	55	55	57	125	64	58	148	163	540	126	134	110
21	55	55	57	124	63	58	147	164	458	125	134	109
22	54	56	57	123	64	58	139	165	290	128	137	109
23	55	55	58	88	63	59	131	166	e169	128	133	109
24	55	58	57	55	62	59	145	166	e164	126	132	109
25	55	57	56	58	62	58	146	168	e159	124	132	102
26	54	56	56	58	63	58	138	170	e152	122	132	93
27	55	55	98	58	63	57	138	171	e152	121	132	88
28	57	55	132	58	62	59	138	163	e137	129	132	87
29	58	56	118	58	---	61	140	163	e124	134	132	86
30	58	56	113	58	---	61	139	139	e124	131	131	86
31	58	---	115	58	---	61	---	101	---	128	131	---
TOTAL	1733	1678	2073	3234	1774	1852	3396	5121	12269	3957	4099	3194
MEAN	55.90	55.93	66.87	104.3	63.36	59.74	113.2	165.2	409.0	127.6	132.2	106.5
MAX	60	58	132	131	68	62	148	194	1040	137	137	131
MIN	54	54	56	55	59	57	68	101	118	121	128	86
AC-FT	3440	3330	4110	6410	3520	3670	6740	10160	24340	7850	8130	6340

e Estimated.

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1987 to current year.

WATER TEMPERATURE: Water years 1987 to current year.

PERIOD OF DAILY RECORD.—August 1987 to current year.

WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.—Water-temperature recorder since August 1987.

REMARKS.—Water-temperature records rated excellent except for Oct. 20 to Apr. 2, May 19 to June 12, Aug. 22–27, which are rated good; and June 13–25, which are rated fair. Water-temperature recorder installed Aug. 13, 1987, located 0.6 mi upstream from gaging station on left bank at road bridge. 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, June 30, 2000; minimum recorded, 4.0°C, Mar. 25, 1991.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 16.5°C, June 19, 20; minimum recorded, 5.5°C, Feb. 18.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- TION, (FEET) (81903)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- TION, CROSS SECTION (FT FM L BANK) (00009)
APR				
17...*	1002	1.00	8.0	1.80
17...*	1004	2.10	8.0	5.40
17...*	1005	2.90	8.0	9.00
17...*	1006	2.70	8.0	12.6
17...*	1007	3.30	8.0	16.2
17...*	1008	2.30	8.0	20.0
17...*	1009	2.70	8.0	23.4
17...*	1010	3.60	8.0	27.0
17...*	1011	1.30	8.0	30.5
17...*	1012	2.60	8.0	34.0
AUG				
22...*	1030	.50	10.0	2.00
22...*	1035	4.00	10.0	6.00
22...*	1037	3.60	10.0	10.0
22...*	1039	3.00	10.0	14.0
22...*	1040	3.00	10.0	18.0
22...*	1042	2.50	10.0	22.0
22...*	1044	3.00	10.0	26.0
22...*	1045	3.50	10.0	30.0
22...*	1046	2.00	10.0	34.0
22...*	1048	2.50	10.0	38.0

* Instantaneous discharge at time of cross-sectional measurement: 147 ft³/s, Apr. 17, 2002; 164 ft³/s, Aug. 22, 2002.

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA—Continued

WATER TEMPERATURE, (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	56	74	203	77	85	92	187	124	132	131	132
2	55	56	193	201	80	84	100	213	144	131	131	131
3	53	55	197	312	79	82	100	203	136	137	131	127
4	52	55	104	220	79	81	99	190	154	143	131	109
5	52	55	85	195	81	81	100	189	213	143	131	102
6	52	55	79	188	81	84	100	189	220	142	136	103
7	53	54	77	185	81	106	99	190	213	141	135	104
8	52	52	74	178	114	115	94	191	408	136	135	105
9	52	52	76	171	100	98	93	192	981	134	135	105
10	51	52	75	164	92	97	93	189	847	133	134	105
11	51	54	72	159	89	99	93	193	540	132	134	109
12	51	61	70	156	87	94	93	187	632	131	134	109
13	51	68	69	152	86	91	98	186	711	129	133	109
14	50	55	78	150	91	89	156	181	986	128	134	109
15	50	53	76	146	92	88	163	185	997	132	134	109
16	50	53	72	145	91	89	168	190	774	130	135	109
17	50	52	76	156	109	91	175	201	619	129	137	109
18	50	53	82	154	104	89	174	220	462	134	137	108
19	50	53	75	152	99	90	173	198	487	133	137	109
20	50	52	83	150	121	92	172	216	540	131	137	108
21	50	56	92	149	108	90	171	223	484	129	137	108
22	50	75	87	150	100	88	168	208	349	129	139	108
23	50	62	97	144	98	113	153	202	204	133	136	108
24	50	98	90	78	94	140	157	197	177	131	135	108
25	50	99	82	76	91	120	171	194	168	128	135	107
26	50	69	79	77	90	108	166	194	165	127	135	96
27	50	63	82	84	89	101	168	197	127	125	135	89
28	50	60	181	84	87	96	166	186	167	127	135	85
29	54	69	301	81	---	96	181	186	134	138	135	85
30	60	69	216	78	---	95	190	182	132	137	134	84
31	58	---	265	77	---	93	---	124	---	134	134	---
TOTAL	1612	1816	3359	4615	2590	2965	4126	5983	12295	4119	4172	3189
MEAN	52.00	60.53	108.4	148.9	92.50	95.65	137.5	193.0	409.8	132.9	134.6	106.3
MAX	65	99	301	312	121	140	190	223	997	143	139	132
MIN	50	52	69	76	77	81	92	124	124	125	131	84
AC-FT	3200	3600	6660	9150	5140	5880	8180	11870	24390	8170	8280	6330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2002, BY WATER YEAR (WY)

	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	1998	1999	2000	2001	2002				
MEAN	53.78	75.39	109.5	186.7	148.2	160.7	270.7	1068	1724	857.8	174.7	85.34																								
MAX	142	552	801	2501	375	814	1564	3339	6142	5424	1319	132																								
(WY)	1987	1987	1997	1997	1998	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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1971 - 2002
ANNUAL TOTAL	36039	50841	
ANNUAL MEAN	98.74	139.3	410.1
HIGHEST ANNUAL MEAN			1584
LOWEST ANNUAL MEAN			53.5
HIGHEST DAILY MEAN	301	Dec 29	997
LOWEST DAILY MEAN	46	Jan 21	50
ANNUAL SEVEN-DAY MINIMUM	47	Jan 3	50
MAXIMUM PEAK FLOW			1140
MAXIMUM PEAK STAGE			15.44
INSTANTANEOUS LOW FLOW			50
ANNUAL RUNOFF (AC-FT)	71480	100800	297100
10 PERCENT EXCEEDS	172	197	961
50 PERCENT EXCEEDS	91	109	85
90 PERCENT EXCEEDS	52	54	42

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1987 to current year.

WATER TEMPERATURE: Water years 1987 to current year.

PERIOD OF DAILY RECORD.—August 1987 to current year.

WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.—Water-temperature recorder since Aug. 12, 1987.

REMARKS.—Water-temperature records rated excellent except for Dec. 10 to Apr. 5, and May 26–30, which are rated good. 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, 23.0°C, July 14, 15; minimum recorded, 2.5°C, Jan. 31.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR				
17...*	1224	.70	10.0	4.00
17...*	1223	1.40	10.0	12.0
17...*	1222	1.00	10.0	20.0
17...*	1221	1.70	10.0	28.0
17...*	1220	3.00	10.0	36.0
17...*	1219	2.60	10.0	44.0
17...*	1218	3.00	10.0	52.0
17...*	1217	1.30	10.0	60.0
17...*	1216	.70	10.0	68.0
17...*	1215	.90	10.0	76.0
AUG				
22...*	1323	1.30	16.5	3.00
22...*	1325	1.60	16.5	9.00
22...*	1326	2.30	16.5	15.0
22...*	1328	3.00	16.5	21.0
22...*	1330	2.70	16.5	27.0
22...*	1331	1.80	16.5	33.0
22...*	1333	2.00	16.5	39.0
22...*	1334	2.30	16.5	45.0
22...*	1335	1.90	16.5	51.0
22...*	1336	1.30	16.5	57.0

* Instantaneous discharge at time of cross-sectional measurement: 175 ft³/s, Apr. 17, 2002; 135 ft³/s, Aug. 22, 2002

SAN JOAQUIN RIVER BASIN

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

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. Records, including extremes, represent contents at 2400 hours. See schematic diagram of [Tuolumne River Basin](#).

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, 273,900 acre-ft, June 6, gage height, 4,702.81 ft; minimum, 192,000 acre-ft, Mar. 29, 30, gage height, 4,654.25 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220400	218600	230400	217700	210300	214400	192600	223700	269800	269100	252000	232500
2	220400	218600	231400	217500	210400	214100	193300	223700	271900	268800	251200	231800
3	220200	218600	231400	217100	210400	213300	194600	224100	273000	268400	250700	231100
4	220400	218300	231400	216300	210200	212500	196300	225100	273800	267800	250400	230300
5	220100	218300	231200	215400	210000	211700	197800	226800	273800	267400	249600	229600
6	219900	218300	230600	215400	209600	211500	199200	228500	273900	267000	248900	228900
7	219600	218300	230200	214800	209200	210800	201100	230200	273700	266600	248300	228400
8	219500	218200	229800	214100	209200	210200	203200	231700	273700	266000	247600	227800
9	219300	218200	229500	213200	209300	209300	205500	233100	273400	265400	246800	227200
10	218800	218200	228900	212400	209600	208500	207700	234100	273100	264700	246300	226600
11	218600	218600	228100	211600	209700	207400	209700	234700	272900	264200	245900	226000
12	218900	219000	227400	210700	209800	206200	211800	236000	273200	263600	245200	225200
13	218900	219500	226800	209900	209800	205000	214100	237300	273700	263100	244600	224800
14	218600	219900	226300	209000	209900	203800	216900	238900	273700	262900	243900	224700
15	218500	220100	226100	208100	210100	202600	218800	240700	273400	262300	243200	224700
16	218400	220200	225700	207700	210400	201500	219200	242600	273100	261700	242500	224300
17	218200	220200	225200	207400	211000	200600	219300	244700	272700	261100	242000	223700
18	218100	220100	224900	206900	211400	199600	219000	247100	272700	260500	241600	223100
19	218000	220100	224300	207300	211600	198800	218500	249600	272900	259800	240900	222400
20	218000	220100	223600	207800	212100	198100	218000	251400	272800	259300	240100	221900
21	217700	220800	222800	208100	212800	197500	217400	252300	272400	259000	239300	221800
22	217700	222500	222300	208100	213300	196900	217200	252300	272100	258400	238500	221600
23	217600	222800	221600	208500	214200	196400	217500	252200	272400	257700	237800	221100
24	217600	226200	221400	208900	214800	195600	218500	252400	272200	257000	237200	220500
25	217600	227600	220600	209200	215100	194800	220000	252800	271800	256400	236800	220000
26	217500	228800	219800	209700	214900	193800	221600	253700	271400	255700	236000	219600
27	217300	229800	219200	210100	214800	192900	222400	255000	270800	255100	235300	219500
28	217100	230400	218700	210400	214800	192300	223300	257200	270200	254700	234600	219400
29	217100	230500	218800	210500	---	192000	223700	260000	269700	254000	234100	219300
30	218200	230200	218400	210400	---	192000	223800	263300	269400	253400	233600	219000
31	218500	---	218300	210400	---	192200	---	266500	---	252700	233000	---
MAX	220400	230500	231400	217700	215100	214400	223800	266500	273900	269100	252000	232500
MIN	217100	218200	218300	206900	209200	192000	192600	223700	269400	252700	233000	219000
a	4670.69	4677.68	4670.57	4665.73	4668.41	4654.42	4673.86	4698.68	4700.30	4690.81	4679.37	4670.99
b	-2000	+11700	-11900	-7900	+4400	-22600	+31600	+42700	+2900	-16700	-19700	-14000
CAL YR 2001 b	+105200											
WTR YR 2002 b	-1500											

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

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.

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, 27,500 acre-ft, June 2, 8, 9, 14, maximum gage height, 4,661.42 ft, June 2; minimum, 4,270 acre-ft, Feb. 5, gage height, 4,633.23 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 1941)

4,608	0	4,620	36	4,628	1,480	4,646	13,500
4,610	6	4,622	49	4,630	2,450	4,650	17,000
4,612	12	4,624	92	4,632	3,580	4,655	21,500
4,614	18	4,625	211	4,635	5,270	4,660	26,100
4,616	24	4,626	550	4,638	7,330	4,663	29,100
4,618	27	4,627	996	4,642	10,300		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21000	20800	22400	13900	4800	5690	8030	21900	27300	26000	25200	23600
2	21000	20800	22400	14100	4630	5560	8640	21800	27500	26100	25200	23500
3	21000	20800	22200	14200	4460	5380	9590	21800	27400	26100	25100	23400
4	21000	20800	21900	14000	4300	5200	10600	22000	27300	26100	25100	23400
5	21000	20800	21600	13700	4270	5030	11400	22500	27300	26100	25000	23300
6	20900	20800	21200	13600	4360	5090	11900	23000	27400	26100	25000	23300
7	20900	20800	20900	13500	4480	5190	12400	23600	27400	26100	24900	23200
8	20900	20800	20500	13400	4670	5100	13100	24000	27500	26100	24900	23200
9	20900	20800	20200	13100	4790	4930	13800	24400	27500	26100	24800	23100
10	20800	20800	19800	12800	4900	4760	14600	24600	27400	26100	24800	23100
11	20800	20800	19400	12500	4930	4810	15400	24600	27200	26100	24700	23000
12	20800	20900	19000	12100	4890	5080	16200	24700	27100	26000	24700	23000
13	20800	21000	18500	11800	4880	5200	17300	24800	27200	26000	24600	22900
14	20800	21200	18200	11500	4880	5150	19000	25100	27500	26000	24600	22900
15	20800	21300	17800	11100	4880	5040	20400	25300	27300	26000	24500	22800
16	20700	21300	17400	10700	4900	4920	20700	25400	27100	25900	24400	22800
17	20700	21400	17000	10300	4990	4790	20700	25400	26900	25900	24400	22700
18	20700	21400	16600	9810	5000	4650	20600	25500	26700	25900	24300	22700
19	20700	21400	16200	9320	5080	4530	20400	25500	26400	25800	24300	22600
20	20700	21400	15900	8830	5210	4570	20200	25600	26400	25800	24200	22600
21	20700	21700	15500	8400	5180	4730	19900	25500	26300	25700	24200	22500
22	20600	22800	15100	7960	5170	4960	19800	25400	26100	25700	24100	22500
23	20600	23200	14700	7500	5180	5250	19800	25300	25900	25600	24000	22400
24	20600	24900	14300	7040	5130	5500	20100	25200	25800	25600	24000	22400
25	20600	24900	13900	6570	5490	5690	20500	25200	25700	25600	23900	22300
26	20600	24500	13500	6130	5720	5840	21300	25100	25700	25500	23900	22300
27	20600	24000	13100	5710	5720	5960	21800	25200	25800	25500	23800	22200
28	20500	23500	13000	5430	5730	6140	21900	25300	25900	25400	e23800	22200
29	20500	23100	13400	5260	---	6560	22000	25600	25900	25400	23700	22200
30	20700	22600	13600	5110	---	7010	22000	26100	26000	25300	e23700	22200
31	20700	---	14000	4960	---	7380	---	26700	---	25300	23600	---
MAX	21000	24900	22400	14200	5730	7380	22000	26700	27500	26100	25200	23600
MIN	20500	20800	13000	4960	4270	4530	8030	21800	25700	25300	23600	22200
a	4654.14	4656.24	4646.48	4634.45	4635.67	4638.07	4655.58	4660.57	4659.84	4659.08	4657.27	4655.70
b	-300	+1900	-8600	-9040	+770	+1650	+14620	+4700	-700	-700	-1700	-1400

CAL YR 2001 b +8570

WTR YR 2002 b +1200

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. 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 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	5.0	18	5.2	4.9	9.0	10	26	35	22	21	22
2	6.4	5.2	19	6.3	4.9	8.9	10	26	156	22	21	22
3	6.3	5.2	14	6.6	4.9	9.3	11	26	242	22	21	22
4	5.6	5.2	7.7	5.0	4.9	9.3	10	26	345	22	21	22
5	5.0	5.2	5.3	4.8	4.9	9.2	9.9	26	410	22	21	22
6	5.0	5.2	5.0	4.7	4.9	9.5	10	26	446	22	21	22
7	4.9	5.2	4.9	4.6	5.2	11	10	30	441	22	22	22
8	4.8	5.1	4.8	4.5	6.1	9.8	10	45	304	22	22	22
9	4.8	4.9	5.0	4.4	5.3	9.5	10	63	263	22	22	22
10	4.9	4.9	4.8	4.3	5.2	9.7	11	75	219	22	22	22
11	4.9	5.0	4.7	4.3	5.2	9.8	11	80	56	22	22	22
12	4.9	5.6	4.6	4.5	5.1	9.9	10	82	30	22	22	22
13	5.0	5.1	4.5	4.7	5.0	9.9	10	86	29	22	22	22
14	5.0	4.9	4.7	4.6	5.0	9.9	11	117	78	22	22	22
15	5.0	4.8	4.6	4.6	5.0	9.9	19	203	135	22	22	22
16	4.9	4.8	4.5	4.5	5.0	9.9	24	272	36	22	22	22
17	4.9	4.8	4.8	4.5	5.5	9.8	25	318	28	22	22	22
18	4.9	5.0	4.7	4.4	5.3	9.8	25	373	28	22	22	22
19	4.9	5.3	4.6	5.0	5.8	9.9	24	391	28	22	22	22
20	4.9	5.3	4.7	5.4	5.8	9.8	24	430	28	22	22	22
21	4.9	5.8	4.6	5.3	5.5	9.6	25	429	28	21	22	22
22	5.1	13	4.7	5.3	5.3	9.7	24	326	28	22	22	22
23	5.5	32	4.8	5.2	5.3	11	25	254	28	22	22	22
24	5.4	72	4.6	5.2	5.3	11	25	219	28	21	22	22
25	5.3	153	4.5	5.1	5.2	11	25	188	27	22	22	17
26	5.2	124	4.6	5.1	5.3	10	25	168	23	21	22	14
27	5.2	90	4.6	5.2	5.2	10	25	174	19	21	22	13
28	5.2	62	6.0	5.0	5.2	10	25	160	22	22	22	13
29	5.3	44	7.8	5.0	---	10	26	74	22	22	22	13
30	5.7	29	5.8	4.9	---	10	26	35	22	21	22	13
31	5.2	---	6.8	4.9	---	10	---	36	---	22	22	---
TOTAL	161.8	726.5	193.7	153.1	146.2	306.1	535.9	4784	3584	677	676	611
MEAN	5.219	24.22	6.248	4.939	5.221	9.874	17.86	154.3	119.5	21.84	21.81	20.37
MAX	6.8	153	19	6.6	6.1	11	26	430	446	22	22	22
MIN	4.8	4.8	4.5	4.3	4.9	8.9	9.9	26	19	21	21	13
AC-FT	321	1440	384	304	290	607	1060	9490	7110	1340	1340	1210

SAN JOAQUIN RIVER BASIN

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1917, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.2	62.5	97.2	208	175	320	610	742	640	190	25.7	8.81
MAX	157	287	358	485	307	516	806	945	1207	484	65.4	25.8
(WY)	1917	1910	1910	1914	1911	1916	1916	1914	1911	1911	1911	1913
MIN	.081	.19	12.4	33.6	66.6	116	264	536	230	36.5	6.06	2.10
(WY)	1916	1916	1912	1913	1912	1912	1912	1913	1910	1910	1910	1915

SUMMARY STATISTICS

WATER YEARS 1910 - 1917

ANNUAL MEAN	259
HIGHEST ANNUAL MEAN	386 1911
LOWEST ANNUAL MEAN	144 1913
HIGHEST DAILY MEAN	5000 Jan 30 1911
LOWEST DAILY MEAN	.00 Sep 8 1910
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 8 1910
ANNUAL RUNOFF (AC-FT)	187300
10 PERCENT EXCEEDS	770
50 PERCENT EXCEEDS	109
90 PERCENT EXCEEDS	5.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1959, BY WATER YEAR (WY)

MEAN	76.0	75.5	105	94.5	134	224	460	696	409	144	98.9	103
MAX	145	931	826	490	454	708	794	1330	981	471	204	179
(WY)	1929	1951	1951	1956	1945	1928	1936	1952	1922	1958	1958	1933
MIN	3.68	1.65	1.74	2.50	6.64	1.70	44.5	138	46.0	20.7	16.4	4.16
(WY)	1932	1928	1932	1957	1930	1920	1924	1931	1924	1959	1959	1931

SUMMARY STATISTICS

WATER YEARS 1920 - 1959

ANNUAL MEAN	218
HIGHEST ANNUAL MEAN	356 1938
LOWEST ANNUAL MEAN	86.2 1924
HIGHEST DAILY MEAN	8270 Nov 19 1950
LOWEST DAILY MEAN	.00 Oct 15 1930
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 15 1930
MAXIMUM PEAK FLOW	11700 Nov 19 1950
MAXIMUM PEAK STAGE	14.95 Nov 19 1950
ANNUAL RUNOFF (AC-FT)	158200
10 PERCENT EXCEEDS	584
50 PERCENT EXCEEDS	113
90 PERCENT EXCEEDS	8.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

MEAN	17.56	35.92	31.40	70.65	58.78	25.63	91.76	293.8	333.7	111.8	25.45	25.35
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	0.15	2.55	4.30	4.27	3.76	4.15	4.44	4.81	4.72	12.0	2.43	0.40
(WY)	1967	1978	1964	1978	1974	1972	1973	1972	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1961 - 2002

ANNUAL TOTAL	5118.8	12555.3	
ANNUAL MEAN	14.02	34.40	93.44
HIGHEST ANNUAL MEAN			320 1983
LOWEST ANNUAL MEAN			4.73 1977
HIGHEST DAILY MEAN	208 May 13	446 Jun 6	15100 Jan 2 1997
LOWEST DAILY MEAN	4.5 Dec 13	4.3 Jan 10	0.10 Oct 9 1966
ANNUAL SEVEN-DAY MINIMUM	4.6 Dec 10	4.5 Jan 6	0.10 Oct 24 1966
MAXIMUM PEAK FLOW		673 Jun 4	19500 Jan 2 1997
MAXIMUM PEAK STAGE		13.23 Jun 4	26.74 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	10150	24900	67690
10 PERCENT EXCEEDS	20	62	277
50 PERCENT EXCEEDS	7.7	11	8.3
90 PERCENT EXCEEDS	4.9	4.8	4.7

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	12	37	119	39	55	65	84	60	29	40	41
2	14	12	86	111	39	54	63	75	137	39	40	41
3	13	12	72	219	39	54	62	69	282	39	40	41
4	14	12	34	115	40	53	60	66	338	39	40	41
5	13	12	25	84	41	51	58	63	758	39	40	41
6	13	12	22	79	41	56	57	62	875	39	40	42
7	13	12	22	87	42	95	57	62	791	39	40	41
8	13	12	21	79	83	91	55	74	499	39	41	41
9	13	12	22	71	69	74	54	92	339	39	41	41
10	13	12	21	65	59	76	54	106	276	39	41	41
11	13	13	20	60	56	78	53	113	87	39	41	41
12	12	17	19	58	56	73	52	114	50	40	41	41
13	12	22	19	56	55	70	50	117	48	39	42	41
14	12	14	23	54	56	67	50	136	148	39	42	41
15	12	14	20	52	57	63	51	232	209	39	42	41
16	12	13	19	47	56	64	60	312	63	39	42	41
17	12	14	21	45	73	65	66	353	43	39	42	41
18	12	13	23	43	65	63	66	388	41	39	41	41
19	11	14	21	42	63	65	66	411	40	39	41	41
20	11	14	25	43	97	72	63	457	39	40	41	41
21	11	15	25	42	85	70	62	472	39	39	41	40
22	11	29	24	43	73	66	61	388	39	39	41	40
23	11	34	28	41	70	101	59	312	39	39	41	40
24	11	85	26	40	65	114	58	267	37	39	41	40
25	11	196	24	40	61	108	59	230	37	39	41	40
26	11	154	23	41	58	96	68	206	36	39	41	31
27	11	111	26	48	57	87	74	205	25	39	41	30
28	11	79	33	44	55	81	70	208	29	40	41	31
29	11	66	153	42	---	75	79	116	29	40	41	31
30	15	44	115	40	---	71	92	61	29	39	41	31
31	17	---	191	39	---	68	---	60	---	39	41	---
TOTAL	392	1081	1240	1989	1650	2276	1844	5911	5462	1203	1269	1175
MEAN	12.65	36.03	40.00	64.16	58.93	73.42	61.47	190.7	182.1	38.81	40.94	39.17
MAX	23	196	191	219	97	114	92	472	875	40	42	42
MIN	11	12	19	39	39	51	50	60	25	29	40	30
AC-FT	778	2140	2460	3950	3270	4510	3660	11720	10830	2390	2520	2330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	24.03	50.34	60.41	151.2	141.2	117.0	164.9	354.1	463.5	204.9	41.67	38.57
MEAN	24.03	50.34	60.41	151.2	141.2	117.0	164.9	354.1	463.5	204.9	41.67	38.57
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1961 - 2002	
ANNUAL TOTAL	13388		25492			
ANNUAL MEAN	36.68		69.84		150.7	
HIGHEST ANNUAL MEAN					634	
LOWEST ANNUAL MEAN					8.08	
HIGHEST DAILY MEAN	265	May 14	875	Jun 6	25200	Jan 2 1997
LOWEST DAILY MEAN	11	Oct 19	11	Oct 19	0.30	Apr 5 1964
ANNUAL SEVEN-DAY MINIMUM	11	Oct 19	11	Oct 19	1.4	Oct 6 1970
MAXIMUM PEAK FLOW			1310		33200	
MAXIMUM PEAK STAGE			5.97		18.46	
ANNUAL RUNOFF (AC-FT)	26560		50560		109200	
10 PERCENT EXCEEDS	69		114		383	
50 PERCENT EXCEEDS	31		41		32	
90 PERCENT EXCEEDS	13		13		11	

11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA

LOCATION.—Lat 37°49'18", long 120°00'43", in SE 1/4 SE 1/4 sec.29, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank, 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mi southwest of Oakland Recreation Camp, and 0.6 mi upstream from Middle Tuolumne River.

DRAINAGE AREA.—87.0 mi².

PERIOD OF RECORD.—March 1923 to September 1996, October 1997 to September 2002 (discontinued).

REVISED RECORDS.—WSP 1445: 1923, 1925(M), 1926–28, 1929–30(M), 1932(M), 1935–36(M), 1937–38, 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map. Prior to Nov. 22, 1931, at site 50 ft upstream at same datum. Nov. 22, 1931, to July 19, 1977, at present site, datum 1.00 ft higher.

REMARKS.—Records good. No diversion upstream from station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi upstream. See schematic diagram of [Tuolumne River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,900 ft³/s, Dec. 23, 1955, gage height, 11.9 ft, from floodmarks, present datum, from rating curve extended above 3,300 ft³/s, on basis of slope-area measurements, at gage heights 9.08 and 11.9 ft; minimum daily, 0.4 ft³/s, Aug. 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 3, 1997, reached a stage of 12.51 ft, from floodmarks, discharge, 12,000 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 900 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	1730	399	5.06

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	11	22	110	33	76	141	113	103	16	5.4	3.9
2	5.0	8.8	166	98	32	69	162	108	85	15	5.4	3.8
3	5.0	8.0	e120	195	31	65	182	109	70	15	5.3	3.8
4	4.9	7.4	e60	112	30	63	205	120	66	14	5.3	3.8
5	5.0	7.4	e50	81	31	62	203	148	62	14	5.3	3.8
6	5.0	7.2	e40	70	31	75	171	164	57	14	5.2	4.0
7	5.0	7.0	e29	71	32	119	164	171	51	13	5.2	4.4
8	5.0	7.0	e28	69	57	107	179	156	46	13	5.2	5.5
9	5.0	7.1	e27	63	44	82	189	146	43	13	5.2	5.1
10	5.0	7.0	e24	56	41	79	171	149	e40	13	5.2	4.8
11	5.0	9.3	e19	51	41	74	192	122	e38	12	5.0	4.5
12	5.0	e30	22	49	42	73	193	131	e36	12	4.4	4.2
13	5.2	e27	21	47	44	72	213	133	34	10	4.7	4.1
14	5.2	e15	28	46	44	68	231	150	32	9.2	4.2	4.0
15	5.2	e13	22	43	45	64	241	154	31	9.0	4.2	4.1
16	5.1	e11	22	39	46	63	161	150	28	8.9	4.2	4.2
17	5.1	e10	26	40	77	62	141	153	28	8.5	4.2	4.2
18	5.1	e9.2	28	36	63	57	121	152	26	8.4	4.1	4.2
19	5.1	e8.4	24	37	59	60	110	140	25	8.2	4.0	4.2
20	5.1	9.2	29	35	84	64	102	158	24	8.0	4.0	4.2
21	5.1	9.6	30	37	85	68	97	130	22	7.8	3.9	4.0
22	5.1	22	e29	36	81	71	99	e118	22	7.2	4.0	5.2
23	5.1	27	33	28	84	115	110	129	21	7.0	4.0	4.4
24	5.1	83	29	32	77	113	133	137	20	6.7	4.1	3.9
25	5.1	63	27	35	71	97	150	134	20	6.5	4.0	3.8
26	5.1	29	27	35	73	88	193	122	19	6.3	4.0	3.6
27	5.0	20	29	41	75	86	158	118	18	6.1	4.0	3.6
28	5.2	19	42	35	78	88	126	108	17	6.1	4.0	3.7
29	5.2	25	229	30	---	95	132	106	17	2.3	4.0	4.2
30	7.2	21	146	28	---	112	130	109	16	1.6	4.0	4.6
31	14	---	159	33	---	127	---	100	---	5.1	4.0	---
TOTAL	168.2	538.6	1587	1718	1531	2514	4800	4138	1117	296.9	139.7	125.8
MEAN	5.426	17.95	51.19	55.42	54.68	81.10	160.0	133.5	37.23	9.577	4.506	4.193
MAX	14	83	229	195	85	127	241	171	103	16	5.4	5.5
MIN	4.9	7.0	19	28	30	57	97	100	16	1.6	3.9	3.6
AC-FT	334	1070	3150	3410	3040	4990	9520	8210	2220	589	277	250

e Estimated.

SAN JOAQUIN RIVER BASIN

11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.90	30.70	60.98	90.32	137.5	165.6	224.8	254.6	130.8	35.44	13.52	10.19
MAX	50.6	229	516	652	725	750	730	760	656	242	57.9	39.0
(WY)	1983	1951	1956	1969	1986	1983	1982	1969	1983	1983	1983	1998
MIN	1.53	3.66	6.04	8.05	8.74	11.1	15.7	26.0	12.7	2.56	0.48	0.75
(WY)	1978	1930	1991	1977	1991	1977	1977	1977	1976	1931	1977	1977

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1923 - 2002	
ANNUAL TOTAL	18241.2		18674.2			
ANNUAL MEAN	49.98		51.16		96.70	
HIGHEST ANNUAL MEAN					330 1983	
LOWEST ANNUAL MEAN					9.25 1977	
HIGHEST DAILY MEAN	343	Mar 5	241	Apr 15	6960	Dec 23 1955
LOWEST DAILY MEAN	4.5	Aug 30	1.6	Jul 30	0.40	Aug 22 1934
ANNUAL SEVEN-DAY MINIMUM	4.5	Aug 30	3.9	Aug 30	0.45	Aug 12 1977
MAXIMUM PEAK FLOW			399	Dec 2	11900	Dec 23 1955
MAXIMUM PEAK STAGE			5.06	Dec 2	11.90	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	36180		37040		70060	
10 PERCENT EXCEEDS	159		141		260	
50 PERCENT EXCEEDS	22		29		31	
90 PERCENT EXCEEDS	5.0		4.2		6.1	

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA

LOCATION.—Lat 37°49'42", long 120°00'38", in SW 1/4 NW 1/4 sec.28, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank, 1,000 ft downstream from Oakland Recreation Camp, 0.8 mi upstream from South Fork Tuolumne River, and 2.7 mi east of Buck Meadows Post Office.

DRAINAGE AREA.—73.5 mi².

PERIOD OF RECORD.—October 1916 to September 1996, October 1997 to September 2002 (discontinued). Monthly discharge only for October and November 1916, published in WSP 1315-A. Published as "Middle Fork of Tuolumne River near Buck Meadows" 1917–32 and as "Middle Tuolumne River near Buck Meadows" 1933–40.

REVISED RECORDS.—WSP 1395: 1919(M), 1938(M), 1951(P). WSP 1930: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation but small diversion upstream from station for irrigation. See schematic diagram of Tuolumne River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,920 ft³/s, Dec. 23, 1955, gage height, 11.75 ft, from flood profile, 11.05 ft, from floodmarks inside gage well, from rating curve extended above 3,000 ft³/s, on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 3, 1997, reached a stage of 13.02 ft, from floodmarks, discharge, 6,300 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 380 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	1400	460	4.62	Apr. 15	0500	382	4.34

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	7.6	23	85	32	62	134	158	186	25	5.3	2.1
2	2.5	5.5	178	70	29	59	155	162	159	24	5.1	1.9
3	2.4	4.6	68	136	26	56	180	170	130	23	4.7	1.9
4	2.3	4.5	32	71	25	55	208	190	123	22	4.6	1.9
5	2.5	4.5	30	52	26	54	224	212	116	20	4.5	2.0
6	2.4	5.1	28	47	26	60	195	228	107	19	4.3	2.2
7	2.5	4.0	27	49	27	86	199	242	99	19	4.2	2.7
8	2.8	4.0	26	49	38	70	215	230	87	18	4.2	3.2
9	2.9	3.9	27	45	34	61	218	227	82	18	4.1	3.0
10	2.9	3.9	25	40	33	58	201	219	78	17	3.7	2.6
11	3.1	5.1	22	37	33	55	229	187	70	15	3.6	2.4
12	3.0	21	25	37	34	56	235	196	65	15	3.4	2.2
13	3.0	16	24	35	36	57	258	205	62	14	3.3	2.1
14	2.9	10	28	34	37	54	291	235	58	14	2.9	2.0
15	2.7	9.1	22	32	38	49	321	249	55	14	2.9	1.7
16	2.6	8.4	25	30	39	53	225	248	52	12	2.9	1.7
17	2.4	8.1	26	30	63	51	197	259	49	11	2.8	1.7
18	2.4	7.9	26	28	45	47	174	270	46	11	2.8	1.7
19	2.4	7.2	24	30	45	58	160	252	45	10	2.6	1.7
20	2.7	7.4	29	28	61	61	155	240	44	9.9	2.5	1.7
21	2.4	7.4	29	30	60	64	149	189	42	9.4	2.5	1.7
22	2.4	31	28	29	58	71	152	173	40	8.8	2.5	1.7
23	2.5	35	31	22	59	104	165	192	37	8.0	2.4	1.6
24	2.5	69	27	30	58	84	191	202	34	7.2	2.4	1.5
25	2.6	73	28	29	54	71	210	200	31	7.0	2.3	1.4
26	2.5	33	28	28	55	66	241	195	29	6.3	2.2	1.4
27	2.4	24	28	32	58	68	217	202	27	6.2	2.2	1.3
28	2.4	22	33	28	62	76	183	191	27	6.1	2.1	1.5
29	2.5	26	152	26	---	88	178	192	27	6.0	2.0	1.6
30	4.4	23	115	25	---	107	171	197	26	5.9	2.0	1.8
31	6.9	---	127	30	---	120	---	184	---	5.6	2.1	---
TOTAL	86.7	491.2	1341	1274	1191	2081	6031	6496	2033	407.4	99.1	57.9
MEAN	2.797	16.37	43.26	41.10	42.54	67.13	201.0	209.5	67.77	13.14	3.197	1.930
MAX	6.9	73	178	136	63	120	321	270	186	25	5.3	3.2
MIN	2.3	3.9	22	22	25	47	134	158	26	5.6	2.0	1.3
AC-FT	172	974	2660	2530	2360	4130	11960	12880	4030	808	197	115

SAN JOAQUIN RIVER BASIN

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.454	15.27	31.73	43.52	68.32	88.11	157.5	294.7	188.4	38.55	7.159	3.682
MAX	36.9	181	318	248	345	353	476	747	875	361	60.7	27.3
(WY)	1983	1951	1951	1956	1986	1995	1982	1969	1983	1983	1983	1998
MIN	0.083	0.80	1.71	2.49	3.51	4.87	16.9	24.0	10.7	0.85	0.011	0.000
(WY)	1978	1930	1991	1991	1991	1977	1977	1977	1992	1924	1977	1931

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1917 - 2002	
ANNUAL TOTAL	18066.1		21589.3			
ANNUAL MEAN	49.50		59.15		78.46	
HIGHEST ANNUAL MEAN					246	
LOWEST ANNUAL MEAN					6.49	
HIGHEST DAILY MEAN	354	May 8	321	Apr 15	4000	Dec 23 1955
LOWEST DAILY MEAN	1.6	Sep 24	1.3	Sep 27	0.00	Sep 4 1924
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 18	1.5	Sep 23	0.00	Sep 4 1924
MAXIMUM PEAK FLOW			460	Dec 2	4920	Dec 23 1955
MAXIMUM PEAK STAGE			4.62	Dec 2	11.75	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	35830		42820		56840	
10 PERCENT EXCEEDS	152		195		238	
50 PERCENT EXCEEDS	20		28		19	
90 PERCENT EXCEEDS	2.4		2.4		1.7	

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)
Dec. 29	1130	185	3.93

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.41	17	3.1	2.5	4.5	2.0	0.33	0.00	0.00	0.00
2	0.00	0.00	22	19	3.0	2.3	4.1	1.7	0.30	0.00	0.00	0.00
3	0.00	0.00	19	63	2.6	2.2	3.8	1.6	0.23	0.00	0.00	0.00
4	0.00	0.00	4.1	22	2.5	2.0	3.4	1.4	0.18	0.00	0.00	0.00
5	0.00	0.00	2.0	11	2.4	2.0	3.1	1.2	0.14	0.00	0.00	0.00
6	0.00	0.00	1.3	7.8	2.3	3.4	3.2	1.1	0.13	0.00	0.00	0.00
7	0.00	0.00	0.93	6.5	2.4	19	3.1	1.1	0.11	0.00	0.00	0.00
8	0.00	0.00	0.79	5.3	8.3	19	2.8	0.98	0.09	0.00	0.00	0.00
9	0.00	0.00	0.74	4.6	5.7	9.1	2.5	0.92	0.07	0.00	0.00	0.00
10	0.00	0.00	0.74	3.5	4.2	7.6	2.5	0.91	0.06	0.00	0.00	0.00
11	0.00	0.00	0.58	3.2	3.5	6.7	2.4	0.86	0.05	0.00	0.00	0.00
12	0.00	0.01	0.53	2.8	3.2	5.3	2.3	0.81	0.04	0.00	0.00	0.00
13	0.00	0.00	0.49	2.5	3.0	4.9	2.1	0.79	0.03	0.00	0.00	0.00
14	0.00	0.00	6.1	2.4	2.8	4.5	2.0	0.76	0.03	0.00	0.00	0.00
15	0.00	0.00	6.1	2.3	2.5	4.3	1.9	0.75	0.03	0.00	0.00	0.00
16	0.00	0.00	3.3	2.2	2.5	4.4	1.9	0.70	0.04	0.00	0.00	0.00
17	0.00	0.00	3.2	2.0	11	4.7	2.3	0.64	0.06	0.00	0.00	0.00
18	0.00	0.00	4.2	1.9	9.9	4.8	2.2	0.56	0.04	0.00	0.00	0.00
19	0.00	0.00	2.9	1.8	6.7	3.9	2.1	0.53	0.03	0.00	0.00	0.00
20	0.00	0.00	4.4	1.8	7.4	3.7	2.0	1.4	0.03	0.00	0.00	0.00
21	0.00	0.00	8.1	1.8	5.6	3.4	1.9	2.2	0.02	0.00	0.00	0.00
22	0.00	0.00	5.7	2.0	4.9	3.2	1.6	2.0	0.02	0.00	0.00	0.00
23	0.00	0.00	8.8	1.8	4.4	95	1.5	1.4	0.02	0.00	0.00	0.00
24	0.00	0.04	5.7	1.6	4.3	64	1.4	1.1	0.02	0.00	0.00	0.00
25	0.00	0.26	4.0	1.6	3.6	25	1.4	0.86	0.02	0.00	0.00	0.00
26	0.00	0.08	3.1	1.9	3.4	15	1.5	0.73	0.02	0.00	0.00	0.00
27	0.00	0.04	2.5	7.5	3.2	10	1.8	0.63	0.02	0.00	0.00	0.00
28	0.00	0.03	4.7	5.1	2.8	8.0	1.7	0.55	0.01	0.00	0.00	0.00
29	0.00	0.21	98	4.0	---	6.7	2.0	0.48	0.01	0.00	0.00	0.00
30	0.00	0.34	34	3.3	---	5.7	2.4	0.42	0.00	0.00	0.00	0.00
31	0.00	---	40	3.1	---	4.9	---	0.36	---	0.00	0.00	---
TOTAL	0.00	1.01	298.41	216.3	121.2	357.2	71.4	31.44	2.18	0.00	0.00	0.00
MEAN	0.000	0.034	9.626	6.977	4.329	11.52	2.380	1.014	0.073	0.000	0.000	0.000
MAX	0.00	0.34	98	63	11	95	4.5	2.2	0.33	0.00	0.00	0.00
MIN	0.00	0.00	0.41	1.6	2.3	2.0	1.4	0.36	0.00	0.00	0.00	0.00
AC-FT	0.00	2.0	592	429	240	709	142	62	4.3	0.00	0.00	0.00

SAN JOAQUIN RIVER BASIN

11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.084	3.006	10.10	27.25	34.21	24.93	11.00	3.836	1.160	0.264	0.040	0.022
MAX	1.05	43.2	103	184	173	126	74.1	26.2	7.61	2.42	0.82	0.42
(WY)	1983	1983	1997	1997	1986	1983	1982	1983	1998	1983	1983	1983
MIN	0.000	0.000	0.000	0.000	0.000	0.038	0.014	0.018	0.000	0.000	0.000	0.000
(WY)	1971	1977	1977	1991	1991	1977	1977	1977	1977	1972	1971	1969

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1969 - 2002
ANNUAL TOTAL	1568.79	1099.14	
ANNUAL MEAN	4.298	3.011	9.532
HIGHEST ANNUAL MEAN			38.2 1983
LOWEST ANNUAL MEAN			0.011 1977
HIGHEST DAILY MEAN	248 Mar 5	98 Dec 29	1370 Jan 2 1997
LOWEST DAILY MEAN	0.00 Jun 21	0.00 Oct 1	0.00 Aug 27 1969
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 21	0.00 Oct 1	0.00 Aug 27 1969
MAXIMUM PEAK FLOW		185 Dec 29	2620 Feb 17 1986
MAXIMUM PEAK STAGE		3.93 Dec 29	7.03 Feb 17 1986
ANNUAL RUNOFF (AC-FT)	3110	2180	6910
10 PERCENT EXCEEDS	9.2	5.7	15
50 PERCENT EXCEEDS	0.28	0.34	0.37
90 PERCENT EXCEEDS	0.00	0.00	0.00

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, 1,591,000 acre-ft, June 17, 18, elevation, 792.85 ft; minimum, 1,144,000 acre-ft, Nov. 9–11, 20, 21, elevation, 745.97 ft, Nov. 11, 20, 21.

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	620	384,100	710	869,700	800	1,669,000
570	212,900	650	517,400	740	1,095,000	830	2,030,000
590	274,800	680	679,000	770	1,359,000		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1196000	1145000	1154000	1267000	1399000	1473000	1529000	1539000	1572000	1561000	1420000	1311000
2	1195000	1145000	1160000	1276000	1400000	1475000	1530000	1540000	1571000	1558000	1417000	1307000
3	1194000	1145000	1164000	1287000	1402000	1477000	1530000	1541000	1572000	1555000	1414000	1304000
4	1192000	1145000	1166000	1295000	1404000	1476000	1531000	1543000	1573000	1551000	1410000	1302000
5	1190000	1145000	1168000	1301000	1406000	1475000	1531000	1545000	1574000	1547000	1408000	1300000
6	1190000	1145000	1170000	1306000	1408000	1475000	1530000	1545000	1577000	1543000	e1403000	1298000
7	1189000	1145000	1172000	1312000	1411000	1479000	1529000	1546000	1579000	1539000	e1399000	1297000
8	1187000	1145000	1174000	1317000	1414000	1480000	1528000	1548000	1581000	1535000	1396000	1294000
9	1186000	1144000	1175000	1323000	1416000	1482000	1529000	1548000	1582000	1531000	1392000	1292000
10	1185000	1144000	1177000	1328000	1418000	1484000	1529000	1548000	1583000	1526000	1387000	1290000
11	1185000	1144000	1178000	1333000	1420000	1485000	1529000	1547000	1585000	1520000	1382000	1289000
12	1184000	1146000	1180000	1339000	1422000	1487000	1529000	1547000	1585000	1514000	1378000	1287000
13	1183000	1146000	1182000	1344000	1425000	1488000	1529000	1546000	1586000	1508000	1374000	1286000
14	1181000	1145000	1184000	1348000	1428000	1489000	1529000	1547000	1586000	1502000	1370000	1284000
15	1179000	1145000	1186000	1353000	1430000	1490000	1530000	1550000	1588000	1496000	1367000	1282000
16	1176000	1145000	1188000	1357000	1433000	1492000	1531000	1551000	1590000	1492000	1363000	1280000
17	1172000	1145000	1191000	1361000	1436000	1494000	1532000	1553000	1591000	1487000	1359000	1278000
18	1169000	1145000	1193000	1365000	1439000	1493000	1532000	1556000	1591000	1482000	1356000	1276000
19	1166000	1145000	1196000	1368000	1441000	1494000	1533000	1558000	1589000	1477000	1353000	1274000
20	1163000	1144000	1199000	1373000	1445000	1496000	1533000	1560000	1589000	1473000	1350000	1272000
21	1162000	1144000	1203000	1376000	1448000	1496000	1535000	1563000	1588000	1468000	1346000	1270000
22	1160000	1145000	1206000	1380000	1451000	1497000	1535000	1566000	1588000	1464000	1343000	1268000
23	1156000	1145000	1210000	1382000	1454000	1504000	1535000	1568000	1586000	1460000	1341000	1265000
24	1153000	1146000	1213000	1383000	1458000	1509000	1535000	1569000	1584000	1455000	1338000	1263000
25	1152000	1148000	1217000	1385000	1460000	1511000	1535000	1570000	1581000	1450000	1334000	1262000
26	1150000	1149000	1219000	1387000	1464000	1514000	1536000	1572000	1579000	1446000	1331000	1260000
27	1149000	1149000	1222000	1389000	1467000	1517000	1536000	1574000	1576000	1441000	1329000	1259000
28	1147000	1150000	1227000	1391000	1471000	1520000	1537000	1574000	1574000	1437000	1325000	1257000
29	1145000	1151000	1241000	1393000	---	1523000	1537000	1574000	1571000	1434000	1322000	1255000
30	1146000	1153000	1250000	1395000	---	1525000	1538000	1573000	1566000	1429000	1319000	1254000
31	1146000	---	1260000	1397000	---	1527000	---	1573000	---	1425000	1315000	---
MAX	1196000	1153000	1260000	1397000	1471000	1527000	1538000	1574000	1591000	1561000	1420000	1311000
MIN	1145000	1144000	1154000	1267000	1399000	1473000	1528000	1539000	1566000	1425000	1315000	1254000
a	746.13	746.97	759.30	773.90	781.36	786.86	787.88	791.15	790.53	776.74	765.26	758.58
b	-52000	+7000	+107000	+137000	+74000	+56000	+11000	+35000	-7000	-141000	-110000	-61000
CAL YR 2001 b	-371000											
WTR YR 2002 b	+560000											

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

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 in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	458	0.32	0.00	0.00	0.00	171	841	682	553	827	697	681
2	106	0.39	0.00	32	46	182	840	504	760	618	652	633
3	46	0.38	0.00	17	0.00	193	547	682	569	699	617	691
4	219	0.50	0.00	22	0.00	642	662	726	886	651	863	479
5	63	9.8	555	0.00	0.00	749	723	709	886	978	704	614
6	97	12	0.07	186	0.00	422	965	667	713	1160	712	576
7	75	11	162	228	44	486	997	555	809	807	816	629
8	384	9.7	0.04	0.00	0.02	487	850	513	682	841	928	594
9	467	0.64	0.02	0.00	0.00	615	531	570	1190	937	901	726
10	92	0.56	171	203	0.00	456	710	543	662	967	1130	549
11	91	0.59	355	0.06	38	341	705	628	700	959	902	393
12	92	0.75	69	0.00	11	301	714	791	755	998	710	573
13	90	134	241	0.00	50	276	708	864	581	893	486	621
14	89	196	0.13	88	21	310	653	917	692	1030	633	433
15	449	111	0.00	205	39	323	587	749	776	936	688	702
16	765	117	0.00	129	20	303	716	858	583	1050	709	460
17	791	90	17	38	0.03	592	529	790	619	1030	634	655
18	1020	80	32	0.00	55	372	621	625	774	1000	756	772
19	578	79	6.6	0.00	585	421	673	879	853	1060	567	578
20	265	80	136	0.00	442	319	647	798	758	911	816	608
21	169	83	26	0.00	314	608	750	727	1060	945	887	852
22	518	26	0.00	0.00	30	486	857	812	876	803	800	534
23	814	0.06	0.00	0.00	149	400	811	721	862	1040	575	860
24	706	0.08	0.00	0.00	3.3	571	670	964	810	881	630	945
25	672	0.08	0.00	0.00	0.00	639	741	648	851	635	702	669
26	720	34	53	0.00	11	337	638	686	729	736	682	500
27	602	0.07	323	0.00	0.00	422	848	679	666	843	625	127
28	696	0.01	25	34	28	369	785	739	799	838	550	270
29	661	0.00	16	0.02	---	470	704	1080	911	813	398	409
30	189	0.00	0.00	0.00	---	596	565	749	1360	974	575	362
31	0.56	---	52	62	---	587	---	581	---	747	563	---
TOTAL	11984.56	1076.93	2239.86	1244.08	1886.35	13446	21588	22436	23725	27607	21908	17495
MEAN	386.6	35.90	72.25	40.13	67.37	433.7	719.6	723.7	790.8	890.5	706.7	583.2
MAX	1020	196	555	228	585	749	997	1080	1360	1160	1130	945
MIN	0.56	0.00	0.00	0.00	0.00	171	529	504	553	618	398	127
AC-FT	23770	2140	4440	2470	3740	26670	42820	44500	47060	54760	43450	34700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2002, BY WATER YEAR (WY)

MEAN	246.8	103.1	76.14	53.98	87.19	299.3	654.7	820.3	886.2	792.4	645.8	436.0
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	0.000	0.000	0.000	0.000	0.000	0.000	220	224	450	186	12.1	0.000
(WY)	1913	1910	1910	1910	1920	1938	1991	1977	1926	1919	1918	1917

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1909 - 2002

ANNUAL TOTAL	163210.08	166636.78	
ANNUAL MEAN	447.2	456.5	427.8
HIGHEST ANNUAL MEAN			570
LOWEST ANNUAL MEAN			198
HIGHEST DAILY MEAN	1390	Jul 17	1820
LOWEST DAILY MEAN	0.00	Jan 5	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 27	0.00
ANNUAL RUNOFF (AC-FT)	323700	330500	309900
10 PERCENT EXCEEDS	945	880	1000
50 PERCENT EXCEEDS	451	555	382
90 PERCENT EXCEEDS	0.01	0.00	0.00

11289500 TURLOCK CANAL NEAR LA GRANGE, CA

LOCATION.—Lat 37°39'57", long 120°26'24", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on right bank, 0.4 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.—Ultrasonic flow meter and concrete control. Datum of gage is 277.70 ft above sea level (levels by Turlock Irrigation District). See WSP 1930 for history of changes prior to Apr. 17, 1924. From May 17, 1984, to Oct. 7, 1999, water-stage recorder at site 0.2 mi downstream at datum 2.72 ft lower.

REMARKS.—Records good. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. Capacity of canal increased in March 1980 and in March 1984. During autumn and winter, some unmeasured flow is diverted from canal at tunnel 0.1 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	739	33	0.00	4.1	0.09	92	1440	154	1290	2010	1780	1690
2	357	1.4	0.00	3.1	10	564	1620	794	1100	1560	1530	1620
3	482	1.4	0.00	3.7	3.5	629	1920	1030	1170	1780	1440	1170
4	261	0.00	0.00	0.00	15	1600	2160	463	1100	1540	1420	932
5	928	0.00	0.00	0.00	69	1660	2300	532	1270	1490	1330	666
6	246	0.00	0.00	26	43	1890	2170	1370	1260	1370	1540	771
7	430	0.00	0.00	1.4	10	1900	1770	1220	1220	1430	1040	806
8	480	6.0	0.00	2.9	16	1700	1590	1170	1130	1510	1590	824
9	386	0.00	40	3.1	0.00	1030	1140	1520	1350	1810	1240	762
10	286	0.00	12	2.8	5.8	698	1440	1600	1790	2230	1810	635
11	240	0.00	21	3.1	0.00	1400	1510	1700	1430	2110	1830	761
12	302	0.00	0.47	3.1	0.00	1170	1520	1180	1300	2730	2050	513
13	349	22	33	3.6	0.00	1300	1390	1260	1570	2450	2040	415
14	591	0.00	0.00	245	0.00	1140	1290	526	1940	2520	1790	638
15	762	20	0.00	107	0.00	1000	1160	1210	1160	2180	1500	516
16	704	0.00	0.00	164	0.00	1190	1330	1450	1340	1510	1540	626
17	831	0.00	0.00	206	0.00	591	1270	1410	1550	1880	1530	597
18	914	0.00	33	11	0.00	1520	1390	1080	1990	1760	1110	756
19	1080	0.00	37	4.2	0.00	971	1360	947	1990	1730	1030	1040
20	769	0.00	28	4.2	0.00	918	1150	1170	1610	1700	1330	812
21	454	0.00	104	7.2	0.00	931	453	928	1730	1560	1430	634
22	515	0.00	2.8	4.1	0.00	1040	1410	752	1430	1490	1210	470
23	451	0.00	2.6	4.1	0.01	781	1200	1240	1480	1700	1240	684
24	892	0.03	28	4.2	0.00	545	686	1210	1840	1980	1300	367
25	152	0.00	4.4	4.2	0.00	608	604	1330	1780	1890	1320	435
26	12	26	3.2	3.4	0.00	1050	741	1010	1600	2140	1270	530
27	1.3	8.7	0.00	3.2	0.00	535	497	1150	1550	1710	1280	604
28	80	0.00	0.00	3.8	0.00	647	123	1110	1240	1460	1840	560
29	55	0.00	23	2.6	---	613	355	1000	1640	1210	1270	641
30	27	0.00	5.0	0.33	---	1020	470	1740	1630	1790	1660	607
31	24	---	5.1	0.18	---	987	---	1480	---	2100	1880	---
TOTAL	13800.3	118.53	382.57	835.61	172.40	31720	37459	34736	44480	56330	46170	22082
MEAN	445.2	3.951	12.34	26.96	6.157	1023	1249	1121	1483	1817	1489	736.1
MAX	1080	33	104	245	69	1900	2300	1740	1990	2730	2050	1690
MIN	1.3	0.00	0.00	0.00	0.00	92	123	154	1100	1210	1030	367
AC-FT	27370	235	759	1660	342	62920	74300	68900	88230	111700	91580	43800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 2002, BY WATER YEAR (WY)

MEAN	304.1	142.3	132.1	79.34	127.2	479.6	1026	1250	1351	1300	1089	696.2
MAX	883	1008	1210	506	855	1457	1874	1829	1883	2098	1991	1604
(WY)	1996	1976	1984	1999	1976	1997	1949	1984	1981	1980	1983	1967
MIN	0.000	0.000	0.000	0.000	0.000	2.72	90.3	27.4	71.0	0.000	25.4	0.000
(WY)	1901	1901	1900	1900	1905	1973	1900	1977	1900	1914	1901	1901

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1899 - 2002
ANNUAL TOTAL	292137.85	288286.41	
ANNUAL MEAN	800.4	789.8	669.8
HIGHEST ANNUAL MEAN			1082
LOWEST ANNUAL MEAN			54.3
HIGHEST DAILY MEAN	2500	Jul 3	2730
LOWEST DAILY MEAN	0.00	Jan 9	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 1	0.00
ANNUAL RUNOFF (AC-FT)	579500	571800	485200
10 PERCENT EXCEEDS	1920	1760	1680
50 PERCENT EXCEEDS	595	739	469
90 PERCENT EXCEEDS	0.00	0.00	0.00

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA

LOCATION.—Lat 37°39'59", long 120°26'28", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank, 0.5 mi downstream from La Grange Dam, and 1.1 mi east of La Grange.

DRAINAGE AREA.—1,538 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 353 ft³/s was diverted during the current year. For records of combined discharge of river and Modesto and Turlock Canals, see station 11289651. See schematic diagram of Tuolumne River Basin.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	182	180	177	173	170	170	1260	144	87	83	69
2	147	180	177	177	173	168	171	897	132	87	89	68
3	147	180	178	175	173	166	171	620	116	87	87	68
4	153	177	179	181	173	167	172	607	115	86	87	68
5	154	178	186	181	174	165	172	603	115	86	87	67
6	155	177	177	180	173	166	172	606	115	86	89	67
7	155	181	181	181	173	165	174	608	104	87	90	67
8	152	182	178	180	173	164	175	607	94	87	89	67
9	150	183	176	180	172	164	174	584	92	89	91	67
10	154	181	180	180	172	165	170	591	92	89	93	67
11	172	178	177	180	171	165	170	567	92	89	89	67
12	187	181	186	180	171	165	322	566	93	85	89	68
13	192	210	188	179	170	165	704	553	93	90	92	67
14	190	197	181	180	170	165	708	456	91	88	90	64
15	200	212	173	181	170	165	709	358	92	92	95	64
16	188	188	176	175	172	164	782	265	93	89	92	64
17	191	183	175	171	171	162	807	218	92	90	90	69
18	172	181	179	173	171	163	804	219	91	93	87	66
19	252	179	178	173	169	162	807	217	91	84	83	67
20	252	182	174	171	170	160	810	224	92	87	86	68
21	255	184	170	173	170	161	810	222	89	86	88	68
22	254	180	169	175	170	161	811	218	88	85	88	70
23	255	179	170	172	170	162	838	217	89	88	85	69
24	204	180	169	173	171	161	1310	215	88	88	86	70
25	214	182	169	174	171	167	1310	216	89	88	84	66
26	210	193	171	174	172	168	1290	216	89	86	79	71
27	213	183	172	173	172	169	1310	216	89	87	77	71
28	201	180	175	176	171	169	1310	216	87	88	75	68
29	186	178	178	174	---	169	1310	217	87	88	74	71
30	180	178	175	176	---	169	1310	223	87	88	76	76
31	187	---	176	175	---	170	---	181	---	85	70	---
TOTAL	5868	5509	5473	5470	4801	5122	19953	12983	2921	2715	2660	2039
MEAN	189.3	183.6	176.5	176.5	171.5	165.2	665.1	418.8	97.37	87.58	85.81	67.97
MAX	255	212	188	181	174	170	1310	1260	144	93	95	76
MIN	146	177	169	171	169	160	170	181	87	84	70	64
AC-FT	11640	10930	10860	10850	9520	10160	39580	25750	5790	5390	5280	4040

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	677.6	372.5	905.1	1568	1979	1879	1595	1434	705.1	441.4	240.9	502.3
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1971 - 2002	
ANNUAL TOTAL	131424		75514			
ANNUAL MEAN	360.1		206.9		1020	
HIGHEST ANNUAL MEAN					4786	
LOWEST ANNUAL MEAN					84.3	
HIGHEST DAILY MEAN	3400	Feb 24	1310	Apr 24	50100	Jan 3 1997
LOWEST DAILY MEAN	46	Jun 26	64	Sep 14	0.00	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	50	Jun 26	66	Sep 10	0.00	Oct 12 1977
MAXIMUM PEAK FLOW			1360	Apr 29	58900	Jan 3 1997
MAXIMUM PEAK STAGE			6.76	Apr 29	28.43	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	260700		149800		739200	
10 PERCENT EXCEEDS	958		255		3350	
50 PERCENT EXCEEDS	180		171		265	
90 PERCENT EXCEEDS	58		81		14	

SAN JOAQUIN RIVER BASIN

11289651 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

TUOLUMNE RIVER, MODESTO CANAL, AND TURLOCK CANAL NEAR LA GRANGE, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	215	180	181	173	433	2450	2100	1990	2920	2560	2440
2	610	182	177	212	229	914	2630	2200	1990	2260	2270	2320
3	675	182	178	196	176	988	2640	2330	1860	2570	2140	1930
4	633	178	179	203	188	2410	2990	1800	2100	2280	2370	1480
5	1140	188	741	181	243	2570	3200	1840	2270	2550	2120	1350
6	498	189	177	392	216	2480	3310	2640	2090	2620	2340	1410
7	660	192	343	410	227	2550	2940	2380	2130	2320	1950	1500
8	1020	198	178	183	189	2350	2620	2290	1910	2440	2610	1480
9	1000	184	216	183	172	1810	1840	2670	2630	2840	2230	1560
10	532	182	363	386	178	1320	2320	2730	2540	3290	3030	1250
11	503	179	553	183	209	1910	2380	2900	2220	3160	2820	1220
12	581	182	255	183	182	1640	2560	2540	2150	3810	2850	1150
13	631	366	462	183	220	1740	2800	2680	2240	3430	2620	1100
14	870	393	181	513	191	1620	2650	1900	2720	3640	2510	1140
15	1410	343	173	493	209	1490	2460	2320	2030	3210	2280	1280
16	1660	305	176	468	192	1660	2830	2570	2020	2650	2340	1150
17	1810	273	192	415	171	1340	2610	2420	2260	3000	2250	1320
18	2110	261	244	184	226	2060	2820	1920	2860	2850	1950	1590
19	1910	258	222	177	754	1550	2840	2040	2930	2870	1680	1680
20	1290	262	338	175	612	1400	2610	2190	2460	2700	2230	1490
21	878	267	300	180	484	1700	2010	1880	2880	2590	2400	1550
22	1290	206	172	179	200	1690	3080	1780	2390	2380	2100	1070
23	1520	179	173	176	319	1340	2850	2180	2430	2830	1900	1610
24	1800	180	197	177	174	1280	2670	2390	2740	2950	2020	1380
25	1040	182	173	178	171	1410	2660	2190	2720	2610	2110	1170
26	942	253	227	177	183	1560	2670	1910	2420	2960	2030	1100
27	816	192	495	176	172	1130	2660	2040	2300	2640	1980	802
28	977	180	200	214	199	1180	2220	2060	2130	2390	2460	898
29	902	178	217	177	---	1250	2370	2300	2640	2110	1740	1120
30	396	178	180	176	---	1780	2340	2710	3080	2850	2310	1040
31	212	---	233	237	---	1740	---	2240	---	2930	2510	---
TOTAL	31656	6707	8095	7548	6859	50295	79030	70140	71130	86650	70710	41580
MEAN	1021	223.6	261.1	243.5	245.0	1622	2634	2263	2371	2795	2281	1386
MAX	2110	393	741	513	754	2570	3310	2900	3080	3810	3030	2440
MIN	212	178	172	175	171	433	1840	1780	1860	2110	1680	802
AC-FT	62790	13300	16060	14970	13600	99760	156800	139100	141100	171900	140300	82470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2002, BY WATER YEAR (WY)

MEAN	1351	784.4	1282	1758	2183	2725	3249	3306	2939	3062	2551	1805
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1971 - 2002

ANNUAL TOTAL	586803											
ANNUAL MEAN	1608									2261		
HIGHEST ANNUAL MEAN										6186		1983
LOWEST ANNUAL MEAN										442		1992
HIGHEST DAILY MEAN	3950	May 8					3810	Jul 12		50100	Jan 3	1997
LOWEST DAILY MEAN	172	Dec 22					171	Feb 17		0.45	Nov 2	1970
ANNUAL SEVEN-DAY MINIMUM	179	Nov 28					177	Jan 19		0.61	Oct 29	1970
ANNUAL RUNOFF (AC-FT)	1164000						1052000			1638000		
10 PERCENT EXCEEDS	3090						2720			4600		
50 PERCENT EXCEEDS	1530						1550			1930		
90 PERCENT EXCEEDS	214						180			250		

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1971 to current year.

WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.—November 1970 to current year.

WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.—Water-temperature recorder since November 1970.

REMARKS.—Water-temperature records rated excellent except Oct. 20–24, Jan. 26 to Feb. 13, Mar. 10–24, Apr. 6–10, June 18–25, which are rated good; and Oct. 1qP19, Mar. 25, 26, which are rated fair. Interruption in record was due to malfunction of the recording instrument. Water temperature can be affected by releases from La Grange Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 29.0°C, Sept. 27, Oct. 15, 1977; minimum recorded, 6.0°C, Feb. 6–8, 10, 1971.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 16.0°C, July 10; minimum recorded, 9.0°C, Mar. 15, 18.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR				
10...	1659	1.00	12.0	5.00
10...	1702	4.00	12.0	15.0
10...	1705	6.00	12.0	25.0
10...	1708	5.70	12.0	35.0
10...	1711	5.50	12.0	45.0
10...	1714	5.20	12.0	55.0
10...	1717	4.90	12.0	65.0
10...	1720	4.30	12.0	75.0
10...	1723	3.40	12.0	85.0
10...	1726	2.40	12.0	95.0
AUG				
27...	1055	2.40	13.0	6.00
27...	1057	5.00	12.5	18.0
27...	1059	4.80	12.5	30.0
27...	1102	4.80	12.5	42.0
27...	1105	4.50	12.5	54.0
27...	1109	3.70	12.5	66.0
27...	1112	2.70	12.5	78.0
27...	1115	1.70	12.5	90.0
27...	1118	.80	13.0	102
27...	1120	.50	13.0	114

* Instantaneous discharge at time of cross-sectional measurement: 170 ft³/s, Apr. 10, 2002; 78 ft³/s, Aug. 27, 2002.

SAN JOAQUIN RIVER BASIN

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.0	11.5	12.5	12.0	11.0	10.5	12.0	11.5	11.0	10.0	12.0	10.5
2	13.0	11.0	12.5	12.0	11.0	10.5	11.5	11.5	11.0	10.0	11.5	10.0
3	13.0	11.5	12.5	12.0	11.0	10.5	12.0	11.5	11.5	10.5	11.5	10.0
4	13.0	11.0	12.5	12.0	11.0	10.5	11.5	11.0	11.5	10.5	11.5	10.0
5	12.5	11.5	12.5	12.0	11.0	10.5	11.5	11.0	11.5	10.5	11.5	10.0
6	12.5	11.0	12.5	12.0	11.5	11.0	11.5	11.0	11.5	10.5	10.5	10.0
7	12.5	11.0	---	---	11.5	11.0	11.5	11.0	11.5	10.5	11.0	10.0
8	12.5	11.0	---	---	11.5	10.5	11.5	11.0	12.0	11.0	11.5	9.5
9	12.5	11.0	---	---	11.0	10.5	11.0	11.0	12.0	11.0	11.0	9.5
10	12.5	11.0	---	---	11.0	10.5	11.5	11.0	12.0	11.0	11.0	10.0
11	12.0	11.0	---	---	11.0	10.5	11.0	10.5	11.5	11.0	11.5	9.5
12	12.5	11.0	---	---	11.0	10.5	11.0	10.5	12.0	10.5	11.5	10.0
13	12.5	11.0	---	---	11.0	10.5	11.0	10.5	11.5	11.0	11.5	9.5
14	12.5	11.0	---	---	11.0	10.5	10.5	10.5	11.5	11.0	11.0	9.5
15	12.5	11.0	---	---	11.0	10.0	11.0	10.5	11.5	11.0	11.0	9.0
16	12.5	11.0	12.0	---	10.5	10.0	11.0	10.0	11.5	11.0	11.0	9.5
17	12.5	11.0	12.0	11.5	11.0	10.5	11.0	10.5	11.0	11.0	10.0	9.5
18	12.5	11.0	12.0	11.5	11.0	10.5	11.0	10.0	11.5	10.5	11.0	9.0
19	12.5	11.0	12.0	11.5	11.0	10.5	10.5	10.0	11.0	10.5	11.5	9.5
20	12.5	11.0	12.0	11.5	11.0	10.5	10.5	10.0	12.0	10.5	11.5	9.5
21	12.5	11.0	11.5	11.5	11.0	10.5	11.0	10.0	11.5	10.5	11.5	9.5
22	12.0	11.0	12.0	11.5	11.0	11.0	11.0	10.0	12.0	10.5	11.0	9.5
23	12.5	11.0	12.0	11.5	11.0	10.5	10.5	9.5	12.0	10.5	11.5	10.0
24	12.5	11.0	12.0	11.5	11.0	10.5	10.5	10.0	12.0	10.5	11.5	9.5
25	12.5	11.5	11.5	11.0	11.0	10.5	11.0	10.0	12.0	11.0	11.5	9.5
26	12.5	11.5	11.5	10.5	11.0	10.5	10.5	10.5	12.0	11.0	12.0	9.5
27	12.5	11.5	11.0	10.5	11.0	10.5	11.0	10.5	12.0	11.0	12.0	9.5
28	12.5	11.5	11.0	10.5	11.0	11.0	11.0	10.0	12.0	11.0	12.0	9.5
29	12.5	11.5	10.5	10.5	11.5	11.0	10.5	10.0	---	---	12.0	10.0
30	12.0	11.5	11.0	10.5	11.5	11.0	11.0	9.5	---	---	12.0	10.0
31	12.5	11.5	---	---	12.0	11.5	11.0	9.5	---	---	12.0	10.0
MONTH	13.0	11.0	---	---	12.0	10.0	12.0	9.5	12.0	10.0	12.0	9.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.0	9.5	11.0	10.0	13.0	11.0	14.5	11.5	14.5	12.0	14.5	11.5
2	12.0	10.0	11.5	10.0	13.0	10.5	14.0	11.5	14.5	12.0	14.0	11.5
3	11.5	9.5	11.5	10.0	13.5	11.0	14.5	11.5	15.0	12.0	14.5	11.5
4	11.0	9.5	11.5	10.0	14.0	11.0	14.0	11.5	14.0	12.0	13.0	12.0
5	11.0	10.0	11.5	10.0	14.0	11.0	14.0	11.5	14.0	11.5	13.0	11.5
6	11.5	10.0	11.5	10.0	14.0	11.0	14.5	11.5	14.0	11.5	13.5	12.0
7	12.0	9.5	11.5	10.0	14.0	11.0	14.5	11.5	14.0	11.5	13.5	11.5
8	12.0	10.0	11.5	10.0	14.0	11.0	14.5	11.0	14.0	11.5	14.0	11.5
9	11.0	10.0	11.5	10.0	14.0	11.0	14.0	11.5	14.0	11.5	13.5	11.5
10	12.0	10.0	11.5	10.0	14.0	11.0	16.0	12.5	14.5	11.5	14.0	11.5
11	12.0	10.0	11.5	10.0	14.0	11.0	15.0	12.5	14.5	11.5	14.0	11.5
12	12.0	10.0	11.5	10.0	14.0	11.0	15.0	12.5	14.5	12.0	14.0	11.5
13	11.0	10.0	11.5	10.0	14.0	11.0	15.0	12.0	14.5	12.0	14.5	12.0
14	11.5	10.0	12.0	10.0	14.0	11.0	15.0	12.0	14.5	12.0	13.5	12.0
15	11.0	10.0	12.0	10.0	14.0	11.0	14.5	12.0	14.5	12.0	14.0	12.0
16	11.0	10.0	12.5	10.5	14.0	11.0	14.5	12.0	14.5	12.0	14.0	12.0
17	11.0	10.0	12.5	10.5	14.5	11.0	14.5	11.5	14.5	12.0	13.5	11.5
18	11.0	10.0	12.5	10.5	14.5	11.5	14.5	12.0	14.5	11.5	14.0	12.5
19	11.0	10.0	12.0	10.5	14.5	11.5	15.0	12.0	14.0	12.0	14.5	12.0
20	11.0	10.0	12.0	10.5	14.5	11.5	14.5	12.0	14.0	12.0	14.0	12.0
21	11.5	10.0	12.0	10.5	14.5	11.5	14.5	12.0	14.5	11.5	14.0	12.0
22	11.5	10.0	12.5	10.0	14.5	11.5	14.5	12.0	14.5	11.5	14.0	12.0
23	11.5	10.0	12.5	10.0	14.5	11.5	14.5	12.0	14.0	11.5	14.0	12.0
24	11.0	10.0	12.5	10.5	14.5	11.5	14.5	12.0	14.0	11.5	13.5	12.0
25	11.0	10.0	12.5	10.5	14.5	11.5	14.5	12.0	14.0	11.5	13.5	11.5
26	10.5	10.0	12.5	10.5	14.5	11.5	14.5	11.5	14.5	11.5	13.5	11.5
27	10.5	10.0	12.5	10.5	14.5	11.5	14.5	12.0	14.5	12.0	13.0	11.5
28	11.0	10.0	13.0	10.5	14.5	11.5	14.5	12.0	14.5	12.0	12.0	11.5
29	11.0	10.0	13.0	10.5	14.5	11.5	14.5	12.0	14.5	12.0	13.0	11.5
30	11.0	10.0	13.0	10.5	14.5	11.5	14.5	12.0	14.5	12.0	13.0	11.5
31	---	---	13.5	11.0	---	---	14.5	12.0	14.5	11.5	---	---
MONTH	12.0	9.5	13.5	10.0	14.5	10.5	16.0	11.0	15.0	11.5	14.5	11.5

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—1878–84, 1891–94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A. 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.

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 fair except estimated daily discharges, which are poor. Flow regulated by reservoirs and powerplants upstream from station. Several major diversions for power, irrigation, and municipal supply upstream of station, including Modesto and Turlock Canals (stations 11289000 and 11289500). See REMARKS for Tuolumne River below La Grange Dam ([station 11289650](#)) and schematic diagram of [Tuolumne River Basin](#).

EXTREMES FOR PERIOD OF RECORD (water years 1896, 1941–2002).—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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	279	291	1140	279	263	317	1250	332	257	284	230
2	290	338	343	743	272	266	302	1180	350	207	273	253
3	324	271	303	1750	267	266	312	1010	305	197	276	240
4	307	261	290	1730	266	264	320	847	254	191	295	216
5	304	257	286	679	265	263	e326	832	252	235	295	237
6	335	261	289	492	263	278	350	810	246	221	288	259
7	341	263	282	407	265	288	348	806	238	226	293	258
8	346	259	282	375	274	296	317	798	239	219	315	268
9	328	257	279	348	270	297	319	790	262	206	315	254
10	317	258	278	326	260	357	316	775	233	223	303	244
11	335	280	279	320	255	314	320	794	205	260	293	227
12	338	e261	275	315	259	330	315	769	209	255	246	231
13	377	e274	282	308	256	300	424	746	222	239	216	233
14	357	e290	316	298	253	292	756	719	255	250	241	261
15	319	e284	293	294	251	294	787	653	254	276	255	246
16	325	e262	280	287	253	312	794	550	236	255	250	238
17	295	e258	289	285	275	348	889	464	233	243	273	220
18	297	e260	284	279	259	317	904	407	229	237	288	220
19	287	e252	281	277	255	296	929	418	218	229	282	219
20	349	e264	322	275	265	328	980	416	219	243	278	225
21	366	270	327	273	263	321	982	434	227	238	250	236
22	359	273	443	274	256	320	994	403	240	250	250	230
23	344	266	398	272	256	350	936	402	236	222	243	249
24	339	315	334	272	259	350	978	377	221	248	242	257
25	387	292	319	273	263	316	1210	380	216	261	264	237
26	402	277	308	280	259	316	1240	378	211	254	254	221
27	443	277	299	282	256	314	1260	362	192	231	246	214
28	371	284	367	278	260	322	1280	336	196	238	228	224
29	298	288	561	329	---	317	1290	356	243	215	206	230
30	297	272	2190	300	---	338	1250	337	226	256	227	e238
31	284	---	1280	286	---	318	---	347	---	289	225	---
TOTAL	10363	8203	12650	14047	7334	9551	21745	19146	7199	7371	8194	7115
MEAN	334.3	273.4	408.1	453.1	261.9	308.1	724.8	617.6	240.0	237.8	264.3	237.2
MAX	443	338	2190	1750	279	357	1290	1250	350	289	315	268
MIN	284	252	275	272	251	263	302	336	192	191	206	214
AC-FT	20560	16270	25090	27860	14550	18940	43130	37980	14280	14620	16250	14110

e Estimated.

SAN JOAQUIN RIVER BASIN

11290000 TUOLUMNE RIVER AT MODESTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	860.4	976.1	1526	1913	2170	2088	1908	1908	1550	640.3	376.3	562.1
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	199708		132918			
ANNUAL MEAN	547.1		364.2		1362	
HIGHEST ANNUAL MEAN					5518	
LOWEST ANNUAL MEAN					185	
HIGHEST DAILY MEAN	3680	Feb 25	2190	Dec 30	52900	Jan 4 1997
LOWEST DAILY MEAN	178	Jul 1	191	Jul 4	56	Aug 6 1977
ANNUAL SEVEN-DAY MINIMUM	193	Jun 30	214	Jul 3	62	Aug 2 1977
MAXIMUM PEAK FLOW			3100	Jan 3	57000	Dec 9 1950
MAXIMUM PEAK STAGE			44.21	Jan 3	71.21	Jan 4 1997
ANNUAL RUNOFF (AC-FT)	396100		263600		986700	
10 PERCENT EXCEEDS	1180		729		3640	
50 PERCENT EXCEEDS	324		282		589	
90 PERCENT EXCEEDS	251		229		184	

11290000 TUOLUMNE RIVER AT MODESTO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 1989 to Mar. 31, 1995, December 2000 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 the files of the U.S. Geological Survey.

CHEMICAL DATA: Water years 1993–95.

SPECIFIC CONDUCTANCE: Water years 1989–95, December 2000 to current year.

WATER TEMPERATURE: Water years 1989–95, December 2000 to current year.

SEDIMENT: Water years 1993–95.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1988 to March 31, 1995, December 2000 to current year.

WATER TEMPERATURE: October 1988 to March 31, 1995, December 2000 to current year.

INSTRUMENTATION.—Water-quality monitor since December 2000.

REMARKS.—Specific conductance records rated excellent except for Oct. 6–10, Nov. 23 to Dec. 9, Feb. 15–28, May 3–5, June 4 to July 29, Sept. 2–4, which are rated good; Dec. 10–21, May 6–8, which are rated fair; and Dec. 22 to Jan. 9, May 9–15, which are rated poor.

Water-temperature records rated excellent except for Oct. 1–20, Jan. 23 to Feb. 28, Apr. 25–30, May 20–23, June 2 to July 18, Sept. 4–17, which are rated good. Interruptions in record were caused by malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 587 microsiemens, Mar. 12, 1993; minimum recorded, 22 microsiemens, Feb. 26, 27, 2001.

WATER TEMPERATURE: Maximum recorded, 34.5°C, July 3–5, 1991; minimum recorded, 3.5°C, several days during December 1990.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 265 microsiemens, Dec. 30, but may have been higher during periods of missing record; minimum recorded, 45 microsiemens, May 2, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded, 32.0°C, July 10; minimum recorded, 8.5°C, several days in January.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
30...	0821	2.50	54	12.5	7.00
30...	0824	3.50	54	12.5	21.0
30...	0826	4.10	54	12.5	35.0
30...	0828	4.80	54	12.5	49.0
30...	0831	6.40	54	12.5	63.0
30...	0834	7.50	56	12.5	77.0
30...	0836	5.20	56	12.5	91.0
30...	0846	6.00	58	12.5	105
30...	0851	6.50	62	12.5	119
30...	0855	4.00	63	12.5	133
AUG					
27...	0810	.70	208	22.5	7.00
27...	0811	1.40	206	22.5	20.0
27...	0812	2.20	196	22.5	33.0
27...	0813	2.00	192	22.5	46.0
27...	0814	2.30	183	22.0	59.0
27...	0815	2.20	178	22.0	72.0
27...	0816	1.80	176	22.0	85.0
27...	0817	2.10	174	22.0	98.0
27...	0818	2.80	171	22.0	111
27...	0819	2.70	170	22.0	124

* Instantaneous discharge at time of cross-sectional measurement: 1,260 ft³/s, Apr. 30; 248 ft³/s, Aug. 27.

11290000 TUOLUMNE RIVER AT MODESTO, CA—Continued

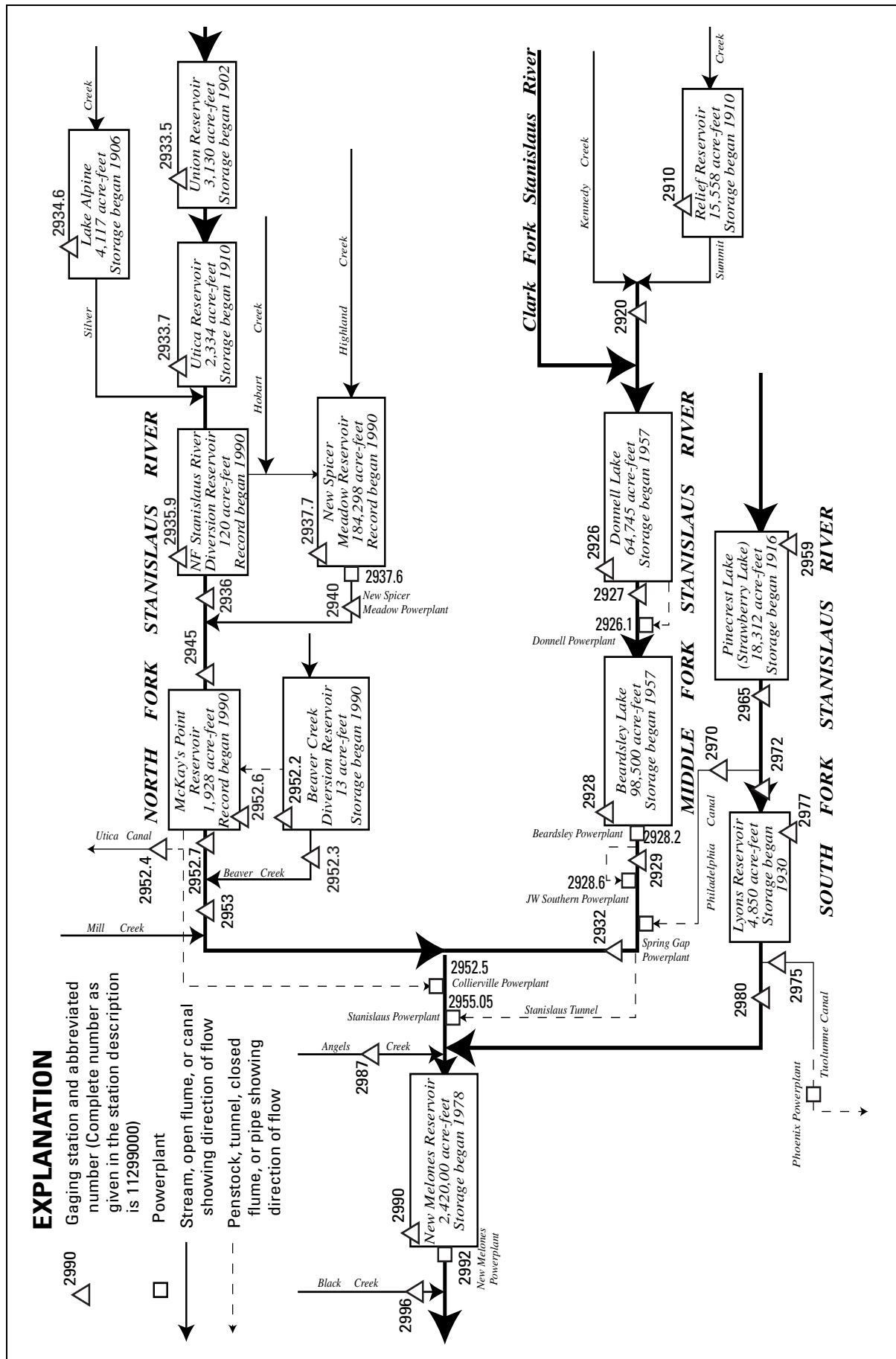
SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	197	176	178	174	204	179	183	151	193	189	200	198
2	199	189	180	170	198	110	192	180	196	191	200	199
3	189	176	189	179	208	184	206	133	192	190	200	198
4	189	169	188	182	213	207	166	144	194	190	201	199
5	192	174	191	186	218	213	202	166	195	190	201	199
6	194	163	190	185	223	212	225	202	195	190	201	192
7	182	170	192	185	225	215	233	225	193	186	196	177
8	179	147	191	187	228	224	235	230	196	177	197	184
9	184	163	190	186	232	223	231	199	193	191	190	185
10	179	169	192	187	228	224	226	222	195	191	187	125
11	173	151	192	185	224	217	222	213	197	192	192	172
12	170	164	---	---	221	215	213	209	199	195	193	142
13	168	143	---	---	228	220	209	204	199	196	193	184
14	153	129	---	---	225	126	205	203	199	195	192	181
15	154	145	---	---	225	211	204	200	204	196	193	185
16	154	138	---	---	225	222	203	198	211	198	190	166
17	154	144	---	---	227	208	200	196	210	191	181	122
18	157	145	---	---	230	224	201	199	206	194	186	160
19	160	145	---	---	231	227	200	197	208	200	195	185
20	159	125	---	---	232	133	197	194	201	198	190	170
21	140	128	185	183	218	144	196	194	202	198	191	176
22	135	119	185	182	253	218	196	192	200	198	188	164
23	135	127	188	184	233	223	194	192	200	198	185	94
24	134	126	190	78	243	233	193	191	200	198	182	155
25	144	111	190	180	250	243	194	190	200	197	184	181
26	132	115	196	190	256	250	194	189	201	197	182	178
27	132	110	196	194	258	256	191	186	199	197	188	182
28	153	112	196	190	259	161	191	187	201	197	187	179
29	169	153	195	183	226	142	191	179	---	---	186	176
30	172	165	203	194	265	139	190	182	---	---	184	162
31	174	167	---	---	168	146	192	189	---	---	188	179
MONTH	199	110	---	---	265	110	235	133	211	177	201	94
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	191	186	53	46	162	151	206	162	212	199	208	194
2	194	187	50	45	164	129	212	173	223	208	212	176
3	195	180	53	48	187	164	216	209	228	209	199	179
4	188	154	65	53	209	182	228	209	209	196	218	196
5	188	155	69	63	209	194	228	162	211	193	227	185
6	188	145	66	63	215	203	208	180	216	193	213	182
7	177	138	69	64	222	201	218	168	220	204	222	206
8	179	165	65	55	214	203	219	193	222	185	224	199
9	177	166	55	50	217	126	219	207	210	190	239	186
10	179	173	53	50	225	192	216	200	209	201	226	212
11	181	175	52	47	246	216	207	171	210	170	220	212
12	184	175	50	48	235	211	197	175	210	178	221	209
13	176	145	50	48	234	207	207	180	222	209	215	185
14	145	103	51	46	222	172	195	179	229	200	207	185
15	103	86	---	---	206	183	202	153	219	203	221	188
16	90	84	---	---	229	187	191	172	222	210	234	193
17	88	75	---	---	230	210	209	172	213	203	240	213
18	77	70	---	---	224	206	210	153	210	184	234	218
19	75	70	---	---	221	206	216	164	215	192	236	224
20	76	67	---	---	224	204	204	165	208	178	238	220
21	75	68	---	---	212	183	205	176	219	182	233	202
22	73	70	---	---	211	169	223	164	220	182	228	201
23	71	64	---	---	219	153	208	194	206	185	232	194
24	72	51	---	---	222	196	200	171	212	197	211	196
25	74	59	160	146	225	197	196	162	207	193	215	198
26	65	52	157	150	228	216	193	169	208	196	224	208
27	64	56	157	153	230	221	212	181	208	194	222	201
28	61	56	161	156	231	213	221	151	216	205	223	183
29	59	49	161	150	239	140	217	194	220	215	219	186
30	58	50	165	155	221	180	220	204	218	196	227	178
31	---	---	161	152	---	---	213	199	206	189	---	---
MONTH	195	49	---	---	246	126	228	151	229	170	240	176

11290000 TUOLUMNE RIVER AT MODESTO, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	21.5	17.0	15.5	11.5	11.0	13.0	12.5	10.5	9.0	15.5	13.0
2	24.5	22.0	17.0	15.5	12.0	11.0	13.5	13.0	10.5	9.0	16.0	13.0
3	24.5	22.0	17.0	16.0	12.0	10.5	13.5	12.5	11.0	9.0	16.5	13.5
4	24.0	22.0	17.0	15.5	11.5	10.5	13.0	13.0	11.0	9.0	16.5	13.5
5	23.0	21.0	17.0	15.5	11.0	11.0	13.0	12.5	11.5	9.5	16.5	14.0
6	22.5	20.0	16.5	15.0	12.0	11.0	12.5	12.5	12.0	10.0	16.5	15.5
7	22.5	20.0	16.0	15.0	12.5	11.5	12.5	12.5	12.5	11.0	16.0	13.5
8	21.5	20.0	16.0	14.5	12.5	11.0	12.5	11.5	13.0	11.5	15.0	12.5
9	21.0	19.0	16.0	14.5	12.0	11.0	13.0	12.5	13.0	11.0	14.5	13.0
10	20.5	18.5	16.0	14.5	11.5	10.5	13.0	12.0	14.0	11.5	15.0	12.5
11	20.5	18.5	17.0	15.5	11.0	10.0	12.5	12.0	14.0	12.0	16.0	13.5
12	20.0	18.0	---	---	11.5	10.5	12.0	12.0	14.0	12.0	16.0	14.5
13	20.0	18.0	---	---	11.0	10.0	12.5	11.5	13.5	12.5	15.5	13.5
14	20.5	18.0	---	---	11.0	9.0	11.5	10.5	14.5	12.5	15.5	13.0
15	20.5	18.0	---	---	10.0	9.0	11.0	10.0	14.0	13.0	15.5	13.0
16	20.0	18.5	---	---	10.0	9.0	10.5	9.0	14.5	12.5	15.5	13.5
17	20.0	18.0	---	---	10.5	10.0	10.0	9.0	14.0	12.5	14.0	12.0
18	20.0	18.0	---	---	11.0	10.0	10.0	8.5	14.5	12.5	14.5	11.0
19	19.5	17.5	---	---	10.5	10.0	10.0	9.0	14.0	13.5	15.5	12.5
20	19.5	17.5	---	---	11.0	9.5	9.5	8.5	16.0	13.0	16.0	13.0
21	18.5	17.0	15.0	14.5	11.5	9.5	10.5	8.5	15.5	14.5	17.0	14.0
22	18.0	16.5	15.5	14.5	11.0	10.5	10.0	9.0	16.5	14.0	16.0	14.5
23	18.5	16.5	15.0	14.0	11.5	11.0	10.0	8.5	16.5	14.5	17.0	15.0
24	17.0	15.5	14.5	13.5	11.0	10.0	10.0	8.5	17.0	14.0	16.5	14.0
25	17.5	15.5	13.5	13.0	11.5	10.5	10.5	9.0	17.0	14.5	17.0	14.5
26	17.5	16.0	13.0	12.0	12.0	11.0	10.0	9.5	17.0	15.0	18.0	15.0
27	17.5	16.5	12.0	11.0	11.5	11.0	10.5	9.0	17.5	15.0	18.5	15.5
28	17.5	16.0	11.5	11.0	11.5	11.0	10.5	9.0	17.0	15.0	19.5	16.0
29	17.0	16.0	12.0	10.5	12.5	10.5	10.0	9.0	---	---	20.0	17.0
30	17.5	16.5	12.0	11.0	12.5	10.5	10.0	8.5	---	---	20.5	17.5
31	17.5	16.0	---	---	12.5	12.0	10.0	8.5	---	---	21.5	18.0
MONTH	24.5	15.5	---	---	12.5	9.0	13.5	8.5	17.5	9.0	21.5	11.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22.0	19.0	14.5	12.5	26.5	24.0	30.5	26.0	29.5	24.5	28.0	24.0
2	22.5	19.5	15.0	13.0	26.0	22.5	31.5	26.5	30.0	25.0	28.0	24.5
3	22.0	19.0	16.5	14.0	26.5	23.0	30.5	26.0	29.5	25.0	28.5	24.5
4	20.5	19.0	18.0	14.5	27.5	23.5	30.0	25.0	28.0	24.0	27.0	23.5
5	20.0	18.5	19.0	16.0	29.0	24.5	29.0	24.5	27.5	23.5	25.0	21.5
6	20.0	18.0	19.5	16.5	29.5	25.5	30.0	25.0	27.0	23.0	25.0	21.0
7	20.5	17.5	19.0	16.5	29.0	24.5	29.0	25.5	27.5	23.0	24.5	20.5
8	21.0	18.0	19.0	16.0	26.5	23.0	29.5	24.5	27.5	23.5	24.5	21.0
9	19.5	18.0	18.5	16.0	24.0	20.5	31.5	25.5	28.0	24.0	25.5	21.5
10	21.5	17.5	18.5	15.5	26.5	21.0	32.0	26.5	29.0	24.5	26.5	22.0
11	21.5	18.5	18.5	15.5	28.5	23.0	31.5	27.0	28.0	24.5	26.5	22.0
12	22.0	19.0	19.0	16.5	28.5	23.5	31.5	27.0	29.0	24.5	26.5	22.0
13	22.0	19.0	19.5	17.0	28.0	23.5	31.5	27.0	29.5	25.0	26.0	22.0
14	22.0	19.5	20.0	16.5	27.0	22.5	31.0	27.0	29.0	25.0	25.5	22.0
15	19.5	16.0	20.5	17.0	27.5	22.5	29.5	26.0	30.0	24.0	25.0	22.0
16	17.0	14.5	21.5	18.0	27.5	23.0	29.5	25.0	29.0	24.5	25.0	21.5
17	15.0	13.0	22.5	19.0	27.5	23.0	29.5	25.5	28.5	24.0	25.5	21.5
18	15.0	12.5	22.5	19.5	28.5	24.0	28.5	25.0	27.5	23.0	26.0	21.5
19	15.5	12.5	21.0	19.0	29.0	24.5	29.5	25.0	27.0	23.5	26.5	22.0
20	16.5	13.5	21.0	19.0	29.5	24.5	30.0	25.5	26.0	22.5	27.0	22.5
21	17.0	14.0	20.5	18.5	28.5	24.0	29.5	25.5	27.5	21.5	26.5	23.0
22	17.5	14.5	21.5	18.0	28.0	23.0	28.5	24.5	26.5	22.5	26.5	22.5
23	18.0	15.0	22.0	18.5	28.0	24.0	29.5	24.5	25.5	22.0	26.5	23.0
24	17.5	15.5	23.5	19.5	29.0	24.0	28.5	24.0	26.0	21.5	26.0	23.0
25	16.5	15.5	23.5	21.0	30.5	25.0	28.5	24.0	26.0	22.0	26.0	22.5
26	15.5	14.5	24.5	21.0	29.5	25.5	28.5	24.0	26.0	22.5	25.5	22.0
27	14.5	14.0	24.5	21.5	29.5	24.5	29.0	25.0	27.0	22.5	24.5	21.5
28	14.0	12.5	25.5	22.0	29.5	24.5	28.5	25.0	27.5	23.5	22.5	21.0
29	14.0	13.0	26.5	22.5	28.5	24.5	28.5	24.0	27.0	23.0	23.5	20.0
30	13.5	12.5	28.0	24.0	30.0	25.5	29.0	24.0	27.0	23.0	23.0	20.0
31	---	---	27.5	24.5	---	---	29.5	24.5	28.0	23.5	---	---
MONTH	22.5	12.5	28.0	12.5	30.5	20.5	32.0	24.0	30.0	21.5	28.5	20.0



EXPLANATION

△ 2990
 Gaging station and abbreviated number (Complete number as given in the station description is 11299000)

□
 Powerplant

→
 Stream, open flume, or canal showing direction of flow

 Penstock, tunnel, closed flume, or pipe showing direction of flow

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 Federal Energy Regulatory Commission project no. 2130. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 15,908 acre-ft, June 29, 2000, gage height, 139.55 ft; minimum observed, 33 acre-ft, Jan. 12, 1987, gage height, 6.1 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 15,600 acre-ft, several days in June, maximum gage height, 138.24 ft, June 13; minimum, 700 acre-ft, estimated, many days, gage height unknown.

Capacity table (gage height, in feet, and contents, in acre-ft)
(Based on survey by Pacific Gas & Electric Co. in 1942)

10	53	40	842	70	3763	100	8105
20	105	50	1605	80	5105	120	11895
30	308	60	2632	90	6579	140	16012

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4260	1940	1440	1020	e780	e700	e900	6920	15500	15500	11300	3800
2	4090	1880	1450	1020	e770	e700	992	6990	15400	15500	11100	3600
3	4010	1830	1440	1020	e760	e700	1220	7140	15400	15400	10900	3460
4	3920	1770	1440	1010	e750	e700	1490	7360	15400	15400	10600	3380
5	3840	1710	1430	995	e740	e700	1740	7650	15500	15400	10300	3300
6	3760	1660	1420	1010	e730	e700	1950	8030	15500	15400	9990	3230
7	3680	1600	1410	1020	e720	e700	2180	8450	15400	15400	9730	3160
8	3590	1540	1390	1020	e710	e700	2460	8880	15400	15400	9460	3080
9	3510	1470	1380	1010	e700	e700	2730	9260	15300	15300	9190	3010
10	3430	1410	1360	1000	e700	e700	2980	9580	15300	15300	8930	2930
11	3350	1390	1340	993	e700	e700	3270	9820	15400	15200	8650	2830
12	3270	1360	1330	983	e700	e700	3610	10200	15600	15100	8380	2750
13	3190	1330	1310	968	e700	e700	3970	10700	15600	15100	8110	2690
14	3120	1330	1300	956	e700	e700	4440	11200	15600	15000	7880	2610
15	3040	1350	1280	949	e700	e700	4900	11700	15600	14900	7640	2530
16	2960	1370	1260	e940	e700	e700	5130	12300	15500	14800	7400	2450
17	2890	1380	1240	e930	e700	e700	5280	13000	15600	14600	7170	2370
18	2820	1380	1230	e920	e700	e700	5380	13800	15600	14400	6940	2290
19	2740	1370	1210	e910	e700	e700	5450	14300	15600	14200	6710	2220
20	2670	1360	1190	e900	e700	e700	5510	14600	15600	14000	6480	2150
21	2590	1390	1170	e890	e700	e700	5560	14800	15500	13800	6240	2070
22	2510	1430	1160	e880	e700	e700	5640	15000	15500	13600	6000	2000
23	2430	1430	1140	e870	e700	e700	5770	15100	15500	13300	5770	1930
24	2350	1480	1120	e860	e700	e710	5960	15300	15500	13100	5540	1860
25	2270	1490	1100	e850	e700	e720	6200	15300	15500	12900	5320	1810
26	2200	1490	1080	e840	e700	e730	6430	15400	15500	12700	5100	1770
27	2120	1480	1060	e830	e700	e740	6590	15400	15500	12400	4870	1740
28	2050	1470	1040	e820	e700	e750	6690	15400	15500	12200	4630	1700
29	1980	1460	1040	e810	---	e770	6790	15500	15500	12000	4420	1670
30	2030	1450	1040	e800	---	e800	6870	15500	15500	11800	4210	1640
31	2000	---	1030	e790	---	e840	---	15500	---	11600	4000	---
MAX	4260	1940	1450	1020	780	840	6870	15500	15600	15500	11300	3800
MIN	1980	1330	1030	790	700	700	900	6920	15300	11600	4000	1640
a	54.18	48.28	42.88				91.98	137.74	137.52	118.00	71.90	50.45
b	-2260	-550	-420	-240	-90	+140	+6030	+8630	0	-3900	-7600	-2360

CAL YR 2001 MAX 15700 MIN 947 b +83
WTR YR 2002 MAX 15600 MIN 700 b -2620

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 Federal Energy Regulatory Commission project no. 2130.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	51	40	45	72	49	94	94	732	165	150	123
2	56	50	39	46	72	47	109	96	587	159	148	122
3	56	49	41	47	72	47	125	103	452	145	147	86
4	56	49	47	44	72	47	137	116	465	130	145	56
5	56	49	47	44	72	47	144	136	568	119	144	56
6	55	48	45	46	72	48	138	151	597	114	143	58
7	54	48	44	48	72	49	136	162	538	111	147	57
8	54	47	43	47	70	51	141	160	477	123	152	56
9	54	47	43	46	68	46	144	158	370	126	150	55
10	54	46	43	45	66	46	142	151	265	125	149	54
11	53	48	43	45	37	45	149	136	210	125	148	54
12	53	48	43	45	35	46	159	133	222	123	147	54
13	52	49	42	45	33	45	162	146	329	123	145	53
14	52	38	43	45	33	45	179	167	358	121	144	53
15	52	23	41	49	36	49	194	185	312	118	143	53
16	51	23	42	58	36	45	147	194	289	137	142	52
17	51	22	42	68	38	43	126	214	285	161	141	52
18	51	22	42	73	38	51	112	238	315	161	140	52
19	51	22	42	73	35	41	102	238	346	157	139	51
20	50	22	42	73	36	42	95	197	328	154	138	51
21	50	34	42	73	38	44	91	164	302	155	137	50
22	49	49	42	73	40	46	92	148	257	152	136	50
23	49	40	41	73	42	49	98	137	222	149	135	50
24	49	57	40	73	42	47	106	154	215	146	134	50
25	49	49	42	73	44	46	117	250	209	146	132	39
26	48	43	42	73	46	46	125	329	228	144	131	28
27	48	41	41	72	48	48	116	401	215	142	129	28
28	48	40	41	71	49	53	106	438	186	141	128	28
29	47	41	45	71	---	60	103	518	174	140	127	29
30	58	39	45	71	---	70	99	682	169	138	126	28
31	55	---	47	71	---	80	---	702	---	144	125	---
TOTAL	1618	1234	1322	1826	1414	1518	3788	7098	10222	4294	4342	1628
MEAN	52.19	41.13	42.65	58.90	50.50	48.97	126.3	229.0	340.7	138.5	140.1	54.27
MAX	58	57	47	73	72	80	194	702	732	165	152	123
MIN	47	22	39	44	33	41	91	94	169	111	125	28
AC-FT	3210	2450	2620	3620	2800	3010	7510	14080	20280	8520	8610	3230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

MEAN	80.71	45.88	39.32	33.82	30.76	45.20	95.78	314.7	437.1	241.0	122.0	124.6
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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1939 - 2002
ANNUAL TOTAL	30427	40304	
ANNUAL MEAN	83.36	110.4	134.6
HIGHEST ANNUAL MEAN			256
LOWEST ANNUAL MEAN			36.4
HIGHEST DAILY MEAN	625	May 16	732
LOWEST DAILY MEAN	19	Feb 2	22
ANNUAL SEVEN-DAY MINIMUM	20	Feb 24	24
MAXIMUM PEAK FLOW			836
MAXIMUM PEAK STAGE			5.28
ANNUAL RUNOFF (AC-FT)	60350	79940	97480
10 PERCENT EXCEEDS	159	209	356
50 PERCENT EXCEEDS	55	66	61
90 PERCENT EXCEEDS	20	41	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 "Donnells Reservoir near Dardanelle."

REVISED RECORDS.—WSP 1930: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 4.84 ft above sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.—Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 64,745 acre-ft, between gage heights 4,720.0 ft, minimum operating head, and 4,917.0 ft, top of spillway gates. Lake is for power and conservation storage. Water passes through a 7.2-mi tunnel to a powerplant and down the Middle Fork Stanislaus River to Beardsley Lake (station 11292800). Records, including extremes, represent total contents at 2400 hours, of which 2,150 acre-ft is below minimum operating head. See schematic diagram of [Stanislaus River Basin](#).

COOPERATION.—Records were provided by Oakdale and South San Joaquin Irrigation District, in connection with Federal Energy Regulatory Commission project no. 2005.

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, 64,100 acre-ft, June 18, 20, gage height, 4,915.36 ft; minimum, 4,980 acre-ft, Mar. 4, gage height, 4,736.13 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 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26800	21200	19100	13100	5090	5320	7550	20800	53100	63100	58600	50600
2	26400	20900	19400	12100	6140	5260	7790	20500	55200	63000	58600	49900
3	26000	21000	19600	11100	6370	5200	8390	20400	56800	62800	58900	49200
4	25700	21200	19800	9920	6600	4980	9270	20600	58300	62600	59200	48300
5	25500	21000	20000	9460	6820	5370	10200	21100	60000	62500	59200	47200
6	25500	20800	20200	9170	7030	5450	10800	21900	61200	62200	59100	46400
7	25600	20600	20400	8950	7100	5600	11400	23000	61900	61900	59000	45400
8	25400	20400	20600	8570	6990	5420	12200	23900	62400	61500	59000	44500
9	25200	20300	20800	8160	6770	5090	13200	24800	62400	61100	58900	43500
10	24900	20300	21000	7710	6550	5200	13900	25500	61900	60700	58900	42600
11	24700	20400	21200	7240	6330	5710	14800	25900	61500	60300	58800	41600
12	24400	20200	21300	6800	6180	5680	16000	26400	61800	60000	58700	40500
13	24500	20000	21500	6350	6010	5610	17200	27100	62400	59900	58600	39600
14	24600	19900	21700	5940	5800	5460	18900	28200	63500	59900	58400	38700
15	24300	19700	21900	5810	5640	5180	20700	29400	63800	59800	58000	38000
16	24100	19400	22100	5650	5520	5000	21300	30800	63900	59600	57500	37100
17	23700	19500	22300	5500	5570	5290	21600	32500	63900	59600	57400	36200
18	23200	19600	22500	5370	5560	5100	21500	34400	64100	59500	57300	35500
19	22800	19400	22700	5620	5580	5190	21300	36100	64000	59400	56900	34600
20	22900	19100	22500	5920	5840	5440	21000	37500	64100	59200	56800	33600
21	23000	18900	21700	5910	5970	5580	20600	38100	64000	59200	56400	32700
22	22700	19400	21200	5810	5930	5680	20300	38500	63900	59000	55900	32500
23	22500	19600	20800	5540	6000	5520	20200	38800	63700	58800	55500	31500
24	22300	20200	20300	5390	6000	5470	20300	39100	63500	58600	55300	30500
25	22000	20500	19900	5170	5950	5400	20700	39700	63200	58600	55300	29500
26	21700	20400	19500	5390	5780	5290	21200	40600	63400	58600	54800	28600
27	21800	20300	18300	5680	5630	5410	21400	41800	63700	58500	54300	27500
28	21900	20100	17100	5520	5470	5290	21300	43200	63900	58900	53200	26500
29	21700	19600	16100	5230	---	5550	21300	45100	63700	58800	52600	25500
30	21500	19100	15000	5380	---	6030	21100	47700	63500	58800	51900	24500
31	21400	---	14200	5640	---	6820	---	50400	---	58700	51300	---
MAX	26800	21200	22700	13100	7100	6820	21600	50400	64100	63100	59200	50600
MIN	21400	18900	14200	5170	5090	4980	7550	20400	53100	58500	51300	24500
a	4797.70	4790.14	4772.61	4739.15	4738.41	4744.27	4796.77	4881.45	4913.94	4902.44	4883.78	4807.61
b	-5700	-2300	-4900	-8560	-170	+1350	+14280	+29300	+13100	-4800	-7400	-26800

CAL YR 2001 b +9250

WTR YR 2002 b -2600

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.—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.

COOPERATION.—Records were provided by Oakdale and South San Joaquin Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2005.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24,600 ft³/s (revised), 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	34	35	140	53	153	329	201	123	45	45	40
2	32	22	74	129	52	135	374	207	112	44	44	40
3	32	21	66	170	52	128	424	224	103	42	44	40
4	32	21	48	122	52	127	474	241	96	41	44	40
5	32	21	42	102	52	124	441	262	91	41	44	39
6	32	21	40	110	52	163	372	272	384	40	44	40
7	32	21	45	130	54	199	362	273	669	48	44	39
8	32	21	44	107	70	155	385	262	500	48	43	39
9	32	21	43	96	63	141	393	250	525	43	43	38
10	32	20	40	88	61	140	378	234	556	45	42	37
11	34	22	38	84	62	134	385	209	463	46	42	37
12	35	25	37	84	65	146	398	208	81	51	42	37
13	35	27	36	82	68	144	402	215	70	50	42	37
14	35	23	41	80	69	133	451	220	68	50	42	36
15	35	22	37	77	72	126	427	220	109	49	42	36
16	35	22	36	73	76	121	299	213	209	49	42	38
17	45	22	39	70	87	119	263	212	179	49	41	42
18	196	21	38	67	78	113	227	208	123	49	41	42
19	123	21	37	66	85	112	207	190	234	48	41	41
20	34	21	41	64	155	120	197	204	192	48	41	41
21	32	25	39	64	144	132	192	177	137	48	41	41
22	32	74	39	63	140	147	203	175	86	47	41	40
23	32	41	41	59	158	164	221	190	56	47	41	40
24	32	92	38	58	146	154	244	189	54	46	41	40
25	32	71	38	58	138	152	271	174	52	46	41	39
26	35	41	39	58	143	154	299	160	50	46	41	39
27	34	34	42	60	149	168	269	154	49	46	41	39
28	35	32	51	55	154	192	224	147	49	45	41	38
29	35	35	113	54	---	230	238	143	48	45	40	38
30	40	33	133	57	---	267	218	141	46	45	40	37
31	38	---	200	54	---	289	---	131	---	45	40	---
TOTAL	1304	927	1630	2581	2550	4782	9567	6306	5514	1432	1301	1170
MEAN	42.06	30.90	52.58	83.26	91.07	154.3	318.9	203.4	183.8	46.19	41.97	39.00
MAX	196	92	200	170	158	289	474	273	669	51	45	42
MIN	32	20	35	54	52	112	192	131	46	40	40	36
AC-FT	2590	1840	3230	5120	5060	9490	18980	12510	10940	2840	2580	2320
a	7930	7110	11580	17260	9440	15200	43780	44600	37350	17940	16200	28920

a Diversion, in acre-feet, through Donnell Powerplant (station 11262610), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.90	44.92	83.31	157.7	161.6	210.2	294.8	836.1	977.7	275.7	46.10	35.29
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1958 - 2002	
ANNUAL TOTAL	25338		39064			
ANNUAL MEAN	69.42		107.0		263.4	
HIGHEST ANNUAL MEAN					868 1983	
LOWEST ANNUAL MEAN					18.4 1977	
HIGHEST DAILY MEAN	400	Apr 26	669	Jun 7	17300	Jan 2 1997
LOWEST DAILY MEAN	18	Sep 6	20	Nov 10	3.3	Nov 9 1957
ANNUAL SEVEN-DAY MINIMUM	20	Jan 1	21	Nov 4	3.7	Nov 7 1957
MAXIMUM PEAK FLOW			868	Jun 7	24600	Jan 2 1997
MAXIMUM PEAK STAGE			6.26	Jun 7	18.02	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	50260		77480		190800	
TOTAL DIVERSION (AC-FT) a	178700		257300		258900	
10 PERCENT EXCEEDS	186		236		604	
50 PERCENT EXCEEDS	37		52		48	
90 PERCENT EXCEEDS	23		33		21	

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 District, in connection with Federal Energy Regulatory Commission project no. 2005.

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, 97,700 acre-ft, June 25, gage height, 3,396.82 ft; minimum, 19,300 acre-ft, Feb. 6, 7, gage height, 3,259.55 ft, Feb. 7.

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	3,190	1,370	3,240	11,600	3,350	66,400
3,160	41	3,200	2,370	3,260	19,500	3,370	79,200
3,170	267	3,210	3,790	3,290	33,100	3,398	98,500
3,180	693	3,220	5,720	3,320	48,800		

RESERVOIR STORAGE, (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35200	32100	31200	26600	21400	23600	22900	55900	80700	97100	83700	69500
2	35300	32000	30700	27500	20600	23600	24300	56700	82000	96900	83100	69400
3	35400	31800	30100	28600	19900	23500	25800	57500	82700	96800	82100	69300
4	35400	31500	29300	29600	19700	23500	27500	58300	83400	96600	81100	69400
5	35400	31500	28500	29800	19500	23100	29100	59100	83900	96300	80500	69400
6	35000	31500	27700	29900	19300	23100	30500	60000	85000	96100	79800	69500
7	34600	31600	26900	30100	19300	23300	31800	60900	86700	95900	79200	69600
8	34500	31600	26100	30200	19500	23400	33200	61800	88000	95800	78500	69700
9	34500	31600	25300	30400	19900	23600	34600	62600	89400	95600	77900	69800
10	34400	31600	24500	30500	20200	23500	35800	63300	90800	95500	77200	69900
11	34300	31400	23600	30600	20500	23000	37000	64000	92200	95300	76600	70000
12	34200	31400	22800	30700	20800	22800	38200	64700	92600	94900	76000	70100
13	34100	31500	22000	30800	21100	22800	39400	65400	92900	94500	75300	70200
14	33700	31500	21200	30800	21400	22800	40800	66100	93000	93900	74900	70100
15	33500	31600	20700	30500	21600	22800	42100	66800	93600	93400	74600	70000
16	33400	31700	20500	30200	21600	22800	43200	67500	94600	92900	74400	69900
17	33400	31600	20300	29900	21600	22400	44100	68200	95200	92400	73700	69900
18	33600	31300	20100	29600	21500	22200	44900	68800	95900	92000	73100	69800
19	33800	31200	19900	28900	21400	21900	45700	69400	96600	91500	72800	69800
20	33600	31200	19900	28200	21500	21500	46400	70100	97300	91100	72200	69900
21	33300	31300	20800	27700	21500	21200	47200	70700	97500	90500	71900	69900
22	33100	31300	21100	27300	21800	21000	47900	71600	97400	90100	71500	69200
23	33000	31200	21200	27000	22100	21200	48800	72500	97500	89600	71300	69300
24	33000	31100	21300	26600	22300	21400	49700	73400	97600	89100	70600	69500
25	33000	31000	21400	26200	22600	21400	50700	74300	97700	88500	70000	69500
26	33000	30900	21400	25500	23000	21500	51700	75200	97400	87800	69700	69500
27	32700	31000	21900	24700	23300	21400	52600	76000	97100	87300	69500	69600
28	32300	31000	22600	24300	23400	21800	53400	76800	96700	86200	69800	69800
29	32200	31500	23500	23800	---	22000	54300	77500	96700	85600	69700	69800
30	32100	31700	24400	23100	---	22300	55100	78500	96800	85000	69600	69900
31	32100	---	25600	22200	---	22500	---	79500	---	84400	69500	---
MAX	35400	32100	31200	30800	23400	23600	55100	79500	97700	97100	83700	70200
MIN	32100	30900	19900	22200	19300	21000	22900	55900	80700	84400	69500	69200
a	3287.86	3287.02	3273.89	3266.44	3269.15	3267.01	3331.23	3370.45	3395.62	3377.79	3355.07	3355.64
b	-3100	-400	-6100	-3400	+1200	-900	+32600	+24400	+17300	-12400	-14900	+400

CAL YR 2001 b +5700

WTR YR 2002 b +34700

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.—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 were provided by Oakdale and South San Joaquin Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2005.

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. 23, 1986.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	144	143	138	141	464	146	140	138	138	138	139
2	146	144	141	140	141	461	138	139	138	138	138	139
3	146	145	139	140	141	461	137	139	139	138	138	139
4	145	144	142	139	140	459	136	139	139	138	138	139
5	144	144	143	140	141	462	137	139	139	138	138	139
6	146	144	141	140	140	461	137	138	138	139	140	135
7	145	143	140	140	140	438	139	139	138	139	141	135
8	145	143	142	142	138	447	137	139	138	138	141	135
9	135	143	143	141	139	452	137	140	138	137	140	135
10	37	143	143	144	138	450	138	141	138	137	140	137
11	133	144	143	142	139	454	138	141	139	136	140	141
12	144	144	142	143	138	449	137	140	138	138	140	138
13	144	143	142	143	138	305	138	139	138	137	140	138
14	143	144	142	143	138	146	137	140	138	137	140	139
15	143	144	142	142	138	138	138	142	139	137	140	138
16	144	146	140	140	138	139	140	141	140	139	140	139
17	144	144	143	138	138	138	141	139	140	138	140	138
18	143	144	143	139	137	139	140	140	140	138	140	138
19	143	144	143	140	137	140	140	140	140	138	140	138
20	144	144	143	140	139	139	138	141	139	138	140	138
21	144	145	141	138	210	138	139	140	171	137	139	138
22	144	144	141	137	234	139	138	140	221	138	138	138
23	143	144	143	138	234	137	138	140	160	138	140	138
24	143	143	143	138	283	137	139	140	139	137	140	138
25	143	142	143	138	284	137	139	140	138	138	140	137
26	143	144	142	138	281	137	140	140	138	138	140	135
27	144	144	141	138	405	138	140	140	139	138	140	137
28	144	143	143	139	463	137	140	140	139	138	138	137
29	144	143	140	138	---	138	140	139	139	138	138	137
30	142	142	138	139	---	139	139	138	138	138	139	139
31	141	---	139	142	---	144	---	138	---	138	140	---
TOTAL	4335	4312	4394	4337	5173	8263	4161	4331	4296	4272	4324	4131
MEAN	139.8	143.7	141.7	139.9	184.8	266.5	138.7	139.7	143.2	137.8	139.5	137.7
MAX	146	146	143	144	463	464	146	142	221	139	141	141
MIN	37	142	138	137	137	137	136	138	138	136	138	135
AC-FT	8600	8550	8720	8600	10260	16390	8250	8590	8520	8470	8580	8190
a	13940	7170	21540	27730	12390	28560	33270	35430	31420	34030	34260	32010

a Diversion, in acre-feet, through Beardsley Powerplant (station 11292820), provided by Oakdale and South San Joaquin Irrigation District.

SAN JOAQUIN RIVER BASIN

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 1983
LOWEST ANNUAL MEAN	111 1977
HIGHEST DAILY MEAN	8630 May 30 1983
LOWEST DAILY MEAN	3.0 Oct 10 1958
ANNUAL SEVEN-DAY MINIMUM	5.0 Jan 16 1957
MAXIMUM PEAK FLOW	9080 May 30 1983
MAXIMUM PEAK STAGE	12.30 May 30 1983
ANNUAL RUNOFF (AC-FT)	485800
10 PERCENT EXCEEDS	1270
50 PERCENT EXCEEDS	500
90 PERCENT EXCEEDS	110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	116.3	120.0	118.0	247.6	154.9	196.1	198.1	631.1	828.4	342.3	127.1	117.9				
MAX	152	172	154	2227	398	625	607	1973	3266	1960	269	151				
(WY)	1998	1999	1990	1997	1997	1996	1995	1995	1995	1995	1995	1998				
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 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1987 - 2002

ANNUAL TOTAL	51069	56329	
ANNUAL MEAN	139.9	154.3	266.8
HIGHEST ANNUAL MEAN			735 1995
LOWEST ANNUAL MEAN			76.6 1988
HIGHEST DAILY MEAN	150 Mar 23	464 Mar 1	23100 Jan 2 1997
LOWEST DAILY MEAN	37 Oct 10	37 Oct 10	25 Oct 23 1986
ANNUAL SEVEN-DAY MINIMUM	126 Oct 9	126 Oct 9	44 Jan 19 1995
MAXIMUM PEAK FLOW		474 Mar 6	28200 Jan 2 1997
MAXIMUM PEAK STAGE		4.95 Mar 6	19.31 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	101300	111700	193300
TOTAL DIVERSION (AC-FT) a	206900	311700	294700
10 PERCENT EXCEEDS	144	144	435
50 PERCENT EXCEEDS	140	140	143
90 PERCENT EXCEEDS	137	137	58

a Diversion, in acre-feet, through Beardsley Powerplant (station 11292820), provided by Oakdale and 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, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	230	461	453	534	464	488	707	239	524	558	553
2	225	230	411	466	533	461	495	707	240	524	559	553
3	227	145	432	450	398	461	509	709	487	534	559	561
4	225	144	463	466	140	459	531	704	525	531	562	551
5	225	144	516	470	141	462	545	706	521	540	564	544
6	226	144	501	471	140	461	555	721	521	550	572	545
7	225	143	498	451	140	438	528	712	518	548	570	540
8	225	143	142	496	138	447	566	714	516	550	571	537
9	233	143	506	498	139	452	572	717	517	563	572	538
10	247	143	506	503	138	450	663	719	518	562	572	540
11	225	144	506	503	139	454	698	714	517	562	573	545
12	224	144	505	505	138	449	683	725	515	567	570	540
13	223	143	502	505	138	496	647	731	517	564	568	541
14	222	144	502	504	138	490	673	728	516	563	567	542
15	222	144	263	505	231	495	703	734	400	562	561	540
16	223	146	140	503	288	507	699	724	403	566	550	539
17	223	144	143	504	303	509	704	733	517	563	551	537
18	222	144	143	505	312	513	708	732	518	564	550	537
19	223	144	143	505	310	515	709	736	616	564	552	538
20	223	144	143	506	313	501	709	743	672	567	550	536
21	223	145	141	504	273	513	716	650	737	566	551	538
22	223	144	232	506	234	511	723	543	824	566	552	536
23	222	144	298	513	234	492	697	528	737	572	551	537
24	222	143	298	524	283	498	685	519	703	564	550	534
25	222	142	298	529	284	503	685	519	705	566	551	536
26	223	144	391	528	281	501	690	517	665	564	553	537
27	224	144	504	528	405	496	674	519	648	560	552	539
28	223	143	498	533	463	487	698	519	642	559	554	538
29	223	143	462	547	---	486	718	516	521	559	554	537
30	230	369	466	543	---	487	705	405	521	559	552	538
31	232	---	443	543	---	491	---	399	---	560	553	---
TOTAL	6980	4711	11457	15567	7208	14949	19376	20050	16496	17263	17324	16227
MEAN	225.2	157.0	369.6	502.2	257.4	482.2	645.9	646.8	549.9	556.9	558.8	540.9
MAX	247	369	516	547	534	515	723	743	824	572	573	561
MIN	222	142	140	450	138	438	488	399	239	524	550	534
AC-FT	13840	9340	22720	30880	14300	29650	38430	39770	32720	34240	34360	32190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	395.1	277.4	403.2	421.9	381.2	521.6	610.5	1102	1360	821.7	574.2	496.7					
MAX	671	538	656	2608	1007	1560	1448	2554	3874	2504	805	702					
(WY)	2000	1987	1997	1997	1997	1986	1986	1995	1998	1995	1995	1999					
MIN	57.6	58.1	55.8	55.3	55.1	58.7	146	72.7	208	444	471	124					
(WY)	1989	1989	1989	1989	1991	1991	1988	1990	1987	1994	1994	1988					

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1986 - 2002

ANNUAL TOTAL	123004	167608		
ANNUAL MEAN	337.0	459.2	614.8	
HIGHEST ANNUAL MEAN			1165	1995
LOWEST ANNUAL MEAN			221	1988
HIGHEST DAILY MEAN	600	Jul 29	824	Jun 22
LOWEST DAILY MEAN	135	Jan 11	138	Feb 8
ANNUAL SEVEN-DAY MINIMUM	137	Mar 29	138	Feb 8
ANNUAL RUNOFF (AC-FT)	244000	332500	445400	
10 PERCENT EXCEEDS	584	698	1160	
50 PERCENT EXCEEDS	247	516	505	
90 PERCENT EXCEEDS	139	144	118	

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, respectively). 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 Federal Energy Regulatory Commission project no. 2130.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	53	30	28	29	35	34	---	54	54	55	54
2	25	53	38	28	29	32	31	---	54	54	54	55
3	25	53	28	28	29	31	38	---	54	56	57	55
4	29	51	29	28	28	31	54	---	56	54	55	57
5	54	48	29	28	28	30	64	---	57	54	54	56
6	55	51	28	28	29	35	---	---	57	54	54	54
7	55	53	28	28	29	34	---	---	55	55	54	57
8	54	53	28	28	29	31	---	---	55	56	55	52
9	55	53	28	28	29	31	---	---	55	54	54	53
10	55	53	28	28	29	32	---	---	55	55	54	55
11	53	53	28	28	29	33	---	---	55	54	55	61
12	53	53	28	28	29	32	---	---	54	57	55	56
13	53	53	28	28	29	65	---	---	55	55	57	56
14	53	---	28	28	29	32	---	---	55	54	57	56
15	53	---	27	28	29	31	---	---	54	54	56	57
16	53	---	28	28	29	31	---	---	54	56	55	55
17	53	28	28	28	29	31	---	---	54	55	55	54
18	53	28	28	28	29	31	---	---	54	55	55	54
19	53	28	28	28	29	31	---	---	---	56	55	56
20	53	28	28	28	29	31	---	---	---	57	54	54
21	53	28	28	28	30	31	---	---	---	57	54	54
22	53	28	28	28	30	31	---	55	---	57	55	54
23	53	28	28	28	30	32	---	56	---	57	55	54
24	53	28	28	28	30	34	---	57	---	57	54	54
25	53	28	28	29	30	36	---	57	---	58	54	54
26	53	28	28	30	30	37	---	56	---	56	54	54
27	53	28	29	30	32	35	---	56	---	55	54	53
28	53	28	28	29	35	33	---	57	---	55	54	53
29	52	28	28	28	---	33	---	56	56	54	54	53
30	53	32	28	29	---	32	---	54	55	55	54	53
31	53	---	29	29	---	33	---	54	---	55	55	---
TOTAL	1551	---	883	876	825	1037	---	---	---	1715	1697	1643
MEAN	50.03	---	28.48	28.26	29.46	33.45	---	---	---	55.32	54.74	54.77
MAX	55	---	38	30	35	65	---	---	---	58	57	61
MIN	25	---	27	28	28	30	---	---	---	54	54	52
AC-FT	3080	---	1750	1740	1640	2060	---	---	---	3400	3370	3260
a	12700	6570	24030	31380	14410	31000	30110	31070	28730	31060	31100	29900

CAL YR 2001 a 230900

WTR YR 2002 a 302100

a Diversion, in acre-feet, through Stanislaus Powerplant (station 11295505), provided by Pacific Gas & Electric Co.

11293370 UTICA RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.—Lat 38°26'26", long 120°00'08", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Utica Dam on North Fork Stanislaus River, 1.2 mi upstream from Silver Creek, 2.6 mi southeast of Bear Valley, and 6.2 mi east of Big Meadows.

DRAINAGE AREA.—15.2 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 since Oct. 1, 1999. Datum of gage is 6,776.75 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.—Reservoir is formed by concrete and rock dam completed in 1910. Usable capacity, 2,334 acre-ft, between gage heights 0.7 ft, invert of outlet, and 42.5 ft, crest of spillway. Figures given represent usable contents. 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 Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 11563.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 2,545 acre-ft, May 8, 2000, gage height, 43.57 ft; minimum, 388 acre-ft, Feb. 2, 3, 2001, gage height, 30.74 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 2,540 acre-ft, Apr. 14, gage height, 43.56 ft; minimum, 1,730 acre-ft, Nov. 20, gage height, 39.84 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas and Electric Co. in 1954)

0.7	0	20	64	30	356	40	1,763
10	19	25	127	35	858	43	2,456

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1950	1890	1940	2030	1980	2040	2490	2470	2500	2320	2260	2180
2	1950	1880	2000	2050	1970	2040	2500	2480	2480	2310	2260	2180
3	1950	1860	2000	2050	1960	2050	2510	2490	2480	2310	2250	2180
4	1950	1850	2000	2050	1960	2050	2520	2510	2480	2310	2250	2180
5	1940	1840	2000	2050	1950	2050	2500	2520	2490	2300	2240	2170
6	1940	1830	2000	2060	1940	2100	2500	2520	2480	2300	2240	2180
7	1940	1820	2000	2070	1950	2120	2500	2520	2470	2300	2240	2180
8	1940	1810	1990	2070	1950	2120	2510	2510	2470	2300	2240	2180
9	1930	1800	1990	2070	1940	2120	2500	2510	2460	2300	2240	2180
10	1930	1780	1990	2070	1930	2130	2510	2490	2440	2300	2240	2170
11	1920	1790	1980	2060	1930	2130	2520	2490	2440	2290	2230	2170
12	1920	1810	1980	2060	1930	2140	2520	2500	2440	2290	2230	2170
13	1920	1800	1980	2060	1920	2140	2520	2520	2450	2290	2230	2170
14	1920	1800	1990	2060	1920	2140	2540	2520	2440	2290	2230	2160
15	1910	1780	1980	2050	1920	2140	2490	2520	2430	2290	2220	2160
16	1910	1770	1980	2050	1930	2150	2480	2520	2410	2290	2220	2160
17	1910	1760	1980	2040	1950	2150	2470	2530	2400	2280	2220	2160
18	1900	1750	1980	2040	1940	2150	2460	2530	2400	2280	2220	2160
19	1900	1740	1970	2030	1960	2160	2460	2500	2390	2280	2220	2150
20	1900	1730	1980	2020	1970	2160	2460	2490	2380	2280	2210	2150
21	1890	1780	1980	2020	1980	2180	2460	2480	2380	2280	2210	2150
22	1890	1810	1990	2020	1990	2200	2480	2480	2370	2280	2200	2150
23	1890	1810	1990	2010	2000	2240	2500	2480	2360	2270	2200	2150
24	1890	1900	1980	2000	2000	2250	2510	2490	2350	2270	2200	2140
25	1880	1900	1980	1990	2010	2260	2520	2490	2340	2270	2200	2140
26	1880	1900	1970	2010	2020	2270	2500	2500	2340	2270	2200	2140
27	1880	1890	1970	2000	2030	2300	2480	2500	2330	2260	2190	2140
28	1870	1900	1980	2000	2040	2370	2480	2510	2330	2260	2190	2140
29	1870	1910	2000	2000	---	2460	2480	2520	2320	2260	2190	2140
30	1900	1910	2010	1990	---	2480	2470	2520	2320	2260	2190	2130
31	1900	---	2020	1980	---	2490	---	2510	---	2260	2190	---
MAX	1950	1910	2020	2070	2040	2490	2540	2530	2500	2320	2260	2180
MIN	1870	1730	1940	1980	1920	2040	2460	2470	2320	2260	2190	2130
a	40.62	40.67	41.18	41.00	41.24	43.19	43.08	43.32	42.44	42.18	41.88	41.66
b	-60	+10	+110	-40	+60	+450	-20	+40	-190	-60	-70	-60

CAL YR 2001 MAX 2530 MIN 388 b +1581
WTR YR 2002 MAX 2540 MIN 1730 b +170

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

b Change in contents, in acre-feet.

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.—Water-stage recorder since Oct. 1, 1999. 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 Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 11563.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 4,200 acre-ft, May 7–11, 2001, several days in 2002, maximum gage height, 42.58 ft, Apr. 14, May 17, 18, 2002; minimum, 1,760 acre-ft, Mar. 16–18, 2001, minimum gage height, 26.54, Mar. 17, 2001.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 4,200 acre-ft, several days, maximum gage height, 42.58 ft, Apr. 14, May 17, 18; minimum, 2,780 acre-ft, Feb. 15, 16, 18, minimum gage height, 33.82, Feb. 15, 16.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas and Electric Co. in 1948)

0	0	15	533	30	2,229	40	3,765
5	41	20	990	35	2,962	43	4,279
10	208	25	1,564				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3170	2980	2960	2950	2840	2810	3040	4160	4180	4030	3680	3300
2	3160	2980	3000	2960	2840	2810	3110	4160	4180	4020	3660	3290
3	3160	2970	3000	2950	2830	2810	3190	4170	4180	4010	3650	3280
4	3150	2970	3000	2950	2830	2810	3290	4180	4180	4000	3640	3260
5	3140	2960	3000	2950	2820	2810	3380	4190	4180	3990	3630	3250
6	3140	2950	2990	2950	2810	2850	3460	4200	4170	3980	3610	3240
7	3130	2940	2990	2950	2820	2860	3560	4200	4170	3970	3600	3230
8	3120	2940	2980	2940	2820	2860	3660	4190	4160	3960	3590	3220
9	3120	2930	2980	2940	2810	2860	3760	4190	4140	3950	e3580	3210
10	3110	2920	2980	2940	2800	2870	3860	4180	4140	3940	3570	3200
11	3100	2930	2970	2930	2800	2870	3970	4180	4150	3930	3560	3180
12	3090	2940	2960	2930	2800	2870	4090	4190	4150	3920	3540	3170
13	3090	2930	2960	2920	2790	2870	4190	4200	4150	3900	3530	3160
14	3080	2930	2970	2920	2790	e2870	4200	4200	4150	3890	3520	3150
15	3070	2920	2960	2910	2780	e2870	4180	4200	4140	3880	3510	3140
16	3070	2920	2960	2910	2780	e2870	4170	4200	4140	3870	3500	3120
17	3060	2910	2960	2900	2790	e2870	e4170	4200	4140	3860	3480	3110
18	3050	2910	2960	2900	2780	e2870	e4160	4200	4130	3840	3470	3100
19	3050	2900	2950	2890	2800	e2870	e4160	4190	4130	3830	3460	3090
20	3040	2890	2960	2890	2800	e2870	e4160	4180	4120	3820	3440	3070
21	3040	2920	2950	2890	2800	e2870	4160	4170	4120	3810	3430	3060
22	3030	2920	2960	2880	2800	2880	4170	4170	4110	3800	3420	3050
23	3020	2920	2950	2870	2800	2900	4180	4180	4110	3780	3410	3040
24	3020	2940	2950	2870	2800	2910	4180	4180	4100	3770	3400	3030
25	3010	2940	2940	2860	2800	2910	4200	4190	4090	3760	3390	3020
26	3000	2930	2940	2870	2800	e2910	4180	4190	4080	3750	3370	3010
27	3000	2920	2940	2870	2800	e2910	4170	4190	4070	3730	3360	2990
28	2990	2930	2940	2870	2800	e2920	4170	4190	4060	3720	3350	2980
29	2980	2940	2950	2860	---	2930	4160	4200	4060	3710	3340	2970
30	3000	2940	2950	2860	---	2960	4160	4200	4040	3700	3320	2960
31	2990	---	2950	2850	---	2990	---	4190	---	3690	3310	---
MAX	3170	2980	3000	2960	2840	2990	4200	4200	4180	4030	3680	3300
MIN	2980	2890	2940	2850	2780	2810	3040	4160	4040	3690	3310	2960
a	35.19	34.83	34.93	34.27	33.97	35.20	42.33	42.51	41.65	39.54	37.24	34.98
b	-190	-50	+10	-100	-50	+190	+1170	+30	-150	-350	-380	-350

CAL YR 2001 MAX 4200 MIN 1760 b +750
WTR YR 2002 MAX 4200 MIN 2780 b -220

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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, and 5.6 mi northeast 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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 212 acre-ft, Jan. 1, 1997, elevation, 6,699.6 ft; minimum, 4 acre-ft, many days in October 1999 and October 2000.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 125 acre-ft, Apr. 14, elevation, 6,695.42 ft; minimum, 10 acre-ft, Oct. 1–20, elevation unknown.

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	6,695	120	6,696	140
6,685	32						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e10	e11	28	31	26	34	64	52	71	15	11	11
2	e10	e11	28	32	26	33	71	58	60	15	11	11
3	e10	e11	29	31	26	33	79	64	60	14	11	11
4	e10	e11	29	30	27	34	90	82	61	13	11	11
5	e10	e11	29	30	28	34	69	89	62	12	11	11
6	e10	e13	29	37	29	34	69	95	56	12	11	11
7	e10	15	29	34	29	32	74	89	53	11	11	11
8	e10	16	29	32	28	31	78	80	50	11	11	11
9	e10	17	29	31	28	31	72	78	47	11	11	11
10	e10	17	29	31	29	31	79	64	43	11	11	11
11	e10	19	29	31	30	31	84	68	42	11	11	11
12	e10	21	29	31	31	31	81	79	43	12	11	11
13	e10	22	29	31	30	31	94	90	44	12	11	11
14	e10	21	29	e31	30	31	125	94	44	12	11	11
15	e10	19	29	e30	31	30	65	91	41	12	11	11
16	e10	18	29	30	31	30	55	e94	39	11	11	11
17	e10	17	29	29	31	30	50	e94	37	11	11	11
18	e10	16	28	29	30	30	46	e94	36	11	11	11
19	e10	16	28	29	31	32	44	e75	35	11	11	11
20	e10	17	28	28	34	34	44	e70	34	11	11	11
21	e11	34	28	28	35	37	48	60	32	11	11	11
22	e11	31	28	28	37	34	57	61	31	11	11	11
23	e11	29	28	28	35	33	67	62	30	11	11	11
24	e11	35	28	27	34	33	80	64	29	11	11	11
25	e11	31	28	28	35	32	99	67	28	11	11	11
26	e11	29	28	28	36	34	74	74	26	11	11	11
27	e11	28	29	28	36	37	59	76	23	11	11	11
28	e11	28	29	27	37	40	53	78	21	11	11	11
29	e11	28	32	26	---	49	55	89	18	11	11	11
30	e11	28	33	26	---	56	49	90	16	11	11	11
31	e11	---	33	26	---	59	---	80	---	11	11	---
MAX	11	35	33	37	37	59	125	95	71	15	11	11
MIN	10	11	28	26	26	30	44	52	16	11	11	11
a		6684.16	6685.39	6683.54	6685.94	6689.20	6687.81	6691.55	6681.15	6678.99	6679.15	6679.17
b	+3	+17	+5	-7	+11	+22	-10	+31	-64	-5	0	0

CAL YR 2001 MAX 114 MIN 7 b +22

WTR YR 2002 MAX 125 MIN 10 b +3

e Estimated.

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.—Low and medium flow regulated by Union and Utica Reservoirs and Lake Alpine (stations 11293350, 11293370, and 11293460, respectively). 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](#).

COOPERATION.—Records were collected by Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	11	18	21	18	21	27	23	28	13	9.5	9.6
2	8.4	12	19	21	18	21	28	24	26	13	9.3	9.4
3	8.0	13	19	21	18	21	29	25	25	13	8.6	9.4
4	8.0	13	19	21	19	21	30	27	26	12	8.4	9.5
5	7.9	13	19	20	19	21	29	28	26	11	8.6	9.5
6	7.9	11	19	22	19	21	28	29	25	11	9.8	9.7
7	8.0	11	19	22	20	21	28	29	25	10	9.9	9.6
8	8.0	12	19	21	19	20	29	28	24	9.8	9.7	9.5
9	7.9	13	19	21	19	20	29	28	24	10	9.5	9.4
10	7.9	13	19	21	19	20	28	27	22	9.8	9.4	9.4
11	8.0	14	19	21	20	20	29	26	22	9.8	9.2	9.4
12	7.9	14	18	21	20	20	29	27	22	10	9.3	9.4
13	7.7	15	18	21	20	20	29	28	22	10	9.2	9.7
14	7.7	15	19	21	20	20	41	29	22	10	9.2	9.7
15	7.9	14	19	20	20	20	37	29	22	10	9.3	9.5
16	7.9	13	18	20	20	20	26	29	21	10	9.3	9.6
17	7.7	13	18	20	20	20	25	29	21	10	9.3	9.6
18	7.9	12	19	20	20	20	23	30	20	10	9.3	9.6
19	7.9	12	20	20	20	20	23	29	20	10	9.4	9.5
20	7.9	13	20	20	21	21	22	29	20	10	9.5	9.5
21	7.9	15	20	20	21	21	23	27	20	10	9.4	9.5
22	7.9	20	20	19	21	21	24	25	19	9.8	9.3	9.5
23	7.9	17	20	19	22	21	26	26	19	9.7	8.9	9.3
24	7.9	21	20	19	21	21	27	26	19	9.5	8.9	9.4
25	7.9	18	20	19	21	21	29	27	18	9.4	9.2	9.4
26	7.9	18	20	19	21	21	30	27	18	9.2	9.4	9.4
27	7.9	17	20	19	21	21	27	28	17	9.3	9.4	9.4
28	7.9	17	20	19	21	22	24	28	16	9.4	9.4	9.6
29	8.0	18	21	19	---	24	25	28	15	9.4	9.4	9.8
30	11	18	22	19	---	25	24	29	14	9.3	9.4	9.8
31	9.7	---	22	18	---	26	---	28	---	9.4	9.7	---
TOTAL	250.4	436	602	624	558	652	828	852	638	316.8	288.1	285.6
MEAN	8.077	14.53	19.42	20.13	19.93	21.03	27.60	27.48	21.27	10.22	9.294	9.520
MAX	11	21	22	22	22	26	41	30	28	13	9.9	9.8
MIN	7.7	11	18	18	18	20	22	23	14	9.2	8.4	9.3
AC-FT	497	865	1190	1240	1110	1290	1640	1690	1270	628	571	566
a	0	198	136	285	486	1500	16320	17620	3330	0	0	0

a Diversion, in acre-feet, through North Fork Stanislaus River Diversion Tunnel (station 11293580) to New Spicer Meadows Reservoir, provided by Northern California Power Agency.

SAN JOAQUIN RIVER BASIN

11293600 NORTH FORK STANISLAUS RIVER BELOW DIVERSION DAM, NEAR BIG MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.26	17.90	14.12	16.31	17.14	22.22	31.69	40.45	27.27	14.43	12.12	14.32
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	8.08	7.01	3.19	3.80	4.85	16.2	18.8	18.0	9.68	5.45	5.32	5.48
(WY)	2002	1991	1991	1991	1991	1991	1991	1992	1992	1988	1989	1989

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	5362.9		6330.9			
ANNUAL MEAN	14.69		17.34		20.27	
HIGHEST ANNUAL MEAN					32.6	
LOWEST ANNUAL MEAN					13.0	
HIGHEST DAILY MEAN	36	Mar 25	41	Apr 14	1840	May 16 1996
LOWEST DAILY MEAN	6.9	Jul 10	7.7	Oct 13	2.3	Oct 18 1992
ANNUAL SEVEN-DAY MINIMUM	7.6	Aug 10	7.8	Oct 12	2.3	Oct 17 1992
MAXIMUM PEAK FLOW			164		3220	
MAXIMUM PEAK STAGE			4.11		7.92	
ANNUAL RUNOFF (AC-FT)	10640		12560		14680	
ANNUAL DIVERSION (AC-FT) a	20930		39880			
10 PERCENT EXCEEDS	23		27		27	
50 PERCENT EXCEEDS	13		19		17	
90 PERCENT EXCEEDS	7.9		9.2		7.9	

a Diversion, in acre-feet, through North Fork Stanislaus River Diversion Tunnel (station 11293580) to New Spicer Meadows Reservoir, provided by Northern California Power Agency.

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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 190,024 acre-ft, July 5, 1998, elevation, 6,614.5 ft; minimum, 30,198 acre-ft, Mar. 5, 1993, elevation, 6,491.2 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 157,800 acre-ft, June 16–19, elevation, 6,597.77 ft; minimum, 60,200 acre-ft, Dec. 26–28, minimum elevation, 6,530.50 ft, Dec. 27, 28.

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	6,480	23,781	6,540	69,652	6,600	160,318
6,440	9,299	6,500	35,214	6,560	94,859	6,614	189,000
6,460	15,511	6,520	50,197	6,580	125,341		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74800	65600	61700	60700	61700	63900	70800	107600	150700	155600	143600	130800
2	74500	65300	62000	60900	61600	64000	72100	108300	151700	155400	143200	130300
3	74100	65100	61900	60900	61600	64200	73600	109300	152600	155100	142800	129800
4	73800	64900	61800	61000	61500	64300	75500	110500	153400	154700	142400	129400
5	73400	64700	61700	61000	61400	64500	77000	112100	154400	154500	142100	129100
6	73100	64500	61700	61200	61400	64900	78300	113700	155200	154200	141600	128600
7	72800	64300	61600	61300	61400	65200	79700	115500	155900	153900	141300	128300
8	72500	64100	61500	61400	61400	65300	81300	117000	156400	153500	140900	128000
9	72200	63900	61400	61500	61400	65400	82800	118400	156700	153100	140500	127600
10	71800	63700	61400	61600	61400	65600	84100	119600	156900	152600	140100	127300
11	71500	63600	61300	61600	61400	65600	85600	120700	157100	151800	139700	126900
12	71100	63400	61200	61700	61600	65700	87200	121900	157300	151100	139200	126200
13	70800	63300	61100	61800	61600	65900	88900	123400	157400	150700	138500	125800
14	70500	63100	61100	61900	61600	65900	91200	125100	157700	150200	137800	125500
15	70200	62900	61000	61900	61700	66000	93100	127000	157700	149900	137400	125100
16	69800	62700	60900	61900	61900	66100	94100	128700	157800	149500	136900	124600
17	69500	62500	60900	61900	61900	66200	95000	130800	157800	149200	136600	124200
18	69200	62300	60700	e61900	62000	66300	95500	e132700	157800	148900	136200	123700
19	69000	62100	60600	61900	62100	66300	96000	e134700	157800	148600	135900	123300
20	68700	61900	60600	62000	62300	66500	96600	e136300	157600	148000	135400	122900
21	68400	61900	60600	62000	62400	66600	97100	137300	157500	147400	135100	122300
22	68100	62000	60500	62000	62600	66800	97700	138200	157400	147100	134700	121800
23	67900	61800	60500	62000	62800	67100	98600	139000	157400	146600	134200	121200
24	67600	62400	60300	61900	63000	67300	99900	140000	157200	146300	133900	120500
25	67300	62400	60300	61900	63200	67400	101700	141000	157000	145900	133600	119800
26	67000	62300	60200	62000	63300	67600	103400	142200	156800	145600	133100	119200
27	66700	62100	60200	62000	63500	67800	104600	143400	156700	145300	132700	118900
28	66500	62100	60200	62000	63700	68100	105400	144700	156400	144900	132400	118500
29	66200	61900	60300	e61900	---	68400	106400	146200	156300	144600	131800	118200
30	66100	61700	60500	61900	---	69000	107000	147900	155900	144300	131500	117900
31	65900	---	60600	61800	---	69800	---	149400	---	143900	131100	---
MAX	74800	65600	62000	62000	63700	69800	107000	149400	157800	155600	143600	130800
MIN	65900	61700	60200	60700	61400	63900	70800	107600	150700	143900	131100	117900
a	6536.36	6532.14	6530.98	6532.21	6534.22	6540.26	6567.80	6593.22	6596.92	6590.08	6582.94	6574.88
b	-8700	-4200	-1100	+1200	+1900	+6100	+37200	+42400	+6500	-12000	-12800	-13200
c	9960	6890	4270	1890	1760	1280	1300	1410	6120	12500	11710	12980

CAL YR 2001 MAX 112500 MIN 55200 b -4000 c 77180

WTR YR 2002 MAX 157800 MIN 60200 b +43300 c 72060

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Diversion, in acre-feet, through New Spicer Meadow Powerplant (station 11293760), provided by Northern California Power Agency.

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.—46.0 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 6,340 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 Oct. 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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	160	112	31	59	21	21	22	21	184	172	171
2	166	160	69	28	59	21	20	22	21	148	172	236
3	165	119	64	22	59	21	21	22	21	163	172	207
4	164	116	75	22	59	21	21	22	53	164	171	171
5	163	115	75	22	59	21	21	22	50	164	170	171
6	162	117	75	22	59	20	21	22	51	164	170	171
7	162	116	77	22	56	20	21	22	52	164	170	171
8	162	116	77	22	35	20	21	22	53	204	171	171
9	161	116	77	22	29	20	21	23	75	231	173	170
10	161	116	77	22	29	21	21	23	80	308	170	169
11	161	116	74	22	26	20	21	23	91	364	191	213
12	161	115	74	22	21	20	21	23	100	364	285	250
13	161	116	75	22	21	20	21	23	106	262	345	214
14	163	118	77	22	21	20	21	23	111	230	306	173
15	163	118	75	21	21	21	22	23	107	194	227	176
16	162	118	74	21	21	21	22	23	112	170	170	229
17	162	118	74	21	21	21	22	23	128	170	170	231
18	163	118	73	26	21	21	22	23	128	170	171	230
19	163	118	74	31	21	21	23	23	126	172	170	230
20	162	118	74	31	21	21	23	21	126	272	172	231
21	162	118	73	31	21	21	23	21	134	294	171	245
22	161	118	74	31	21	21	23	22	136	209	172	270
23	161	117	74	36	21	21	23	22	136	170	171	337
24	161	73	73	40	21	21	23	21	140	168	171	364
25	161	58	73	39	20	21	23	21	145	171	172	363
26	161	101	73	40	21	21	23	21	145	171	171	291
27	161	102	57	39	21	21	23	21	145	171	171	180
28	160	102	39	48	21	21	23	21	146	171	172	169
29	160	127	31	57	---	21	22	23	147	172	241	169
30	160	134	31	60	---	21	22	49	200	172	201	169
31	160	---	31	59	---	21	---	21	---	172	171	---
TOTAL	5021	3474	2151	954	885	643	655	713	3086	6303	5902	6542
MEAN	162.0	115.8	69.39	30.77	31.61	20.74	21.83	23.00	102.9	203.3	190.4	218.1
MAX	166	160	112	60	59	21	23	49	200	364	345	364
MIN	160	58	31	21	20	20	20	21	21	148	170	169
AC-FT	9960	6890	4270	1890	1760	1280	1300	1410	6120	12500	11710	12980

11294000 HIGHLAND CREEK BELOW NEW SPICER MEADOW RESERVOIR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	70.96	57.27	77.13	68.68	97.73	126.2	212.8	365.8	278.5	138.6	95.34	83.16
MAX	358	254	399	334	902	605	456	1047	1097	787	592	423
(WY)	1997	2001	1965	1997	1997	1999	1995	1969	1983	1995	1998	1997
MIN	0.000	0.000	0.50	0.50	2.69	0.83	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1953 - 2002	
ANNUAL TOTAL	38910		36329			
ANNUAL MEAN	106.6		99.53		139.5	
HIGHEST ANNUAL MEAN					333 1997	
LOWEST ANNUAL MEAN					25.3 1977	
HIGHEST DAILY MEAN	302	Aug 19	364	Jul 11	5040	Dec 23 1955
LOWEST DAILY MEAN	19	Mar 12	20	Feb 25	0.00	Sep 28 1964
ANNUAL SEVEN-DAY MINIMUM	20	Mar 11	20	Mar 6	0.00	Sep 28 1964
MAXIMUM PEAK FLOW					9860 Jan 31 1963	
MAXIMUM PEAK STAGE					11.88 Jan 31 1963	
ANNUAL RUNOFF (AC-FT)	77180		72060		101000	
10 PERCENT EXCEEDS	163		182		400	
50 PERCENT EXCEEDS	116		75		54	
90 PERCENT EXCEEDS	22		21		3.0	

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.

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.

WATER TEMPERATURE: Water years 1990–98.

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.—Low and medium flows regulated by Union and Utica Reservoirs, Lake Alpine, North Fork Stanislaus River Diversion Reservoir, and New Spicer Meadow Reservoir beginning 1990 (stations 11293350, 11293370, 11293460, 11293590, and 11293770, respectively), total combined usable capacity, 194,001 acre-ft. See schematic diagram of [Stanislaus River Basin](#).

COOPERATION.—Records were collected by Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	174	174	195	334	141	313	725	463	340	268	182	171
2	173	175	311	318	139	273	834	490	292	172	181	194
3	173	159	176	408	138	255	990	604	256	181	182	251
4	169	126	146	265	137	256	1100	665	245	189	181	172
5	171	123	144	224	140	254	1040	758	252	187	177	171
6	168	123	141	258	141	415	871	778	232	186	178	174
7	169	123	157	338	148	515	905	764	215	184	180	172
8	169	123	153	281	206	339	943	715	194	188	179	171
9	168	124	153	247	146	297	944	672	183	253	183	169
10	167	124	143	223	137	287	899	627	191	272	180	168
11	168	140	134	211	142	270	944	533	186	385	180	170
12	167	155	131	211	147	301	991	554	190	386	239	254
13	165	166	130	204	157	303	989	592	182	342	353	252
14	167	143	148	197	152	269	1160	635	192	251	358	180
15	168	140	133	181	162	251	1140	650	183	245	271	171
16	168	136	129	163	181	241	705	626	175	187	199	208
17	168	133	141	156	217	235	595	633	182	184	183	237
18	168	132	135	140	179	220	492	631	188	184	180	238
19	169	131	132	150	195	219	436	568	183	183	179	236
20	168	131	143	145	400	249	418	587	177	228	180	238
21	168	148	138	144	359	276	404	509	177	307	181	237
22	168	413	139	141	328	320	452	476	181	282	182	270
23	168	204	145	125	365	355	548	542	179	182	181	299
24	168	477	135	138	320	323	667	554	181	179	181	366
25	167	213	134	134	294	313	779	507	191	177	181	366
26	167	159	139	135	299	305	917	446	190	180	182	358
27	166	156	153	140	310	330	725	430	185	178	183	214
28	167	149	164	127	315	389	572	405	182	179	177	173
29	168	164	315	132	---	491	625	405	181	181	191	173
30	202	201	341	141	---	606	545	440	181	182	252	172
31	193	---	505	144	---	644	---	380	---	182	172	---
TOTAL	5279	5065	5383	6155	5995	10114	23355	17639	6066	6864	6188	6625
MEAN	170.3	168.8	173.6	198.5	214.1	326.3	778.5	569.0	202.2	221.4	199.6	220.8
MAX	202	477	505	408	400	644	1160	778	340	386	358	366
MIN	165	123	129	125	137	219	404	380	175	172	172	168
AC-FT	10470	10050	10680	12210	11890	20060	46320	34990	12030	13610	12270	13140

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	87.58	139.9	230.1	267.3	346.4	511.4	961.7	1426	764.2	183.6	98.26	90.11
MAX	482	2103	1957	2440	2105	1785	2026	3299	3651	1231	672	464
(WY)	1983	1951	1965	1997	1986	1986	1982	1969	1983	1983	1998	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1915 - 2002	
ANNUAL TOTAL	81187		104728			
ANNUAL MEAN	222.4		286.9		425.4	
HIGHEST ANNUAL MEAN					1019 1983	
LOWEST ANNUAL MEAN					54.3 1924	
HIGHEST DAILY MEAN	916	Apr 26	1160	Apr 14	23400	Dec 23 1955
LOWEST DAILY MEAN	118	Feb 1	123	Nov 5	5.5	Dec 6 1929
ANNUAL SEVEN-DAY MINIMUM	122	Jan 12	124	Nov 4	7.4	Dec 2 1929
MAXIMUM PEAK FLOW			1620	Apr 14	36000	Jan 31 1963
MAXIMUM PEAK STAGE			5.33	Apr 14	15.00	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	161000		207700		308200	
10 PERCENT EXCEEDS	450		599		1180	
50 PERCENT EXCEEDS	162		186		148	
90 PERCENT EXCEEDS	131		140		36	

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, 13 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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 15 acre-ft, Jan. 1, 1997, elevation, 4,195.5 ft; minimum, no storage Jan. 3 to Nov. 10, 1997, Oct. 26 to Nov. 21, Dec. 14, 1998, Aug. 2 to Oct. 31, 1999.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 13 acre-ft, many days, maximum elevation, 4,191.57 ft, Dec. 3; minimum, 1 acre-ft, several days, minimum elevation unknown.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

4,180	6	4,184	8	4,188	11	4,192	13
4,182	7	4,186	9	4,190	12	4,193	14

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	10	12	12	13	12	12	12	10	10	10
2	10	10	12	12	12	13	12	12	12	10	10	10
3	10	10	13	12	13	12	13	12	12	10	10	10
4	10	10	13	13	12	13	13	12	12	10	10	10
5	10	10	12	13	13	13	12	12	12	10	10	10
6	10	10	11	12	12	12	12	12	12	10	10	10
7	10	10	12	12	13	12	12	12	12	10	10	10
8	10	10	11	13	13	12	12	12	12	10	10	10
9	10	10	10	12	12	13	12	12	12	10	10	10
10	10	10	10	12	12	12	12	12	12	10	10	10
11	10	10	10	12	12	12	12	12	12	10	10	10
12	10	12	10	12	12	12	12	12	12	10	10	10
13	10	10	10	12	12	12	12	12	12	10	10	10
14	10	10	10	12	12	12	13	12	12	10	10	10
15	10	10	10	12	12	13	12	12	12	10	10	10
16	10	10	10	12	12	12	12	12	12	10	10	10
17	10	10	11	13	12	12	12	12	11	10	10	e1
18	10	10	10	12	13	12	12	12	10	10	10	e1
19	10	10	10	13	13	12	12	12	10	10	10	e1
20	10	10	10	12	12	12	12	12	10	10	10	e1
21	10	12	10	12	13	12	12	12	10	10	10	e1
22	10	12	10	12	13	12	12	12	10	10	10	e1
23	10	12	10	13	13	12	12	12	10	10	10	e1
24	10	12	10	12	13	12	12	12	10	10	10	e1
25	10	13	10	12	12	12	12	12	10	10	10	e1
26	10	12	10	12	13	12	12	12	10	10	10	e1
27	10	10	10	12	12	12	13	12	10	10	10	e1
28	10	10	13	13	13	12	12	12	10	10	10	e1
29	10	10	13	13	---	12	12	12	10	10	10	e1
30	11	10	12	13	---	12	12	12	10	10	10	e1
31	10	---	13	12	---	13	---	12	---	10	10	---
MAX	11	13	13	13	13	13	13	12	12	10	10	10
MIN	10	10	10	12	12	12	12	12	10	10	10	1.0
a	4187.20	4187.52	4191.40	4190.88	4191.08	4191.13	4190.58	4190.66	4187.37	4187.00	4186.88	
b	0	0	+3	-1	+1	0	-1	0	-2	0	0	-9

CAL YR 2001 MAX 13 MIN 1.0 b +3

WTR YR 2002 MAX 13 MIN 1.0 b -9

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, and 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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	7.8	15	20	19	19	20	20	20	12	6.0	4.2
2	4.3	6.5	21	20	19	19	20	20	20	12	5.9	4.1
3	4.2	6.0	27	20	19	19	42	20	20	11	6.0	4.0
4	4.2	5.8	21	20	19	19	20	20	20	11	6.0	4.0
5	4.3	5.7	20	20	19	19	20	20	20	11	5.9	4.4
6	4.5	5.6	20	20	19	19	20	20	20	11	5.7	4.9
7	4.6	5.5	20	19	19	18	20	20	20	10	5.7	5.3
8	4.6	5.5	20	20	19	19	20	20	20	10	5.6	5.0
9	4.6	5.5	18	20	19	20	20	20	20	9.8	5.5	4.7
10	4.5	5.5	17	20	19	20	20	20	20	9.3	5.4	4.3
11	4.5	8.3	16	20	19	20	20	20	20	9.1	5.3	4.1
12	4.5	13	16	20	19	20	20	20	20	9.2	5.2	4.0
13	4.4	18	15	20	19	20	20	20	20	8.7	5.1	4.0
14	4.4	11	16	20	19	20	20	20	20	8.4	5.0	3.9
15	4.2	9.5	14	20	19	20	20	20	20	8.2	4.9	3.8
16	4.2	8.6	16	20	19	20	19	20	20	8.0	4.7	4.0
17	4.2	7.9	17	20	19	20	19	20	20	7.9	4.8	e9.1
18	4.3	7.3	17	20	19	20	19	20	19	7.8	4.8	3.8
19	4.4	7.0	15	20	19	20	19	20	18	7.7	4.7	2.9
20	4.4	6.7	15	20	19	20	18	20	17	7.6	4.7	2.9
21	4.4	9.8	17	20	19	20	18	20	17	7.5	3.8	2.9
22	4.3	25	16	20	19	20	19	20	16	7.3	3.0	2.9
23	4.4	20	16	20	19	20	20	20	16	7.1	3.0	2.9
24	4.5	30	14	20	19	20	20	20	15	6.9	3.0	2.9
25	4.4	21	15	20	19	20	20	20	15	6.6	3.0	2.9
26	4.4	20	15	20	19	20	20	20	14	6.5	4.3	2.9
27	4.4	18	16	19	19	20	20	20	14	6.5	4.4	2.9
28	4.4	15	19	19	19	20	20	20	13	6.5	4.3	2.9
29	4.5	15	24	19	---	20	20	20	13	6.4	4.3	2.9
30	11	16	20	19	---	20	20	20	13	6.3	4.3	2.9
31	15	---	20	19	---	20	---	20	---	6.1	4.3	---
TOTAL	153.3	346.5	548	614	532	611	613	620	540	263.4	148.6	116.4
MEAN	4.945	11.55	17.68	19.81	19.00	19.71	20.43	20.00	18.00	8.497	4.794	3.880
MAX	15	30	27	20	19	20	42	20	20	12	6.0	9.1
MIN	4.2	5.5	14	19	19	18	18	20	13	6.1	3.0	2.9
AC-FT	304	687	1090	1220	1060	1210	1220	1230	1070	522	295	231
a	0	208	511	1430	1860	3570	7650	3630	115	0	0	1.5

e Estimated.

a Diversion, in acre-feet, through tunnel and penstock (station 11295210) to McKay's Point Reservoir, provided by Northern California Power Agency.

SAN JOAQUIN RIVER BASIN

11295230 BEAVER CREEK BELOW DIVERSION DAM, NEAR ARNOLD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.736	10.82	27.77	79.69	41.59	58.30	45.87	57.84	31.74	12.46	8.266	6.812
MAX	12.8	21.1	184	610	130	280	185	291	129	21.5	18.2	16.2
(WY)	1999	1997	1997	1997	1997	1995	1995	1995	1998	1998	1998	1998
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	4519.5		5106.2			
ANNUAL MEAN	12.38		13.99		33.62	
HIGHEST ANNUAL MEAN					102	
LOWEST ANNUAL MEAN					9.86	
HIGHEST DAILY MEAN	30	Nov 24	42	Apr 3	3570	Jan 2 1997
LOWEST DAILY MEAN	2.0	Aug 31	2.9	Sep 19	1.2	Dec 22 1994
ANNUAL SEVEN-DAY MINIMUM	3.5	Aug 25	2.9	Sep 19	2.0	Oct 1 1991
MAXIMUM PEAK FLOW			240	Apr 3	6020	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	8960		10130		24360	
ANNUAL DIVERSION (AC-FT) a	11400		18970			
10 PERCENT EXCEEDS	20		20		46	
50 PERCENT EXCEEDS	12		18		16	
90 PERCENT EXCEEDS	4.2		4.3		4.4	

a Diversion, in acre-feet, through tunnel and penstock (station 11295210) to McKay's Point Reservoir, provided by Northern California Power Agency.

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 Utica Power Authority, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2019.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.03	3.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	44	48
2	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	43	47
3	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	43	48
4	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	43	50
5	8.0	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35	44	50
6	7.1	0.10	0.00	0.00	0.00	0.00	0.00	0.00	6.4	36	44	50
7	7.2	3.5	0.00	0.00	0.00	0.00	0.00	0.00	12	36	24	50
8	7.3	6.0	0.00	0.00	0.00	0.00	0.00	0.00	12	64	44	50
9	7.0	6.7	0.00	0.00	0.00	0.00	0.00	0.00	12	54	35	50
10	6.8	6.3	0.00	0.00	0.00	0.00	0.00	0.00	12	59	39	50
11	5.7	5.1	0.00	0.00	0.00	0.00	0.00	0.00	12	59	50	49
12	10	2.6	0.00	0.00	0.00	0.00	0.00	0.00	12	60	49	51
13	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	60	49	50
14	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	60	50	50
15	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	59	50	49
16	10	0.00	0.00	0.00	0.00	0.00	0.00	5.4	9.2	60	50	50
17	10	0.00	0.00	0.00	0.00	0.00	0.00	10	9.0	60	50	42
18	5.4	0.00	0.00	0.00	0.00	0.00	0.00	10	9.1	60	49	50
19	5.2	0.00	0.00	0.00	0.00	0.00	0.00	10	15	59	51	51
20	5.3	0.00	0.00	0.00	0.00	0.00	0.00	10	23	60	50	50
21	5.3	0.00	0.00	0.00	0.00	0.00	0.00	10	25	60	50	50
22	5.2	0.00	0.00	0.00	0.00	0.00	0.00	8.7	25	60	50	52
23	5.3	0.00	0.00	0.00	0.00	0.00	0.00	3.9	25	60	49	51
24	5.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26	53	49	52
25	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26	52	50	52
26	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25	44	49	54
27	5.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26	45	50	51
28	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32	42	51	51
29	0.07	0.00	0.00	0.00	---	0.00	0.00	0.00	36	44	48	51
30	0.07	0.00	0.00	0.00	---	0.00	0.00	0.00	35	44	48	51
31	3.7	---	0.00	0.00	---	0.00	---	0.00	---	24	47	---
TOTAL	176.89	34.45	0.00	0.00	0.00	0.00	0.00	68.00	457.70	1553	1442	1500
MEAN	5.706	1.148	0.000	0.000	0.000	0.000	0.000	2.194	15.26	50.10	46.52	50.00
MAX	11	6.7	0.00	0.00	0.00	0.00	0.00	10	36	64	51	54
MIN	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24	24	42
AC-FT	351	68	0.00	0.00	0.00	0.00	0.00	135	908	3080	2860	2980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	39.58	33.56	39.23	35.66	31.72	32.67	35.39	49.69	54.05	49.59	44.06	41.09	
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	5.71	1.15	0.000	0.000	0.000	0.000	0.000	2.19	15.3	36.2	30.4	5.93	
(WY)	2002	2002	2002	2002	1997	2000	2002	2002	2002	1990	1990	2001	

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	8215.15		5232.04			
ANNUAL MEAN	22.51		14.33		40.58	
HIGHEST ANNUAL MEAN					59.8	1990
LOWEST ANNUAL MEAN					14.3	2002
HIGHEST DAILY MEAN	45	Aug 17	64	Jul 8	89	Oct 17 1989
LOWEST DAILY MEAN	0.00	Feb 21	0.00	Nov 13	0.00	Feb 4 1990
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 13	0.00	Nov 13	0.00	Feb 4 1990
ANNUAL RUNOFF (AC-FT)	16290		10380		29400	
10 PERCENT EXCEEDS	40		50		76	
50 PERCENT EXCEEDS	28		0.00		42	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,610 ft³/s, May 8, 2000; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	410	108	42	335	162	450	906	519	206	293	218	47
2	222	137	275	312	14	151	759	335	347	196	128	131
3	92	46	98	426	26	68	1060	746	230	127	e16	388
4	149	64	251	285	273	624	1180	581	289	6.8	0.00	87
5	0.04	168	249	165	116	211	1260	669	399	60	e94	97
6	0.00	119	216	236	130	392	903	828	236	109	e110	124
7	27	118	274	418	175	698	852	846	173	0.02	91	3.3
8	174	112	50	239	233	343	1150	874	22	168	282	7.1
9	174	183	39	282	56	144	1030	629	0.00	284	239	243
10	140	10	219	214	24	213	964	733	228	305	119	106
11	222	22	139	88	126	466	969	510	227	245	54	147
12	154	292	128	124	413	233	1010	618	83	328	310	67
13	0.00	46	138	84	117	389	1210	678	192	226	176	82
14	0.05	87	74	129	200	245	993	505	241	59	190	14
15	160	46	35	102	167	331	1180	738	101	170	e89	5.9
16	118	210	39	293	73	27	830	e641	90	66	53	53
17	217	0.00	122	194	64	203	704	e680	169	122	8.2	128
18	224	33	126	167	104	539	508	e596	214	121	46	166
19	63	273	157	21	370	119	380	e387	203	237	89	246
20	17	204	212	0.05	395	206	427	e656	161	88	102	178
21	44	142	108	219	539	268	265	507	67	5.4	e170	118
22	143	209	102	186	411	511	682	414	125	142	e160	154
23	237	161	37	134	255	220	658	637	75	78	e94	339
24	357	386	147	101	194	283	668	662	249	177	e71	159
25	383	217	37	99	476	480	722	468	258	111	e58	182
26	439	202	38	142	366	610	894	400	108	157	e185	116
27	111	255	279	119	301	267	701	255	84	38	e352	19
28	76	160	392	143	432	414	368	538	104	0.10	e107	52
29	0.46	134	166	154	---	522	758	579	57	162	e74	105
30	44	27	335	124	---	466	657	403	129	117	e181	57
31	47	---	519	98	---	620	---	315	---	165	e84	---
TOTAL	4444.55	4171.00	5043	5633.05	6212	10713	24648	17947	5067.00	4363.32	3950.20	3621.3
MEAN	143.4	139.0	162.7	181.7	221.9	345.6	821.6	578.9	168.9	140.8	127.4	120.7
MAX	439	386	519	426	539	698	1260	874	399	328	352	388
MIN	0.00	0.00	35	0.05	14	27	265	255	0.00	0.02	0.00	3.3
AC-FT	8820	8270	10000	11170	12320	21250	48890	35600	10050	8650	7840	7180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	191.4	142.6	203.2	278.9	428.1	595.0	699.6	668.1	427.1	290.4	247.2	227.7	
MAX (WY)	333	315	774	820	1170	1101	1240	1339	1340	897	544	364	
MIN (WY)	49.5	40.2	25.3	32.3	9.79	140	309	50.6	55.5	94.7	104	114	
(WY)	1993	1992	1992	1992	1991	1991	1994	1992	1992	1994	1992	1992	

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	67934.69		95813.42			
ANNUAL MEAN	186.1		262.5		379.3	
HIGHEST ANNUAL MEAN					696	
LOWEST ANNUAL MEAN					115	
HIGHEST DAILY MEAN	1080	Apr 26	1260	Apr 5	1610	May 8 2000
LOWEST DAILY MEAN	0.00	Jan 6	0.00	Oct 6	0.00	Feb 10 1990
ANNUAL SEVEN-DAY MINIMUM	53	May 25	64	Oct 29	0.00	Feb 7 1991
ANNUAL RUNOFF (AC-FT)	134700		190000		274800	
10 PERCENT EXCEEDS	432		656		994	
50 PERCENT EXCEEDS	122		175		234	
90 PERCENT EXCEEDS	5.9		38		3.9	

e Estimated.

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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 2,572 acre-ft, Jan. 1, 1997, elevation, 3,379.9 ft; minimum, 255 acre-ft, Oct. 26, 2001, elevation, 3,279.42 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 2,150 acre-ft, July 28, elevation, 3,367.09 ft; minimum, 255 acre-ft, Oct. 26, elevation, 3,279.42 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	3,320	869	3,360	1,921	3,380	2,575
3,300	480	3,340	1,325	3,370	2,248		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	1290	1530	1510	1450	1200	1460	1280	1860	1740	1560	1710
2	1190	1310	1650	1550	1660	1470	1750	1590	1780	1560	1530	1660
3	1280	1450	1820	1560	1850	1820	1740	1300	1770	1500	1720	1260
4	1260	1510	1630	1530	1560	1170	1780	1460	1690	1740	1940	1260
5	1530	1380	1550	1600	1570	1250	1540	1590	1440	1850	1970	1280
6	1800	1330	1590	1620	1560	1420	1600	1510	1400	1880	1980	1240
7	1980	1260	1490	1420	1500	1210	1730	1450	1410	2110	2020	1420
8	1910	1190	1630	1480	1440	1290	1470	1230	1680	2010	1700	1600
9	1820	1010	1800	1400	1600	1630	1400	1370	2000	1800	1470	1310
10	1800	1180	1600	1390	1800	1830	1360	1250	1890	1540	1450	1300
11	1630	1340	1540	1580	1800	1500	1380	1360	1770	1640	1540	1200
12	1540	1040	1490	1720	1270	1680	1420	1270	1940	1560	1240	1360
13	1790	1190	1420	1920	1330	1560	1090	1140	1910	1620	1360	1480
14	2000	1230	1460	1880	1240	1640	1530	1440	1760	1820	1520	1620
15	1950	1380	1600	1790	1230	1500	1620	1320	1900	1780	1710	1770
16	1960	1190	1740	1530	1410	1900	1440	1370	2030	1850	1830	1840
17	1800	1410	1730	1440	1710	1970	1290	1290	2040	1790	2010	1880
18	1640	1570	1690	1350	1850	1390	1330	1400	1970	1720	2080	1810
19	1760	1270	1610	1580	1520	1600	1480	1750	1880	1460	2100	1590
20	1950	1100	1440	1840	1590	1690	1520	1540	1830	1530	e2100	1490
21	2090	1080	1440	1680	1310	1710	1850	1450	1950	1920	e2000	1510
22	2060	1440	1470	1560	1220	1390	1440	1570	1990	2020	e1910	1550
23	1870	1470	1640	1510	1510	1710	1230	1410	2120	2060	e1930	1280
24	1430	1660	1580	1550	1820	1820	1210	1230	1900	1930	e1990	1490
25	944	1600	1720	1600	1530	1560	1290	1340	1680	1920	e2070	1630
26	255	1470	1880	1580	1460	1020	1320	1480	1720	1820	e1930	1890
27	301	1220	1590	1610	1540	1180	1350	1860	1790	1960	e1460	2040
28	432	1130	1120	1540	1380	1170	1750	1650	1820	2150	e1460	2040
29	736	1110	1410	1470	---	1170	1520	1360	1940	2050	e1550	1980
30	1000	1340	1450	1490	---	1500	1350	1440	1920	1980	e1560	1970
31	1210	---	1480	1520	---	1660	---	1580	---	1760	e1610	---
MAX	2090	1660	1880	1920	1850	1970	1850	1860	2120	2150	2100	2040
MIN	255	1010	1120	1350	1220	1020	1090	1140	1400	1460	1240	1200
a	3335.99	3340.88	3346.09	3347.48	3342.62	3352.08	3341.47	3349.61	3360.02	3355.32		3361.80
b	-650	+130	+140	+40	-140	+280	-310	+230	+340	-160	-150	+360
CAL YR 2001	MAX 2140	MIN 255	b -90									
WTR YR 2002	MAX 2150	MIN 255	b +110									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAY'S POINT DAM, NEAR AVERY, CA

LOCATION.—Lat 38°13'58", long 120°17'33", in NE 1/4 NW 1/4 sec.2, T.4 N., R.15 E., [Calaveras County](#), Hydrologic Unit 18040010, Stanislaus National Forest, at McKay's Point Dam, and 4.5 mi northeast of Avery.

DRAINAGE AREA.—166 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, respectively), 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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	19	18	19	18	19	18	18	18	18	22	23
2	22	20	18	19	18	19	19	18	18	18	22	23
3	23	20	18	19	18	20	18	18	18	18	e22	23
4	23	20	19	19	18	20	18	18	18	18	23	23
5	23	21	19	19	18	20	18	18	18	18	22	23
6	23	22	19	19	18	20	18	18	18	18	22	23
7	23	22	19	19	18	20	18	18	18	18	22	22
8	23	22	19	18	18	20	18	18	18	18	22	23
9	23	22	19	18	18	20	18	18	18	18	22	23
10	23	22	19	18	18	20	18	18	18	18	22	23
11	23	22	19	18	18	20	18	18	18	19	22	23
12	23	22	19	18	18	19	18	18	18	19	24	23
13	23	19	19	18	18	18	18	18	18	19	23	23
14	23	18	19	18	18	18	18	18	e18	19	24	23
15	23	18	e19	18	18	18	18	18	e19	e21	24	23
16	23	18	19	18	18	18	18	18	e19	21	25	23
17	23	18	19	18	18	18	18	18	e18	21	25	25
18	23	19	19	18	18	18	18	18	e18	21	24	27
19	23	20	19	18	18	18	18	18	e18	21	24	26
20	23	20	19	18	18	18	18	18	e18	21	24	26
21	23	20	19	18	18	18	18	18	e18	21	24	26
22	23	19	19	18	18	18	18	18	18	21	24	27
23	23	18	19	18	18	18	18	18	18	21	26	26
24	23	18	19	18	18	18	18	18	18	21	26	27
25	23	18	19	18	18	18	18	18	18	21	26	27
26	21	18	19	18	18	18	18	18	18	21	26	27
27	22	18	19	18	18	18	18	18	18	22	26	27
28	23	18	19	18	18	18	18	18	18	22	26	28
29	23	18	19	18	---	18	18	18	18	22	24	27
30	21	18	19	18	---	18	18	18	18	22	22	27
31	18	---	19	18	---	18	---	18	---	23	22	---
TOTAL	701	587	586	565	504	579	541	558	542	619	732	740
MEAN	22.61	19.57	18.90	18.23	18.00	18.68	18.03	18.00	18.07	19.97	23.61	24.67
MAX	23	22	19	19	18	20	19	18	19	23	26	28
MIN	18	18	18	18	18	18	18	18	18	18	22	22
AC-FT	1390	1160	1160	1120	1000	1150	1070	1110	1080	1230	1450	1470

e Estimated.

11295270 NORTH FORK STANISLAUS RIVER BELOW McKAY'S POINT DAM, NEAR AVERY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.01	20.50	34.06	148.4	27.56	42.71	33.39	70.10	26.15	19.87	20.55	22.15
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	18.0	18.0	18.0	18.0	10.6	18.2
(WY)	1996	1990	1990	1990	1990	1990	1999	1999	2000	1999	1989	1998

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1989 - 2002	
ANNUAL TOTAL	7265	7254		
ANNUAL MEAN	19.90	19.87	40.97	
HIGHEST ANNUAL MEAN			173	1997
LOWEST ANNUAL MEAN			16.9	1990
HIGHEST DAILY MEAN	26	Sep 13	21600	Jan 2 1997
LOWEST DAILY MEAN	18	Jan 23	3.4	Nov 25 1989
ANNUAL SEVEN-DAY MINIMUM	18	Jan 25	4.2	Nov 15 1989
MAXIMUM PEAK FLOW		35	28000	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	14410	14390	29680	
10 PERCENT EXCEEDS	23	23	24	
50 PERCENT EXCEEDS	19	18	19	
90 PERCENT EXCEEDS	18	18	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 Northern California Power Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2409.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 25,200 ft³/s, Jan. 2, 1997; minimum daily, 5.1 ft³/s, Dec. 22, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	27	33	39	37	38	38	38	38	30	28	27
2	26	26	39	39	37	38	39	38	38	30	28	27
3	27	26	46	39	37	38	60	38	38	29	28	e27
4	27	26	40	39	37	39	38	38	38	29	29	27
5	27	27	39	39	37	39	38	38	38	29	28	28
6	28	28	39	39	37	39	38	38	38	29	28	28
7	28	28	39	37	37	38	38	38	38	29	28	28
8	28	28	39	38	37	39	38	38	38	28	27	28
9	28	27	38	38	37	40	38	38	38	28	28	28
10	28	28	36	38	37	40	38	38	38	27	27	28
11	27	30	35	38	37	40	38	38	38	28	27	28
12	27	35	35	38	37	39	38	38	38	28	29	27
13	28	37	34	38	37	38	38	38	38	28	29	27
14	27	29	35	38	37	38	38	38	e38	28	29	27
15	27	28	e33	38	37	38	38	38	e39	e29	29	27
16	27	27	35	38	37	38	37	38	e39	29	29	27
17	27	26	36	38	37	38	37	38	e38	29	29	34
18	27	26	36	38	37	38	37	38	e37	29	29	30
19	27	27	35	38	37	38	37	38	e36	29	29	29
20	28	27	34	38	37	38	36	38	e35	29	29	29
21	27	30	36	38	37	38	36	38	e35	29	28	29
22	27	44	35	38	37	38	37	38	34	28	27	30
23	27	38	35	38	37	38	38	38	34	28	29	29
24	27	48	33	38	37	38	38	38	33	28	29	30
25	27	39	34	38	37	38	38	38	33	28	29	30
26	25	38	34	38	37	38	38	38	32	28	30	30
27	27	36	35	37	37	38	38	38	32	28	30	30
28	28	33	38	37	37	38	38	38	31	29	30	30
29	28	33	43	37	---	38	38	38	31	28	28	30
30	32	34	39	37	---	38	38	38	31	28	27	30
31	33	---	39	37	---	38	---	38	---	29	27	---
TOTAL	853	936	1137	1178	1036	1189	1154	1178	1082	885	881	859
MEAN	27.52	31.20	36.68	38.00	37.00	38.35	38.47	38.00	36.07	28.55	28.42	28.63
MAX	33	48	46	39	37	40	60	38	39	30	30	34
MIN	25	26	33	37	37	38	36	38	31	27	27	27
AC-FT	1690	1860	2260	2340	2050	2360	2290	2340	2150	1760	1750	1700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	29.67	32.41	64.20	239.9	69.20	101.1	79.32	128.0	57.88	32.40	29.61	29.21	
MAX	33.5	42.3	394	2233	223	533	374	629	192	40.2	36.7	34.7	
(WY)	1992	1999	1997	1997	1996	1995	1995	1995	1998	1998	1998	1998	
MIN	25.9	25.7	23.0	23.7	27.0	33.4	36.1	34.7	27.7	27.2	26.1	25.9	
(WY)	1991	1991	1991	1991	1991	1990	1990	1992	1992	2001	1990	1990	

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	11795		12368			
ANNUAL MEAN	32.32		33.88		76.61	
HIGHEST ANNUAL MEAN					275	
LOWEST ANNUAL MEAN					31.7	
HIGHEST DAILY MEAN					25200	
LOWEST DAILY MEAN	48	Nov 24	60	Apr 3	5.1	Jan 2 1997
ANNUAL SEVEN-DAY MINIMUM	25	Oct 26	25	Oct 26	22	Dec 22 1994
ANNUAL RUNOFF (AC-FT)	27	Sep 26	27	Oct 21	22	Dec 25 1990
10 PERCENT EXCEEDS	23400		24530		55500	
50 PERCENT EXCEEDS	39		38		66	
90 PERCENT EXCEEDS	31		37		36	
	27		27		27	

e Estimated.

11295900 PINECREST LAKE AT PINECREST, CA

LOCATION.—Lat 38°11'59", long 119°59'11", in NE 1/4 SW 1/4 sec.15, T.4 N., R.18 E., [Tuolumne County](#), Hydrologic Unit 18040010, Stanislaus National Forest, on south side of intake tower, 400 ft upstream from dam on South Fork Stanislaus River, and 0.7 mi north of Pinecrest.

DRAINAGE AREA.—26.5 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 Federal Energy Regulatory Commission project no. 2130. 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, 380 acre-ft, estimated, Jan. 30, Feb. 24, 25, 2002, elevation unknown.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 18,500 acre-ft, May 29 to June 1, maximum elevation, 5,618.27 ft, May 30; minimum, 380 acre-ft, estimated, Jan. 30, Feb. 24, 25, elevation unknown.

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	5,570	6,395	5,600	13,537
5,530	1,558	5,560	4,738	5,580	8,576	5,618.5	18,615
5,540	2,475						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10600	6520	5840	3160	e470	e530	1890	13500	18500	18000	16700	15400
2	10400	6420	5860	3090	e470	e550	2260	13700	18400	17900	16700	15300
3	10300	6340	5800	3000	e470	e470	2790	14000	18400	17800	16700	15200
4	10200	6260	5700	2860	e470	e450	3360	14300	18400	17800	16700	15000
5	10100	6180	5610	2720	e470	e420	3850	14800	18400	17700	16600	14900
6	9920	6060	5510	2670	e470	e410	4270	15300	18400	17700	16600	14700
7	9770	5970	5430	2590	e470	e470	4710	15900	18400	17600	16600	14600
8	9640	5890	5340	2460	e470	e480	5230	16600	18400	17600	16600	14500
9	9490	5810	5260	2310	e470	e470	5740	16900	18300	17500	16600	14400
10	9350	5740	5150	2150	e470	e470	6170	17300	18300	17500	16600	14300
11	9220	5760	5030	2010	e490	e470	6730	17600	18300	17500	16600	14100
12	9090	5770	4900	1860	e510	e470	7340	17900	18400	17500	16600	14000
13	8940	5800	4790	1720	e470	e480	7980	18100	18400	17500	16600	13900
14	8800	5840	4680	1580	e470	e480	8730	18100	18400	17400	16500	13800
15	8660	5880	4580	e1420	e470	e450	9400	18100	18400	17400	16500	13600
16	8530	5860	4460	e1400	e460	e450	9720	18100	18400	17300	16500	13500
17	8390	5830	4350	e1330	e470	e450	9960	18200	18400	17300	16500	13400
18	8250	5790	4230	e1270	e480	e470	10100	18200	18400	17200	16400	13300
19	8110	5700	4110	e1180	e450	e480	10300	18100	18400	17200	16400	13100
20	7970	5620	4010	e1100	e520	e490	10500	18000	18400	17200	16300	13000
21	7830	5720	3890	e1010	e470	e580	10600	18000	18400	17100	16200	12900
22	7700	5910	3780	e930	e420	e660	10800	18100	18400	17100	16200	12800
23	7560	5900	3660	e760	e410	e670	11100	18200	18400	17100	16100	12600
24	7430	6110	3550	e710	e380	e670	11500	18300	18400	17000	16000	12500
25	7300	6120	3420	e670	e380	e790	12000	18300	18400	17000	16000	12400
26	7160	6090	3310	e620	e440	e860	12400	18400	18400	16900	15900	12300
27	7030	6030	3200	e580	e490	e920	12700	18400	18300	16900	15800	12100
28	6890	5990	3130	e420	e490	e1000	12900	18400	18200	16900	15800	12000
29	6760	5930	3210	e400	---	e1130	13200	18500	18200	16800	15600	11900
30	6730	5880	3220	e380	---	1460	13400	18500	18100	16800	15500	11700
31	6640	---	3250	e450	---	1600	---	18500	---	16700	15500	---
MAX	10600	6520	5860	3160	520	1600	13400	18500	18500	18000	16700	15400
MIN	6640	5620	3130	380	380	410	1890	13500	18100	16700	15500	11700
a	5571.22	5567.32	5547.45			5530.54	5599.31	5618.19	5616.81	5612.06	5607.29	5593.03
b	-4060	-760	-2630	-2800	+40	+1110	+11800	+5100	-400	-1400	-1200	-3800
CAL YR 2001	MAX 18400	MIN 2010	b -1400									
WTR YR 2002	MAX 18500	MIN 380	b +1000									

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 Federal Energy Regulatory Commission project no. 2130.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	60	54	106	22	88	94	59	662	59	20	47
2	68	52	57	119	21	84	99	61	501	50	20	47
3	68	39	69	119	21	82	114	74	406	49	21	49
4	67	41	75	114	26	78	140	103	425	48	18	64
5	66	41	75	111	26	66	129	136	461	38	18	64
6	66	44	75	115	26	61	107	159	419	35	11	64
7	66	47	75	129	26	60	111	167	354	35	9.1	64
8	66	47	75	131	26	58	126	164	320	29	12	64
9	66	46	74	128	26	58	132	162	255	21	10	64
10	65	46	81	126	26	57	128	147	196	21	10	64
11	65	47	84	123	29	56	145	131	185	20	10	64
12	65	47	83	121	35	58	160	228	139	20	10	64
13	65	47	83	118	50	57	173	466	171	20	9.9	63
14	64	37	83	118	47	56	205	558	184	19	12	63
15	64	16	82	96	40	45	191	614	155	19	23	63
16	64	37	82	80	40	37	107	620	134	19	23	63
17	64	34	83	79	47	36	84	672	116	21	23	64
18	64	33	83	76	49	36	69	726	109	20	23	64
19	63	43	82	75	50	36	61	645	107	20	23	64
20	63	49	82	74	70	38	57	473	97	20	23	64
21	63	49	81	73	114	41	61	336	83	20	23	63
22	62	67	80	71	104	43	70	210	72	20	23	63
23	61	55	80	69	93	43	82	156	62	20	23	63
24	61	66	81	66	75	42	106	255	55	20	23	63
25	61	57	83	60	57	41	131	347	56	20	23	63
26	61	54	83	58	54	41	141	413	61	20	23	63
27	60	54	82	57	56	44	100	486	57	20	34	63
28	60	54	83	47	72	50	77	514	58	20	43	63
29	60	54	90	25	---	58	76	589	56	20	47	62
30	62	54	94	9.6	---	69	65	689	61	20	47	63
31	61	---	100	15	---	78	---	663	---	19	47	---
TOTAL	1978	1417	2474	2708.6	1328	1697	3341	11023	6017	802	685.0	1856
MEAN	63.81	47.23	79.81	87.37	47.43	54.74	111.4	355.6	200.6	25.87	22.10	61.87
MAX	68	67	100	131	114	88	205	726	662	59	47	64
MIN	60	16	54	9.6	21	36	57	59	55	19	9.1	47
AC-FT	3920	2810	4910	5370	2630	3370	6630	21860	11930	1590	1360	3680

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.18	52.45	58.94	56.87	54.15	67.73	131.5	420.1	378.4	112.9	48.70	59.77
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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	31009		35326.6			
ANNUAL MEAN	84.96		96.79		125.4	
HIGHEST ANNUAL MEAN					259	
LOWEST ANNUAL MEAN					26.6	
HIGHEST DAILY MEAN	753	May 9	726	May 18	4680	Jan 2 1997
LOWEST DAILY MEAN	15	Aug 14	9.1	Aug 7	1.3	Nov 22 1946
ANNUAL SEVEN-DAY MINIMUM	16	Aug 8	10	Aug 7	2.3	Nov 9 1942
MAXIMUM PEAK FLOW			889		7820	
MAXIMUM PEAK STAGE			4.60		12.34	
ANNUAL RUNOFF (AC-FT)	61510		70070		90880	
10 PERCENT EXCEEDS	145		165		324	
50 PERCENT EXCEEDS	59		63		61	
90 PERCENT EXCEEDS	23		21		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 Federal Energy Regulatory Commission project no. 2130.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	38	4.6	---	27	40	6.8	10	---	7.9	7.8	41
2	49	38	9.1	---	26	27	35	11	---	7.7	7.6	41
3	49	39	17	---	33	20	---	24	---	7.6	7.6	41
4	48	40	24	---	41	13	---	---	---	7.7	7.6	47
5	48	41	24	---	40	7.4	---	---	---	7.7	13	47
6	47	42	24	---	28	12	---	---	---	7.7	12	47
7	47	41	24	---	23	12	---	---	---	7.8	7.8	46
8	47	41	23	---	23	9.4	---	---	---	7.7	12	46
9	46	41	23	---	23	11	---	---	---	7.7	10	46
10	46	41	30	---	23	11	---	---	---	7.7	9.5	45
11	45	42	34	---	25	11	---	---	---	7.8	9.1	45
12	45	44	33	---	32	11	---	---	---	7.7	8.7	45
13	45	41	36	---	24	11	---	---	---	7.8	8.4	45
14	44	35	38	---	6.8	7.8	---	---	---	7.5	8.1	45
15	44	7.1	36	---	5.8	6.5	---	---	---	7.7	12	44
16	43	14	37	34	6.6	6.3	---	---	---	7.8	7.8	45
17	43	5.1	39	32	9.3	6.3	40	---	---	7.8	7.7	46
18	42	5.0	38	29	8.3	7.8	21	---	---	8.7	7.6	45
19	42	6.5	37	28	9.3	7.5	12	---	---	8.8	7.9	43
20	42	5.4	37	26	27	9.8	7.4	---	---	8.8	7.7	43
21	41	4.5	36	26	---	6.9	9.6	---	38	8.6	7.7	43
22	41	14	35	24	---	5.4	21	---	23	8.4	7.6	43
23	40	5.1	35	20	---	5.4	33	---	13	9.2	7.6	43
24	40	17	35	18	---	5.6	---	---	7.3	8.5	7.6	43
25	39	6.4	37	11	---	5.4	---	---	8.8	7.8	7.6	43
26	39	4.7	38	8.6	---	5.3	---	---	14	7.5	7.6	43
27	38	4.5	37	7.5	7.7	7.2	---	---	7.8	7.5	21	42
28	38	4.6	39	5.6	23	5.2	30	---	8.0	7.7	34	42
29	38	4.6	49	8.0	---	7.9	30	---	7.7	7.8	41	42
30	42	4.7	---	14	---	11	18	---	11	7.8	41	44
31	38	---	---	35	---	8.4	---	---	---	7.7	41	---
TOTAL	1343	677.2	---	---	---	321.5	---	---	---	246.1	403.6	1321
MEAN	43.32	22.57	---	---	---	10.37	---	---	---	7.939	13.02	44.03
MAX	49	44	---	---	---	40	---	---	---	9.2	41	47
MIN	38	4.5	---	---	---	5.2	---	---	---	7.5	7.6	41
AC-FT	2660	1340	---	---	---	638	---	---	---	488	801	2620
a	1370	2020	3240	3030	1000	2920	3210	3370	3380	1160	511	1400

CAL YR 2001 a 24620

WTR YR 2002 a 26610

a Diversion, in acre-feet, to Philadelphia Canal (station 11297000), 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 water years 1981–85 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, 4,850 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 Federal Energy Regulatory Commission project no. 2130. 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, maximum gage height, 90.47 ft, June 15, 2000; minimum observed, 832 acre-ft, Nov. 27, 1995, gage height, 48.51 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 5,560 acre-ft, June 15, 16, maximum gage height, 90.31 ft, June 15; minimum, 1,200 acre-ft, Sept. 13, gage height, 54.96 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	60	1,592	80	3,913
25	94.4	50	908	70	2,598	90	5,507
30	186						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	2600	3070	4020	3630	3930	3970	3860	5440	5020	2980	1250
2	1540	2640	3360	4040	3610	3940	3980	3830	5250	4970	2920	1240
3	1560	2680	3430	4040	3580	3940	3980	3800	4960	4900	2840	1230
4	1580	2720	3470	4020	3570	3940	3990	3810	4930	4840	2780	1230
5	1610	2760	3480	4010	3560	3930	3990	3890	5140	4790	2710	1220
6	1630	2810	3480	4010	3550	3960	3970	3940	5400	4730	2650	1220
7	1640	2850	3490	4020	3550	3980	3970	3980	5460	4670	2590	1220
8	1660	2890	3490	4020	3560	3940	3970	3980	5490	4610	2530	1220
9	1700	2930	3490	4010	3560	3930	3980	4000	5420	4550	2460	1220
10	1740	2970	3480	4010	3550	3940	3970	4010	5260	4520	2400	1220
11	1780	3030	3490	4000	3550	3940	3960	3990	5230	4450	2340	1210
12	1830	3110	3490	4000	3560	3930	3970	4050	5280	4390	2270	1210
13	1870	3170	3490	4000	3580	3930	3970	4180	5360	4330	2200	1200
14	1910	3210	3510	4000	3550	3930	3990	4220	5530	4260	2140	1210
15	1980	3210	3520	3980	3500	3930	4010	4250	5560	4190	2080	1210
16	2050	3210	3520	3970	3470	3910	3970	4250	5560	4130	2010	1210
17	2130	3190	3550	3960	3460	3900	3960	4440	5550	4050	1950	1220
18	2200	3170	3560	3960	3430	3880	3940	4510	5540	3980	1880	1230
19	2270	3150	3580	3950	3420	3850	3900	4470	5540	3910	1810	1240
20	2330	3140	3610	3950	3440	3840	3860	4400	5540	3840	1780	1250
21	2340	3130	3620	3950	3550	3820	3810	4290	5530	3770	1710	1260
22	2360	3130	3640	3950	3700	3800	3780	4200	5500	3700	1640	1270
23	2370	3110	3660	3930	3880	3850	3770	4160	5470	3630	1580	1280
24	2380	3200	3670	3910	3980	3920	3780	4300	5420	3560	1510	1290
25	2380	3210	3690	3880	3980	3960	3850	4590	5370	3500	1440	1310
26	2400	3190	3710	3850	3970	3960	3960	4920	5320	3420	1370	1320
27	2420	3150	3750	3810	3930	3960	3960	5290	5240	3350	1320	1330
28	2450	3130	3840	3770	3910	3960	3940	5520	5180	3280	1290	1340
29	2470	3110	4020	3730	---	3950	3940	5550	5130	3210	1290	1350
30	2530	3080	4020	3690	---	3960	3930	5450	5070	3140	1280	1370
31	2570	---	4030	3650	---	3960	---	5430	---	3050	1270	---
MAX	2570	3210	4030	4040	3980	3980	4010	5550	5560	5020	2980	1370
MIN	1500	2600	3070	3650	3420	3800	3770	3800	4930	3050	1270	1200
a	69.72	73.95	80.78	78.21	79.96	80.32	80.11	89.55	87.40	73.73	55.84	57.20
b	+1070	+510	+950	-380	+260	+50	-30	+1500	-360	-2020	-1780	+100

CAL YR 2001 MAX 5550 MIN 1210 b +1540

WTR YR 2002 MAX 5560 MIN 1200 b -130

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 rectangular weir. Elevation of gage is 4,175 ft above sea level (from topographic map). Prior to Sept. 30, 1997, at site 300 ft downstream at different datum.

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 Federal Energy Regulatory Commission project no. 2130.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.6	2.6	65	2.9	12	23	3.1	472	2.6	2.6	2.7
2	2.7	2.6	3.0	73	2.9	3.7	27	3.0	457	2.6	2.6	2.6
3	2.7	2.6	2.7	115	2.9	3.9	26	3.0	425	2.6	2.6	2.6
4	2.7	2.6	2.7	64	2.9	5.1	35	2.9	313	2.5	2.5	2.6
5	2.7	2.6	2.8	47	2.8	5.3	46	2.9	195	2.5	2.5	2.6
6	2.7	2.6	2.8	42	2.8	6.9	29	23	167	2.6	2.7	2.6
7	2.7	2.7	2.8	42	2.8	23	25	48	179	2.6	2.6	2.6
8	2.7	2.7	2.8	45	2.9	22	27	48	184	2.6	2.6	2.6
9	2.5	2.7	2.8	41	2.8	19	32	38	175	2.6	2.6	2.6
10	2.6	2.7	2.8	36	2.8	18	29	41	161	2.5	2.6	2.6
11	2.6	2.7	2.8	32	2.8	17	33	31	88	2.5	2.6	2.6
12	2.6	2.8	2.7	30	2.7	15	41	37	26	2.5	2.6	2.5
13	2.6	2.7	2.6	28	2.6	15	47	224	12	2.6	2.7	2.5
14	2.6	2.8	2.7	27	2.6	9.8	64	376	3.5	2.6	2.7	2.5
15	2.5	2.7	2.6	25	2.6	6.9	96	445	29	2.5	2.6	2.5
16	2.5	2.7	2.6	17	2.6	7.2	35	459	28	2.5	2.6	2.5
17	2.4	2.7	2.6	8.1	2.7	7.0	22	400	24	2.5	2.7	2.6
18	2.4	2.7	2.7	4.5	2.6	4.9	13	515	21	2.4	2.6	2.6
19	2.4	2.7	2.8	3.4	2.6	3.5	5.1	542	20	2.4	2.7	2.6
20	2.8	2.7	2.8	3.4	2.7	3.4	4.1	414	17	2.4	2.6	2.6
21	3.4	2.7	2.8	3.4	2.6	3.5	4.1	291	11	2.4	2.6	2.6
22	3.0	2.7	2.8	3.4	2.6	3.5	4.1	172	7.9	2.5	2.6	2.5
23	2.6	2.7	2.8	3.2	2.6	4.3	4.1	64	7.3	2.6	2.5	2.5
24	2.6	2.7	2.8	3.0	14	4.8	4.1	30	4.8	2.6	2.5	2.4
25	2.6	2.5	2.8	3.0	28	7.6	4.1	45	2.7	2.5	2.5	2.4
26	2.8	2.5	2.8	3.0	24	19	9.1	67	3.1	2.6	2.5	2.7
27	2.8	2.5	2.7	3.0	25	20	22	128	2.9	2.6	2.5	2.7
28	2.8	2.6	2.8	3.0	24	19	13	229	2.6	2.6	2.6	2.6
29	2.8	2.6	26	2.9	---	16	7.0	384	2.6	2.5	2.8	2.5
30	2.8	2.6	58	2.9	---	18	5.8	543	2.6	2.5	2.8	2.5
31	2.7	---	98	2.9	---	21	---	502	---	2.5	2.7	---
TOTAL	83.2	79.7	259.0	782.1	177.8	345.3	736.6	6110.9	3044.0	78.5	80.9	77.0
MEAN	2.684	2.657	8.355	25.23	6.350	11.14	24.55	197.1	101.5	2.532	2.610	2.567
MAX	3.4	2.8	98	115	28	23	96	543	472	2.6	2.8	2.7
MIN	2.4	2.5	2.6	2.9	2.6	3.4	4.1	2.9	2.6	2.4	2.5	2.4
AC-FT	165	158	514	1550	353	685	1460	12120	6040	156	160	153
a	1320	1100	2130	2130	1820	2290	2300	2340	2010	2390	2460	2220

a Diversion, in acre-feet, to Tuolumne Canal (station 11297500), 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.470	10.24	23.69	38.27	46.85	56.29	99.13	362.5	315.9	63.26	3.327	2.190
MAX	14.7	324	399	625	306	291	501	875	1042	602	37.7	5.45
(WY)	1983	1951	1951	1997	1982	1938	1982	1969	1998	1998	1983	1995
MIN	0.000	0.023	0.077	0.013	0.000	0.23	0.97	1.02	1.00	0.92	0.83	0.71
(WY)	1938	1939	1939	1939	1939	1939	1977	1977	1977	1949	1940	1949

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	11967.9		11855.0			
ANNUAL MEAN	32.79		32.48		84.70	
HIGHEST ANNUAL MEAN					234	
LOWEST ANNUAL MEAN					1.50	
HIGHEST DAILY MEAN	723	May 12	543	May 30	6040	Jan 2 1997
LOWEST DAILY MEAN	2.3	Jul 18	2.4	Oct 17	0.00	Oct 1 1937
ANNUAL SEVEN-DAY MINIMUM	2.4	Jul 18	2.4	Jul 15	0.00	Oct 1 1937
MAXIMUM PEAK FLOW			848		12900	
MAXIMUM PEAK STAGE			4.80		13.03	
ANNUAL RUNOFF (AC-FT)	23740		23510		61360	
ANNUAL DIVERSION (AC-FT) a	21190		24510			
10 PERCENT EXCEEDS	42		52		285	
50 PERCENT EXCEEDS	2.7		2.8		2.5	
90 PERCENT EXCEEDS	2.5		2.5		1.4	

a Diversion, in acre-feet, to Tuolumne Canal (station 11297500), 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 September 1999, October 2000 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 Utica Power Authority, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2019.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.58	0.62	---	1.4	1.6	1.0	1.3	0.56	0.48	1.8	2.0
2	0.00	0.58	---	---	1.4	1.4	1.0	0.87	0.56	0.59	1.8	2.0
3	0.00	0.58	---	---	1.4	1.2	1.2	1.0	0.53	0.92	1.8	1.9
4	0.00	0.58	---	---	1.1	0.76	1.4	1.3	0.53	0.92	1.8	1.9
5	0.00	0.56	---	---	1.1	1.2	1.1	0.96	0.53	0.92	1.8	1.9
6	0.00	0.53	---	---	1.1	---	0.94	1.2	0.53	1.0	1.8	1.9
7	0.00	0.53	2.2	---	2.3	---	0.89	1.1	0.53	0.96	1.8	1.9
8	0.02	0.57	0.90	---	---	---	0.99	1.0	1.1	1.0	1.8	1.9
9	0.02	0.60	0.92	---	1.9	---	1.3	0.84	0.56	1.0	1.8	1.9
10	0.03	0.60	0.67	2.2	1.4	---	1.5	0.77	0.53	0.92	1.8	1.9
11	0.03	0.60	1.5	1.4	1.1	---	1.2	0.76	0.53	0.87	1.8	2.0
12	0.03	2.4	1.5	1.2	1.1	---	1.3	0.74	0.53	0.85	1.8	2.0
13	0.04	0.53	0.90	1.2	1.0	2.3	1.3	0.74	0.53	0.89	1.8	2.0
14	0.04	0.60	2.5	1.1	0.96	1.6	1.3	0.47	0.53	0.81	1.8	2.0
15	0.03	0.60	1.1	1.0	0.96	2.3	1.5	0.47	0.53	0.70	1.9	2.0
16	0.22	0.60	1.1	1.3	1.6	2.5	1.0	0.71	0.52	0.70	1.9	2.1
17	e0.50	0.59	---	1.2	---	---	2.2	0.71	0.29	1.1	1.9	---
18	e0.50	0.56	1.1	1.0	---	---	1.2	0.74	0.29	1.6	1.9	2.3
19	e0.50	0.56	2.0	1.1	---	---	1.5	0.76	0.90	1.6	1.9	2.3
20	e0.71	0.56	---	1.1	---	---	0.94	0.87	---	1.7	1.9	2.3
21	e0.71	1.2	---	1.7	---	2.2	0.87	1.2	---	1.6	1.9	2.2
22	e0.76	0.58	---	---	---	---	1.3	0.86	1.9	0.62	1.9	2.2
23	e0.80	0.53	---	---	---	---	1.0	0.82	2.3	1.5	1.9	2.2
24	e0.63	---	---	2.0	2.2	---	2.5	0.79	2.1	1.4	1.9	2.2
25	e0.63	0.65	---	2.1	1.6	---	1.7	0.80	1.1	1.4	2.0	2.2
26	e0.63	0.58	---	---	1.7	---	0.94	0.79	0.91	1.6	2.0	2.0
27	e0.63	0.58	---	---	1.8	2.5	0.89	0.76	0.84	1.6	1.0	2.0
28	e0.80	0.56	---	2.5	1.7	1.9	1.1	0.76	0.82	1.7	1.9	2.0
29	e0.65	1.4	---	2.0	---	1.9	1.9	0.76	0.79	1.7	2.0	2.0
30	e0.60	0.60	---	1.4	---	1.4	2.5	0.77	0.81	1.8	2.0	1.9
31	e0.55	---	---	1.4	---	1.1	---	0.65	---	1.8	2.0	---
TOTAL	10.06	---	---	---	---	---	39.46	26.27	---	36.25	57.1	---
MEAN	0.325	---	---	---	---	---	1.315	0.847	---	1.169	1.842	---
MAX	0.80	---	---	---	---	---	2.5	1.3	---	1.8	2.0	---
MIN	0.00	---	---	---	---	---	0.87	0.47	---	0.48	1.0	---
AC-FT	20	---	---	---	---	---	78	52	---	72	113	---

e Estimated.

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, 1,626,000 acre-ft, Apr. 9, 10, elevation, 1,016.30 ft; minimum, 1,278,000 acre-ft, Sept. 30, elevation, 978.07 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

700	53,900	760	160,500	880	611,500	1,000	1,471,000
710	66,950	780	212,300	900	723,000	1,020	1,662,000
720	81,800	800	272,800	920	846,500	1,040	1,867,000
730	98,530	820	342,400	940	982,600	1,060	2,087,000
740	117,200	840	421,800	960	1,132,000	1,088	2,420,000
750	137,800	860	511,200	980	1,295,000		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480000	1469000	1470000	1520000	1571000	1589000	1623000	1588000	1545000	1476000	1388000	1319000
2	1479000	1469000	1475000	1524000	1570000	1590000	1622000	1588000	1543000	1474000	1386000	1317000
3	1478000	1468000	1479000	1529000	1572000	1591000	1623000	1587000	1542000	1471000	1383000	1314000
4	1478000	1468000	1480000	1532000	1573000	1594000	1623000	1585000	1541000	1468000	1381000	1313000
5	1477000	1467000	1481000	1534000	1573000	1593000	1624000	1585000	1539000	1466000	1378000	1311000
6	1477000	1466000	1482000	1536000	1572000	1596000	1623000	1584000	1537000	1463000	1375000	1309000
7	1476000	1465000	1482000	1539000	1571000	1602000	1623000	1584000	1534000	1460000	1373000	1306000
8	1476000	1465000	1484000	1541000	1571000	1605000	1623000	1583000	1532000	1457000	1371000	1304000
9	1475000	1465000	1485000	1544000	1572000	1608000	1626000	1581000	1529000	1455000	1368000	1304000
10	1474000	1464000	1486000	1545000	1573000	1610000	1626000	1579000	1527000	1452000	1366000	1302000
11	1474000	1465000	1487000	1547000	1571000	1611000	1624000	1577000	1524000	1449000	1363000	1300000
12	1473000	1466000	1486000	1549000	1573000	1613000	1624000	1575000	1521000	1445000	1361000	1299000
13	1472000	1466000	1487000	1551000	1571000	1614000	1622000	1573000	1519000	1443000	1359000	1298000
14	1473000	1466000	1489000	1551000	1572000	1615000	1620000	1572000	1516000	1440000	1357000	1297000
15	1473000	1465000	1490000	1553000	1571000	1615000	1619000	1571000	1514000	1437000	1354000	1296000
16	1474000	1466000	1490000	1555000	1572000	1614000	1618000	1569000	1511000	1433000	1352000	1294000
17	1475000	1467000	1489000	1554000	1575000	1614000	1616000	1568000	1508000	1430000	1349000	1293000
18	1476000	1467000	1490000	1555000	1575000	1614000	1613000	1567000	1506000	1427000	1347000	1291000
19	1476000	1466000	1491000	1557000	1576000	1614000	1610000	1565000	1503000	1425000	1345000	1290000
20	1474000	1465000	1492000	1558000	1577000	1612000	1607000	1564000	1501000	1422000	1343000	1289000
21	1473000	1466000	1493000	1560000	1580000	1614000	1603000	1564000	1499000	1419000	1340000	1287000
22	1472000	1467000	1492000	1561000	1582000	1613000	1601000	1562000	1497000	1416000	1338000	1287000
23	1471000	1466000	1494000	1560000	1581000	1614000	1598000	1561000	1495000	1413000	1336000	1286000
24	1470000	1467000	1495000	1561000	1583000	1617000	1596000	1559000	1492000	1410000	1334000	1285000
25	1469000	1468000	1496000	1562000	1585000	1617000	1595000	1557000	1491000	1407000	1332000	1284000
26	1468000	1469000	1497000	1565000	1585000	1620000	1593000	1555000	1489000	1404000	1330000	1283000
27	1467000	1470000	1499000	1567000	1587000	1618000	1592000	1553000	1486000	1401000	1328000	1281000
28	1466000	1470000	1502000	1568000	1587000	1621000	1590000	1551000	1484000	1398000	1326000	1281000
29	1466000	1472000	1507000	1567000	---	1619000	1590000	1550000	1481000	1395000	1324000	1279000
30	1467000	1471000	1511000	1568000	---	1620000	1589000	1549000	1479000	1394000	1322000	1278000
31	1468000	---	1516000	1569000	---	1621000	---	1547000	---	1391000	1320000	---
MAX	1480000	1472000	1516000	1569000	1587000	1621000	1626000	1588000	1545000	1476000	1388000	1319000
MIN	1466000	1464000	1470000	1520000	1570000	1589000	1589000	1547000	1479000	1391000	1320000	1278000
a	999.66	1000.02	1004.88	1010.49	1012.36	1015.88	1012.52	1008.13	1000.80	991.15	982.97	978.07
b	-13000	+3000	+45000	+53000	+18000	+34000	-32000	-42000	-68000	-88000	-71000	-42000
c	3352	1505	619	607	1432	2206	2965	5244	6920	7472	6331	4959
d	35460	9460	15000	11650	23900	52280	137000	137400	117200	127900	110800	79800
CAL YR 2001	b	-360000										
WTR YR 2002	b	-203000										

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Total evaporation, in acre-feet, published as provided; not reviewed by U.S. Geological Survey.

d Discharge, in acre-feet, through New Melones Powerplant (station 11299200), 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 maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	1400	226	3.69	Feb. 17	1400	125	3.37
Dec. 21	0045	88	3.21	Mar. 7	1615	795	4.54
Jan. 2	1815	724	4.47	Mar. 23	2215	82	3.18
Jan. 26	2230	69	3.11				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.74	30	4.8	5.5	6.2	2.1	0.11	0.00	0.00	0.00
2	0.00	0.00	35	205	4.5	5.0	5.6	1.8	0.11	0.00	0.00	0.00
3	0.00	0.00	4.7	146	4.1	4.5	5.0	1.7	0.10	0.00	0.00	0.00
4	0.00	0.00	1.6	38	3.9	4.1	4.6	1.5	0.09	0.00	0.00	0.00
5	0.00	0.00	1.2	21	3.7	3.9	4.5	1.3	0.06	0.00	0.00	0.00
6	0.00	0.00	1.2	15	3.5	7.0	4.5	1.1	0.05	0.00	0.00	0.00
7	0.00	0.00	0.97	11	3.5	125	4.1	1.1	0.04	0.00	0.00	0.00
8	0.00	0.00	0.84	9.4	6.9	51	3.8	0.96	0.04	0.00	0.00	0.00
9	0.00	0.00	0.82	8.1	4.4	24	3.8	0.85	0.03	0.00	0.00	0.00
10	0.00	0.00	0.75	7.0	4.0	20	3.8	0.75	0.03	0.00	0.00	0.00
11	0.00	0.00	0.69	6.2	3.7	15	3.7	0.65	0.02	0.00	0.00	0.00
12	0.00	0.00	0.62	5.6	3.7	13	3.6	0.65	0.02	0.00	0.00	0.00
13	0.00	0.00	0.62	5.3	3.7	11	3.6	0.56	0.01	0.00	0.00	0.00
14	0.00	0.00	1.9	4.9	3.5	9.5	3.6	0.50	0.00	0.00	0.00	0.00
15	0.00	0.00	1.5	4.5	3.3	8.7	3.7	0.47	0.00	0.00	0.00	0.00
16	0.00	0.00	1.2	4.1	3.3	8.3	3.6	0.44	0.00	0.00	0.00	0.00
17	0.00	0.00	1.9	3.9	42	8.1	4.6	0.39	0.00	0.00	0.00	0.00
18	0.00	0.00	2.1	3.6	22	7.3	3.7	0.34	0.00	0.00	0.00	0.00
19	0.00	0.00	1.8	3.5	21	6.5	3.5	0.33	0.00	0.00	0.00	0.00
20	0.00	0.00	9.0	3.3	35	6.0	3.1	1.4	0.00	0.00	0.00	0.00
21	0.00	0.00	28	3.3	20	5.7	2.9	1.5	0.00	0.00	0.00	0.00
22	0.00	0.00	6.2	3.4	15	5.8	2.8	0.74	0.00	0.00	0.00	0.00
23	0.00	0.00	6.7	3.0	12	18	2.7	0.52	0.00	0.00	0.00	0.00
24	0.00	0.39	4.7	2.7	9.6	36	2.5	e0.43	0.00	0.00	0.00	0.00
25	0.00	0.74	3.7	2.7	8.3	18	2.4	e0.34	0.00	0.00	0.00	0.00
26	0.00	0.33	3.2	13	7.5	13	2.6	0.29	0.00	0.00	0.00	0.00
27	0.00	0.23	2.7	20	6.8	11	2.8	0.25	0.00	0.00	0.00	0.00
28	0.00	0.21	13	8.1	6.3	9.6	2.5	0.22	0.00	0.00	0.00	0.00
29	0.00	0.96	217	6.5	---	8.4	3.0	e0.20	0.00	0.00	0.00	0.00
30	0.00	0.69	78	5.6	---	7.3	2.5	0.18	0.00	0.00	0.00	0.00
31	0.00	---	128	5.0	---	6.6	---	0.15	---	0.00	0.00	---
TOTAL	0.00	3.55	560.35	608.7	270.0	482.8	109.3	23.71	0.71	0.00	0.00	0.00
MEAN	0.000	0.118	18.08	19.64	9.643	15.57	3.643	0.765	0.024	0.000	0.000	0.000
MAX	0.00	0.96	217	205	42	125	6.2	2.1	0.11	0.00	0.00	0.00
MIN	0.00	0.00	0.62	2.7	3.3	3.9	2.4	0.15	0.00	0.00	0.00	0.00
AC-FT	0.00	7.0	1110	1210	536	958	217	47	1.4	0.00	0.00	0.00

e Estimated.

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.134	3.954	10.37	32.10	43.57	21.32	5.389	2.311	0.451	0.047	0.000	0.006
MAX	1.80	53.1	98.8	144	171	96.6	32.4	13.6	3.63	0.46	0.005	0.11
(WY)	1992	1984	1997	1997	1998	1995	1998	1998	1998	1998	1998	1983
MIN	0.000	0.000	0.000	0.000	0.16	0.62	0.62	0.17	0.000	0.000	0.000	0.000
(WY)	1986	1991	1991	1991	1991	1988	1988	1992	1988	1984	1984	1984

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	1397.41		2059.12			
ANNUAL MEAN	3.829		5.641		9.801	
HIGHEST ANNUAL MEAN					28.6	1998
LOWEST ANNUAL MEAN					0.32	1988
HIGHEST DAILY MEAN	217	Dec 29	217	Dec 29	1400	Feb 17 1986
LOWEST DAILY MEAN	0.00	May 31	0.00	Oct 1	0.00	Sep 16 1983
ANNUAL SEVEN-DAY MINIMUM	0.00	May 31	0.00	Oct 1	0.00	Jun 28 1984
MAXIMUM PEAK FLOW			795	Mar 7	5200	Feb 19 1986
MAXIMUM PEAK STAGE			4.54	Mar 7	9.10	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	2770		4080		7100	
10 PERCENT EXCEEDS	6.4		9.5		13	
50 PERCENT EXCEEDS	0.03		0.25		0.22	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11299995 TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CA

LOCATION.—Lat 37°52'34", long 120°36'12", in Rancheria del Rio Estanislao Grant, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, in center of Tulloch Dam on Stanislaus River, 1.9 mi upstream from Goodwin Dam, and 5.3 mi northeast of Knights Ferry.

DRAINAGE AREA.—980 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 (station 11299996) 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 Federal Energy Regulatory Commission project no. 2067.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 69,500 acre-ft, Jan. 7, 1965, elevation, 512.0 ft; minimum, 4,580 acre-ft, Oct. 3, 1960, elevation, 404.0 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 66,100 acre-ft, Sept. 11, elevation, 509.34 ft; minimum, 53,500 acre-ft, Nov. 1, elevation, 498.26.

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	460	23,600	490	45,300
411	6,020	445	16,400	475	33,100	512	69,500
420	8,200						

RESERVOIR STORAGE, (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61900	53500	56700	56100	55300	56000	56300	62100	65000	65400	65200	64800
2	61800	53700	57100	57100	56400	55900	56800	60500	65000	65600	65200	64700
3	61600	54100	56600	57900	55900	55300	56500	61400	64800	65400	65200	65800
4	61400	54500	56000	57700	55300	54400	57200	62000	64800	65700	64600	65600
5	60800	54900	55500	57400	54700	56100	57600	61400	64700	64900	65000	65000
6	60300	55300	54800	57100	55800	55200	57900	61800	65500	64800	65400	64900
7	59800	55700	55700	56800	56700	55400	57900	61900	65600	64600	65400	65900
8	59300	55800	55000	56400	56600	55900	58300	62100	65700	64500	65200	65700
9	59400	55800	54400	56000	55700	55200	58400	62100	65300	64600	65000	65100
10	58800	55800	53800	55500	54700	54500	58300	62500	65300	64600	64800	65500
11	58400	55800	54000	55100	55800	55800	58600	62400	65400	64900	64700	66100
12	58900	55900	56000	54500	54800	55800	58900	63100	65300	65700	64800	65900
13	59800	55900	55400	53900	56300	55800	59600	63500	65300	64900	65100	65800
14	59300	55000	55100	55800	55300	55500	60000	63400	65400	64900	65100	65700
15	58800	55600	54500	55200	56500	55700	60000	64000	65300	65000	65100	65400
16	58200	54900	54000	54600	55600	55900	59600	64300	65200	65600	65100	64900
17	57700	54300	55300	56400	54900	56100	59400	64000	65200	65500	65500	64800
18	57200	53600	54700	55900	55100	55700	59400	64100	65100	65300	65500	64900
19	56600	54700	54100	55300	56000	55600	59400	64400	65100	65200	65200	64800
20	57200	55700	55100	54700	56700	56900	59500	64600	65400	65000	65100	64900
21	57000	55100	54900	54200	55900	54300	59700	65400	65300	64900	65200	65000
22	56700	55100	56800	53600	55000	55800	59600	65300	65400	65000	65400	64000
23	56600	56300	56400	55700	56500	56800	60300	65300	65000	64900	65600	63600
24	56500	56900	56000	56000	55600	54500	60500	65000	65500	64600	65300	63600
25	56500	56300	55600	55400	54800	56500	60700	65300	65400	65400	64800	63000
26	56600	55600	55100	55000	56000	54100	61700	65700	64800	65300	64800	62900
27	56400	55000	54600	54700	55000	56800	61800	64800	65200	65200	65300	63000
28	56500	54400	54300	54400	56100	54900	61900	64400	65100	64700	65300	62000
29	55700	53800	55700	56200	---	57800	61800	64700	65300	64700	65700	61700
30	55200	54400	55900	56400	---	57300	62000	64800	65400	64800	65200	62200
31	54200	---	56300	55800	---	56200	---	65200	---	64900	65700	---
MAX	61900	56900	57100	57900	56700	57800	62000	65700	65700	65700	65700	66100
MIN	54200	53500	53800	53600	54700	54100	56300	60500	64700	64500	64600	61700
a	498.99	499.15	500.93	500.47	500.77	500.87	505.97	508.54	508.74	508.35	508.98	506.10
b	-7600	+200	+1900	-500	+300	+100	+5800	+3200	+200	-500	+800	-3500
c	43510	21470	20440	19620	11640	55170	101700	108200	105900	109300	106800	84340

CAL YR 2001 b +12600

WTR YR 2002 b +400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Diversion, in acre-feet, through Tulloch Powerplant (station 11299996), provided by Oakdale and South San Joaquin Irrigation Districts.

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 RECORD.—June 1972 to current year.

WATER TEMPERATURE: June 1972 to current year.

PERIOD OF DAILY RECORD.—June 1972 to current year.

WATER TEMPERATURE: June 1972 to current year.

INSTRUMENTATION.—Water-temperature recorder since June 1972.

REMARKS.—Water-temperature records rated excellent except for Feb. 11 to Mar. 1, June 19 to July 16, and Aug. 21–27, which are rated good.

Interruption in record was due to malfunction of recording instrument. 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, 13.5°C, Aug. 20, but may have been higher during period of missing record; minimum recorded, 9.0°C, several days in February and March.

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	12.5	12.5	12.5	12.0	12.0	11.0	10.5	9.5	9.5	9.5	9.0
2	12.5	12.5	12.5	12.5	12.0	12.0	11.0	10.5	9.5	9.5	9.5	9.0
3	12.5	12.5	12.5	12.5	12.0	12.0	11.0	10.5	9.5	9.5	9.5	9.0
4	12.5	12.5	12.5	12.5	12.0	12.0	11.0	10.5	9.5	9.0	9.5	9.5
5	12.5	12.5	12.5	12.0	12.0	12.0	11.0	10.5	9.5	9.0	9.5	9.5
6	12.5	12.5	12.5	12.0	12.0	11.5	11.0	10.5	9.5	9.0	9.5	9.5
7	12.5	12.5	12.5	12.0	12.0	11.5	11.0	10.5	9.5	9.0	9.5	9.5
8	12.5	12.5	12.5	12.0	12.0	11.5	11.0	10.5	9.5	9.0	9.5	9.5
9	12.5	12.5	12.5	12.0	12.0	11.5	11.0	10.5	9.5	9.0	9.5	9.5
10	12.5	12.5	12.0	12.0	12.0	11.5	11.0	10.5	9.5	9.0	9.5	9.5
11	12.5	12.5	12.0	12.0	11.5	11.5	11.0	10.5	10.0	9.0	9.5	9.5
12	13.0	12.5	12.0	12.0	11.5	11.5	11.0	10.5	10.0	9.5	10.0	9.5
13	13.0	12.5	12.0	12.0	11.5	11.5	11.0	10.5	10.0	9.5	10.0	9.5
14	13.0	12.5	12.0	12.0	11.5	11.5	11.0	10.5	10.0	9.5	10.0	9.5
15	12.5	12.5	12.0	12.0	11.5	11.5	10.5	10.5	10.0	9.5	10.0	9.5
16	12.5	12.5	12.0	12.0	11.5	11.0	10.5	10.5	10.0	9.5	10.0	10.0
17	12.5	12.5	12.0	12.0	11.5	11.0	10.5	10.5	9.5	9.5	10.0	10.0
18	12.5	12.5	12.0	12.0	11.5	11.0	10.5	10.5	10.0	9.5	10.0	10.0
19	12.5	12.5	12.0	12.0	11.0	11.0	10.5	10.0	10.0	9.5	10.0	10.0
20	---	---	12.0	12.0	11.0	11.0	10.0	10.0	10.0	9.5	10.0	10.0
21	---	---	12.0	12.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0
22	---	---	12.0	12.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0
23	13.0	12.5	12.0	12.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0
24	13.0	12.5	12.0	12.0	11.0	11.0	10.0	10.0	10.0	9.5	10.0	10.0
25	13.0	12.5	12.5	12.0	11.0	11.0	10.0	10.0	10.0	9.5	10.0	10.0
26	13.0	12.5	12.0	12.0	11.0	11.0	10.0	10.0	10.5	9.0	10.0	10.0
27	13.0	12.5	12.0	12.0	11.0	11.0	10.0	9.5	9.5	9.0	10.0	10.0
28	12.5	12.5	12.0	12.0	11.0	11.0	10.0	9.5	9.5	9.0	10.0	10.0
29	12.5	12.5	12.5	12.0	11.0	11.0	9.5	9.5	---	---	10.0	10.0
30	12.5	12.5	12.0	12.0	11.0	11.0	9.5	9.5	---	---	10.0	10.0
31	12.5	12.5	---	---	11.0	10.5	9.5	9.5	---	---	10.0	10.0
MONTH	---	---	12.5	12.0	12.0	10.5	11.0	9.5	10.5	9.0	10.0	9.0

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	10.0	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.0	12.0
2	10.0	10.0	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.5	12.0	12.0
3	10.5	10.0	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.5	12.0	12.0
4	10.5	10.0	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.5	12.0	12.0
5	10.5	10.5	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.5	12.0	12.0
6	10.5	10.5	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.0	12.0
7	10.5	10.5	10.5	10.5	11.5	11.0	12.5	12.0	12.5	12.0	12.0	12.0
8	10.5	10.0	10.5	10.5	11.5	11.5	12.5	12.0	12.5	12.0	12.5	12.0
9	10.5	10.0	11.0	10.5	11.5	11.5	12.5	12.0	12.0	12.0	12.5	12.0
10	10.5	10.5	11.0	11.0	11.5	11.5	12.5	12.0	12.0	12.0	12.5	12.0
11	10.5	10.5	11.0	11.0	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.0
12	10.5	10.5	11.5	10.5	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.5
13	11.0	10.5	11.0	10.5	11.5	11.5	12.5	12.5	12.0	12.0	13.0	12.0
14	11.5	11.0	11.0	10.5	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.0
15	11.0	11.0	11.0	11.0	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.0
16	11.0	10.5	11.0	11.0	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.0
17	11.0	10.5	11.0	11.0	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.5
18	10.5	10.0	11.0	11.0	11.5	11.5	12.5	12.5	12.0	12.0	12.5	12.5
19	10.5	10.0	11.0	11.0	12.0	11.5	12.5	12.5	12.0	12.0	12.5	12.5
20	10.5	10.5	11.0	10.5	12.0	11.5	12.5	12.5	13.5	12.0	12.5	12.5
21	10.5	10.5	11.0	10.5	12.0	11.5	12.5	12.5	12.0	12.0	12.5	12.5
22	10.5	10.5	11.0	10.5	12.0	11.5	12.5	12.5	12.0	12.0	12.5	12.5
23	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.5	12.0	12.0	12.5	12.5
24	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.0	12.0	12.0	12.5	12.5
25	10.5	10.5	11.0	10.5	12.0	12.0	12.5	12.0	12.0	12.0	12.5	12.5
26	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.5	12.0	12.5	12.5
27	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.5	12.0	12.5	12.5
28	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.0	12.0	12.5	12.5
29	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.0	12.0	12.5	12.5
30	10.5	10.5	11.0	11.0	12.0	12.0	12.5	12.0	12.0	12.0	12.5	12.5
31	---	---	11.0	11.0	---	---	12.5	12.0	12.0	12.0	---	---
MONTH	11.5	10.0	11.5	10.5	12.0	11.0	12.5	12.0	13.5	12.0	13.0	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.—Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation District.

COOPERATION.—Records were provided by Oakdale and South San Joaquin Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2067.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,320 ft³/s, Aug. 10–17, 1978; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	5.7	5.3	0.00	3.1	0.00	642	783	1000	936	1090	898
2	257	5.7	5.6	0.00	3.0	0.00	804	793	996	948	1080	899
3	252	5.9	3.5	0.00	2.9	0.00	917	800	1010	964	1070	898
4	253	5.2	0.00	0.00	2.9	0.00	934	801	1020	961	1070	898
5	253	5.4	0.00	0.00	2.5	0.00	944	802	1010	945	1040	897
6	255	6.7	0.00	0.00	0.00	0.00	945	784	996	945	1040	877
7	272	5.9	0.00	0.00	0.00	0.00	938	771	997	945	1070	790
8	254	5.4	0.00	0.00	0.00	0.00	927	771	998	952	1070	747
9	233	4.4	0.00	0.00	0.00	0.00	928	773	1010	961	1070	733
10	231	4.4	0.00	0.00	0.00	0.00	921	769	1030	1040	1090	669
11	232	4.4	0.00	0.00	0.00	0.00	895	753	1040	1100	1090	636
12	120	4.5	0.00	0.00	0.00	0.00	893	749	1050	1110	1080	641
13	6.8	4.6	0.00	0.00	0.00	0.00	896	749	1040	1090	970	656
14	5.5	4.9	0.00	0.00	0.00	271	875	817	1030	1080	917	664
15	5.5	4.9	0.00	0.00	0.00	623	879	852	1030	1070	924	664
16	5.3	4.9	0.00	0.00	0.00	745	896	861	1030	1070	909	725
17	4.8	4.9	0.00	0.00	0.00	752	918	881	1010	1070	894	751
18	4.7	4.8	0.00	0.00	0.00	756	926	898	929	1070	910	747
19	4.7	4.7	0.00	3.7	0.00	759	917	898	900	1080	935	751
20	4.7	4.7	0.00	4.6	2.0	751	927	865	910	1080	927	758
21	4.7	4.7	0.00	4.7	3.8	748	939	836	920	1080	916	749
22	4.7	4.7	0.00	3.9	3.0	747	942	834	909	1090	919	743
23	4.0	4.7	0.00	2.6	0.00	745	813	832	931	1090	916	740
24	3.1	4.5	0.00	2.7	0.00	744	755	845	913	1070	890	736
25	2.8	4.6	0.00	2.8	0.00	744	757	863	899	1070	862	785
26	2.6	5.1	0.00	2.9	0.00	744	764	870	899	1060	864	815
27	2.5	5.1	0.00	2.7	0.00	619	765	890	899	1050	863	753
28	2.2	5.1	0.00	2.7	0.00	486	769	900	918	1060	865	712
29	3.8	5.0	0.00	2.7	---	535	773	984	926	1070	867	706
30	5.5	5.0	0.00	2.6	---	567	771	1020	930	1070	868	408
31	5.7	---	0.00	3.0	---	602	---	1020	---	1080	881	---
TOTAL	2959.6	150.5	14.40	41.60	23.20	11938.00	25970	26064	29180	32207	29957	22446
MEAN	95.47	5.017	0.465	1.342	0.829	385.1	865.7	840.8	972.7	1039	966.4	748.2
MAX	272	6.7	5.6	4.7	3.8	759	945	1020	1050	1110	1090	899
MIN	2.2	4.4	0.00	0.00	0.00	0.00	642	749	899	936	862	408
AC-FT	5870	299	29	83	46	23680	51510	51700	57880	63880	59420	44520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	155.0	53.24	30.02	76.47	118.8	244.8	688.6	891.9	935.8	878.8	765.6	489.5
MAX	490	408	404	363	456	1087	1160	1265	1259	1260	1251	1031
(WY)	1981	1999	1999	1987	1985	1972	1984	1975	1978	1967	1978	1967
MIN	0.000	0.000	0.000	0.000	0.000	0.000	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1914 - 2002	
ANNUAL TOTAL	164809.17		180951.30			
ANNUAL MEAN	451.5		495.8		449.7	
HIGHEST ANNUAL MEAN					684	1984
LOWEST ANNUAL MEAN					114	1977
HIGHEST DAILY MEAN	1040	Aug 8	1110	Jul 12	1320	Aug 10 1978
LOWEST DAILY MEAN	0.00	Jan 9	0.00	Dec 4	0.00	Oct 30 1914
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 9	0.00	Dec 4	0.00	Oct 30 1914
ANNUAL RUNOFF (AC-FT)	326900		358900		325800	
10 PERCENT EXCEEDS	999		1040		1080	
50 PERCENT EXCEEDS	522		733		329	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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.—Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mi upstream for irrigation in Oakdale Irrigation District.

COOPERATION.—Records were provided by Oakdale and South San Joaquin Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2067.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	290	0.00	0.00	0.00	0.00	0.00	178	278	338	440	455	388
2	306	0.00	0.00	0.00	0.00	0.00	222	302	342	455	471	369
3	328	0.00	0.00	0.00	0.00	0.00	282	309	356	469	465	357
4	328	0.00	0.00	0.00	0.00	0.00	333	323	356	479	449	412
5	328	0.00	0.00	0.00	0.00	0.00	344	323	356	474	444	428
6	342	0.00	0.00	0.00	0.00	0.00	343	328	337	471	430	422
7	335	0.00	0.00	0.00	0.00	0.00	319	346	313	472	444	395
8	327	0.00	0.00	0.00	0.00	0.00	311	346	316	472	450	365
9	320	0.00	0.00	0.00	0.00	0.00	336	359	349	471	449	370
10	316	0.00	0.00	0.00	0.00	0.00	347	367	353	471	449	387
11	289	0.00	0.00	0.00	0.00	0.00	348	351	365	478	449	374
12	130	0.00	0.00	0.00	0.00	0.00	335	336	365	483	450	342
13	0.00	0.00	0.00	0.00	0.00	0.00	310	337	376	483	450	329
14	0.00	0.00	0.00	0.00	0.00	0.00	284	337	388	483	450	312
15	0.00	0.00	0.00	0.00	0.00	0.00	275	345	388	477	450	311
16	0.00	0.00	0.00	0.00	0.00	0.00	276	360	389	456	450	312
17	0.00	0.00	0.00	0.00	0.00	0.00	297	360	394	449	450	346
18	0.00	0.00	0.00	0.00	0.00	0.00	329	360	394	454	442	377
19	0.00	0.00	0.00	0.00	0.00	0.00	337	359	395	476	429	377
20	0.00	0.00	0.00	0.00	0.00	0.00	343	356	395	475	416	377
21	0.00	0.00	0.00	0.00	0.00	0.00	333	357	412	475	416	371
22	0.00	0.00	0.00	0.00	0.00	0.00	334	357	415	475	420	350
23	0.00	0.00	0.00	0.00	0.00	0.00	342	357	415	475	436	333
24	0.00	0.00	0.00	0.00	0.00	0.00	347	348	402	474	436	323
25	0.00	0.00	0.00	0.00	0.00	0.00	331	341	394	465	440	342
26	0.00	0.00	0.00	0.00	0.00	0.00	289	340	389	452	458	342
27	0.00	0.00	0.00	0.00	0.00	0.00	270	341	364	452	447	349
28	0.00	0.00	0.00	0.00	0.00	0.00	269	340	404	452	432	373
29	0.00	0.00	0.00	0.00	---	65	260	339	431	452	412	373
30	0.00	0.00	0.00	0.00	---	101	250	339	441	452	413	368
31	0.00	---	0.00	0.00	---	145	---	337	---	452	399	---
TOTAL	3639.00	0.00	0.00	0.00	0.00	311.00	9174	10578	11332	14464	13651	10874
MEAN	117.4	0.000	0.000	0.000	0.000	10.03	305.8	341.2	377.7	466.6	440.4	362.5
MAX	342	0.00	0.00	0.00	0.00	145	348	367	441	483	471	428
MIN	0.00	0.00	0.00	0.00	0.00	0.00	178	278	313	440	399	311
AC-FT	7220	0.00	0.00	0.00	0.00	617	18200	20980	22480	28690	27080	21570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2002, BY WATER YEAR (WY)

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	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	1998	1999	2000	2001	2002
MEAN	98.34	4.725	0.989	1.600	2.077	47.31	227.3	358.4	374.4	373.6	341.0	256.1																																																																													
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	1967	1967	1967	1958																																																																													
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.004	97.5	49.8	25.8	0.62	1.20																																																																													
(WY)	1995	1915	1916	1916	1915	1918	1983	1915	1924	1924	1977	1977																																																																													

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1914 - 2002	
ANNUAL TOTAL	76913.30		74023.00			
ANNUAL MEAN	210.7		202.8		176.6	
HIGHEST ANNUAL MEAN					277	
LOWEST ANNUAL MEAN					52.8	
HIGHEST DAILY MEAN	494	Jul 12	483	Jul 12	556	Jul 8 1967
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 13	0.00	Jun 21 1914
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 13	0.00	Oct 16 1914
ANNUAL RUNOFF (AC-FT)	152600		146800		127900	
10 PERCENT EXCEEDS	475		450		476	
50 PERCENT EXCEEDS	210		289		71	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA

LOCATION.—Lat 37°51'06", long 120°38'13", in Rancheria del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on right bank 250 ft upstream from Owl Creek, 0.9 mi downstream from Goodwin Dam, and 2.9 mi northeast of Knights Ferry.

DRAINAGE AREA.—986 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.—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.

COOPERATION.—Records were provided by Oakdale and South San Joaquin Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2067.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	347	350	304	308	515	509	742	503	399	258	221
2	216	352	349	312	285	515	508	747	500	353	229	217
3	193	352	351	303	285	514	499	738	501	504	221	217
4	199	354	350	303	329	511	498	740	464	501	223	220
5	199	353	352	305	539	507	560	744	419	505	221	218
6	197	354	346	305	530	503	590	751	390	503	222	218
7	201	355	353	307	522	503	592	762	449	502	220	216
8	197	361	351	305	524	502	601	763	450	503	217	218
9	200	364	354	311	521	498	611	1060	455	498	218	217
10	204	364	356	311	523	502	644	1110	446	497	227	207
11	202	362	353	308	531	502	641	1120	448	500	231	209
12	203	359	352	308	527	504	774	1100	447	499	231	201
13	205	360	354	311	521	504	1480	1110	447	496	228	211
14	208	359	355	310	522	506	1480	1110	480	498	233	202
15	203	354	351	313	523	513	1480	1110	504	500	234	201
16	206	354	349	311	525	506	1480	1110	503	466	233	202
17	203	353	354	310	529	505	1490	1100	502	449	233	208
18	202	353	355	316	538	508	1480	1110	504	424	231	193
19	234	354	353	309	532	506	1480	1110	506	402	230	190
20	940	355	344	309	536	499	1480	1090	499	401	234	188
21	1010	356	320	313	529	502	1480	913	506	400	233	189
22	1010	356	308	310	519	503	1480	876	500	400	223	189
23	1010	356	309	312	505	504	1480	878	498	400	219	188
24	1010	349	306	313	506	498	1070	881	501	347	219	175
25	1010	355	309	311	504	504	990	885	502	298	224	172
26	1000	352	308	310	510	508	991	883	498	298	219	173
27	1000	351	306	310	506	486	943	889	503	299	217	171
28	918	349	300	310	511	506	942	886	498	295	215	173
29	365	352	309	312	---	505	940	750	494	296	218	170
30	349	353	307	309	---	500	844	582	497	295	217	173
31	351	---	303	312	---	515	---	501	---	270	220	---
TOTAL	13868	10648	10417	9593	13740	15654	30037	28151	14414	12998	6998	5947
MEAN	447.4	354.9	336.0	309.5	490.7	505.0	1001	908.1	480.5	419.3	225.7	198.2
MAX	1010	364	356	316	539	515	1490	1120	506	505	258	221
MIN	193	347	300	303	285	486	498	501	390	270	215	170
AC-FT	27510	21120	20660	19030	27250	31050	59580	55840	28590	25780	13880	11800

SAN JOAQUIN RIVER BASIN

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1978, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	128	215	690	1194	1103	1060	1154	1651	1249	96.4	4.18	17.8
MAX	749	681	3521	5040	4309	3265	3686	6233	5100	1063	22.5	231
(WY)	1976	1966	1965	1969	1969	1969	1967	1969	1967	1967	1967	1969
MIN	.19	4.56	.40	11.5	2.19	4.74	2.48	1.52	1.35	1.60	1.09	.51
(WY)	1977	1977	1978	1977	1960	1960	1972	1961	1961	1960	1960	1960

SUMMARY STATISTICS

WATER YEARS 1957 - 1978

ANNUAL MEAN	725
HIGHEST ANNUAL MEAN	2131 1969
LOWEST ANNUAL MEAN	6.47 1977
HIGHEST DAILY MEAN	29400 Dec 24 1964
LOWEST DAILY MEAN	.14 Oct 6 1976
ANNUAL SEVEN-DAY MINIMUM	.15 Oct 13 1976
MAXIMUM PEAK FLOW	40200 Dec 24 1964
MAXIMUM PEAK STAGE	28.85 Dec 24 1964
ANNUAL RUNOFF (AC-FT)	525500
10 PERCENT EXCEEDS	2300
50 PERCENT EXCEEDS	43
90 PERCENT EXCEEDS	1.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2002, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	502.2	416.4	722.1	977.3	1214	1291	932.5	970.2	703.2	556.5	502.0	407.5							
MAX	1738	2246	4581	6005	6036	4905	1936	2046	1798	1861	1791	1634							
(WY)	1999	1984	1984	1997	1997	1986	1998	1998	1998	1998	1998	1998							
MIN	172	161	140	132	140	143	236	275	185	229	157	155							
(WY)	1991	1991	1992	1990	1990	1991	1991	1991	1984	1984	1991	1991							

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1984 - 2002

ANNUAL TOTAL	172083	172465	
ANNUAL MEAN	471.5	472.5	764.5
HIGHEST ANNUAL MEAN			1893 1997
LOWEST ANNUAL MEAN			185 1991
HIGHEST DAILY MEAN	1510 Apr 19	1490 Apr 17	6840 Feb 26 1997
LOWEST DAILY MEAN	193 Oct 3	170 Sep 29	51 Oct 10 1990
ANNUAL SEVEN-DAY MINIMUM	198 Oct 3	172 Sep 24	85 Oct 10 1990
MAXIMUM PEAK FLOW		1590 Apr 23	7350 Jan 3 1997
MAXIMUM PEAK STAGE		10.36 Apr 23	15.59 Jan 3 1997
ANNUAL RUNOFF (AC-FT)	341300	342100	553900
10 PERCENT EXCEEDS	1010	940	1550
50 PERCENT EXCEEDS	350	360	394
90 PERCENT EXCEEDS	251	210	182

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—February 1966 to current year.

WATER TEMPERATURE: February 1966 to current year.

PERIOD OF DAILY RECORD.—February 1966 to current year.

WATER TEMPERATURE: February 1966 to current year.

INSTRUMENTATION.—Water-temperature recorder since February 1966.

REMARKS.—Water-temperature records rated excellent except for June 26 to July 16, Aug. 21–27, which are rated good. Temperature recorder located 2,300 ft upstream from gaging station. Water temperature is affected by regulation from Goodwin Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 25, 1974; minimum recorded, 5.5°C, Feb. 3, 1972.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 14.5°C, Aug. 20; minimum recorded, 8.5°C, Jan. 31.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR				
29...*	1733	2.20	11.0	4.00
29...*	1736	3.00	11.0	12.0
29...*	1739	2.00	11.0	20.0
29...*	1740	2.50	11.0	28.0
29...*	1742	2.00	11.0	36.0
29...*	1743	2.50	11.0	44.0
29...*	1746	2.50	11.0	52.0
29...*	1747	3.00	11.0	60.0
29...*	1749	2.50	11.0	68.0
29...*	1750	2.00	11.0	76.0
AUG				
27...*	1356	1.00	13.5	5.00
27...*	1357	1.60	13.5	14.0
27...*	1358	1.70	13.5	23.0
27...*	1359	1.80	13.5	32.0
27...*	1400	1.70	13.5	41.0
27...*	1401	1.60	13.5	50.0
27...*	1402	1.10	13.5	59.0
27...*	1403	.80	13.0	68.0
27...*	1404	1.20	13.0	77.0
27...*	1405	1.30	13.0	86.0

* Instantaneous discharge at time of cross-sectional measurement: 944 ft³/s, Apr. 29; 223 ft³/s, Aug. 27.

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.5	13.0	13.0	12.5	12.0	12.0	11.5	11.0	9.5	9.0	10.0	9.5
2	14.0	13.0	13.0	12.5	12.0	12.0	11.0	11.0	9.5	9.0	10.0	9.5
3	14.0	13.0	13.0	12.5	12.0	12.0	11.5	11.0	9.5	9.0	10.0	9.5
4	14.0	13.0	13.0	12.5	12.0	12.0	11.0	10.5	9.5	9.0	10.0	9.5
5	13.5	12.5	13.0	12.5	12.0	12.0	11.0	10.5	9.5	9.0	10.5	9.5
6	13.5	12.5	13.0	12.5	12.0	11.5	11.0	10.5	9.5	9.0	10.5	10.0
7	13.5	13.0	13.0	12.5	12.0	12.0	11.0	10.5	9.5	9.5	10.0	9.5
8	13.5	13.0	13.0	12.5	12.0	11.5	11.0	10.5	10.0	9.5	10.0	9.5
9	13.5	12.5	13.0	12.5	12.0	11.5	11.0	10.5	9.5	9.5	10.0	9.5
10	13.5	12.5	12.5	12.5	11.5	11.0	11.0	10.5	9.5	9.5	10.5	10.0
11	13.0	12.5	13.0	12.5	11.5	11.0	11.0	10.5	10.0	9.5	10.5	10.0
12	13.0	12.5	13.0	12.5	11.5	11.0	11.0	10.5	10.5	9.5	10.5	10.0
13	13.5	13.0	12.5	12.5	11.5	11.0	10.5	10.5	10.5	10.0	10.5	10.0
14	14.0	13.0	12.5	12.0	11.5	11.0	10.5	10.0	10.5	10.0	10.5	10.0
15	14.0	13.0	13.0	12.5	11.0	11.0	10.5	10.0	10.5	10.0	10.5	9.5
16	13.5	13.0	12.5	12.5	11.0	10.5	10.0	10.0	10.5	10.0	10.5	10.0
17	13.5	13.0	13.0	12.5	11.5	11.0	10.0	10.0	10.5	10.0	10.0	10.0
18	13.5	13.0	12.5	12.5	11.5	11.0	10.0	9.5	10.0	10.0	10.5	9.5
19	13.5	13.0	12.5	12.5	11.0	11.0	10.0	9.5	10.5	10.0	11.0	10.0
20	13.0	13.0	12.5	12.5	11.0	11.0	10.0	9.5	11.0	10.5	11.0	10.0
21	13.0	12.5	12.5	12.5	11.0	11.0	10.5	9.5	11.5	10.5	11.0	10.0
22	13.0	12.5	12.5	12.5	11.0	11.0	10.0	9.5	11.5	11.0	10.5	10.0
23	13.5	12.5	12.5	12.0	11.0	11.0	10.0	9.5	11.5	11.0	10.5	10.0
24	13.0	12.5	12.5	12.0	11.0	10.5	10.0	9.0	11.5	11.0	10.5	10.0
25	13.0	12.5	12.0	12.0	11.0	10.5	10.0	9.5	11.5	11.0	11.0	10.0
26	13.0	12.5	12.0	11.5	11.0	10.5	10.0	9.5	11.5	11.0	11.0	10.0
27	13.0	12.5	12.0	11.5	11.0	10.5	9.5	9.5	11.5	10.0	11.0	10.0
28	13.0	12.5	11.5	11.5	11.0	11.0	9.5	9.5	10.5	9.5	11.5	10.0
29	13.0	13.0	12.0	11.5	11.0	11.0	9.5	9.0	---	---	11.5	10.5
30	13.0	13.0	12.0	11.5	11.0	11.0	9.5	9.0	---	---	11.5	10.5
31	13.0	12.5	---	---	11.0	11.0	9.5	8.5	---	---	11.5	10.5
MONTH	14.0	12.5	13.0	11.5	12.0	10.5	11.5	8.5	11.5	9.0	11.5	9.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.5	11.0	10.0	12.0	11.5	14.0	12.5	14.0	12.5	13.5	12.5
2	11.5	10.5	11.5	10.0	12.5	11.0	13.5	12.5	14.0	13.0	13.5	12.5
3	11.5	10.5	11.5	10.5	12.5	11.5	13.5	12.0	14.0	12.5	13.5	12.0
4	11.0	10.5	11.5	10.5	12.5	11.5	13.5	12.5	14.0	12.5	13.0	12.5
5	11.0	10.5	11.5	10.5	12.5	11.5	13.5	12.5	14.0	12.5	13.0	12.0
6	11.5	10.5	11.5	10.5	12.5	11.5	13.5	12.5	13.5	12.5	13.0	12.0
7	11.5	10.5	11.5	10.5	12.5	11.5	14.0	12.5	13.5	12.5	13.0	12.0
8	11.5	10.5	11.5	10.5	12.5	11.5	14.0	12.5	13.5	12.5	13.0	12.0
9	11.0	10.5	12.0	10.5	12.5	11.5	14.0	12.5	13.5	12.5	13.5	12.0
10	11.5	10.5	12.0	11.0	12.5	11.5	14.0	13.0	13.5	12.5	13.5	12.0
11	11.5	10.5	12.0	11.0	13.0	11.5	14.0	13.0	13.5	12.5	13.5	12.0
12	11.5	10.5	12.0	11.0	13.0	11.5	14.0	13.0	14.0	12.5	13.5	12.0
13	12.5	10.5	12.0	11.0	13.0	11.5	14.0	13.0	13.5	12.5	13.5	12.0
14	12.5	11.5	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.5	13.0	12.5
15	12.0	11.5	12.0	11.5	13.0	12.0	14.0	13.0	13.5	12.5	13.0	12.0
16	12.0	11.5	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.5	13.0	12.0
17	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.5	13.5	12.0
18	12.0	11.0	12.0	11.5	13.0	12.0	14.0	13.0	13.5	12.5	13.5	12.5
19	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.5	13.5	12.5
20	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	14.5	12.5	13.5	12.5
21	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.0	13.5	12.5
22	12.0	11.0	12.0	11.0	13.0	12.0	14.0	13.0	13.5	12.5	13.5	12.5
23	12.0	11.0	12.0	11.0	13.5	12.0	14.0	13.0	13.5	12.0	13.5	12.5
24	11.5	10.5	12.0	11.0	13.5	12.0	14.0	12.5	13.5	12.5	13.5	12.5
25	11.5	10.5	12.0	11.0	13.5	12.0	14.0	12.5	13.5	12.5	13.5	12.5
26	11.0	10.5	12.0	11.0	13.5	12.5	14.0	12.5	13.5	12.5	13.5	12.5
27	10.5	10.5	12.0	11.0	13.5	12.0	13.5	12.5	13.5	12.5	13.5	12.5
28	11.0	10.5	12.5	11.0	13.5	12.5	13.5	12.5	13.5	12.5	13.0	12.5
29	11.0	10.5	12.5	11.5	13.5	12.5	13.5	12.5	13.5	12.5	13.5	12.5
30	11.0	10.5	12.5	11.5	13.5	12.5	14.0	12.5	13.5	12.5	13.0	12.5
31	---	---	12.5	11.5	---	---	14.0	12.5	13.5	12.5	---	---
MONTH	12.5	10.5	12.5	10.0	13.5	11.0	14.0	12.0	14.5	12.0	13.5	12.0

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 RECORD.—August 1985 to current year.

WATER TEMPERATURE: August 1985 to current year.

PERIOD OF DAILY RECORD.—August 1985 to current year.

WATER TEMPERATURE: August 1985 to current year.

INSTRUMENTATION.—Water-temperature recorder since Aug. 28, 1985.

REMARKS.—Water-temperature records rated excellent except for Feb. 18 to Mar. 1, Apr. 4, June 26 to July 16, which are rated good. Interruptions in record were due to malfunction of the recording instrument. Water temperature can be affected by releases from Woodward Reservoir 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, 21.0°C, Aug. 3; minimum recorded, 7.5°C, Jan. 30, 31, but may have been lower during period of missing record.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR				
29...*	1416	3.80	11.5	8.00
29...*	1418	4.30	11.5	24.0
29...*	1420	3.50	11.5	40.0
29...*	1424	3.20	11.5	56.0
29...*	1426	4.00	11.5	72.0
29...*	1427	4.90	11.5	88.0
29...*	1429	4.10	11.5	104
29...*	1430	4.00	11.5	120
29...*	1432	3.70	11.5	136
29...*	1433	3.30	11.5	152
AUG				
26...*	1559	.50	19.0	8.00
26...*	1600	1.70	19.0	24.0
26...*	1601	2.50	19.0	40.0
26...*	1602	2.00	19.0	56.0
26...*	1603	2.30	19.0	72.0
26...*	1604	2.30	19.0	88.0
26...*	1605	1.20	19.0	104
26...*	1606	1.30	19.0	120
26...*	1607	2.00	19.0	136
26...*	1608	2.20	19.0	152

* Discharge at time of cross-sectional measurement: unknown.

SAN JOAQUIN RIVER BASIN

11302500 STANISLAUS RIVER AT OAKDALE, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

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 fair. 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	437	372	658	320	504	536	920	623	538	348	309
2	304	428	400	531	321	505	556	819	601	483	322	304
3	296	405	456	973	304	512	536	795	612	392	342	283
4	296	389	424	914	302	508	541	809	597	493	360	278
5	329	378	392	556	319	564	551	797	554	527	370	311
6	308	380	376	448	465	584	608	798	517	558	327	318
7	334	368	366	404	490	563	634	790	509	575	297	294
8	328	368	367	382	503	e529	642	770	517	594	284	291
9	304	367	362	367	500	519	635	781	561	527	294	304
10	309	366	360	356	499	553	632	996	570	511	298	291
11	296	373	362	350	502	530	649	1080	507	537	307	289
12	304	386	361	344	535	522	656	1100	494	534	365	e298
13	325	401	358	338	530	518	746	1110	493	571	331	276
14	281	371	387	337	515	510	1230	1090	519	552	322	277
15	275	364	389	334	518	511	1370	1100	542	558	305	322
16	271	359	373	334	518	506	1400	1090	541	539	303	295
17	284	356	360	331	540	529	1430	1100	583	498	302	289
18	274	354	367	331	567	e510	1450	1130	574	500	304	310
19	296	353	368	332	564	502	1450	1150	558	473	350	305
20	292	355	377	326	555	501	1450	1200	564	439	320	328
21	676	358	428	325	552	495	1450	1170	577	482	321	332
22	837	361	473	328	543	512	1470	1010	552	522	309	333
23	867	357	376	324	534	528	1450	968	538	483	289	276
24	889	382	362	323	516	532	1440	969	571	447	302	258
25	932	395	341	324	512	517	1160	950	574	431	323	273
26	919	374	335	324	509	509	1080	940	550	394	338	249
27	916	364	328	329	510	520	1040	957	547	375	331	267
28	910	362	347	328	511	494	999	945	509	402	290	257
29	853	375	592	328	---	504	1010	920	520	407	295	284
30	526	366	1130	324	---	510	1010	817	516	363	306	298
31	459	---	790	320	---	507	---	726	---	357	297	---
TOTAL	14815	11252	13079	12523	13554	16108	29811	29797	16490	15062	9852	8799
MEAN	477.9	375.1	421.9	404.0	484.1	519.6	993.7	961.2	549.7	485.9	317.8	293.3
MAX	932	437	1130	973	567	584	1470	1200	623	594	370	333
MIN	271	353	328	320	302	494	536	726	493	357	284	249
AC-FT	29390	22320	25940	24840	26880	31950	59130	59100	32710	29880	19540	17450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

MEAN	401.6	472.9	885.3	1204	1282	1412	1506	2000	1408	519.3	374.1	355.9
MAX	1951	4518	7602	6273	6499	5094	5047	7703	5531	3633	2834	2041
(WY)	1999	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	0.63	2.95
(WY)	1978	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1941 - 2002	
ANNUAL TOTAL	193324		191142			
ANNUAL MEAN	529.7		523.7		983.5	
HIGHEST ANNUAL MEAN					2548	
LOWEST ANNUAL MEAN					44.9	
HIGHEST DAILY MEAN	1540	May 18	1470	Apr 22	47000	Dec 24 1955
LOWEST DAILY MEAN	271	Oct 16	249	Sep 26	0.11	Aug 4 1977
ANNUAL SEVEN-DAY MINIMUM	282	Oct 14	266	Sep 23	0.13	Aug 2 1977
MAXIMUM PEAK FLOW			1500	Apr 22	62500	Dec 24 1955
MAXIMUM PEAK STAGE			43.32	Apr 22	63.25	Dec 24 1955
ANNUAL RUNOFF (AC-FT)	383500		379100		712500	
10 PERCENT EXCEEDS	917		947		2570	
50 PERCENT EXCEEDS	382		473		408	
90 PERCENT EXCEEDS	328		298		142	

e Estimated.

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 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 years 1985–88, 1994.

SPECIFIC CONDUCTANCE: Water years 1986–89. July 1997 to current year.

WATER TEMPERATURE: Water years 1986–89. October 1994 to current year.

SEDIMENT DATA: Water year 1985–88, 1994.

PERIOD OF DAILY RECORD.—Water years 1986–89. October 1994 to current year.

SPECIFIC CONDUCTANCE: Water years 1986–89. July 1997 to current year.

WATER TEMPERATURE: Water years 1986–89. October 1994 to current year.

INSTRUMENTATION.—Water-temperature recorder from October 1994 to June 1997, water-quality monitor since July 1997.

REMARKS.—Specific conductance records rated excellent except for Oct. 3, 4, Oct. 30 to Nov. 21, Nov. 25 to Dec. 1, Mar. 1, 3, Sept. 9, 10, 13–15, which are rated good; Oct. 5, 6, Dec. 2–6, Sept. 16–19, which are rated fair; and Oct. 7–11, Dec. 7–22, Mar. 4, Sept. 21–23, which are rated poor. Water-temperature records rated excellent except for Oct. 1–11, Dec. 23 to Jan. 10, Jan. 21–31, Apr. 26–28, June 20 to July 18, Aug. 12 to Sept. 3, which are rated good; Feb. 1–12, which are rated fair; and Feb. 13 to Mar. 9, Apr. 21, 22, which are rated poor. Interruptions in record were due to malfunction of the recording instrument. Specific conductance and water temperature may be affected by upstream regulation.

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, 2.5°C, Dec. 11, 22, 1997.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 166 microsiemens, Feb. 3, 4, but may have been higher during periods of missing record; minimum recorded, 67 microsiemens, Oct. 22, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded, 24.5°C, Aug. 1–3, 11, 13; minimum recorded, 6.5°C, Jan. 31.

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH	SPE- CIFIC CON- DUCT- ANCE (US/CM) (81903)	TEMPER- ATURE (DEG C) (00010)	SAMPLE
		BOTTOM AT SAMPLE LOC- ATION, (FEET) (81903)			LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
29...	1155	--	68	13.0	3.00
29...	1156	--	68	13.0	9.00
29...	1157	--	68	13.0	15.0
29...	1158	--	68	13.0	21.0
29...	1159	--	68	13.0	27.0
29...	1200	--	68	13.0	33.0
29...	1201	--	68	13.0	39.0
29...	1202	--	69	13.0	45.0
29...	1203	--	71	13.0	51.0
29...	1204	--	72	13.0	57.0
AUG					
26...	1430	1.50	90	21.5	3.00
26...	1432	3.00	90	21.5	9.00
26...	1433	3.30	89	21.5	15.0
26...	1434	4.00	89	21.5	21.0
26...	1435	4.00	89	21.5	27.0
26...	1436	3.70	90	21.5	33.0
26...	1437	3.20	90	21.5	39.0
26...	1438	3.50	90	21.5	45.0
26...	1439	3.00	90	21.5	51.0
26...	1440	2.40	90	21.5	57.0

* Instantaneous discharge at time of cross-sectional measurement: 1,000 ft³/s, Apr. 29; 359 ft³/s, Aug. 26.

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	120	117	97	92	98	90	---	---	145	143	117	110
2	120	118	98	93	91	87	---	---	147	144	115	112
3	120	117	95	92	123	86	---	---	166	147	112	108
4	121	118	95	92	124	99	---	---	166	161	108	102
5	119	115	98	93	103	95	---	---	161	153	---	---
6	115	114	95	92	96	90	---	---	154	114	---	---
7	114	112	95	92	91	85	---	---	119	114	---	---
8	112	108	96	92	95	84	---	---	121	119	---	---
9	109	108	94	92	84	83	---	---	125	120	---	---
10	109	106	100	92	98	83	---	---	130	125	---	---
11	106	98	100	93	84	82	151	146	126	124	---	---
12	106	94	103	93	87	81	162	147	136	125	---	---
13	111	93	94	92	84	80	162	147	136	134	---	---
14	111	99	97	93	85	78	148	147	136	129	---	---
15	111	105	96	95	80	75	154	148	129	124	---	---
16	112	106	97	95	82	74	153	145	124	111	---	---
17	110	97	96	95	80	73	148	145	121	112	---	---
18	122	104	95	93	76	73	146	142	115	112	---	---
19	110	90	95	93	74	71	142	138	121	114	---	---
20	118	101	96	93	78	71	142	140	121	119	---	---
21	101	68	105	94	81	77	143	141	120	118	---	---
22	70	67	95	92	87	81	141	139	121	118	---	---
23	71	68	97	93	---	---	144	140	119	117	---	---
24	71	68	108	93	---	---	144	142	118	116	---	---
25	70	68	104	96	---	---	144	143	116	113	---	---
26	70	68	107	102	---	---	145	139	115	112	---	---
27	70	68	102	98	---	---	140	138	114	106	---	---
28	72	69	102	96	---	---	141	138	110	107	---	---
29	75	69	102	94	---	---	144	139	---	---	---	---
30	96	75	96	94	---	---	150	144	---	---	---	---
31	99	94	---	---	---	---	149	144	---	---	---	---
MONTH	122	67	108	92	---	---	---	---	166	106	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	86	82	80	76	---	---	94	91
2	---	---	---	---	88	86	80	77	---	---	94	91
3	---	---	81	80	88	87	91	80	---	---	---	93
4	---	---	82	80	89	88	91	76	---	---	---	100
5	---	---	83	81	90	88	78	74	---	---	102	85
6	---	---	83	81	91	89	78	73	---	---	100	86
7	---	---	83	80	91	90	77	74	---	---	111	99
8	---	---	83	81	92	90	75	73	---	---	109	98
9	---	---	83	80	92	86	76	74	---	---	111	92
10	---	---	80	74	86	84	77	74	---	---	---	97
11	---	---	77	74	87	85	76	74	---	---	---	---
12	---	---	76	74	87	86	76	74	---	---	---	---
13	---	---	76	74	86	85	76	73	---	---	---	94
14	---	---	76	74	86	81	76	73	---	---	---	95
15	---	---	75	73	84	81	76	73	---	---	100	84
16	---	---	75	74	82	80	76	73	---	---	101	89
17	---	---	76	73	82	79	76	74	---	---	104	92
18	---	---	75	74	81	79	80	75	---	---	100	83
19	---	---	75	73	81	79	78	76	---	---	94	83
20	---	---	74	72	82	79	80	78	---	---	---	---
21	---	---	75	73	80	78	81	79	---	---	98	80
22	---	---	76	75	79	78	80	77	---	---	---	80
23	---	---	77	75	80	78	79	78	---	---	99	91
24	---	---	76	75	80	78	79	77	---	---	---	---
25	---	---	77	75	80	78	82	78	---	---	---	---
26	---	---	77	75	80	77	---	---	---	---	---	---
27	---	---	76	73	80	77	---	---	94	88	---	---
28	---	---	76	73	80	78	---	---	---	94	---	---
29	---	---	76	73	80	78	---	---	102	98	---	---
30	---	---	80	74	80	77	---	---	102	96	---	---
31	---	---	82	80	---	---	---	---	100	91	---	---
MONTH	---	---	---	---	92	77	---	---	---	---	---	---

SAN JOAQUIN RIVER BASIN

11303000 STANISLAUS RIVER AT RIPON, CA—Continued

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

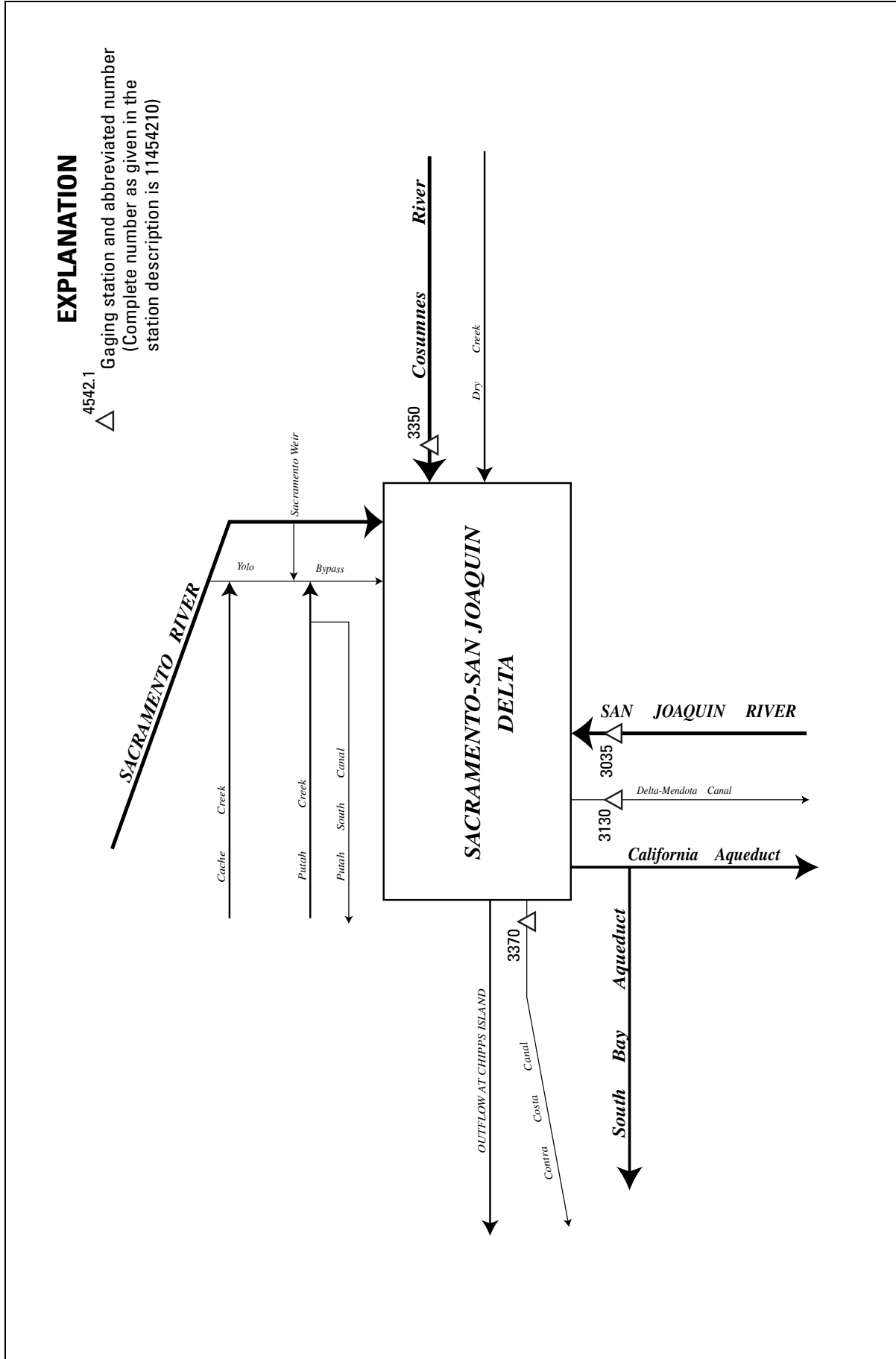


Figure 31. Principal inflows and diversions, Sacramento-San Joaquin Delta.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA

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. 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	2420	1930	4590	1750	1870	1990	3390	1690	1370	1140	1180
2	1420	2430	1970	4350	1740	1890	1810	3310	1730	1330	1160	1220
3	1330	2340	2090	4270	1720	1910	1710	3360	1760	1230	1180	1160
4	1300	2210	2060	5960	1700	1960	1660	3390	1660	1180	1140	1020
5	1340	2150	2050	5070	1730	1960	1670	3430	1530	1260	1210	991
6	1410	2100	2070	4220	1790	2030	1710	3500	1460	1260	1140	1040
7	1540	2050	2100	3880	1900	2120	1810	3460	1430	1320	1050	1070
8	1640	2020	2090	3370	1940	2160	1930	3360	1380	1420	1010	1140
9	1580	2020	2050	2970	1920	2170	1820	3240	1420	1310	1040	1170
10	1570	2020	1980	2750	1920	2290	1800	3170	1470	1250	1050	1120
11	1520	2100	1950	2590	1940	2390	1750	3290	1360	1220	1090	1090
12	1480	2160	1930	2460	1950	2330	1750	3360	1290	1230	1150	1130
13	1500	2210	1910	2340	1940	2290	1790	3400	1280	1240	1090	1150
14	1550	2180	1870	2240	1900	2160	2200	3210	1260	1230	1020	1160
15	1540	2170	1860	2160	1880	2110	2840	2930	1360	1260	1050	1240
16	1510	2170	1800	2090	1880	2080	2960	2680	1430	1210	1060	1340
17	1510	2180	1750	2020	1900	2150	2990	2450	1420	1190	1060	1230
18	1580	2140	1750	1960	1940	2260	3130	2360	1340	1150	1180	1170
19	1710	2120	1730	1910	1940	2140	3200	2310	1270	1190	1230	1130
20	1840	2070	1740	1870	1960	2110	3310	2340	1260	1150	1130	1190
21	2150	2030	1870	1830	2020	2190	3370	2380	1290	1180	1100	1180
22	2780	1990	1950	1810	2020	2170	3430	2310	1290	1230	1060	1260
23	2840	1950	2020	1800	2000	2250	3250	2140	1370	1190	1070	1270
24	2900	1930	1940	1770	1980	2400	3220	2120	1420	1130	1090	1230
25	3010	1990	1880	1760	1970	2360	3310	2030	1360	1150	1250	1200
26	3180	1940	1830	1740	1970	2270	3410	2100	1280	1180	1270	1220
27	3150	1930	1790	1740	1930	2120	3450	2180	1310	1150	1180	1190
28	3260	1920	1800	1730	1900	2020	3500	2080	1310	1270	1150	1180
29	3110	1960	2080	1730	---	1990	3610	1950	1350	1280	1080	1240
30	2800	1980	3190	1770	---	1960	3570	1910	1430	1150	1080	1340
31	2520	---	4940	1760	---	2030	---	1760	---	1140	1100	---
TOTAL	62080	62880	63970	82510	53130	66140	77950	84900	42210	38050	34610	35251
MEAN	2003	2096	2064	2662	1898	2134	2598	2739	1407	1227	1116	1175
MAX	3260	2430	4940	5960	2020	2400	3610	3500	1760	1420	1270	1340
MIN	1300	1920	1730	1730	1700	1870	1660	1760	1260	1130	1010	991
AC-FT	123100	124700	126900	163700	105400	131200	154600	168400	83720	75470	68650	69920

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2002, BY WATER YEAR (WY)

	2300	2320	3603	5153	7262	7532	7143	7639	6460	2621	1438	1778
MEAN	2300	2320	3603	5153	7262	7532	7143	7639	6460	2621	1438	1778
MAX	13320	10680	25130	30380	35060	40040	36450	31770	36650	19230	9035	11310
(WY)	1984	1984	1951	1997	1997	1983	1983	1983	1988	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1924 - 2002	
ANNUAL TOTAL	829500		703681			
ANNUAL MEAN	2273		1928		4586	
HIGHEST ANNUAL MEAN					21280	
LOWEST ANNUAL MEAN					575	
HIGHEST DAILY MEAN	5980		5960		70000	
LOWEST DAILY MEAN	1150		991		30	
ANNUAL SEVEN-DAY MINIMUM	1250		1060		59	
MAXIMUM PEAK FLOW			6370		79000	
MAXIMUM PEAK STAGE			13.94		34.88	
ANNUAL RUNOFF (AC-FT)	1645000		1396000		3322000	
10 PERCENT EXCEEDS	4130		3180		12500	
50 PERCENT EXCEEDS	2020		1870		2100	
90 PERCENT EXCEEDS	1340		1150		682	

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 1999, October 2000 to current year.

BIOLOGICAL DATA: Water years 1974–81.

SEDIMENT DATA: Water years 1957 to current year.

SPECIFIC CONDUCTANCE: Water years 1951–63, 1973–82, 1985 to current year.

TURBIDITY: Water years 1972–84.

WATER TEMPERATURE: Water years 1951 to current year.

PERIOD OF DAILY RECORD.—March 1951 to current year.

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 December 1972 to May 1985. Water-quality monitor since June 1985.

REMARKS.—Specific conductance records are rated excellent except for Dec. 24–29, Jan. 31 to Feb. 5, Feb. 23 to Mar. 5, Mar. 23 to Apr. 3, Apr. 10, July 15 to Aug. 5, Sept. 27–30, which are rated good; and Aug. 6–9, which are rated fair. Water-temperature records rated excellent except for Nov. 3 to Feb. 23, Mar. 2–4, Mar. 6–28, Apr. 9, 10, July 10, 11, Aug. 9, which are rated good; Feb. 24 to Mar. 1, Mar. 29 to Apr. 1, which are rated fair; and Apr. 2, 3, which are rated poor. 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. Chemical Data for water year 2000 available in the files of the U.S. Geological Survey. Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum daily, 2,350 microsiemens, Aug. 11, 1961; minimum daily, 60 microsiemens, June 21, 1953.

WATER TEMPERATURE: Maximum recorded, 35.5°C, Aug. 9, 1990; minimum recorded, 2.0°C, Dec. 26, 1987.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,590 mg/L, Dec. 25, 1964; minimum daily mean, 6 mg/L, Jan. 1, 1991.

SEDIMENT LOAD: Maximum daily, 54,100 tons, Dec. 25, 1964; minimum daily, 2 tons, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,050 microsiemens, Mar. 2, 5, but may have been higher during periods of missing record; minimum recorded, 319 microsiemens, May 1, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded, 29.0°C, July 11, but may have been higher during periods of missing record; minimum recorded, 7.5°C, Jan. 31.

SEDIMENT CONCENTRATION: Maximum daily mean, 282 mg/L, Jan. 4; minimum daily mean, 18 mg/L, Feb. 2.

SEDIMENT LOAD: Maximum daily, 4,530 tons, Jan. 4; minimum daily, 80 tons, Sept. 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, SOLVED (MG/L) (00300)	PH DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
OCT									
04...	1100	1300	--	.083	.063	757	8.2	--	7.7
10...	1100	1580	--	--	--	762	9.0	95	7.9
18...	1050	1580	22	.091	.071	762	8.1	88	8.0
NOV									
01...	1100	2390	20	.077	.055	760	8.6	--	7.9
08...	1030	2020	--	--	--	759	8.8	86	8.0
16...	0930	2170	--	.111	.084	761	8.4	84	7.7
DEC									
04...	1130	2050	--	--	--	763	9.4	--	8.0
JAN									
17...	1330	2010	--	--	--	764	9.9	--	8.0
31...	1100	1750	--	--	--	770	10.5	88	7.9
FEB									
07...	1300	1910	--	--	--	764	11.1	101	7.6
28...	1400	1900	--	--	--	765	9.8	98	7.6
MAR									
13...	1400	2270	--	--	--	769	9.8	--	7.8
27...	1250	2110	--	--	--	766	10.8	111	8.0
APR									
09...	1300	1820	--	--	--	766	10.3	--	8.0
23...	1210	3260	--	--	--	763	10.2	105	7.6
MAY									
06...	1030	3540	--	--	--	769	9.0	95	7.6
20...	1100	2360	--	--	--	763	9.1	94	7.7
JUN									
10...	1300	1480	--	--	--	762	13.6	154	8.4
26...	0930	1270	--	--	--	762	12.5	147	8.2
JUL									
10...	0930	1260	--	--	--	764	7.8	--	7.6
15...	1230	1280	--	--	--	--	--	--	--
25...	1040	1160	--	--	--	764	12.5	--	8.4
AUG									
06...	1000	1160	--	--	--	762	13.1	150	8.3
SEP									
11...	1110	1070	--	--	--	759	12.2	140	8.3

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT									
04...	702 ¹	21.5	50	160	34.2	17.9	2.75	3	76.8
10...	652	18.0	--	--	--	--	--	--	--
18...	690	19.0	33	150	32.1	17.1	2.70	3	77.6
NOV									
01...	507 ¹	16.5	28	110	23.0	11.7	2.11	2	52.3
08...	631	14.0	--	--	--	--	--	--	--
16...	668	15.0	45	140	30.4	16.0	2.83	3	75.8
DEC									
04...	--	10.5	--	--	--	--	--	--	--
JAN									
17...	--	9.0	--	--	--	--	--	--	--
31...	1020	8.0	--	--	--	--	--	--	--
FEB									
07...	970	11.0	--	--	--	--	--	--	--
28...	1030	15.5	--	--	--	--	--	--	--
MAR									
13...	--	15.0	--	--	--	--	--	--	--
27...	866	17.0	--	--	--	--	--	--	--
APR									
09...	714	18.5	--	--	--	--	--	--	--
23...	363	17.0	--	--	--	--	--	--	--
MAY									
06...	347	18.5	--	--	--	--	--	--	--
20...	450	17.0	--	--	--	--	--	--	--
JUN									
10...	621	21.5	--	--	--	--	--	--	--
26...	641	23.5	--	--	--	--	--	--	--
JUL									
10...	--	24.5	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
25...	--	23.5	--	--	--	--	--	--	--
AUG									
06...	777	22.0	--	--	--	--	--	--	--
SEP									
11...	762	22.0	--	--	--	--	--	--	--

¹ Laboratory value.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SODIUM PERCENT (00932)	ALKA- LINITY WAT. DIS GRAN T. FIELD CACO3 (MG/L)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F)	SILICA, DIS- SOLVED (MG/L) AS SIO2)	SULFATE DIS- SOLVED (MG/L) AS SO4)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEDE (MG/L)	RESIDUE VOLA- TILE, SUS- PENDEDE (MG/L)	SOLIDS, DIS- SOLVED PER (TONS AC-FT)
		(29802)	(00940)	(00950)	(00955)	(00945)	(00530)	(00535)	(70303)
OCT									
04...	51	110	97.9	<.1	17.9	74.8	41	4	.55
10...	--	100	84.4	--	--	69.8	--	--	--
18...	52	120	95.1	.1	17.1	72.1	51	7	.55
NOV									
01...	51	78	66.5	e.1	13.6	55.9	54	6	.39
08...	--	80	86.1	--	--	68.4	--	--	--
16...	53	97	93.4	e.1	15.1	72.1	57	6	.53
DEC									
04...	--	100	103	--	--	95.0	--	--	--
JAN									
17...	--	130	129	--	--	125	--	--	--
31...	--	--	--	--	--	--	--	--	--
FEB									
07...	--	120	132	--	--	141	--	--	--
28...	--	--	--	--	--	--	--	--	--
MAR									
13...	--	110	119	--	--	138	--	--	--
27...	--	--	--	--	--	--	--	--	--
APR									
09...	--	92	95.0	--	--	93.0	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAY									
06...	--	60	41.8	--	--	45.6	--	--	--
20...	--	--	--	--	--	--	--	--	--
JUN									
10...	--	91	82.4	--	--	82.3	--	--	--
26...	--	--	--	--	--	--	--	--	--
JUL									
10...	--	88	82.1	--	--	83.6	--	--	--
15...	--	--	--	--	--	--	--	--	--
25...	--	--	96.6	--	--	94.8	--	--	--
AUG									
06...	--	100	102	--	--	99.5	--	--	--
SEP									
11...	--	110	102	--	--	88.9	--	--	--

< Actual value is known to be less than value shown.
e Estimated.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA, DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L) AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, PAR TICULATE WAT FLT SUSP (MG/L) AS N) (49570)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)
OCT									
04...	408	396	<.04	.28	.51	1.92	.038	--	.131
10...	--	--	<.04	--	.57	2.24	.034	.19	--
18...	406	393	<.04	.27	.58	1.86	.023	--	.138
NOV									
01...	286	279	<.04	.22	.45	1.54	.021	--	.122
08...	--	--	<.04	--	.49	1.69	.015	.16	--
16...	388	370	.04	.34	.64	1.42	.012	--	.121
DEC									
04...	--	--	.12	--	.67	1.55	.017	.22	--
JAN									
17...	--	--	<.04	--	.68	2.43	.033	.14	--
31...	--	--	.10	--	.50	2.59	.026	--	--
FEB									
07...	--	--	e.02	--	.58	2.07	.059	.23	--
28...	--	--	.07	--	.66	2.53	.029	--	--
MAR									
13...	--	--	<.04	--	.74	2.35	.031	.32	--
27...	--	--	e.02	--	.68	2.21	.023	--	--
APR									
09...	--	--	<.04	--	.64	1.71	.015	.45	--
23...	--	--	<.04	--	.36	.79	e.007	--	--
MAY									
06...	--	--	<.04	--	.42	1.14	.019	.26	--
20...	--	--	<.04	--	.30	1.08	.018	--	--
JUN									
10...	--	--	<.04	--	.70	1.66	.019	.35	--
26...	--	--	<.04	--	.81	1.52	.035	--	--
JUL									
10...	--	--	<.04	--	.83	1.71	.038	.56	--
15...	--	--	--	--	--	--	--	--	--
25...	--	--	.04	--	1.1	1.72	.053	--	--
AUG									
06...	--	--	<.04	--	1.1	1.64	.032	.50	--
SEP									
11...	--	--	<.04	--	.71	2.08	.025	.40	--

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e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC TOTAL (MG/L AS C) (00694)	CARBON, INOR- GANIC, TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT										
04...	.11	.22	--	--	3.3	1.0	10.3	10.3	13	14.8
10...	.11	.21	1.0	<.1	3.3	1.0	--	--	--	--
18...	.12	.23	--	--	3.5	1.2	11.1	15.9	14	8.7
NOV										
01...	.10	.21	--	--	3.1	1.1	5.8	5.4	16	11.8
08...	.12	.20	1.7	<.1	3.1	1.7	--	--	--	--
16...	.10	.20	--	--	4.0	.8	5.0	6.1	20	9.5
DEC										
04...	.12	.23	1.7	<.1	4.4	1.7	--	--	--	--
JAN										
17...	.23	.34	.9	<.1	4.4	.9	--	--	--	--
31...	.09	.16	--	--	--	--	--	--	--	--
FEB										
07...	<.02	.19	1.8	<.1	4.4	1.8	--	--	--	--
28...	.10	.20	--	--	--	--	--	--	--	--
MAR										
13...	.10	.23	2.4	<.1	4.6	2.3	--	--	--	--
27...	.10	.20	--	--	--	--	--	--	--	--
APR										
09...	.10	.21	2.9	<.1	3.2	2.9	--	--	--	--
23...	.08	.16	--	--	--	--	--	--	--	--
MAY										
06...	.15	.23	1.9	<.1	2.9	1.9	--	--	--	--
20...	.07	.15	--	--	--	--	--	--	--	--
JUN										
10...	.11	.23	2.8	<.1	2.6	2.7	--	--	--	--
26...	.07	.21	--	--	--	--	--	--	--	--
JUL										
10...	.10	.23	3.7	<.1	3.2	3.7	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	.10	.27	--	--	--	--	--	--	--	--
AUG										
06...	.12	.27	2.9	<.1	3.1	2.9	--	--	--	--
SEP										
11...	.10	.18	2.7	<.1	3.1	2.7	--	--	--	--

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SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	MERCURY WATER, FLTRD (NG/L) (50287)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS- SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	3HYDRXY CARBO- FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO- FURAN WATER FLTRD REC (UG/L) (50295)	ACETO- CHLOR ESA FLTRD GF REC (UG/L) (61029)	ACETO- CHLOR OA FLTRD GF REC (UG/L) (61030)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	--	<.009	.34	<.02	<.002	<.006	<2	<.05	<.05
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	--	e.049	.13	<.02	<.002	<.006	<2	<.05	<.05
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	--	<.009	e.11	<.02	<.002	<.006	<2	<.05	<.05
JAN									
17...	--	<.009	<.02	<.02	<.006	<.006	<2	<.05	<.05
31...	--	<.009	<.02	<.02	<.002	<.006	<2	<.05	<.05
FEB									
07...	--	<.009	.06	<.02	<.006	<.006	<2	<.05	<.05
28...	--	<.009	.06	<.02	<.006	<.006	<2	<.05	<.05
MAR									
13...	--	<.009	.06	<.02	<.006	<.006	<2	<.05	<.05
27...	--	<.009	.03	<.02	<.006	<.006	<2	<.05	<.05
APR									
09...	--	<.009	e.02	<.02	<.006	<.006	<2	<.05	<.05
23...	--	<.009	<.02	<.02	<.006	<.006	<2	<.05	<.05
MAY									
06...	--	<.009	e.02	<.02	<.006	<.006	<2	<.05	<.05
20...	--	<.009	e.02	<.02	<.006	<.006	<2	<.05	<.05
JUN									
10...	--	<.009	<.02	<.02	<.006	<.006	<2	<.05	<.05
26...	--	.044	.72	<.02	<.006	<.006	<2	<.05	<.05
JUL									
10...	--	<.009	.17	<.02	<.006	<.006	<2	<.05	<.05
15...	.93	--	--	--	--	--	--	--	--
25...	--	<.009	.45	<.02	<.006	<.006	<2	<.05	<.05
AUG									
06...	--	<.009	.15	<.02	<.006	<.006	<2	<.05	<.05
SEP									
11...	--	.023	.68	<.02	<.006	<.006	<2	<.05	<.05

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e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL- UORFEN, WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA- CHLOR OA FLTRD GF REC (UG/L) (61031)	ALA- CHLOR ESA WAT FLT GF 0.7U REC (UG/L) (50009)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI- CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA- RB SUL- FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS- SOLVED (UG/L) (34253)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.004	<.007	<.05	<.05	<.002	<.02	<.008	<.04	<.005
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.004	<.007	<.05	<.05	<.002	<.02	<.008	<.04	<.005
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.004	<.007	<.05	<.05	<.002	<.02	<.008	<.04	<.005
JAN									
17...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
31...	<.004	<.007	<.05	<.05	<.002	<.02	<.008	<.04	<.005
FEB									
07...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
28...	<.006	<.007	<.05	<.05	<.004	<.02	e.005	<.04	<.005
MAR									
13...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
27...	<.006	<.097	<.05	<.05	<.004	<.02	<.008	<.04	<.005
APR									
09...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
23...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
MAY									
06...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
20...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
JUN									
10...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
26...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
JUL									
10...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
15...	--	--	--	--	--	--	--	--	--
25...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
AUG									
06...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005
SEP									
11...	<.006	<.007	<.05	<.05	<.004	<.02	<.008	<.04	<.005

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e Estimated.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BENDIO- CARB, WATER FLTRD REC (UG/L) (50299)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN- SUL- FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA- ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)	BRO- MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.009	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.009	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.007	<.03	<.010	<.004	<.02	<.01	e.01	<.02	<.002
JAN									
17...	<.009	<.03	<.010	<.004	<.02	<.01	.01	<.02	<.002
31...	.008	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
FEB									
07...	<.009	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
28...	<.009	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
MAR									
13...	e.006	<.03	<.010	<.004	<.02	<.01	e.03	<.02	<.002
27...	<.007	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
APR									
09...	e.004	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
23...	e.006	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
MAY									
06...	.009	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
20...	e.005	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
JUN									
10...	e.006	<.03	<.010	<.004	e.01	<.01	<.03	<.02	<.002
26...	.008	<.03	<.010	<.004	.03	<.01	<.03	<.02	<.002
JUL									
10...	<.007	<.03	<.010	<.004	e.01	<.01	<.03	<.02	<.002
15...	--	--	--	--	--	--	--	--	--
25...	<.007	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
AUG									
06...	e.007	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002
SEP									
11...	e.005	<.03	<.010	<.004	<.02	<.01	<.03	<.02	<.002

< Actual value is known to less than the value shown.
e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CAF- FEINE, WATER FLTRD REC (UG/L) (50305)	CAR- BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI- MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO- THALO- NIL, WAT, FLT GF 0.7U REC (UG/L) (49306)
OCT								
04...	--	--	--	--	--	--	--	--
10...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
18...	--	--	--	--	--	--	--	--
NOV								
01...	--	--	--	--	--	--	--	--
08...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
16...	--	--	--	--	--	--	--	--
DEC								
04...	.041	<.03	e.004	<.006	<.020	<.02	<.010	--
JAN								
17...	.073	<.03	<.041	<.006	<.020	<.02	<.010	<.04
31...	.024	<.03	<.041	<.006	<.020	<.02	<.010	<.04
FEB								
07...	.074	<.03	<.041	<.006	<.020	<.02	<.010	<.04
28...	.027	<.03	<.041	.029	e.035	<.02	<.010	<.04
MAR								
13...	<.010	<.03	<.041	.008	e.013	<.02	<.010	<.04
27...	e.026	<.03	<.041	e.020	e.033	<.02	<.010	<.04
APR								
09...	<.010	<.03	e.006	.017	e.024	<.02	<.010	<.04
23...	<.010	<.03	<.041	.007	e.010	<.02	<.010	<.04
MAY								
06...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
20...	<.010	<.03	e.007	<.006	e.005	<.02	<.010	<.04
JUN								
10...	<.010	<.03	e.003	<.006	<.020	<.02	<.010	<.04
26...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
JUL								
10...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
15...	--	--	--	--	--	--	--	--
25...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04
AUG								
06...	<.010	<.03	<.041	<.006	e.008	<.02	<.010	<.04
SEP								
11...	<.010	<.03	<.041	<.006	<.020	<.02	<.010	<.04

< Actual value is known to be less than the value shown.
e Estimated.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CLOPYR- ALID, WATER, FLTRD, GF 0.7U (UG/L) (49305)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	CY- CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO- ACID, WAT, FLT GF 0.7U (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO- PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.005	<.01	<.018	<.01	<.01	e.001	<.03	<.01	<.04
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.005	<.01	<.018	<.01	<.01	<.003	<.03	<.01	<.04
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.005	<.01	<.018	<.01	<.01	e.001	<.006	<.01	<.04
JAN									
17...	<.005	<.01	<.018	<.01	<.01	<.003	<.03	<.01	<.04
31...	<.005	<.01	<.018	<.01	<.01	<.003	<.006	<.01	<.04
FEB									
07...	<.005	<.01	<.018	<.01	<.01	<.003	<.03	<.01	e.01
28...	<.005	<.01	<.018	<.01	<.01	<.003	<.03	M	e.01
MAR									
13...	.021	<.01	<.018	<.01	<.01	<.003	e.003	<.01	<.04
27...	.013	<.01	<.018	<.01	<.01	<.003	<.006	<.01	e.01
APR									
09...	e.004	<.01	<.018	<.01	<.01	<.003	<.006	e.02	M
23...	<.005	<.01	<.018	<.01	<.01	<.003	<.006	<.01	e.01
MAY									
06...	e.004	<.01	<.018	<.01	<.01	<.003	e.004	<.01	<.04
20...	.009	<.01	<.018	<.01	<.01	e.002	e.002	<.01	<.04
JUN									
10...	e.003	<.01	<.018	<.01	<.01	<.003	<.006	<.01	e.01
26...	.036	<.01	<.018	<.01	<.01	<.003	e.005	<.01	<.04
JUL									
10...	<.006	<.01	<.018	<.01	<.01	<.003	<.006	<.01	<.04
15...	--	--	--	--	--	--	--	--	--
25...	<.005	<.01	<.018	<.01	<.01	<.003	<.006	<.01	<.04
AUG									
06...	e.006	<.01	<.018	<.01	<.01	.004	e.004	<.01	<.04
SEP									
11...	.013	<.01	<.018	<.01	<.01	<.003	<.006	<.01	e.01

< Actual value is known to be less than the value shown.

e Estimated.

M Presence of material verified, but not quantified.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DIMETH- ENAMID OA, WATER FLT, REC (UG/L) (62482)	DIMETH- ENAMID, ESA, WAT FLT (UG/L) (61951)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)
	OCT								
04...	--	--	--	--	--	--	--	--	--
10...	.006	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	.012	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
JAN									
17...	.007	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
31...	.031	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
FEB									
07...	.007	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
28...	.011	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
MAR									
13...	.011	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
27...	.006	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
APR									
09...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
23...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
MAY									
06...	.009	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
20...	.015	<.01	<.01	e.002	<.05	<.05	<.01	<.03	<.02
JUN									
10...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
26...	e.003	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
JUL									
10...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
15...	--	--	--	--	--	--	--	--	--
25...	<.005	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
AUG									
06...	.007	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02
SEP									
11...	.006	<.01	<.01	<.005	<.05	<.05	<.01	<.03	<.02

< Actual value is known to be less than the value shown.

e Estimated.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUFEN- ACET, ESA, WAT FLT (UG/L) (61952)	FLUFE- NACET OA, WATER FLT, REC (UG/L) (62483)	FLUMET- SULAM WATER FLTRD REC (UG/L) (61694)	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	.03	.004	<.009	<.005	<.03	<.05	<.05	<.01	<.03
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	.02	.012	<.009	<.005	<.03	<.05	<.05	<.01	<.03
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	.46	.002	<.009	<.005	<.03	<.05	<.05	<.01	<.03
JAN									
17...	.17	<.010	<.009	<.005	<.03	<.05	<.05	<.01	<.03
31...	.85	.004	<.009	<.005	<.03	<.05	<.05	<.01	<.03
FEB									
07...	.82	<.002	<.009	<.005	<.03	<.05	<.05	<.01	<.03
28...	e1.29	<.002	<.009	<.005	<.03	<.05	<.05	<.01	<.03
MAR									
13...	e2.64	.003	<.009	<.005	<.03	<.05	<.05	<.01	<.03
27...	e1.37	.003	<.009	<.005	<.03	<.05	<.05	<.01	<.03
APR									
09...	.78	.003	<.009	<.005	<.03	<.05	<.05	<.01	<.03
23...	.41	.058	<.009	<.005	<.03	<.05	<.05	<.01	<.03
MAY									
06...	.24	e.030	<.009	<.005	<.03	<.05	<.05	<.01	<.03
20...	.13	.086	<.009	.021	<.03	<.05	<.05	<.01	<.03
JUN									
10...	.17	.006	<.009	<.005	<.03	<.05	<.05	<.01	<.03
26...	.11	.034	<.009	<.005	<.03	<.05	<.05	<.01	<.03
JUL									
10...	.08	.089	<.009	<.005	<.03	<.05	<.05	<.01	<.03
15...	--	--	--	--	--	--	--	--	--
25...	.06	.006	<.009	<.005	<.03	<.05	<.05	<.01	<.03
AUG									
06...	.05	.009	<.009	<.005	<.03	<.05	<.05	<.01	<.03
SEP									
11...	.04	.010	<.009	<.005	<.03	<.05	<.05	<.01	<.03

< Actual value is known to be less than the value shown.
e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	FONOFOS	HYDROXY ATRA- ZINE	IMAZ- AQUIN	IMAZE- THAPYR	IMID- ACLOP- RID	LINDANE	LINURON WATER, FLTRD, GF 0.7U	LIN- URON WATER FLTRD, GF, REC	MALA- THON, DIS- SOLVED
	WATER DISS REC (UG/L) (04095)	WATER FLTRD REC (UG/L) (50355)	WATER FLTRD REC (UG/L) (50356)	WATER FLTRD REC (UG/L) (50407)	WATER FLTRD REC (UG/L) (61695)	(UG/L) (39341)	(UG/L) (38478)	(UG/L) (82666)	(UG/L) (39532)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.003	e.011	e.04	<.02	<.007	<.004	<.01	<.035	<.027
JAN									
17...	<.003	e.005	<.02	<.02	<.007	<.004	<.01	<.035	<.027
31...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
FEB									
07...	<.003	<.008	<.02	<.02	<.007	e.001	<.01	<.035	<.027
28...	<.003	e.009	<.02	<.02	<.007	<.004	<.01	<.035	<.027
MAR									
13...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	e.008
27...	<.003	<.008	<.02	e.01	<.007	<.004	<.01	<.035	<.027
APR									
09...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
23...	<.003	e.005	<.02	e.01	<.007	<.004	<.01	<.035	<.027
MAY									
06...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
20...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	e.003
JUN									
10...	<.003	e.004	<.02	<.02	<.007	<.004	<.01	<.035	<.027
26...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	e.005
JUL									
10...	<.003	e.009	<.02	<.02	<.007	<.004	<.01	<.035	<.027
15...	--	--	--	--	--	--	--	--	--
25...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	<.027
AUG									
06...	<.003	e.013	<.02	<.02	<.007	<.004	<.01	<.035	<.027
SEP									
11...	<.003	<.008	<.02	<.02	<.007	<.004	<.01	<.035	e.006

< Actual value is known to be less than the value shown.

e Estimated.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	MERCURY METHYL, WATER, FLTRD REC, (NG/L) (50285)	METAL- AXYL WATER FLTRD REC (UG/L) (50359)	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH- OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL AZIN- PHOS WAT FLT GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT GF, REC (UG/L) (82667)	METOLA- CHLOR ESA FLTRD GF REC (UG/L) (61043)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.13
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.02	<.01	--	<.02	<.008	e.005	<.050	<.006	.09
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.11
JAN									
17...	e.01	<.01	--	<.02	<.008	<.004	<.050	<.006	.14
31...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.14
FEB									
07...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.13
28...	e.01	<.01	--	<.02	<.008	<.004	<.050	<.006	.10
MAR									
13...	.06	<.01	--	<.02	<.008	<.004	<.050	<.006	.10
27...	<.06	<.01	--	<.02	<.008	<.004	<.050	<.006	.12
APR									
09...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.13
23...	<.02	<.01	--	M	<.008	<.004	<.050	<.006	.05
MAY									
06...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.06
20...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.13
JUN									
10...	<.02	<.01	--	<.02	<.008	<.004	<.050	e.003	.16
26...	<.02	<.01	--	e.01	<.008	<.004	<.050	<.006	.14
JUL									
10...	<.02	<.01	--	e.01	<.008	<.004	<.050	<.006	.14
15...	--	--	.08	--	--	--	--	--	--
25...	<.02	<.01	--	.23	<.008	e.006	<.050	<.006	.17
AUG									
06...	<.02	<.01	--	<.02	<.008	<.004	<.050	<.006	.19
SEP									
11...	<.02	<.01	--	<.02	<.008	e.072	<.050	<.006	.16

< Actual value is known to be less than the value shown.

e Estimated.

M Presence of material verified, but not quantified.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	METOLA- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61044)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET- SUL- FURON METHYL WAT FLT REC (UG/L) (61697)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY- ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
10...	.09	e.008	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
18...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	--	--	--	--	--	--	--	--	--	--
08...	.05	e.002	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
16...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	<.05	e.004	<.006	<.03	<.002	<.007	<.01	<.01	e.05	<.02
JAN										
17...	.08	e.002	<.006	<.03	<.002	<.007	<.01	<.01	.03	<.02
31...	.08	e.007	<.006	<.03	<.002	<.007	<.01	<.01	e.15	<.02
FEB										
07...	.07	e.004	<.006	<.03	<.002	.022	<.01	<.01	e.01	<.02
28...	.05	e.012	<.006	<.03	<.002	<.007	<.01	<.01	e.03	<.02
MAR										
13...	.10	e.012	<.006	<.03	<.002	<.007	<.01	<.01	e.09	<.02
27...	.12	.014	<.006	<.03	<.002	<.007	<.01	<.01	e.05	<.02
APR										
09...	.10	e.006	<.006	<.03	<.002	<.007	<.01	<.01	e.03	<.02
23...	<.05	e.008	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
MAY										
06...	.05	.022	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
20...	<.05	.440	.025	<.03	<.002	e.004	<.01	<.01	e.01	<.02
JUN										
10...	.12	.034	<.006	<.03	.016	<.007	<.01	<.01	e.01	<.02
26...	.06	.056	<.006	<.03	.008	<.007	<.01	<.01	e.02	<.02
JUL										
10...	.06	.108	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
15...	--	--	--	--	--	--	--	--	--	--
25...	.11	.147	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02
AUG										
06...	.10	.077	<.006	<.03	<.004	<.007	<.01	<.01	e.02	<.02
SEP										
11...	.09	.016	<.006	<.03	<.002	<.007	<.01	<.01	e.01	<.02

e Estimated.

< Actual value is known to be less than the value shown.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P, P' DDE DISSOLV (UG/L) (34653)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC- LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
OCT									
04...	--	--	--	--	--	--	--	--	--
10...	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.01
18...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
08...	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.01
16...	--	--	--	--	--	--	--	--	--
DEC									
04...	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.01
JAN									
17...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
31...	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.01
FEB									
07...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
28...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
MAR									
13...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
27...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
APR									
09...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
23...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
MAY									
06...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
20...	<.01	.005	<.010	<.004	e.014	<.006	<.011	<.02	<.01
JUN									
10...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
26...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
JUL									
10...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
15...	--	--	--	--	--	--	--	--	--
25...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01
AUG									
06...	<.01	<.003	<.010	<.004	e.007	<.006	<.011	<.02	<.01
SEP									
11...	<.01	<.003	<.010	<.004	<.022	<.006	<.011	<.02	<.01

< Actual value is known to be less than the value shown.

e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR ESA, WAT FLT GF 0.7U REC (UG/L) (62766)	PROPA-CHLOR OA, WAT FLT GF 0.7U REC (UG/L) (62767)	PROPA-CHLOR, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE, WATER, FLTRD GF 0.7U REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
10...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	<.008	<.02
18...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	--	--	--	--	--	--	--	--	--	--
08...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	<.008	<.02
16...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	<.008	<.02
JAN										
17...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.0013	e.007	<.02
31...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	<.008	<.02
FEB										
07...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.005	<.02
28...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.006	<.02
MAR										
13...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.006	<.02
27...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	<.008	<.02
APR										
09...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.003	<.02
23...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.003	.05
MAY										
06...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	.029	<.02
20...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	<.008	<.02
JUN										
10...	<.004	<.05	<.05	<.010	<.011	<.02	<.010	<.02	e.003	<.02
26...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	<.008	<.02
JUL										
10...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	.052	<.02
15...	--	--	--	--	--	--	--	--	--	--
25...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	.015	<.02
AUG										
06...	<.004	--	--	<.010	<.011	<.02	<.010	<.02	e.003	<.02
SEP										
11...	<.004	--	--	<.010	<.011	<.04	<.010	<.02	<.008	.07

< Actual value is known to be less than the value shown.
e Estimated.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO- MET- RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TER- BUTHYL- AZINE, WATER DISS, REC (UG/L) (04022)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- BENURON METHYL WATER FLTRD (UG/L) (61159)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
10...	e.007	<.009	<.006	<.010	<.034	<.02	U	<.005	<.002	<.009
18...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	--	--	--	--	--	--	--	--	--	--
08...	e.009	<.009	<.006	<.010	<.034	<.02	U	<.005	<.002	<.009
16...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	.028	<.009	<.02	<.010	<.034	<.02	U	<.005	<.002	<.009
JAN										
17...	.027	e.003	<.006	<.010	<.034	<.02	U	<.005	<.002	--
31...	.022	<.009	<.02	<.010	<.034	<.02	U	<.005	<.002	--
FEB										
07...	.022	<.009	<.006	<.010	<.034	<.02	U	<.005	<.002	--
28...	.023	<.009	<.006	<.010	<.034	<.02	U	<.005	<.002	--
MAR										
13...	.031	<.009	<.02	<.010	<.034	<.02	U	<.005	<.002	--
27...	.030	<.009	<.02	<.010	<.034	<.02	U	<.005	<.002	<.009
APR										
09...	.018	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
23...	.037	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
MAY										
06...	.013	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
20...	.098	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
JUN										
10...	.025	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
26...	.043	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
JUL										
10...	<.005	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
15...	--	--	--	--	--	--	--	--	--	--
25...	<.005	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
AUG										
06...	.015	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--
SEP										
11...	.012	<.009	<.02	<.010	<.034	<.02	--	<.005	<.002	--

e Estimated.

< Actual value is known to be less than the value shown.

U Material specifically analyzed for, but not detected.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT GF, REC (UG/L) (82661)	UREA 3 (4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)
OCT			
04...	--	--	--
10...	<.02	<.009	<.02
18...	--	--	--
NOV			
01...	--	--	--
08...	<.02	<.009	<.02
16...	--	--	--
DEC			
04...	.09	<.009	<.02
JAN			
17...	<.02	<.009	<.02
31...	<.02	<.009	<.02
FEB			
07...	<.02	<.009	<.02
28...	<.02	e.006	<.02
MAR			
13...	<.02	e.008	<.02
27...	<.02	.013	<.02
APR			
09...	<.02	.014	<.02
23...	<.02	.014	<.02
MAY			
06...	<.02	e.006	<.02
20...	<.02	.143	<.02
JUN			
10...	<.02	.013	<.02
26...	<.02	.011	<.02
JUL			
10...	<.02	e.008	<.02
15...	--	--	--
25...	<.02	e.007	<.02
AUG			
06...	<.02	e.007	<.02
SEP			
11...	<.02	e.003	<.02

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DEPTH BOTTOM AT SAMPLE LOCATION (FEET) (81903)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)
APR					
10...*	1337	4.00	735	18.5	13.0
10...*	1340	8.70	736	18.5	39.0
10...*	1343	8.00	730	18.5	65.0
10...*	1347	7.00	736	18.5	91.0
10...*	1350	6.70	771	18.5	117
10...*	1352	2.00	783	19.0	143
10...*	1354	2.20	789	19.0	169
10...*	1356	2.10	796	19.0	195
10...*	1359	2.00	803	19.0	221
10...*	1401	1.50	807	19.0	247
AUG					
26...*	1105	3.50	775	22.0	10.0
26...*	1108	7.30	777	22.0	30.0
26...*	1110	8.50	773	22.0	50.0
26...*	1113	7.50	737	22.0	70.0
26...*	1116	7.70	690	22.0	90.0
26...*	1119	6.80	644	22.0	110
26...*	1122	1.70	631	22.0	130
26...*	1125	1.50	625	22.0	150
26...*	1127	3.30	618	22.0	170
26...*	1128	1.30	614	22.0	190

< Actual value is known to be less than value shown.

e Estimated.

* Instantaneous discharge at time of cross-sectional measurement: 1,840 ft³/s, Apr. 10; 1,300 ft³/s, Aug. 26.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT						
03...	1005	1340	21.5	80	50	181
04...SS	1100	1300	21.5	83	46	161
10...SS	1100	1580	18.0	91	39	166
18...SS	1050	1580	19.0	82	57	243
NOV						
01...SS	1100	2390	16.5	80	56	361
06...	1335	2080	16.5	80	54	303
08...SS	1030	2020	14.0	86	42	229
16...SS	0930	2170	15.0	87	58	340
DEC						
04...SS	1130	2050	10.5	85	30	166
05...	1330	2050	10.5	78	38	210
JAN						
07...	1415	3830	11.5	76	112	1160
17...SS	1330	2010	9.0	86	34	185
31...SS	1100	1750	8.0	83	15	71
FEB						
05...	1415	1730	10.5	75	22	103
07...SS	1300	1910	11.0	82	25	129
28...SS	1400	1900	15.5	65	57	292
MAR						
05...	1255	1950	15.5	82	44	232
13...SS	1400	2270	15.0	87	53	325
27...SS	1250	2110	17.0	82	39	222
APR						
03...	1315	1710	20.5	80	46	212
09...SS	1300	1820	18.5	83	36	177
23...SS	1210	3260	17.0	90	31	273
MAY						
01...	1305	3320	15.5	80	58	520
06...SS	1030	3540	18.5	91	45	430
20...SS	1100	2360	17.0	97	37	236
JUN						
05...	1100	1540	24.0	85	60	249
10...SS	1300	1480	21.5	89	47	188
26...SS	0930	1270	23.5	86	53	182
JUL						
03...	1230	1260	26.5	96	71	242
10...SS	0930	1260	24.5	93	54	184
25...SS	1040	1160	23.5	82	78	244
AUG						
06...SS	1000	1160	22.0	86	61	191
09...	1215	1050	25.5	68	58	164
SEP						
11...SS	1110	1070	22.0	83	17	49
11...	1315	1080	24.5	86	34	99

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	BED MAT. SIEVE DIAM. % FINER THAN (80165)	BED MAT. SIEVE DIAM. % FINER THAN (80166)	BED MAT. SIEVE DIAM. % FINER THAN (80167)	BED MAT. SIEVE DIAM. % FINER THAN (80168)	BED MAT. SIEVE DIAM. % FINER THAN (80169)	BED MAT. SIEVE DIAM. % FINER THAN (80170)	NUMBER OF SAM- PLING POINTS (COUNT) (00063)
NOV										
06...	1405	2080	16.5	--	1	31	84	99	100	1
06...	1407	2080	16.5	--	2	45	92	100	--	1
06...	1410	2080	16.5	--	2	48	95	100	--	1
06...	1412	2080	16.5	--	4	51	93	99	100	1
06...	1415	2080	16.5	--	10	57	95	100	--	1
MAR										
05...	1325	1950	15.5	--	1	25	80	96	100	1
05...	1327	1950	15.5	--	1	33	84	98	100	1
05...	1330	1950	15.5	--	4	45	90	99	100	1
05...	1332	1950	15.5	--	7	43	86	98	100	1
05...	1345	1950	15.5	1	20	54	89	98	100	1

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	1510	52	211	2420	66	431	1930	48	248
2	1420	48	184	2430	64	417	1970	46	246
3	1330	47	169	2340	61	384	2090	43	240
4	1300	45	156	2210	57	339	2060	37	205
5	1340	46	165	2150	60	347	2050	41	224
6	1410	50	191	2100	56	315	2070	49	272
7	1540	66	276	2050	51	284	2100	59	334
8	1640	71	314	2020	51	276	2090	73	413
9	1580	54	230	2020	52	281	2050	69	385
10	1570	56	238	2020	60	328	1980	40	214
11	1520	51	210	2100	64	361	1950	35	184
12	1480	47	189	2160	67	391	1930	33	170
13	1500	48	195	2210	68	402	1910	36	184
14	1550	53	220	2180	61	361	1870	32	163
15	1540	57	236	2170	60	352	1860	30	151
16	1510	59	240	2170	69	403	1800	41	199
17	1510	63	256	2180	63	373	1750	42	198
18	1580	60	257	2140	56	324	1750	26	123
19	1710	70	323	2120	54	307	1730	26	123
20	1840	82	407	2070	50	279	1740	26	124
21	2150	100	584	2030	50	272	1870	32	164
22	2780	85	639	1990	52	282	1950	59	312
23	2840	67	515	1950	52	273	2020	57	311
24	2900	63	493	1930	52	270	1940	42	221
25	3010	62	503	1990	53	284	1880	34	173
26	3180	61	519	1940	41	217	1830	30	150
27	3150	59	499	1930	36	185	1790	34	163
28	3260	59	515	1920	32	165	1800	41	198
29	3110	58	483	1960	38	202	2080	95	537
30	2800	63	476	1980	46	245	3190	184	1690
31	2520	74	499	---	---	---	4940	237	3160
TOTAL	62080	---	10392	62880	---	9350	63970	---	11479
	JANUARY			FEBRUARY			MARCH		
1	4590	199	2470	1750	19	87	1870	49	247
2	4350	182	2130	1740	18	86	1890	45	230
3	4270	191	2220	1720	25	115	1910	44	224
4	5960	282	4530	1700	24	111	1960	53	281
5	5070	184	2550	1730	22	104	1960	50	265
6	4220	154	1760	1790	26	127	2030	55	299
7	3880	134	1400	1900	51	264	2120	58	333
8	3370	107	972	1940	57	300	2160	60	348
9	2970	96	775	1920	34	176	2170	54	318
10	2750	92	686	1920	31	158	2290	62	387
11	2590	76	534	1940	35	185	2390	62	404
12	2460	60	399	1950	38	198	2330	40	249
13	2340	59	376	1940	33	176	2290	42	258
14	2240	45	272	1900	29	150	2160	46	266
15	2160	34	198	1880	31	159	2110	48	274
16	2090	44	246	1880	35	176	2080	46	258
17	2020	33	180	1900	36	184	2150	44	253
18	1960	32	169	1940	39	203	2260	46	283
19	1910	26	134	1940	45	234	2140	39	223
20	1870	25	128	1960	51	272	2110	43	244
21	1830	22	111	2020	58	317	2190	49	287
22	1810	22	109	2020	57	313	2170	49	289
23	1800	26	127	2000	55	295	2250	52	315
24	1770	27	132	1980	55	292	2400	57	369
25	1760	25	120	1970	54	285	2360	50	321
26	1740	22	106	1970	54	285	2270	44	268
27	1740	23	108	1930	50	260	2120	39	225
28	1730	23	107	1900	49	253	2020	29	158
29	1730	22	105	---	---	---	1990	39	208
30	1770	21	102	---	---	---	1960	42	220
31	1760	19	90	---	---	---	2030	52	284
TOTAL	82510	---	23346	53130	---	5765	66140	---	8588

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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)
1	1990	46	246	3390	57	519	1690	56	255
2	1810	42	204	3310	64	576	1730	63	296
3	1710	44	205	3360	72	655	1760	67	318
4	1660	47	209	3390	75	684	1660	60	269
5	1670	43	192	3430	76	704	1530	61	251
6	1710	45	207	3500	79	750	1460	62	244
7	1810	55	269	3460	75	701	1430	66	256
8	1930	57	297	3360	85	767	1380	65	242
9	1820	49	238	3240	77	671	1420	61	235
10	1800	47	228	3170	71	611	1470	58	230
11	1750	45	212	3290	64	567	1360	39	144
12	1750	49	232	3360	57	517	1290	53	186
13	1790	49	238	3400	58	534	1280	51	175
14	2200	59	354	3210	56	485	1260	56	191
15	2840	65	496	2930	51	405	1360	43	160
16	2960	60	481	2680	48	346	1430	46	177
17	2990	55	440	2450	46	306	1420	58	223
18	3130	56	477	2360	47	298	1340	57	208
19	3200	59	507	2310	46	287	1270	61	210
20	3310	52	465	2340	43	270	1260	59	199
21	3370	51	465	2380	42	268	1290	49	168
22	3430	55	505	2310	43	266	1290	58	202
23	3250	53	464	2140	41	236	1370	69	256
24	3220	51	440	2120	44	249	1420	69	266
25	3310	57	508	2030	37	203	1360	49	179
26	3410	63	580	2100	37	213	1280	48	166
27	3450	61	570	2180	44	259	1310	50	177
28	3500	60	568	2080	42	234	1310	58	205
29	3610	62	599	1950	40	210	1350	64	233
30	3570	55	528	1910	41	211	1430	58	225
31	---	---	---	1760	42	200	---	---	---
TOTAL	77950	---	11424	84900	---	13202	42210	---	6546
		JULY		AUGUST		SEPTEMBER			
1	1370	61	226	1140	83	255	1180	44	139
2	1330	66	239	1160	79	247	1220	45	148
3	1230	67	225	1180	77	244	1160	51	160
4	1180	59	188	1140	66	202	1020	40	112
5	1260	62	210	1210	62	203	991	38	102
6	1260	61	207	1140	62	192	1040	41	117
7	1320	64	228	1050	61	172	1070	33	95
8	1420	64	247	1010	65	177	1140	26	80
9	1310	67	236	1040	62	173	1170	35	111
10	1250	65	218	1050	66	186	1120	41	124
11	1220	64	211	1090	68	199	1090	37	110
12	1230	58	192	1150	67	208	1130	43	130
13	1240	58	193	1090	61	180	1150	40	123
14	1230	55	183	1020	58	158	1160	45	142
15	1260	57	194	1050	65	183	1240	54	184
16	1210	62	202	1060	68	193	1340	54	196
17	1190	65	211	1060	44	126	1230	49	164
18	1150	57	178	1180	62	199	1170	47	149
19	1190	62	198	1230	66	220	1130	52	158
20	1150	63	196	1130	62	190	1190	56	179
21	1180	66	212	1100	67	198	1180	53	169
22	1230	61	203	1060	70	202	1260	52	176
23	1190	55	176	1070	63	183	1270	53	181
24	1130	70	214	1090	61	178	1230	50	167
25	1150	77	239	1250	65	218	1200	46	150
26	1180	89	283	1270	60	208	1220	49	161
27	1150	83	257	1180	56	180	1190	48	154
28	1270	82	281	1150	56	176	1180	43	139
29	1280	87	301	1080	50	147	1240	39	130
30	1150	82	256	1080	50	147	1340	45	162
31	1140	92	282	1100	43	126	---	---	---
TOTAL	38050	---	6886	34610	---	5870	35251	---	4312
YEAR	703681		117160						

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 and are rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 4,940 ft³/s, Aug. 11, 1969, Aug. 7, 1998; no flow for many days in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4180	4070	1020	4030	4150	3990	4210	847	1580	4040	4360	4260
2	4180	4110	1030	4080	4040	3980	4240	827	2540	4340	4390	4310
3	4200	4140	1020	4020	4150	3970	4250	827	3390	4360	4400	4240
4	4140	4120	1500	4050	4140	4070	4240	826	3600	4360	4380	4240
5	4240	4120	3520	4100	4140	4170	3160	826	3580	4360	4300	4270
6	4170	4130	4120	4110	3690	4180	2760	826	3230	4350	4360	3790
7	4160	3550	4000	4110	3530	4220	2680	828	2770	4330	4350	4360
8	4150	3310	4050	4190	3560	4200	3040	825	2170	4320	4360	4370
9	4200	3320	4060	4080	3570	4200	3410	826	1890	4320	4380	4000
10	4230	3320	4060	4120	3530	4190	3400	826	1790	4330	4380	3980
11	4190	3300	3900	4130	3540	4190	3390	826	1770	4360	4380	4300
12	4140	3320	4230	4120	3530	4210	3390	827	1800	4340	4400	4300
13	4100	3300	4070	4120	3440	4210	3400	827	1760	4360	4440	4330
14	4110	3880	4080	4110	3360	4200	3430	829	1810	4370	4360	4300
15	4250	4090	4070	4210	3370	4190	1660	831	1750	4300	4330	4320
16	3680	4100	4060	4180	3360	4180	997	831	1780	4310	4340	4300
17	3530	4060	4100	4170	3370	4200	995	830	1710	4270	4250	3910
18	3440	4060	4050	4160	3350	4180	931	832	1680	4370	4300	3990
19	3370	4120	4080	4160	3370	4170	941	830	1790	4390	4260	4390
20	3360	4100	4060	4160	3360	4180	888	828	1830	4420	4280	4400
21	3370	4120	4040	4140	3360	4200	890	829	1740	4400	4240	4350
22	3360	4010	4070	4170	3360	4210	880	831	1690	4410	4360	4370
23	2670	4080	4060	4160	3380	4230	877	900	2630	4390	4320	4340
24	2400	4000	4060	4170	3370	4230	890	918	4190	4390	4270	4380
25	2400	3980	4050	4190	3360	4220	877	923	4320	4390	4280	4470
26	2390	3960	4070	4200	3500	4210	880	924	3640	4380	4300	4370
27	2380	4040	4080	4200	3860	4230	881	920	3380	4370	4330	4350
28	2480	4040	4090	4190	3990	4200	875	924	3380	4370	4270	4440
29	2940	2500	4030	4170	---	4200	883	923	3360	4380	4280	4370
30	3670	1240	4080	4140	---	4200	877	921	3380	4340	4270	4320
31	4100	---	4080	4130	---	4190	---	921	---	4350	4270	---
TOTAL	112180	112490	113790	128270	100730	129400	64222	26509	75930	134770	134190	128120
MEAN	3619	3750	3671	4138	3598	4174	2141	855.1	2531	4347	4329	4271
MAX	4250	4140	4230	4210	4150	4230	4250	924	4320	4420	4440	4470
MIN	2380	1240	1020	4020	3350	3970	875	825	1580	4040	4240	3790
AC-FT	222500	223100	225700	254400	199800	256700	127400	52580	150600	267300	266200	254100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2002, BY WATER YEAR (WY)

	2511	1946	1692	1997	2439	2646	2642	2479	2939	3725	3714	2984
MEAN	2511	1946	1692	1997	2439	2646	2642	2479	2939	3725	3714	2984
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	0.000	0.000	0.000	0.000	0.000	99.6	58.3	113	354	977	539
(WY)	1952	1973	1953	1952	1952	1952	1952	1952	1951	1977	1952	1952

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1951 - 2002
ANNUAL TOTAL	1140732	1260601	
ANNUAL MEAN	3125	3454	2662
HIGHEST ANNUAL MEAN			4144
LOWEST ANNUAL MEAN			230
HIGHEST DAILY MEAN	4300	Jul 25	4470
LOWEST DAILY MEAN	734	May 12	825
ANNUAL SEVEN-DAY MINIMUM	741	Apr 20	826
ANNUAL RUNOFF (AC-FT)	2263000	2500000	1928000
10 PERCENT EXCEEDS	4220	4360	4410
50 PERCENT EXCEEDS	3580	4080	3040
90 PERCENT EXCEEDS	859	921	199

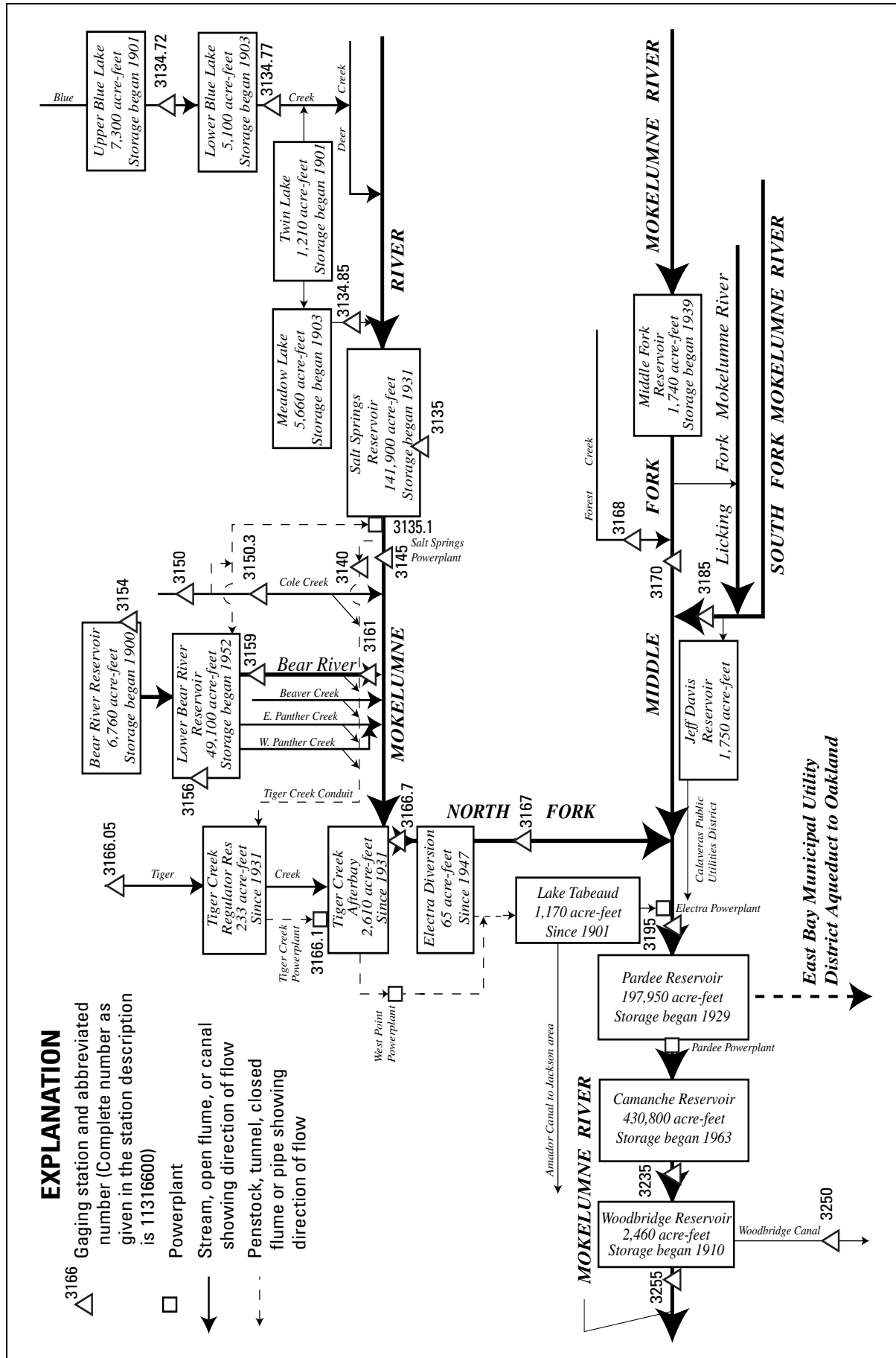


Figure 32. Diversions and storage in Mokelumne River Basin.

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 or above 75 ft³/s. 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 Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	4.5	2.4	---	---	---	---	5.9	5.6	16	15	15
2	8.7	2.1	2.4	---	---	---	---	5.8	5.0	16	15	15
3	8.7	2.1	2.4	---	---	---	---	5.9	9.7	16	15	15
4	8.7	2.1	2.4	---	---	---	---	6.1	12	15	15	16
5	8.5	2.1	2.4	---	---	---	---	6.2	7.6	15	15	16
6	8.5	2.1	2.4	---	---	---	---	6.3	15	15	15	16
7	8.5	2.0	2.4	---	---	---	---	6.5	22	15	15	16
8	8.5	2.0	2.4	---	---	---	---	6.4	23	15	15	16
9	8.5	2.0	2.4	---	---	---	---	6.5	23	15	15	16
10	8.4	2.0	2.4	---	---	---	---	6.4	18	15	15	16
11	8.3	2.1	2.4	---	---	---	---	6.4	14	15	15	16
12	8.2	2.0	2.4	---	---	---	---	6.5	16	15	15	16
13	8.1	2.1	---	---	---	---	---	6.7	30	15	15	16
14	8.1	2.1	---	---	---	---	---	6.8	46	15	15	16
15	8.1	2.1	---	---	---	---	---	6.9	46	15	13	16
16	8.1	2.1	---	---	---	---	---	6.9	46	15	15	16
17	8.1	2.1	---	---	---	---	---	7.1	45	15	15	16
18	8.1	2.1	---	---	---	---	---	7.3	45	15	16	16
19	8.0	2.0	---	---	---	---	---	7.0	30	15	16	16
20	7.9	2.0	---	---	---	---	---	6.8	16	15	16	16
21	7.8	2.2	---	---	---	---	---	6.7	16	15	16	16
22	7.7	2.2	---	---	---	---	---	6.7	16	15	16	16
23	7.7	2.2	---	---	---	---	---	6.7	16	16	16	16
24	7.6	2.2	---	---	---	---	---	6.8	16	16	16	16
25	7.5	2.2	---	---	---	---	5.8	6.9	16	16	16	16
26	7.5	2.2	---	---	---	---	6.0	7.0	16	16	16	16
27	7.3	2.2	---	---	---	---	5.8	7.2	16	16	15	16
28	7.3	2.2	---	---	---	---	5.8	7.4	16	16	15	16
29	7.9	2.2	---	---	---	---	5.8	13	16	16	15	16
30	8.5	2.3	---	---	---	---	5.8	16	16	15	15	16
31	8.5	---	---	---	---	---	---	6.2	---	15	15	---
TOTAL	251.5	65.8	---	---	---	---	---	221.0	634.9	475	472	477
MEAN	8.113	2.193	---	---	---	---	---	7.129	21.16	15.32	15.23	15.90
MAX	8.7	4.5	---	---	---	---	---	16	46	16	16	16
MIN	7.3	2.0	---	---	---	---	---	5.8	5.0	15	13	15
AC-FT	499	131	---	---	---	---	---	438	1260	942	936	946

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.—5.56 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 60 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 Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	11	11	---	---	---	---	5.1	22	22	30	19
2	9.4	13	11	---	---	---	---	5.8	44	22	30	19
3	9.4	13	10	---	---	---	---	6.6	---	25	29	20
4	9.4	13	10	---	---	---	---	6.9	---	32	29	21
5	9.3	13	10	---	---	---	---	7.1	---	31	29	21
6	9.3	13	10	---	---	---	---	7.3	---	32	28	20
7	9.3	12	9.9	---	---	---	---	7.4	---	32	28	20
8	9.3	12	9.7	---	---	---	---	7.6	---	32	27	20
9	9.3	12	9.6	---	---	---	---	7.9	---	31	27	20
10	9.1	12	9.4	---	---	---	---	8.1	50	31	27	19
11	9.2	12	9.3	---	---	---	---	8.4	32	30	27	19
12	9.1	12	9.0	---	---	---	---	8.6	34	29	27	19
13	9.1	12	7.1	---	---	---	---	9.1	49	29	26	19
14	9.1	12	5.6	---	---	---	---	9.2	55	29	26	19
15	9.1	12	4.0	---	---	---	---	9.5	49	28	26	19
16	9.1	12	3.0	---	---	---	---	9.9	44	27	26	20
17	9.0	12	3.4	---	---	---	---	10	46	27	26	21
18	9.0	12	3.1	---	---	---	---	11	41	27	26	21
19	9.0	12	---	---	---	---	---	11	38	26	26	20
20	8.9	12	---	---	---	---	---	11	37	26	25	20
21	8.9	12	---	---	---	---	---	11	32	26	25	20
22	8.9	12	---	---	---	---	---	12	28	29	22	20
23	8.6	12	---	---	---	---	---	11	25	32	19	20
24	8.4	12	---	---	---	---	---	12	24	31	19	20
25	8.4	12	---	---	---	---	5.0	12	23	31	19	20
26	8.4	11	---	---	---	---	4.9	13	23	31	19	20
27	8.4	11	---	---	---	---	5.0	13	23	30	19	19
28	8.4	11	---	---	---	---	5.0	14	23	30	19	19
29	8.5	11	---	---	---	---	5.0	14	22	30	19	19
30	8.9	11	---	---	---	---	5.2	17	22	30	19	19
31	8.9	---	---	---	---	---	---	20	---	30	19	---
TOTAL	278.5	359	---	---	---	---	---	316.5	---	898	763	592
MEAN	8.984	11.97	---	---	---	---	---	10.21	---	28.97	24.61	19.73
MAX	9.4	13	---	---	---	---	---	20	---	32	30	21
MIN	8.4	11	---	---	---	---	---	5.1	---	22	19	19
AC-FT	552	712	---	---	---	---	---	628	---	1780	1510	1170

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, WDR CA-00-3: 1999 (month-end gage heights).

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 Federal Energy Regulatory Commission project no. 137. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 142,208 acre-ft, June 22, 1999, elevation, 3,958.36 ft; no contents at times in 1932–33, 1945, 1962.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 142,000 acre-ft, June 17, elevation, 3,958.14 ft; minimum, 5,800 acre-ft, estimated, Mar. 26–28, elevation unknown.

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	12,690	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 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42900	25700	18300	13700	e6000	e6150	7900	55100	132200	138400	120900	102300
2	42800	25600	18600	13600	e6000	e6150	9120	55600	135500	138000	120200	101800
3	42300	25500	18500	13700	e6000	e6200	10800	56400	137000	137600	119300	101300
4	41800	25300	18500	13400	e6000	e6200	12900	57700	138500	137200	118300	101100
5	41000	25000	18300	13100	e6000	e6250	15600	59600	140100	136800	117500	101100
6	40200	24900	18000	13000	e6000	e6250	17400	62000	140000	136400	117000	101100
7	39200	24600	17900	12900	e6100	e6300	19000	64500	140100	135500	116500	100900
8	38000	24200	17700	12600	e6200	e6500	20900	66600	140200	135500	115800	100200
9	36500	23700	17500	12100	e6300	e6650	22900	68700	140700	135000	115300	99500
10	35800	23000	17300	11500	e6200	e6700	24600	70600	140600	134500	114900	98800
11	35600	22600	17100	11100	e6100	e6750	26700	72400	140700	134200	114600	98200
12	35000	22600	16800	11000	e6000	e6700	29200	74800	141000	133200	114700	97200
13	34200	21000	16600	10800	e6000	e6650	31700	78000	141500	132800	114700	96500
14	33400	20800	16400	10600	e6000	e6600	35300	81700	141800	132400	114700	95900
15	32700	20800	16300	10400	e6000	e6550	38800	85600	141700	131900	114400	95200
16	32000	20800	16300	10100	e6000	e6500	40400	89500	141800	131400	113400	94600
17	31300	20600	16200	10000	e6000	e6450	41400	93900	142000	131400	112300	93900
18	30600	20400	16000	9680	e6000	e6150	42000	98300	141900	131500	111400	93200
19	29900	20300	15800	9230	e6000	e6000	42500	103300	141800	131400	110500	92500
20	29600	20200	15500	8500	e6000	e5850	42900	105600	141400	130400	109800	91900
21	29500	20300	15200	7860	e6000	e5850	43400	107900	141200	129400	109100	91400
22	29400	21100	14900	7400	e6000	e5850	44100	110200	141100	128500	108500	91100
23	29100	21000	14600	e7200	e6100	e5850	45100	111600	141000	127800	107800	90500
24	28900	21100	14300	e7100	e6100	e5900	46400	112500	140800	126900	107100	89600
25	28600	20700	14000	e7000	e6100	e5900	48100	113800	140600	126200	106200	89000
26	28300	20200	13500	e6950	e6100	e5800	50400	115500	140400	125400	105400	88600
27	28100	19700	13000	e6900	e6100	e5800	51800	117600	140400	124900	104900	88000
28	27700	19200	12700	e6850	e6150	e5800	52800	120100	140000	123700	104300	87400
29	27200	18700	13000	e6150	---	e5900	53800	123500	139400	123000	103800	86900
30	26500	18300	13100	e6000	---	e6200	54500	127400	138800	122300	103300	86300
31	26000	---	13900	e5900	---	e6500	---	130600	---	121500	102800	---
MAX	42900	25700	18600	13700	6300	6750	54500	130600	142000	138400	120900	102300
MIN	26000	18300	12700	5900	6000	5800	7900	55100	132200	121500	102800	86300
a	3795.50	3776.48	3763.68				3849.39	3946.07	3954.80	3936.16	3914.66	3894.31
b	-17300	-7700	-4400	-8000	+250	+350	+48000	+76100	+8200	-17300	-18700	-16500
c	6780	2030	4910	7310	3380	12770	9460	11960	13140	6830	6590	9210

CAL YR 2001 MAX 111800 MIN 5920 b -700 c 60590
WTR YR 2002 MAX 142000 MIN 5800 b +43000 c 94370

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Release, in acre-feet, through Salt Springs Powerplant (station 11313510), provided by Pacific Gas & Electric Co.

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA

LOCATION.—Lat 38°29'37", long 120°13'12", in NE 1/4 NW 1/4 sec.4, T.7 N., R.16 E., [Calaveras County](#), Hydrologic Unit 18040012, Stanislaus National Forest, on left bank, 0.5 mi downstream from Salt Springs Dam, 1.3 mi upstream from Cole Creek, and 18 mi northeast of West Point.

DRAINAGE AREA.—170 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 Federal Energy Regulatory Commission project no. 137.

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	27	21	28	44	76	126	234	113	29	23
2	34	23	22	21	28	45	86	125	240	54	25	23
3	34	26	21	21	28	45	76	174	316	50	25	23
4	34	22	23	21	28	45	95	226	380	36	24	23
5	33	22	21	21	41	62	115	225	408	36	24	23
6	33	22	21	21	52	74	117	230	1060	36	24	23
7	33	21	21	21	55	72	120	233	879	35	24	24
8	32	22	22	21	50	71	117	230	657	34	23	23
9	33	22	21	25	50	73	120	226	403	34	23	23
10	33	21	21	27	50	75	118	225	403	34	23	23
11	33	21	21	26	52	76	121	225	290	34	24	23
12	33	22	21	26	47	76	120	229	175	34	27	23
13	37	23	21	27	43	76	120	231	180	34	27	22
14	33	26	21	27	43	76	121	228	226	34	27	23
15	33	25	25	27	43	75	121	229	354	34	27	23
16	33	24	21	27	43	75	119	230	218	34	24	23
17	33	21	21	29	44	75	118	236	229	36	22	23
18	33	21	21	27	44	75	119	242	262	35	22	23
19	33	21	21	27	44	77	120	243	301	36	22	23
20	34	21	21	28	43	76	118	245	262	35	21	23
21	33	21	21	28	43	76	118	247	237	34	21	23
22	33	21	21	28	44	76	119	247	172	34	21	23
23	33	21	21	28	43	76	123	248	174	34	22	23
24	33	21	21	28	43	75	123	245	173	34	22	23
25	33	21	21	28	43	74	121	248	174	34	22	23
26	36	21	21	28	43	75	120	250	171	34	23	25
27	35	21	21	28	43	75	124	249	170	34	23	24
28	33	21	21	28	43	75	124	244	173	34	23	22
29	33	21	21	28	---	75	125	244	175	34	22	22
30	33	21	21	27	---	74	125	238	174	34	22	22
31	33	---	21	27	---	76	---	237	---	34	22	---
TOTAL	1035	665	665	797	1201	2190	3459	7055	9270	1182	730	690
MEAN	33.39	22.17	21.45	25.71	42.89	70.65	115.3	227.6	309.0	38.13	23.55	23.00
MAX	37	29	27	29	55	77	125	250	1060	113	29	25
MIN	32	21	21	21	28	44	76	125	170	34	21	22
AC-FT	2050	1320	1320	1580	2380	4340	6860	13990	18390	2340	1450	1370
a	22360	14010	19400	25200	14530	26500	25010	15810	27140	25450	24170	22930

a Diversion, in acre-feet, to Tiger Creek Powerplant Conduit (station 11314000), provided by Pacific Gas & Electric Co.

SAN JOAQUIN RIVER BASIN

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	43.14	52.87	79.68	77.80	100.6	122.8	234.8	737.7	906.0	185.8	65.86	51.94
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	0.73	0.94	0.91	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 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1927 - 2002	
ANNUAL TOTAL	18040		28939			
ANNUAL MEAN	49.42		79.28		221.5	
HIGHEST ANNUAL MEAN					710 1983	
LOWEST ANNUAL MEAN					4.27 1977	
HIGHEST DAILY MEAN	1610	May 2	1060	Jun 6	11400	May 16 1996
LOWEST DAILY MEAN	21	Jan 11	21	Nov 7	0.30	Mar 17 1931
ANNUAL SEVEN-DAY MINIMUM	21	Nov 17	21	Nov 17	0.39	Mar 19 1931
MAXIMUM PEAK FLOW			1130	Jun 6	17000	May 16 1996
MAXIMUM PEAK STAGE			5.55	Jun 6	17.66	May 16 1996
ANNUAL RUNOFF (AC-FT)	35780		57400		160500	
ANNUAL DIVERSION (AC-FT) a	222200		262500			
10 PERCENT EXCEEDS	34		229		585	
50 PERCENT EXCEEDS	31		34		23	
90 PERCENT EXCEEDS	21		21		4.6	

a Diversion, in acre-feet, to Tiger Creek Powerplant Conduit (station 11314000), 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 Federal Energy Regulatory Commission project no. 137.

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; no flow for many days in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.07	0.25	11	55	16	65	187	81	228	6.4	e0.30	0.13
2	0.07	0.17	12	46	16	49	221	97	172	5.5	0.28	0.13
3	0.06	0.14	13	49	16	46	274	133	160	5.2	0.22	0.13
4	0.06	0.12	17	e33	15	49	306	181	175	4.4	0.21	0.13
5	0.06	0.11	15	31	17	48	244	220	184	3.7	0.20	0.13
6	0.06	0.11	15	95	17	66	197	249	157	3.3	0.20	0.13
7	0.06	0.10	20	90	18	61	203	253	138	2.9	0.19	0.13
8	0.06	0.09	18	58	19	52	229	227	114	e2.5	0.18	0.13
9	0.07	0.09	18	46	18	41	213	218	84	e2.1	0.17	0.13
10	0.07	0.09	17	39	18	36	226	190	64	1.8	0.16	0.13
11	0.07	0.17	15	38	23	33	238	163	64	1.4	0.16	0.13
12	0.07	0.57	14	41	29	40	253	201	67	1.2	0.15	0.13
13	0.07	0.82	14	39	29	39	269	235	70	1.0	0.14	0.13
14	0.07	0.56	15	e36	25	34	354	272	66	0.88	0.14	0.13
15	0.06	0.44	14	e32	27	33	273	272	53	0.85	0.14	0.13
16	0.06	2.2	14	e29	30	32	137	272	46	0.77	0.13	0.13
17	0.06	2.5	14	e26	30	28	105	307	40	0.64	0.13	0.13
18	0.06	1.8	14	e21	26	30	88	318	38	0.61	0.13	0.13
19	0.06	1.5	14	e24	30	29	75	225	37	0.59	0.13	0.13
20	0.06	0.91	15	e22	77	40	73	168	31	0.55	0.13	0.13
21	0.06	38	14	21	83	49	82	128	28	0.51	0.13	0.13
22	0.06	179	14	e21	82	61	114	119	23	0.47	0.13	0.13
23	0.06	31	14	e18	89	52	144	147	20	0.43	0.13	0.13
24	0.07	85	14	e19	60	44	183	168	17	0.40	0.13	0.13
25	0.07	41	14	20	57	39	225	185	15	0.37	0.13	0.13
26	0.07	e18	16	19	61	41	237	209	13	0.31	0.13	0.13
27	0.07	e13	24	18	67	55	158	230	12	0.31	0.13	0.13
28	0.07	e12	22	e20	65	81	114	235	10	e0.30	0.13	0.13
29	0.07	11	53	e18	---	119	110	277	8.5	e0.30	0.13	0.13
30	0.70	11	62	e16	---	143	94	292	7.4	e0.30	0.13	0.13
31	0.71	---	87	15	---	158	---	265	---	e0.30	0.13	---
TOTAL	3.29	451.74	633	1055	1060	1693	5626	6537	2141.9	50.29	4.92	3.90
MEAN	0.106	15.06	20.42	34.03	37.86	54.61	187.5	210.9	71.40	1.622	0.159	0.130
MAX	0.71	179	87	95	89	158	354	318	228	6.4	0.30	0.13
MIN	0.06	0.09	11	15	15	28	73	81	7.4	0.30	0.13	0.13
AC-FT	6.5	896	1260	2090	2100	3360	11160	12970	4250	100	9.8	7.7

e Estimated.

SAN JOAQUIN RIVER BASIN

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.016	21.64	36.99	38.44	42.21	65.37	144.1	251.7	148.1	21.19	1.372	0.886
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	0.045	0.10	0.14	0.30	0.30	1.87	38.9	50.1	5.22	0.37	0.013	0.000
(WY)	1967	1960	1960	1933	1933	1933	1975	1934	1992	2001	1931	1931

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1928 - 2002
ANNUAL TOTAL	12026.71	19260.04	
ANNUAL MEAN	32.95	52.77	64.69
HIGHEST ANNUAL MEAN			131 1983
LOWEST ANNUAL MEAN			16.6 1977
HIGHEST DAILY MEAN	288 May 8	354 Apr 14	3760 Dec 23 1964
LOWEST DAILY MEAN	0.04 Sep 9	0.06 Oct 3	0.00 Aug 1 1931
ANNUAL SEVEN-DAY MINIMUM	0.04 Sep 6	0.06 Oct 15	0.00 Aug 1 1931
MAXIMUM PEAK FLOW		575 Apr 14	6140 Dec 23 1964
MAXIMUM PEAK STAGE		3.38 Apr 14	10.21 Dec 23 1964
ANNUAL RUNOFF (AC-FT)	23850	38200	46860
10 PERCENT EXCEEDS	131	193	201
50 PERCENT EXCEEDS	7.6	17	15
90 PERCENT EXCEEDS	0.06	0.13	0.15

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 Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.12	0.41	2.6	---	2.8	---	3.2	3.2	---	3.3	0.39	e0.13
2	0.11	0.26	2.6	---	2.8	---	---	3.2	---	3.3	0.36	e0.13
3	0.11	0.20	2.6	---	2.8	---	---	3.2	---	3.3	0.35	e0.13
4	0.11	0.17	2.6	2.8	2.8	---	---	3.3	---	3.2	0.34	e0.13
5	0.11	0.16	2.6	2.7	2.8	2.9	---	3.3	---	3.2	0.32	e0.13
6	0.10	0.14	2.6	2.8	2.8	2.9	3.5	---	---	3.2	0.29	e0.13
7	0.10	0.13	2.6	---	2.9	2.9	---	---	---	3.2	0.29	e0.13
8	0.10	0.11	2.6	2.8	2.9	2.8	---	---	3.5	3.1	0.28	e0.13
9	0.10	0.11	2.6	2.8	2.9	2.8	---	3.5	3.3	2.7	0.26	e0.13
10	0.10	0.10	2.6	2.7	2.8	2.8	---	3.5	3.3	2.0	0.26	e0.13
11	0.09	0.13	2.6	2.7	2.8	2.8	---	3.4	3.3	1.8	e0.17	e0.13
12	0.08	0.57	2.6	2.7	2.8	2.8	---	---	3.3	1.6	e0.15	e0.13
13	0.07	1.2	2.6	2.7	2.9	2.8	3.4	---	3.3	1.4	e0.14	e0.13
14	0.07	0.82	2.6	2.7	2.9	2.8	---	---	3.3	1.3	e0.14	e0.13
15	0.07	0.61	2.6	2.8	3.1	2.8	---	3.5	3.3	1.2	e0.14	e0.13
16	0.06	1.4	2.6	2.7	3.1	2.8	3.2	---	3.3	1.1	e0.14	e0.13
17	0.06	2.7	2.6	2.7	3.1	2.8	3.2	---	3.3	0.95	e0.14	e0.13
18	0.06	2.1	2.6	2.8	3.2	2.8	3.2	---	3.3	0.88	e0.14	e0.13
19	0.06	1.6	2.6	2.7	---	2.8	3.2	---	3.3	0.86	e0.14	e0.13
20	0.06	1.0	2.6	2.7	---	2.9	3.1	3.4	3.4	0.82	e0.14	e0.13
21	0.06	---	2.6	2.7	---	2.9	3.2	3.3	3.4	0.75	e0.13	e0.13
22	0.07	---	2.6	2.7	---	2.9	---	3.3	3.4	0.71	e0.13	e0.13
23	0.07	2.7	2.6	2.7	---	2.9	3.3	3.3	3.3	0.65	e0.13	e0.13
24	0.07	---	2.7	2.7	---	2.9	3.3	3.4	3.3	0.61	e0.13	e0.13
25	0.07	2.6	2.6	2.7	---	2.9	3.4	3.4	3.3	0.56	e0.13	e0.13
26	0.07	2.6	---	2.7	---	2.9	3.4	---	3.3	0.50	e0.13	e0.13
27	0.08	2.6	---	2.8	---	2.9	3.3	---	3.3	0.49	e0.13	e0.13
28	0.07	2.6	---	2.8	---	3.0	3.2	---	3.3	0.43	e0.13	e0.13
29	0.07	2.6	---	2.8	---	3.1	3.2	3.4	3.3	0.44	e0.13	e0.13
30	0.47	2.6	---	2.8	---	3.2	3.2	---	3.3	0.42	e0.13	e0.13
31	1.3	---	---	2.8	---	3.2	---	---	---	0.40	e0.13	---
TOTAL	4.14	---	---	---	---	---	---	---	---	48.37	6.01	3.90
MEAN	0.134	---	---	---	---	---	---	---	---	1.560	0.194	0.130
MAX	1.3	---	---	---	---	---	---	---	---	3.3	0.39	0.13
MIN	0.06	---	---	---	---	---	---	---	---	0.40	0.13	0.13
AC-FT	8.2	---	---	---	---	---	---	---	---	96	12	7.7

e Estimated.

11315400 UPPER BEAR RIVER RESERVOIR NEAR PARDOE CAMP, CA

LOCATION.—Lat 38°33'30", long 120°13'01", in NE 1/4 SW 1/4 sec.9, T.8 N., R.16 E., [Amador County](#), Hydrologic Unit 18040012, on east side of Bear River Reservoir, between mile 8 and 9 at pack trail, 7.1 mi southeast of Plasse, 8.7 mi east of Hams Station, and 12.7 mi southwest of Kirkwood.

DRAINAGE AREA.—28.11 mi².

PERIOD OF RECORD.—October 2001 to September 2002.

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

REMARKS.—Reservoir is formed by rockfill dam with placed rock on both the upstream and downstream side, gunited on the upstream face, completed in 1900; record began in October 1902. Capacity, 7,306 acre-ft at elevation 5,878 ft, top of flashboards. Water level is regulated in the spring by the addition of flashboards. Releases are made through a gate valve at the base of the dam. Valve is usually closed in the fall after the lake is drained and not used again until May. 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 Federal Energy Regulatory Commission project no. 2130.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 7,450 acre-ft, June 5, 2002, gage height, 78.82 ft; minimum, 582 acre-ft, Oct. 28, 29, 2001, minimum gage height, 24.29 ft, Oct. 29.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Table provided by Pacific Gas & Electric Co., dated October 1994)

0	0	30	990	50	3,106	72	6,296
10	78	40	1,929	60	4,465	82	8,000
22	448						

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	620	677	3120	5430	5230	2650	2730	7080	7350	7190	6680	1530
2	619	679	3180	5630	5050	2600	3220	7080	7330	7170	6620	1410
3	618	680	3250	5770	4860	2550	3850	7110	7340	7150	6410	1290
4	618	681	3310	5860	4680	2510	4670	7140	7340	7120	6220	1180
5	617	681	3370	5960	4500	2460	5400	7140	7450	7110	6020	1070
6	616	681	3440	6250	4320	2550	6010	7150	7440	7090	5820	962
7	616	680	3500	6560	4150	2530	6640	7140	7430	7080	5640	860
8	612	681	3560	6760	3970	2470	7160	7100	7410	7050	5450	759
9	607	679	3620	6890	3810	2380	7140	7140	7400	7050	5270	658
10	604	678	3670	6980	3640	2300	7170	7110	7400	7030	5090	618
11	604	695	3720	7060	3470	2210	7180	7130	7400	7020	4910	618
12	604	729	3770	7090	3310	2150	7180	7140	7400	7010	4730	617
13	604	788	3820	7090	3150	2080	7190	7160	7400	7000	4520	615
14	604	848	3880	7090	3000	1990	7210	7160	7400	6990	4320	614
15	592	890	3920	7080	2890	1900	7120	7160	7390	6970	4120	614
16	592	915	3970	7080	2770	1810	7100	7170	7380	6960	3930	613
17	592	928	4030	7080	2670	1710	7090	7190	7370	6960	3740	612
18	592	941	4070	7080	2550	1620	7090	7180	7370	6940	3550	611
19	592	947	4120	7070	2470	1540	7090	7110	7360	6930	3360	611
20	592	950	4180	7070	2540	1500	7090	7090	7360	6930	3170	610
21	592	1420	4220	7080	2600	1500	7100	7080	7350	6920	3010	609
22	590	1970	4280	7070	2660	1530	7110	7100	7340	6910	2860	609
23	585	2060	4320	7070	2730	1530	7130	7110	7330	6890	2720	608
24	585	2620	4370	6920	2720	1490	7150	7130	7320	6880	2580	606
25	585	2770	4410	6680	2680	1440	7150	7130	7310	6870	2430	604
26	584	2820	4460	6460	2670	1410	7110	7150	7290	6870	2300	603
27	583	2880	4520	6270	2670	1430	7090	7150	7270	6860	2160	602
28	582	2940	4620	6040	2670	1530	7090	7150	7250	6850	2030	602
29	582	3000	4800	5810	---	1740	7090	7160	7230	6840	1900	602
30	649	3060	5000	5610	---	2020	7080	7380	7210	6730	1780	602
31	673	---	5280	5420	---	2340	---	7380	---	6680	1650	---
TOTAL	18705	40968	123780	203310	94430	61470	196430	221600	220620	216050	124990	22519
MEAN	603	1370	3990	6560	3370	1980	6550	7150	7350	6970	4030	751
MAX	673	3060	5280	7090	5230	2650	7210	7380	7450	7190	6680	1530
MIN	582	677	3120	5420	2470	1410	2730	7080	7210	6680	1650	602
a	25.70	49.66	65.51	66.47	46.47	43.67	76.71	78.41	77.47	74.31	37.31	24.61
b		+2387	+2220	+140	-2750	-330	+4740	+300	-170	-530	-5030	-1048

WTR YR 2002 TOTAL 1544872 MEAN 4230 MAX 7450 MIN 582

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11315600 LOWER BEAR RIVER RESERVOIR NEAR NICHOLL, CA

LOCATION.—Lat 38°32'20", long 120°15'22", in SE 1/4 SW 1/4 sec.18, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, 100 ft left of the spillway, 7.4 mi east of Hams Station and 14.6 mi southwest of Kirkwood.

DRAINAGE AREA.—37.3 mi².

PERIOD OF RECORD.—October 2001 to September 2002.

GAGE.—Water-stage recorder. Elevation of gage is 5,820 ft above sea level, from topographic map.

REMARKS.—Reservoir is formed by two rockfill concrete-faced dams, completed in 1952. Capacity, 52,025 acre-ft, at elevation 5,820 ft. 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 Federal Energy Regulatory Commission project no. 2130.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 52,100 acre-ft, June 6, 7, 2002, maximum elevation, 5820.12 ft; minimum, 5,550 acre-feet, Feb. 10, 2002, elevation, 5726.74 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Table provided by Pacific Gas & Electric Co., dated October 1997)

5600	0	5660	354	5720	4,390	5780	26,140
5620	24	5680	1,007	5740	8,647	5800	38,105
5640	104	5700	2,152	5760	16,112	5824	55,036

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18100	11100	10700	7410	6080	10600	8710	28100	51700	45900	39000	36500
2	17600	11000	10900	7570	6020	10600	9420	28400	51600	45800	38900	36300
3	17200	11000	10900	7740	5960	10400	10200	29000	51600	45700	39100	36000
4	16800	11000	10800	7870	5900	10300	11000	30100	51700	45400	39200	36000
5	16400	10900	10700	8010	5830	10200	11300	31500	51900	45100	39300	36100
6	16300	10800	10600	8360	5760	10300	11500	32800	52100	44900	39100	36100
7	16300	10600	10500	8640	5720	10400	11700	34000	52100	44600	39000	36100
8	16000	10500	10600	8850	5680	10300	12200	35200	51800	44300	38900	35900
9	15500	10400	10600	9020	5610	10200	13100	36200	51700	44000	38700	35600
10	15000	10400	10600	9160	5550	10100	14000	37000	51500	43600	38400	35200
11	14600	10400	10400	9150	5680	9940	15000	37500	51400	43200	38200	34900
12	14200	10400	10300	8890	5910	9820	16200	38300	51300	42800	38300	34500
13	14100	10400	10200	8660	6130	9680	17400	39300	51200	42500	38400	34100
14	14000	10400	10200	8420	6360	9520	19000	40500	51000	42000	38500	33800
15	13600	10200	10200	8160	6610	9360	20100	41700	50700	41600	38700	33400
16	13300	10100	10200	7870	6840	9190	20500	42900	50500	41300	38800	33000
17	13100	10100	10100	7720	7100	9010	21000	44200	50200	41300	39000	32700
18	12800	10100	9900	7400	7320	8820	21200	45500	50000	41300	39100	32400
19	12600	9990	9650	7210	7650	8620	21400	46400	49600	41300	39100	32000
20	12600	9850	9440	7310	8030	8470	21500	47000	49300	41200	38800	31700
21	12600	9940	9160	7380	8320	8350	21700	47500	48900	41200	38600	31300
22	12500	10400	8910	7310	8610	8270	22100	48000	48600	41100	38400	30900
23	12300	10500	8650	6950	8900	8190	22600	48700	48200	40700	38200	30600
24	12100	10800	8380	6760	9200	8040	23400	49400	47900	40400	37900	30300
25	11900	10900	8120	6650	9480	7880	24500	50000	47500	40100	38000	29800
26	11700	10900	7910	6550	9770	7740	25600	50800	47100	39800	38000	29500
27	11700	10900	7670	6440	10100	7640	26500	51200	46900	39700	37800	29100
28	11700	10800	7450	6300	10300	7620	27200	51700	46700	39600	37500	28700
29	11600	10700	7320	6170	---	7720	27700	51900	46400	39500	37300	28400
30	11500	10600	7170	6120	---	7900	27900	51800	46100	39300	37000	28000
31	11300	---	7300	6070	---	8240	---	51800	---	39200	36800	---
MAX	18100	11100	10900	9160	10300	10600	27900	51900	52100	45900	39300	36500
MIN	11300	9850	7170	6070	5550	7620	8710	28100	46100	39200	36800	28000
a	5748.20	5746.24	5734.85	5729.41	5745.48	5738.53	5783.29	5819.67	5811.91	5801.65	5798.03	5783.48
	-7100	-700	-3300	-1230	+4230	-2060	+19660	+23900	-5700	-6900	-2400	-8800

WTR YR 2002 MAX 52100 MIN 5550 b +9600

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

11315900 BEAR RIVER BELOW LOWER BEAR RIVER DAM, CA

LOCATION.—Lat 38°32'11", long 120°15'24", in NW 1/4 NW 1/4 sec.19, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank, 250 ft downstream from outlet valve on Lower Bear River Reservoir, 0.2 mi below Lower Bear River Reservoir Dam, 1.4 mi upstream from Rattlesnake Creek, and 3.5 mi northwest of Salt Springs Dam.

DRAINAGE AREA.—37.4 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 concrete control. Elevation of gage is 5,500 ft above sea level, from topographic map. Prior to Dec. 3, 1987, nonrecording gage at same site and datum.

REMARKS.—No records computed above 9.3 ft³/s. Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 0.2 mi upstream, capacity, 49,100 acre-ft. Water diverted for power since December 1952 from Lower Bear River Reservoir through tunnel to Salt Springs Powerplant No. 2 (station 11313510) on North Fork Mokelumne River. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River Basin.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	5.0	3.1	4.5	6.7	7.7	8.3	8.8	---	---	e5.5	5.3
2	5.1	5.0	4.4	5.2	6.7	7.7	8.3	8.4	---	---	e5.5	5.3
3	5.1	5.1	3.5	4.8	6.7	7.6	8.5	8.3	---	8.2	e5.5	5.1
4	5.1	3.4	3.3	4.2	6.6	7.6	8.2	8.4	---	8.2	e5.5	5.1
5	5.1	2.5	3.2	4.3	6.6	7.6	7.8	8.5	---	8.1	e5.5	5.0
6	5.1	2.5	3.2	5.0	6.6	---	7.7	7.8	---	8.0	e5.5	5.0
7	5.1	2.5	3.2	4.6	6.9	8.5	7.6	6.7	---	8.0	e5.5	5.0
8	5.1	2.8	3.2	4.3	7.3	8.0	7.6	6.8	---	8.1	e5.5	5.0
9	5.0	2.9	3.2	5.5	6.9	7.8	7.6	7.0	---	7.9	e5.5	5.0
10	4.9	2.9	3.2	6.4	6.8	7.7	7.6	7.2	---	7.8	e5.5	5.0
11	4.8	3.0	3.1	6.3	6.8	7.7	7.6	7.1	---	6.9	e5.5	5.0
12	4.8	3.4	3.1	6.3	6.9	8.1	7.7	7.1	---	e5.5	e5.5	5.0
13	4.8	4.0	3.0	6.2	6.9	7.8	7.6	7.2	---	e5.5	e5.5	4.9
14	4.8	3.7	3.1	6.1	7.0	7.6	7.7	7.2	---	e5.5	e5.5	4.9
15	4.8	3.4	3.0	6.1	7.2	7.5	8.0	7.3	---	e5.5	e5.5	4.9
16	4.8	2.6	3.0	6.0	7.3	7.5	7.9	7.3	---	e5.5	e5.5	4.9
17	4.8	2.6	3.1	6.0	7.3	7.5	8.1	7.3	---	e5.5	e5.5	4.8
18	4.8	2.6	3.0	6.0	7.2	7.5	8.1	7.3	---	e5.5	e5.5	4.9
19	4.8	2.7	3.4	5.9	---	7.6	8.2	7.5	---	e5.5	e5.5	5.0
20	4.8	2.8	3.8	5.9	---	7.6	8.2	8.0	---	e5.5	e5.5	4.9
21	4.8	---	3.8	6.0	8.1	7.8	8.4	8.1	---	e5.5	5.6	4.9
22	4.7	4.9	3.8	5.9	8.1	7.7	8.3	8.0	8.8	e5.5	5.5	4.9
23	4.7	3.2	3.8	5.9	8.3	7.8	8.2	8.7	8.4	e5.5	5.3	4.9
24	4.7	4.5	3.7	6.5	7.8	7.7	8.2	---	8.2	e5.5	5.3	4.9
25	4.7	3.5	3.7	6.7	7.8	7.7	8.3	---	8.2	e5.5	5.3	4.9
26	4.7	3.2	3.8	6.8	7.7	7.8	8.5	---	8.2	e5.5	5.3	4.9
27	4.7	3.1	4.0	6.8	7.8	7.8	9.0	---	8.2	e5.5	5.3	4.9
28	4.9	3.0	4.4	6.7	7.8	8.0	9.0	---	8.2	e5.5	5.3	4.9
29	4.9	3.1	5.3	6.7	---	8.2	---	---	8.1	e5.5	5.3	4.9
30	5.4	3.1	5.0	6.7	---	8.1	---	---	8.0	e5.5	5.3	4.9
31	5.1	---	5.9	6.7	---	8.1	---	---	---	e5.5	5.3	---
TOTAL	152.0	---	112.3	181.0	---	---	---	---	---	---	168.8	149.0
MEAN	4.903	---	3.623	5.839	---	---	---	---	---	---	5.445	4.967
MAX	5.4	---	5.9	6.8	---	---	---	---	---	---	5.6	5.3
MIN	4.7	---	3.0	4.2	---	---	---	---	---	---	5.3	4.8
AC-FT	301	---	223	359	---	---	---	---	---	---	335	296

e Estimated.

11316605 TIGER CREEK BELOW REGULATOR RESERVOIR, NEAR PIONEER, CA

LOCATION.—Lat 38°28'37", long 120°27'11", in SW 1/4 NE 1/4 sec.8, T.7 N., R.14 E., [Amador County](#), Hydrologic Unit 18040012, Eldorado National Forest, on right bank, 200 ft downstream from outlet valve on Regulator Dam, 7.2 mi northeast of Pioneer, and 12.9 mi west of Salt Springs Reservoir.

DRAINAGE AREA.—7.35 mi².

PERIOD OF RECORD.—October 2001 to September 2002 (low flow records only).

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 3,510 ft above sea level, from topographic map.

REMARKS.—No records computed above 40 ft³/s. 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 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 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 Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.5	5.5	5.4	8.1	8.8	10	10	7.5	5.7	4.1	3.3
2	11	5.5	5.5	5.5	8.1	8.8	10	10	7.5	5.7	3.3	3.3
3	11	5.5	5.5	5.5	8.1	8.8	10	10	7.5	5.7	3.3	3.3
4	11	5.5	5.6	5.5	8.1	9.8	10	10	7.6	5.7	3.3	3.3
5	11	5.4	5.5	5.5	8.1	10	10	10	7.5	5.7	3.3	3.4
6	11	5.4	5.4	5.5	8.1	10	10	10	7.5	5.7	3.3	3.3
7	11	5.5	5.4	5.5	8.1	10	11	9.3	7.6	5.6	3.3	3.3
8	11	5.5	5.4	5.5	8.1	11	11	8.5	6.5	5.6	3.4	3.4
9	11	5.5	5.4	6.0	8.1	11	10	8.1	5.7	5.6	3.3	3.3
10	11	5.5	5.5	7.4	8.1	10	11	7.5	5.7	5.5	3.3	3.3
11	11	5.4	5.5	7.4	8.1	10	11	7.5	5.7	5.6	3.3	3.3
12	11	5.4	5.5	7.4	8.1	10	11	7.5	5.7	5.6	3.3	3.3
13	11	5.4	5.5	7.4	8.1	10	11	7.4	5.7	5.6	3.3	3.4
14	11	5.5	5.4	7.4	8.1	10	11	7.4	5.7	5.6	3.3	3.4
15	11	5.5	5.4	7.5	8.1	10	11	7.4	5.7	5.6	3.3	3.3
16	11	5.5	5.4	7.3	8.1	10	10	7.4	5.7	5.6	3.3	3.4
17	11	5.5	5.5	7.3	8.1	10	11	7.4	5.7	5.7	3.4	3.4
18	11	5.5	5.4	7.5	8.1	10	10	7.4	5.7	5.7	3.4	3.4
19	11	5.4	5.4	8.1	8.1	17	10	7.4	5.7	5.7	3.4	3.4
20	11	5.4	5.5	7.9	8.1	22	10	7.4	5.7	5.6	3.3	3.4
21	11	5.5	5.5	8.0	8.1	17	10	7.4	5.7	5.7	3.4	3.4
22	11	5.5	5.4	8.0	8.1	10	10	7.4	5.7	5.7	3.4	3.4
23	11	5.5	5.4	7.9	8.1	10	10	7.4	5.7	5.7	3.4	3.3
24	10	5.5	5.5	8.0	8.1	10	10	7.5	5.7	5.7	3.3	3.4
25	10	5.4	5.5	8.1	8.0	10	10	7.5	5.7	5.7	3.3	3.4
26	10	5.5	5.5	8.0	15	10	10	7.5	5.7	5.6	3.3	3.4
27	10	5.5	5.6	8.1	19	10	10	7.5	5.7	5.6	3.3	3.4
28	10	5.5	5.5	8.1	14	10	10	7.5	5.7	5.6	3.3	3.4
29	10	5.5	5.4	8.1	---	10	10	7.5	5.7	5.6	3.3	3.4
30	10	5.5	5.5	8.1	---	10	10	7.5	5.7	5.6	3.3	3.4
31	10	---	5.4	8.1	---	10	---	7.5	---	5.6	3.3	---
TOTAL	333	166.2	169.4	221.0	250.4	334.2	309	249.8	184.6	174.9	103.8	100.8
MEAN	10.74	5.540	5.465	7.129	8.943	10.78	10.30	8.058	6.153	5.642	3.348	3.360
MAX	11	7.5	5.6	8.1	19	22	11	10	7.6	5.7	4.1	3.4
MIN	10	5.4	5.4	5.4	8.0	8.8	10	7.4	5.7	5.5	3.3	3.3
AC-FT	661	330	336	438	497	663	613	495	366	347	206	200

11316670 NORTH FORK MOKELUMNE RIVER BELOW TIGER CREEK RESERVOIR, NEAR WEST POINT, CA

LOCATION.—Lat 38°26'25", long 120°30'14", in SE 1/4 SE 1/4 sec.23, T.7 N., R.13 E., [Amador County](#), Hydrologic Unit 18040012, on right bank, 500 ft downstream from Tiger Creek Reservoir Dam, and 3.1 mi northeast of West Point.

DRAINAGE AREA.—357 mi².

PERIOD OF RECORD.—October 1985 to current year (low-flow records only). Unpublished records for water years 1982–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,220 ft above sea level, from topographic map.

REMARKS.—No records computed above 50 ft³/s. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 20 mi upstream. 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. 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 Federal Energy Regulatory Commission project no. 137.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	44	43	---	44	44	---	---	---	---	41	40
2	44	44	44	---	49	44	---	---	---	---	40	41
3	44	44	44	---	---	---	---	---	---	41	40	42
4	44	43	44	---	---	---	---	---	---	41	40	42
5	44	42	44	---	---	---	---	---	---	41	41	42
6	44	42	44	---	---	---	---	---	---	41	41	42
7	44	42	44	---	---	---	---	---	---	41	41	41
8	45	42	44	---	---	---	---	---	---	41	41	42
9	45	42	44	---	---	---	---	---	---	41	41	42
10	44	42	44	---	---	---	---	---	---	40	41	41
11	44	44	44	---	---	---	---	---	---	40	41	40
12	44	44	45	---	---	---	---	---	---	40	41	40
13	44	44	46	47	46	---	---	---	---	40	41	40
14	44	44	46	47	46	---	---	---	---	43	41	40
15	44	44	46	47	46	---	---	---	---	44	41	40
16	44	44	46	47	46	---	---	---	---	45	41	41
17	44	44	46	47	46	---	---	---	---	45	41	41
18	44	44	47	46	45	---	---	---	---	44	41	41
19	44	44	46	46	44	---	---	---	---	43	41	42
20	44	44	49	46	44	---	---	---	---	44	41	42
21	44	45	49	46	44	---	---	---	---	45	41	43
22	44	46	49	46	---	---	---	---	---	45	41	43
23	43	47	49	46	---	---	---	---	---	43	41	42
24	42	47	49	46	---	---	---	---	---	43	41	42
25	42	47	49	47	42	---	---	---	---	43	41	44
26	43	46	49	47	44	---	---	---	---	43	41	44
27	42	47	49	44	44	---	---	---	---	43	41	44
28	42	47	49	44	44	---	---	---	---	43	41	44
29	44	47	47	44	---	---	---	---	---	45	41	44
30	44	43	47	44	---	---	---	---	---	45	41	44
31	44	---	---	44	---	---	---	---	---	44	40	---
TOTAL	1356	1329	---	---	---	---	---	---	---	---	1267	1256
MEAN	43.74	44.30	---	---	---	---	---	---	---	---	40.87	41.87
MAX	45	47	---	---	---	---	---	---	---	---	41	44
MIN	42	42	---	---	---	---	---	---	---	---	40	40
AC-FT	2690	2640	---	---	---	---	---	---	---	---	2510	2490
a	22790	16320	21780	28920	15930	29210	26470	17420	29140	26160	26380	25600

CAL YR 2001 a 237600

WTR YR 2002 a 286100

a Diversion, in acre-feet, to Tiger Creek Powerplant (station 11316610), provided by Pacific Gas & Electric Co.

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.—No regulation. Minor diversions 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, 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)
Mar. 6	2300	126	4.34

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.5	8.1	36	11	28	41	23	10	4.5	2.6	1.7
2	1.1	2.0	44	41	9.9	27	43	21	9.9	3.8	3.0	1.4
3	1.0	2.0	29	60	9.7	25	44	20	9.0	4.4	3.5	0.83
4	1.2	1.9	14	38	9.2	25	46	19	8.7	4.6	3.3	0.95
5	1.8	1.7	11	30	9.4	24	44	18	9.0	4.4	2.7	1.1
6	1.9	1.8	12	27	9.4	47	41	17	9.0	4.6	2.4	1.4
7	2.0	2.0	11	27	10	80	39	17	8.6	5.0	2.5	2.1
8	2.0	2.3	9.6	26	19	58	37	17	8.3	4.4	2.2	1.8
9	1.8	2.4	9.4	24	14	45	36	17	8.1	3.8	2.3	1.5
10	1.1	2.5	8.5	22	13	43	34	16	7.7	3.6	2.8	1.2
11	0.99	3.9	7.3	21	13	39	32	16	6.4	3.6	2.7	1.0
12	1.2	8.8	7.7	20	13	37	31	16	6.6	4.0	2.4	1.1
13	1.8	7.6	7.3	19	12	36	30	15	6.4	3.6	1.3	1.1
14	1.8	4.8	9.3	18	12	34	29	14	6.2	3.4	1.5	1.4
15	1.7	3.6	8.0	17	13	32	30	12	7.5	3.2	1.8	1.3
16	1.6	3.0	8.1	16	15	31	28	12	7.6	2.4	2.0	1.3
17	1.5	2.9	16	15	22	31	29	11	7.0	2.9	2.3	0.95
18	1.6	3.1	15	15	21	30	27	11	6.0	3.4	2.2	0.88
19	2.0	2.9	11	14	30	32	27	11	6.2	3.5	1.8	0.93
20	2.0	2.9	12	14	52	32	26	15	6.2	3.8	1.4	1.2
21	2.0	5.1	14	14	40	32	25	18	6.6	3.7	1.2	1.4
22	1.9	16	16	15	37	33	24	15	6.7	3.3	1.4	1.4
23	1.7	7.4	23	13	35	50	23	14	6.1	2.8	1.6	1.2
24	1.9	15	16	13	34	53	23	14	5.7	2.8	1.7	0.85
25	1.9	14	13	12	32	48	23	13	5.1	2.5	1.7	0.88
26	1.6	7.9	11	13	31	45	23	13	5.2	2.7	2.1	0.94
27	1.4	6.5	13	13	29	41	23	12	5.1	3.0	2.0	1.0
28	1.5	5.6	15	12	29	39	22	11	4.9	2.9	1.5	1.8
29	1.4	8.4	31	10	---	39	24	11	5.2	2.4	0.89	2.0
30	3.1	8.6	27	10	---	39	24	10	5.0	1.6	1.6	2.2
31	4.4	---	57	11	---	40	---	10	---	2.0	1.7	---
TOTAL	54.89	159.1	494.3	636	584.6	1195	928	459	210.0	106.6	64.09	38.81
MEAN	1.771	5.303	15.95	20.52	20.88	38.55	30.93	14.81	7.000	3.439	2.067	1.294
MAX	4.4	16	57	60	52	80	46	23	10	5.0	3.5	2.2
MIN	0.99	1.7	7.3	10	9.2	24	22	10	4.9	1.6	0.89	0.83
AC-FT	109	316	980	1260	1160	2370	1840	910	417	211	127	77

SAN JOAQUIN RIVER BASIN

11316800 FOREST CREEK NEAR WILSEYVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.050	8.964	19.64	39.35	46.46	52.58	49.37	34.72	13.85	6.251	3.763	3.199
MAX	11.9	59.5	138	244	243	209	174	129	54.8	18.5	10.5	8.36
(WY)	1983	1984	1965	1997	1986	1983	1982	1995	1998	1998	1983	1983
MIN	0.63	1.80	2.17	2.40	2.35	4.58	2.96	3.92	1.59	0.46	0.33	0.50
(WY)	1978	1993	1977	1991	1991	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1961 - 2002
ANNUAL TOTAL	4063.99	4930.39	
ANNUAL MEAN	11.13	13.51	23.39
HIGHEST ANNUAL MEAN			67.9 1983
LOWEST ANNUAL MEAN			2.39 1977
HIGHEST DAILY MEAN	57 Dec 31	80 Mar 7	1550 Jan 2 1997
LOWEST DAILY MEAN	0.99 Oct 11	0.83 Sep 3	0.11 Aug 14 1977
ANNUAL SEVEN-DAY MINIMUM	1.3 Sep 8	1.1 Sep 21	0.15 Aug 11 1977
MAXIMUM PEAK FLOW		126 Mar 6	2020 Feb 19 1986
MAXIMUM PEAK STAGE		4.34 Mar 6	8.12 Feb 19 1986
ANNUAL RUNOFF (AC-FT)	8060	9780	16950
10 PERCENT EXCEEDS	29	34	60
50 PERCENT EXCEEDS	6.4	9.0	7.9
90 PERCENT EXCEEDS	1.6	1.5	2.1

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, 4.5 mi upstream from South Fork Mokelumne River, and 0.6 mi south of West Point.

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.—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](#).

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, 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)
Mar. 7	0015	434	3.55

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	10	17	90	25	69	117	70	e36	11	6.3	4.1
2	5.9	8.4	90	125	23	70	119	66	e35	8.4	6.9	4.3
3	5.6	8.2	90	226	23	66	122	62	e32	8.1	7.6	3.9
4	5.8	8.0	36	127	21	70	129	59	e31	8.7	7.8	3.8
5	6.1	7.9	27	97	21	62	129	58	e32	9.7	8.3	4.0
6	6.4	7.9	32	86	21	115	120	57	47	10	7.3	4.5
7	6.6	7.5	34	83	22	283	112	56	34	9.7	7.1	5.7
8	6.6	7.1	29	78	42	182	109	56	12	9.6	7.3	5.9
9	6.8	6.7	29	74	33	134	107	55	11	8.7	6.9	5.8
10	6.3	7.0	28	70	30	129	104	53	11	9.4	6.6	5.3
11	6.2	8.5	27	60	39	123	101	53	9.8	9.4	6.6	5.1
12	6.3	17	26	57	53	111	99	51	10	9.2	6.4	5.0
13	6.7	19	21	58	41	106	97	52	10	6.0	5.5	4.9
14	6.9	11	35	58	27	101	96	51	10	7.1	4.4	5.0
15	6.8	9.7	24	60	29	94	98	50	10	7.1	3.0	5.0
16	6.7	8.6	23	49	44	93	90	48	9.9	6.5	3.0	5.1
17	6.8	9.5	44	48	75	93	90	47	18	6.6	3.3	5.0
18	6.9	9.8	54	50	72	87	93	47	34	7.4	3.7	4.8
19	7.3	9.7	46	62	81	87	85	49	42	7.5	4.0	4.6
20	7.6	9.2	61	59	163	87	79	e54	50	8.3	3.8	5.0
21	7.5	11	67	59	126	86	76	e64	36	8.2	3.7	5.7
22	7.4	27	71	57	111	88	75	e54	9.7	8.1	3.8	5.9
23	7.5	14	98	54	108	133	72	e50	10	7.0	3.8	5.4
24	7.8	24	61	54	100	163	70	e50	11	7.3	3.8	4.4
25	7.9	27	35	53	97	139	70	e46	11	7.5	3.7	4.3
26	7.4	15	42	57	90	124	72	e46	13	7.4	4.0	4.4
27	7.9	13	60	61	82	115	75	e43	13	8.7	4.1	4.5
28	7.7	12	63	58	78	113	71	e39	12	8.9	4.1	5.1
29	7.8	20	104	44	---	111	72	e39	12	8.9	3.6	5.4
30	12	19	88	23	---	114	76	e36	12	7.3	3.7	5.5
31	13	---	140	24	---	116	---	e36	---	7.3	4.1	---
TOTAL	224.6	372.7	1602	2161	1677	3464	2825	1597	624.4	255.0	158.2	147.4
MEAN	7.245	12.42	51.68	69.71	59.89	111.7	94.17	51.52	20.81	8.226	5.103	4.913
MAX	13	27	140	226	163	283	129	70	50	11	8.3	5.9
MIN	5.6	6.7	17	23	21	62	70	36	9.7	6.0	3.0	3.8
AC-FT	445	739	3180	4290	3330	6870	5600	3170	1240	506	314	292

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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.32	22.26	49.49	92.51	126.1	140.3	147.4	107.8	43.69	16.60	9.352	7.773
MAX	37.5	223	389	680	768	653	561	372	181	71.8	40.8	31.1
(WY)	1983	1951	1956	1997	1986	1983	1982	1983	1983	1998	1969	1969
MIN	0.86	2.64	3.33	4.75	5.70	9.06	6.47	4.17	0.95	0.22	0.071	0.15
(WY)	1932	1930	1977	1977	1991	1977	1977	1931	1924	1924	1931	1931

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1912 - 2002
ANNUAL TOTAL	12422.4	15108.3	
ANNUAL MEAN	34.03	41.39	64.19
HIGHEST ANNUAL MEAN			218 1983
LOWEST ANNUAL MEAN			5.25 1977
HIGHEST DAILY MEAN	169 Apr 21	283 Mar 7	3740 Jan 2 1997
LOWEST DAILY MEAN	4.6 Jun 26	3.0 Aug 15	0.00 Aug 23 1931
ANNUAL SEVEN-DAY MINIMUM	6.0 Sep 28	3.5 Aug 15	0.00 Aug 23 1931
MAXIMUM PEAK FLOW		434 Mar 7	5040 Jan 2 1997
MAXIMUM PEAK STAGE		3.55 Mar 7	9.28 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	24640	29970	46500
10 PERCENT EXCEEDS	87	102	167
50 PERCENT EXCEEDS	15	25	21
90 PERCENT EXCEEDS	6.6	5.1	4.0

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, 2.5 mi upstream from mouth, and 2.4 mi southwest of West Point.

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.—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 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.

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, 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)
Mar. 7	0110	461	4.70

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	7.5	28	147	44	94	149	69	31	12	2.8	4.3
2	3.0	5.9	181	155	41	85	154	66	29	12	2.9	3.5
3	2.5	4.7	153	271	40	79	158	61	29	10	2.6	3.8
4	2.5	4.4	58	160	38	76	159	58	27	9.8	2.5	3.5
5	3.2	4.3	42	116	37	73	151	55	26	9.6	2.7	3.3
6	2.6	4.2	37	97	37	146	135	53	25	9.1	2.3	4.0
7	3.0	3.8	36	92	39	321	124	52	23	9.1	2.2	4.6
8	3.4	4.0	33	88	77	226	120	51	22	9.0	2.5	4.7
9	3.8	4.2	32	84	59	169	115	49	21	8.5	2.7	5.1
10	3.3	3.7	30	77	54	159	110	47	21	8.1	6.1	4.7
11	3.2	6.8	28	71	52	141	103	46	20	7.4	5.7	4.3
12	3.6	22	26	68	52	131	101	44	21	7.9	4.9	3.9
13	3.5	35	25	66	52	128	95	42	22	7.0	3.7	3.8
14	3.3	16	44	63	53	120	92	39	21	6.5	4.2	3.7
15	2.4	14	37	58	54	112	92	38	20	6.4	4.4	3.6
16	0.92	13	31	55	55	109	83	36	20	5.8	4.5	4.1
17	0.57	13	44	53	99	107	90	36	19	5.2	3.8	4.0
18	0.66	13	53	50	85	99	79	34	18	4.9	4.1	4.0
19	0.88	13	39	48	89	95	73	34	18	4.8	4.0	3.9
20	0.85	12	48	46	163	96	69	48	16	5.1	4.2	3.8
21	0.99	15	67	45	141	97	67	69	16	5.0	4.0	3.2
22	1.2	39	58	48	130	101	66	55	16	5.0	4.0	3.1
23	1.0	27	88	41	128	165	64	51	15	4.8	3.9	3.4
24	1.4	37	61	41	118	200	63	51	14	4.7	3.8	3.2
25	1.7	49	47	41	108	172	61	49	14	4.2	4.5	3.2
26	2.1	25	42	54	103	150	64	47	14	4.8	4.6	2.9
27	5.5	19	39	71	100	135	70	44	13	4.4	4.0	3.1
28	5.8	18	44	53	99	131	69	40	13	4.1	3.9	3.3
29	4.4	31	130	47	---	134	74	36	13	4.2	3.8	3.8
30	5.3	28	131	43	---	142	75	34	12	3.4	4.1	4.5
31	16	---	228	45	---	147	---	32	---	3.0	4.0	---
TOTAL	95.97	492.5	1940	2394	2147	4140	2925	1466	589	205.8	117.4	114.3
MEAN	3.096	16.42	62.58	77.23	76.68	133.5	97.50	47.29	19.63	6.639	3.787	3.810
MAX	16	49	228	271	163	321	159	69	31	12	6.1	5.1
MIN	0.57	3.7	25	41	37	73	61	32	12	3.0	2.2	2.9
AC-FT	190	977	3850	4750	4260	8210	5800	2910	1170	408	233	227

SAN JOAQUIN RIVER BASIN

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.55	30.35	72.50	134.4	178.0	189.1	181.8	120.6	46.66	21.49	12.29	10.06
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	0.039	0.13
(WY)	1989	1991	1991	1991	1991	1977	1977	1977	1992	1934	1934	1934

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1934 - 2002	
ANNUAL TOTAL	14168.17		16626.97			
ANNUAL MEAN	38.82		45.55		83.71	
HIGHEST ANNUAL MEAN					264 1983	
LOWEST ANNUAL MEAN					6.14 1977	
HIGHEST DAILY MEAN	253	Mar 5	321	Mar 7	5780	Feb 17 1986
LOWEST DAILY MEAN	0.57	Oct 17	0.57	Oct 17	0.00	Aug 6 1934
ANNUAL SEVEN-DAY MINIMUM	0.87	Oct 16	0.87	Oct 16	0.00	Aug 12 1934
MAXIMUM PEAK FLOW			461 Mar 7		7610 Jan 2 1997	
MAXIMUM PEAK STAGE			4.70 Mar 7		12.72 Jan 2 1997	
ANNUAL RUNOFF (AC-FT)	28100		32980		60650	
10 PERCENT EXCEEDS	103		126		216	
50 PERCENT EXCEEDS	21		31		27	
90 PERCENT EXCEEDS	3.3		3.3		5.9	

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.—Lat 38°18'46", long 120°43'09", in SW 1/4 SW 1/4 sec.1, T.5 N., R.11 E., [Calaveras County](#), Hydrologic Unit 18040012, on downstream side of bridge, 1.2 mi northwest of Mokelumne Hill, and 8 mi downstream from confluence of north and south Forks of Mokelumne River.

DRAINAGE AREA.—544 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, 1903–04.

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: 1903–04, 1928(M), 1936(M), 1938(M), 1940(M), 1943(M), 1945(M). WSP 1930: Drainage area. WDR CA-00-3: 1996 (maximum gage height).

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	360	386	1230	474	837	1220	920	1440	535	632	390
2	467	173	512	1110	339	906	1240	870	1500	185	567	295
3	483	78	1050	1380	391	845	1240	890	1170	198	551	535
4	493	99	401	1140	435	897	1330	782	1290	750	533	54
5	499	229	530	1030	184	1020	1390	785	1270	452	523	67
6	464	268	615	1000	367	1080	1310	820	1770	520	506	104
7	332	234	392	980	357	1770	1350	1030	1890	514	487	139
8	555	358	420	980	651	1570	1150	1100	1720	520	515	621
9	571	323	295	969	681	1420	1220	1020	1390	557	576	733
10	459	337	375	969	693	1210	1200	1020	1100	560	498	557
11	562	357	495	956	445	1100	1160	815	1030	532	378	610
12	547	485	499	938	468	1120	1140	697	897	516	153	533
13	344	552	392	904	486	1160	1170	446	809	575	44	562
14	484	207	399	841	528	1090	1200	461	846	512	26	644
15	468	229	350	824	308	1070	1200	526	787	533	97	510
16	554	177	330	786	263	1050	1210	516	848	534	626	559
17	559	191	389	799	686	941	1150	576	900	58	571	550
18	522	106	533	810	693	956	1080	508	829	127	588	518
19	545	185	454	784	573	1010	1050	547	909	62	545	560
20	233	172	642	736	965	937	914	579	851	533	612	575
21	220	217	710	670	963	969	935	608	816	590	677	586
22	183	263	710	840	982	966	942	552	873	681	624	573
23	354	363	790	740	1180	1290	652	627	660	632	540	527
24	254	544	661	757	1160	1350	968	1110	687	572	540	579
25	254	668	617	706	965	1230	951	1050	653	573	555	556
26	246	628	623	680	995	1190	902	1070	621	600	574	460
27	205	319	704	874	919	1160	801	1140	660	577	605	478
28	100	564	860	587	891	1150	770	1370	687	608	541	558
29	262	522	995	748	---	1160	918	1230	684	546	488	532
30	333	570	1030	599	---	1180	1020	1320	673	571	523	523
31	391	---	1230	523	---	1170	---	1480	---	619	525	---
TOTAL	12385	9778	18389	26890	18042	34804	32783	26465	30260	15342	15220	14488
MEAN	399.5	325.9	593.2	867.4	644.4	1123	1093	853.7	1009	494.9	491.0	482.9
MAX	571	668	1230	1380	1180	1770	1390	1480	1890	750	677	733
MIN	100	78	295	523	184	837	652	446	621	58	26	54
AC-FT	24570	19390	36470	53340	35790	69030	65030	52490	60020	30430	30190	28740

SAN JOAQUIN RIVER BASIN

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	513.0	582.0	763.8	923.7	1048	1176	1369	1892	1796	743.3	555.4	526.5
MAX	898	3275	4375	5659	4788	3950	4114	5092	6243	3384	1117	949
(WY)	1984	1951	1951	1997	1986	1983	1982	1952	1983	1983	1983	1983
MIN	8.97	25.3	70.1	65.5	100	115	221	273	262	106	77.5	67.7
(WY)	1978	1930	1931	1991	1977	1977	1977	1987	1977	1928	1930	1930

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1928 - 2002	
ANNUAL TOTAL	187118		254846			
ANNUAL MEAN	512.7		698.2		989.5	
HIGHEST ANNUAL MEAN					2511 1983	
LOWEST ANNUAL MEAN					208 1977	
HIGHEST DAILY MEAN	2820	May 2	1890	Jun 7	31300	Jan 2 1997
LOWEST DAILY MEAN	31	Jul 29	26	Aug 14	6.6	Oct 2 1977
ANNUAL SEVEN-DAY MINIMUM	161	Feb 2	181	Nov 14	7.0	Sep 28 1977
MAXIMUM PEAK FLOW			2530	Jun 6	41300	Jan 2 1997
MAXIMUM PEAK STAGE			10.53	Jun 6	25.60	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	371100		505500		716800	
10 PERCENT EXCEEDS	732		1180		2160	
50 PERCENT EXCEEDS	489		610		621	
90 PERCENT EXCEEDS	208		263		244	

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 1906–07, 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. Oct. 1, 1999, to September 2001, published data from ultrasonic flowmeters on outlet pipes at Camanche Dam and water-stage recorder on spillway. Elevation of ultrasonic flowmeters is 140 ft above sea level, from topographic map. Datum of spillway gage is 235.50 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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	235	234	243	241	247	263	439	507	447	339	289
2	259	235	235	287	241	245	296	441	507	389	338	289
3	270	225	229	285	241	242	348	441	507	389	335	289
4	271	223	227	246	241	242	330	441	507	389	334	283
5	269	223	228	241	241	244	314	441	513	382	333	278
6	265	228	223	238	241	246	314	441	507	377	324	277
7	265	229	223	235	241	246	314	439	507	377	320	276
8	263	229	229	235	241	247	314	449	507	377	320	271
9	256	229	229	235	241	247	316	471	507	365	320	274
10	247	229	231	235	241	250	318	495	507	358	320	277
11	241	229	229	235	241	247	320	507	507	358	320	277
12	241	232	232	235	241	247	332	507	507	358	309	277
13	241	233	230	235	239	241	342	507	507	358	301	278
14	240	235	232	236	235	243	345	499	507	358	308	277
15	239	236	229	238	235	245	345	492	507	358	319	277
16	238	235	229	235	235	245	345	494	507	352	320	274
17	235	235	229	236	238	241	345	491	520	345	320	271
18	236	233	229	242	235	241	354	494	540	362	320	271
19	233	224	229	243	232	243	364	494	544	375	309	273
20	232	227	239	243	234	336	364	486	555	370	304	273
21	235	229	235	241	235	338	364	477	560	370	303	265
22	231	229	235	241	236	339	365	474	560	363	305	265
23	232	229	235	241	241	339	365	474	560	357	305	268
24	234	230	235	241	240	290	369	476	559	358	295	271
25	232	230	235	241	240	243	383	474	548	356	295	268
26	229	230	235	241	241	243	381	474	549	351	295	269
27	229	229	233	241	241	241	377	473	549	351	298	277
28	229	229	245	241	241	241	380	483	549	347	301	276
29	232	229	264	241	---	244	384	489	547	349	301	279
30	233	229	257	241	---	247	432	498	547	344	291	383
31	235	---	267	241	---	241	---	507	---	339	289	---
TOTAL	7546	6897	7271	7509	6690	7991	10383	14768	15805	11329	9691	8372
MEAN	243.4	229.9	234.5	242.2	238.9	257.8	346.1	476.4	526.8	365.5	312.6	279.1
MAX	271	236	267	287	241	339	432	507	560	447	339	383
MIN	229	223	223	235	232	241	263	439	507	339	289	265
AC-FT	14970	13680	14420	14890	13270	15850	20590	29290	31350	22470	19220	16610

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 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	66	0.00	0.00	0.00	0.00	0.00	123	161	199	176	125
2	72	64	0.00	0.00	0.00	0.00	0.00	126	158	202	175	124
3	79	63	0.00	0.00	0.00	0.00	0.00	128	162	197	172	125
4	82	62	0.00	0.00	0.00	0.00	50	129	169	192	169	128
5	85	25	0.00	0.00	0.00	0.00	68	128	172	191	168	129
6	86	0.00	0.00	0.00	0.00	0.00	64	128	173	186	167	130
7	86	0.00	0.00	0.00	0.00	0.00	63	130	173	182	167	128
8	86	0.00	0.00	0.00	0.00	0.00	69	130	173	184	166	126
9	78	0.00	0.00	0.00	0.00	0.00	81	133	171	182	158	125
10	62	0.00	0.00	0.00	0.00	0.00	78	138	169	179	149	125
11	60	0.00	0.00	0.00	0.00	0.00	76	148	171	182	142	124
12	58	0.00	0.00	0.00	0.00	0.00	77	150	173	190	142	123
13	61	0.00	0.00	0.00	0.00	0.00	79	151	173	192	140	121
14	55	0.00	0.00	0.00	0.00	0.00	78	156	172	189	139	122
15	57	0.00	0.00	0.00	0.00	0.00	79	158	174	189	141	121
16	59	0.00	0.00	0.00	0.00	0.00	88	160	175	193	143	117
17	59	0.00	0.00	0.00	0.00	0.00	95	164	176	192	145	118
18	54	0.00	0.00	0.00	0.00	0.00	97	166	182	189	144	120
19	60	0.00	0.00	0.00	0.00	0.00	100	164	185	189	140	121
20	60	0.00	0.00	0.00	0.00	0.00	106	162	186	192	140	123
21	61	0.00	0.00	0.00	0.00	0.00	109	163	192	191	142	124
22	62	0.00	0.00	0.00	0.00	0.00	109	163	199	189	139	123
23	60	0.00	0.00	0.00	0.00	0.00	109	163	202	189	134	119
24	60	0.00	0.00	0.00	0.00	0.00	116	163	204	188	132	119
25	62	0.00	0.00	0.00	0.00	0.00	119	163	208	187	131	121
26	60	0.00	0.00	0.00	0.00	0.00	119	160	204	186	130	122
27	57	0.00	0.00	0.00	0.00	0.00	119	159	201	184	131	122
28	57	0.00	0.00	0.00	0.00	0.00	119	156	201	184	128	122
29	62	0.00	0.00	0.00	---	0.00	119	152	201	183	129	121
30	60	0.00	0.00	0.00	---	0.00	123	153	201	182	127	122
31	50	---	0.00	0.00	---	0.00	---	160	---	179	128	---
TOTAL	2019	280.00	0.00	0.00	0.00	0.00	2509.00	4627	5461	5833	4534	3690
MEAN	65.13	9.333	0.000	0.000	0.000	0.000	83.63	149.3	182.0	188.2	146.3	123.0
MAX	86	66	0.00	0.00	0.00	0.00	123	166	208	202	176	130
MIN	50	0.00	0.00	0.00	0.00	0.00	0.00	123	158	179	127	117
AC-FT	4000	555	0.00	0.00	0.00	0.00	4980	9180	10830	11570	8990	7320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2002, BY WATER YEAR (WY)

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	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	1998	1999	2000	2001	2002
MEAN	105.9	23.49	4.405	0.223	0.180	21.51	110.6	204.8	256.5	268.9	249.7	177.4																																																																	
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	0.000	-0.14	0.000	0.000	0.000	0.000	0.000	64.6	95.9	63.0	66.8	5.37																																																																	
(WY)	1978	1939	1927	1927	1927	1927	1927	1998	1926	1926	1926	1992																																																																	

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1926 - 2002	
ANNUAL TOTAL	30123.90		28953.00			
ANNUAL MEAN	82.53		79.32		120.1	
HIGHEST ANNUAL MEAN					206	
LOWEST ANNUAL MEAN					49.2	
HIGHEST DAILY MEAN	278	Jun 28	208	Jun 25	482	Jul 8 1953
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Nov 6	-64	May 4 1938
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Nov 6	-6.3	Oct 31 1938
ANNUAL RUNOFF (AC-FT)	59750		57430		87020	
10 PERCENT EXCEEDS	212		183		308	
50 PERCENT EXCEEDS	62		72		98	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 current year.

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	91	207	219	185	186	167	213	218	169	38	48
2	85	98	236	255	184	185	171	216	222	100	37	49
3	93	101	208	276	185	184	196	215	224	80	36	50
4	101	101	187	230	184	185	185	211	215	68	35	46
5	105	487	190	202	181	185	178	207	219	72	42	37
6	104	431	185	194	184	205	179	211	218	61	51	35
7	104	215	181	188	192	220	181	209	215	57	39	33
8	103	193	178	188	197	192	181	199	214	66	36	32
9	113	187	180	185	181	190	173	203	214	71	51	33
10	114	181	181	184	181	209	165	213	219	44	55	37
11	99	185	183	184	181	198	166	216	222	34	59	42
12	92	227	182	184	179	189	165	226	217	34	62	39
13	90	213	182	181	183	188	169	229	218	32	37	36
14	94	186	215	182	181	187	174	232	213	30	29	42
15	94	181	185	183	179	185	176	230	216	32	48	41
16	93	181	184	185	181	186	171	215	213	44	54	51
17	86	179	197	182	196	189	169	220	216	38	51	47
18	88	180	185	184	182	187	163	214	217	31	49	32
19	90	177	181	186	180	186	172	212	213	31	52	32
20	87	175	217	188	178	131	178	248	213	31	47	38
21	84	179	205	187	178	98	176	236	220	34	35	38
22	86	186	192	184	180	97	170	218	221	48	37	34
23	90	178	198	183	178	173	171	218	216	43	64	34
24	94	212	184	186	179	234	168	212	227	41	51	33
25	92	191	183	185	177	214	164	208	227	42	38	33
26	92	183	182	194	180	179	168	209	216	41	47	32
27	91	182	183	185	183	172	167	210	213	39	48	40
28	93	183	241	184	182	170	165	206	213	37	45	43
29	93	199	280	185	---	170	169	211	217	43	47	61
30	122	193	243	185	---	170	191	211	218	49	51	101
31	106	---	248	185	---	171	---	213	---	41	50	---
TOTAL	2964	5855	6183	6003	5111	5615	5188	6691	6524	1583	1421	1249
MEAN	95.61	195.2	199.5	193.6	182.5	181.1	172.9	215.8	217.5	51.06	45.84	41.63
MAX	122	487	280	276	197	234	196	248	227	169	64	101
MIN	84	91	178	181	177	97	163	199	213	30	29	32
AC-FT	5880	11610	12260	11910	10140	11140	10290	13270	12940	3140	2820	2480

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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.8	9.9	24	13	16	19	52	11	7.1	5.5	4.2
2	3.1	4.6	28	26	12	15	18	46	10	6.6	5.4	4.1
3	3.0	4.2	25	35	12	13	16	41	9.8	5.3	5.3	4.0
4	3.0	4.0	15	26	12	13	15	38	9.2	6.9	5.3	4.0
5	3.0	4.0	13	21	12	12	13	35	8.9	6.9	5.3	4.0
6	3.0	4.0	16	22	12	34	15	32	8.7	6.9	5.3	4.0
7	3.0	4.0	13	18	12	77	15	32	8.5	6.9	5.2	4.0
8	3.3	3.9	10	18	24	50	15	33	8.4	6.8	5.1	4.2
9	3.3	3.9	11	16	17	37	55	31	8.3	6.6	5.0	4.2
10	3.3	3.8	10	15	15	36	97	29	8.3	6.6	4.9	4.2
11	3.3	5.9	9.3	13	14	31	103	29	8.2	6.6	4.9	4.2
12	3.2	11	8.9	13	13	27	105	24	8.2	6.6	4.7	4.2
13	3.2	16	8.6	12	12	25	105	20	8.1	6.6	4.6	4.2
14	3.2	6.3	17	12	12	22	97	16	8.1	6.5	4.5	4.1
15	3.1	5.4	15	12	12	21	103	15	8.1	6.4	4.4	4.0
16	3.0	5.4	12	11	11	21	97	13	8.0	6.4	4.4	4.0
17	3.0	5.3	24	11	31	20	113	12	7.9	6.4	4.4	3.9
18	3.0	5.4	24	11	27	19	93	12	8.0	6.4	4.4	3.8
19	3.0	6.0	17	10	44	18	74	12	8.0	6.4	4.4	3.8
20	3.0	5.9	20	10	83	18	61	45	7.9	6.2	4.4	3.8
21	3.0	8.6	21	11	45	17	55	80	7.8	6.2	4.2	3.8
22	3.1	19	22	13	33	17	50	59	7.8	6.2	4.2	3.8
23	3.2	8.3	35	10	27	47	46	47	7.8	6.2	4.2	3.8
24	3.3	10	23	9.5	22	58	43	42	7.6	6.2	4.2	3.8
25	3.3	15	18	10	20	42	43	36	7.6	6.0	4.2	3.7
26	3.3	9.1	16	18	19	35	47	30	7.6	5.7	4.2	3.7
27	3.3	7.6	14	25	18	30	56	23	7.5	5.7	4.2	3.7
28	3.3	7.2	15	19	16	26	55	20	7.4	5.7	4.2	3.8
29	3.3	11	24	15	---	23	57	18	7.3	5.7	4.2	3.9
30	4.8	13	22	13	---	22	63	16	7.0	5.5	4.2	4.0
31	5.9	---	33	13	---	20	---	13	---	5.5	4.2	---
TOTAL	102.1	222.6	549.7	492.5	600	862	1744	951	247.0	195.7	143.6	118.9
MEAN	3.294	7.420	17.73	15.89	21.43	27.81	58.13	30.68	8.233	6.313	4.632	3.963
MAX	5.9	19	35	35	83	77	113	80	11	7.1	5.5	4.2
MIN	3.0	3.8	8.6	9.5	11	12	13	12	7.0	5.3	4.2	3.7
AC-FT	203	442	1090	977	1190	1710	3460	1890	490	388	285	236
a	-1631	-527	+1049	+2797	+2911	+5481	+1607	-111	-1825	-3268	-3291	-3074
b	1886	1321	1204	1097	908	774	1359	2184	2856	3941	3858	3598
c	113	34	2	2	18	67	85	169	238	274	268	210

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 Total 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 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.060	8.693	42.47	91.37	117.1	139.1	148.8	108.0	27.81	11.29	7.006	5.322
MAX	32.9	71.3	469	1095	820	745	621	452	220	37.2	23.7	17.2
(WY)	1983	1984	1984	1997	1986	1983	1982	1967	1998	1995	1972	1982
MIN	0.71	1.62	2.01	2.82	2.43	2.84	1.59	2.42	0.57	0.51	0.12	0.67
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1988

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1955 - 2002	
ANNUAL TOTAL	3797.3		6229.1			
ANNUAL MEAN	10.40		17.07		59.20	
HIGHEST ANNUAL MEAN					215 1983	
LOWEST ANNUAL MEAN					1.89 1977	
HIGHEST DAILY MEAN	45	Apr 21	113	Apr 17	10700	Jan 2 1997
LOWEST DAILY MEAN	3.0	Oct 3	3.0	Oct 3	0.00	Aug 7 1977
ANNUAL SEVEN-DAY MINIMUM	3.0	Oct 15	3.0	Oct 15	0.00	Aug 7 1977
MAXIMUM PEAK FLOW			122	Apr 17	22400	Jan 2 1997
MAXIMUM PEAK STAGE			3.30	Apr 17	20.30	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	7530		12360		42890	
ANNUAL RUNOFF (AC-FT) ^a	27830		38940		63210	
10 PERCENT EXCEEDS	20		42		173	
50 PERCENT EXCEEDS	8.6		10		8.3	
90 PERCENT EXCEEDS	3.4		3.8		3.0	

^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 16.3 river mi downstream from confluence of north and middle Forks of Cosumnes River.

DRAINAGE AREA.—536 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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, estimated discharge, 71,000 ft³/s.

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)
Jan. 3	0030	3,390	6.96

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	25	102	907	250	543	703	404	228	43	11	7.0
2	9.8	37	169	1480	244	502	715	370	215	40	11	7.2
3	9.8	29	583	2300	225	460	721	351	200	38	10	6.7
4	9.9	25	305	1130	214	425	750	338	184	34	9.9	5.2
5	8.4	22	200	792	206	404	760	337	172	32	10	4.0
6	7.8	20	202	725	201	623	704	339	161	32	11	5.1
7	7.9	20	175	687	198	2550	656	343	150	30	10	4.5
8	8.3	20	148	631	375	1810	625	349	140	29	9.9	4.9
9	9.1	20	130	581	431	1170	614	340	125	29	9.1	5.1
10	9.2	20	124	523	345	1270	654	327	118	27	8.6	5.6
11	9.0	21	112	466	318	1110	654	317	112	25	8.8	6.0
12	9.4	31	99	426	307	897	646	298	105	24	9.0	6.5
13	9.9	113	91	401	303	810	640	288	98	22	8.7	7.1
14	9.5	124	189	379	304	740	635	281	92	21	8.0	6.6
15	10	65	232	355	303	675	656	282	88	20	7.0	5.7
16	11	46	159	331	306	638	622	284	83	20	7.8	6.0
17	11	37	176	307	946	629	615	280	79	19	7.2	6.4
18	10	33	292	287	939	588	586	279	75	18	6.6	5.8
19	9.9	30	228	266	710	528	502	283	71	18	6.8	5.5
20	9.5	29	422	252	1870	494	451	314	67	17	5.5	6.1
21	9.0	29	473	239	1400	472	418	513	65	16	4.4	5.5
22	9.4	41	311	245	1090	481	397	440	61	17	4.4	5.4
23	9.2	152	493	233	956	1370	387	350	59	16	5.1	6.2
24	10	123	420	207	851	1720	380	320	57	15	5.2	6.5
25	11	141	278	203	739	1120	382	303	50	14	5.8	5.6
26	11	160	221	260	659	892	399	283	49	14	6.3	4.1
27	12	97	191	632	613	775	418	264	50	13	7.0	4.8
28	12	71	259	418	577	714	423	256	49	12	6.9	4.5
29	12	65	666	338	---	683	394	250	47	12	4.9	4.7
30	15	86	713	274	---	685	442	246	45	12	5.3	5.5
31	17	---	1140	248	---	693	---	238	---	11	6.6	---
TOTAL	317.0	1732	9303	16523	15880	26471	16949	9867	3095	690	237.8	169.8
MEAN	10.23	57.73	300.1	533.0	567.1	853.9	565.0	318.3	103.2	22.26	7.671	5.660
MAX	17	160	1140	2300	1870	2550	760	513	228	43	11	7.2
MIN	7.8	20	91	203	198	404	380	238	45	11	4.4	4.0
AC-FT	629	3440	18450	32770	31500	52510	33620	19570	6140	1370	472	337

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.38	138.1	429.6	944.2	1198	1195	1054	684.3	252.4	60.44	20.47	14.79
MAX	335	2493	3380	7129	6610	5255	3992	2362	1111	346	114	82.0
(WY)	1963	1951	1965	1997	1986	1983	1982	1995	1998	1983	1983	1983
MIN	0.000	7.90	18.3	21.4	35.9	43.5	33.7	48.5	4.42	0.096	0.000	0.000
(WY)	1978	1930	1977	1991	1991	1977	1977	1977	1924	1977	1908	1924

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1908 - 2002	
ANNUAL TOTAL	64190.4		101234.6			
ANNUAL MEAN	175.9		277.4		498.1	
HIGHEST ANNUAL MEAN					1687	
LOWEST ANNUAL MEAN					21.8	
HIGHEST DAILY MEAN	1140	Dec 31	2550	Mar 7	61600	Jan 2 1997
LOWEST DAILY MEAN	3.9	Aug 19	4.0	Sep 5	0.00	Jul 25 1908
ANNUAL SEVEN-DAY MINIMUM	4.2	Aug 18	4.9	Sep 4	0.00	Jul 25 1908
MAXIMUM PEAK FLOW			3390	Jan 3	93000	Jan 2 1997
MAXIMUM PEAK STAGE			6.96	Jan 3	18.54	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	127300		200800		360900	
10 PERCENT EXCEEDS	482		703		1280	
50 PERCENT EXCEEDS	74		152		102	
90 PERCENT EXCEEDS	6.3		6.6		7.0	

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1953–80, October 2001 to September 2002.

CHEMICAL DATA: Water years 1953–80, October 2001 to September 2002.

pH: December 2001 to September 2002.

SPECIFIC CONDUCTANCE: October 2001 to September 2002.

WATER TEMPERATURE: Water years 1963–79, December 2001 to September 2002.

SEDIMENT DATA: Water years 1958–74, December 2001 to September 2002.

PERIOD OF DAILY RECORD.—

pH: December 2001 to September 2002.

SPECIFIC CONDUCTANCE: December 2001 to September 2002.

WATER TEMPERATURE: December 2001 to September 2002.

INSTRUMENTATION.—Water-quality monitor since October 2001.

REMARKS.—pH, specific conductance, and water temperature records are rated excellent for Dec. 27 to Sept. 30, except during May 13 to June 19, which are rated fair. Interruptions in record were due to corrupt data files that were downloaded from data logger. National Water-Quality Assessment (NAWQA) program.

EXTREMES FOR PERIOD OF DAILY RECORD.—

pH: Maximum recorded, 9.4 standard units, June 26, 2002; minimum recorded, 6.2 standard units, May 31, 2002.

SPECIFIC CONDUCTANCE: Maximum recorded, 130 microsiemens, Feb. 8, 2002; minimum recorded, 50 microsiemens, Apr. 16, May 19, 2002.

WATER TEMPERATURE: Maximum recorded, 30.0°C, July 1, 12–14, 2002; minimum recorded, 3.0°C, Jan. 18, 20, 24, 30, 31, 2002.

EXTREME FOR CURRENT YEAR.—

pH: Maximum recorded, 9.4 standard units, June 26; minimum recorded, 6.2 standard units, May 31.

SPECIFIC CONDUCTANCE: Maximum recorded, 130 microsiemens, Feb. 8; minimum recorded, 50 microsiemens, Apr. 16, May 19.

WATER TEMPERATURE: Maximum recorded, 30.0°C, July 1, 12–14; minimum recorded, 3.0°C, Jan. 18, 20, 24, 30, 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LILITY WAT. DIS FIELD CACO3 (MG/L) (29802)
OCT									
12...	1020	9.7	761	9.1	97	7.8	103	18.5	39
NOV									
07...	1100	20	760	10.2	101	7.9	81	15.0	33
DEC									
03...	1300	630	755	11.7	103	7.8	64	9.5	28
JAN									
18...	1110	288	767	11.6	88	7.4	86	4.0	39
FEB									
06...	0950	201	762	11.0	85	7.1	110	4.5	40
MAR									
20...	0950	496	754	11.6	100	7.4	86	8.5	39
APR									
08...	1520	630	757	11.4	114	7.8	62	15.0	31
MAY									
03...	1030	352	761	11.3	110	7.6	61	14.0	26
JUN									
14...	0950	93	760	10.4	122	8.3	61	23.0	26
JUL									
12...	0940	25	758	7.4	94	7.7	74	27.5	--
19...	0950	18	759	9.4	118	7.6	74	26.5	--
AUG									
07...	1250	10	759	--	--	8.1	86	25.5	49
SEP									
13...	1020	7.3	760	8.7	99	7.6	101	21.5	21

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO- GEN, PAR- TICULATE WAT FLT SUSP (MG/L AS N) (49570)	ORTHO- PHOS- PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT									
12...	2.59	3.0	<.04	.33	<.05	<.008	.03	<.02	.004
NOV									
07...	2.20	3.1	<.04	.23	<.05	<.008	<.02	<.02	.004
DEC									
03...	2.74	5.3	<.04	.46	.27	<.008	.18	<.02	.058
JAN									
18...	2.87	4.2	<.04	<.10	.14	<.008	.08	e.01	.004
FEB									
06...	3.25	<.1	<.04	e.06	.07	<.008	<.02	<.02	e.004
MAR									
20...	2.76	3.5	<.04	e.07	.07	<.008	<.02	<.02	.008
APR									
08...	1.38	2.0	<.04	e.06	<.05	<.008	.06	<.02	.008
MAY									
03...	1.30	1.9	<.04	e.07	<.05	<.008	.07	<.02	.008
JUN									
14...	1.13	1.5	<.04	e.09	<.05	<.008	.02	<.02	.009
JUL									
12...	1.33	1.4	<.04	.17	<.05	<.008	.03	<.02	.011
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	1.73	1.6	<.04	.17	<.05	<.008	<.02	<.02	.009
SEP									
13...	2.15	2.1	<.04	.17	<.05	<.008	<.02	<.02	.007

Date	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR- GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	MERCURY WATER, FLTRD (NG/L) (50287)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	3HYDRXY CARBO- FURAN WAT, FLT GF 0.7U REC (UG/L) (49308)
OCT										
12..	.3	<.1	1.8	.3	--	<.009	<.02	<.02	<.002	<.006
NOV										
07...	.4	<.1	1.6	.4	--	<.009	<.02	<.02	<.002	<.006
DEC										
03..	1.7	<.1	4.2	1.6	--	--	--	--	<.002	--
JAN										
18...	.2	<.1	1.6	.2	--	--	--	--	--	--
FEB										
06...	.3	<.1	1.7	.3	--	--	--	--	<.006	--
MAR										
20...	.2	<.1	1.7	.2	--	--	--	--	<.006	--
APR										
08...	.5	.1	1.7	.5	--	--	--	--	<.006	--
MAY										
03...	.4	<.1	1.5	.4	--	--	--	--	<.006	--
JUN										
14...	.2	<.1	1.6	.1	--	--	--	--	<.006	--
JUL										
12...	.2	<.1	1.8	.2	--	--	--	--	--	--
19...	--	--	--	--	1.35	--	--	--	--	--
AUG										
07...	.2	<.1	2.3	.2	--	--	--	--	<.006	--
SEP										
13...	.2	<.1	2.0	.2	--	--	--	--	--	--

< Actual value is known to be less than value shown.
e Estimated.

SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	3-KETO CARBO- FURAN WATER FLTRD FLTRD REC (UG/L) (50295)	ACETO- CHLOR ESA FLTRD 0.7 UM GF REC (UG/L) (61029)	ACETO- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61030)	ACETO- CHLOR, WATER FLTRD FLTRD REC (UG/L) (49260)	ACIFL- UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61031)	ALA- CHLOR ESA WAT FLT GF 0.7U REC (UG/L) (50009)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI- CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)
OCT									
12...	<2	<.05	<.05	<.004	<.007	<.05	<.05	<.002	<.02
NOV									
07...	<2	--	--	<.004	<.007	--	--	<.002	<.02
DEC									
03...	--	--	--	<.004	--	--	--	<.002	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	--	--	<.006	--	--	--	<.004	--
MAR									
20...	--	--	--	<.006	--	--	--	<.004	--
APR									
08...	--	--	--	<.006	--	--	--	<.004	--
MAY									
03...	--	--	--	<.006	--	--	--	<.004	--
JUN									
14...	--	--	--	<.006	--	--	--	<.004	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	--	--	--	<.006	--	--	--	<.004	--
SEP									
13...	--	--	--	--	--	--	--	--	--
Date	ALDICA- RB SUL- FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BENDIO- CARB, WATER FLTRD REC (UG/L) (50299)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN- SUL- FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA- ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)
OCT									
12...	<.008	<.04	<.005	<.009	<.03	<.010	<.004	<.02	<.01
NOV									
07...	<.008	<.04	<.005	<.009	<.03	<.010	<.004	<.02	<.01
DEC									
03...	--	--	<.005	<.007	--	<.010	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	--	<.005	<.007	--	<.010	--	--	--
MAR									
20...	--	--	<.005	<.007	--	<.010	--	--	--
APR									
08...	--	--	<.005	<.007	--	<.010	--	--	--
MAY									
03...	--	--	<.005	<.007	--	<.010	--	--	--
JUN									
14...	--	--	<.005	<.007	--	<.010	--	--	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	--	--	<.005	<.007	--	<.010	--	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than the value shown.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)	BRO- MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAF- FEINE, WATER, FLTRD REC (UG/L) (50305)	CAR- BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)
OCT								
12...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020
NOV								
07...	<.03	<.02	<.002	<.010	<.03	<.041	<.006	<.020
DEC								
03...	--	--	<.002	--	--	<.041	--	<.020
JAN								
18...	--	--	--	--	--	--	--	--
FEB								
06...	--	--	<.002	--	--	<.041	--	<.020
MAR								
20...	--	--	<.002	--	--	<.041	--	<.020
APR								
08...	--	--	<.002	--	--	<.041	--	<.020
MAY								
03...	--	--	<.002	--	--	<.041	--	<.020
JUN								
14...	--	--	<.002	--	--	<.041	--	<.020
JUL								
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
AUG								
07...	--	--	<.002	--	--	<.041	--	<.020
SEP								
13...	--	--	--	--	--	--	--	--

Date	CHLOR- AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI- MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO- THALO- NIL, WAT, FLT GF 0.7U REC (UG/L) (49306)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CLOPYR- ALID, WATER, FLTRD GF 0.7U REC (UG/L) (49305)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	CY- CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO- ACID, WAT, FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)
OCT									
12...	<.02	<.010	<.04	<.005	<.01	<.018	<.01	<.01	<.003
NOV									
07...	<.02	<.010	<.04	<.005	<.01	<.018	<.01	<.01	<.003
DEC									
03...	--	--	--	<.005	--	<.018	--	--	<.003
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	--	--	<.005	--	<.018	--	--	<.003
MAR									
20...	--	--	--	<.005	--	<.018	--	--	<.003
APR									
08...	--	--	--	<.005	--	<.018	--	--	<.003
MAY									
03...	--	--	--	<.005	--	<.018	--	--	<.003
JUN									
14...	--	--	--	<.005	--	<.018	--	--	<.003
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	--	--	--	<.005	--	<.018	--	--	<.003
SEP									
13...	--	--	--	--	--	--	--	--	--

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11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04039)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DIMETH- ENAMID WATER FLT, REC (UG/L) (62482)	DIMETH- ENAMID, ESA, WAT FLT (UG/L) (61951)
OCT									
12...	<.03	<.01	<.04	<.005	<.01	<.01	<.005	<.05	<.05
NOV									
07...	<.03	<.01	<.04	<.005	<.01	<.01	<.005	--	--
DEC									
03...	<.006	--	--	<.005	--	--	<.005	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	<.006	--	--	<.005	--	--	<.005	--	--
MAR									
20...	<.006	--	--	<.005	--	--	<.005	--	--
APR									
08...	<.006	--	--	<.005	--	--	<.005	--	--
MAY									
03...	<.006	--	--	<.005	--	--	<.005	--	--
JUN									
14...	<.006	--	--	<.005	--	--	<.005	--	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	<.006	--	--	<.005	--	--	<.005	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

Date	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUFEN- ACET, ESA, WAT FLT (UG/L) (61952)
OCT									
12...	<.01	<.03	<.02	<.01	<.002	<.009	<.005	<.03	<.05
NOV									
07...	<.01	<.03	<.02	<.01	<.002	<.009	<.005	<.03	--
DEC									
03...	--	--	<.02	--	<.002	<.009	<.005	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	--	<.02	--	<.002	<.009	<.005	--	--
MAR									
20...	--	--	<.02	--	<.002	<.009	<.005	--	--
APR									
08...	--	--	<.02	--	<.002	<.009	<.005	--	--
MAY									
03...	--	--	<.02	--	<.002	<.009	<.005	--	--
JUN									
14...	--	--	<.02	--	<.002	<.009	<.005	--	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	--	--	<.02	--	<.002	<.009	<.005	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than the value shown.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	FLUFE- NACET OA, WATER FLT, REC (UG/L) (62483)	FLUMET- SULAM WATER FLTRD REC (UG/L) (61694)	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA- ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ- AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE- THAPYR WATER FLTRD REC (UG/L) (50407)	IMID- ACLOP- RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS- SOLVED (UG/L) (39341)
OCT									
12...	<.05	<.01	<.03	<.003	<.008	<.02	<.02	<.007	<.004
NOV									
07...	--	<.01	<.03	<.003	<.008	<.02	<.02	<.007	<.004
DEC									
03...	--	--	--	<.003	--	--	--	--	<.004
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	--	--	<.003	--	--	--	--	<.004
MAR									
20...	--	--	--	<.003	--	--	--	--	<.004
APR									
08...	--	--	--	<.003	--	--	--	--	<.004
MAY									
03...	--	--	--	<.003	--	--	--	--	<.004
JUN									
14...	--	--	--	<.003	--	--	--	--	<.004
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	--	--	--	<.003	--	--	--	--	<.004
SEP									
13...	--	--	--	--	--	--	--	--	--

Date	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN- URON WATER FLTRD GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	MERCURY METHYL, WATER, FLTRD REC, (NG/L) (50285)	METAL- AXYL WATER FLTRD REC (UG/L) (50359)	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH- OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)
OCT									
12...	<.01	<.035	<.027	<.02	<.01	--	<.02	<.008	<.004
NOV									
07...	<.01	<.035	<.027	<.02	<.01	--	<.02	<.008	<.004
DEC									
03...	--	<.035	<.027	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	--	<.035	<.027	--	--	--	--	--	--
MAR									
20...	--	<.035	<.027	--	--	--	--	--	--
APR									
08...	--	<.035	<.027	--	--	--	--	--	--
MAY									
03...	--	<.035	<.027	--	--	--	--	--	--
JUN									
14...	--	<.035	<.027	--	--	--	--	--	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	.41	--	--	--
AUG									
07...	--	<.035	<.027	--	--	--	--	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than the value shown.

SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	METHYL- AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL- PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METOLA- CHLOR ESA FLTRD 0.7 UM GF REC (UG/L) (61043)	METOLA- CHLOR OA FLTRD 0.7 UM GF REC (UG/L) (61044)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET- SUL- FURON METHYL WAT FLT REC (UG/L) (61697)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)
OCT										
12...	<.050	<.006	<.05	<.05	<.013	<.006	<.03	<.002	<.007	<.01
NOV										
07...	<.050	<.006	--	--	<.013	<.006	<.03	<.002	<.007	<.01
DEC										
03...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
JAN										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
06...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
MAR										
20...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
APR										
08...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
MAY										
03...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
JUN										
14...	<.050	<.006	--	--	<.013	<.006	--	<.002	<.007	--
JUL										
12...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	<.050	<.021	--	--	<.013	<.006	--	<.002	<.007	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--
Date	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD GF 0.7U REC (UG/L) (49293)	ORY- ZALIN, WATER, FLTRD GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD GF 0.7U REC (UG/L) (38866)	P, P' DDE DISSOLV (UG/L) (34653)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT GF, REC (UG/L) (82687)	
OCT										
12...	<.01	<.02	<.02	<.01	<.003	<.007	<.002	<.010	<.006	
NOV										
07...	<.01	<.02	<.02	<.01	<.003	<.007	<.002	<.010	<.006	
DEC										
03...	--	--	--	--	<.003	<.007	<.002	<.010	<.006	
JAN										
18...	--	--	--	--	--	--	--	--	--	
FEB										
06...	--	--	--	--	<.003	<.010	<.004	<.022	<.006	
MAR										
20...	--	--	--	--	<.003	<.010	<.004	<.022	<.006	
APR										
08...	--	--	--	--	<.003	<.010	<.004	<.022	<.006	
MAY										
03...	--	--	--	--	<.003	<.010	<.004	<.022	<.006	
JUN										
14...	--	--	--	--	<.003	<.010	<.004	<.022	<.006	
JUL										
12...	--	--	--	--	--	--	--	--	--	
19...	--	--	--	--	--	--	--	--	--	
AUG										
07...	--	--	--	--	e.002	<.010	<.004	<.022	<.006	
SEP										
13...	--	--	--	--	--	--	--	--	--	

< Actual value is known to be less than the value shown.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC- LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO- PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP- ICONA- ZOLE , WATER FLTRD REC (UG/L) (50471)
OCT									
12...	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
NOV									
07...	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
DEC									
03...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
FEB									
06...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
MAR									
20...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
APR									
08...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
MAY									
03...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
JUN									
14...	<.011	--	<.01	<.004	<.010	<.011	<.02	--	--
JUL									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	<.011	--	<.01	<.004	<.010	<.011	.31	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

Date	PRO- POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO- MET- RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TER- BUTHYL AZINE, WATER, DISS, REC (UG/L) (04022)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
OCT										
12...	<.008	<.02	<.011	<.009	<.006	<.010	<.034	<.02	U	<.005
NOV										
07...	<.008	<.02	<.011	<.009	<.006	<.010	<.034	<.02	U	<.005
DEC										
03...	--	--	<.011	--	<.02	--	<.034	<.02	U	<.005
JAN										
18...	--	--	--	--	--	--	--	--	--	--
FEB										
06...	--	--	<.005	--	<.02	--	<.034	<.02	U	<.005
MAR										
20...	--	--	.014	--	<.02	--	<.034	<.02	--	<.005
APR										
08...	--	--	e.004	--	<.02	--	<.034	<.02	--	<.005
MAY										
03...	--	--	<.005	--	<.02	--	<.034	<.02	--	<.005
JUN										
14...	--	--	<.005	--	<.02	--	<.034	<.02	--	<.005
JUL										
12...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	<.005	--	<.02	--	<.034	<.02	--	<.005
SEP										
13...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than the value shown.
U Material specifically analyzed for, but not detected.
e Estimated.

SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI- CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3 (4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)
OCT					
12...	<.002	<.009	<.02	<.009	<.02
NOV					
07...	<.002	<.009	<.02	<.009	<.02
DEC					
03...	<.002	--	--	<.009	--
JAN					
18...	--	--	--	--	--
FEB					
06...	<.002	--	--	<.009	--
MAR					
20...	<.002	--	--	<.009	--
APR					
08...	<.002	--	--	<.009	--
MAY					
03...	<.002	--	--	<.009	--
JUN					
14...	<.002	--	--	<.009	--
JUL					
12...	--	--	--	--	--
19...	--	--	--	--	--
AUG					
07...	<.002	--	--	<.009	--
SEP					
13...	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
12...SS	1020	9.7	18.5	3.0	.08	75
NOV						
07...SS	1100	20	15.0	<.5	<.03	50
DEC						
03...SS	1300	630	9.5	30	51.0	69
JAN						
18...SS	1110	288	4.0	1.0	.78	75
FEB						
06...SS	0950	201	4.5	1.0	.54	83
MAR						
20...SS	0950	496	8.5	1.0	1.3	86
APR						
08...SS	1520	630	15.0	1.0	1.7	87
MAY						
03...SS	1030	352	14.0	2.0	1.9	50
JUN						
14...SS	0950	93	23.0	2.0	.50	64
JUL						
12...SS	0940	25	27.5	2.0	.14	62
19...SS	0950	18	26.5	2.0	.10	93
AUG						
07...SS	1250	10	25.5	5.0	.14	76
SEP						
13...SS	1020	7.3	21.5	1.0	.02	90

< Actual value is known to be less than the value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	7.6	7.5	8.0	7.6	7.8	7.4
2	---	---	---	---	---	---	---	---	8.0	7.6	7.8	7.5
3	---	---	---	---	---	---	7.6	7.5	7.9	7.5	7.8	7.5
4	---	---	---	---	---	---	7.6	7.5	8.0	7.6	7.8	7.4
5	---	---	---	---	---	---	7.6	7.5	8.1	7.6	7.8	7.3
6	---	---	---	---	---	---	7.6	7.5	8.0	7.5	7.9	7.5
7	---	---	---	---	---	---	7.6	7.5	8.0	7.5	7.7	7.0
8	---	---	---	---	---	---	7.7	7.5	8.1	7.5	7.7	7.5
9	---	---	---	---	---	---	7.7	7.6	8.1	7.6	7.8	7.5
10	---	---	---	---	---	---	7.8	7.6	8.2	7.5	7.8	7.5
11	---	---	---	---	---	---	7.8	7.5	8.2	7.5	7.8	7.6
12	---	---	---	---	---	---	7.7	7.6	8.2	7.5	7.8	7.5
13	---	---	---	---	---	---	7.9	7.6	8.1	7.6	7.9	7.5
14	---	---	---	---	---	---	7.9	7.6	8.2	7.5	7.9	7.6
15	---	---	---	---	---	---	7.8	7.6	8.2	7.4	7.8	7.6
16	---	---	---	---	---	---	7.9	7.4	8.2	7.4	7.8	7.6
17	---	---	---	---	---	---	7.8	7.4	7.8	7.5	7.8	7.4
18	---	---	---	---	---	---	---	---	7.8	7.6	7.8	7.6
19	---	---	---	---	---	---	7.7	7.5	7.8	7.6	7.7	7.5
20	---	---	---	---	---	---	7.7	7.5	7.7	7.5	7.8	7.6
21	---	---	---	---	---	---	7.7	7.5	7.7	7.5	7.9	7.5
22	---	---	---	---	---	---	7.8	7.5	7.8	7.4	7.8	7.6
23	---	---	---	---	---	---	7.8	7.5	7.8	7.4	7.8	7.6
24	---	---	---	---	---	---	7.7	7.5	7.8	7.5	7.7	7.6
25	---	---	---	---	---	---	7.8	7.5	7.8	7.5	7.8	7.6
26	---	---	---	---	---	---	7.7	7.5	7.9	7.4	7.9	7.6
27	---	---	---	---	---	---	7.8	7.6	7.9	7.4	7.9	7.6
28	---	---	---	---	7.6	7.3	7.9	7.6	7.8	7.5	7.9	7.5
29	---	---	---	---	7.7	7.3	8.0	7.6	---	---	7.9	7.6
30	---	---	---	---	7.7	7.6	8.0	7.6	---	---	7.9	7.5
31	---	---	---	---	7.7	7.6	8.0	7.6	---	---	7.9	7.4
MONTH	---	---	---	---	7.7	7.3	8.0	7.4	8.2	7.4	7.9	7.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.8	7.4	7.8	7.1	7.1	6.4	9.0	7.2	8.6	7.4	8.6	7.5
2	7.8	7.4	7.6	6.9	7.7	6.4	---	---	8.6	7.4	8.6	7.5
3	7.8	7.4	7.9	7.2	8.5	6.9	---	---	8.7	7.4	8.6	7.5
4	7.7	7.4	7.5	6.9	8.0	6.8	8.6	7.5	8.7	7.4	8.8	7.4
5	7.7	7.4	7.4	6.6	7.8	7.0	8.6	7.5	8.7	7.4	8.8	7.5
6	7.8	7.3	7.7	7.0	8.5	6.8	8.6	7.4	8.7	7.4	8.8	7.5
7	7.8	7.4	7.9	7.1	8.7	6.6	8.6	7.4	8.7	7.4	8.7	7.4
8	7.8	7.4	---	---	8.4	6.6	8.6	7.4	8.7	7.5	8.6	7.5
9	7.6	7.3	---	---	8.8	6.9	8.5	7.4	8.7	7.4	8.5	7.6
10	7.8	6.9	---	---	8.2	7.0	---	---	8.6	7.4	8.6	7.5
11	7.8	7.3	---	---	8.9	7.2	---	---	8.6	7.4	8.6	7.5
12	7.7	7.3	---	---	9.0	7.1	8.5	7.4	8.6	7.4	8.6	7.5
13	7.8	7.0	---	---	9.3	7.2	8.4	7.3	8.6	7.4	8.8	7.6
14	7.6	6.8	8.8	6.8	9.3	7.1	8.4	7.3	8.6	7.4	8.8	7.6
15	7.7	7.2	8.8	6.8	9.2	7.1	8.4	7.3	8.6	7.4	8.8	7.6
16	7.6	7.3	8.5	6.8	8.9	7.2	8.4	7.3	8.6	7.4	8.8	7.7
17	7.7	7.3	7.9	6.6	9.3	7.2	8.3	7.2	8.6	7.3	8.8	7.6
18	7.8	7.4	7.7	6.5	8.9	7.0	8.2	7.1	8.7	7.4	8.8	7.6
19	7.8	7.4	7.3	6.5	8.9	7.3	8.3	7.3	8.6	7.4	8.8	7.6
20	7.9	7.4	8.0	6.8	9.2	7.3	8.1	7.1	8.6	7.4	8.7	7.6
21	8.1	7.1	7.9	7.2	9.0	7.1	8.3	7.0	8.6	7.4	8.7	7.6
22	8.0	7.3	8.5	7.2	8.9	7.3	8.3	7.2	8.6	7.4	8.7	7.6
23	8.2	7.2	8.7	7.2	9.1	7.3	8.4	7.3	8.5	7.4	8.6	7.6
24	8.2	7.2	8.8	7.0	9.0	7.3	8.4	7.4	8.6	7.4	8.7	7.6
25	8.0	7.3	8.6	7.0	9.3	7.4	8.4	7.3	8.6	7.5	8.7	7.6
26	7.7	7.3	7.4	6.6	9.4	7.3	8.6	7.3	8.6	7.4	8.7	7.5
27	7.9	7.4	7.0	6.6	9.1	7.3	8.6	7.4	8.7	7.5	8.7	7.6
28	8.2	7.2	6.8	6.4	9.1	7.3	8.7	7.4	8.7	7.5	8.8	7.6
29	7.7	7.2	6.7	6.4	9.1	7.2	8.7	7.4	8.8	7.5	8.7	7.7
30	7.9	7.3	6.5	6.3	8.9	7.2	8.7	7.5	8.7	7.5	8.7	7.7
31	---	---	6.4	6.2	---	---	8.7	7.4	8.7	7.5	---	---
MONTH	8.2	6.8	8.8	6.2	9.4	6.4	9.0	7.0	8.8	7.3	8.8	7.4

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	101	93	116	112	74	72
2	---	---	---	---	---	---	100	89	112	109	72	71
3	---	---	---	---	---	---	105	92	113	108	73	71
4	---	---	---	---	---	---	92	91	109	108	74	72
5	---	---	---	---	---	---	97	92	111	107	74	73
6	---	---	---	---	---	---	99	95	110	107	94	74
7	---	---	---	---	---	---	95	88	109	106	102	82
8	---	---	---	---	---	---	88	84	130	106	90	85
9	---	---	---	---	---	---	84	83	114	100	86	84
10	---	---	---	---	---	---	83	82	100	97	90	83
11	---	---	---	---	---	---	83	82	97	96	91	89
12	---	---	---	---	---	---	84	83	96	95	90	89
13	---	---	---	---	---	---	85	84	95	93	89	85
14	---	---	---	---	---	---	85	85	94	90	86	84
15	---	---	---	---	---	---	86	84	90	88	85	83
16	---	---	---	---	---	---	84	83	90	84	85	83
17	---	---	---	---	---	---	84	83	108	84	90	82
18	---	---	---	---	---	---	83	81	103	100	83	82
19	---	---	---	---	---	---	84	82	107	102	83	82
20	---	---	---	---	---	---	84	83	108	81	---	---
21	---	---	---	---	---	---	85	84	81	78	80	79
22	---	---	---	---	---	---	87	85	79	77	88	78
23	---	---	---	---	---	---	87	84	77	74	111	88
24	---	---	---	---	---	---	90	87	75	73	98	90
25	---	---	---	---	---	---	90	88	76	73	94	90
26	---	---	---	---	---	---	107	90	81	75	96	88
27	---	---	---	---	---	---	123	98	81	74	93	86
28	---	---	---	---	119	104	112	107	74	73	90	83
29	---	---	---	---	126	107	112	111	---	---	85	79
30	---	---	---	---	125	96	115	111	---	---	85	77
31	---	---	---	---	111	96	116	114	---	---	81	72
MONTH	---	---	---	---	---	---	123	81	130	73	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	75	69	59	57	62	54	71	67	80	78	93	90
2	72	65	59	56	72	53	---	---	81	79	93	90
3	69	62	59	55	56	54	---	---	81	79	94	91
4	65	58	58	57	58	55	68	67	82	80	94	91
5	63	55	60	57	59	56	68	67	82	80	94	91
6	58	55	57	55	59	57	73	67	86	81	94	91
7	61	58	56	54	60	57	71	68	85	81	94	91
8	59	58	---	---	62	57	71	68	84	81	96	92
9	59	57	---	---	60	58	71	68	84	81	95	91
10	72	56	---	---	59	58	---	---	84	82	95	92
11	56	55	---	---	60	59	---	---	85	82	95	93
12	55	54	---	---	59	59	73	71	86	83	98	94
13	54	53	---	---	67	59	75	73	86	84	98	94
14	60	53	59	56	63	59	75	73	87	84	98	95
15	55	51	61	55	60	59	75	73	87	84	98	96
16	52	50	62	56	61	59	76	73	87	85	98	95
17	57	52	58	52	63	59	76	75	88	85	98	96
18	61	57	55	51	63	60	78	76	88	85	98	95
19	62	60	59	50	63	59	78	76	88	86	98	95
20	63	61	55	52	65	61	79	76	88	84	99	96
21	65	63	60	54	65	61	80	75	88	85	99	96
22	68	62	67	60	65	61	78	76	88	85	99	97
23	67	62	66	62	67	61	78	76	89	85	99	96
24	65	62	62	60	67	61	79	76	91	86	99	97
25	62	61	60	59	68	63	79	76	90	86	99	97
26	61	57	66	58	68	63	79	78	91	88	100	97
27	60	56	66	57	70	65	79	77	94	89	100	97
28	65	56	62	57	68	63	79	77	92	89	100	97
29	58	55	62	57	70	63	79	77	92	89	101	99
30	58	55	65	56	70	65	79	78	92	89	102	99
31	---	---	69	55	---	---	80	78	92	89	---	---
MONTH	75	50	---	---	72	53	---	---	94	78	102	90

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA—Continued

TEMPERATURE, WATER (DEGREE C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	10.5	10.0	4.5	3.5	10.0	8.5
2	---	---	---	---	---	---	11.5	10.0	5.0	3.5	9.5	7.5
3	---	---	---	---	---	---	11.5	9.5	5.5	4.0	10.0	7.5
4	---	---	---	---	---	---	9.5	8.0	6.0	4.5	10.5	8.0
5	---	---	---	---	---	---	8.5	8.0	6.0	4.5	10.0	8.5
6	---	---	---	---	---	---	9.0	8.5	6.5	4.5	11.0	9.5
7	---	---	---	---	---	---	9.5	9.0	7.0	6.0	10.5	9.0
8	---	---	---	---	---	---	9.0	8.5	8.5	6.5	9.0	7.5
9	---	---	---	---	---	---	8.5	8.0	8.5	6.5	8.5	7.0
10	---	---	---	---	---	---	8.5	7.5	8.0	6.5	10.0	8.0
11	---	---	---	---	---	---	8.0	6.5	8.0	6.0	10.5	9.0
12	---	---	---	---	---	---	7.5	7.0	8.5	6.5	10.5	9.5
13	---	---	---	---	---	---	8.0	6.5	8.0	7.0	11.0	9.5
14	---	---	---	---	---	---	6.5	5.5	9.5	7.5	10.0	8.5
15	---	---	---	---	---	---	6.5	5.0	9.0	8.0	9.0	7.5
16	---	---	---	---	---	---	5.5	4.0	9.5	8.0	8.5	7.5
17	---	---	---	---	---	---	5.0	3.5	10.0	8.5	8.0	7.0
18	---	---	---	---	---	---	5.0	3.0	9.0	8.0	8.5	6.0
19	---	---	---	---	---	---	4.5	3.5	9.0	8.5	9.0	7.0
20	---	---	---	---	---	---	4.5	3.0	11.0	9.0	10.0	8.0
21	---	---	---	---	---	---	4.5	3.5	10.5	9.0	12.0	9.0
22	---	---	---	---	---	---	5.0	3.5	10.5	9.0	11.5	10.5
23	---	---	---	---	---	---	4.5	3.5	11.0	10.0	11.5	10.5
24	---	---	---	---	---	---	5.0	3.0	10.0	9.0	11.5	10.0
25	---	---	---	---	---	---	5.0	3.5	10.0	8.0	10.5	9.0
26	---	---	---	---	---	---	5.5	4.0	10.5	8.5	12.0	9.5
27	---	---	---	---	---	---	6.0	5.0	10.5	8.5	13.0	10.5
28	---	---	---	---	10.0	8.5	6.0	5.0	11.0	9.0	13.5	11.0
29	---	---	---	---	10.5	9.5	5.5	3.5	---	---	14.5	12.0
30	---	---	---	---	11.0	10.0	4.5	3.0	---	---	15.0	12.5
31	---	---	---	---	11.0	10.5	4.5	3.0	---	---	15.5	13.0
MONTH	---	---	---	---	---	---	11.5	3.0	11.0	3.5	15.5	6.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	13.5	14.5	11.5	24.0	22.5	30.0	25.5	28.5	25.0	27.5	23.0
2	16.0	14.0	16.0	12.5	23.5	20.5	---	---	29.0	25.5	28.0	23.5
3	15.0	14.0	16.5	14.0	24.0	21.0	---	---	28.5	25.5	28.0	23.5
4	14.0	13.0	18.0	14.5	24.5	21.5	28.0	25.5	28.0	24.0	27.0	23.5
5	13.5	12.5	19.0	16.0	26.0	22.5	28.5	25.0	28.0	23.5	26.0	21.5
6	14.0	12.0	19.0	16.5	27.0	23.5	28.5	25.0	27.5	23.0	25.5	21.5
7	14.5	12.0	19.0	16.5	26.5	23.5	28.0	25.5	27.0	23.0	25.0	20.0
8	15.5	13.0	---	---	25.5	23.0	28.0	25.0	28.0	23.0	25.0	20.0
9	14.5	13.0	---	---	23.5	21.0	29.0	25.5	28.0	23.5	25.0	20.0
10	15.0	12.0	---	---	24.0	20.5	---	---	28.5	24.0	25.5	20.5
11	15.5	13.5	---	---	25.0	21.5	---	---	28.5	24.0	25.5	21.0
12	16.5	14.0	---	---	26.0	22.5	30.0	27.5	28.5	24.0	25.5	21.0
13	17.0	14.5	---	---	25.5	22.5	30.0	27.0	29.0	24.5	25.5	21.0
14	18.0	15.5	19.5	16.0	25.5	22.5	30.0	27.0	29.5	24.5	25.0	20.5
15	16.5	14.0	20.5	17.0	25.5	22.5	29.0	26.5	29.5	24.5	24.5	21.0
16	14.0	11.0	21.0	17.5	25.5	22.5	28.5	25.5	29.0	24.5	24.5	20.0
17	11.5	10.0	21.0	18.0	25.5	22.5	28.5	25.5	28.5	24.5	24.5	20.5
18	12.0	10.0	20.5	18.0	26.5	24.0	28.5	25.5	28.5	23.0	24.5	20.5
19	12.5	9.5	19.0	17.0	27.0	24.5	29.5	25.5	27.5	23.0	25.5	21.0
20	13.5	10.5	17.0	15.0	27.0	24.5	29.5	26.5	27.5	22.0	25.5	21.0
21	15.0	11.5	15.0	13.5	26.5	24.0	28.5	26.0	27.0	21.5	25.5	21.0
22	16.0	12.5	15.5	12.5	26.0	23.5	28.5	25.0	27.0	21.5	25.5	21.0
23	17.0	13.5	17.5	13.5	26.5	24.0	28.0	25.0	26.5	21.5	25.0	21.0
24	17.5	15.0	19.0	15.5	27.0	24.0	28.5	25.0	27.0	21.5	25.5	21.0
25	17.5	15.0	20.5	17.0	28.5	24.5	28.0	24.5	27.0	21.5	25.0	20.5
26	16.5	14.5	21.0	18.0	28.5	24.5	28.0	24.5	27.0	22.0	24.5	20.0
27	14.5	13.0	21.5	18.5	28.5	24.5	28.5	25.0	27.0	22.0	23.0	20.5
28	14.0	12.0	22.0	19.0	28.5	25.0	28.5	25.5	27.5	23.0	22.5	19.0
29	13.0	12.0	23.5	20.0	29.0	24.5	28.5	25.0	27.5	22.5	23.0	20.0
30	12.5	11.0	25.5	22.0	29.5	25.0	28.5	25.0	27.5	22.5	22.5	18.5
31	---	---	25.5	23.0	---	---	28.5	25.0	27.5	22.5	---	---
MONTH	18.0	9.5	---	---	29.5	20.5	---	---	29.5	21.5	28.0	18.5

11336580 MORRISON CREEK NEAR SACRAMENTO, CA

LOCATION.—Lat 38°29'55", long 121°27'06", in SW 1/4 SE 1/4 sec.32, T.8 N., R.5 E., [Sacramento County](#), Hydrologic Unit 18020109, on right bank, 750 ft upstream from Florin Road, 1.6 mi upstream from Elder Creek, and 3.8 mi south of State Capitol Building in Sacramento.

DRAINAGE AREA.—53.4 mi².

PERIOD OF RECORD.—August 1959 to September 1987, October 1997 to current year.

REVISED RECORDS.—WDR CA-72-2: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 7.60 ft above sea level. Prior to June 29, 1960, at site 650 ft downstream at datum 1.55 ft higher. June 29, 1960, to Sept. 12, 1965, at site 475 ft upstream at datum 2.71 ft higher.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion above station. Summer flow is sustained by wastewater from domestic and industrial use. During major storm events record can be affected by backwater from Beach Lake located 5.7 mi downstream from gage. Flow is diverted by pumps into the Sacramento River.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,730 ft³/s, Feb. 17, 1986, gage height, 10.40 ft; no flow at times in 1960, 1962, 1965.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than a 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)
Nov. 24	1000	698	4.98	Jan. 2	0545	595	4.63
Dec. 2	0945	883	5.57	Mar. 6	2115	424	3.97
Dec. 20	1445	632	4.76	May 20	2245	415	3.93

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.1	81	40	6.5	8.2	5.5	3.9	4.4	e10	4.4	5.0
2	4.9	4.1	268	368	6.6	8.4	5.8	4.5	4.7	e8.8	4.0	5.2
3	6.4	4.1	36	242	6.4	8.5	5.2	3.9	5.1	e8.2	3.9	5.1
4	7.6	4.0	12	66	6.0	8.3	5.2	5.0	4.6	e7.9	3.9	4.9
5	7.1	3.9	22	95	5.9	9.7	5.3	4.6	4.5	e7.9	3.3	4.1
6	6.0	4.0	10	68	5.9	149	5.6	4.3	4.8	e8.5	3.6	3.7
7	6.2	4.0	9.1	33	30	95	5.6	4.6	4.7	e7.9	3.7	3.1
8	6.4	4.8	5.8	20	11	32	5.8	4.5	4.5	e8.2	3.1	2.8
9	5.6	4.4	6.4	17	9.3	17	7.2	5.7	4.1	e8.2	3.7	e1.6
10	6.1	4.7	4.7	14	8.3	90	7.2	6.4	4.4	e8.2	3.8	e1.6
11	6.8	14	5.2	12	7.4	33	6.1	7.1	4.6	e8.5	3.6	e1.9
12	6.5	69	4.9	10	6.2	17	7.3	7.6	5.0	e7.9	3.6	e1.8
13	6.0	37	7.3	9.4	6.8	13	7.5	8.1	5.6	e8.2	3.0	e1.4
14	5.9	9.7	96	8.9	6.2	11	9.3	8.8	5.7	e7.6	2.8	e1.3
15	5.9	6.6	15	8.3	6.2	8.5	7.8	8.4	5.9	e7.6	3.7	e1.2
16	5.7	4.2	9.2	7.8	17	7.0	7.4	7.9	5.8	e6.4	3.5	e1.2
17	5.5	3.7	25	7.5	42	6.6	9.9	8.2	6.1	e5.6	3.7	e1.4
18	5.9	3.5	10	6.9	21	6.8	7.2	6.8	6.4	e5.6	3.8	e1.5
19	6.6	3.7	9.3	6.4	22	6.5	6.6	18	6.7	e5.6	3.6	e1.3
20	6.5	3.7	146	6.1	15	8.1	7.0	92	e7.9	e5.6	3.3	e1.6
21	5.9	10	50	6.0	14	8.0	7.0	94	e8.2	e5.3	4.2	3.6
22	5.3	13	41	6.0	11	59	6.9	10	e7.6	e5.3	3.9	4.6
23	5.2	4.4	38	5.8	9.7	100	7.3	5.2	e8.2	e5.0	3.8	4.4
24	4.7	147	15	5.7	8.9	24	6.7	4.5	e8.5	e7.2	4.0	4.5
25	5.0	19	11	5.4	8.3	14	6.7	4.3	e9.1	e7.6	4.7	4.9
26	5.8	8.7	8.1	41	8.2	11	8.3	4.4	e8.8	e7.9	4.9	5.0
27	4.9	5.5	7.4	14	8.3	9.5	7.2	4.4	e10	e7.9	5.3	5.0
28	4.3	10	197	16	8.6	8.2	4.8	4.3	e10	e7.6	5.5	5.0
29	4.2	25	205	9.4	---	7.3	5.1	4.1	e12	e7.0	4.7	5.0
30	47	5.9	124	8.2	---	6.4	3.9	4.6	e11	4.4	4.3	5.0
31	3.9	---	115	7.1	---	5.7	---	4.8	---	4.1	4.2	---
TOTAL	218.6	445.7	1594.4	1170.9	322.7	796.7	198.4	364.9	198.9	221.7	121.5	98.7
MEAN	7.052	14.86	51.43	37.77	11.53	25.70	6.613	11.77	6.630	7.152	3.919	3.290
MAX	47	147	268	368	42	149	9.9	94	12	10	5.5	5.2
MIN	3.9	3.5	4.7	5.4	5.9	5.7	3.9	3.9	4.1	4.1	2.8	1.2
AC-FT	434	884	3160	2320	640	1580	394	724	395	440	241	196

e Estimated.

11336580 MORRISON CREEK NEAR SACRAMENTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.11	20.22	26.63	57.88	69.96	31.33	14.61	6.502	5.678	6.119	5.795	6.218
MAX	77.8	67.5	106	212	415	213	91.4	17.6	8.71	17.6	12.4	21.9
(WY)	1963	1982	1984	1969	1986	1983	1982	1998	1970	1974	1959	1981
MIN	2.59	3.16	3.06	4.24	6.26	6.72	2.45	3.68	2.62	2.09	2.37	3.00
(WY)	1978	1960	2000	1976	1964	1960	1977	1979	1977	1977	1977	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1959 - 2002	
ANNUAL TOTAL	6250.6		5753.1			
ANNUAL MEAN	17.12		15.76		21.46	
HIGHEST ANNUAL MEAN					59.6	
LOWEST ANNUAL MEAN					4.76	
HIGHEST DAILY MEAN	277	Mar 5	368	Jan 2	1940	Jan 5 1982
LOWEST DAILY MEAN	2.6	Aug 10	1.2	Sep 15	0.00	Jul 12 1960
ANNUAL SEVEN-DAY MINIMUM	3.2	Apr 13	1.3	Sep 13	0.07	Jul 11 1960
MAXIMUM PEAK FLOW			883	Dec 2	2730	Feb 17 1986
MAXIMUM PEAK STAGE			5.57	Dec 2	10.40	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	12400		11410		15550	
10 PERCENT EXCEEDS	35		25		32	
50 PERCENT EXCEEDS	5.9		6.4		5.9	
90 PERCENT EXCEEDS	3.6		3.8		3.0	

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., 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. Elevation of gage is 40 ft above sea level, from topographic map.

REMARKS.—Records poor due to beaver activity at station. Station is located 7.8 mi upstream of Morrison Creek. Low flow sustained by residential and agricultural wastewater.

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 most 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)
Jan. 3	0015	686	5.74

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.50	0.00	7.8	44	1.2	0.57	0.85	0.26	0.05	0.79	1.9	1.9
2	0.10	0.00	57	266	1.8	0.41	0.62	0.22	0.00	3.6	1.8	1.1
3	0.00	0.00	24	470	1.9	0.31	0.39	0.17	0.23	3.1	1.7	1.1
4	0.00	0.00	13	61	1.5	0.19	0.23	0.18	0.44	2.7	1.7	0.85
5	0.15	0.00	5.4	24	1.0	2.3	0.23	0.19	0.40	2.5	1.7	0.33
6	1.1	0.00	6.1	41	0.57	1.8	0.23	0.14	0.34	2.4	1.7	0.39
7	0.61	0.00	3.9	29	0.37	23	0.22	0.11	0.41	2.0	1.7	0.21
8	0.33	0.00	2.8	18	1.1	24	0.18	0.10	0.48	1.5	1.1	0.37
9	0.67	0.00	2.1	13	1.0	4.6	0.18	0.09	0.26	1.0	0.40	0.36
10	1.4	0.00	1.4	9.3	0.68	19	0.19	0.10	0.03	0.83	1.0	0.41
11	1.2	0.00	0.79	7.5	0.41	38	0.16	0.02	0.00	0.72	1.1	0.67
12	0.79	15	0.40	6.0	0.12	4.7	0.15	0.00	0.00	0.64	1.4	0.58
13	0.57	21	0.38	4.4	0.16	2.6	0.13	0.00	0.19	0.72	1.5	1.2
14	0.51	3.3	18	3.1	0.20	2.6	0.12	0.00	0.99	0.89	1.3	1.4
15	0.40	2.6	5.5	2.6	0.23	2.9	0.14	0.00	5.7	1.00	1.2	1.2
16	0.33	0.80	3.8	2.2	0.41	2.9	0.15	0.00	8.5	1.0	1.3	1.00
17	0.48	0.07	4.0	1.9	2.0	2.1	0.13	0.00	10	0.84	1.3	0.65
18	0.56	0.17	4.3	1.7	4.0	1.1	0.25	0.00	9.7	0.66	1.2	0.22
19	0.35	0.40	2.5	1.9	4.6	0.25	0.64	0.00	8.2	0.87	0.85	0.95
20	0.55	0.32	25	1.6	4.5	0.12	0.83	0.76	6.8	0.88	0.85	0.88
21	0.41	0.14	48	1.1	6.1	0.12	0.43	3.9	6.2	0.77	1.0	0.03
22	0.11	0.33	21	0.72	5.1	0.21	0.15	1.6	7.9	0.95	1.3	0.00
23	0.03	0.14	15	0.60	4.0	2.6	0.12	0.72	5.5	1.3	1.3	0.03
24	0.06	15	10	0.52	3.4	e2.7	0.14	0.10	5.1	1.3	1.2	0.11
25	0.04	10	6.0	0.76	2.9	e2.4	0.25	0.12	2.9	1.5	0.98	0.49
26	0.00	4.4	3.4	1.4	2.4	e2.1	0.25	0.18	2.2	1.5	1.1	1.7
27	0.00	1.9	3.0	2.2	1.6	e1.9	0.25	0.10	2.4	1.6	1.1	0.86
28	0.00	1.0	37	2.2	1.0	e1.5	0.35	0.10	2.9	1.5	1.3	0.59
29	0.00	1.5	232	2.6	---	1.4	0.26	0.26	3.1	1.4	1.8	0.48
30	0.00	1.2	102	2.0	---	1.2	0.36	0.33	1.6	1.5	2.1	0.57
31	0.00	---	164	1.5	---	1.0	---	0.23	---	1.8	2.2	---
TOTAL	11.25	79.27	829.57	1023.80	54.25	150.58	8.58	9.98	92.52	43.76	42.08	20.63
MEAN	0.363	2.642	26.76	33.03	1.938	4.857	0.286	0.322	3.084	1.412	1.357	0.688
MAX	1.4	21	232	470	6.1	38	0.85	3.9	10	3.6	2.2	1.9
MIN	0.00	0.00	0.38	0.52	0.12	0.12	0.12	0.00	0.00	0.64	0.40	0.00
AC-FT	22	157	1650	2030	108	299	17	20	184	87	83	41

e Estimated.

11336585 LAGUNA CREEK NEAR ELK GROVE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.449	0.965	19.16	57.06	91.26	10.38	2.499	0.742	0.667	0.783	0.967	0.650
MAX	0.79	2.64	92.1	206	263	21.9	8.91	2.24	3.08	2.08	1.88	0.95
(WY)	2000	2002	1997	1997	1998	1996	1998	1998	2002	2001	2001	1996
MIN	0.000	0.000	0.008	3.76	1.94	0.000	0.29	0.13	0.000	0.000	0.048	0.26
(WY)	1996	1996	2001	2001	2002	1997	2002	1999	1996	1996	1996	1997

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1996 - 2002	
ANNUAL TOTAL	2460.64		2366.27			
ANNUAL MEAN	6.741		6.483		15.06	
HIGHEST ANNUAL MEAN					29.6	
LOWEST ANNUAL MEAN					4.31	
HIGHEST DAILY MEAN	268	Mar 5	470	Jan 3	1530	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 3	0.00	Oct 1 1995
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 26	0.00	Oct 1 1995
MAXIMUM PEAK FLOW			686	Jan 3	2020	Jan 23 1997
MAXIMUM PEAK STAGE			5.74	Jan 3	7.54	Jan 23 1997
ANNUAL RUNOFF (AC-FT)	4880		4690		10910	
10 PERCENT EXCEEDS	10		7.8		11	
50 PERCENT EXCEEDS	0.86		1.0		0.41	
90 PERCENT EXCEEDS	0.00		0.04		0.00	

11337600 MARSH CREEK AT BRENTWOOD, CA

LOCATION.—Lat 37°57'46", long 121°41'11", in SE 1/4 NW 1/4 sec.6, T.1 N., R.2 E., Contra Costa County, Hydrologic Unit 18040003, on right bank, 25 ft upstream of County Flood Control drop structure, and 0.2 mi north of sewage disposal plant in the City of Brentwood.

DRAINAGE AREA.—38.3 mi².

PERIOD OF RECORD.—August 2000 to current year.

GAGE.—Water-stage recorder. Datum of gage is 34.21 ft above sea level.

REMARKS.—Records fair. Flow is affected by numerous agricultural and municipal storm diversions upstream from station. Low flow is sustained by urban and agricultural run-off. Marsh Creek Reservoir is located upstream, but acts primarily as a detention basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 345 ft³/s, revised, Jan. 10, 2001, gage height, 6.32 ft; minimum daily, 0.70 ft³/s, Nov. 27, 2001.

REVISIONS.—Maximum discharge for water year 2001 has been revised to 345 ft³/s, Jan. 10, 2001, gage height, 6.32 ft; revised daily discharges, in cubic feet per second, for high-water periods in water year 2001 are given below. These figures supersede those published in the report for 2001.

Jan. 10	73	Jan. 25	38	Mar. 4	71	Mar. 5	106		
	TOTAL		MEAN		MAX		MIN		AC-FT
January 2001	196.1		6.326		73		1.2		389
February 2001	352.9		12.60		66		1.3		700
March 2001	373.8		12.06		106		1.6		741
Wtr Year 2001	2033.2		5.570		106		1.2		4030

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.2	9.8	61	4.8	2.4	4.6	2.8	4.4	5.4	3.1	4.5
2	1.8	2.8	74	66	4.8	1.3	4.0	0.86	4.9	2.3	5.1	4.5
3	1.8	1.5	7.6	85	5.0	1.1	3.8	1.2	5.2	3.5	5.1	3.0
4	2.3	0.84	2.2	41	4.6	1.4	4.9	2.4	4.5	5.1	3.0	4.4
5	3.1	0.90	1.3	28	4.4	1.1	5.7	3.1	4.7	7.4	4.7	5.0
6	1.8	1.6	1.0	22	4.3	11	5.4	3.6	3.7	5.5	4.8	3.0
7	1.0	1.7	0.86	18	4.6	25	6.7	3.3	4.2	4.6	4.3	4.0
8	1.0	1.3	0.86	14	6.0	18	5.4	2.4	3.5	4.5	2.2	5.4
9	4.2	2.4	1.3	12	5.1	15	5.4	4.0	4.2	6.0	4.6	4.6
10	4.5	1.6	1.1	11	6.1	18	5.3	5.6	4.5	5.8	3.5	3.9
11	2.7	1.8	0.81	9.1	5.6	11	3.9	4.5	3.4	4.5	2.2	2.5
12	3.3	30	0.82	8.1	4.6	9.0	3.5	4.7	3.2	4.7	2.3	1.3
13	1.7	2.2	0.90	7.5	4.6	7.2	6.0	2.9	2.7	7.0	2.4	1.6
14	0.96	2.1	20	7.0	3.0	6.2	7.7	2.7	2.2	6.8	4.0	1.5
15	2.6	1.8	1.3	6.4	1.6	6.1	7.2	2.5	3.4	6.0	4.0	1.7
16	6.0	2.4	1.1	5.8	3.4	5.6	4.5	2.7	4.0	7.3	4.2	2.3
17	3.8	2.2	10	5.6	16	23	4.6	6.5	3.2	7.3	3.4	2.2
18	4.2	2.2	2.2	5.4	4.3	13	2.8	6.6	3.4	7.8	1.8	2.5
19	3.2	1.6	2.4	5.2	10	7.2	4.2	11	2.5	7.3	3.0	2.3
20	2.3	0.71	51	4.9	6.6	5.7	4.1	11	5.5	5.2	5.8	2.6
21	0.87	0.80	12	4.9	5.5	5.1	5.8	17	6.1	5.6	4.0	1.6
22	0.86	1.2	6.4	5.1	4.7	11	5.5	5.6	5.9	5.4	2.8	2.4
23	3.3	0.72	7.0	4.9	4.1	25	4.0	1.4	4.8	3.8	1.7	2.0
24	3.4	29	2.0	4.7	3.5	21	4.2	1.0	4.7	2.9	1.9	1.4
25	2.9	2.9	1.4	4.6	3.0	14	5.6	1.4	3.4	1.9	2.6	1.4
26	2.3	0.82	3.2	7.4	2.6	9.7	4.0	3.9	5.2	3.0	2.8	1.0
27	1.2	0.70	5.3	5.7	2.4	8.0	4.9	4.7	6.2	7.0	3.3	1.8
28	0.84	0.75	108	6.6	3.0	7.2	4.9	3.8	6.8	7.8	3.6	1.5
29	1.9	37	174	6.0	---	6.1	5.7	1.8	5.2	6.0	4.3	1.2
30	7.2	2.0	162	4.7	---	5.2	5.2	2.0	3.1	3.7	4.2	1.8
31	3.5	---	172	5.0	---	4.8	---	2.9	---	4.9	3.9	---
TOTAL	82.43	138.74	843.85	482.6	138.2	305.4	149.5	129.86	128.7	166.0	108.6	78.9
MEAN	2.659	4.625	27.22	15.57	4.936	9.852	4.983	4.189	4.290	5.355	3.503	2.630
MAX	7.2	37	174	85	16	25	7.7	17	6.8	7.8	5.8	5.4
MIN	0.84	0.70	0.81	4.6	1.6	1.1	2.8	0.86	2.2	1.9	1.7	1.0
AC-FT	163	275	1670	957	274	606	297	258	255	329	215	156

11337600 MARSH CREEK AT BRENTWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.241	3.419	14.62	12.56	9.271	12.84	4.425	4.686	4.758	5.016	4.542	3.713
MAX	3.82	4.62	27.2	15.6	13.6	15.8	4.98	5.18	5.23	5.35	5.58	4.80
(WY)	2001	2002	2002	2002	2001	2001	2002	2001	2001	2002	2001	2000
MIN	2.66	2.21	2.02	9.55	4.94	9.85	3.87	4.19	4.29	4.68	3.50	2.63
(WY)	2002	2001	2001	2001	2002	2002	2001	2002	2002	2001	2002	2002

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 2000 - 2002
ANNUAL TOTAL	3095.62	2752.78	
ANNUAL MEAN	8.481	7.542	6.892
HIGHEST ANNUAL MEAN			7.54 2002
LOWEST ANNUAL MEAN			6.24 2001
HIGHEST DAILY MEAN	174 Dec 29	174 Dec 29	174 Dec 29 2001
LOWEST DAILY MEAN	0.70 Nov 27	0.70 Nov 27	0.70 Nov 27 2001
ANNUAL SEVEN-DAY MINIMUM	0.95 Dec 7	0.95 Dec 7	0.95 Dec 7 2001
MAXIMUM PEAK FLOW		336 Dec 30	345 Jan 10 2001
MAXIMUM PEAK STAGE		6.29 Dec 30	6.32 Jan 10 2001
ANNUAL RUNOFF (AC-FT)	6140	5460	4990
10 PERCENT EXCEEDS	10	11	9.0
50 PERCENT EXCEEDS	4.0	4.2	4.0
90 PERCENT EXCEEDS	1.3	1.3	1.4

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.

Special study and miscellaneous sites

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at special study and miscellaneous sites during water year 2002

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water year)	Measurements	
					Date	Discharge (ft ³ /s)
CARSON RIVER BASIN						
103087898	Aspen Creek above Leviathan Creek, near Markleeville, CA	Lat 38°42'02", long 119°39'30", in NE 1/4 NW 1/4 sec.15, T.10 N., R.21 E., Alpine County , Hydrologic Unit 16050201, 3.2 mi north of Highway 89 and 6.5 mi east of Markleeville	0.92	1999–2002	10-29-01	0.18
					11-30-01	.23
					12-18-01	e.27
					01-24-02	.30
					02-28-02	.25
					03-19-02	.40
					04-02-02	.74
					04-29-02	.37
					05-28-02	.33
					06-27-02	.11
					07-26-02	.12
08-27-02	.13					
					09-30-02	.10

e Estimated.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in separate tables.

Crest-Stage Partial-Record Stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage station is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 2002

Station nos.	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 SW 1/4 sec.18, T.20 S., R.28 E., Tulare County , Hydrologic Unit 18030012, 0.3 mi upstream from culvert on Road 258, 40 ft upstream from unnamed tributary, and 7.3 mi southeast of the town of Lindsay.	21.5	1969a, 1974-02	unknown	unknown	e<30

a Published as a miscellaneous measurement.

e Estimated.

< Actual value is known to be less than value shown.

Water-quality partial-record stations are particular sites where chemical-quality, biological, and (or) sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

SAN JOAQUIN RIVER BASIN

372006120571701 SAN JOAQUIN RIVER UPSTREAM OF MERCED RIVER, NEAR HILLS FERRY, CA

LOCATION.—Lat 37°20'06", long 120°57'17", in NE 1/4 NE 1/4 sec.11, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, 0.7 mi southeast of intersection of River Road and Hills Ferry Road, and 0.15 mi east of Newman Wasteway.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—October 2000 to November 2001 (discontinued).

CHEMICAL DATA: October 2000 to November 2001 (discontinued).

SEDIMENT DATA: October 2000 to November 2001 (discontinued).

INSTRUMENTATION.—None.

REMARKS.—Discharge values were calculated from flows at Department of Water Resources gaging station 11272500 (Merced River near Stevinson) and U.S. Geological Survey gaging station 11274000 (San Joaquin River near Newman) with appropriate travel times taken into account. Chemical and Sediment Data for water year 2000 available in the files of the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	PH WATER WHOLE FIELD STAND- ARD (UNITS) (00400)	
OCT									
03...	1000	e197	5	e.298	e.236	757	5.5	64	7.8
17...	0930	e257	8	.239	.184	759	6.0	65	8.0
31...	0840	e227	11	.235	.175	761	7.0	--	8.0
NOV									
15...	0920	e575	--	.266	.202	761	6.6	67	8.2
Date		SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (MG/L AS NA) (00931)
OCT									
03...	1700	22.5	130	320	64.5	39.2	5.98	5	210
17...	1350	19.0	77	250	51.1	30.3	5.56	4	161
31...	1950 ¹	15.5	150	360	71.6	44.5	5.41	6	251
NOV									
15...	1380	15.5	100	280	57.3	32.8	5.64	5	184
Date		ALKA- LINITY WAT. DIS GRAN T. FIELD SODIUM PERCENT (00932)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
OCT									
03...	58	190	270	.2	21.3	239	106	11	1.38
17...	57	180	210	.2	19.7	172	124	14	1.13
31...	60	210	305	.3	19.1	296	150	10	1.60
NOV									
15...	58	180	216	.2	15.6	185	110	8	1.01

e Estimated.

¹ Laboratory value.

SAN JOAQUIN RIVER BASIN

372006120571701 SAN JOAQUIN RIVER UPSTREAM OF MERCED RIVER, NEAR HILLS FERRY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L) AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)
OCT									
03...	1010	966	<.04	.84	.93	.36	.019	.320	.28
17...	832	757	e.02	.69	.91	.40	.016	.230	.21
31...	1180	1120	e.03	.70	.92	.79	.028	.190	.16
NOV									
15...	740	807	.06	.78	1.3	.77	.027	.210	.20

Date	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L) AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
OCT							
03...	.55	10.3	1.7	13.3	23.4	39	201
17...	.45	8.4	1.8	11.3	14.4	31	43.0
31...	.38	8.4	2.2	12.9	15.5	26	128
NOV							
15...	.37	10.1	1.7	3.7	12.2	24	79.4

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
03...SS	1000	e197	22.5	103	e55	77
17...SS	0930	e257	19.0	90	e62	89
31...SS	0840	e227	15.5	57	e35	94
NOV						
15...SS	0920	e575	15.5	120	e186	82

< Actual value is known to be less than value shown.

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

373811120590001 DRY CREEK AT GALLO BRIDGE, BELOW HIGHWAY 132, AT MODESTO, CA

LOCATION.—Lat 37°38'11", long 120°59'00", in Stanislaus County, Hydrologic Unit 18040002, at bridge upstream of Beard Brook Park.

PERIOD OF RECORD.—February 1995 to March 1995, June 2001 to November 2001 (discontinued).

CHEMICAL DATA: February 1995 to March 1995, June 2001 to November 2001 (discontinued).

SPECIFIC CONDUCTANCE: February 1995 to March 1995, June 2001 to November 2001 (discontinued).

WATER TEMPERATURE: February 1995 to March 1995, June 2001 to November 2001 (discontinued).

SEDIMENT DATA: February 1995 to March 1995, June 2001 to October 2001 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	
OCT 03...	1420	90	>22	e.252	e.201	750	6.8	78	7.3	
NOV 01...	1530	7.4	>13	.130	.097	760	10.6	--	7.6	
Date	Time	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
OCT 03...	88	21.0	31	7.26	3.24	3.50	.3	3.76	19	
NOV 01...	104 ¹	16.5	35	8.45	3.31	3.23	.4	4.92	22	
Date	Time	ALKA- LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT 03...	34	2.60	<.1	13.2	2.4	6	1	.08	56	
NOV 01...	36	4.18	e.1	9.11	3.5	3	3	.08	60	
Date	Time	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 03...	58	<.04	.50	.54	.26	.009	.350	.33	.42	
NOV 01...	60	<.04	.22	.34	.28	<.008	.187	.18	.21	

> Actual value is known to be greater than value shown.

e Estimated.

¹ Laboratory value.

< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

373811120590001 DRY CREEK AT GALLO BRIDGE, BELOW HIGHWAY 132, AT MODESTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN A PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 03...	6.7	.4	2.7	1.4	80	8.3
NOV 01...	3.8	<.2	.8	.4	44	14.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 03...SS	1420	90	21.0	9.0	2.2	74

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

373701121121100 HOSPITAL CREEK BELOW CONFLUENCE OF INGRAM CREEK, NEAR GRAYSON, CA

LOCATION.—Lat 37°37'01", long 121°12'11", in El Pescadero Land Grant, in SE 1/4 NE 1/4, sec.4, T.4 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, 1,200 ft downstream of confluence of Ingram Creek, and 4.0 mi north of Westley.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—March 1993 to August 1993, June 2001 to November 2001 (discontinued).

CHEMICAL DATA: March 1993 to August 1993, June 2001 to November 2001 (discontinued).

SEDIMENT DATA: March 1993 to August 1993, June 2001 to November 2001 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)		
OCT 05...	1000	4.9	>7	.107	.081	758	8.9	8.1		
NOV 02...	0930	1.7	>5	.146	.107	760	9.6	8.0		
Date	Time	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	
OCT 05...	1350	19.0	110	290	58.2	35.9	3.95	4	155	
NOV 02...	937	14.0	78	180	38.4	21.2	3.69	3	106	
Date	Time	ALKA- LINITY WAT.DIS GRAN T. FIELD SODIUM PERCENT (MG/L) (00932)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	
OCT 05...	53	180	197	.2	16.7	170	76	7	1.09	
NOV 02...	55	110	151	.3	12.7	99.9	257	15	.73	
Date	Time	SOLIDS, RESIDUE AT 180 CONSTITUENTS, DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT 05...	804	765	<.04	.46	.85	4.16	.103	.174	.15	
NOV 02...	534	511	<.04	.47	1.1	3.35	.021	.177	.15	

> Actual value is known to be greater than value shown.

< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

373701121121100 HOSPITAL CREEK BELOW CONFLUENCE OF INGRAM CREEK, NEAR GRAYSON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 05...	.29	4.7	.6	20.0	16.9	11	11.9
NOV 02...	.38	5.0	2.6	7.6	4.2	<10	25.7

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 05..SS	1000	4.9	19.0	77	1.0	75
NOV 02..SS	0930	1.7	14.0	286	1.3	86

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

373324121090401 SAN JOAQUIN RIVER AT LAIRD PARK, NEAR GRAYSON, CA

LOCATION.—Lat 37°33'24", long 121°09'04", in SW 1/4 NE 1/4 sec.25, T.4 S., R.7 E., El Pescadero Land Grant, Stanislaus County, Hydrologic Unit 18040002, 0.25 mi south of Grayson Road at Laird Park, and 0.3 mi upstream of Grayson Road Bridge.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—October 2000 to November 2001 (discontinued).

CHEMICAL DATA: October 2000 to November 2001 (discontinued).

SEDIMENT DATA: October 2000 to November 2001 (discontinued).

INSTRUMENTATION.—None.

REMARKS.—Chemical and Sediment Data for water year 2000 available in the files of the U.S. Geological Survey. Estimated discharge values calculated from ratio of flows at 11274570, San Joaquin River near Patterson (Department of Water Resources) gage to measured flows at this site, with appropriate travel times taken into account.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB- ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB- ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	
OCT										
03...	1140	e434	16	.115	.088	757	8.0	93	7.9	
17...	0840	790	15	.145	.111	759	7.6	82	7.8	
31...	0930	1320	23	.094	.068	759	8.3	--	7.8	
NOV										
15...	1100	e1250	18	.150	.113	761	8.0	81	8.1	
Date		SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT										
03...	1260	22.0	87	260	53.5	30.4	3.61	4	146	
17...	1080	18.5	66	220	46.7	25.6	4.51	4	122	
31...	687 ¹	16.5	53	140	29.4	15.7	2.47	3	80.0	
NOV										
15...	877	16.0	53	170	36.1	20.3	3.64	3	104	
Date		ALKA- LILITY WAT. DIS GRAN T. FIELD SODIUM PERCENT (MG/L) (00932)	CHLO- RIDE, DIS- SOLVED CACO3 (MG/L) AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDE (MG/L) (00535)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	
OCT										
03...	55	170	180	.1	19.3	153	38	5	.98	
17...	54	160	154	.1	19.4	124	77	94	.86	
31...	55	86	94.9	.1	13.9	83.4	181	18	.53	
NOV										
15...	56	120	129	.1	14.3	101	112	10	.68	
Date		SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT										
03...	724	704	<.04	.45	.81	3.15	.081	.178	.14	
17...	636	603	.07	.57	.93	2.75	.056	.21	.20	
31...	392	381	<.04	.26	.64	2.11	.028	.182	.17	
NOV										
15...	502	489	<.04	.51	.90	1.55	.029	.183	.14	

e Estimated.

¹ Laboratory value.

< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

373324121090401 SAN JOAQUIN RIVER AT LAIRD PARK, NEAR GRAYSON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT							
03...	.30	4.3	.8	15.2	14.8	e8	66.3
17...	.37	5.3	1.9	10.3	15.7	10	29.7
31...	.29	3.8	1.2	7.5	7.6	e10	15.6
NOV							
15...	.29	5.6	1.8	5.0	9.4	16	21.6

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
03...SS	1140	e434	22.0	60	e70	79
31...SS	0930	1320	16.5	62	221	82
NOV						
15...SS	1100	e1250	16.0	71	e240	85

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

373232121053900 WESTPORT DRAIN NEAR MODESTO, CA

LOCATION.—Lat 37°32'32", long 121°05'39", in SW 1/4 NE 1/4, sec.33, T.4 S, R.8 E, Stanislaus County, Hydrologic Unit 18040002, 50 ft downstream of weir at Modesto sewage disposal ponds, and 4.5 mi southwest of Modesto.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—March 1993 to August 1993, June 2001 to November 2001 (discontinued).

CHEMICAL DATA: March 1993 to August 1993, June 2001 to November 2001 (discontinued).

SEDIMENT DATA: June 2001 to October 2001 (discontinued).

REMARKS.—Site identification was reported in 1993 as 373434121053900.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS-PAR-ENCY (SECCHI PER DISK) (IN) (00077)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT (STAND-ARD UNITS) (00300)	OXYGEN, DIS-SOLVED (PER-CENT (STAND-ARD UNITS) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
OCT 03...	1130	13	>13	e.057	e.046	750	7.1	84	8.0
NOV 01...	1100	2.9	>8	.144	.107	760	9.8	--	8.3
Date	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT. DIS GRAN T. FIELD CACO3 PERCENT (29802)
OCT 03...	679	22.5	160	11.8	3.13	3	82.9	52	200
NOV 01...	957 ¹	15.0	270	20.8	4.63	2	85.5	40	300
Date	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT 03...	50.9	<.1	33.2	37.6	4	<1	.57	418	424
NOV 01...	55.1	.3	38.0	52.4	1	2	.84	618	592
Date	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 03...	.11	.53	.51	8.88	.104	.084	.07	.096	2.6
NOV 01...	.04	.70	.82	18.7	.211	.58	.59	.59	5.2

> Actual value is known to be greater than value shown.

e Estimated.

¹ Laboratory value.

< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

373232121053900 WESTPORT DRAIN NEAR MODESTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN A, PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 03...	.4	1.4	.5	<10	33.3
NOV 01...	<.2	.8	.2	15	115

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 03...SS	1130	13	22.5	11	.40	50

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SAN JOAQUIN RIVER BASIN

375120121110300 LONE TREE CREEK AT AUSTIN ROAD, NEAR MANTECA, CA

LOCATION.—Lat 37°51'20", long 121°11'03", in SW 1/4 SW 1/4, sec.15, T.1 S, R.7 E, San Joaquin County, Hydrologic Unit 18040002, 50 ft downstream of Austin Road Bridge, and 3 mi northeast of Manteca.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—March 1993 to August 1993, June 2001 to November 2001 (discontinued).

CHEMICAL DATA: March 1993 to August 1993, June 2001 to November 2001 (discontinued).

SEDIMENT DATA: March 1993 to August 1993, June 2001 to November 2001 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)		
OCT 05...	1230	68	17	.170	.133	757	8.2	7.5		
NOV 02...	1230	6.7	13	.094	.758	760	8.6	7.4		
Date	Time	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L) AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	
OCT 05...	93	18.0	--	32	7.77	3.09	3.49	.2	3.18	
NOV 02...	216	15.0	3	55	12.3	5.82	18.7	.5	7.71	
Date	Time	ALKA-LINITY WAT.DIS GRAN T. FIELD SODIUM PERCENT (MG/L) (00932)	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)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	
OCT 05...	16	37	2.04	<.1	12.8	2.5	58	6	.09	
NOV 02...	18	51	14.7	e.1	14.0	15.2	40	1	.20	
Date	Time	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L) AS N (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L) AS N (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) AS P (00671)
OCT 05...	64	59	e.02	.47	.63	.36	.012	.26	.24	
NOV 02...	150	127	.60	2.0	2.5	.92	.145	.86	.84	

< Actual value is known to be less than value shown.

e Estimated.

SAN JOAQUIN RIVER BASIN

375120121110300 LONE TREE CREEK AT AUSTIN ROAD, NEAR MANTECA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	PHEO- PHYTIN PHYTO- PLANKTON (UG/L) (62360)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 05...	.37	5.9	1.8	2.6	.9	57	6.3
NOV 02...	1.14	16.5	.4	.7	<.1	99	16.7

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 05...SS	1230	68	18.0	65	11.9	84
NOV 02...SS	1230	6.7	15.0	81	1.5	89

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

CARSON RIVER BASIN

383922119400001 MONITOR CREEK BELOW HEENAN LAKE, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°39'22", long 119°40'00", in SW 1/4 NW 1/4 sec.3, T.9 N., R.21 E., Alpine County, Hydrologic Unit 16050201, 2.9 mi southwest of Monitor Pass and 6.5 mi southeast of Markleeville.

PERIOD OF RECORD.—April to September 2002.

CHEMICAL DATA.—April to September 2002.

SEDIMENT DATA.—April to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, (PER-CENT SOLVED) (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 08...	1605	.26	31	590	5.9	75	7.5	120	14.5	51
MAY 14...	1420	.09	4.1	--	--	--	7.8	260	17.5	100
Date	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
APR 08...	13.1	12.3	4.50	4.33	1.0	96	.62	<.05	.24	4
MAY 14...	24.2	25.7	9.81	10.3	1.1	192	.47	<.05	.11	1
Date	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ANTI-MONY, TOTAL SOLVED (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL SOLVED (UG/L AS AS) (01002)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 08...	881	<.05	<.9	e1	2	<.06	.06	<.04	<.04	<.8
MAY 14...	179	.06	<.9	<5	<2	<.06	<.06	<.04	<.04	<.8
Date	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 08...	e.5	.11	<1	1.9	2.8	38	1040	<.08	<1	24.9
MAY 14...	<.8	.24	<1	.8	1.1	71	720	<.08	<1	52.5

< Actual value is known to be less than value shown.
e Estimated.

CARSON RIVER BASIN

383922119400001 MONITOR CREEK BELOW HEENAN LAKE, NEAR MARKLEEVILLE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL DIS- SOLVED (UG/L AS MO) (01060)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
	APR 08...	78	.02	.03	<.2	e.2	.44	1	<.3	<.4
MAY 14...	129	e.01	e.01	.3	.3	.72	<1	<.3	<.4	<1

Date	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	THAL- LIUM, TOTAL RECOV- ERABLE (UG/L AS TL) (01059)	VANA- DIUM, TOTAL DIS- SOLVED (UG/L AS V) (01087)	VANA- DIUM, TOTAL DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
	APR 08...	<.05	<.04	<.9	<10	<8	<1	4	16
MAY 14...	<.05	<.04	.9	<10	<8	1	<1	6.0	<.01

< Actual value is known to be less than value shown.

e Estimated.

CARSON RIVER BASIN

383954119412901 MONITOR CREEK ABOVE LEXINGTON CREEK, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°39'54", long 119°41'29", in SW 1/4 SE 1/4 sec.32, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 3.9 mi southwest of Monitor Pass and 5.3 mi southeast of Markleeville.

PERIOD OF RECORD.—April to September 2002.

CHEMICAL DATA.—April to September 2002.

SEDIMENT DATA.—April to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, (PER-CENT SOLVED) (MG/L) (00300)	OXYGEN, (PER-CENT SOLVED) (MG/L) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	
APR 08...	1155	.94	1.7	606	9.8	104	8.4	320	8.0	170	
MAY 14...	1315	.38	.5	--	--	--	8.4	392	11.5	190	
Date		CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	
APR 08...	49.9	46.1	10.6	10.3	25.6	202	e.07	e.03	<.06	7	
MAY 14...	54.8	57.1	12.1	12.1	31.9	248	e.08	<.05	e.04	12	
Date		ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 08...	21	<.05	<.9	M	M	<.06	<.06	<.04	<.04	<.8	
MAY 14...	18	.17	<.9	<5	<2	<.06	<.06	<.04	<.04	<.8	
Date		CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 08...	<.8	.10	<1	.6	.8	<10	20	<.08	<1	4.3	
MAY 14...	<.8	.16	<1	.7	.7	<10	<10	<.08	<1	7.1	

e Estimated.

< Actual value is known to be less than value shown.

M Presence of material verified, not quantified.

CARSON RIVER BASIN

383954119412901 MONITOR CREEK ABOVE LEXINGTON CREEK, NEAR MARKLEEVILLE, CA—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL DIS- SOLVED (UG/L AS MO) (01060)	MOLYB- DENUM, TOTAL ERABLE (UG/L AS MO) (01062)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
	APR 08...	6	e.01	.01	e.2	.3	<.06	1	.4	e.2
MAY 14...	8	<.01	<.01	.3	.3	.89	<1	e.2	e.2	<1

Date	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	THAL- LIUM, TOTAL (UG/L AS TL) (01059)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, DIS- SUS- PENDED (MG/L (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)
	APR 08...	e.04	<.04	<.9	<10	<8	<1	<1	2.0
MAY 14...	<.05	<.04	1.0	<10	e4	2	2	1.0	<.01

e Estimated.

< Actual value is known to be less than value shown.

CARSON RIVER BASIN

383956119412401 LEXINGTON CANYON CREEK AT HIGHWAY 89, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°39'56", long 119°41'24", in SW 1/4 SE 1/4 sec.32, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, at Highway 89, 5.3 mi southeast of Markleeville, and 17 mi south of Gardnerville, NV.

PERIOD OF RECORD.—April to September 2002 (discontinued).

CHEMICAL DATA.—April to September 2002 (discontinued).

SEDIMENT DATA.—April to September 2002 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
APR									
08...	1005	.70	5.7	603	10.0	99	8.3	205	5.0
Date		SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR									
08...	19.1	138	.26	<.05	e.04	.01	.02	3.0	.01

< Actual value is known to be less than value shown.

e Estimated.

CARSON RIVER BASIN

383956119413501 MONITOR CREEK ABOVE GOSKEY CREEK, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°39'56", long 119°41'35", in SW 1/4 SE 1/4 sec.32, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 4.1 mi southwest of Monitor Pass and 5.0 mi southeast of Markleeville.

PERIOD OF RECORD.—April to September 2002.

CHEMICAL DATA.—April to September 2002.

SEDIMENT DATA.—April to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, (PER-CENT SOLVED) (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 08...	1450	1.9	2.7	607	10.0	106	8.4	275	8.0	140
MAY 14...	1225	.47	.7	--	--	--	8.5	400	12.0	190

Date	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
APR 08...	40.3	36.6	9.06	8.24	24.3	180	.14	<.05	<.06	4
MAY 14...	55.8	58.2	12.6	12.5	38.1	255	e.10	<.05	<.06	9

Date	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 08...	74	<.05	<.9	e1	e1	<.06	<.06	<.04	<.04	<.8
MAY 14...	14	.23	<.9	<5	M	<.06	<.06	<.04	<.04	<.8

Date	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 08...	<.8	.09	<1	1.3	1.4	<10	70	<.08	<1	1.8
MAY 14...	<.8	.15	<1	1.0	.9	<10	<10	e.05	<1	3.9

< Actual value is known to be less than value shown.

e Estimated.

M Presence of material verified, not quantified.

CARSON RIVER BASIN

383956119413501 MONITOR CREEK ABOVE GOSKEY CREEK, NEAR MARKLEEVILLE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
	APR 08...	4	<.01	<.01	.2	.4	<.06	1	e.3	e.3
MAY 14...	5	e.01	e.01	.3	.4	.88	<1	e.3	<.4	<1

Date	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	THAL- LIUM, TOTAL RECOV- ERABLE (UG/L AS TL) (01059)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
	APR 08...	<.05	<.04	<.9	<10	<8	1	3	2.0
MAY 14...	<.05	<.04	<.9	<10	<8	1	<1	3.0	<.01

< Actual value is known to be less than value shown.
e Estimated.

CARSON RIVER BASIN

383959119413501 GOSKEY CREEK ABOVE HIGHWAY 89, NEAR MARKLEEVILLE, CA

LOCATION.—Lat 38°39'59", long 119°41'35", in SW 1/4 SE 1/4 sec.32, T.10 N., R.21 E., [Alpine County](#), Hydrologic Unit 16050201, 4.1 mi southwest of Monitor Pass and 5.0 mi southeast of Markleeville.

PERIOD OF RECORD.—April to September 2002.

CHEMICAL DATA.—April to September 2002.

SEDIMENT DATA.—April to September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY LAB HACH 2100AN (NTU) (99872)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, (PER-CENT SATUR-ATION) (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (MG/L) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 08...	1340	.23	2.7	607	9.1	104	8.5	577	11.0	310
MAY 14...	1120	.07	1.5	--	--	--	8.3	732	14.0	360
Date	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
APR 08...	81.5	76.9	25.4	24.0	151	410	e.07	<.05	<.06	1
MAY 14...	93.7	98.6	30.7	31.1	219	531	e.08	<.05	<.06	<1
Date	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 08...	52	.07	<.9	M	e1	<.06	<.06	<.04	<.04	<.8
MAY 14...	7	.30	<.9	<5	<2	<.06	<.06	<.04	<.04	<.8
Date	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 08...	<.8	.18	<1	1.6	1.7	<10	70	<.08	<1	2.4
MAY 14...	<.8	.26	<1	1.8	1.9	<10	<10	<.08	<1	1.7

e Estimated.

< Actual value is known to be less than value shown.

M Presence of material verified, not quantified.

CARSON RIVER BASIN

383959119413501 GOSKEY CREEK ABOVE HIGHWAY 89, NEAR MARKLEEVILLE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL DIS- SOLVED (UG/L AS MO) (01060)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
	APR 08...	4	<.01	e.01	.7	.8	e.05	2	.9	.8
MAY 14...	2	e.01	e.01	.8	.9	1.65	1	1.0	.8	<1

Date	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	THAL- LIUM, TOTAL RECOV- ERABLE (UG/L AS TL) (01059)	VANA- DIUM, TOTAL RECOV- ERABLE (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
	APR 08...	<.05	<.04	<.9	M	<8	<1	1	2.0
MAY 14...	<.05	<.04	<.9	<10	<8	1	1	6.0	<.01

< Actual value is known to be less than value shown.

e Estimated.

M Presence of material verified, not quantified.

CARSON RIVER BASIN

384642119550501 WEST FORK CARSON RIVER AT HIGHWAY 89, NEAR WOODFORDS, CA

LOCATION.—Lat 38°46'42", long 119°55'05", in SE 1/4 NW 1/4 sec.25, T.11 N., R.18 E., [Alpine County](#), Hydrologic Unit 16050201, 5.2 mi west of Woodfords and 6.5 mi southeast of Myers.

PERIOD OF RECORD.—September 2002.

CHEMICAL DATA.—September 2002.

SEDIMENT DATA.—September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, PH DIS- SOLVED (PER- CENT (STAND- SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
SEP 10...	1330	4.6	3.9	594	10.1	121	8.7	87	12.0

Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	BORON, DIS- SOLVED (UG/L AS B) (01020)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)
SEP 10...	1.89	2.9	57	.11	<.013	.009	<10	2.0	.02

< Actual value is known to be less than value shown.

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CALENDAR FOR WATER YEAR 2002

2001

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6					1	2	3							1
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29
														30	31					

2002

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2						1	2
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23
27	28	29	30	31			24	25	26	27	28			24	25	26	27	28	29	30
																				31

APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6			1	2	3	4								1
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
28	29	30					26	27	28	29	30	31		23	24	25	26	27	28	29
																				30

JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6					1	2	3	1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31				25	26	27	28	29	30	31	29	30					

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
Area		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
Volume		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
Flow		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
Mass		
ton (short)	9.072×10^{-1}	megagram or metric ton