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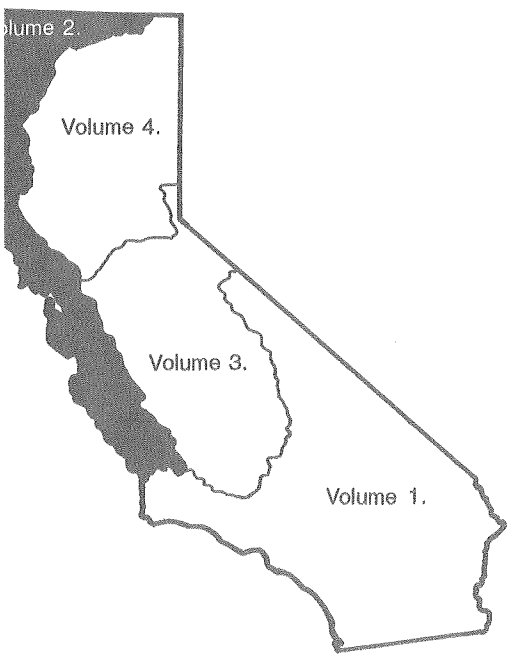

Department of the Interior
Geological Survey

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

CALENDAR FOR WATER YEAR 1998

1997

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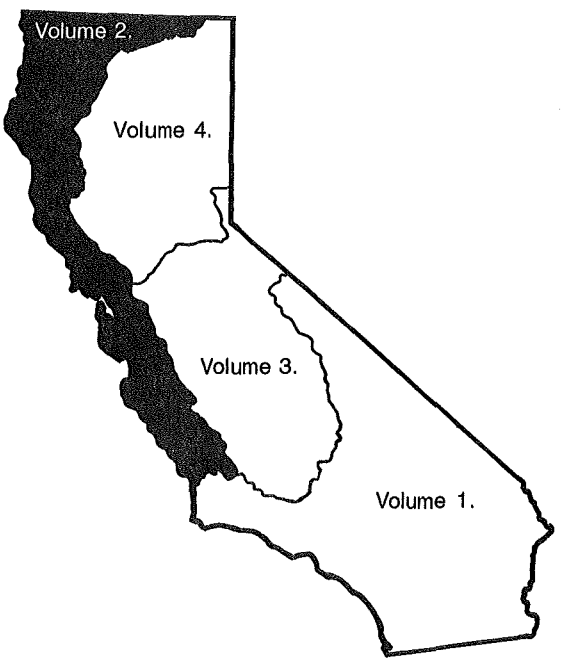
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data California Water Year 1998

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

By M.F. Friebel, L. A. Freeman, and M.D. Webster

Water-Data Report CA-98-2



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Sacramento, California 95819-6129

1999

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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13. ABSTRACT *(Maximum 200 words)*
Water-resources data for the 1998 water year for California consist of records of stage, discharge, and water quality of streams, stage and contents in lakes and reservoirs, and water levels and water quality in wells. Volume 2 contains discharge records for 113 gaging stations, gage height records for 5 stations, stage and contents for 6 lakes and reservoirs, and water quality for 17 stations. Also included are data for 1 low-flow partial-record station and 2 miscellaneous measurement stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.

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

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

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DISCONTINUED GAGING STATIONS

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

Station No.	Station name	Drainage area (mi^2)	Period of record
11141150	Arroyo Grande above Phoenix Creek, near Arroyo Grande	13.4	1967–92
11141160	Wittenberg Creek near Arroyo Grande	3.11	1967–75
11141300	Arroyo Grande near Arroyo Grande	68.3	1958–66
11141400	Tar Spring Creek near Arroyo Grande	18.2	1968–79
11141500	Arroyo Grande at Arroyo Grande	102	1940–86
11141600	Los Berros Creek near Nipomo	15	1968–78
11142080	Morro Creek at Morro Bay	24	1971–78
11142100	Toro Creek near Morro Bay	18	1971–78
11142200	Santa Rosa Creek near Cambria	12.5	1957–72
11142240	Perry Creek at Cambria	22.9	1988–89
11142300	San Simeon Creek near Cambria	26.3	1988–89
11142500	Arroyo de la Cruz near San Simeon	41.2	1951–79
11142550	San Carpoforo Creek near San Simeon	34.6	1978
11142800	Rat Creek near Lucia	.82	1961–63
11143300	Arroyo del Rey at Del Rey Oaks	13.8	1967–78
11143500	Salinas River near Pozo	70.3	1943–83
11144000	Toro Creek near Pozo	9.56	1961–69, 1972–83
11144200	Salsipuedes Creek near Pozo	5.91	1970–83
11144600	Salinas River below Salinas Dam, near Pozo	112	1974–86
11145000	Salinas River above Pilitas Creek, near Santa Margarita	114	1942–75
11145500	Salinas River near Santa Margarita	149	1922, 1932–49
11147000	Jack Creek near Templeton	25.3	1950–78
11147040	Santa Rita Creek Tributary near Templeton	2.95	1967–72
11147070	Santa Rita Creek near Templeton	18.2	1962–94
11147600	Huerhuero Creek near Creston	101	1959–72
11147700	Cholame Creek Tributary near Cholame	9.26	1959–65
11147800	Cholame Creek near Shandon	227	1959–72
11148000	Estrella Creek near Paso Robles	787	1940–41
11148500	Estrella River near Estrella	922	1955–96
11148800	Nacimiento River near Bryson	147	1958–71
11149500	Nacimiento River near San Miguel	349	1940–57
11149650	Sulphur Springs Canyon near Jolon	5.16	1968–69
11150800	Cow Creek near San Ardo	4.8	1961–64
11151000	San Lorenzo Creek near King City	210	1940–42
11151500	San Lorenzo Creek at King City	259	1943–45
11151870	Arroyo Seco near Greenfield	113	1961–86
11152570	Alisal Creek near Salinas	14.2	1971–74
11152650	Reclamation Ditch near Salinas	53.2	1971–86
11152900	Cedar Creek near Bell Station	12.8	1962–82
11153000	Pacheco Creek near Dunneville	146	1940–82
11153040	Pacheco Creek at Dunneville	154	1982–85
11153470	Llagas Creek above Chesbro Reservoir, near Morgan Hill	9.63	1972–82
11153500	Llagas Creek near Morgan Hill	19.6	1952–71
11153700	Pajaro River near Gilroy	399	1959–82
11153790	Uvas Creek at Sveadal	2.88	1973–74
11153800	Alec Canyon near Morgan Hill	.91	1970–72
11153900	Uvas Creek above Uvas Reservoir, near Morgan Hill	21	1961–82
11154000	Uvas Creek near Morgan Hill	30.4	1931–57
11154100	Bodfish Creek near Gilroy	7.40	1960–82
11154200	Uvas Creek near Gilroy	71.2	1959–92
11154500	Pajaro River at Sargent	505	1941
11156000	San Benito River below McCoy Creek, near Hernandez	108	1950–53, 1960–63
11156450	Willow Creek Tributary near San Benito	1.24	1964–69
11156700	Pescadero Creek near Paicines	38.3	1959–70
11158500	San Benito River near Hollister	586	1950–83
11158900	Pescadero Creek near Chittenden	10.2	1970–81
11159150	Corralitos Creek near Corralitos	10.6	1958–72
11159400	Green Valley Creek near Corralitos	7.05	1964–67
11159500	Pajaro River at Watsonville	1,272	1912–13, 1972–73
11159690	Aptos Creek near Aptos	10.2	1972–85

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11159700	Aptos Creek at Aptos	12.2	1959–72
11159800	West Branch Soquel Creek near Soquel	12.2	1959–72
11159940	Soquel Creek near Soquel	32.0	1969–72
11160020	San Lorenzo River near Boulder Creek	6.17	1968–93
11160060	Bear Creek at Boulder Creek	16.0	1977–93
11160070	Boulder Creek at Boulder Creek	11.3	1976–93
11160200	Newell Creek at Ben Lomond	8.98	1958–60
11160300	Zayante Creek at Zayante	11.1	1957–93
11161500	Branciforte Creek at Santa Cruz	17.3	1940–43, 1952–68
11161570	Majors Creek near Santa Cruz	3.77	1970–76
11161590	Laguna Creek near Davenport	3.07	1970–76
11161800	San Vicente Creek near Davenport	6.07	1970–85
11161900	Scott Creek above Little Creek, near Davenport	25.1	1959–73
11162000	Scott Creek near Davenport	27.3	1937, 1939–41
11162540	Butano Creek near Pescadero	18.3	1962–74
11162570	San Gregorio Creek at San Gregorio	50.9	1970–94
11162600	Purisima Creek near Half Moon Bay	4.83	1959–69
11162720	Colma Creek at South San Francisco	10.8	1964–96
11162722	Spruce Branch at South San Francisco	.70	1965–69
11162900	Sharon Creek near Menlo Park	.38	1959–69
11162800	Redwood Creek at Redwood City	1.82	1959–97
11162940	San Francisquito Creek below Ladera Dam site, near Stanford University	28.5	1962–70
11162950	San Francisquito Creek Tributary near Stanford University	.24	1959–64
11163000	Los Trancos Canal near Stanford University	—	1931–41
11163200	Los Trancos Creek Tributary near Stanford University	.42	1959–66
11163500	Los Trancos Creek at Stanford University	7.46	1931–41
11164000	Lagunita Canal at Stanford University	—	1931–41
11165500	San Francisquito Creek at Palo Alto	40.8	1931–41
11166500	Stevens Creek near Cupertino	18.1	1931–59
11166575	Permanente Creek near Monte Vista	3.86	1984–87
11166578	West Fork Permanente Creek near Monte Vista	2.98	1984–87
11167000	Alamitos Creek near Edenvale	34.5	1930–58
11167660	Ross Creek at San Jose	5.70	1962–70
11167700	Ross Creek below Jarvis Road, at San Jose	7.71	1972–74
11168500	Los Gatos Creek below Los Gatos	42.6	1945–53
11169800	Coyote Creek near Gilroy	109	1961–82
11170000	Coyote Creek near Madrone	196	1903–12, 1917–87
11170500	Coyote Creek at Coyote	204	1917–23
11171500	Coyote Creek near Edenvale	229	1917–62
11172000	Coyote Creek at San Jose	238	1917
11172100	Upper Penitencia Creek at San Jose	21.5	1962–87
11172500	Laguna Creek at Irvington	12.5	1917–19
11173000	Alameda Creek near Sunol	37.5	1912–30
11173500	Calaveras Creek near Sunol	98.7	1898–1908, 1911–30
11174000	San Antonio Creek near Sunol	37.0	1912–30, 1961–65
11174500	Alamo Creek at Dublin	38.7	1915–20
11174600	Alamo Canal near Pleasanton	40.8	1978–83
11175000	Tassajero Creek near Pleasanton	26.8	1915–19, 1922–30
11176090	Arroyo Mocho at Livermore	50.8	1984–86
11176100	Arroyo Las Positas above Livermore	7.82	1972–74
11176140	Altamont Creek near Livermore	13.4	1979–80
11176145	Arroyo Las Positas at Livermore	53.3	1980–86
11176150	Arroyo Las Positas near Livermore	64.6	1912–19, 1922, 1924–30
11176180	Arroyo Las Positas at El Charro Road, near Pleasanton	75.0	1978–83
11176200	Arroyo Mocho near Pleasanton	142	1962–86
11176300	Tassajara Creek near Pleasanton	26.8	1915–19, 1922–30, 1979–83
11176600	Arroyo Valle at Pleasanton	171	1958–86
11179500	Crandal Slough near Centerville	—	1917–18
11180000	Alameda Creek near Sunol	639	1917–19

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11180750	Alameda Creek at Union City	653	1959–73
11181004	Castro Valley Creek at Castro Valley	.98	1979–80
11181006	Castro Valley Creek at Knox Street, at Castro Valley	2.20	1978–80, 1989–93
11181300	Peralta Creek at Oakland	1.67	1973
11181330	Temescal Creek above Lake Temescal, at Oakland	1.74	1979–81, 1989–93
11181335	Caldecott Creek at Lake Temescal, at Oakland	.83	1980–81
11181390	Wildcat Creek at Vale Road, at Richmond	7.79	1976–96
11181400	Wildcat Creek at Richmond	8.67	1964–75
11182030	Rheem Creek at San Pablo	1.49	1961–90
11182100	Pinole Creek at Pinole	10.0	1939–70, 1972–77
11182400	Arroyo del Hambre at Martinez	15.1	1965–82
11182800	San Ramon Creek near Walnut Creek	47.9	1973–92
11183000	San Ramon Creek at Walnut Creek	50.8	1953–73
11183500	Walnut Creek at Walnut Creek	79.2	1953–68
11183600	Walnut Creek at Concord	85.2	1968–92
11183700	Little Pine Creek near Alamo	1.22	1975–89
11184000	Galindo Creek at Concord	7.74	1955–58
11184500	Pine Creek at Concord	28.3	1953–60
11455900	Napa River at Calistoga	21.9	1976–83
11455950	Sulphur Creek near St. Helena	4.50	1966–67
11456500	Conn Creek near Oakville	55.4	1930–59, 1971–75
11457000	Dry Creek near Napa	17.4	1951–66
11457500	Dry Creek near Yountville	18.7	1941
11458100	Milliken Creek near Napa	17.3	1971–83
11458200	Redwood Creek near Napa	9.79	1958–73
11458300	Napa Creek at Napa	14.9	1971–83
11458350	Tulucay Creek at Napa	12.6	1972–83
11458500	Sonoma Creek at Agua Caliente	58.4	1955–81
11459000	Petaluma River at Petaluma	30.9	1949–63
11459300	San Antonio Creek near Petaluma	28.9	1975–81
11459800	San Rafael Creek at San Rafael (REVISED RECORDS IN WDR CA-91-2)	1.24	1972–76
11459830	Irwin Creek at San Rafael	—	1972–76
11460000	Corte Madera Creek at Ross	18.1	1951–93
11460100	Arroyo Corte Madera del Presidio at Mill Valley	4.69	1966–73, 1975–86
11460160	Morses Creek at Bolinas	.70	1967–69
11460500	Nicasio Creek at Point Reyes Station	36.6	1954–60
11460800	Walker Creek near Tomales	40.1	1959–84
11460920	Salmon Creek at Bodega	15.7	1962–75
11460940	Russian River near Redwood Valley	14.1	1963–68
11461400	East Fork Russian River Tributary near Potter Valley	.15	1959–61
11462700	Feliz Creek near Hopland	31.3	1958–66
11463160	Big Sulphur Creek near Middletown	2.89	1978–79
11463500	Russian River at Geyserville	655	1911–13
11463900	Maacama Creek near Kellogg	43.4	1961–81
11463940	Franz Creek near Kellogg	15.7	1964–68
11464050	Dry Creek Tributary near Hopland	1.19	1968–69
11464400	Dry Creek near Yorkville	56.0	1974–83
11464500	Dry Creek near Cloverdale	87.8	1941–80
11464860	Warm Springs Creek near Asti	12.2	1973–83
11465050	Dutcher Creek near Asti	2.24	1973
11465150	Pena Creek near Geyserville	22.3	1979–90
11465800	Santa Rosa Creek near Santa Rosa	12.5	1959–70
11466200	Santa Rosa Creek at Santa Rosa	56.6	1940–41
11467200	Austin Creek near Cazadero	63.1	1959–66
11467500	South Fork Gualala River near Annapolis	161	1951–71, 1991–94
11467510	South Fork Gualala River near the Sea Ranch	161	1991–92
11467600	Garcia River near Point Arena	98.5	1962–83
11467800	Rancheria Creek near Boonville	65.6	1959–68
11467850	Soda Creek Tributary near Boonville	1.53	1965–68
11468010	Albion River near Comptche	14.4	1961–69

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11468070	South Fork Big River near Comptche	36.2	1960–71
11468150	Warner Creek near Fort Bragg	.61	1969
11468540	Pudding Creek near Fort Bragg	12.5	1964–71
11468850	Dunn Creek near Rockport	1.88	1961–64
11468990	Honeydew Creek near Honeydew	14.9	1973–77
11469500	North Fork Mattole River at Petrolia	37.6	1951–57
11469800	Cold Creek Tributary near Elk Creek	.81	1970
11471800	Tomki Creek near Willits	43.4	1963–70
11472000	Eel River at Hearst	466	1911–13
11472150	Eel River near Dos Rios	528	1967–94
11472200	Outlet Creek near Longvale	161	1957–94
11472500	Eel River above Dos Rios	705	1951–65
11472800	Middle Fork Eel River above Black Butte River, near Covelo	204	1968–70
11472900	Black Butte River near Covelo	162	1959–75
11473000	Middle Fork Eel River below Black Butte River, near Covelo	367	1952–67
11473100	Williams Creek near Covelo	30.4	1962–69
11473500	Middle Fork Eel River near Covelo	406	1912–18, 1920–22
11473530	Mill Creek below Alder Creek, near Covelo	17.1	1962–65
11473600	Short Creek near Covelo	15.2	1959–69
11473700	Mill Creek near Covelo	95.6	1956–71
11473800	Elk Creek near Hearst	84.1	1964–73
11473980	Goforth Creek at Dos Rios	3.83	1966–68
11474000	Eel River below Dos Rios	1,484	1912–13, 1952–66
11474400	Hulls Creek near Covelo	25.9	1962–64
11475500	South Fork Eel River near Branscomb	43.9	1947–70
11475700	Tenmile Creek near Laytonville	50.3	1958–74
11475940	East Branch South Fork Eel River near Garberville	74.3	1966–72
11476000	South Fork Eel River at Garberville	468	1912–13, 1940
11476700	Larabee Creek near Holmes	84.1	1960–65
11477475	Mill Creek below Sulphur Creek, at Dinsmore	3.11	1990–95
11477500	Van Duzen River near Dinsmore	85.2	1954–58, 1964–74
11477700	Little Van Duzen River near Bridgeville	36.2	1958–67
11478000	Van Duzen River at Bridgeville	202	1912–13, 1940–51
11478400	Van Duzen River Tributary near Bridgeville	.71	1969
11479000	Yager Creek near Carlotta	127	1954–55, 1957–60, 1966–72
11479500	Yager Creek at Carlotta	134	1912–13
11479700	Elk River near Falk	44.2	1958–67
11480000	Jacoby Creek near Freshwater	5.80	1955–64
11480500	Mad River near Forest Glen	143	1953–94
11480750	Mad River near Kneeland	351	1966–74
11480800	North Fork Mad River near Korbel	40.4	1958–64, 1973–74
11481200	Little River near Trinidad	40.5	1956–94
11481500	Redwood Creek near Blue Lake	67.7	1953–58, 1972–93
11482000	Redwood Creek near Korbel	83.0	1912–13
11482110	Lacks Creek near Orick	16.9	1980–91
11482120	Redwood Creek above Panther Creek, near Orick	150	1981–89
11482125	Panther Creek near Orick	6.07	1979–91
11482130	Coyote Creek near Orick	7.78	1980–82, 1984–89
11482200	Redwood Creek at South Park Boundary, near Orick	185	1971–81
11482468	Little Lost Man Creek at Site No. 2, near Orick	3.46	1974–82, 1985–89
11488700	Dry Lake Tributary at Perez	1.74	1963–66
11489500	Antelope Creek near Tennant	18.6	1953–79
11490000	Antelope Creek near Macdoel	30	1922
11490500	Butte Creek near Macdoel	178	1922, 1952–60
11512000	Fall Creek at Copco	14.6	1933–59
11512500	Klamath River below Fall Creek, near Copco	4,317	1924–61
11516600	Cottonwood Creek at Hornbrook	89.8	1965–71
11516900	Little Shasta River near Montague	48.2	1958–78
11517000	Shasta River near Montague	673	1912–13, 1917–21, 1924–33
11517800	Beaver Creek near Klamath River	106	1960–65
11517900	East Fork Scott River below Houston Creek, near Callahan	19.7	1970–73

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11517950	East Fork Scott River above Kangaroo Creek, near Callahan	49.5	1970–73
11518000	East Fork Scott River near Callahan	57.5	1911
11518050	East Fork Scott River at Callahan	110	1960–74
11518200	South Fork Scott River near Callahan	41.5	1959–60
11518300	Sugar Creek near Callahan	12.0	1957–60
11518310	Cedar Gulch near Callahan	.99	1966–73
11518600	Moffett Creek near Fort Jones	69.8	1959–67
11519000	Shackleford Creek near Mugginsville	17.7	1957–60
11520000	Scott River near Scott Bar	804	1912–13
11521000	Klamath River near Happy Camp	7,024	1912
11522200	Elk Creek near Happy Camp	90.4	1957–64
11522260	Ti Creek near Somes Bar	9.46	1961–64
11522300	South Fork Salmon River near forks of Salmon	252	1957–65
11522400	North Fork Salmon River near forks of Salmon	203	1959–64
11523030	Red Cap Creek near Orleans	56.1	1958–65
11523050	Bluff Creek near Weitchpec	74.6	1959–65
11523700	Coffee Creek near Trinity Center	107	1911–13, 1958–66
11524000	Trinity River near Trinity Center	300	1911–13
11525655	Trinity River below Limekiln Gulch, near Douglas City	812	1981–91
11525800	Weaver Creek near Douglas City	48.4	1959–69
11525900	Browns Creek near Douglas City	71.6	1957–67
11526000	Trinity River near Douglas City	1,014	1944–51
11527400	New River at Denny	173	1928–29, 1959–69
11528000	Trinity River near China Flat	1,733	1912–13
11528100	South Fork Trinity River at Forest Glen	208	1960–65
11528200	South Fork Trinity River near Hyampom	342	1956–65
11528400	Hayfork Creek near Hayfork	86.7	1957–65
11528440	Big Creek near Hayfork	27.1	1961, 1963–67
11528500	Hayvord Creek near Hyampom	378	1953–74
11529500	South Fork Trinity River near China Flat	932	1912–13
11529800	Willow Creek near Willow Creek	40.9	1959–74
11530020	Supply Creek at Hoopa	15.8	1981–87
11530150	Mareep Creek near Weitchpec	3.56	1967–69
11530500	Klamath River near Klamath	12,000	1910–26, 1950–94
11531000	Middle Fork Smith River at Gasquet	131	1912–17, 1959–65
11531500	North Fork Smith River at Gasquet	158	1912–13
11532700	Rowdy Creek at Smith River	33.3	1957–62
11533000	Lopez Creek near Smith River	.92	1962–66

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
11144500	Santa Margarita Lake near Pozo	112	1945–86
11166740	Calero Reservoir near New Almaden	6.93	1936–85
11461800	Lake Mendocino near Ukiah	105	1966–90
11464900	Lake Sonoma near Geyserville	130	1984–90

DISCONTINUED WATER-QUALITY STATIONS

The following continuous water-quality 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)	Type of record	Period of record
11141150	Arroyo Grande above Phoenix Creek, near Arroyo Grande	13.4	WQ,S,T	1967–73, 1977, 1990
11141280	Lopez Creek near Arroyo Grande	20.9	WQ,S,T	1968–72, 1977
11143000	Big Sur River near Big Sur	46.5	WQ,T	1966–79
11143250	Carmel River near Carmel	246	WQ, S	1954–66, 1990, 1991–97
11147040	Santa Rita Creek Tributary near Templeton	2.95	T	1968–72
11147070	Santa Rita Creek near Templeton	18.2	S	1968–72
11147500	Salinas River at Paso Robles	390	WQ,S	1963–66
11148800	Nacimiento River near Bryson	147	T,S	1959, 1961–71
11148900	Nacimiento River below Sapaque Creek, near Bryson	162	T	1972–73
11149400	Nacimiento River below Nacimento Dam, near Bradley	329	WQ	1963–66
11149700	San Antonio River at Sam Jones Bridge	204	T,S	1959, 1961–62, 1964–65
11149900	San Antonio River near Lockwood	217	T	1966–73
11150000	San Antonio River at Pleyto	277	T,S	1962, 1965
11151870	Arroyo Seco near Greenfield	113	S	1963–75, 1978–84
11152300	Salinas River near Chualar	4,042	C,T,B	1967–69, 1977–95
11152500	Salinas River near Spreckels	4,156	C,T,S	1950–51, 1967–79
11153470	Llagas Creek above Chesbro Reservoir, near Morgan Hill	9.63	T	1972–78
11153555	Llagas Creek at San Martin	28.2	WQ,S	1980–87, 1989–91
11153900	Uvas Creek above Uvas Reservoir, near Morgan Hill	21	T,S	1966–76
11154700	Clear Creek near Idria	14.1	T	1993–96
11159000	Pajaro River at Chittenden	1,186	B,C,T, WQ,S	1952–92
11160000	Soquel Creek at Soquel	40.2	T	1966–79
11160500	San Lorenzo River at Big Trees	106	S,T	1966–82
11162500	Pesadero Creek near Pesadero	45.9	T	1965–80
11162720	Colma Creek at South San Francisco	10.8	S	1966–76
11162722	Spruce Branch at South San Francisco	1.68	S	1965–69
11166575	Permanente Creek near Monte Vista	3.86	T,S	1984–87
11166578	West Fork Permanente Creek near Monte Vista	2.98	T,S	1985–86
11166710	Arroyo Calero above Calero Reservoir, near New Almaden	3.14	WQ	1986–90
11166900	Alamitos Creek near New Almaden	31.8	WQ,S	1985–91
11167500	Guadalupe Creek at Guadalupe	12.8	WQ,S	1980–91
11168000	Los Gatos Creek at Los Gatos	39.0	WQ	1952–66, 1980–87, 1989–91
11168800	Los Gatos Creek at Lincoln Avenue, at San Jose	48.4	WQ	1980–87, 1989–91
11169580	Calabazas Creek Tributary No. 1 at Mt. Eden Road	.37	T	1973–77
11169600	Prospect Creek above Saratoga Golf Course, near Saratoga	.27	T	1973–75
11169616	Calabazas Creek at Rainbow Drive, near Cupertino	3.98	T	1974–77
11169800	Coyote Creek near Gilroy	109	T,S	1965–76
11169970	Coyote Creek below Leroy Anderson Dam, near Madrone	195	WQ,S	1980–88, 1990–91
11171500	Coyote Creek near Edenvale	229	WQ,S	1979–88, 1990–91
11174600	Alamo Canal near Pleasanton	40.8	C	1979–83
11176000	Arroyo Mocho near Livermore	38.2	C	1979–83
11176140	Altamont Creek near Livermore	13.4	C	1979–80
11176145	Arroyo Las Positas at Livermore	53.3	C	1980–83
11176180	Arroyo Las Positas at El Charro, near Pleasanton	75.0	C	1980–83
11176200	Arroyo Mocho near Pleasanton	142	C	1980–84
11176300	Tassajara Creek near Pleasanton	26.8	C	1979–83
11176350	Arroyo de la Laguna above Arroyo Valle, near Pleasanton	224	T,S	1975–79
11176400	Arroyo Valle below Lang Canal, near Livermore	130	S	1963, 1965
11176500	Arroyo Valle near Livermore	147	S	1966–67
11176600	Arroyo Valle at Pleasanton	171	T,S	1975–79
11176900	Arroyo de la Laguna above bridge, near Pleasanton	—	T	1960–63
11177000	Arroyo de la Laguna near Pleasanton	405	C	1979–83
11177200	Vallecitos Creek at Sunol	7.48	C	1975–86
11179000	Alameda Creek near Niles	633	WQ,S,T,C	1906, 1952–73, 1975–93

DISCONTINUED WATER-QUALITY STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
11180825	San Lorenzo Creek above Don Castro Reservoir, near Castro Valley	18.0	T,S	1981–94
11180940	Cull Creek Tributary No. 4 above Cull Creek Reservoir, near Castro Valley	.45	S	1981, 1986, 1989, 1992
11180965	Cull Creek below Cull Creek Dam, near Castro Valley	6.37	T,S	1979
11181040	San Lorenzo Creek at San Lorenzo	44.6	T,S	1989–93
11181330	Temescal Creek above Lake Temescal, at Oakland	1.74	WQ,S	1979–81
11181390	Wildcat Creek at Vale Road, at Richmond	7.79	S	1978–80
11456000	Napa River near St. Helena	81.4	S	1961–62
11458000	Napa River near Napa	218	WQ,C,S,T	1971, 1973–93
11460000	Corte Madera Creek at Ross	18.1	S	1978–80
11460015	Corte Madera Creek at College Avenue, at Kentfield	18.2	S	1988–89
11460110	Gerbode Valley Creek near Sausalito	3.29	WQ,S	1986–88
11460120	Rodeo Lagoon at Ft. Cronkhite, near Sausalito	4.07	WQ	1986–88
11460130	Tennessee Valley Creek near Tamalpais Valley	1.91	WQ,S	1986–88
11460140	Redwood Creek below Muir Woods, near Mill Valley	4.11	WQ,S	1986–88
11460152	Redwood Creek at Muir Beach, near Tamalpais Valley	7.29	WQ,S	1986–88
11460154	Green Gulch at Muir Beach, near Tamalpais Valley	1.51	WQ,S	1986–88
11460156	Webb Creek near Stinson Beach	1.12	WQ,S	1986–88
11460158	Table Rock Creek at Stinson Beach	1.34	WQ,S	1986–88
11460170	Pine Creek at Bolinas	7.83	T,S	1967, 1969–70
11460600	Lagunitas Creek near Point Reyes	81.7	T,S	1989–90
11460920	Salmon Creek at Bodega	15.7	T,S	1964–75
11461000	Russian River near Ukiah	100	WQ,S,B,T	1964–68, 1977–79, 1991–92, 1994–96
11461500	East Fork Russian River near Calpella	92.2	S	1965–68
11462000	East Fork Russian River near Ukiah	105	WQ,S,B,T	1953–55, 1964–68, 1973–94
11462500	Russian River near Hopland	362	WQ,T,S	1951–79, 1989–93, 1995–96
11463000	Russian River near Cloverdale	503	T,S	1964–68, 1995–96
11463160	Big Sulphur Creek near Middletown	2.89	T,S	1978–79
11463200	Big Sulphur Creek near Cloverdale	85.5	S	1967–68
11464000	Russian River near Healdsburg	793	WQ	1951–66, 1979–80
11464500	Dry Creek near Cloverdale	87.8	T	1965–79
11465150	Pena Creek near Geyserville	22.3	S	1979–86
11465000	Dry Creek below Warm Springs Dam, near Geyserville	131	T	1981–94
11465200	Dry Creek near Geyserville	162	WQ,S,T	1964–86
11467000	Russian River near Guerneville	1,338	C,B,WQ	1951–94
11467590	Garcia River at Eureka Hill Road, near Point Arena	83.2	S	1992–97
11467600	Garcia River near Point Arena	98.5	T	1964–78
11468000	Navarro River near Navarro	303	T	1965–79
11468600	Middle Fork Ten Mile River near Fort Bragg	32.9	T	1965–73
11471000	Potter Valley Powerhouse intake near Potter Valley	—	S	1964–68
11472150	Eel River near Dos Rios	528	S	1967–77
11472200	Outlet Creek near Longvale	161	S	1967–70
11472500	Eel River above Dos Rios	705	T,S	1959, 1962–82
11472800	Middle Fork Eel River above Black Butte River, near Covelo	204	T,S	1966, 1969–70
11472900	Black Butte River near Covelo	162	T,S	1964–66, 1968–75
11473000	Middle Fork Eel River below Black Butte River, near Covelo	367	T,S	1961–63, 1968–79
11473800	Elk Creek near Hearst	84.1	T	1965–73
11473900	Middle Fork Eel River near Dos Rios	745	C,S	1967–69
11474500	North Fork Eel River near Mina	248	T,S	1973–75
11474700	Chamise Creek near Island Mountain	22.6	T,S	1973–75
11475000	Eel River at Fort Seward	2,107	S	1966–76
11475100	Dobbyn Creek near Fort Seward	61.4	T,S	1973–76
11475500	South Fork Eel River near Branscomb	43.9	T,S	1961–70
11475560	Elder Creek near Branscomb	6.50	WQ,T,S	1968–96
11476500	South Fork Eel River near Miranda	537	S	1981
11476600	Bull Creek near Weott	28.1	S	1960–80
11477000	Eel River at Scotia	3,112	B,C,T,S	1952–95, 1998
11477500	Van Duzen River near Dinsmore	85.2	T	1966–74
11477700	Little Van Duzen River near Bridgeville	36.2	T	1961–65

DISCONTINUED WATER-QUALITY STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
11480700	Maple Creek near Blue Lake	12.1	T	1969
11480750	Mad River near Kneeland	351	T	1966–74
11480780	Mad River near Blue Lake	393	T	1973–76
11481000	Mad River near Arcata	485	S	1960–74
11481500	Redwood Creek near Blue Lake	67.7	WQ	1974–75
11482110	Lacks Creek near Orick	16.9	C,S	1975–76, 1978–91
11482120	Redwood Creek above Panther Creek, near Orick	150	S	1988–89
11482125	Panther Creek near Orick	6.07	T,S	1979–91
11482130	Coyote Creek near Orick	7.78	T,S	1980
11482200	Redwood Creek at South Park Boundary, near Orick	185	T	1974–81
11482468	Little Lost Man Creek at Site No. 2, near Orick	3.46	WQ,S	1974–76, 1978–82, 1985–89
11482500	Redwood Creek at Orick	277	WQ,T	1959–92
11516600	Cottonwood Creek at Hornbrook	89.8	T	1965–71
11523000	Klamath River at Orleans	8,475	S	1967–79
11525500	Trinity River at Lewiston	719	WQ,T,S	1951–83
11525550	Grass Valley Creek near French Gulch	7.93	S	1985–89
11525655	Trinity River below Limekiln Gulch, near Douglas City	812	T,S	1981–91
11526500	North Fork Trinity River at Helena	151	T,S	1963
11528200	South Fork Trinity River near Hyampom	342	T	1961–65
11528500	Hayfork Creek near Hyampom	378	T	1961–74
11528700	South Fork Trinity River below Hyampom	764	S	1967–70, 1981–82
11529000	South Fork Trinity River near Salyer	898	T,S	1959–67, 1981–82
11530000	Trinity River at Hoopa	2,853	S	1960–79
11530020	Supply Creek at Hoopa	15.8	T,S	1982–85
11530300	Blue Creek near Klamath	120	T	1966–78
11530500	Klamath River near Klamath	12,100	WQ,B,C, T,S	1951–95, 1966–81
11532000	South Fork Smith River near Crescent City	291	T,S	1978–79
11532500	Smith River near Crescent City	614	WQ,C,B, S,T	1952–93
11532620	Mill Creek near Crescent City	28.6	T	1974–80
353339121053900	Santa Rosa Creek on Highway 1 Bridge, at Cambria	46.6	WQ	1988–89
353406121061100	Santa Rosa Creek at Windson Boulevard, near Cambria	47.1	WQ	1988–89
353635121043101	San Simeon Creek at Palmer Flats, near Cambria	23.1	WQ	1988–89
371057121472501	Calero Reservoir at dam, near New Almaden	6.93	WQ,B	1978–79, 1984–91
374906122281801	San Francisco Bay at Golden Gate Bridge	—	C,T	1997
375658122324000	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 0	—	S	1988–89
375701122324200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 1	—	S	1988–89
375704122324200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 2	—	S	1988–89
375710122324000	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 3	—	S	1990
375711122324600	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 4	—	S	1988–89
375712122325100	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 5	—	S	1988–89
375712122325200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 6	—	S	1988–89

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 1998
VOLUME 2—PACIFIC SLOPE BASINS FROM ARROYO GRANDE TO OREGON STATE LINE EXCEPT CENTRAL VALLEY

By M.F. Friebel, L.A. Freeman, M.D. Webster, *and* S.W. Anderson

INTRODUCTION

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

This volume of the report includes records on surface water in the State. Specifically, it contains (1) discharge records for 113 streamflow-gaging stations, 1 low-flow partial-record streamflow station, and 2 miscellaneous measurement stations; (2) gage-height records for 5 stations, (3) stage and contents records for 6 lakes and reservoirs; and (4) water-quality records for 17 streamflow-gaging stations. Records included for stream stages are only a small fraction of those obtained during the water year.

The series of annual reports for California began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format changed to include data on quantities of surface water, quality of surface and ground water, and ground-water levels. From the 1985 through the 1993 water years, a separate volume for ground-water levels and quality was published for California.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for California were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 10 and 11." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." These Water-Supply Papers may be consulted in public libraries of principal cities of the United States, or if not out of print, they may be purchased from U.S. Geological Survey, Information Services, Box 25286, Denver Federal Center, Denver, CO 80225-0046.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-98-2." 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:

Alameda County Flood Control and Water Conservation District, Robert Hale, Water Resources Manager.
Alameda County Water District, James D. Beard, General Manager.
California Department of Parks and Recreation, Henry R. Agonia, Director.
California Department of Water Resources, David N. Kennedy, Director.
Contra Costa County Flood Control and Water Conservation District, Milton Kubicek, Deputy Chief.
Hidden Valley Lake Community Services District, Mel Aust, General Manager.
Hoopa Indian Tribe, Ken Norton, Tribal EPA Director.
Humboldt Bay Municipal Water District, Arthur Bolli, General Manager.

Marin Municipal Water District, Pamela J. Nicolai, General Manager.
Monterey County Water Resources Agency, Michael D. Armstrong, General Manager.
Monterey Peninsula Water Management District, Darby Fuerst, General Manager.
San Benito County Water District, John Gregg, District Manager.
San Francisco Water Department, John Mullane, General Manager.
San Luis and Delta-Mendota Water Authority, Daniel G. Nelson, Executive Director.
San Luis Obispo County Engineering Department, Timothy P. Nanson, County Engineer.
San Mateo County Department of Public Works, Robert Frame, Senior Civil Engineer.
Santa Clara Valley Water District, Stanley M. Williams, General Manager.
Santa Cruz, city of, Water Department, Terry Tompkins, Deputy Director/Operations.
Santa Cruz County Flood Control and Water Conservation District, Planning Department, Mark Deming, Program Manager.
Scotts Valley Water District, Jon Sansing, General Manager.
Sonoma County Permit and Resource Management Department, Sigrid Swedenborg, Geothermal Coordinator.
Sonoma County Water Agency, Randy O. Poole, General Manager.
Soquel Creek Water District, Laura D. Brown, General Manager.
Woods Hole Oceanographic Institute, Kathleen Ruttenburg.
Yurok Indian Tribe, Mike Belchik.

Assistance in the form of funds or services was given by the Forest Service, U.S. Department of Agriculture; Corps of Engineers, U.S. Army; National Oceanographic and Atmospheric Administration, Department of Commerce; Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, and National Park Service, U.S. Department of the Interior.

The following organizations aided in collecting records: Pacific Gas and Electric Company; PacifiCorp, STS Hydropower, and North Coast Hydroelectric.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

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

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

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

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

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

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

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal,

State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

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

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1998 water year that began October 1, 1997, and ended September 30, 1998. 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 11465350, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "465350." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

Latitude-Longitude System

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

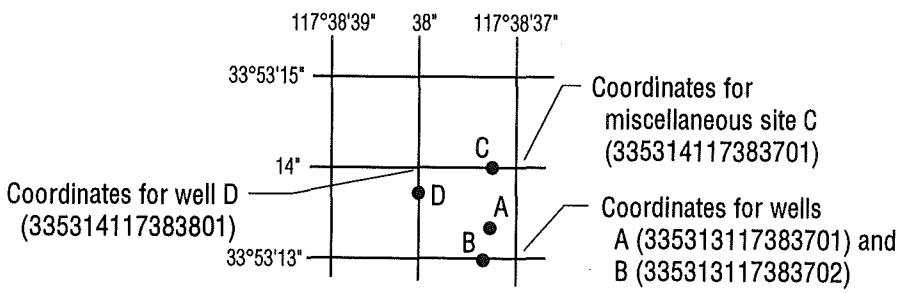


Figure 1. System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records" or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations for which data are given in this report are shown, by county, in figures 2 through 18.

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 or following records, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

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

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

Station manuscript

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

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

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

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

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

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

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

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

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

separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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

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

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 to follow clarify information presented under the various line headings of the summary statistics table.

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

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

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

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

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

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

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

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

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

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

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is 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 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures

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

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

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 20192, maintains an index of sites as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records at specific sites can be obtained from that office upon request.

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

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape or stored electronically in a data logger. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 2 through 18.

Arrangement of Records

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

Onsite Measurements and Sample Collection

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

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

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

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

Historical and current (1998) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter (µg/L) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

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

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with 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 and Hydrologic Bench-Mark Stations during various seasons and surface-water discharges. Documentation of cross-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

Laboratory Measurements

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

Water Quality-Control Data

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

Blank Samples

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

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

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

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

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

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

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

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

Reference Samples

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

Replicate Samples

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

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

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

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

Spike Samples

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

ACCESS TO USGS WATER DATA

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

http://water.usgs.gov.

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

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report are defined below. See the table for converting English (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.

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

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

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

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

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid.

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

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

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

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

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

Fecal-streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded 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 which produce pink to red colonies with black or reddish-brown precipitate after incubation at 41°C on mE agar and subsequent transfer to EIA medium. Enterococci include Streptococcus feacalis, Streptococcus feacium, Streptococcus avium, and their variants.

bed load is the sediment which moves along in essentially continuous contact with the streambed by rolling, sliding, and making brief excursions into the flow a few diameters above the bed.

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

Benthic organisms (invertebrates) are the group of animals 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 micro-organisms, such as bacteria.

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

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

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

Continuing-record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken one or more times daily.
3. When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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

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

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

Cubic foot per second per day (cfs/d or cfs-day) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons, or 2,447 cubic meters.

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

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

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

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

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

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

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

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

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

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

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

Extractable organic halides (EOX) are organic compounds which contain halogen atoms such a chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried stream-bottom sediments. 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 stream-bottom sediments.

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

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

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

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

High tide is the maximum height reached by each rising tide.

Hydrologic Bench-Mark Network is a network of approximately 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

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

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

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

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

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

Low tide is the minimum height reached by each falling tide.

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

Mean high tide is the average of all high tides over a specified period.

Mean low tide is the average of all low tides over a specified period.

Mean water level is the average of all tides over a specified period.

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 development process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-pupa-adult or egg-nymph-adult.

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

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

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

Microsiemens per centimeter (µS/cm, US/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 solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

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. It 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.

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

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

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

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

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

Organism is any living entity.

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

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

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

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

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

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

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

Classification	Size (mm)	Method of analysis
Clay	0.00024–0.004	Sedimentation
Silt	0.004–0.062	Sedimentation
Sand	0.062–2.0	Sedimentation or sieve
Gravel	2.0–64.0	Sieve

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

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

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While 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. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

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

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

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

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

Blue-green algae are 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.

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2/time)] for periphyton and macrophytes and [mg O_2/(m^3/time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

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

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The entire sample is used for the analysis.

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

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

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

Suspended total residue at 105°C concentration is the concentration of suspended sediment in the sampled zone expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). A small aliquot of the sample is used for the analysis.

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

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

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

Solute is any substance that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures 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 analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

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

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

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.

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

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

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

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

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

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

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in 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 determines all the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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

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

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

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

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 man-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 (U.S. Environmental Protection Agency, 1996).

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1998, is called the "1998 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

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 pages.

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

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 pages.

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

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 pages.

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

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 pages.

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 pages.

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 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS-TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI Book 3. Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI Book 3, Chapter A9. 1989. 27 pages.

3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. *Fluorometric procedures for dye tracing, Revised,* by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A12. 1986. 41 pages.

3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS–TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A20. 1993. 38 pages.

3-A21 *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI Book 3, Chapter A21. 1995. 56 pages.

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 pages.

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

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

3-B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI Book 3, Chapter B4. 1990. 232 pages.

3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI Book 3, Chapter B4. 1993. 8 pages.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction,* by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. *The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI Book 3, Chapter B6. 1987. 28 pages.

3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E.J. Wexler: USGS–TWRI Book 3, Chapter B7. 1992. 190 pages.

Section C. Sedimentation and Erosion Techniques

3-C1. *Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment,* by Thomas K. Edwards and G. Douglas Glysson: USGS–TWRI Book 3, Chapter C2. 1988. 80 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI Book 3, Chapter C3. 1972. 66 pages.

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 pages.

4-A2. *Frequency curves,* by H.C. Riggs: USGS–TWRI Book 4, Chapter A2. 1968. 15 pages.

Section B. Surface Water

4-B1. *Low-flow investigations,* by H.C. Riggs: USGS–TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply,* by H.C. Riggs and C.H. Hardison: USGS–TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI Book 4, Chapter B3. 1973. 15 pages.

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 pages.

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 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments,* edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI Book 5, Chapter A3. 1987. 80 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* by L.J. Britton and P.E. Greeson, editors: USGS–TWRI Book 5, Chapter A4. 1989. 363 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI Book 5, Chapter A6. 1982. 181 pages.

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 pages.

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 pages.

6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model,* by S.A. Leake and D.E. Prudic: USGS–TWRI Book 6, Chapter A2. 1991. 68 pages.

6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems,* Part 1: Model Description and User's Manual, by L.J. Torak: USGS–TWRI Book 6, Chapter A3. 1993. 136 pages.

6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems,* Part 2: Derivation of finite-element equations and comparisons with analytical solutions, by R.L. Cooley: USGS–TWRI Book 6, Chapter A4. 1992. 108 pages.

6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems,* Part 3: Design philosophy and programming details, by L.J. Torak: USGS–TWRI Book 6, Chapter A5, 1993. 243 pages.

6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction,* by Eric D. Swain and Eliezer J. Wexler. 1996. 125 pages.

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 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water,* by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels,* by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI Book 7, Chapter C3. 1981. 110 pages.

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 pages.

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

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 pages.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

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,* by D.N. Myers and F.D. Wilde: USGS–TWRI Book 9, Chapter A7. 1997. 49 pages.

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 pages.

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 pages.

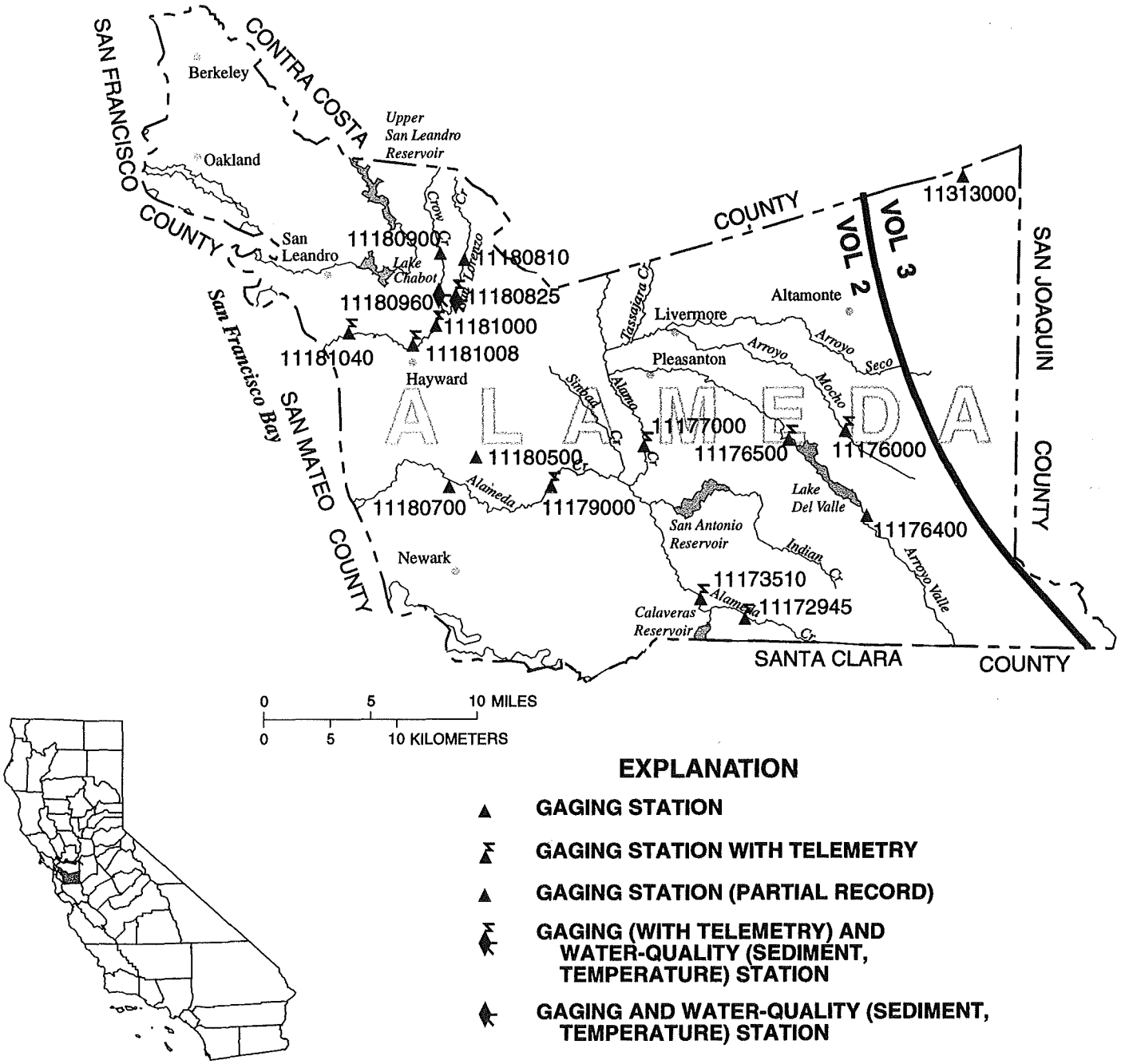


Figure 2. Location of discharge and water-quality stations in Alameda County. (NOTE: Record for station 11313000 published in volume 3.)

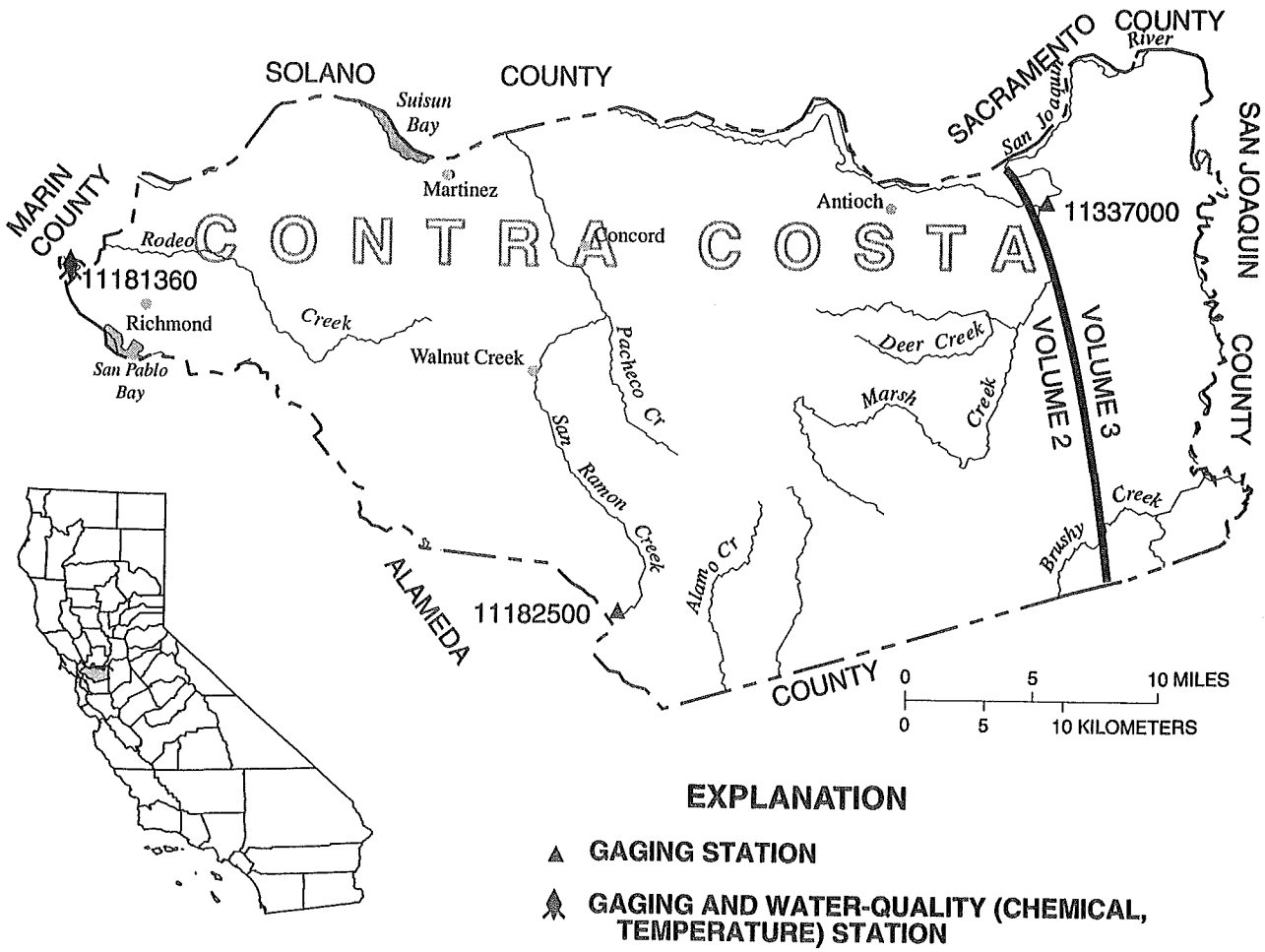


Figure 3. Location of discharge and water-quality stations in Contra Costa County. (NOTE: Record for station 11337000 published in volume 3.)

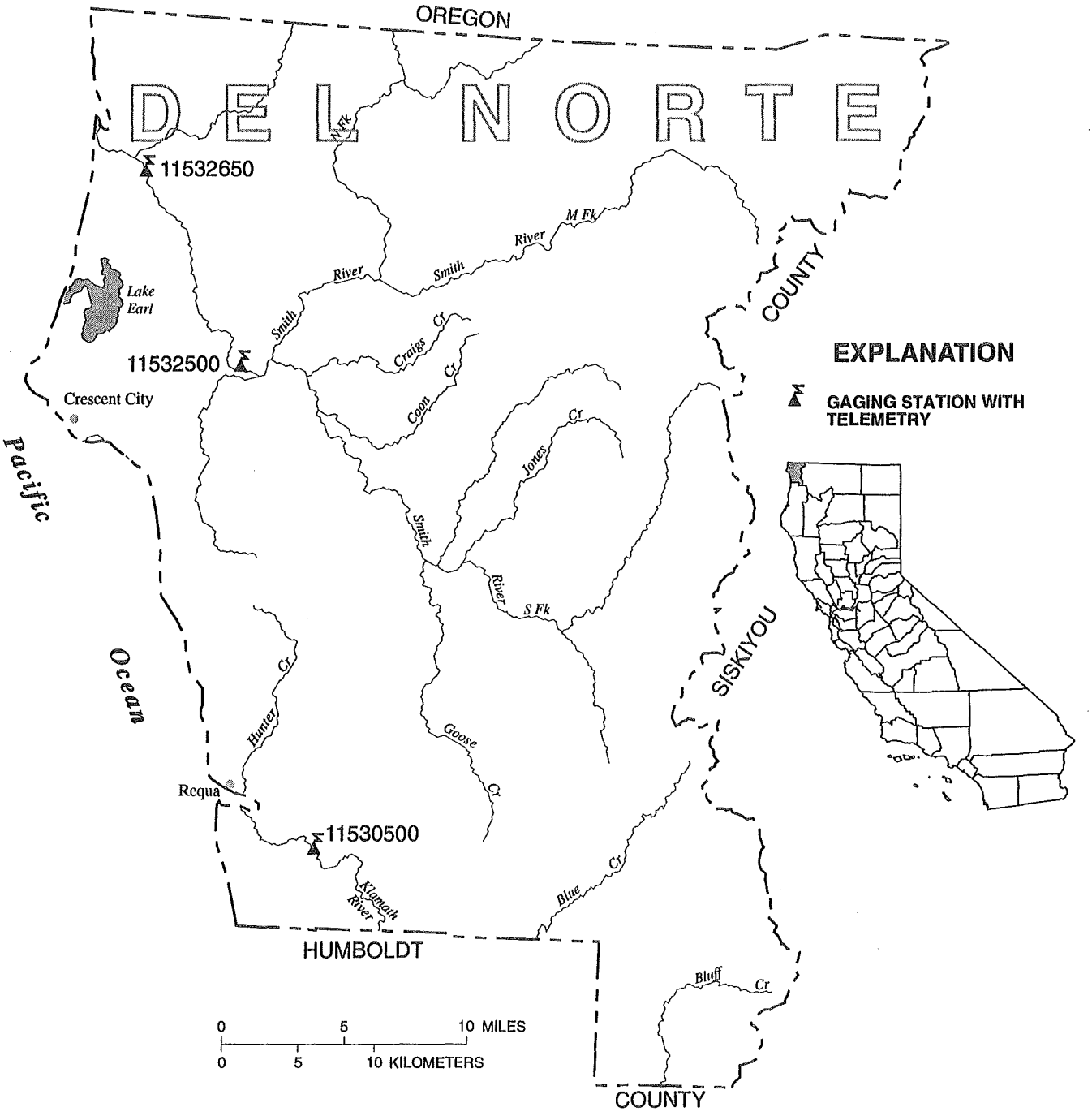


Figure 4. Location of discharge stations in Del Norte County.

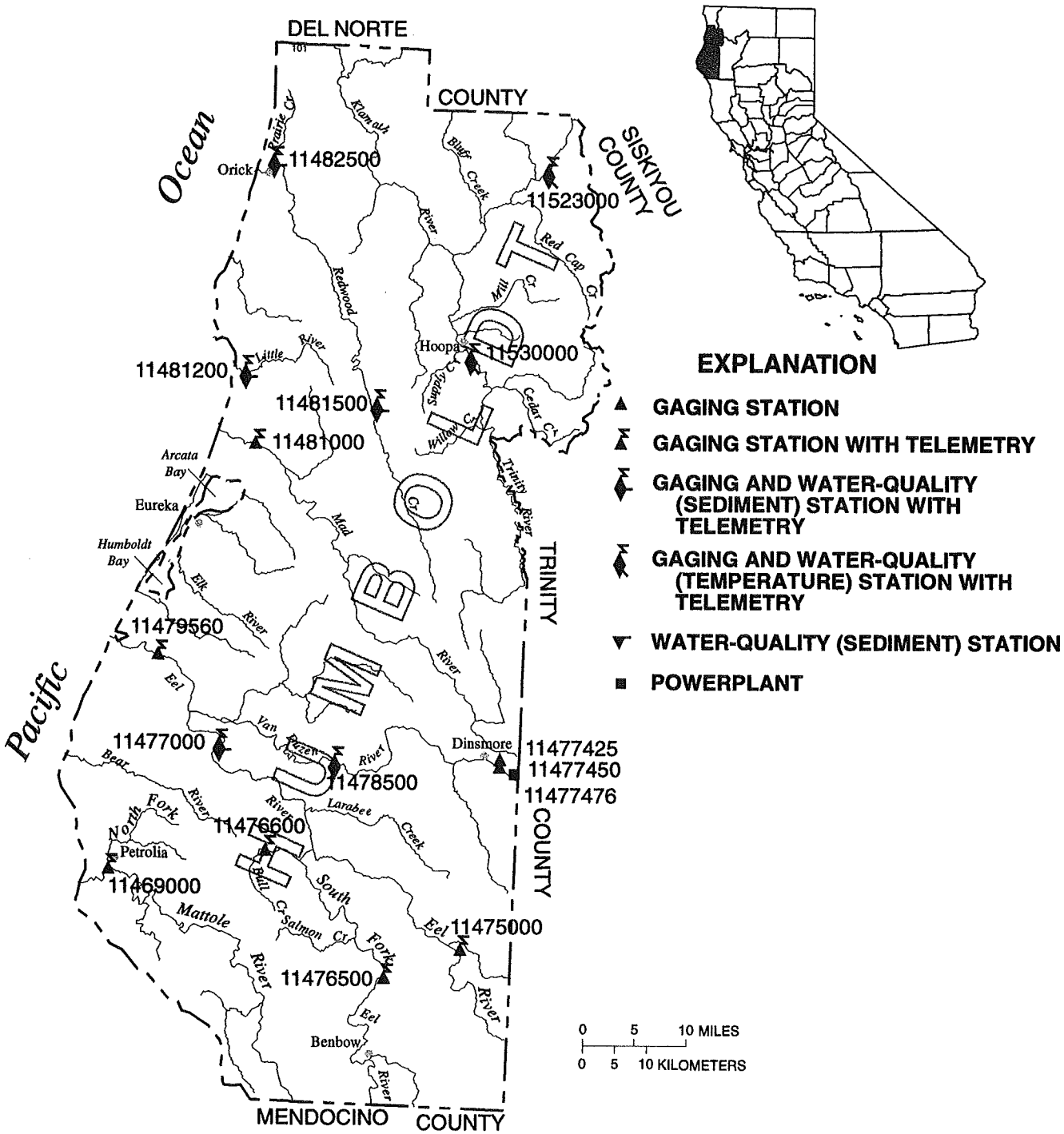


Figure 5. Location of discharge and water-quality stations in Humboldt County.

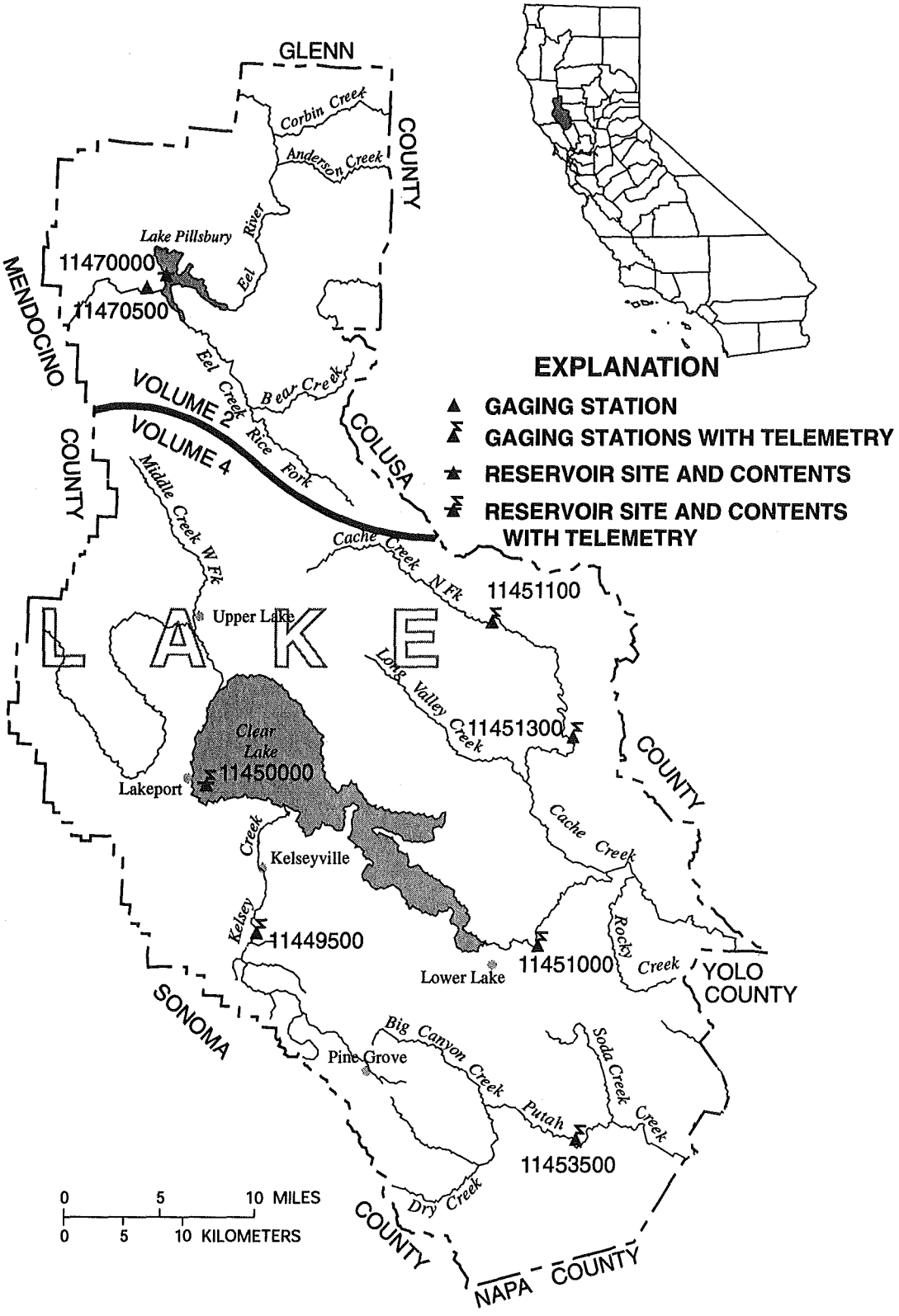


Figure 6. Location of discharge stations in Lake County.
(NOTE: Records for stations 11449500 through 11451300 published in volume 4.)

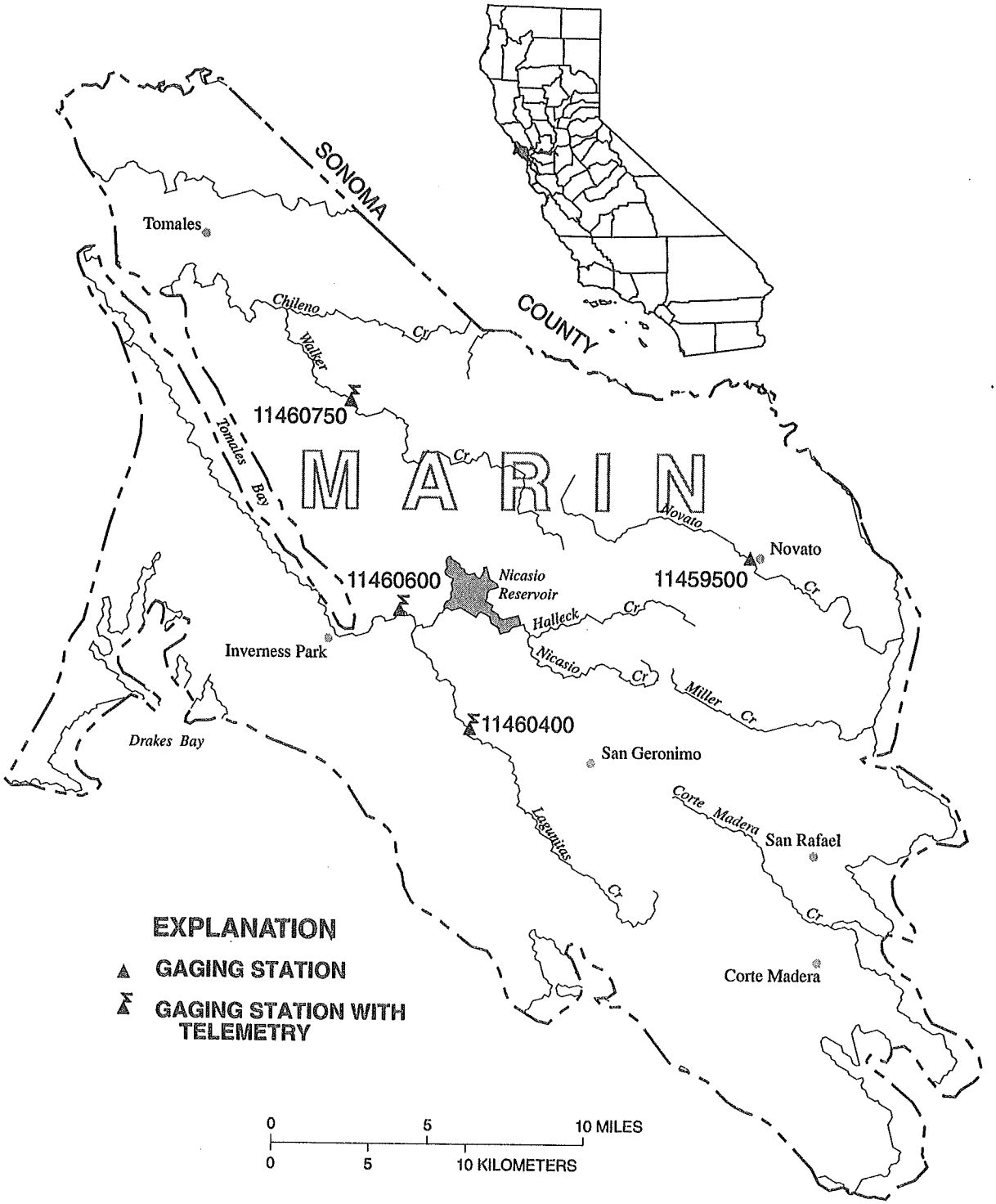


Figure 7. Location of discharge stations in Marin County.

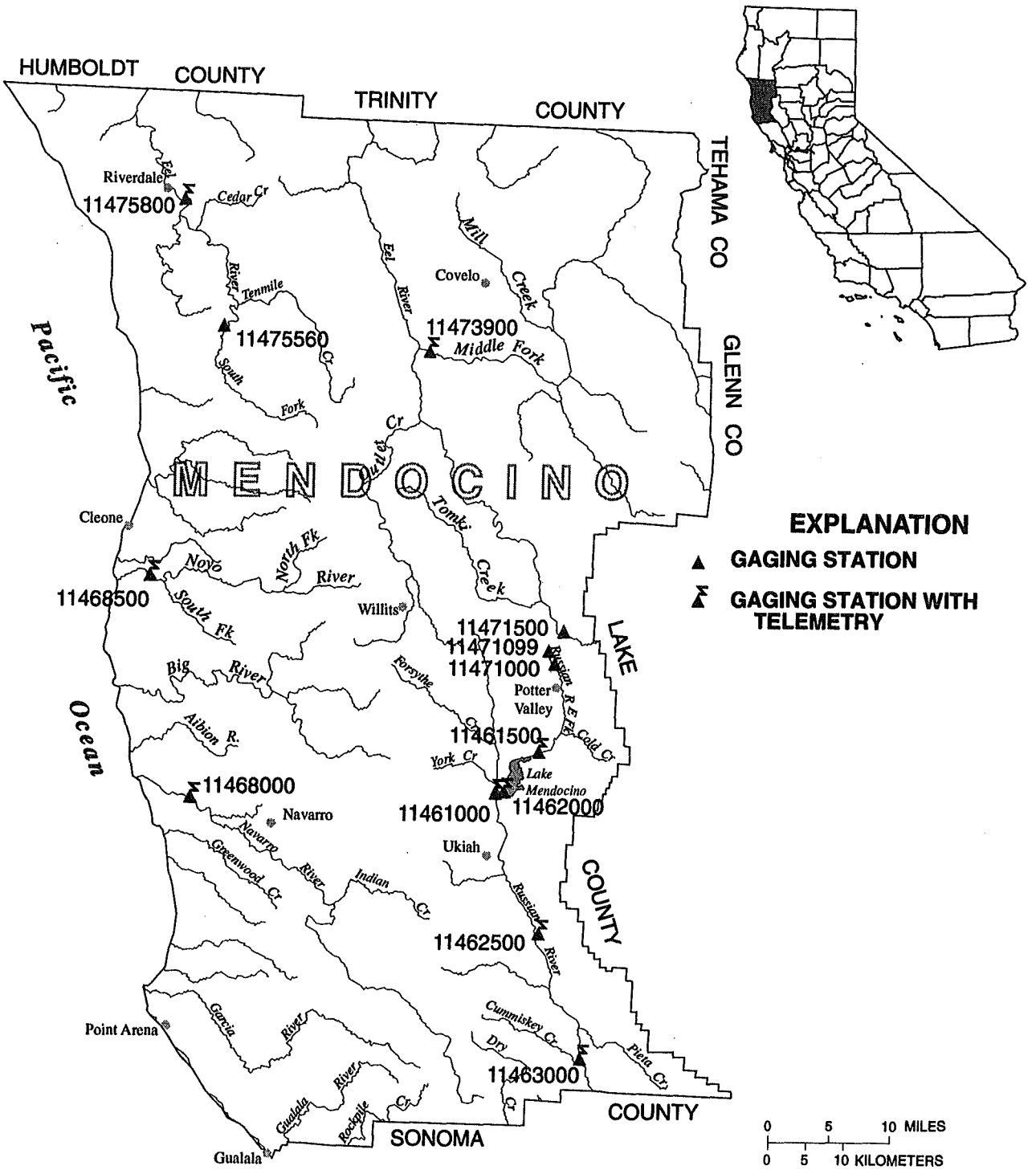


Figure 8. Location of discharge and water-quality stations in Mendocino County.

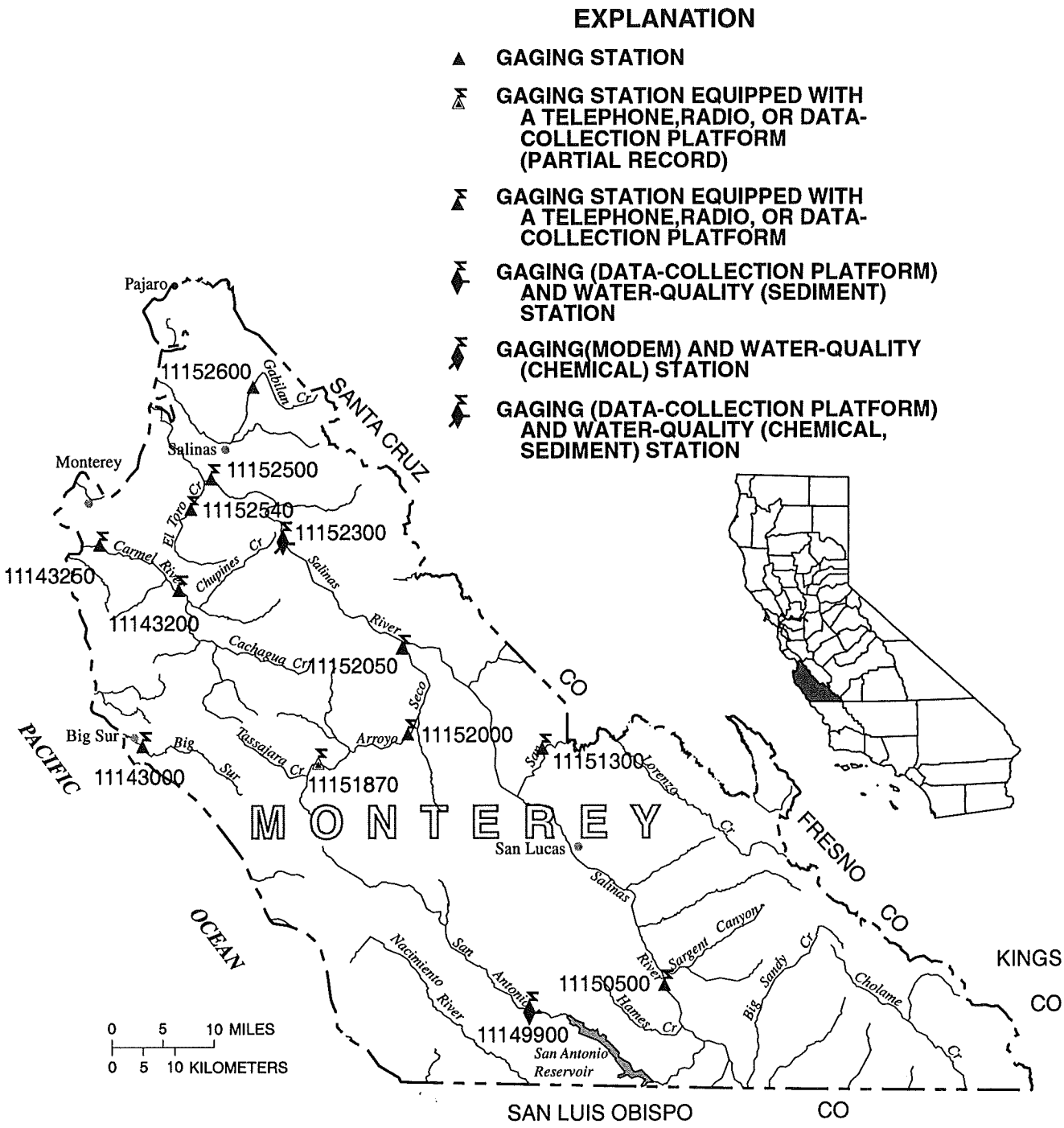


Figure 9. Location of discharge and water-quality stations in Monterey County.

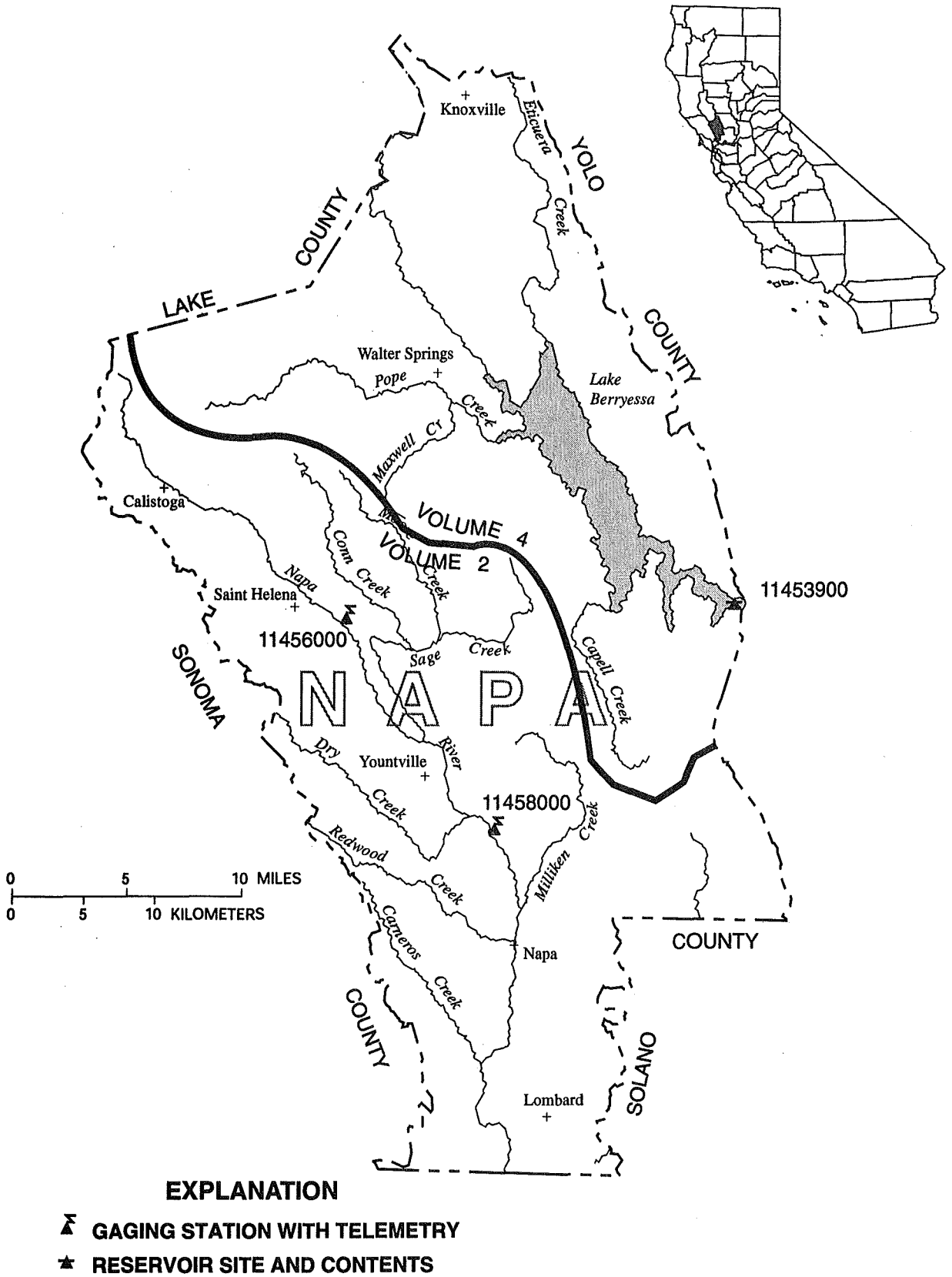


Figure 10. Location of discharge stations in Napa County.
(NOTE: Record for station 11453900 published in volume 4.)

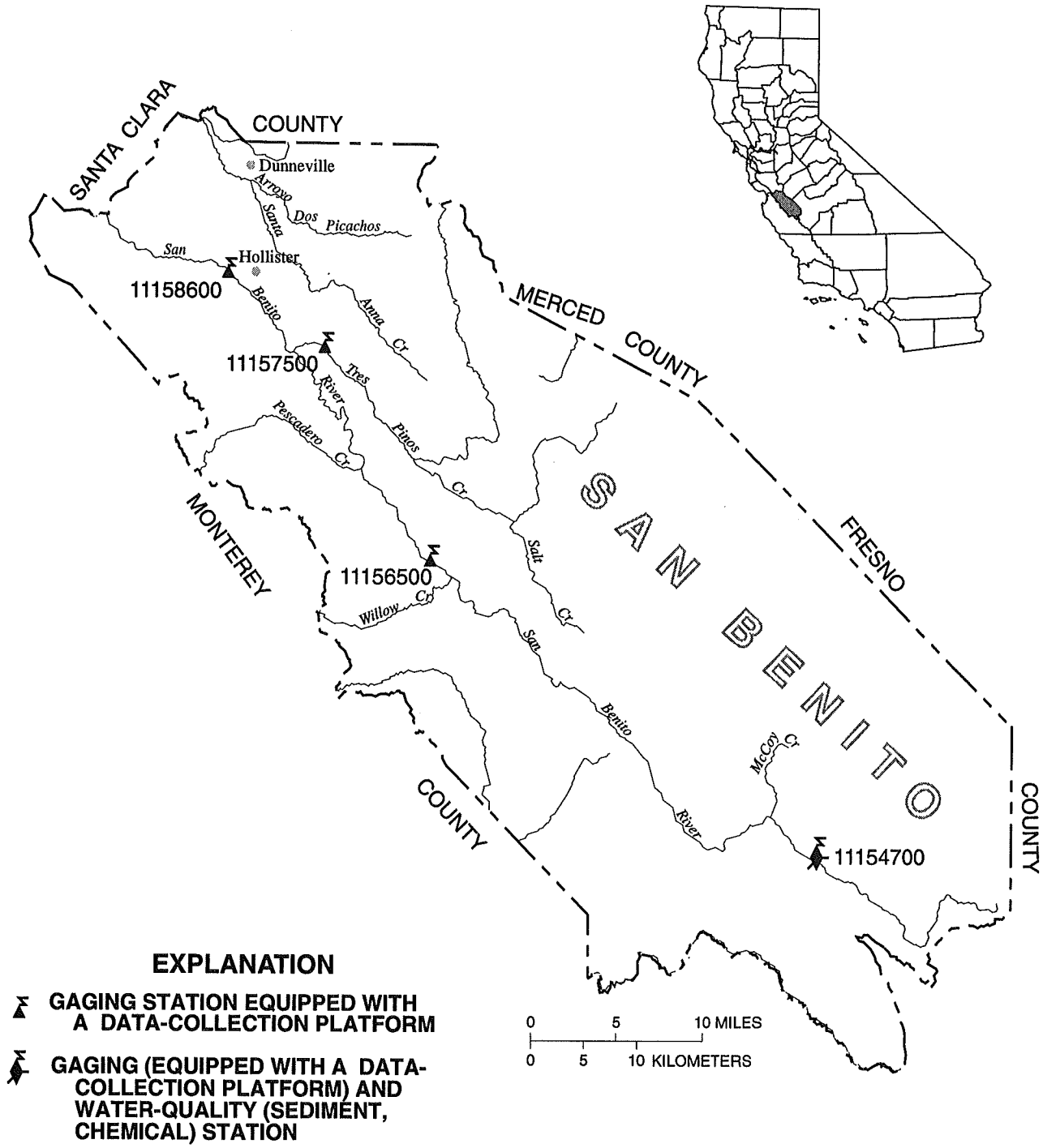


Figure 11. Location of discharge and water-quality stations in San Benito County.

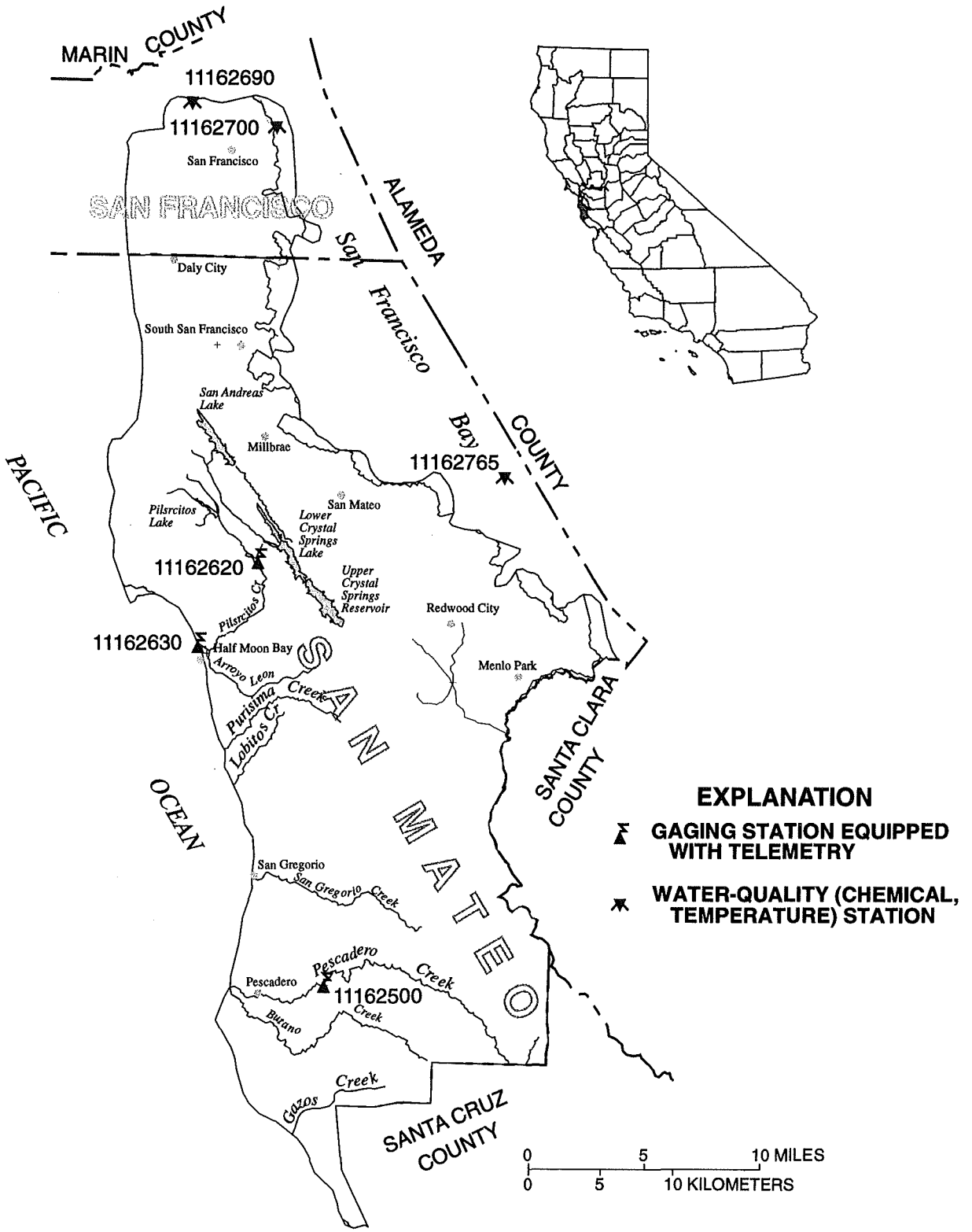
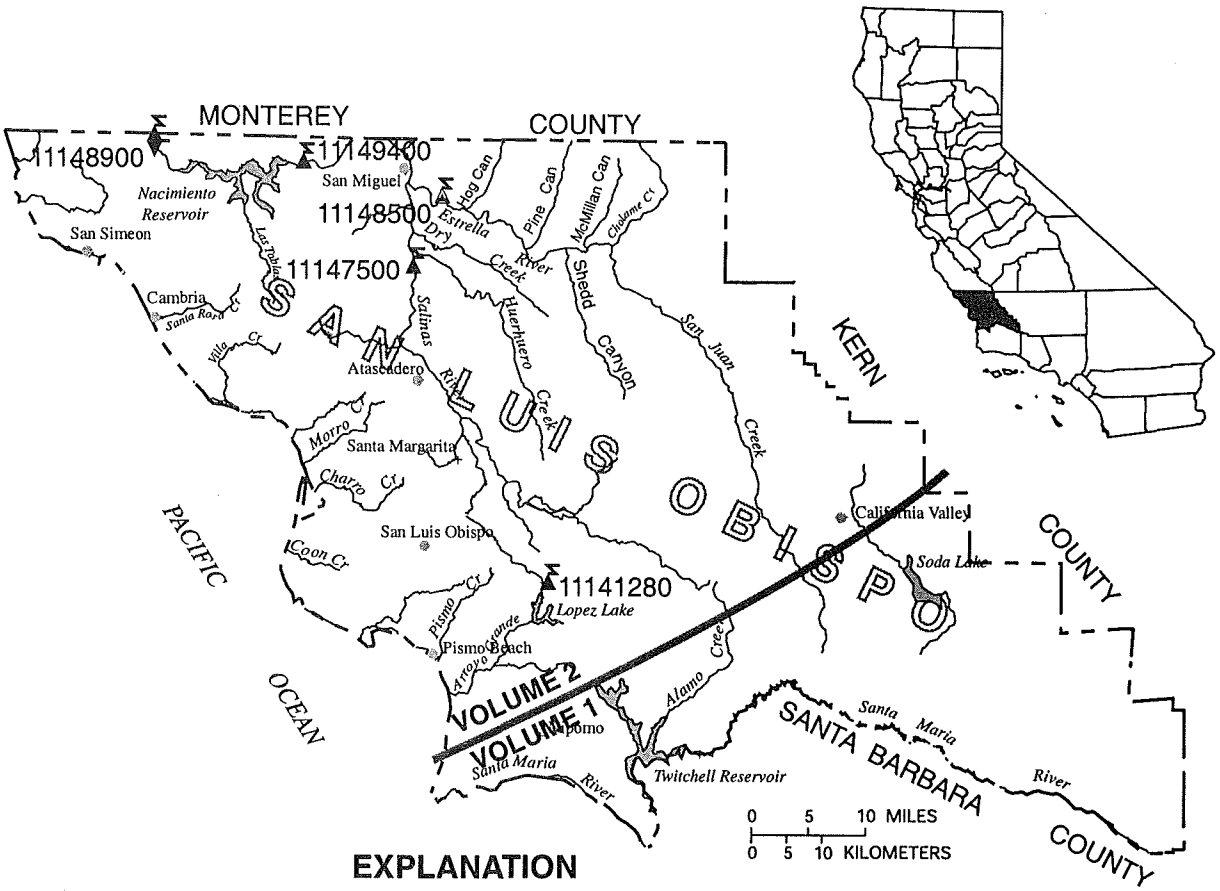


Figure 12. Location of discharge and water-quality stations in San Francisco and San Mateo Counties.



EXPLANATION

▲ GAGING STATION

GAGING STATION EQUIPPED WITH A TELEPHONE,RADIO, OR DATA-COLLECTION PLATFORM (PARTIAL RECORD)

GAGING STATION EQUIPPED WITH A TELEPHONE,RADIO, OR DATA-COLLECTION PLATFORM

GAGING (DATA-COLLECTION PLATFORM) AND WATER-QUALITY (SEDIMENT) STATION

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

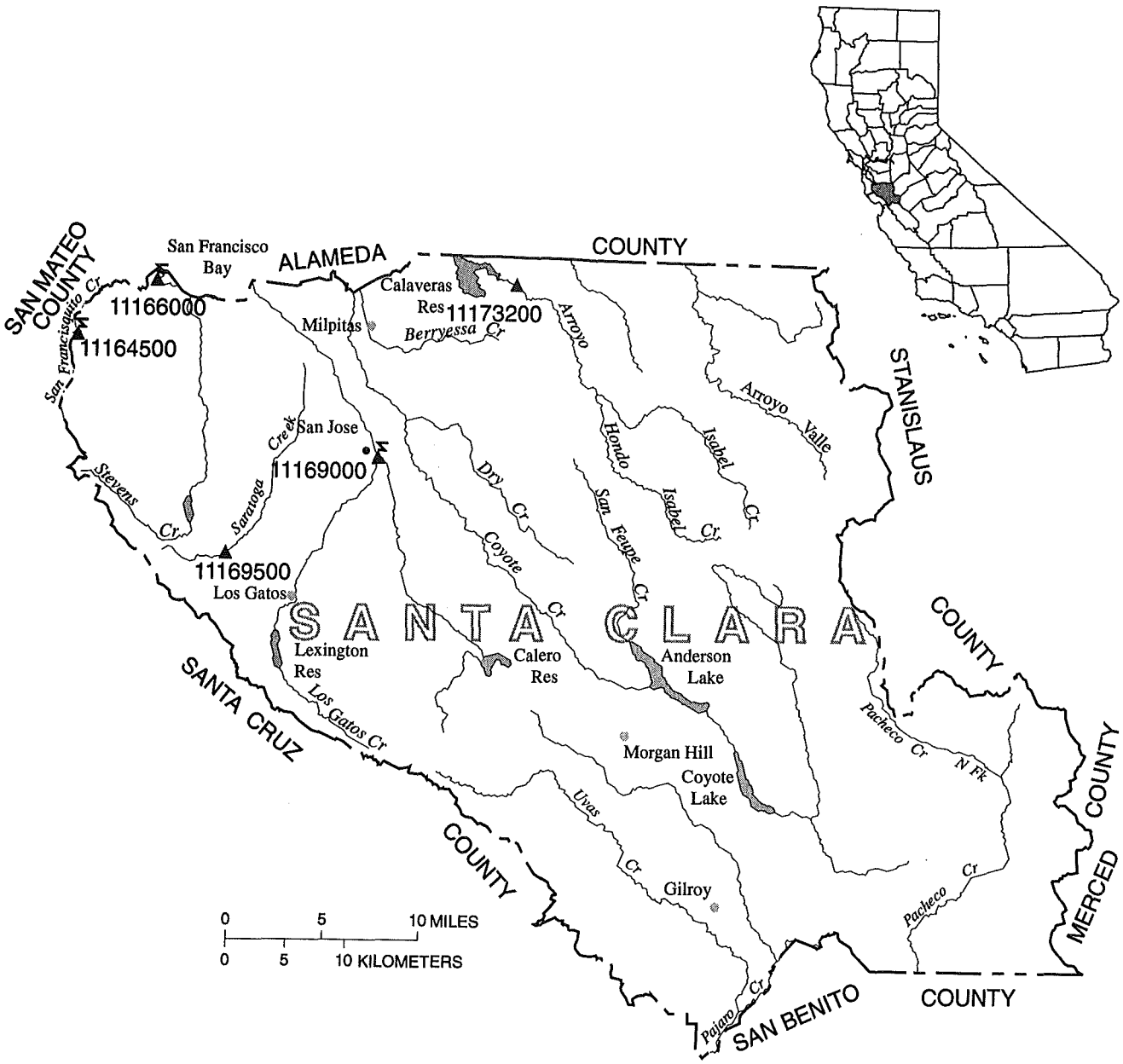


Figure 14. Location of discharge stations in Santa Clara County.

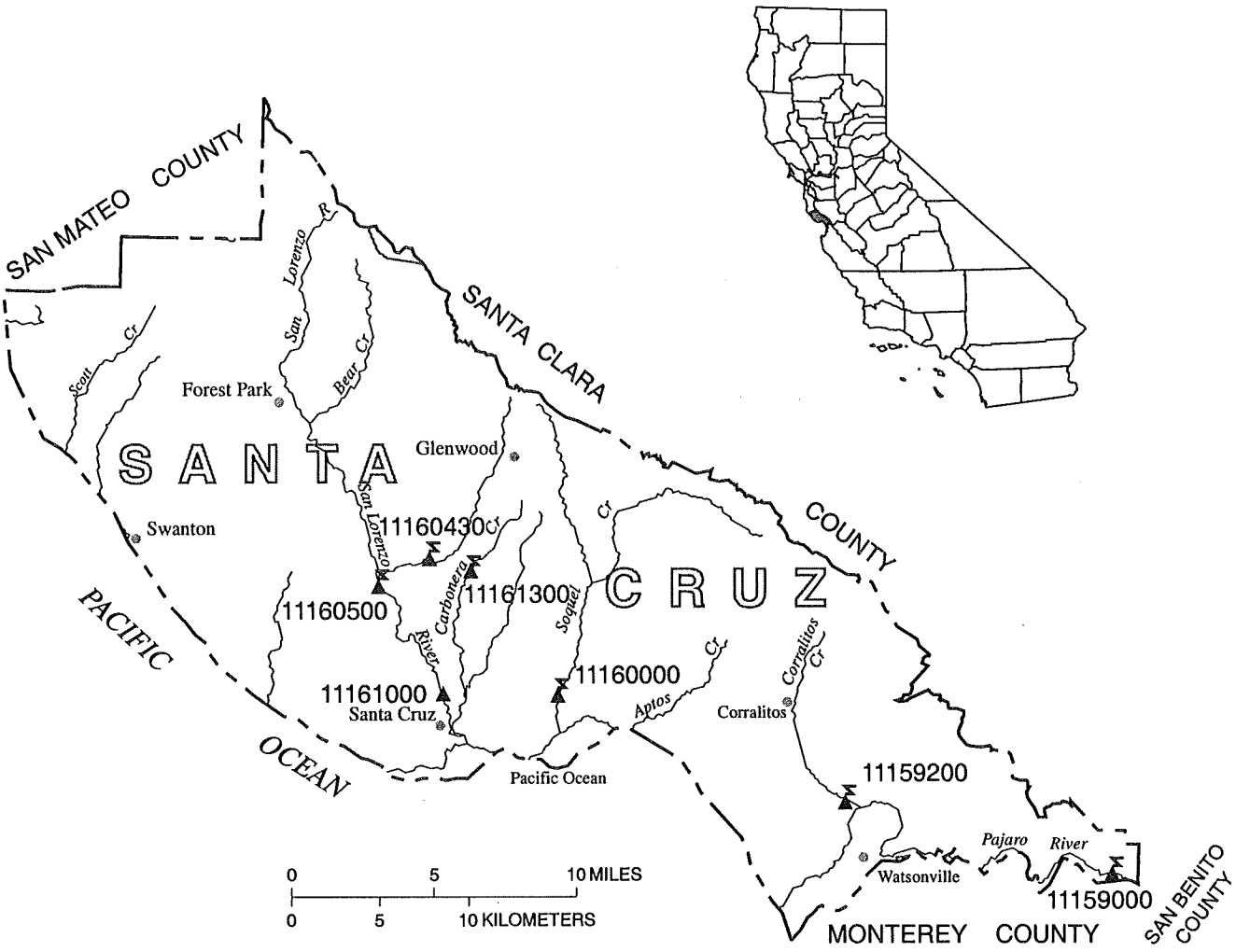


Figure 15. Location of discharge stations in Santa Cruz County.

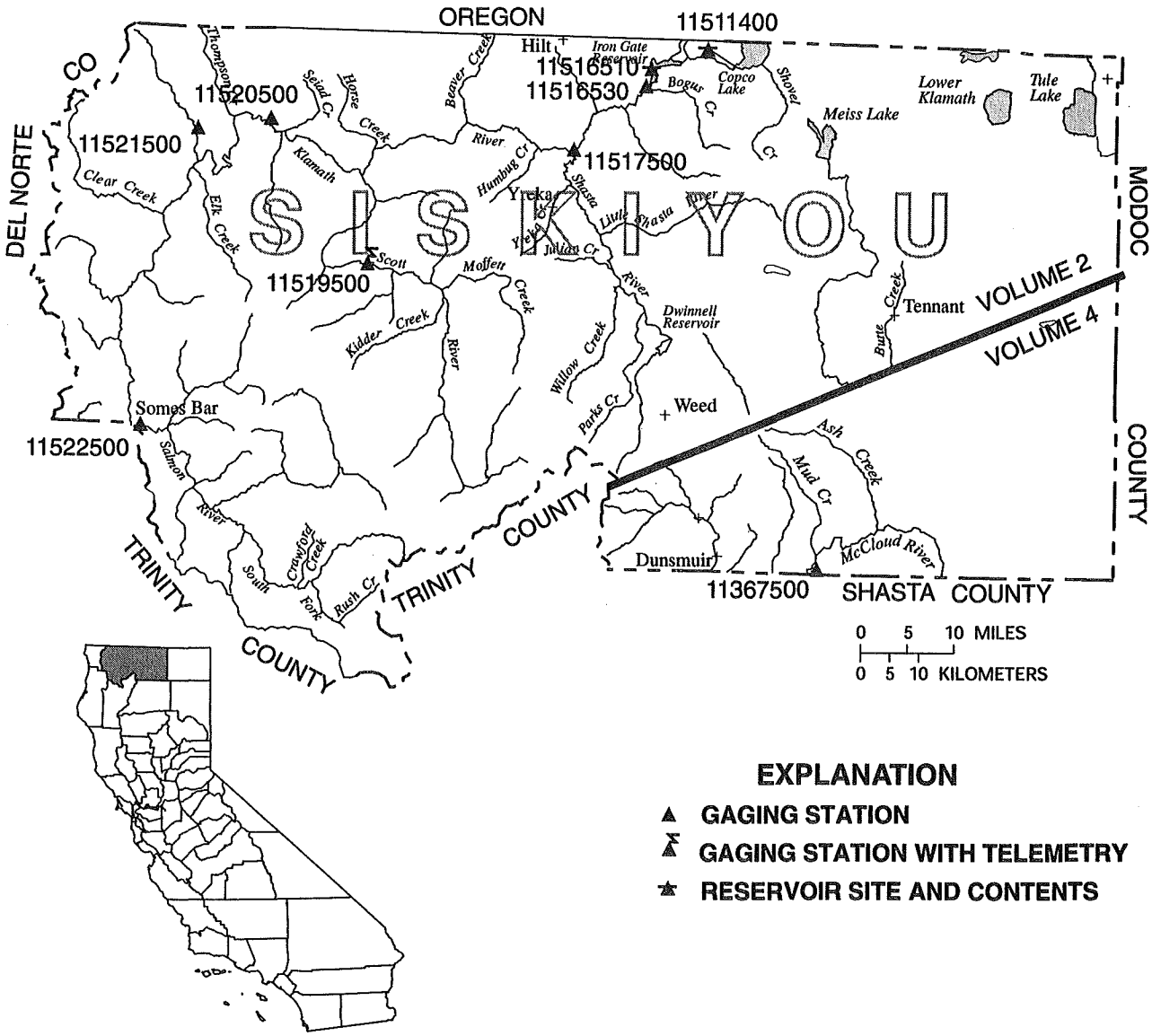
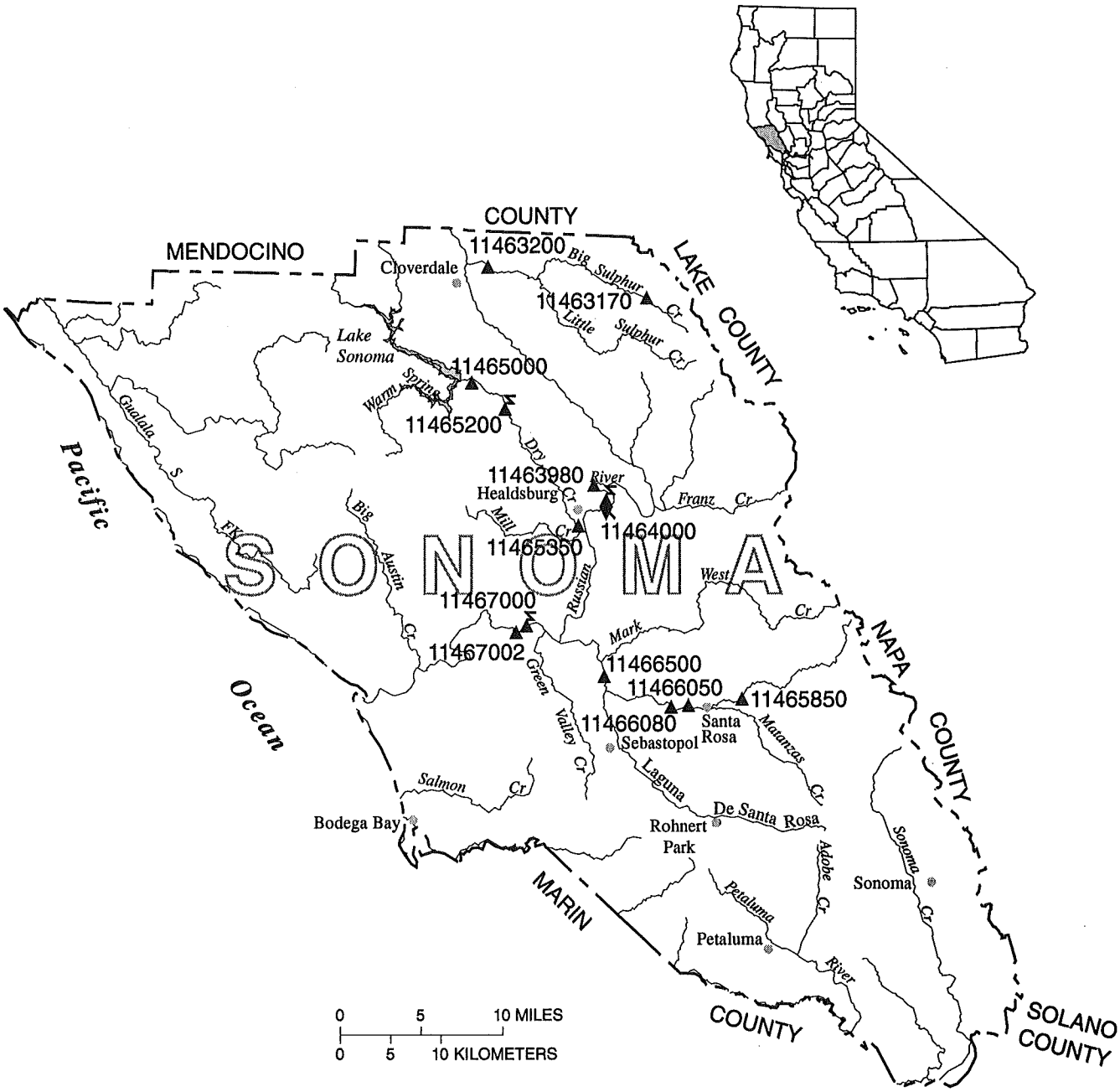


Figure 16. Location of discharge stations in Siskiyou County.
(NOTE: Records for station 11367500 published in volume 4.)



EXPLANATION

- ▲ GAGING STATION
- GAGING STATION WITH TELEMETRY
- GAGING AND WATER-QUALITY (TEMPERATURE) STATION WITH TELEMETRY

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

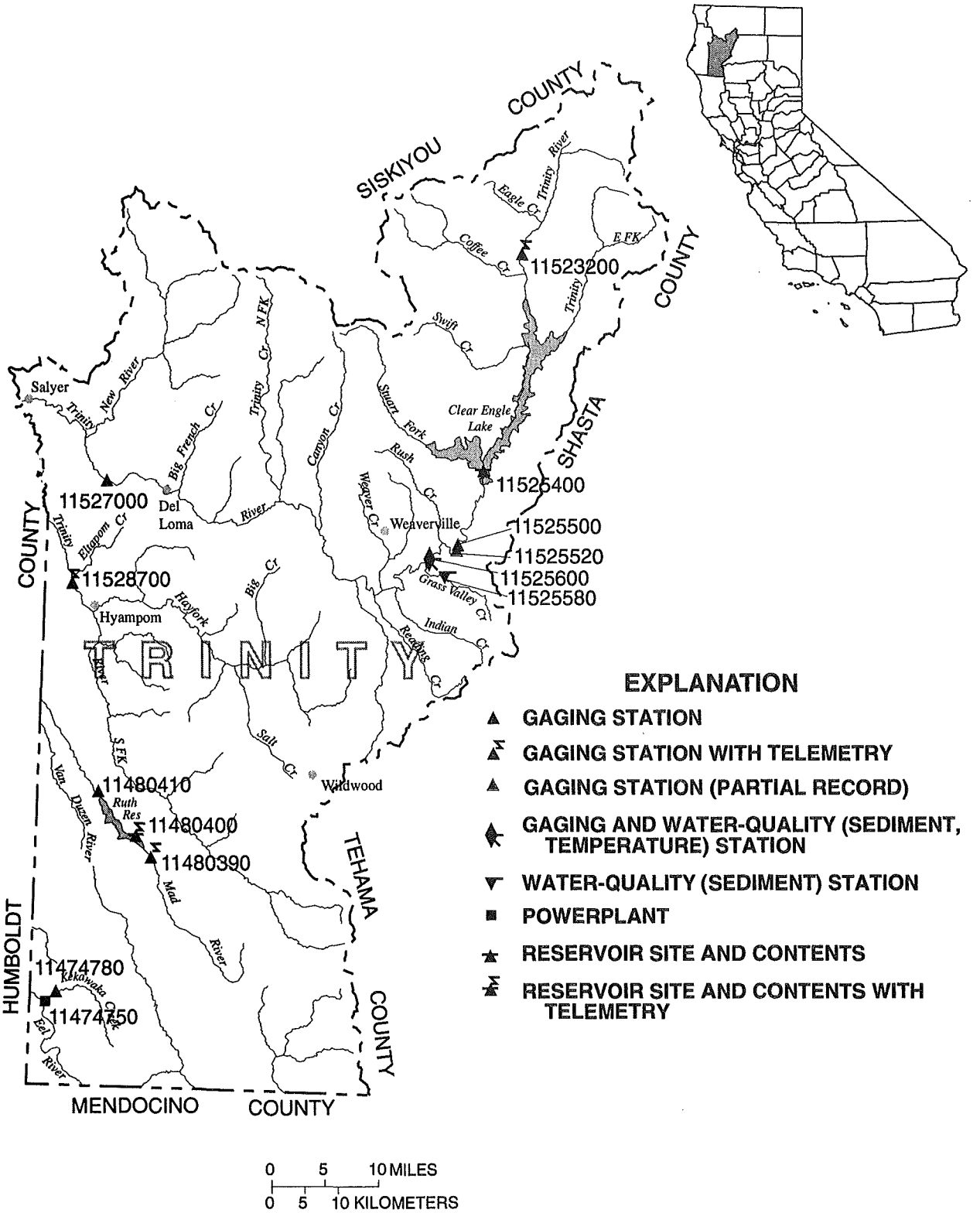


Figure 18. Location of discharge and water-quality stations in Trinity County.

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

Remark Codes

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

PRINTED OUTPUT	REMARK
e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptable range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
ND	Not detected.
&	Biological organism estimated as dominant.
*	Instantaneous streamflow at the time of cross-sectional measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
A	Samples collected by another agency.
N	Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.
V	Analyte was detected in both the environmental sample and the associated blanks.

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/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 µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network Procedures

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

ARROYO GRANDE BASIN

11141280 LOPEZ CREEK NEAR ARROYO GRANDE, CA

LOCATION.—Lat 35°14'08", long 120°28'17", in SE 1/4 sec.19, T.31 S., R.14 E., San Luis Obispo County, Hydrologic Unit 18060006, on left bank 3.4 mi north of Lopez Lake Spillway and 9.2 mi northeast of Arroyo Grande.

DRAINAGE AREA.—20.9 mi^2.

PERIOD OF RECORD.—July 1967 to current year.
CHEMICAL DATA: Water year 1977.
WATER TEMPERATURE: Water years 1968–72.
SEDIMENT DATA: Water years 1968–72.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 580 ft above sea level, from topographic map. Prior to Oct. 31, 1984, at site 0.4 mi downstream at different datum.

REMARKS.—Records fair. Small diversions upstream from station for domestic use.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,830 ft^3/s, Jan. 25, 1969, gage height, 9.26 ft in gage well, 10.8 ft from floodmarks, site and datum then in use, from rating curve extended above 300 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 10.12 ft, Feb. 3, 1998; minimum daily discharge, 0.30 ft^3/s, Aug. 1, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	0645	792	10.12	Mar. 25	0700	234	8.66
Feb. 7	1630	782	10.10	Mar. 31	1415	143	8.29
Feb. 14	1300	435	9.29	May 5	0915	180	8.45
Feb. 21	2145	624	9.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.7	22	6.0	65	100	106	38	26	17	11	9.1
2	4.9	4.9	20	6.9	219	92	92	45	25	17	11	9.3
3	5.1	4.8	20	7.4	362	85	100	40	25	17	11	9.5
4	5.2	4.9	20	8.8	130	82	98	42	25	17	11	10
5	5.2	5.1	24	7.8	79	79	88	91	25	17	11	11
6	5.1	5.0	13	7.5	232	78	80	57	25	18	10	10
7	4.9	5.1	15	7.1	337	69	75	e52	25	17	10	9.8
8	4.9	5.1	14	e6.9	249	65	69	e47	23	17	10	10
9	4.9	5.2	9.8	e6.5	167	62	65	e42	23	17	10	10
10	4.9	6.8	7.7	e65	99	59	62	e38	22	16	10	9.8
11	4.9	6.8	6.1	e70	75	57	67	e39	22	16	10	9.7
12	4.9	5.7	5.6	e55	64	54	64	e44	22	16	9.9	9.3
13	4.7	6.0	4.9	e45	56	54	62	50	21	16	9.7	9.5
14	4.6	5.9	5.7	e40	231	51	60	43	20	15	9.8	9.5
15	4.4	6.3	5.9	e45	182	49	57	39	20	15	10	9.9
16	4.4	5.9	7.1	e58	140	48	54	38	20	15	11	9.4
17	4.4	5.6	9.5	e54	155	47	51	37	21	15	11	9.3
18	4.4	5.5	5.8	e45	116	45	49	35	21	14	11	9.1
19	4.4	7.3	6.1	e55	129	44	46	33	21	14	11	8.9
20	4.4	6.4	6.6	e60	128	43	44	32	20	13	11	9.3
21	4.4	5.9	7.8	e37	184	42	43	31	20	13	10	e9.3
22	4.4	5.7	8.1	e27	301	40	43	31	20	14	9.9	e9.2
23	4.4	5.9	7.5	e22	264	39	44	30	20	13	9.8	9.2
24	4.4	6.1	7.3	e18	218	83	42	29	19	13	9.9	9.1
25	4.8	7.4	7.5	15	168	152	42	29	19	13	10	9.0
26	4.9	28	7.2	14	140	95	41	29	19	12	10	e8.9
27	4.9	25	7.4	13	122	71	39	29	18	12	10	e8.8
28	4.9	20	7.4	12	110	77	38	31	18	12	9.6	e8.8
29	5.0	20	7.7	41	---	66	37	30	18	12	9.5	e8.7
30	4.9	24	6.3	32	---	60	36	28	17	12	9.2	e8.6
31	4.7	---	5.6	24	---	91	---	27	---	12	9.1	---
TOTAL	147.1	261.0	308.6	911.9	4722	2079	1794	1206	640	457	316.4	282.0
MEAN	4.75	8.70	9.95	29.4	169	67.1	59.8	38.9	21.3	14.7	10.2	9.40
MAX	5.2	28	24	70	362	152	106	91	26	18	11	11
MIN	4.4	4.7	4.9	6.0	56	39	36	27	17	12	9.1	8.6
AC-FT	292	518	612	1810	9370	4120	3560	2390	1270	906	628	559

e Estimated.

ARROYO GRANDE BASIN

11141280 LOPEZ CREEK NEAR ARROYO GRANDE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1998, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.94	4.35	7.50	23.2	32.3	29.0	14.7	8.08	5.21	3.79	3.17	2.91
MAX	9.12	13.6	34.2	145	169	133	65.2	46.1	21.3	14.7	10.2	9.40
(WY)	1984	1984	1997	1969	1998	1983	1983	1983	1998	1998	1998	1998
MIN	1.03	1.23	1.58	2.00	2.00	2.46	2.08	1.75	1.38	.72	.44	.82
(WY)	1978	1978	1991	1991	1991	1977	1977	1990	1972	1977	1977	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1967 - 1998	
ANNUAL TOTAL	7808.8		13125.0			
ANNUAL MEAN	21.4		36.0		11.3	
HIGHEST ANNUAL MEAN					37.3	1983
LOWEST ANNUAL MEAN					1.89	1977
HIGHEST DAILY MEAN	277	Jan 2	362	Feb 3	1360	Jan 25 1969
LOWEST DAILY MEAN	4.2	Aug 19	4.4	Oct 15	.30	Aug 1 1977
ANNUAL SEVEN-DAY MINIMUM	4.2	Sep 5	4.4	Oct 15	.34	Jul 28 1977
INSTANTANEOUS PEAK FLOW			792	Feb 3	2830	Jan 25 1969
INSTANTANEOUS PEAK STAGE			10.12	Feb 3	10.12	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	15490		26030		8190	
10 PERCENT EXCEEDS	54		82		20	
50 PERCENT EXCEEDS	7.8		17		3.9	
90 PERCENT EXCEEDS	4.4		5.1		1.6	

11143000 BIG SUR RIVER NEAR BIG SUR, CA

LOCATION.—Lat 36°14'45", long 121°46'20", in SW 1/4 SW 1/4 sec.29, T.19 S., R.2 E., Monterey County, Hydrologic Unit 18060006, on right bank at downstream side of bridge, 0.4 mi upstream from Post Creek, and 2.6 mi southeast of town of Big Sur.

DRAINAGE AREA.—46.5 mi^2.

PERIOD OF RECORD.—March 1950 to current year. Prior to October 1959, published as Sur River at Big Sur.
CHEMICAL DATA: Water year 1977.
WATER TEMPERATURE: Water years 1966–79.

REVISED RECORDS.—WSP 1445: 1952(P), 1953(M). WSP 1715: 1951, drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 240 ft above sea level, from topographic map. Prior to Oct. 1, 1951, nonrecording gage at site 0.9 mi downstream at different datum.

REMARKS.—Records good, except for June, July, and August, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,700 ft^3/s, Jan. 5, 1978, gage height, 14.30 ft, from rating curve extended above 6,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 2.6 ft^3/s, Aug. 23, 1977, Sept. 9, Oct. 29, and Nov. 5, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1730	1,720	7.88	Feb. 7	1530	3,770	9.68
Jan. 15	1545	2,030	8.21	Feb. 21	1645	2,400	8.55
Feb. 3	0330	6,590	11.64				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	43	51	1050	621	345	222	164	85	61	31
2	14	12	34	83	2220	564	338	240	159	85	59	30
3	13	12	29	116	3770	515	381	210	156	85	57	30
4	13	12	28	258	1760	473	408	221	151	84	55	30
5	13	12	270	190	1250	453	391	263	147	83	54	31
6	13	12	140	146	1710	428	373	247	145	81	53	31
7	13	12	316	131	2400	389	359	234	143	80	51	30
8	14	13	268	115	2220	364	335	223	139	79	49	29
9	17	13	151	269	1770	342	318	213	135	77	49	29
10	18	16	112	601	1410	324	303	204	130	76	47	29
11	17	18	93	419	1140	306	305	198	127	74	46	28
12	16	15	81	825	972	293	286	235	124	73	45	28
13	15	17	73	798	846	288	307	215	122	72	43	29
14	15	19	216	520	954	269	290	203	118	71	41	29
15	15	26	184	1220	883	255	276	195	115	69	41	29
16	14	22	140	1050	871	245	263	189	113	68	41	29
17	13	20	116	687	862	235	252	182	111	67	41	28
18	12	17	102	677	772	225	242	175	108	66	41	28
19	12	33	91	751	832	217	233	170	106	65	42	29
20	13	23	83	595	804	210	224	165	105	66	41	29
21	13	18	77	483	1270	204	216	161	104	66	38	30
22	13	17	72	398	1450	195	209	157	103	66	37	31
23	12	20	67	337	1360	193	222	153	101	67	36	32
24	13	20	64	291	1210	330	222	151	99	67	34	32
25	12	18	62	253	1040	401	204	148	98	66	34	32
26	12	219	59	225	899	309	194	145	95	64	34	32
27	12	83	57	208	791	280	187	142	93	62	34	34
28	12	41	56	187	695	291	181	254	91	61	34	34
29	12	31	54	550	---	281	175	219	89	61	32	32
30	12	63	53	408	---	266	170	184	87	62	32	32
31	12	---	52	457	---	306	---	172	---	64	32	---
TOTAL	418	866	3243	13299	37211	10072	8209	6090	3578	2212	1334	907
MEAN	13.5	28.9	105	429	1329	325	274	196	119	71.4	43.0	30.2
MAX	18	219	316	1220	3770	621	408	263	164	85	61	34
MIN	12	12	28	51	695	193	170	142	87	61	32	28
AC-FT	829	1720	6430	26380	73810	19980	16280	12080	7100	4390	2650	1800

11143000 BIG SUR RIVER NEAR BIG SUR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.4	45.3	106	250	285	226	146	68.2	37.4	23.9	17.5	15.3
MAX	86.8	302	449	1047	1329	964	843	333	119	71.4	43.0	39.4
(WY)	1963	1951	1956	1997	1998	1983	1958	1983	1998	1998	1998	1983
MIN	5.08	4.97	7.52	8.27	11.4	16.8	9.15	8.70	6.17	4.94	3.80	4.52
(WY)	1991	1991	1991	1991	1977	1977	1977	1977	1977	1977	1977	1961

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1950 - 1998	
ANNUAL TOTAL	53165.9		87439			
ANNUAL MEAN	146		240		102	
HIGHEST ANNUAL MEAN					319	1983
LOWEST ANNUAL MEAN					10.0	1977
HIGHEST DAILY MEAN	3160	Jan 1	3770	Feb 3	4150	Mar 10 1995
LOWEST DAILY MEAN	9.9	Aug 5	12	Oct 18	2.6	Aug 23 1977
ANNUAL SEVEN-DAY MINIMUM	10	Jul 19	12	Oct 25	2.9	Nov 4 1990
INSTANTANEOUS PEAK FLOW			6590	Feb 3	10700	Jan 5 1978
INSTANTANEOUS PEAK STAGE			11.64	Feb 3	14.30	Jan 5 1978
INSTANTANEOUS LOW FLOW					2.6	Aug 23 1977
ANNUAL RUNOFF (AC-FT)	105500		173400		74220	
10 PERCENT EXCEEDS	369		609		230	
50 PERCENT EXCEEDS	30		102		29	
90 PERCENT EXCEEDS	12		15		9.5	

11143200 CARMEL RIVER AT ROBLES DEL RIO, CA

LOCATION.—Lat 36°28'28", long 121°43'40", in Los Laureles Grant, Monterey County, Hydrologic Unit 18060012, on right bank on downstream side of Rosie's Bridge, at Robles del Rio, 0.2 mi downstream from Hitchcock Canyon, and 11 mi southeast of town of Carmel.

DRAINAGE AREA.—193 mi^2.

PERIOD OF RECORD.—August 1957 to current year.

REVISED RECORDS.—WSP 1715: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 268.57 ft above sea level (based on Monterey County benchmark). Prior to June 1981, at site 150 ft upstream at same datum.

REMARKS.—Records poor. Low flow regulated by Los Padres Reservoir 11 mi upstream, usable capacity, 1,967 acre-ft, and San Clemente Reservoir 4 mi upstream, usable capacity, 76 acre-ft. There is diversion from San Clemente Reservoir for municipal supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16,000 ft^3/s, Mar. 10, 1995, gage height, 12.90 ft; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 23, 1955, reached a stage of 11.7 ft from floodmarks, discharge, 6,930 ft^3/s, from slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	0310	14,700	11.08	Feb. 21	1945	3,500	5.28
Feb. 7	1230	11,500	9.72				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	3.2	39	36	842	912	566	e260	e180	e95	e37	19
2	4.7	3.2	36	64	2370	802	511	e286	e170	e95	e36	21
3	4.4	3.2	33	133	e9000	717	585	e280	e165	e94	e34	25
4	4.1	3.2	33	415	e3480	660	630	e285	e160	e92	e35	24
5	3.5	3.3	159	365	e1800	668	590	e290	e158	e90	e34	23
6	3.5	4.1	80	305	e3500	607	578	e300	e158	e88	e34	22
7	3.6	4.7	122	280	6300	498	664	e295	e153	e86	e34	22
8	3.7	4.8	264	261	5110	454	582	e285	e149	e82	e34	18
9	3.8	4.9	261	345	3590	434	556	e275	e149	e78	e33	19
10	3.7	6.3	173	602	2460	420	520	e270	e150	e75	e33	20
11	4.9	12	126	515	1860	429	564	e265	e145	e73	e32	17
12	4.4	4.7	97	576	1500	420	510	e260	e142	e69	e30	16
13	4.4	4.7	78	615	1200	409	567	e258	e138	e65	29	20
14	4.4	4.7	157	567	1400	390	525	e252	e132	e62	30	22
15	4.4	8.1	190	582	1270	391	492	e245	e130	e59	31	22
16	4.1	6.5	150	e550	1220	386	477	e240	e126	e56	29	21
17	3.9	8.4	128	e500	1260	381	446	e235	e122	e54	28	20
18	3.8	8.0	102	e710	1010	377	425	e230	e118	e52	29	19
19	3.8	7.8	83	e830	1260	382	394	e222	e114	e52	35	19
20	3.8	7.6	74	e660	1270	375	375	e210	e111	e51	39	18
21	3.8	7.6	68	639	1720	370	356	e200	e110	e49	35	19
22	3.8	7.3	62	620	2100	383	e347	e194	e110	e48	32	19
23	3.5	7.6	58	561	2150	385	e335	e190	e109	e47	31	18
24	3.5	7.7	55	509	1850	489	e325	e187	e109	e45	29	18
25	3.5	10	52	458	1540	447	e315	e182	e108	e43	28	19
26	3.5	73	48	425	1330	443	e305	e180	e107	e42	25	20
27	3.5	46	45	404	1200	433	e295	e185	e101	e41	27	20
28	3.5	28	43	356	1040	579	e285	e197	e98	e40	27	19
29	3.4	33	41	626	---	485	e275	e200	e96	e39	26	20
30	3.2	44	40	588	---	420	e265	e190	e95	e38	26	21
31	3.2	---	37	594	---	486	---	e185	---	e37	21	---
TOTAL	120.0	377.6	2934	14691	64632	15032	13660	7333	3913	1937	963	600
MEAN	3.87	12.6	94.6	474	2308	485	455	237	130	62.5	31.1	20.0
MAX	4.9	73	264	830	9000	912	664	300	180	95	39	25
MIN	3.2	3.2	33	36	842	370	265	180	95	37	21	16
AC-FT	238	749	5820	29140	128200	29820	27090	14550	7760	3840	1910	1190

e Estimated.

11143200 CARMEL RIVER AT ROBLES DEL RIO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.40	13.6	59.6	213	340	279	168	58.5	20.6	7.24	2.70	2.30
MAX	23.3	135	480	899	2308	1855	1071	410	130	62.5	31.1	20 0
(WY)	1984	1984	1984	1997	1998	1983	1958	1983	1998	1998	1998	1998
MIN	.000	.000	.000	.26	.000	.011	.000	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1991	1977	1977	1977	1977	1961	1959	1957	1957

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1957 - 1998	
ANNUAL TOTAL	45218.9		126192.6			
ANNUAL MEAN	124		346		95.9	
HIGHEST ANNUAL MEAN					442	1983
LOWEST ANNUAL MEAN					.050	1977
HIGHEST DAILY MEAN	2650	Jan 26	9000	Feb 3	9000	Feb 3 1998
LOWEST DAILY MEAN	3.2	Oct 30	3.2	Oct 30	.00	Aug 1 1957
ANNUAL SEVEN-DAY MINIMUM	3.2	Oct 30	3.2	Oct 30	.00	Aug 1 1957
INSTANTANEOUS PEAK FLOW			14700	Feb 3	16000	Mar 10 1995
INSTANTANEOUS PEAK STAGE			11.08	Feb 3	12.90	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	89690		250300		69490	
10 PERCENT EXCEEDS	318		660		230	
50 PERCENT EXCEEDS	17		109		6.2	
90 PERCENT EXCEEDS	4.7		4.7		.00	

11143250 CARMEL RIVER NEAR CARMEL, CA

LOCATION.—Lat 36°32'20", long 121°52'25", in Canada de la Segunda Grant, Monterey County, Hydrologic Unit 18060012, on right bank 0.3 mi downstream from Potrero Canyon and 3 mi east of Carmel.

DRAINAGE AREA.—246 mi^2.

PERIOD OF RECORD.—August 1962 to current year.
CHEMICAL DATA: Water years 1954–66.
SEDIMENT DATA: Water years 1990, 1991–97.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 45 ft above sea level, from topographic map.

REMARKS.—Records poor. Low flow regulated by Los Padres Reservoir, usable capacity, 1,970 acre-ft, and San Clemente Reservoir, usable capacity, 76 acre-ft. There are diversions from San Clemente Reservoir for municipal supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16,000 ft^3/s, Mar. 10, 1995, gage height, 20.85 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 15	2100	1,640	6.62	Feb. 7	1845	e11,700	16.59
Feb. 3	0515	14,600	19.35	Feb. 21	2330	2,940	10.10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	13	10	481	1100	878	319	210	113	43	21
2	.00	.00	6.4	11	2340	1000	734	365	200	115	39	18
3	.00	.00	3.6	29	9050	901	832	333	198	121	37	16
4	.00	.00	3.5	211	3330	816	837	336	203	115	34	14
5	.00	.00	146	228	1900	767	762	372	205	109	31	16
6	.00	.00	112	149	4280	763	734	362	191	104	30	15
7	.00	.00	135	114	e6400	672	820	351	188	99	31	15
8	.00	.00	228	89	e5300	627	724	330	189	95	30	13
9	.00	.00	244	107	3490	585	670	312	190	94	30	15
10	.00	.00	150	566	2280	547	630	296	188	92	29	17
11	.00	.00	98	418	1720	519	705	306	178	86	28	16
12	.00	.00	68	444	1420	493	643	325	172	84	25	13
13	.00	.00	49	635	1200	505	715	302	171	80	23	13
14	.00	.00	66	422	1300	462	672	298	170	77	21	12
15	.00	.00	143	860	1280	435	618	299	159	74	21	12
16	.00	.00	104	1060	1210	416	579	278	154	69	23	16
17	.00	.00	80	624	1330	404	549	264	152	62	21	16
18	.00	.00	68	635	1160	387	522	253	145	62	22	15
19	.00	.00	50	1000	1320	369	498	256	138	60	23	15
20	.00	.00	40	632	1380	356	472	258	138	59	25	14
21	.00	.00	37	494	1680	346	453	240	141	58	27	14
22	.00	.00	30	397	2200	332	433	229	141	57	27	14
23	.00	.00	26	324	2180	321	416	218	137	57	26	13
24	.00	.00	23	274	2030	401	405	222	132	54	26	12
25	.00	.00	21	232	1710	438	390	231	130	54	24	13
26	.00	.00	18	200	1520	407	373	228	128	52	27	20
27	.00	3.5	15	174	1380	390	352	213	125	48	26	22
28	.00	.00	15	154	1220	714	340	224	124	48	25	23
29	.00	.00	14	394	---	654	330	252	120	45	25	22
30	.00	8.4	12	330	---	560	314	232	116	44	25	22
31	.00	---	11	314	---	643	---	229	---	43	23	---
TOTAL	0.00	11.90	2029.5	11531	66091	17330	17400	8733	4833	2330	847	477
MEAN	.000	.40	65.5	372	2360	559	580	282	161	75.2	27.3	15.9
MAX	.00	8.4	244	1060	9050	1100	878	372	210	121	43	23
MIN	.00	.00	3.5	10	481	321	314	213	116	43	21	12
AC-FT	.00	24	4030	22870	131100	34370	34510	17320	9590	4620	1680	946

e Estimated.

11143250 CARMEL RIVER NEAR CARMEL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.87	9.38	63.6	256	398	336	187	72.8	23.0	6.35	1.43	.75
MAX	22.3	110	479	1034	2360	2196	1006	533	161	75.2	27.3	15.9
(WY)	1984	1984	1983	1969	1998	1983	1982	1983	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1965	1969	1977	1977	1977	1977	1977	1968	1966	1964	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	46137.76		131613.40			
ANNUAL MEAN	126		361		111	
HIGHEST ANNUAL MEAN					508	1983
LOWEST ANNUAL MEAN					.000	1977
HIGHEST DAILY MEAN	3240	Jan 26	9050	Feb 3	9050	Feb 3 1998
LOWEST DAILY MEAN	.00	Jun 23	.00	Oct 1	.00	Oct 6 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 23	.00	Oct 1	.00	Jul 9 1964
INSTANTANEOUS PEAK FLOW			14600	Feb 3	16000	Mar 10 1995
INSTANTANEOUS PEAK STAGE			19.35	Feb 3	20.85	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	91510		261100		80660	
10 PERCENT EXCEEDS	339		825		283	
50 PERCENT EXCEEDS	5.0		115		.73	
90 PERCENT EXCEEDS	.00		.00		.00	

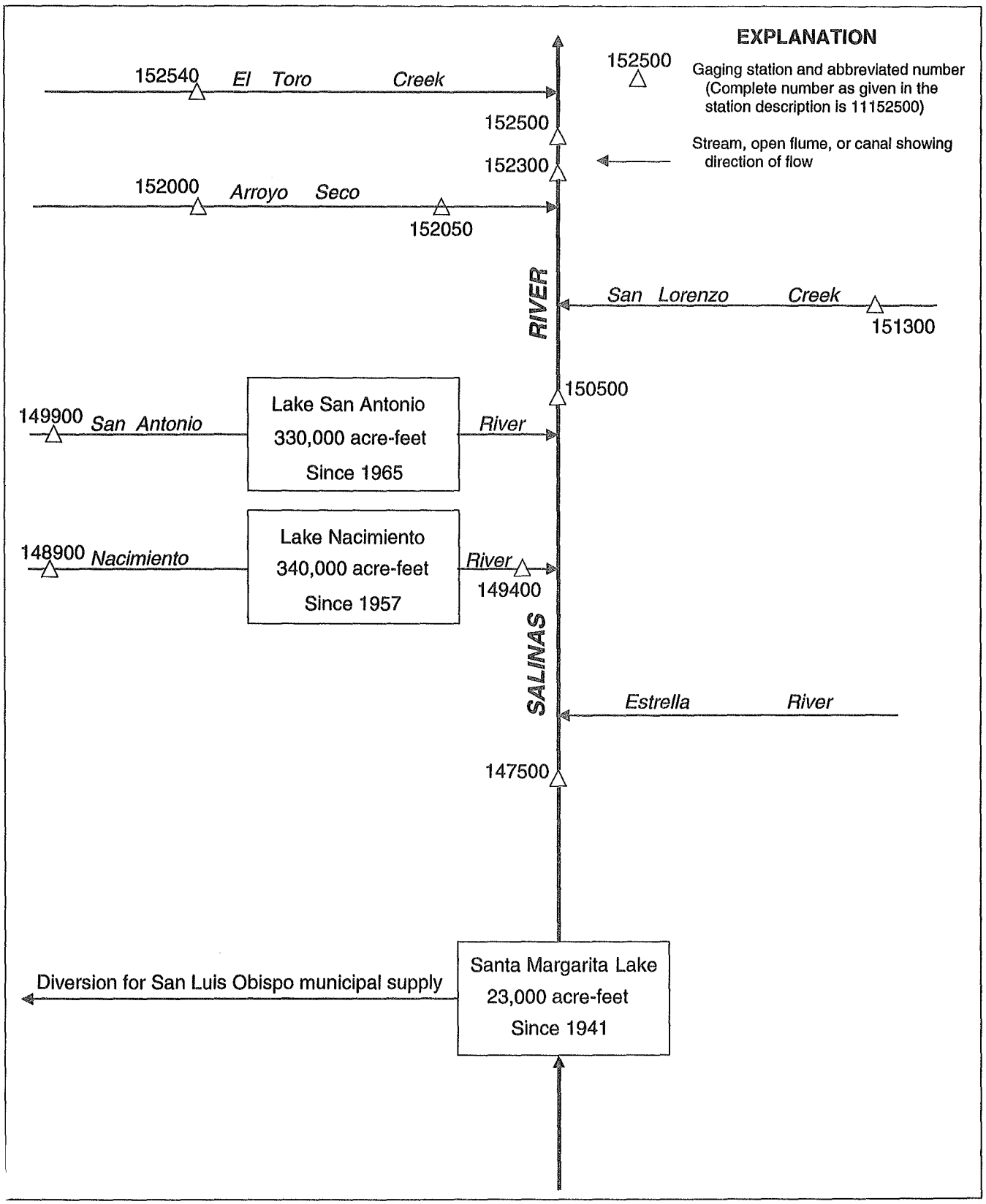


Figure 19. Diversions and storage in Salinas River Basin.

11147500 SALINAS RIVER AT PASO ROBLES, CA

LOCATION.—Lat 35°37'43", long 120°41'00", in Paso de Robles Grant, San Luis Obispo County, Hydrologic Unit 18060005, on left bank at upstream side of 13th Street Bridge in Paso Robles and 3.5 mi upstream from Huerhuero Creek.

DRAINAGE AREA.—390 mi^2.

PERIOD OF RECORD.—October 1939 to September 1965, October 1969 to current year.
CHEMICAL DATA: Water years 1963–66.
SEDIMENT DATA: June 1990.

REVISED RECORDS.—WSP 981: 1942.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 670.61 ft above sea level. Prior to June 14, 1951, nonrecording gage at same site and datum.

REMARKS.—Records fair except daily discharges less than 30 ft^3/s, which are poor. Low flows regulated by Santa Margarita Lake 32 mi upstream beginning in December 1941, usable capacity, 23,000 acre-ft. Small diversions for irrigation upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,400 ft^3/s, Mar. 10, 1995, gage height, 22.99 ft; no flow for many days in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 25, 1969, reached a stage of 23.8 ft from floodmarks, discharge, 28,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 850 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 15	2300	1,510	7.27	Feb. 22	0045	6,940	11.87
Jan. 19	0315	1,720	7.50	Mar. 25	1000	2,350	8.10
Feb. 3	1200	9,480	13.47	Apr. 3	1845	1,850	7.54
Feb. 7	2030	12,300	15.08	May 6	1645	1,280	6.85
Feb. 14	1600	5,070	10.52				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	412	820	1420	154	131	9.3	.00	.00
2	.00	.00	.00	.35	3410	701	1220	185	121	8.2	.00	.00
3	.00	.00	.00	2.2	6200	606	1340	216	113	7.7	.00	.00
4	.00	.00	.00	10	4120	536	1470	294	109	6.8	.00	.00
5	.00	.00	49	65	1990	481	1140	632	107	6.3	.00	.00
6	.00	.00	100	33	3240	535	909	1160	98	6.7	.00	.00
7	.00	.00	69	23	6210	448	761	1010	95	5.8	.00	.00
8	.00	.00	130	17	6100	404	648	677	93	3.7	.00	.00
9	.00	.00	48	15	3850	324	572	508	91	2.4	.00	.00
10	.00	.00	20	244	2290	246	504	404	87	1.8	.00	.00
11	.00	.00	12	156	1610	204	501	351	87	1.5	.00	.00
12	.00	.00	6.5	105	1190	199	619	348	82	1.1	.00	.00
13	.00	.00	2.8	534	982	211	589	426	71	.91	.00	.00
14	.00	.00	1.4	193	2760	214	575	459	69	.79	.00	.00
15	.00	.16	4.9	351	3330	188	502	406	65	.55	.00	.00
16	.00	.00	5.6	798	2340	182	444	347	59	.38	.00	.00
17	.00	.00	2.5	322	3200	168	400	309	56	.29	.00	.00
18	.00	.00	1.9	224	2140	155	364	284	47	.05	.00	.00
19	.00	.00	1.2	1140	2090	144	340	253	44	.00	.00	.00
20	.00	.00	.79	469	2580	136	315	232	42	.00	.00	.00
21	.00	.00	.66	271	2240	123	292	209	37	.00	.00	.00
22	.00	.00	.34	188	4500	114	268	200	34	.19	.00	.00
23	.00	.00	.11	134	3690	105	264	183	33	.03	.00	.00
24	.00	.00	.16	103	3910	173	258	167	31	.00	.00	.00
25	.00	.00	.03	86	2440	1870	233	158	29	.07	.00	.00
26	.00	1.9	.00	73	1690	1570	215	153	26	.11	.00	.00
27	.00	.00	.00	63	1260	1010	201	145	22	.00	.00	.00
28	.00	.00	.00	55	989	886	185	139	19	.00	.00	.00
29	.00	.00	.00	383	---	776	171	170	15	.00	.00	.00
30	.00	.65	.00	369	---	646	159	158	12	.00	.00	.00
31	.00	---	.00	215	---	808	---	139	---	.00	.00	---
TOTAL	0.00	2.71	456.89	6641.55	80763	14983	16879	10476	1925	64.67	0.00	0.00
MEAN	.000	.090	14.7	214	2884	483	563	338	64.2	2.09	.000	.000
MAX	.00	1.9	130	1140	6210	1870	1470	1160	131	9.3	.00	.00
MIN	.00	.00	.00	.00	412	105	159	139	12	.00	.00	.00
AC-FT	.00	5.4	906	13170	160200	29720	33480	20780	3820	128	.00	.00

11147500 SALINAS RIVER AT PASO ROBLES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.57	5.63	54.0	255	417	376	165	27.9	3.62	.29	.057	.92
MAX	117	86.0	581	2138	2884	2410	1980	338	64.2	4.84	1.91	44.0
(WY)	1943	1983	1983	1997	1998	1995	1958	1998	1998	1941	1942	1942
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1941	1940	1940	1948	1948	1961	1961	1959	1947	1940	1940	1940

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	80676.74		132191.82			
ANNUAL MEAN	221		362		108	
HIGHEST ANNUAL MEAN					526	1983
LOWEST ANNUAL MEAN					.000	1961
HIGHEST DAILY MEAN	6810	Jan 2	6210	Feb 7	19600	Mar 10 1995
LOWEST DAILY MEAN	.00	May 14	.00	Oct 1	.00	Nov 1 1939
ANNUAL SEVEN-DAY MINIMUM	.00	May 14	.00	Oct 1	.00	Nov 1 1939
INSTANTANEOUS PEAK FLOW			12300	Feb 7	28400	Mar 10 1995
INSTANTANEOUS PEAK STAGE			15.08	Feb 7	22.99	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	160000		262200		77910	
10 PERCENT EXCEEDS	487		997		170	
50 PERCENT EXCEEDS	.00		12		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA

LOCATION.—Lat 35°47'19", long 121°05'34", in SW 1/4 NE 1/4 sec.3, T.25 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060005, on left bank just downstream from Sapaque Creek and 1.4 mi south of Bryson.

DRAINAGE AREA.—162 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1971 to current year.

REVISED RECORDS.—WDR CA-82-2: Drainage area.

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

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 57,600 ft^3/s, Jan. 14, 1993, gage height, 32.14 ft, from rating curve extended above 7,900 ft^3/s on basis of slope-area measurement at 32.00 ft gage height, maximum gage height, 35.15 ft, Mar. 10, 1995; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	0615	41,900	34.59	Feb. 7	Unknown	32,600	30.36

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	134	66	3560	589	548	173	104	32	8.4	.70
2	.00	.00	87	76	6700	530	484	409	97	31	8.2	.47
3	.00	.00	67	173	17400	478	560	255	93	31	7.3	.44
4	.00	.00	61	459	3080	434	728	218	90	31	6.5	.38
5	.00	.00	2650	381	2000	422	636	426	87	30	5.8	.44
6	.00	.00	1880	259	e5400	498	530	344	82	28	5.0	.44
7	.00	.00	1510	211	e12000	385	461	274	82	27	4.5	.38
8	.00	.00	1100	183	e7600	344	403	243	81	25	4.0	.35
9	.00	.00	538	489	e4800	319	364	222	78	23	3.8	.32
10	.00	.00	352	1150	e3000	300	330	198	73	21	3.5	.35
11	.00	.00	260	614	e2250	279	336	186	72	21	3.4	.35
12	.00	.00	206	904	e1800	262	319	252	70	20	3.1	.34
13	.00	.35	174	1190	e1800	262	324	269	67	19	3.0	.30
14	.00	.26	307	663	e2300	250	314	222	65	18	2.6	.29
15	.00	.44	375	2560	e2000	229	295	205	62	17	2.3	.27
16	.00	.26	267	2100	e1830	220	272	186	58	16	1.7	.25
17	.00	.18	218	1010	e2100	209	248	174	56	15	1.6	.24
18	.00	.21	190	1330	e1920	198	233	159	54	14	1.6	.15
19	.00	.61	165	1880	1820	188	222	148	51	13	1.3	.15
20	.00	.30	144	1010	1720	182	211	136	49	12	1.6	.21
21	.00	.24	131	746	3060	176	207	129	48	11	1.7	.29
22	.00	.44	119	602	3040	168	188	122	48	11	2.2	.32
23	.00	.52	107	505	2690	161	186	115	47	10	2.2	.38
24	.00	.47	100	430	1670	351	216	107	47	10	1.7	.44
25	.00	.44	93	378	1260	883	194	103	46	10	1.3	.54
26	.00	698	86	338	1010	516	174	96	43	10	1.1	.54
27	.00	319	82	320	776	394	161	103	40	9.6	.98	.54
28	.00	118	77	292	673	413	151	135	38	9.1	.98	.70
29	.00	75	75	1310	---	382	143	221	36	7.8	.88	.70
30	.00	186	72	793	---	330	132	135	34	7.6	.79	.54
31	.00	---	68	937	---	456	---	115	---	7.6	.79	---
TOTAL	0.00	1400.72	11695	23359	99259	10808	9570	6080	1898	547.7	93.82	11.81
MEAN	.000	46.7	377	754	3545	349	319	196	63.3	17.7	3.03	.39
MAX	.00	698	2650	2560	17400	883	728	426	104	32	8.4	.70
MIN	.00	.00	61	66	673	161	132	96	34	7.6	.79	.15
AC-FT	.00	2780	23200	46330	196900	21440	18980	12060	3760	1090	186	23

e Estimated.

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	57.3	189	609	766	524	166	47.7	11.7	2.47	.26	.055
MAX	4.90	413	911	2440	3545	2048	1142	318	63.3	17.7	3.03	.77
(WY)	1973	1973	1983	1978	1998	1983	1982	1983	1998	1998	1998	1983
MIN	.000	.000	.000	.000	3.82	16.0	4.20	1.61	.11	.000	.000	.000
(WY)	1972	1978	1991	1991	1991	1977	1977	1990	1977	1972	1972	1972

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	83551.85		164723.05			
ANNUAL MEAN	229		451		195	
HIGHEST ANNUAL MEAN					623	1983
LOWEST ANNUAL MEAN					5.74	1977
HIGHEST DAILY MEAN	6560	Jan 1	17400	Feb 3	24400	Mar 10 1995
LOWEST DAILY MEAN	.00	Jun 28	.00	Oct 1	.00	Sep 16 1971
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 28	.00	Oct 1	.00	Sep 16 1971
INSTANTANEOUS PEAK FLOW			41900	Feb 3	57600	Jan 14 1993
INSTANTANEOUS PEAK STAGE			34.59	Feb 3	35.15	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	165700		326700		141400	
10 PERCENT EXCEEDS	434		1050		341	
50 PERCENT EXCEEDS	6.5		82		6.5	
90 PERCENT EXCEEDS	.00		.00		.00	

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1972 to current year. Published as station 11148800 "near Bryson" in water years 1958–59, 1961–71.
WATER TEMPERATURE: Water years 1972–73.
SEDIMENT DATA: Water years 1972 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1971 to September 1973.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1973.

REMARKS.—Zero bedload discharge observed for flows less than 597 ft^3/s during current year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
DEC						
10...	1205	351	9.0	12	11	98
JAN						
22...	1350	597	10.0	14	23	92
FEB						
18...	1525	1380	11.0	40	149	64
APR						
24...	1415	216	16.0	3	1.7	65

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)
FEB												
18...	1620	1000	1100	.250	0	1610	1630	20	5.0	2	20	20
18...	1650	1000	1100	.250	0	1640	1655	20	5.0	2	20	20

DATE	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)
FEB												
18...	3.50	1360	11.0	1.33	126	33	63	82	94	98	99	100
18...	3.50	1350	11.0	1.18	126	39	80	91	97	100	--	--

11149400 NACIMIENTO RIVER BELOW NACIMIENTO DAM, NEAR BRADLEY, CA

LOCATION.—Lat 35°45'41", long 120°51'16", in NE 1/4 NE 1/4 sec.14, T.25 S., R.10 E., San Luis Obispo County, Hydrologic Unit 18060005, Camp Roberts Military Reservation, on left bank 2.2 mi downstream from Nacimiento Dam, and 7.6 mi southwest of Bradley.

DRAINAGE AREA.—329 mi^2.

PERIOD OF RECORD.—October 1957 to current year.
CHEMICAL DATA: Water years 1963–66.

REVISED RECORDS.—WDR CA-84-2: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 597 ft above sea level, from topographic map.

REMARKS.—Records good. Flow regulated by Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft. No diversion upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,340 ft^3/s, Feb. 25, 1969, gage height, 10.92 ft; no flow at times in 1958–63, 1965, 1977, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	19	19	19	23	e5200	40	44	37	207	376	273
2	16	20	18	19	1480	e5200	40	44	37	206	377	293
3	18	20	18	19	4720	e3200	40	45	37	206	297	293
4	18	20	19	19	4930	1340	39	44	37	205	288	292
5	19	18	25	19	4880	525	39	46	37	205	295	293
6	17	20	20	19	4860	41	38	38	38	205	300	292
7	17	20	20	18	5030	40	38	37	37	202	299	292
8	19	20	20	19	5230	39	38	38	37	242	297	292
9	18	20	19	19	5260	36	39	38	37	370	297	292
10	19	20	19	19	5240	36	38	38	37	370	297	290
11	19	19	19	19	e5200	35	39	38	37	369	297	291
12	19	17	19	19	e5200	34	39	39	37	368	297	291
13	19	20	19	19	e5200	38	38	38	37	374	297	290
14	19	19	21	24	e5200	38	38	38	37	374	297	290
15	19	20	19	21	e5200	39	38	37	209	373	297	174
16	19	20	19	21	e5200	39	38	37	386	372	297	35
17	18	19	19	22	e5200	36	38	38	386	371	297	33
18	19	19	20	24	e5200	57	38	37	386	371	297	33
19	19	20	19	22	e5200	39	39	38	391	371	296	32
20	19	19	19	22	e5200	39	38	38	392	372	295	32
21	16	19	19	22	e5200	39	38	38	392	374	294	32
22	18	19	19	22	e5200	40	38	38	328	374	292	32
23	18	19	19	22	e5200	40	38	37	395	374	291	31
24	18	19	19	22	e5200	40	38	38	394	374	292	31
25	18	19	19	22	e5200	40	39	38	394	374	293	31
26	18	23	19	22	e5200	40	39	38	394	374	292	31
27	18	19	19	22	e5200	40	38	38	292	374	292	32
28	19	19	19	22	e5200	40	41	38	207	375	292	31
29	17	19	19	22	---	40	44	37	206	374	290	31
30	19	20	19	22	---	39	43	38	206	374	262	31
31	20	---	24	23	---	39	---	37	---	374	144	---
TOTAL	567	584	604	645	135253	16488	1168	1205	5877	10248	9124	4716
MEAN	18.3	19.5	19.5	20.8	4830	532	38.9	38.9	196	331	294	157
MAX	20	23	25	24	5260	5200	44	46	395	375	377	293
MIN	16	17	18	18	23	34	38	37	37	202	144	31
AC-FT	1120	1160	1200	1280	268300	32700	2320	2390	11660	20330	18100	9350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	236	113	114	286	600	300	151	209	298	379	396	358
MAX	501	618	1629	3341	4830	3016	1501	1067	581	662	802	684
(WY)	1983	1983	1983	1997	1998	1969	1958	1983	1969	1958	1967	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	1.16	2.44	.000	.000
(WY)	1958	1958	1958	1962	1962	1961	1961	1961	1990	1990	1961	1961

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	187551		186479			
ANNUAL MEAN	514		511		285	
HIGHEST ANNUAL MEAN					1038	1983
LOWEST ANNUAL MEAN					3.43	1990
HIGHEST DAILY MEAN	4690	Jan 27	5260	Feb 9	6770	Feb 26 1969
LOWEST DAILY MEAN	15	Sep 23	16	Oct 2	.00	Oct 1 1957
ANNUAL SEVEN-DAY MINIMUM	17	Sep 23	18	Oct 1	.00	Oct 1 1957
INSTANTANEOUS PEAK FLOW			5320	Feb 9	7340	Feb 25 1969
INSTANTANEOUS PEAK STAGE			9.93	Feb 9	10.92	Feb 25 1969
ANNUAL RUNOFF (AC-FT)	372000		369900		206500	
10 PERCENT EXCEEDS	1050		393		510	
50 PERCENT EXCEEDS	204		38		125	
90 PERCENT EXCEEDS	19		19		1.7	

e Estimated.

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA

LOCATION.—Lat 35°53'48", long 121°05'14", in Los Ojitos Grant, Monterey County, Hydrologic Unit 18060005, on downstream side of highway bridge, 0.4 mi upstream from Tule Canyon, and 3.3 mi south of Lockwood.

DRAINAGE AREA.—217 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1965 to current year.

REVISED RECORDS.—WDR CA-82-2: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 795.00 ft above sea level. Prior to Aug. 28, 1975, at datum 5.00 ft higher.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation; some pumping upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 23,600 ft^3/s, Mar. 10, 1995, gage height, 14.25 ft, current datum, from rating curve extended above 8,000 ft^3/s, on basis of contracted-opening measurement at gage height 12.6 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 19	0330	1,580	8.02	Feb. 14	1415	3,710	9.82
Feb. 3	1015	23,100	14.19	Feb. 21	2230	6,150	10.87
Feb. 7	2030	19,600	13.71				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	16	30	565	694	318	162	125	60	e14	.00
2	.00	.00	19	29	3200	636	284	215	121	58	e13	.00
3	.00	.00	17	35	11400	584	259	193	120	57	e13	.00
4	.00	.00	16	62	2950	536	436	182	120	57	e12	.00
5	.00	.00	174	134	1470	506	398	213	117	55	e11	.00
6	.00	.00	458	94	3030	521	365	229	116	53	e11	.00
7	.00	.00	284	73	7450	452	333	202	113	51	e10	.00
8	.00	.00	488	62	5360	419	307	200	113	49	e9.7	.00
9	.00	.00	237	57	3000	390	286	188	111	47	e9.1	.00
10	.00	.00	148	279	2020	365	268	180	110	45	e8.7	.00
11	.00	.00	108	232	1580	345	264	177	108	43	e8.3	.00
12	.00	.00	85	164	1230	329	256	184	104	42	e7.7	.00
13	.00	.00	71	407	1090	322	255	198	102	41	e7.5	.00
14	.00	.00	69	269	1910	314	249	184	99	39	e7.0	.00
15	.00	.00	160	318	1590	292	243	177	95	38	e6.7	.00
16	.00	.00	106	722	1320	279	233	169	92	36	e6.3	.00
17	.00	.00	81	399	1730	267	222	165	90	34	e6.1	.00
18	.00	.00	69	289	1100	257	213	158	86	32	e5.8	.00
19	.00	.00	60	919	1180	247	209	153	82	29	e5.5	.00
20	.00	.00	53	491	1310	238	202	149	81	27	e5.2	.00
21	.00	.00	49	340	1610	231	199	145	79	25	e5.0	.00
22	.00	.00	45	276	2360	223	190	140	77	24	e4.7	.00
23	.00	.00	42	227	1960	217	187	138	76	23	e4.6	.00
24	.00	.00	38	190	1610	245	207	136	75	22	e4.4	.00
25	.00	.00	36	165	1170	515	192	131	73	20	e4.2	.00
26	.00	.00	34	146	984	413	182	129	71	e19	e3.9	.00
27	.00	.00	33	137	868	343	177	126	70	e18	e3.7	.00
28	.00	.06	33	126	771	330	170	128	67	e17	e3.6	.00
29	.00	5.3	31	229	---	309	166	153	65	e16	1.9	.00
30	.00	12	30	309	---	281	162	142	62	e15	.18	.00
31	.00	---	30	236	---	284	---	132	---	e15	.00	---
TOTAL	0.00	17.36	3120	7446	65818	11384	7432	5178	2820	1107	213.78	0.00
MEAN	.000	.58	101	240	2351	367	248	167	94.0	35.7	6.90	.000
MAX	.00	12	488	919	11400	694	436	229	125	60	14	.00
MIN	.00	.00	16	29	565	217	162	126	62	15	.00	.00
AC-FT	.00	34	6190	14770	130600	22580	14740	10270	5590	2200	424	.00

e Estimated.

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.35	14.4	86.5	321	430	351	130	45.4	14.8	3.76	.43	.058
MAX	11.7	108	573	1515	2351	1856	637	167	94.0	35.7	6.90	1.91
(WY)	1984	1984	1967	1969	1998	1983	1982	1983	1998	1998	1998	1983
MIN	.000	.000	.000	.000	.000	.058	.005	.000	.000	.000	.000	.000
(WY)	1966	1967	1977	1977	1977	1977	1977	1977	1972	1966	1966	1966

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	63752.56		104536.14			
ANNUAL MEAN	175		286		115	
HIGHEST ANNUAL MEAN					455	1983
LOWEST ANNUAL MEAN					.005	1977
HIGHEST DAILY MEAN	4530	Jan 26	11400	Feb 3	14000	Mar 10 1995
LOWEST DAILY MEAN	.00	Jun 28	.00	Oct 1	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 28	.00	Oct 1	.00	Oct 1 1965
INSTANTANEOUS PEAK FLOW			23100	Feb 3	23600	Mar 10 1995
INSTANTANEOUS PEAK STAGE			14.19	Feb 3	14.25	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	126500		207300		83330	
10 PERCENT EXCEEDS	404		510		235	
50 PERCENT EXCEEDS	7.3		71		4.4	
90 PERCENT EXCEEDS	.00		.00		.00	

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1966 to current year.
WATER TEMPERATURE: Water years 1966–73.
SEDIMENT DATA: Water years 1966 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1965 to September 1973.
SUSPENDED-SEDIMENT DISCHARGE: October 1965 to September 1973.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
DEC						
05...	1240	43	13.0	122	14	86
JAN						
16...	1530	621	14.0	278	466	60

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)
DEC									
05...	1320	1000	1120	.250	0	1310	1325	30	3.0
05...	1335	1000	1120	.250	0	1330	1340	30	3.0
JAN									
16...	1445	1000	1120	.250	0	1440	1455	20	7.0
16...	1510	1000	1120	.250	0	1500	1515	20	7.0

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)
DEC									
05...	2	21	21	1.50	44	13.0	.14	13	1
05...	2	21	21	1.50	44	13.0	.26	13	--
JAN									
16...	2	20	20	3.50	633	14.0	5.46	830	--
16...	2	20	20	3.50	623	14.0	6.40	830	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)
DEC								
05...	2	18	50	75	86	93	98	100
05...	1	14	50	78	90	96	100	--
JAN								
16...	1	10	37	67	85	93	98	100
16...	1	19	47	73	87	94	99	100

11150500 SALINAS RIVER NEAR BRADLEY, CA

LOCATION.—Lat 35°55'49", long 120°52'04", in SW 1/4 NW 1/4 sec.14, T.23 S., R.10 E., Monterey County, Hydrologic Unit 18060005, on left bank 6 mi northwest of Bradley and 7 mi downstream from San Antonio River.

DRAINAGE AREA.—2,535 mi^2.

PERIOD OF RECORD.—October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1958, 1962–66, 1972–75, 1977, 1980, 1981.
SEDIMENT DATA: Water years 1950, 1990.

REVISED RECORDS.—WSP 1285: 1950. WDR CA-84-2: 1978.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 442.69 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.—Records poor. Flow regulated by Santa Margarita Lake beginning in December 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Several small diversions upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 120,000 ft^3/s, Mar. 11, 1995, gage height, 23.44 ft, from rating curve extended above 50,000 ft^3/s; no flow at times in 1951, 1954–55, 1957.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e24	32	51	52	451	e6000	1480	204	249	711	504	388
2	e25	32	47	53	2550	e5200	1580	209	241	651	476	449
3	e26	32	45	57	12500	e3900	1490	244	223	684	468	422
4	e27	32	44	62	e15000	e3400	2050	341	208	683	370	408
5	e28	32	129	71	8220	1850	1560	574	196	648	380	425
6	e29	31	116	134	10500	1100	1370	1410	187	649	395	399
7	e29	32	98	129	15800	1010	1090	1530	196	659	405	379
8	e30	32	e175	122	e22000	860	952	1100	174	595	405	423
9	e30	33	e230	e150	e14400	849	798	798	175	491	397	470
10	e30	37	e180	e360	10300	717	688	602	177	476	423	466
11	e31	39	e120	e300	e8700	636	677	481	175	505	449	476
12	32	36	94	e250	7690	523	839	449	166	489	474	481
13	32	41	79	e800	e7600	405	937	520	158	485	483	488
14	32	37	70	e310	e8500	422	843	715	150	501	509	484
15	32	46	66	e400	e12600	392	734	637	152	473	516	466
16	31	45	59	e1200	9940	385	683	563	404	477	508	255
17	31	38	63	e800	e12400	370	594	483	476	482	500	169
18	32	37	63	e350	e10100	341	541	436	512	470	451	141
19	32	42	60	e1000	e9000	325	480	398	506	439	417	135
20	33	40	58	1120	e10000	305	413	365	462	434	423	122
21	33	37	57	653	8640	277	375	318	467	451	426	116
22	31	36	56	473	e13000	265	351	294	463	441	421	104
23	30	36	54	397	e11000	257	329	276	463	439	405	96
24	31	37	53	340	e12600	270	318	257	495	476	390	94
25	30	38	51	292	e9600	1390	304	241	469	498	407	93
26	31	55	50	243	e8800	2200	281	251	507	488	457	91
27	31	53	48	254	e7000	1440	267	264	548	481	467	92
28	31	46	48	241	e6200	1130	246	263	734	507	478	92
29	32	43	48	231	---	1210	230	261	665	509	482	93
30	31	53	47	532	---	1040	210	280	666	503	471	94
31	30	---	47	489	---	854	---	260	---	507	362	---
TOTAL	937	1160	2406	11865	285091	39323	22710	15024	10664	16302	13719	8411
MEAN	30.2	38.7	77.6	383	10180	1268	757	485	355	526	443	280
MAX	33	55	230	1200	22000	6000	2050	1530	734	711	516	488
MIN	24	31	44	52	451	257	210	204	150	434	362	91
AC-FT	1860	2300	4770	23530	565500	78000	45050	29800	21150	32340	27210	16680

e Estimated.

11150500 SALINAS RIVER NEAR BRADLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1956, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.23	100	752	1457	685	878	310	139	21.1	3.41	2.03	1.74
MAX	4.04	742	2319	5372	1449	2724	580	249	55.3	6.26	4.16	4.46
(WY)	1951	1951	1956	1952	1950	1952	1952	1955	1956	1953	1952	1952
MIN	1.64	4.40	11.0	140	238	293	87.4	40.7	7.87	1.64	.000	.000
(WY)	1955	1956	1954	1949	1953	1950	1951	1949	1950	1951	1955	1955

SUMMARY STATISTICS	WATER YEARS 1949 - 1956	
ANNUAL MEAN	363	
HIGHEST ANNUAL MEAN	945	1952
LOWEST ANNUAL MEAN	152	1955
HIGHEST DAILY MEAN	22000	Dec 24 1955
LOWEST DAILY MEAN	.00	Aug 15 1951
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 15 1951
INSTANTANEOUS PEAK FLOW	26800	Jan 15 1952
INSTANTANEOUS PEAK STAGE	12.35	Jan 15 1952
ANNUAL RUNOFF (AC-FT)	263100	
10 PERCENT EXCEEDS	745	
50 PERCENT EXCEEDS	16	
90 PERCENT EXCEEDS	1.6	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	281	158	217	766	1577	1039	484	318	393	471	502	434
MAX	632	559	2152	7066	10180	7044	5642	1792	845	683	770	743
(WY)	1970	1983	1983	1997	1998	1995	1958	1983	1994	1994	1991	1969
MIN	3.00	5.00	7.58	9.26	10.6	16.3	12.1	4.50	2.98	.84	.37	1.47
(WY)	1962	1962	1991	1991	1991	1990	1990	1961	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	368729		427612			
ANNUAL MEAN	1010		1172		548	
HIGHEST ANNUAL MEAN					1997	1983
LOWEST ANNUAL MEAN					9.39	1990
HIGHEST DAILY MEAN	16200	Jan 26	22000	Feb 8	63900	Mar 11 1995
LOWEST DAILY MEAN	23	Sep 24	24	Oct 1	.07	Sep 9 1990
ANNUAL SEVEN-DAY MINIMUM	25	Sep 24	27	Oct 1	.09	Sep 4 1990
INSTANTANEOUS PEAK FLOW			26900	Feb 8	120000	Mar 11 1995
INSTANTANEOUS PEAK STAGE			14.34	Feb 8	23.44	Mar 11 1995
ANNUAL RUNOFF (AC-FT)	731400		848200		396800	
10 PERCENT EXCEEDS	3100		1540		673	
50 PERCENT EXCEEDS	290		390		310	
90 PERCENT EXCEEDS	32		32		22	

11151300 SAN LORENZO CREEK BELOW BITTERWATER CREEK, NEAR KING CITY, CA

LOCATION.—Lat 36°16'05", long 121°03'55", in NE 1/4 sec.23, T.19 S., R.8 E., Monterey County, Hydrologic Unit 18060005, on left bank 1.3 mi downstream from Bitterwater Creek, 5 mi northeast of King City, and 10 mi upstream from mouth.

DRAINAGE AREA.—233 mi^2.

PERIOD OF RECORD.—October 1958 to current year.
CHEMICAL DATA: Water year 1977.

REVISED RECORDS.—WDR CA-85-2: 1969–84(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 431.48 ft above sea level. October 1958 to Apr. 24, 1967, at site 500 ft upstream at datum 5.00 ft higher. Apr. 25, 1967, to July 12, 1981, at site 200 ft upstream.

REMARKS.—Records poor. No regulation; small diversions upstream from station by ranchers and sand-processing plant. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,500 ft^3/s, Jan. 25, 1969, gage height, 15.33 ft, in gage well, 16.2 ft, from floodmarks, from rating curve extended above 7,100 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in 1961 and 1973.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	2115	397	4.65	Feb. 21	2300	3,820	9.60
Jan. 15	1945	327	4.47	Mar. 25	0730	615	5.04
Jan. 19	0310	867	5.72	Mar. 31	1530	989	5.88
Feb. 3	0940	8,740	13.38	Apr. 3	1500	639	5.10
Feb. 7	1840	9,460	13.83	May 5	1100	1,170	6.23
Feb. 14	1400	1,360	6.56				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.1	26	20	52	128	204	54	33	23	10	3.9
2	2.0	2.6	15	22	753	117	101	79	31	22	9.0	3.7
3	1.9	2.7	13	23	2760	109	294	66	30	22	6.9	3.7
4	2.0	3.2	12	32	440	103	202	64	31	22	6.6	3.5
5	2.0	3.1	162	32	236	102	110	493	30	21	6.6	4.2
6	2.0	3.4	90	25	1130	119	100	388	30	20	6.6	4.2
7	2.3	3.7	91	24	2450	92	103	145	40	18	6.3	4.2
8	2.1	3.3	94	23	800	107	91	112	56	17	5.7	3.5
9	2.2	3.7	48	24	426	81	85	89	54	18	5.4	3.9
10	2.7	4.0	34	39	282	73	82	75	49	18	7.2	3.7
11	2.8	4.8	29	34	254	70	97	81	46	18	5.7	3.5
12	2.7	4.4	26	50	235	68	92	108	48	17	5.4	3.1
13	2.6	4.4	25	98	248	72	100	103	46	16	3.1	3.1
14	2.5	4.4	25	37	637	73	97	79	43	15	3.5	3.1
15	2.4	7.9	25	96	465	65	85	71	35	14	3.1	4.2
16	2.3	6.2	23	91	292	66	77	65	34	13	3.1	4.2
17	2.2	5.8	22	43	433	65	70	62	32	12	3.3	4.4
18	2.4	5.0	23	33	209	60	66	59	30	11	6.6	3.9
19	2.6	5.1	22	253	434	58	62	53	29	9.6	9.0	4.4
20	2.7	4.6	22	50	439	59	59	48	29	11	9.0	4.4
21	3.0	4.2	21	36	599	59	57	46	29	11	9.0	5.2
22	3.1	4.4	21	33	852	58	53	47	29	11	7.9	6.0
23	3.1	4.2	21	28	710	56	59	44	28	10	6.0	6.0
24	3.0	4.2	20	26	410	148	62	42	28	9.7	7.9	5.7
25	3.0	4.9	20	23	256	368	54	42	27	13	6.9	6.0
26	2.8	47	20	22	221	127	52	40	26	11	6.9	5.7
27	2.9	34	20	21	173	89	50	40	25	9.2	6.0	5.7
28	3.0	16	20	19	136	182	50	58	24	7.3	4.7	5.7
29	3.2	13	21	44	---	120	50	66	23	7.5	4.2	5.7
30	3.2	32	21	54	---	84	48	40	23	9.7	3.9	5.4
31	3.0	---	20	32	---	348	---	35	---	10	3.9	---
TOTAL	79.5	249.3	1052	1387	16332	3326	2712	2794	1018	447.0	189.4	133.9
MEAN	2.56	8.31	33.9	44.7	583	107	90.4	90.1	33.9	14.4	6.11	4.46
MAX	3.2	47	162	253	2760	368	294	493	56	23	10	6.0
MIN	1.8	2.6	12	19	52	56	48	35	23	7.3	3.1	3.1
AC-FT	158	494	2090	2750	32390	6600	5380	5540	2020	887	376	266

11151300 SAN LORENZO CREEK BELOW BITTERWATER CREEK, NEAR KING CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.76	4.02	11.0	43.8	61.6	46.6	16.6	6.48	2.67	1.26	.79	1.25
MAX	20.0	34.7	62.6	401	583	422	113	90.1	33.9	15.0	7.26	17.9
(WY)	1977	1966	1967	1969	1998	1995	1983	1998	1998	1983	1983	1976
MIN	.053	.058	.073	.065	.25	.59	.19	.070	.040	.050	.000	.030
(WY)	1991	1991	1991	1991	1991	1964	1964	1992	1961	1992	1973	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1959 - 1998	
ANNUAL TOTAL	8810.59		29720.1			
ANNUAL MEAN	24.1		81.4		16.3	
HIGHEST ANNUAL MEAN					81.4	1998
LOWEST ANNUAL MEAN					.66	1968
HIGHEST DAILY MEAN	903	Jan 3	2760	Feb 3	5860	Mar 10 1995
LOWEST DAILY MEAN	.85	Aug 2	1.8	Oct 1	.00	Jun 12 1961
ANNUAL SEVEN-DAY MINIMUM	.93	Aug 2	2.0	Oct 1	.00	Jun 12 1961
INSTANTANEOUS PEAK FLOW			9460	Feb 7	11500	Jan 25 1969
INSTANTANEOUS PEAK STAGE			13.83	Feb 7	15.33	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	17480		58950		11780	
10 PERCENT EXCEEDS	35		154		21	
50 PERCENT EXCEEDS	3.2		25		1.3	
90 PERCENT EXCEEDS	1.2		3.1		.10	

11152000 ARROYO SECO NEAR SOLEDAD, CA

LOCATION.—Lat 36°16'50", long 121°19'18", in SW 1/4 NE 1/4 sec.16, T.19 S., R.6 E., Monterey County, Hydrologic Unit 18060005, on right bank under county road bridge, 1.5 mi downstream from Vaquero Creek, and 10 mi south of Soledad.

DRAINAGE AREA.—244 mi^2.

PERIOD OF RECORD.—November 1901 to current year. Records for water year 1902 incomplete; yearly estimate published in WSP 1315-B.

REVISED RECORDS.—WSP 881: 1902–9 (yearly summary only). WSP 1565: 1916–19, 1920–21(M), 1922, 1926–27, 1928–30(M), 1932, 1934, 1936(M). WSP 1715: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 339.20 ft above sea level. Prior to June 16, 1929, nonrecording gage, and June 16, 1929, to Dec. 2, 1941, water-stage recorder at site 1 mi upstream at different datum. Dec. 3, 1941, to Sept. 30, 1959, water-stage recorder at datum 2.00 ft higher. Jan. 30 to Mar. 26, 1969, nonrecording gage at bridge at same datum.

REMARKS.—Records poor. No regulation or large diversion upstream from station. Low flows affected by upstream gravel mining and irrigation during summer months. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,300 ft^3/s, Apr. 3, 1958, gage height, 16.40 ft, datum then in use, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement at gage height 16.30 ft, maximum gage height, 16.44 ft, Mar. 10, 1995; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 15	1845	2,660	5.08	Feb. 7	1715	14,700	11.72
Feb. 3	0515	17,300	12.81	Feb. 21	Unknown	e4,900	Unknown

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	11	94	62	1110	1320	704	441	292	136	67	24
2	5.6	10	70	65	3990	1210	649	620	282	133	63	23
3	5.8	10	60	124	9490	1110	783	482	276	136	58	22
4	5.4	9.9	53	323	3280	1020	919	459	272	134	54	21
5	6.2	8.7	805	266	2210	973	850	589	264	133	50	21
6	5.7	9.0	502	188	4230	940	783	538	257	125	48	23
7	4.1	9.7	608	164	6940	837	755	499	258	122	46	25
8	6.5	9.7	603	145	5330	781	693	460	253	116	44	26
9	6.3	11	313	220	3170	728	647	435	243	114	45	25
10	7.2	13	216	881	2330	681	617	414	235	111	43	26
11	11	13	170	485	1900	643	641	401	229	110	43	27
12	12	17	141	729	1620	611	604	465	224	108	41	26
13	12	17	120	924	1420	611	658	478	219	102	40	24
14	11	20	248	537	1740	571	629	426	214	101	38	24
15	10	28	257	1190	1630	537	602	404	203	98	37	24
16	9.3	45	181	1160	1550	511	574	388	196	94	36	25
17	7.8	30	154	714	1640	495	556	374	189	90	34	23
18	7.0	24	135	767	1450	473	536	358	183	87	36	21
19	6.9	26	121	1210	1710	455	517	343	178	86	38	22
20	7.5	48	112	812	e1700	439	498	334	175	81	40	23
21	8.0	35	103	624	e2500	426	478	325	174	80	40	23
22	9.3	27	95	499	e2900	407	460	317	172	78	39	25
23	9.9	24	91	413	e2700	393	456	305	169	78	35	28
24	10	25	84	352	2260	588	482	296	167	78	33	32
25	11	26	80	307	1900	1030	440	289	163	77	32	33
26	10	470	77	270	1750	700	417	284	161	75	33	35
27	9.6	249	74	250	1610	590	402	277	157	71	33	35
28	9.7	103	72	228	1450	647	387	339	149	67	30	37
29	9.2	73	69	861	---	626	374	467	143	65	29	37
30	9.8	92	66	603	---	560	361	343	140	65	27	37
31	9.8	---	65	537	---	622	---	311	---	68	24	---
TOTAL	260.3	1494.0	5839	15910	75510	21535	17472	12461	6237	3019	1256	797
MEAN	8.40	49.8	188	513	2697	695	582	402	208	97.4	40.5	26.6
MAX	12	470	805	1210	9490	1320	919	620	292	136	67	37
MIN	4.1	8.7	53	62	1110	393	361	277	140	65	24	21
AC-FT	516	2960	11580	31560	149800	42710	34660	24720	12370	5990	2490	1580

e Estimated.

11152000 ARROYO SECO NEAR SOLEDAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.20	54.0	168	399	586	455	255	95.5	40.2	15.2	6.05	4.92
MAX	75.5	650	1161	2425	2697	2344	2043	644	208	97.4	54.5	38.8
(WY)	1905	1927	1956	1914	1998	1983	1958	1983	1998	1998	1983	1978
MIN	.000	.000	2.87	5.95	8.98	18.5	7.82	4.14	.66	.000	.000	.000
(WY)	1914	1991	1991	1991	1991	1977	1977	1977	1924	1924	1913	1913

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1902 - 1998	
ANNUAL TOTAL	73377.73		161790.3			
ANNUAL MEAN	201		443		172	
HIGHEST ANNUAL MEAN					709	1983
LOWEST ANNUAL MEAN					6.97	1977
HIGHEST DAILY MEAN	4470	Jan 1	9490	Feb 3	16500	Dec 23 1955
LOWEST DAILY MEAN	.81	Aug 12	4.1	Oct 7	.00	Aug 27 1904
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 7	5.6	Oct 2	.00	Aug 27 1904
INSTANTANEOUS PEAK FLOW			17300	Feb 3	28300	Apr 3 1958
INSTANTANEOUS PEAK STAGE			12.81	Feb 3	16.44	Mar 10 1995
INSTANTANEOUS LOW FLOW					.00	Aug 27 1904
ANNUAL RUNOFF (AC-FT)	145500		320900		124600	
10 PERCENT EXCEEDS	489		992		370	
50 PERCENT EXCEEDS	36		164		28	
90 PERCENT EXCEEDS	3.7		11		.00	

11152050 ARROYO SECO BELOW RELIZ CREEK, NEAR SOLEDAD, CA

LOCATION.—Lat 36°23'59", long 121°19'23", in Los Conches Grant, Monterey County, Hydrologic Unit 18060005, on right bank at county road bridge, 1.7 mi south of Soledad, and 7.4 mi downstream from Reliz Creek.

DRAINAGE AREA.—304 mi^2.

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 167.93 ft above sea level (levels by Monterey County).

REMARKS.—Records poor. No regulation or large diversion upstream from station. Low flows affected by upstream gravel mining and irrigation during summer months. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 31,000 ft^3/s, Mar. 10, 1995, gage height, 9.62 ft, rating affected by backwater from Salinas River. Discharge estimated by routing peak. No flow for many days.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan.15	2100	2,780	4.62	Feb. 7	1915	18,600	7.48
Feb. 3	0715	22,000	7.84	Feb. 21	2215	6,220	5.65

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	828	1240	601	e150	e26	e.00	e.00	e.00
2	.00	.00	.00	.00	3480	1100	580	e160	e24	e.00	e.00	e.00
3	.00	.00	.00	.00	9510	998	659	e170	e21	e.00	e.00	e.00
4	.00	.00	.00	3.5	3090	917	794	e150	e19	e.00	e.00	e.00
5	.00	.00	462	37	2070	875	770	e140	e17	e.00	e.00	e.00
6	.00	.00	268	7.0	3820	891	751	e130	e16	e.00	e.00	e.00
7	.00	.00	216	.53	7700	793	699	e120	e15	e.00	e.00	e.00
8	.00	.00	450	.00	5760	766	648	e112	e14	e.00	e.00	e.00
9	.00	.00	72	.00	e3100	717	612	e110	e13	e.00	e.00	e.00
10	.00	.00	13	653	e2500	646	571	e100	e12	e.00	e.00	e.00
11	.00	.00	1.9	314	e2000	612	e550	e90	e11	e.00	e.00	e.00
12	.00	.00	.00	346	e1800	589	e530	e80	e10	e.00	e.00	e.00
13	.00	.00	.00	954	e1600	580	e500	e74	e9.0	e.00	e.00	e.00
14	.00	.00	3.8	416	e1900	559	e460	e70	e8.5	e.00	e.00	e.00
15	.00	.00	54	954	e1800	532	e450	e65	e8.0	e.00	e.00	e.00
16	.00	.00	5.7	1240	e1700	518	e420	e60	e7.2	e.00	e.00	e.00
17	.00	.00	.23	616	e1800	497	e400	e55	e6.4	e.00	e.00	e.00
18	.00	.00	.00	460	e1800	481	e380	e52	e5.5	e.00	e.00	e.00
19	.00	.00	.00	1390	e1700	454	e360	e50	e5.0	e.00	e.00	e.00
20	.00	.00	.00	778	e2000	432	e340	e45	e4.0	e.00	e.00	e.00
21	.00	.00	.00	555	e2600	414	e320	e40	e3.0	e.00	e.00	e.00
22	.00	.00	.00	388	3070	376	e300	e38	e2.5	e.00	e.00	e.00
23	.00	.00	.00	256	3150	360	e280	e35	e2.0	e.00	e.00	e.00
24	.00	.00	.00	178	2740	447	e270	e33	e1.0	e.00	e.00	e.00
25	.00	.00	.00	129	2140	784	e250	e30	e.00	e.00	e.00	e.00
26	.00	107	.00	98	1860	642	e230	e28	e.00	e.00	e.00	e.00
27	.00	149	.00	80	1630	566	e210	e25	e.00	e.00	e.00	e.00
28	.00	.77	.00	59	1410	570	e190	e75	e.00	e.00	e.00	e.00
29	.00	.00	.00	620	---	556	e160	e66	e.00	e.00	e.00	e.00
30	.00	.00	.00	539	---	513	e140	e40	e.00	e.00	e.00	e.00
31	.00	---	.00	431	---	519	---	e30	---	e.00	e.00	---
TOTAL	0.00	256.77	1546.63	11502.03	78558	19944	13425	2423	260.10	0.00	0.00	0.00
MEAN	.000	8.56	49.9	371	2806	643	448	78.2	8.67	.000	.000	.000
MAX	.00	149	462	1390	9510	1240	794	170	26	.00	.00	.00
MIN	.00	.00	.00	.00	828	360	140	25	.00	.00	.00	.00
AC-FT	.00	509	3070	22810	155800	39560	26630	4810	516	.00	.00	.00

e Estimated.

11152050 ARROYO SECO BELOW RELIZ CREEK, NEAR SOLEDAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	5.73	113	1016	1054	776	206	48.6	2.58	.000	.000	.000
MAX	.000	14.3	392	1975	2806	1944	448	111	8.67	.000	.000	.000
(WY)	1995	1997	1997	1997	1998	1995	1998	1995	1998	1995	1995	1995
MIN	.000	.000	.000	69.1	178	49.2	.000	.000	.000	.000	.000	.000
(WY)	1995	1995	1995	1996	1995	1997	1997	1997	1996	1995	1995	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	72734.51		127915.53			
ANNUAL MEAN	199		350		265	
HIGHEST ANNUAL MEAN					354	1995
LOWEST ANNUAL MEAN					126	1996
HIGHEST DAILY MEAN	5620	Jan 26	9510	Feb 3	17000	Mar 10 1995
LOWEST DAILY MEAN	.00	Mar 30	.00	Oct 1	.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 30	.00	Oct 1	.00	Oct 1 1994
INSTANTANEOUS PEAK FLOW			22000	Feb 3	31000	Mar 10 1995
INSTANTANEOUS PEAK STAGE			7.84	Feb 3	9.62	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	144300		253700		191900	
10 PERCENT EXCEEDS	455		881		654	
50 PERCENT EXCEEDS	.00		.53		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11152300 SALINAS RIVER NEAR CHUALAR, CA

LOCATION.—Lat 36°33'20", long 121°32'55", in Guadalupe y Llanitos de Los Correos Grant, Monterey County, Hydrologic Unit 18060005, near left bank on upstream side of bridge on Chualar-River Road and 2 mi southwest of Chualar.

DRAINAGE AREA.—4,042 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1976 to current year.

REVISED RECORDS.—WDR CA-85-2: 1983–84(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 68.00 ft above sea level. Prior to January 1979, nonrecording gage at same site and datum. Prior to Aug. 19, 1991, at site 0.2 mi upstream at same datum.

REMARKS.—Records poor. Daily discharges prior to January 1979 determined by discharge measurements at this site correlated to streamflow for Salinas River at Soledad (station 11151700) and Salinas River near Spreckels (station 11152500). Flow regulated by Santa Margarita Lake beginning in December 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Large withdrawals from ground water and small surface-water diversions for municipal use and for irrigation upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 92,000 ft^3/s, estimated, Mar. 11, 1995, gage height, 19.70 ft, from rating curve extended above 18,000 ft^3/s; peak flow includes an estimate of 8,800 ft^3/s bypassing the gage; no flow at times during most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	598	8600	2180	419	390	369	163	e27
2	.00	.00	.00	.00	2770	7840	2280	480	372	374	156	e26
3	.00	.00	.00	.00	e10000	6320	2730	484	351	378	160	e26
4	.00	.00	.00	.00	e20000	5690	3160	458	335	380	163	e25
5	.00	.00	.00	.00	12100	5280	3490	536	308	393	146	e25
6	.00	.00	.00	.00	11200	4430	3130	1010	290	408	127	e25
7	.00	.00	.00	.00	23900	3560	2620	1730	287	414	e108	e25
8	.00	.00	67	.00	36900	3230	2260	2040	290	393	e95	e24
9	.00	.00	86	.00	25400	2960	1960	1700	281	381	e89	e30
10	.00	.00	12	.00	13800	2580	1720	1390	254	353	e78	e58
11	.00	.00	.00	108	11800	2280	1580	1130	228	278	e71	71
12	.00	.00	.00	49	9780	2040	1560	1020	220	267	e64	73
13	.00	.00	.00	54	8680	1900	1470	984	202	266	e58	80
14	.00	.00	.00	34	9360	1720	1670	902	182	265	e54	70
15	.00	.00	.00	236	14800	1540	1510	893	175	249	e49	79
16	.00	.00	.00	1240	14200	1400	1340	902	168	232	e46	93
17	.00	.00	.00	1030	11700	1310	1200	814	154	208	e43	90
18	.00	.00	.00	740	14200	1210	1070	752	157	203	e40	65
19	.00	.00	.00	1300	12000	1130	965	673	205	193	e38	34
20	.00	.00	.00	1210	13400	1060	893	597	241	193	e36	.00
21	.00	.00	.00	1040	13400	1010	823	543	259	195	e35	.00
22	.00	.00	.00	849	20100	941	746	504	288	194	e34	.00
23	.00	.00	.00	638	22000	903	682	463	309	186	e33	.00
24	.00	.00	.00	490	20700	898	e540	430	307	183	e31	.00
25	.00	.00	.00	372	16600	1420	e518	411	278	183	e31	.00
26	.00	.00	.00	322	12000	1880	e480	402	290	177	e30	.00
27	.00	.00	.00	286	10900	3110	e460	387	294	174	e29	.00
28	.00	.00	.00	250	9410	2430	523	384	287	180	e28	.00
29	.00	.00	.00	262	---	2170	483	445	290	169	e28	.00
30	.00	.00	.00	783	---	1970	452	467	345	169	e27	.00
31	.00	---	.00	550	---	1810	---	419	---	163	e27	---
TOTAL	0.00	0.00	165.00	11843.00	401698	84622	44495	23769	8037	8170	2117	946.00
MEAN	.000	.000	5.32	382	14350	2730	1483	767	268	264	68.3	31.5
MAX	.00	.00	86	1300	36900	8600	3490	2040	390	414	163	93
MIN	.00	.00	.00	.00	598	898	452	384	154	163	27	.00
AC-FT	.00	.00	327	23490	796800	167800	88260	47150	15940	16210	4200	1880

e Estimated.

11152300 SALINAS RIVER NEAR CHUALAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.0	71.7	296	1242	2280	1796	486	202	74.4	65.3	57.3	77.3
MAX	286	474	2757	8328	14350	10690	2793	2418	767	462	381	425
(WY)	1983	1983	1983	1997	1998	1983	1982	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1981	1990	1990	1989	1977	1989	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1977 - 1998	
ANNUAL TOTAL	355310.50		585862.00			
ANNUAL MEAN	973		1605		550	
HIGHEST ANNUAL MEAN					2796	1983
LOWEST ANNUAL MEAN					.000	1990
HIGHEST DAILY MEAN	23200	Jan 27	36900	Feb 8	68000	Mar 12 1995
LOWEST DAILY MEAN	.00	Apr 24	.00	Oct 1	.00	Jan 27 1977
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 24	.00	Oct 1	.00	Feb 3 1977
INSTANTANEOUS PEAK FLOW			42800	Feb 8	92000	Mar 11 1995
INSTANTANEOUS PEAK STAGE			15.15	Feb 8	19.70	Mar 11 1995
ANNUAL RUNOFF (AC-FT)	704800		1162000		398500	
10 PERCENT EXCEEDS	3410		3140		940	
50 PERCENT EXCEEDS	65		193		43	
90 PERCENT EXCEEDS	.00		.00		.00	

11152300 SALINAS RIVER NEAR CHUALAR, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1977 to current year.
CHEMICAL DATA: Water years 1977 to current year.
BIOLOGICAL DATA: Water years 1977–81.
SPECIFIC CONDUCTANCE: Water years 1977–81.
WATER TEMPERATURE: Water years 1967–69, 1977–81.
SEDIMENT DATA: December 1966 to September 1969, January 1977 to May 1995, June 1997 to current year.

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: January 1977 to September 1981.
WATER TEMPERATURE: January 1977 to September 1981.
SUSPENDED-SEDIMENT DISCHARGE: December 1966 to September 1969.

INSTRUMENTATION.—Water-quality monitor from January 1977 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
MAR												
04...	1400	5710	483	8.2	13.0	280	761	11.2	107	180	57	43
JUN												
08...	1200	290	959	8.5	17.0	14	762	10.0	103	350	150	80
AUG												
05...	1100	148	543	8.7	21.5	56	763	9.7	110	210	70	50
SEP												
10...	1115	62	555	8.5	16.0	16	761	10.3	105	210	71	49

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAR											
04...	17	29	26	.9	2.0	148	0	122	89	19	.21
JUN											
08...	37	66	29	2	3.2	228	10	204	200	59	.26
AUG											
05...	20	31	24	.9	2.1	149	9	138	95	24	.21
SEP											
10...	22	33	25	1	2.0	149	11	140	97	26	.21

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
MAR											
04...	19	318	296	.43	<.010	.759	<.020	1.1	1.03	.101	.112
JUN											
08...	23	637	615	.87	.033	4.16	.036	.29	.144	.049	.085
AUG											
05...	19	340	330	.46	.015	1.48	.043	.44	.146	.022	.046
SEP											
10...	18	353	336	.48	.019	1.41	<.020	.44	.083	.012	.022

11152300 SALINAS RIVER NEAR CHUALAR, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
MAR						
04...	1450	5610	13.0	3080	46700	52
JUN						
08...	1045	290	17.0	114	89	73
AUG						
05...	1140	148	21.5	181	72	93

11152500 SALINAS RIVER NEAR SPRECKELS, CA

LOCATION.—Lat 36°37'52", long 121°40'17", in Nacional Grant, Monterey County, Hydrologic Unit 18060005, on right bank on downstream side of bridge on Salinas–Monterey Highway, 0.8 mi upstream from El Toro Creek, 1.6 mi northwest of Spreckels, and 2 mi south of Salinas.

DRAINAGE AREA.—4,156 mi^2.

PERIOD OF RECORD.—January 1900 to August 1901, October 1929 to current year. Records for water year 1930 incomplete; yearly estimate published in WSP 1315-B. Published as "near Salinas" 1900–01.

CHEMICAL DATA: Water years 1952–54, 1958–70, 1972–79. Published incorrectly as station 11152300 "near Chualar" in 1967.

BIOLOGICAL DATA: Water years 1975–77.

SPECIFIC CONDUCTANCE: Water years 1975 to January 1977, daily.

WATER TEMPERATURE: Water years 1967–79, daily. Published incorrectly as station 11152300 "near Chualar" in 1967–69.

SEDIMENT DATA: Water years 1950–51; 1967–79, daily; 1986, monthly; August 1990. Published incorrectly as station 11152300 "near Chualar" in 1967–69.

TURBIDITY: Water year 1973.

REVISED RECORDS.—WSP 1565: 1930, 1935, 1945. WSP 1715: 1959. WSP 1929: Drainage area. WDR CA-85-2: 1983.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 20.56 ft above sea level. 1900–01, May 10 to July 29, 1940, nonrecording gages at site 0.3 mi downstream at different datum. July 29, 1940, to May 22, 1969, water-stage recorder at site 0.3 mi downstream at datum 0.69 ft lower. May 23, 1969, to Jan. 13, 1970, nonrecording gage at same site and datum. Mar. 17, 1941, to June 30, 1961, supplementary nonrecording gages.

REMARKS.—Records poor. Flow regulated by Santa Margarita Lake (formerly Salinas Reservoir) beginning in 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and by Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Large withdrawals from ground water and small surface-water diversions for municipal use and for irrigation upstream from station. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 95,000 ft^3/s, Mar. 12, 1995, gage height, 30.29 ft, from rating extended above 30,000 ft^3/s, peak includes estimate of 9,800 ft^3/s bypassing gage; no flow at times in 1929–40, many days in 1990–98.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	679	7430	2560	666	359	273	92	e7.4
2	e.00	e.00	e.00	e.00	1630	7020	2580	653	339	271	88	e6.8
3	e.00	e.00	e.00	e.00	16200	5320	2870	801	316	279	85	e6.3
4	e.00	e.00	e.00	e.00	27300	4230	2970	813	304	289	88	e6.0
5	e.00	e.00	e1.0	e.00	14600	3620	2960	940	276	292	83	e5.7
6	e.00	e.00	e10	e.00	11500	2700	2820	1210	248	307	72	e5.5
7	e.00	e.00	e20	e.00	24700	2140	2820	e1900	237	323	54	e5.6
8	e.00	e.00	e5.0	e.00	e41000	1860	2730	2300	233	309	44	e5.8
9	e.00	e.00	e.00	e.00	e32000	1690	2510	2090	224	291	40	e7.0
10	e.00	e.00	e.00	e50	21300	1550	2330	1710	207	281	38	e11
11	e.00	e.00	e.00	189	16300	1440	2220	1460	191	220	41	e18
12	e.00	e.00	e.00	300	13600	1460	2120	1300	174	193	41	e19
13	e.00	e.00	e.00	448	11700	1390	2040	1240	161	182	36	e20
14	e.00	e.00	e.00	568	11300	1440	2190	1140	146	182	31	e21
15	e.00	e.00	e.00	592	14900	1380	2150	1050	134	179	26	e25
16	e.00	e.00	e.00	862	15900	1450	1950	1120	128	166	25	35
17	e.00	e.00	e.00	827	14700	1470	1820	1040	118	146	e24	48
18	e.00	e.00	e.00	717	15300	1390	1690	954	103	138	26	53
19	e.00	e.00	e.00	998	13300	1300	1600	889	127	127	29	39
20	e.00	e.00	e.00	1040	14800	1300	1440	831	169	117	26	26
21	e.00	e.00	e.00	877	15200	1290	1350	706	188	116	e24	e20
22	e.00	e.00	e.00	823	17100	1270	1330	622	201	118	e20	e14
23	e.00	e.00	e.00	683	18400	1200	1210	559	221	116	e17	e11
24	e.00	e.00	e.00	591	18200	1200	1040	506	229	113	e15	e6.5
25	e.00	e.00	e.00	530	18000	1450	955	472	210	112	e14	e4.0
26	e.00	e.00	e.00	492	14100	2200	894	443	210	106	e13	e2.4
27	e.00	e.00	e.00	457	12300	2670	849	418	212	105	e12	e.60
28	e.00	e.00	e.00	438	9320	2460	799	408	205	107	e11	e.00
29	e.00	e.00	e.00	503	---	2360	750	413	197	106	e10	e.00
30	e.00	e.00	e.00	719	---	2320	709	496	221	100	e9.0	e.00
31	e.00	---	e.00	652	---	2400	---	411	---	92	e8.0	---
TOTAL	0.00	0.00	36.00	13356.00	455329	72400	56256	29561	6288	5756	1142.0	429.60
MEAN	.000	.000	1.16	431	16260	2335	1875	954	210	186	36.8	14.3
MAX	.00	.00	20	1040	41000	7430	2970	2300	359	323	92	53
MIN	.00	.00	.00	.00	679	1200	709	408	103	92	8.0	.00
AC-FT	.00	.00	71	26490	903100	143600	111600	58630	12470	11420	2270	852

e Estimated.

11152500 SALINAS RIVER NEAR SPRECKELS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1940, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.24	5.04	378	491	3003	1656	520	75.7	7.80	1.53	.81	1.82
MAX	12.0	12.0	3215	1742	11940	9543	2019	340	49.3	9.00	5.00	6.10
(WY)	1939	1939	1932	1940	1938	1938	1935	1938	1938	1938	1938	1932
MIN	.000	.000	.000	6.33	9.23	3.86	.70	.10	.10	.000	.000	.000
(WY)	1940	1940	1940	1931	1931	1931	1931	1931	1931	1931	1931	1931

SUMMARY STATISTICS	WATER YEARS 1930 - 1940	
ANNUAL TOTAL		
ANNUAL MEAN	497	
HIGHEST ANNUAL MEAN	1931	1938
LOWEST ANNUAL MEAN	2.66	1931
HIGHEST DAILY MEAN	69900	Feb 12 1938
LOWEST DAILY MEAN	.00	Jul 1 1931
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 1 1931
INSTANTANEOUS PEAK FLOW	75000	Feb 12 1938
INSTANTANEOUS PEAK STAGE	25.00	Feb 12 1938
ANNUAL RUNOFF (AC-FT)	360400	
10 PERCENT EXCEEDS	727	
50 PERCENT EXCEEDS	4.7	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

MEAN	26.3	33.7	224	956	1595	1292	516	131	35.2	21.6	20.4	30.4
MAX	402	389	2511	6993	16260	12640	6714	2839	767	403	354	394
(WY)	1970	1983	1983	1997	1998	1983	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1991	1991	1991	1991	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998	
ANNUAL TOTAL	288991.19		640553.60			
ANNUAL MEAN	792		1755		401	
HIGHEST ANNUAL MEAN					2997	1983
LOWEST ANNUAL MEAN					.81	1990
HIGHEST DAILY MEAN	16900	Jan 27	41000	Feb 8	64800	Feb 26 1969
LOWEST DAILY MEAN	.00	Mar 24	.00	Oct 1	.00	Jan 31 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 31	.00	Oct 1	.00	Jan 31 1990
INSTANTANEOUS PEAK FLOW			44800	Feb 8	95000	Mar 12 1995
INSTANTANEOUS PEAK STAGE			24.41	Feb 8	30.29	Mar 12 1995
ANNUAL RUNOFF (AC-FT)	573200		1271000		290200	
10 PERCENT EXCEEDS	2710		2770		646	
50 PERCENT EXCEEDS	.00		146		3.2	
90 PERCENT EXCEEDS	.00		.00		.00	

11152540 EL TORO CREEK NEAR SPRECKELS, CA

LOCATION.—Lat 36°35'00", long 121°42'50", in El Toro Grant, Monterey County, Hydrologic Unit 18060005, on right bank 0.3 mi downstream from San Benancio Gulch and 4.7 mi southwest of Spreckels.

DRAINAGE AREA.—31.9 mi^2.

PERIOD OF RECORD.—October 1961 to current year.
SEDIMENT DATA: Water years 1986, 1990.

GAGE.—Water-stage recorder, concrete weir control from Oct. 1, 1992, to Feb. 3, 1998, and crest-stage gage. Elevation of gage is 210 ft above sea level, from topographic map. Prior to Sept. 16, 1983, gage was at site 700 ft upstream at different datum.

REMARKS.—Records good, except for estimated daily discharges, which are poor, and all records are poor after gage and control were damaged by Feb. 3, 1998, flood. No regulation or diversion upstream from station except for small stock ponds. Low flow at times affected by irrigation runoff from upstream golf course. See schematic diagram of Salinas River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 669 ft^3/s, Feb. 3, 1998, gage height, 7.11 ft, from rating curve extended above 240 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR 1997 WATER YEAR—Peak discharges greater than base discharge of 20 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 21	2200	155	3.27	Jan. 15	Unknown	e120	Unknown
Jan. 2	2030	259	4.13	Jan. 26	Unknown	e250	Unknown
Jan. 12	1400	64	2.35				

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 20 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	0830	24	1.88	Jan. 29	1100	109	2.84
Dec. 5	0615	83	2.57	Feb. 3	0145	669	7.11
Dec. 7	1430	69	2.41	Feb. 7	Unknown	e600	Unknown
Jan. 4	0945	26	1.83	Feb. 14	Unknown	e200	Unknown
Jan. 10	0215	77	2.50	Feb. 21	Unknown	e380	Unknown
Jan. 12	1830	205	3.69	Mar. 28	0645	e140	5.22
Jan. 15	1515	285	4.33	May 6	0530	192	3.70
Jan. 18	1930	240	3.98				

e Estimated.

11152540 EL TORO CREEK NEAR SPRECKELS, CA—Continued

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

DAILY MEAN VALUES (Not previously published)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.05	.19	10	e14	.51	.18	.18	.07	.05	.04	.04
2	.09	.04	.11	59	e12	.51	.19	.18	.08	.04	.05	.03
3	.07	.04	.05	63	e10	.44	.18	.14	.09	.05	.05	.03
4	.08	.04	.11	23	e8.0	.44	.19	.13	.10	.05	.02	.01
5	.07	.04	.30	18	e6.6	.44	.17	.13	.07	.06	.03	.02
6	.05	.04	.24	11	e5.6	.38	.13	.11	.08	.04	.03	.02
7	.06	.05	.23	7.7	e4.8	.40	.16	.11	.08	.06	.03	.03
8	.05	.06	.19	5.2	e4.0	.37	.16	.14	.08	.06	.04	.02
9	.04	.04	.57	3.6	e3.5	.33	.16	.16	.09	.04	.04	.03
10	.03	.04	5.8	2.6	e2.8	.37	.17	.14	.11	.03	.05	.01
11	.03	.04	.62	2.1	e2.5	.37	.26	.12	.14	.03	.07	.02
12	.01	.05	.36	18	e2.2	.38	.38	.11	.13	.03	.06	.02
13	.01	.05	.34	e9.0	e2.0	.33	.41	.09	.13	.04	.05	.01
14	.01	.05	.10	e6.4	1.7	.37	.46	.10	.10	.03	.05	.02
15	.00	.06	.10	e60	1.4	.36	.41	.09	.09	.04	.06	.03
16	.00	.16	.16	e40	1.2	.35	.50	.08	.12	.06	.05	.04
17	.00	4.5	.26	e25	1.1	.35	.51	.06	.10	.02	.04	.06
18	.01	.42	.19	e11	1.1	.32	.33	.08	.10	.05	.07	.07
19	.00	.26	.20	e5.8	.86	.26	.16	.08	.07	.04	.05	.05
20	.00	.16	.17	e12	.73	.28	.14	.09	.09	.09	.10	.02
21	.00	1.2	34	e20	.72	.28	.19	.08	.07	.12	.05	.02
22	.01	.57	32	e24	.72	.25	.17	.07	.17	.07	.04	.04
23	.00	.34	11	e28	.75	.25	.16	.09	.07	.07	.04	.04
24	.01	.22	4.9	e21	.63	.27	.15	.08	.07	.03	.05	.01
25	.02	.17	2.5	e40	.65	.24	.14	.07	.05	.02	.04	.01
26	.01	.07	1.3	e90	.65	.20	.14	.07	.06	.01	.05	.02
27	.01	.13	.72	e60	.60	.17	.14	.08	.06	.03	.02	.02
28	.01	.21	.26	e35	.54	.17	.19	.09	.06	.04	.02	.02
29	.08	.17	.28	e25	---	.15	.18	.07	.07	.05	.01	.03
30	.26	.15	1.1	e21	---	.16	.17	.07	.06	.03	.02	.05
31	.04	---	.33	e17	---	.19	---	.07	---	.03	.03	---
TOTAL	1.14	9.42	98.68	773.4	91.35	9.89	6.88	3.16	2.66	1.41	1.35	0.84
MEAN	.037	.31	3.18	24.9	3.26	.32	.23	.10	.089	.045	.044	.028
MAX	.26	4.5	34	90	14	.51	.51	.18	.17	.12	.10	.07
MIN	.00	.04	.05	2.1	.54	.15	.13	.06	.05	.01	.01	.01
AC-FT	2.3	19	196	1530	181	20	14	6.3	5.3	2.8	2.7	1.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	.24	.70	4.94	7.08	6.55	2.11	.34	.11	.072	.050	.046
MAX	1.52	2.23	7.08	27.4	77.8	62.2	14.8	5.18	.63	.49	.28	.22
(WY)	1980	1983	1983	1969	1969	1983	1982	1983	1983	1969	1983	1983
MIN	.000	.000	.000	.000	.000	.058	.022	.000	.000	.000	.000	.000
(WY)	1965	1989	1990	1991	1991	1966	1990	1966	1966	1965	1962	1964

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1962 - 1997	
ANNUAL TOTAL	728.68		1000.18			
ANNUAL MEAN	1.99		2.74		1.84	
HIGHEST ANNUAL MEAN					11.3	1983
LOWEST ANNUAL MEAN					.034	1990
HIGHEST DAILY MEAN	78	Feb 22	90	Jan 26	390	Mar 2 1983
LOWEST DAILY MEAN	.00	Oct 15	.00	Oct 15	.00	Oct 1 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 15	.00	Oct 15	.00	Oct 6 1961
INSTANTANEOUS PEAK FLOW			259	Jan 2	664	Mar 10 1995
INSTANTANEOUS PEAK STAGE			4.13	Jan 2	7.08	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	1450		1980		1330	
10 PERCENT EXCEEDS	3.1		5.7		1.3	
50 PERCENT EXCEEDS	.17		.10		.10	
90 PERCENT EXCEEDS	.05		.02		.00	

e Estimated.

11152540 EL TORO CREEK NEAR SPRECKELS, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.02	.19	.20	35	e36	e53	e.37	4.9	e.64	e.51	.22
2	.04	.02	.20	.50	202	e29	e60	e.17	4.2	e.64	e.51	.16
3	.05	.02	.17	.26	e250	e24	e45	e.49	8.0	e.64	e.50	.19
4	.04	.01	.18	12	e145	e21	e35	.30	2.3	e.64	e.50	.19
5	.07	.01	23	1.7	e88	e34	e34	47	e1.1	e.63	e.50	.18
6	.10	.04	1.3	.54	e220	e33	e32	25	e1.1	e.62	e.49	.18
7	.10	.05	16	.49	e235	e26	e27	e2.1	e1.1	e.62	e.49	.18
8	.04	.05	35	.38	e130	e18	e24	1.4	e1.0	e.62	e.48	.19
9	.05	.07	9.9	8.9	e66	e12	e23	4.7	e1.0	e.61	e.48	.18
10	.18	.90	2.3	37	e34	e8.5	e22	9.0	e1.0	e.60	e.48	.20
11	.06	.74	.85	19	e19	e6.3	e32	5.2	e.96	e.60	e.47	.22
12	.04	.12	.57	67	e11	e4.5	e29	7.4	e.94	e.60	.45	.18
13	.02	.17	.50	59	e7.5	e3.2	e32	12	e.93	e.59	.29	.24
14	.03	.23	3.5	29	e102	e2.2	e29	5.9	e.89	e.58	.36	.17
15	.01	2.1	1.9	123	e70	e1.6	e28	2.9	e.87	e.58	.28	.24
16	.00	.18	.60	89	e42	e1.1	e27	2.0	e.85	e.58	.31	.23
17	.02	.13	.51	42	e24	e.87	e24	1.8	e.83	e.57	.36	e.23
18	.02	.07	.41	75	e16	e.75	e18	2.3	e.81	e.56	.33	e.25
19	.02	.09	.31	119	e11	e.66	e16	9.6	e.79	e.56	.34	e.26
20	.03	.07	.28	61	e150	e.63	e14	6.5	e.76	e.56	.43	e.28
21	.02	.07	.27	35	e168	e.61	e13	2.3	e.74	e.56	.45	e.29
22	.04	.07	.25	25	e72	e.60	e10	2.9	e.72	e.55	.41	e.30
23	.03	.11	.21	19	e120	e2.7	e8.0	1.4	e.70	e.55	.49	e.27
24	.51	.09	.21	14	e88	e30	4.6	1.6	e.68	e.54	.92	.23
25	.04	.07	.21	11	e47	e56	2.8	2.1	e.68	e.54	.43	.28
26	.02	7.2	.21	9.2	e63	e33	2.4	2.3	e.68	e.54	.39	.34
27	.04	.98	.21	8.3	e57	e80	1.7	5.6	e.66	e.53	.34	.39
28	.02	.24	.19	7.2	e45	e83	1.4	3.8	e.66	e.53	.34	.39
29	.02	.18	.18	66	---	e57	.65	1.8	e.66	e.52	.34	.40
30	.03	1.2	.18	26	---	e49	e.26	1.6	e.66	e.52	.33	.44
31	.03	---	.18	22	---	e72	---	2.4	---	e.51	.32	---
TOTAL	1.76	15.30	99.97	987.67	2517.5	727.22	648.81	173.93	41.17	17.93	13.32	7.50
MEAN	.057	.51	3.22	31.9	89.9	23.5	21.6	5.61	1.37	.58	.43	.25
MAX	.51	7.2	35	123	250	83	60	47	8.0	.64	.92	.44
MIN	.00	.01	.17	.20	7.5	.60	.26	.17	.66	.51	.28	.16
AC-FT	3.5	30	198	1960	4990	1440	1290	345	82	36	26	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	.24	.77	5.67	9.30	7.01	2.64	.48	.14	.086	.060	.052
MAX	1.52	2.23	7.08	31.9	89.9	62.2	21.6	5.61	1.37	.58	.43	.25
(WY)	1980	1983	1983	1998	1998	1983	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.058	.022	.000	.000	.000	.000	.000
(WY)	1965	1989	1990	1991	1991	1966	1990	1966	1966	1965	1962	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	1007.97		5252.08			
ANNUAL MEAN	2.76		14.4		2.17	
HIGHEST ANNUAL MEAN					14.4	1998
LOWEST ANNUAL MEAN					.034	1990
HIGHEST DAILY MEAN	90	Jan 26	250	Feb 3	390	Mar 2 1983
LOWEST DAILY MEAN	.00	Oct 16	.00	Oct 16	.00	Oct 1 1961
ANNUAL SEVEN-DAY MINIMUM	.02	Oct 13	.02	Oct 13	.00	Oct 6 1961
INSTANTANEOUS PEAK FLOW			669	Feb 3	669	Feb 3 1998
INSTANTANEOUS PEAK STAGE			7.11	Feb 3	7.11	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	2000		10420		1580	
10 PERCENT EXCEEDS	6.0		45		1.7	
50 PERCENT EXCEEDS	.11		.65		.10	
90 PERCENT EXCEEDS	.02		.07		.00	

e Estimated.

11152600 GABILAN CREEK NEAR SALINAS, CA

LOCATION.—Lat 36°45'21", long 121°36'34", in La Natividad Grant, Monterey County, Hydrologic Unit 18060011, on left bank at downstream side of county road bridge, 0.3 mi downstream from small left-bank tributary, and 6.2 mi northeast of Salinas.

DRAINAGE AREA.—36.7 mi^2.

PERIOD OF RECORD.—October 1970 to current year. January 1959 to September 1970 in reports of Monterey County Water Resources Agency.

REVISED RECORDS.—WDR CA-84-2: 1974(M), 1978(P), 1980–83(P).

GAGE.—Water-stage recorder and crest-stage gage. Concrete control since Oct. 9, 1975. Elevation of gage is 200 ft above sea level, from topographic map. Prior to Oct. 9, 1975, on right bank at different datum.

REMARKS.—Records fair except discharges greater than 200 ft^3/s or less than 1 ft^3/s, which are poor. Natural flow of stream affected by small diversions, storage reservoirs, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,030 ft^3/s, Feb. 3, 1998, gage height, 5.17 ft from rating curve extended above 260 ft^3/s; maximum gage height, 11.13 ft, April 1, 1974, at datum then in use; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 60 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	0900	93	2.94	Feb. 3	0230	1,030	5.17
Dec. 7	1245	112	3.03	Feb. 21	1730	562	4.12
Jan. 12	0715	190	3.39	Apr. 3	0915	139	3.04
Jan. 15	1700	314	3.80	May 28	1515	85	2.80

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	74	87	72	29	25	8.2	3.8	.71
2	.00	.00	.00	.13	118	84	56	29	22	10	2.8	1.0
3	.00	.00	.00	.00	646	84	84	27	22	9.9	3.6	.68
4	.00	.00	.00	15	344	82	77	27	20	11	3.2	.57
5	.00	.00	19	2.5	187	83	68	39	19	11	2.4	e.50
6	.00	.00	2.9	.26	307	85	64	35	20	10	2.6	e.45
7	.00	.00	27	.00	419	72	60	31	22	11	3.4	e.43
8	.00	.00	29	.00	422	68	55	30	21	9.2	2.9	e.42
9	.00	.00	12	8.0	296	62	51	28	18	10	2.6	e.41
10	.00	.00	5.5	28	175	57	48	25	18	9.5	2.4	e.39
11	.00	.00	1.4	32	146	53	61	25	17	8.7	2.5	e.38
12	.00	.00	.07	87	153	51	52	30	15	9.0	3.8	e.37
13	.00	.00	.00	59	143	59	71	31	15	9.5	5.5	e.36
14	.00	.00	10	38	230	49	59	24	17	8.4	2.9	e.36
15	.00	.00	1.9	173	173	45	53	23	16	7.3	1.8	e.35
16	.00	.00	.59	124	164	44	49	22	16	7.6	3.8	e.34
17	.00	.00	.16	63	168	41	46	22	13	7.8	2.5	e.34
18	.00	.00	.00	91	123	38	44	21	14	8.0	2.5	e.33
19	.00	.00	.00	92	249	36	42	20	13	7.4	3.7	e.33
20	.00	.00	.00	62	346	35	41	19	11	8.5	2.2	e.33
21	.00	.00	.00	50	364	34	39	19	9.4	7.6	1.4	e.32
22	.00	.00	.00	40	334	32	37	18	10	7.8	1.8	e.32
23	.00	.00	.00	33	310	31	37	18	9.8	8.6	1.9	.10
24	.00	.00	.00	29	251	47	39	19	9.1	8.5	1.6	.05
25	.00	.00	.00	25	184	75	36	19	9.0	7.9	1.6	.10
26	.00	30	.00	22	158	59	34	19	8.8	6.8	1.3	.64
27	.00	3.5	.00	19	115	49	32	18	8.0	6.0	1.2	.83
28	.00	.00	.00	16	94	74	31	35	8.3	6.0	.85	.72
29	.00	.00	.00	65	---	57	29	30	8.2	5.3	.78	.54
30	.00	2.4	.00	37	---	48	28	25	8.5	4.3	.93	.81
31	.00	---	.00	32	---	62	---	24	---	4.5	1.4	---
TOTAL	0.00	35.90	109.52	1242.89	6693	1783	1495	781	443.1	255.3	75.66	13.48
MEAN	.000	1.20	3.53	40.1	239	57.5	49.8	25.2	14.8	8.24	2.44	.45
MAX	.00	30	29	173	646	87	84	39	25	11	5.5	1.0
MIN	.00	.00	.00	.00	74	31	28	18	8.0	4.3	.78	.05
AC-FT	.00	71	217	2470	13280	3540	2970	1550	879	506	150	27

e Estimated.

11152600 GABILAN CREEK NEAR SALINAS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.034	.59	4.08	11.6	20.9	16.3	9.30	2.81	1.28	.54	.20	.043
MAX	.50	6.20	55.0	99.5	239	124	58.7	25.2	14.8	8.24	2.85	.58
(WY)	1984	1983	1997	1997	1998	1983	1974	1998	1998	1998	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1971	1972	1972	1972	1972	1972	1971	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	4492.91		12927.85			
ANNUAL MEAN	12.3		35.4		5.55	
HIGHEST ANNUAL MEAN					35.4	1998
LOWEST ANNUAL MEAN					.000	1972
HIGHEST DAILY MEAN	361	Jan 2	646	Feb 3	646	Feb 3 1998
LOWEST DAILY MEAN	.00	Jun 13	.00	Oct 1	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 13	.00	Oct 1	.00	Oct 1 1970
INSTANTANEOUS PEAK FLOW			1030	Feb 3	1030	Feb 3 1998
INSTANTANEOUS PEAK STAGE			5.17	Feb 3	11.13	Apr 1 1974
ANNUAL RUNOFF (AC-FT)	8910		25640		4020	
10 PERCENT EXCEEDS	37		84		10	
50 PERCENT EXCEEDS	.00		9.1		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11154700 CLEAR CREEK NEAR IDRIA, CA

LOCATION.—Lat 36°21'53", long 120°45'19", in SE 1/4 sec.15, T.18 S., R.11 E., San Benito County, Hydrologic Unit 18060002, on right bank in Clear Creek Management Area, 1.7 mi upstream from San Benito River, and 5.8 mi southwest of Idria.

DRAINAGE AREA.—14.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1993 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 2,600 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,100 ft^3/s, Mar. 10, 1995, gage height, 6.75 ft, from rating curve extended above 18 ft^3/s on basis of slope-area measurements at gage heights of 4.44 ft and 6.75 ft; minimum daily, 0.07 ft^3/s, Sept. 7, 8, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 30 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	1300	41	1.92	Feb. 3	0700	167	2.93
Jan. 18	1800	42	1.93	Feb. 7	1600	651	5.12

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.78	1.8	1.7	14	38	24	19	21	8.7	5.3	2.4
2	.76	.76	1.5	2.0	35	37	23	20	20	8.7	4.9	2.4
3	.76	.73	1.3	1.9	43	35	26	19	18	8.6	4.7	2.3
4	.74	.73	1.2	3.9	7.0	33	25	19	16	8.5	4.6	2.9
5	.74	.73	18	2.5	3.8	33	24	25	16	8.2	4.5	3.7
6	.75	.72	6.9	2.1	10	32	23	19	16	7.8	4.4	4.2
7	.76	.79	9.8	2.2	68	31	23	18	16	7.7	4.3	3.9
8	.76	.80	8.0	2.1	67	30	22	20	15	7.6	4.3	3.4
9	.79	.79	5.0	3.7	98	29	21	21	15	7.4	4.0	3.1
10	.94	1.2	3.9	4.1	87	27	21	24	17	7.4	3.9	3.1
11	.90	.98	3.3	3.1	63	26	22	25	21	7.2	3.9	3.0
12	.79	.96	2.8	5.1	60	26	21	24	18	7.1	e3.9	3.0
13	.78	1.1	2.6	4.8	58	27	21	21	18	6.7	e4.0	2.9
14	.77	.96	2.7	4.1	65	25	20	20	18	6.7	4.0	2.8
15	.72	2.1	2.6	5.2	53	24	20	22	16	6.6	4.0	2.8
16	.73	1.2	2.4	5.0	48	24	19	24	16	6.4	4.0	2.7
17	.72	1.0	2.3	4.4	45	24	19	24	15	6.4	4.2	2.6
18	.74	.98	2.2	12	41	26	19	23	14	6.3	4.4	2.6
19	.75	1.4	2.2	11	39	26	21	22	11	6.3	4.4	2.6
20	.73	1.1	2.1	7.2	37	27	21	23	11	6.5	4.4	2.6
21	.74	1.0	2.1	6.1	46	25	20	23	11	6.5	4.4	2.7
22	.73	.98	1.9	5.5	47	25	20	22	12	6.4	3.9	2.7
23	.74	.98	2.2	5.0	54	25	21	22	13	6.3	3.2	2.8
24	.77	.98	1.8	4.7	49	28	20	22	12	6.4	3.1	2.9
25	.77	.97	2.2	4.4	44	29	19	23	11	6.2	3.0	2.8
26	.77	8.8	2.2	4.2	43	24	19	22	12	5.9	2.9	2.9
27	.73	2.4	2.3	4.0	42	23	19	22	9.8	5.6	2.8	3.0
28	.73	1.5	1.6	3.9	40	24	18	23	9.5	5.5	2.7	2.9
29	.75	1.3	1.7	9.6	---	22	18	20	9.0	5.4	2.6	2.8
30	.76	4.8	1.7	5.6	---	21	18	18	8.9	5.5	2.6	2.8
31	.79	---	1.7	5.4	---	26	---	20	---	5.4	2.5	---
TOTAL	23.63	43.52	104.0	146.5	1306.8	852	627	669	436.2	211.9	119.8	87.3
MEAN	.76	1.45	3.35	4.73	46.7	27.5	20.9	21.6	14.5	6.84	3.86	2.91
MAX	.94	8.8	18	12	98	38	26	25	21	8.7	5.3	4.2
MIN	.72	.72	1.2	1.7	3.8	21	18	18	8.9	5.4	2.5	2.3
AC-FT	47	86	206	291	2590	1690	1240	1330	865	420	238	173

e Estimated.

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.93	1.09	2.55	9.38	16.1	19.3	10.4	8.09	5.43	2.80	1.63	1.29
MAX	1.34	1.45	5.90	24.6	46.7	49.4	20.9	21.6	14.5	6.84	3.86	2.91
(WY)	1997	1998	1997	1995	1998	1995	1998	1998	1998	1998	1998	1998
MIN	.23	.36	.43	1.25	2.87	1.79	1.35	1.11	.62	.27	.10	.11
(WY)	1995	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1994 - 1998	
ANNUAL TOTAL	1569.40		4627.65			
ANNUAL MEAN	4.30		12.7		6.54	
HIGHEST ANNUAL MEAN					12.7	1998
LOWEST ANNUAL MEAN					1.06	1994
HIGHEST DAILY MEAN	34	Jan 26	98	Feb 9	464	Mar 10 1995
LOWEST DAILY MEAN	.72	Sep 29	.72	Oct 1	.07	Sep 7 1994
ANNUAL SEVEN-DAY MINIMUM	.73	Sep 25	.73	Oct 15	.08	Sep 2 1994
INSTANTANEOUS PEAK FLOW			651	Feb 7	1100	Mar 10 1995
INSTANTANEOUS PEAK STAGE			5.12	Feb 7	6.75	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	3110		9180		4740	
10 PERCENT EXCEEDS	9.6		27		19	
50 PERCENT EXCEEDS	2.2		6.2		1.9	
90 PERCENT EXCEEDS	.76		.79		.50	

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1993 to current year.
CHEMICAL DATA: November 1993 to current year.
WATER TEMPERATURE: October 1993 to September 1996.
SEDIMENT DATA: November 1993 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1993 to September 1996.

REMARKS.—Zero bedload discharge observed for flows less than 8.5 ft^3/s during current year.

EXTREMES FOR PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: Maximum recorded, 35.5°C, Aug. 13–15, 1994; minimum recorded, 0.0°C, several days during water year 1994, and Jan. 23, 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
JAN									
02...	1300	2.2	985	9.0	7.5	12	689	11.0	102
29...	1215	9.6	853	9.1	10.0	100	693	10.6	104
FEB									
19...	1430	48	720	9.1	6.0	280	695	--	--
MAY									
08...	1400	22	1050	8.7	12.5	17	700	9.7	100

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)
JAN									
02...	660	37	2.4	160	10	3	.2	1.0	626
29...	560	36	3.5	133	8.0	3	.1	1.0	503
FEB									
19...	460	14	5.3	109	5.7	3	.1	.79	460
MAY									
08...	740	73	4.1	177	6.9	2	.1	.84	674

DATE	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
JAN									
02...	68	627	6.4	21	<.10	2.6	628	579	.85
29...	65	520	9.1	15	<.10	4.4	525	486	.71
FEB									
19...	42	447	9.5	9.4	.21	6.5	439	414	.60
MAY									
08...	68	665	9.0	13	<.10	7.4	674	617	.92

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
JAN						
02...	1145	2.2	7.5	38	.23	96
10...	1300	3.8	8.5	16	.16	93
29...	1235	9.7	10.0	123	3.2	98
FEB						
19...	1440	44	6.0	3720	442	30
20...	1420	39	10.5	337	35	25
MAY						
08...	1350	20	12.5	106	5.7	46

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)
JAN									
29...	1345	1000	1120	.250	0	1340	1350	20	.5
29...	1355	1000	1120	.250	0	1350	1400	20	.5
FEB									
20...	1345	1000	1120	.250	0	1340	1350	30	.5
20...	1400	1000	1120	.250	0	1355	1405	30	.5

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM (80226)
JAN									
29...	2	23	23	.25	8.8	10.0	.04	.52	1
29...	2	23	23	.25	8.6	10.0	.05	.52	--
FEB									
20...	2	28	28	.25	41	10.5	1.88	30	--
20...	2	28	28	.25	43	10.5	2.37	30	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)
JAN									
29...	2	6	28	58	73	84	91	100	--
29...	1	5	35	71	86	94	98	100	--
FEB									
20...	--	2	16	40	59	70	77	88	100
20...	--	1	7	18	36	53	69	88	100

11156500 SAN BENITO RIVER NEAR WILLOW CREEK SCHOOL, CA

LOCATION.—Lat 36°36'34", long 121°12'07", in SE 1/4 SE 1/4 sec.21, T.15 S., R.7 E., San Benito County, Hydrologic Unit 18060002, on left bank 0.9 mi northwest of Willow Creek School, 1.3 mi downstream from Willow Creek, and 10 mi northwest of San Benito.

DRAINAGE AREA.—249 mi^2.

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1565: 1948(M), 1949. WSP 1315-B: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 925.52 ft above sea level. Prior to Jan. 28, 1948, and Nov. 11, 1955, to Sept. 30, 1965, at site 0.9 mi downstream at different datum. Jan. 28, 1948, to Nov. 10, 1955, and Oct. 1, 1965, to Oct. 22, 1970, at present site at datum 2.37 ft higher.

REMARKS.—Records fair except estimated daily discharges, which are poor. Medium and low flows frequently regulated by Hernandez Reservoir 40 mi upstream beginning in December 1961, capacity, 18,500 acre-ft. Small diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,660 ft^3/s, Mar. 10, 1995, gage height, 14.55 ft, from flood marks, from rating curve extended above 2,100 ft^3/s on basis of slope-area measurement at gage height 12.94 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of February 1938 reached a stage of about 9.0 ft, from floodmarks at former site 0.9 mi downstream, referenced to datum used at that site, flow estimated at 9,000 ft^3/s based on 1941 peak and rating extrapolation.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft3/s)	Gage height (ft)
Feb. 3	unknown	8,120	13.78	Feb. 22	0130	1,170	8.35
Feb. 7	unknown	2,550	10.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	1.4	12	1.2	41	371	268	70	87	27	7.0	31
2	.52	1.4	9.0	1.4	459	355	209	88	79	25	7.0	28
3	.52	1.3	6.5	1.4	e2700	338	344	97	78	26	6.6	30
4	.52	1.4	5.3	2.5	e800	325	381	100	76	23	6.2	27
5	.55	1.4	56	2.2	e360	323	340	e124	75	21	6.1	30
6	.61	1.4	42	1.8	e900	330	308	e200	73	19	5.9	33
7	.65	1.4	20	1.7	e2000	311	289	e185	79	17	6.2	39
8	.74	1.4	52	1.6	e1800	326	245	e170	82	16	6.8	31
9	.81	1.5	e35	4.0	e1650	303	217	e130	74	15	14	29
10	.90	1.7	e12	9.0	e1150	191	207	e120	73	14	17	29
11	1.1	1.9	e8.5	3.4	e840	174	245	e135	73	12	19	29
12	1.2	2.1	6.9	9.9	e940	e165	226	e145	70	12	20	26
13	1.2	2.1	6.7	16	e890	e155	219	143	68	11	20	25
14	1.2	2.2	6.6	6.9	688	e145	212	142	63	10	21	25
15	1.0	4.0	9.1	30	687	e137	240	132	61	8.8	22	23
16	1.0	3.7	6.2	69	581	e130	210	122	57	7.7	24	22
17	.90	2.6	4.8	27	613	e123	203	116	51	6.8	26	24
18	.81	2.3	4.0	48	543	e118	199	112	46	8.0	29	23
19	.81	2.3	3.4	129	629	e110	197	108	44	7.7	30	23
20	.85	2.3	3.4	43	717	e104	195	105	43	6.3	32	24
21	.97	2.3	3.0	26	712	e102	192	103	41	5.8	35	25
22	1.0	2.3	3.1	18	967	e111	190	102	39	5.8	36	26
23	1.0	2.3	2.8	14	861	e145	e160	98	38	5.7	33	26
24	1.1	2.2	2.5	12	e750	242	e120	94	36	5.7	33	28
25	1.2	2.1	2.3	10	e630	304	e83	90	35	6.0	35	29
26	1.3	7.9	2.2	9.0	e550	184	e62	90	34	6.2	36	26
27	1.4	6.1	1.9	7.8	469	170	e54	85	33	6.2	36	14
28	1.4	5.6	1.9	6.7	408	213	e52	91	30	5.9	33	11
29	1.4	4.1	1.6	52	---	195	51	111	28	5.8	33	8.6
30	1.4	13	1.4	34	---	175	61	105	28	6.2	31	7.3
31	1.4	---	1.4	16	---	217	---	97	---	7.1	33	---
TOTAL	29.98	87.7	333.5	614.5	24335	6592	5979	3610	1694	359.7	699.8	751.9
MEAN	.97	2.92	10.8	19.8	869	213	199	116	56.5	11.6	22.6	25.1
MAX	1.4	13	56	129	2700	371	381	200	87	27	36	39
MIN	.52	1.3	1.4	1.2	41	102	51	70	28	5.7	5.9	7.3
AC-FT	59	174	661	1220	48270	13080	11860	7160	3360	713	1390	1490

e Estimated.

11156500 SAN BENITO RIVER NEAR WILLOW CREEK SCHOOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.51	5.72	15.7	34.1	74.4	81.4	44.8	22.8	20.0	14.5	13.7	10.8
MAX	53.4	51.6	181	238	869	655	532	130	88.5	79.2	71.0	67.2
(WY)	1996	1996	1956	1952	1998	1983	1958	1983	1962	1967	1967	1978
MIN	.013	.069	.095	.081	.11	.23	.21	.15	.078	.019	.000	.000
(WY)	1962	1990	1991	1990	1991	1977	1990	1961	1989	1961	1961	1961

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	18711.54		45087.08			
ANNUAL MEAN	51.3		124		28.5	
HIGHEST ANNUAL MEAN					126	1941
LOWEST ANNUAL MEAN					.15	1990
HIGHEST DAILY MEAN	818	Jan 26	2700	Feb 3	5000	Mar 10 1995
LOWEST DAILY MEAN	.40	Sep 16	.52	Oct 1	.00	Sep 19 1947
ANNUAL SEVEN-DAY MINIMUM	.42	Sep 13	.56	Oct 1	.00	Sep 19 1947
INSTANTANEOUS PEAK FLOW			8120	Feb 3	9660	Mar 10 1995
INSTANTANEOUS PEAK STAGE			13.78	Feb 3	14.55	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	37110		89430		20620	
10 PERCENT EXCEEDS	188		324		58	
50 PERCENT EXCEEDS	3.4		29		3.6	
90 PERCENT EXCEEDS	.58		1.4		.19	

11157500 TRES PINOS CREEK NEAR TRES PINOS, CA

LOCATION.—Lat 36°45'53", long 121°17'45", in Santa Ana y Quien Sabe Grant, San Benito County, Hydrologic Unit 18060002, on right bank 2.0 mi southeast of Tres Pinos, and 4.7 mi upstream from mouth.

DRAINAGE AREA.—208 mi^2.

PERIOD OF RECORD.—October 1939 to September 1983, October 1996 to current year. Yearly estimate only for 1940 and monthly discharge only for some periods, published in WSP 1315-B.

GAGE.—Water-stage recorder. Altitude of gage is 515 ft above sea level, from topographic map. From 1939–83, located 1.5 mi. upstream at different datum.

REMARKS.—Records poor. No regulation. Diversions above station for irrigation can divert total flow in summer months, and since 1962, diversions into basin above station from San Benito River (via Paicines Reservoir) for groundwater recharge and irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 27,200 ft^3/s, Feb. 3, 1998, gage height, 16.00 ft, from flood marks, from rating curve extended above 9,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1952, 1957–61, 1965, 1998.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in February 1938 reached a stage of about 9.0 ft, from floodmarks at datum then in use.

EXTREMES FOR CURRENT YEAR.—Peak discharges above base of 450 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	unknown	27,200	16.00	Feb. 21	unknown	e4,800	unknown
Feb. 7	unknown	e14,000	unknown				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.3	e1.8	e2.1	e200	e175	210	e36	54	e10	6.1	10
2	4.1	2.1	e2.0	e2.0	e2000	e140	123	44	59	e10	5.4	13
3	4.4	2.0	2.1	e2.0	e9000	e97	220	43	50	e11	6.1	6.0
4	6.6	1.6	2.0	e2.1	e1000	e70	228	46	60	e11	7.6	4.9
5	6.8	1.1	5.2	e2.2	e300	e66	269	93	53	e11	9.5	5.2
6	6.4	.86	20	e2.0	e2000	e60	221	105	36	e11	10	10
7	6.7	1.3	5.4	e2.0	e1500	e54	214	137	81	e10	8.0	54
8	3.7	.81	53	e2.3	e800	e53	149	65	64	e10	6.1	24
9	2.5	.85	38	e3.5	e500	e52	82	30	53	e10	5.2	10
10	2.5	1.0	13	e5.0	e400	e51	75	17	47	e11	4.7	7.8
11	3.8	.83	6.6	e10	e350	e51	195	23	46	e11	4.3	6.2
12	4.0	.71	e4.4	e20	e300	e50	e173	63	42	e11	3.7	5.0
13	3.9	.81	3.1	e80	e270	e49	e152	172	32	e11	3.6	3.4
14	3.8	.73	2.0	e25	e260	e48	e138	152	25	e11	3.3	e3.5
15	3.9	1.1	.02	e220	e250	e47	e135	108	18	e11	4.1	e3.5
16	3.8	1.1	.01	e60	e240	e47	e132	93	e14	e11	7.8	e3.6
17	3.5	.91	.11	e50	e250	e46	e130	84	e13	e10	11	e3.6
18	3.6	.66	.20	e100	e240	e45	e129	73	e13	e11	13	e3.7
19	3.5	1.1	.08	e500	e300	e44	e125	69	e12	e11	15	e3.8
20	3.4	.66	.10	e250	e350	e43	e123	79	e12	e11	16	e3.9
21	3.8	.70	.20	e100	e300	e43	e118	86	e12	e11	17	e4.0
22	3.6	1.1	.37	e60	e600	e42	e103	e80	e12	e12	17	e4.2
23	3.3	.84	.23	e50	e500	43	e87	e75	e11	12	12	e4.4
24	3.0	.48	.01	e45	e400	185	e79	70	e12	15	16	e4.6
25	3.2	.52	.00	e40	e300	410	e67	64	e11	16	15	e4.8
26	2.8	1.6	.00	e40	e280	82	e52	67	e11	15	16	4.7
27	2.3	1.0	1.3	e38	e250	56	e48	59	e10	9.7	13	4.8
28	2.1	.85	1.5	e35	e230	93	e43	80	e10	11	9.2	4.9
29	2.1	1.0	2.0	e120	---	59	e38	112	e10	11	7.2	4.9
30	2.4	1.5	2.7	e90	---	19	e37	77	e10	12	8.4	5.0
31	2.4	---	e2.3	e80	---	44	---	58	---	10	8.1	---
TOTAL	115.9	32.12	169.73	2038.2	23370	2364	3895	2360	893	348.7	289.4	231.4
MEAN	3.74	1.07	5.48	65.7	835	76.3	130	76.1	29.8	11.2	9.34	7.71
MAX	6.8	2.3	53	500	9000	410	269	172	81	16	17	54
MIN	2.1	.48	.00	2.0	200	19	37	17	10	9.7	3.3	3.4
AC-FT	230	64	337	4040	46350	4690	7730	4680	1770	692	574	459

e Estimated.

11157500 TRES PINOS CREEK NEAR TRES PINOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.65	4.15	16.1	41.4	68.3	41.3	26.7	7.17	5.12	4.64	4.19	3.33
MAX	7.40	23.0	205	313	835	391	327	76.1	29.8	18.9	20.6	14.1
(WY)	1970	1997	1956	1997	1998	1983	1958	1998	1998	1979	1978	1983
MIN	.22	.19	.64	1.06	.88	.52	.18	.22	.21	.14	.15	.12
(WY)	1965	1965	1978	1961	1961	1948	1964	1964	1950	1966	1965	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1941 - 1998	
ANNUAL TOTAL	12076.05		36107.45			
ANNUAL MEAN	33.1		98.9		18.5	
HIGHEST ANNUAL MEAN					98.9	1998
LOWEST ANNUAL MEAN					.69	1964
HIGHEST DAILY MEAN	1770	Jan 26	9000	Feb 3	9000	Feb 3 1998
LOWEST DAILY MEAN	.00	May 29	.00	Dec 25	.00	Aug 30 1952
ANNUAL SEVEN-DAY MINIMUM	.10	Dec 15	.10	Dec 15	.06	Aug 22 1959
INSTANTANEOUS PEAK FLOW			27200	Feb 3	27200	Feb 3 1998
INSTANTANEOUS PEAK STAGE			16.00	Feb 3	16.00	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	23950		71620		13390	
10 PERCENT EXCEEDS	42		212		18	
50 PERCENT EXCEEDS	3.3		12		2.9	
90 PERCENT EXCEEDS	.95		1.3		.44	

11158600 SAN BENITO RIVER AT STATE HIGHWAY 156, NEAR HOLLISTER, CA

LOCATION.—Lat 36°51'07", long 121°25'44", in San Justo Grant, San Benito County, Hydrologic Unit 18060002, on right bank at downstream side of bridge on State Highway 156 and 1.6 mi west of Hollister.

DRAINAGE AREA.—607 mi^2.

PERIOD OF RECORD.—October 1970 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft above sea level, from topographic map.

REMARKS.—Records poor. Low flows regulated by Hernandez Reservoir 73 mi upstream, capacity, 18,500 acre-ft. Some diversions upstream from station for irrigation, and inter-basin transfer to Tres Pinos Creek for ground-water recharge. Percolation ponds are constructed upstream from station during summer months.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 34,500 ft^3/s, Feb.3, 1998, gage height, 13.48 ft, from rating curve extended above 3,200 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 13	0315	542	3.60	Feb. 14	1500	4,080	4.03
Jan. 15	1945	2,110	5.46	Feb. 23	1730	6,140	4.75
Jan. 19	0215	1,720	4.95	Mar. 25	0845	3,310	3.76
Feb. 3	1430	34,500	13.48	Apr. 3	2200	1,380	2.84
Feb. 7	1715	16,900	8.15	May 7	0730	978	2.58

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	4.4	3.0	e3.1	216	408	500	140	107	40	5.2	10
2	5.9	4.9	4.0	e3.0	2120	362	224	155	111	43	4.1	14
3	5.8	5.3	4.7	e3.3	19800	358	515	174	104	42	2.3	15
4	2.8	5.3	4.2	e3.6	3870	330	749	189	92	43	1.2	14
5	2.1	4.9	8.8	e5.0	e550	317	567	308	82	41	.59	14
6	3.4	4.9	20	e4.5	e2290	383	484	583	75	39	.38	17
7	4.6	5.1	57	e4.0	4820	292	415	677	75	35	.24	19
8	4.3	5.1	96	e4.5	4340	340	375	473	85	33	.13	19
9	3.6	5.1	130	6.8	1420	292	357	401	82	32	.11	18
10	3.6	5.1	50	7.0	721	272	397	280	82	31	.06	19
11	3.8	4.7	33	12	819	225	530	229	85	32	.04	20
12	5.3	4.1	21	26	747	227	592	280	75	29	.03	21
13	6.0	3.6	16	195	732	260	401	436	72	29	.02	21
14	6.6	3.5	21	45	1730	269	497	394	75	40	.02	20
15	7.3	4.9	18	422	1600	287	401	332	75	36	.04	20
16	7.6	2.7	18	729	849	289	368	264	75	31	.07	20
17	7.4	2.4	17	311	1050	292	320	224	72	28	.12	20
18	5.3	2.6	16	265	637	269	375	189	69	26	.24	21
19	7.6	2.9	14	975	1340	269	375	155	69	25	.41	20
20	7.3	2.9	e7.0	429	2170	271	368	131	72	25	.77	11
21	5.9	3.4	e6.0	259	1750	281	356	115	69	25	1.4	16
22	5.6	3.4	e5.2	162	3270	253	356	111	72	24	2.4	4.2
23	5.0	3.4	e4.8	132	3210	251	332	92	72	24	3.2	12
24	3.7	3.5	e4.5	121	2270	359	320	92	72	22	3.4	4.0
25	2.1	3.7	e4.3	111	1300	1730	264	104	72	21	3.7	4.2
26	1.9	16	e4.1	105	991	373	253	100	69	20	4.7	3.7
27	1.9	5.2	e3.9	95	687	171	229	85	72	20	5.0	5.1
28	1.8	2.8	e3.7	85	503	420	184	75	66	18	5.2	6.7
29	1.8	2.2	e3.5	264	---	322	170	150	48	9.0	6.2	6.5
30	1.8	4.1	e3.4	331	---	179	150	184	43	6.5	7.2	5.4
31	3.5	---	e3.2	194	---	165	---	89	---	7.4	8.9	---
TOTAL	141.2	132.1	605.3	5312.8	65802	10516	11424	7211	2289	876.9	67.37	420.8
MEAN	4.55	4.40	19.5	171	2350	339	381	233	76.3	28.3	2.17	14.0
MAX	7.6	16	130	975	19800	1730	749	677	111	43	8.9	21
MIN	1.8	2.2	3.0	3.0	216	165	150	75	43	6.5	.02	3.7
AC-FT	280	262	1200	10540	130500	20860	22660	14300	4540	1740	134	835

e Estimated.

11158600 SAN BENITO RIVER AT STATE HIGHWAY 156, NEAR HOLLISTER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.92	6.85	20.9	78.9	185	155	45.3	18.6	8.44	5.89	5.65	5.31
MAX	10.4	54.4	175	581	2350	1545	381	233	76.3	28.3	19.5	16.3
(WY)	1996	1997	1997	1997	1998	1983	1998	1998	1998	1998	1995	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1973	1975	1977	1977	1977	1977	1977	1976	1972	1972	1972	1972

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	32520.61		104798.47			
ANNUAL MEAN	89.1		287		44.2	
HIGHEST ANNUAL MEAN					287	1998
LOWEST ANNUAL MEAN					.000	1977
HIGHEST DAILY MEAN	2770	Jan 26	19800	Feb 3	19800	Feb 3 1998
LOWEST DAILY MEAN	.33	Jun 19	.02	Aug 13	.00	Feb 1 1971
ANNUAL SEVEN-DAY MINIMUM	1.6	Jun 18	.04	Aug 10	.00	Oct 11 1971
INSTANTANEOUS PEAK FLOW			34500	Feb 3	34500	Feb 3 1998
INSTANTANEOUS PEAK STAGE			13.48	Feb 3	13.48	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	64500		207900		32000	
10 PERCENT EXCEEDS	206		508		40	
50 PERCENT EXCEEDS	7.0		33		1.8	
90 PERCENT EXCEEDS	3.5		3.0		.00	

11159000 PAJARO RIVER AT CHITTENDEN, CA

LOCATION.—Lat 36°54'01", long 121°35'48", in Salsipuedes Grant, Santa Cruz County, Hydrologic Unit 18060002, on left bank at downstream side of bridge on State Highway 129, 0.6 mi downstream from Pescadero Creek, 0.6 mi southeast of Chittenden, and 2.3 mi downstream from San Benito River.

DRAINAGE AREA.—1,186 mi^2.

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "near Chittenden."
CHEMICAL DATA: Water years 1952–92.
BIOLOGICAL DATA: Water years 1978–81.
SPECIFIC CONDUCTANCE: Water years 1978–81, daily.
WATER TEMPERATURE: Water years 1978–81, daily.
SEDIMENT DATA: Water years 1978–92.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 81.89 ft above sea level. Prior to May 13, 1949, nonrecording gage on former bridge 100 ft downstream at same datum except for periods in 1947 and 1948 when a water-stage recorder was in use.

REMARKS.—Records fair except for estimated daily discharges and the period from Feb. 3 to Sept. 11, which are poor. Low flows regulated by Hernandez Reservoir, capacity, 18,500 acre-ft; Pacheco Lake, capacity, 6,140 acre-ft; Chesbro Reservoir, capacity, 8,090 acre-ft; Uvas Reservoir, capacity, 9,950 acre-ft; and San Felipe Lake. Many diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 25,100 ft^3/s, Feb. 3, 1998, gage height, 33.73 ft, from rating curve extended above 8,300 ft^3/s on basis of slope-conveyance study; no flow at times in July and August 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in February 1938 reached a stage of 31.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 8	1000	638	9.13	Feb. 22	0300	10,100	24.27
Jan. 19	0930	3,610	17.56	Mar. 25	1215	2,890	14.46
Jan. 30	0145	1,340	11.73	May 7	0900	1,180	10.59
Feb. 3	1345	25,100	33.73				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	e5.3	85	59	952	2240	1390	266	293	79	27	18
2	4.5	e5.3	70	62	4280	1970	1070	275	281	80	30	7.2
3	4.5	e5.4	64	73	18300	1840	1200	318	265	82	32	15
4	4.4	e5.6	62	145	17300	1670	1800	330	259	53	35	12
5	4.2	e5.7	134	156	10200	1570	1560	496	254	45	38	14
6	4.6	e5.8	176	109	7540	1850	1350	765	187	44	42	13
7	4.6	e5.8	245	94	11800	1590	1260	1010	228	40	44	15
8	4.8	e5.8	518	84	13900	1540	1140	819	232	34	26	17
9	5.1	e5.8	413	93	11100	1490	982	687	241	33	25	17
10	5.7	e5.8	266	402	7510	1310	849	516	241	31	24	15
11	5.7	e6.4	199	499	4690	1100	881	451	234	29	31	16
12	5.5	e8.0	160	995	3700	994	1110	460	224	22	17	24
13	5.2	e10	136	1640	3680	954	1130	649	193	19	8.1	18
14	4.5	e13	137	886	4450	909	1250	627	142	20	9.8	18
15	4.1	e14	171	1330	6170	730	1120	530	145	11	15	16
16	3.9	e15	131	2480	4540	677	1000	454	137	14	20	17
17	4.1	e16	119	1440	5330	575	855	401	125	18	11	17
18	4.2	e16	112	1230	4510	506	801	337	115	13	11	16
19	4.6	e17	102	2990	4030	483	780	306	103	18	14	21
20	5.1	e17	95	1970	5790	e600	743	258	98	20	17	19
21	e5.2	e17	91	1380	4910	e740	669	229	98	25	13	21
22	e5.4	e17	86	1010	9200	e1000	665	240	103	23	30	19
23	e5.6	e18	81	767	8000	e1400	610	274	96	25	27	21
24	e5.0	e18	78	605	7420	e1900	592	270	86	25	25	24
25	e5.0	e18	76	495	5460	2350	554	287	69	26	21	23
26	e5.0	147	71	412	4210	1680	475	259	78	29	17	20
27	e5.1	222	68	321	3640	1330	496	250	74	30	22	21
28	e5.1	89	65	261	2770	1450	425	242	94	31	12	18
29	e5.2	67	64	681	---	1500	362	348	89	27	16	16
30	e5.2	89	63	1130	---	1210	280	385	77	24	24	20
31	e5.3	---	60	728	---	1090	---	348	---	25	23	---
TOTAL	150.8	890.7	4198	24527	195382	40248	27399	13087	4861	995	706.9	528.2
MEAN	4.86	29.7	135	791	6978	1298	913	422	162	32.1	22.8	17.6
MAX	5.7	222	518	2990	18300	2350	1800	1010	293	82	44	24
MIN	3.9	5.3	60	59	952	483	280	229	69	11	8.1	7.2
AC-FT	299	1770	8330	48650	387500	79830	54350	25960	9640	1970	1400	1050

e Estimated.

11159000 PAJARO RIVER AT CHITTENDEN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.19	31.8	149	447	636	478	258	54.2	16.7	8.06	6.31	6.48
MAX	22.7	843	1990	3779	6978	4227	3165	646	162	32.1	22.8	93.3
(WY)	1984	1951	1956	1997	1998	1983	1958	1983	1998	1998	1998	1959
MIN	.10	.27	.60	1.22	1.28	1.50	.97	.75	.66	.37	.37	.24
(WY)	1962	1993	1962	1991	1991	1977	1977	1977	1977	1961	1948	1961

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	158221.9		312973.6			
ANNUAL MEAN	433		857		172	
HIGHEST ANNUAL MEAN					905	1983
LOWEST ANNUAL MEAN					1.06	1977
HIGHEST DAILY MEAN	14000	Jan 3	18300	Feb 3	21700	Dec 24 1955
LOWEST DAILY MEAN	3.9	Oct 16	3.9	Oct 16	.00	Jul 11 1948
ANNUAL SEVEN-DAY MINIMUM	4.4	Oct 14	4.4	Oct 14	.00	Aug 16 1948
INSTANTANEOUS PEAK FLOW			25100	Feb 3	25100	Feb 3 1998
INSTANTANEOUS PEAK STAGE			33.73	Feb 3	33.73	Feb 3 1998
INSTANTANEOUS LOW FLOW					.00	Jul 11 1948
ANNUAL RUNOFF (AC-FT)	313800		620800		124900	
10 PERCENT EXCEEDS	883		1820		260	
50 PERCENT EXCEEDS	25		98		11	
90 PERCENT EXCEEDS	5.2		5.8		1.2	

11159200 CORRALITOS CREEK AT FREEDOM, CA

LOCATION.—Lat 36°56'22", long 121°46'10", in Los Corralitos Grant, Santa Cruz County, Hydrologic Unit 18060002, on right bank just upstream from Green Valley Road Bridge, 0.2 mi north of Freedom, and 2.3 mi north of Watsonville.

DRAINAGE AREA.—27.8 mi^2.

PERIOD OF RECORD.—October 1956 to current year.
SEDIMENT DATA: Water years 1976–77, 1980–81.

GAGE.—Water-stage recorder. Datum of gage is 89.43 ft above sea level.

REMARKS.—Records fair except for estimated discharges and those less than 1 ft^3/s, which are poor. No regulation; Watsonville Water Works can divert up to 8.0 ft^3/s upstream from station for municipal supply, domestic use, and irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,610 ft^3/s, Jan. 4, 1982, gage height, 16.66 ft, from rating curve extended above 1,400 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1955, reached a stage of 15.6 ft, from floodmarks, discharge, 3,620 ft^3/s based on contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 600 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	0645	1,140	8.19	Feb. 6	1745	1,270	8.56
Jan. 15	1345	692	6.71	Feb. 21	1430	1,520	9.23
Feb. 3	0315	2,190	10.88				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	3.9	.69	299	83	63	21	8.9	4.2	e.88	.53
2	.09	.00	2.4	8.3	566	74	49	22	7.9	4.1	e.85	.52
3	.03	.00	1.8	30	929	66	96	20	8.9	4.2	e.82	.53
4	.01	.00	2.1	106	282	59	83	19	8.8	3.8	e.79	.49
5	.00	.00	9.0	29	179	65	66	20	7.4	3.9	e.76	.52
6	.00	.00	4.1	17	504	94	58	18	6.5	3.8	e.74	.50
7	.00	.00	40	15	517	61	53	18	8.1	3.2	e.70	.43
8	.00	.00	18	12	354	54	47	18	7.6	e3.1	e.68	.50
9	e.50	.00	7.1	29	224	48	43	17	7.2	e2.8	e.66	.50
10	1.0	.02	4.1	97	166	46	41	15	6.9	e2.6	e.63	.46
11	.54	.08	2.4	81	133	43	42	15	6.9	e2.4	e.59	.41
12	.47	.00	1.7	631	115	42	38	26	6.4	e2.2	e.58	.40
13	.40	.80	1.3	178	99	53	67	23	6.1	e2.1	e.58	.43
14	.28	2.4	25	92	236	46	45	19	5.7	e1.9	e.58	.44
15	.21	4.6	13	352	158	44	41	18	5.2	e1.8	e.57	.46
16	.12	3.8	6.6	170	166	41	37	16	5.3	e1.6	e.57	.48
17	.04	2.5	4.7	100	163	39	34	15	4.8	e1.5	e.55	.45
18	.00	1.2	3.5	123	130	36	32	14	4.4	e1.5	e.54	.42
19	.00	2.9	2.8	131	203	35	30	13	3.9	e1.4	.53	.40
20	.02	1.1	1.6	90	162	33	28	13	4.0	e1.4	.56	.42
21	.05	.62	1.5	67	486	32	27	12	4.4	e1.3	.53	.41
22	.07	.36	1.4	51	292	30	26	12	4.5	e1.3	.64	.40
23	.10	.49	1.2	40	310	33	27	11	5.0	e1.2	.58	.37
24	.09	.96	1.3	33	208	159	26	11	4.9	e1.2	.51	.38
25	.03	1.4	1.0	29	159	102	25	10	4.9	e1.1	.61	.39
26	.00	60	.99	26	131	72	23	9.9	4.5	e1.1	.72	.54
27	.00	10	1.1	58	111	59	22	9.9	3.9	e1.1	.67	.45
28	.00	4.1	.88	40	95	56	21	30	4.0	e1.0	.48	.40
29	.00	2.9	.75	196	---	47	20	27	4.7	e1.0	.46	.40
30	.00	13	.67	111	---	42	19	17	4.4	e.95	.44	.45
31	.00	---	.64	97	---	49	---	12	---	e.91	.46	---
TOTAL	4.05	113.23	166.53	3039.99	7377	1743	1229	521.8	176.1	65.66	19.26	13.48
MEAN	.13	3.77	5.37	98.1	263	56.2	41.0	16.8	5.87	2.12	.62	.45
MAX	1.0	60	40	631	929	159	96	30	8.9	4.2	.88	.54
MIN	.00	.00	.64	.69	95	30	19	9.9	3.9	.91	.44	.37
AC-FT	8.0	225	330	6030	14630	3460	2440	1030	349	130	38	27

e Estimated.

11159200 CORRALITOS CREEK AT FREEDOM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.80	5.19	17.5	50.6	57.2	37.8	22.3	5.34	1.11	.40	.17	.61
MAX	17.4	37.3	208	248	263	209	167	39.1	9.10	4.77	1.15	20.8
(WY)	1963	1984	1997	1997	1998	1983	1958	1983	1983	1983	1983	1959
MIN	.000	.000	.000	.000	.003	.076	.000	.000	.000	.000	.000	.000
(WY)	1962	1981	1991	1991	1991	1988	1977	1977	1962	1961	1961	1961

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1957 - 1998		
ANNUAL TOTAL	9704.15		14469.10				
ANNUAL MEAN	26.6		39.6		16.4		
HIGHEST ANNUAL MEAN					56.4		1983
LOWEST ANNUAL MEAN					.17		1977
HIGHEST DAILY MEAN	1460	Jan 2	929	Feb 3	2290	Jan 4	1982
LOWEST DAILY MEAN	.00	Sep 18	.00	Oct 1	.00	Jun 12	1957
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 25	.00	Oct 26	.00	Jun 12	1957
INSTANTANEOUS PEAK FLOW			2190	Feb 3	5610	Jan 4	1982
INSTANTANEOUS PEAK STAGE			10.88	Feb 3	16.66	Jan 4	1982
ANNUAL RUNOFF (AC-FT)	19250		28700		11870		
10 PERCENT EXCEEDS	63		104		34		
50 PERCENT EXCEEDS	.72		4.6		.40		
90 PERCENT EXCEEDS	.01		.17		.00		

11160000 SOQUEL CREEK AT SOQUEL, CA

LOCATION.—Lat 36°59'29", long 121°57'17", in NE 1/4 sec.10, T.11 S., R.1 W., Santa Cruz County, Hydrologic Unit 18060001, on left bank 0.2 mi upstream from highway bridge in town of Soquel and 0.4 mi downstream from Bates Creek.

DRAINAGE AREA.—40.2 mi^2.

PERIOD OF RECORD.—May 1951 to current year.
CHEMICAL DATA: Water years 1952–66, 1977.
WATER TEMPERATURE: Water years 1966–79.
SEDIMENT DATA: Water years 1976–77, 1990–93.

REVISED RECORDS.—WSP 1715: Drainage area. WSP 2129: 1958, 1959–60(P).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 21.38 ft above sea level.

REMARKS.—Records good except for estimated daily discharge, which are fair. No regulation; many diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,800 ft^3/s, Dec. 23, 1955, gage height, 22.33 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1977, 1988, 1992–1995.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Feb. 13, 1937, reached a discharge of 5,950 ft^3/s, gage height 12.6 ft, from floodmarks, from precipitation records and comparison with nearby streams. Flood of Nov. 18, 1950, reached a discharge of about 7,800 ft^3/s, gage height about 15.33 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurement of peak flow at gage height 22.33 ft.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1600	2,080	8.82	Feb. 7	1445	2,630	9.85
Feb. 3	0230	4,810	13.15	Feb. 21	1430	3,020	10.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.8	21	8.0	674	146	132	52	57	23	13	e9.8
2	3.2	3.6	14	28	1240	134	109	53	51	23	12	e9.8
3	e3.1	3.5	12	97	1840	124	180	47	48	24	12	e9.8
4	e3.1	e3.6	11	226	511	112	171	47	46	23	12	e9.8
5	e3.1	e3.6	19	76	335	126	141	49	44	23	11	e9.8
6	e3.0	e3.6	16	45	976	186	e131	46	42	22	11	e9.8
7	e3.4	e3.6	75	41	1190	121	e128	45	43	21	11	e9.8
8	e5.8	e3.6	57	35	773	107	e123	42	42	21	11	e9.8
9	e4.9	e3.7	28	69	463	93	e115	41	40	21	11	e9.7
10	e4.1	e6.0	20	225	319	84	e108	39	39	20	11	e9.7
11	e3.9	e6.1	16	161	244	77	e110	38	38	20	e11	e9.7
12	e3.8	e7.3	14	1140	207	72	e110	71	37	19	e11	e9.6
13	e3.5	e11	12	333	182	161	e98	54	36	19	e11	e9.6
14	e3.1	e10	152	167	469	108	e106	46	35	18	e11	e9.5
15	e3.0	e19	59	449	303	86	99	42	33	17	e11	e9.5
16	3.0	e13	31	268	291	79	86	41	32	17	e11	e9.3
17	2.9	e12	24	164	297	73	76	38	31	17	e11	e9.2
18	3.1	e15	21	226	228	68	71	37	30	16	e11	e9.1
19	3.6	e19	17	244	446	64	68	36	29	15	e11	e9.0
20	3.5	e10	15	166	315	60	64	34	29	15	e11	e9.0
21	3.6	e7.7	14	132	926	57	60	33	29	15	e11	e9.0
22	3.7	6.9	14	112	495	54	57	32	28	15	e11	e8.9
23	3.7	8.7	13	100	518	135	68	31	28	15	e11	e8.7
24	3.7	8.9	12	91	354	471	63	31	28	15	e11	e8.5
25	3.3	20	11	85	263	226	55	30	27	15	e10	e8.3
26	3.4	172	9.9	83	218	167	51	29	26	14	e10	e8.2
27	3.4	43	9.1	156	187	139	48	31	26	14	e10	e8.0
28	3.5	22	8.9	108	163	132	47	136	25	14	e9.8	e7.8
29	3.4	15	8.8	476	---	115	45	149	25	14	e9.8	e7.7
30	3.6	49	8.5	233	---	101	43	90	24	14	e9.7	e7.6
31	3.7	---	8.3	232	---	125	---	65	---	14	e9.7	---
TOTAL	108.4	514.2	751.5	5976.0	14427	3803	2763	1555	1048	553	338.0	274.0
MEAN	3.50	17.1	24.2	193	515	123	92.1	50.2	34.9	17.8	10.9	9.13
MAX	5.8	172	152	1140	1840	471	180	149	57	24	13	9.8
MIN	2.3	3.5	8.3	8.0	163	54	43	29	24	14	9.7	7.6
AC-FT	215	1020	1490	11850	28620	7540	5480	3080	2080	1100	670	543

e Estimated.

11160000 SOQUEL CREEK AT SOQUEL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.35	16.5	61.1	125	126	97.2	55.0	20.4	9.60	5.36	3.33	3.22
MAX	111	78.5	625	437	596	577	324	95.9	34.9	17.8	10.9	22.4
(WY)	1963	1973	1956	1997	1986	1983	1982	1983	1998	1998	1998	1959
MIN	.65	1.36	2.74	2.57	3.96	3.97	2.81	2.26	.91	.26	.17	.058
(WY)	1989	1991	1991	1991	1977	1988	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	19419.2		32111.1			
ANNUAL MEAN	53.2		88.0		43.7	
HIGHEST ANNUAL MEAN					169	1983
LOWEST ANNUAL MEAN					2.89	1977
HIGHEST DAILY MEAN	2420	Jan 1	1840	Feb 3	8800	Dec 23 1955
LOWEST DAILY MEAN	2.0	Sep 26	2.3	Oct 1	.00	Jul 30 1977
ANNUAL SEVEN-DAY MINIMUM	2.1	Sep 25	3.0	Oct 1	.00	Aug 15 1992
INSTANTANEOUS PEAK FLOW			4810	Feb 3	15800	Dec 23 1955
INSTANTANEOUS PEAK STAGE			13.15	Feb 3	22.33	Dec 23 1955
INSTANTANEOUS LOW FLOW					.00	Jul 30 1977
ANNUAL RUNOFF (AC-FT)	38520		63690		31650	
10 PERCENT EXCEEDS	90		221		85	
50 PERCENT EXCEEDS	10		28		7.7	
90 PERCENT EXCEEDS	2.8		3.9		1.5	

11160430 BEAN CREEK NEAR SCOTTS VALLEY, CA

LOCATION.—Lat 37°03'19", long 122°02'25", in San Augustin Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank, 0.3 mi downstream from unnamed left bank tributary, 100 ft northeast of Mt. Hermon Road, 1.2 mi northwest of Scotts Valley Post Office, and 1.8 mi east of Felton.

DRAINAGE AREA.—8.81 mi^2.

PERIOD OF RECORD.—January 1989 to current year.

REVISED RECORDS.—WDR CA-93-2: 1989–92 (P).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 320 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation; small diversions upstream from station for domestic use.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,710 ft^3/s, Feb. 3, 1998, gage height, 10.85 ft, from rating curve extended above 310 ft^3/s on basis of slope-area measurement at gage height 9.29 ft; minimum daily, 0.94 ft^3/s, Jan. 31, 1992.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	Unknown	269	6.16	Feb. 3	0200	1,710	10.85
Jan. 15	Unknown	228	6.00	Feb. 7	1415	1,340	9.78
Jan. 29	0615	221	5.97	Feb. 21	Unknown	Unknown	Unknown

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.3	5.6	3.5	173	38	37	13	e21	5.7	3.8	2.8
2	2.3	2.3	4.5	15	441	35	33	11	e18	5.6	3.7	2.8
3	2.0	2.2	4.1	20	622	e32	52	9.4	e16	5.6	3.7	2.7
4	2.0	2.2	4.3	43	138	e50	53	9.9	e15	5.6	3.6	2.7
5	2.1	2.1	8.2	e29	103	e75	44	11	14	5.5	3.6	2.7
6	2.1	2.2	6.3	e23	370	e38	41	9.0	13	5.5	3.6	2.6
7	2.2	2.2	19	e19	508	e30	38	8.6	12	5.4	3.5	2.7
8	2.3	2.4	15	e16	e300	e25	e32	8.2	11	5.3	3.5	2.7
9	3.8	2.4	7.5	e14	e165	e22	e24	8.0	9.8	5.2	3.5	2.8
10	2.2	3.7	6.2	e66	e95	e19	e20	7.8	9.5	5.1	3.5	2.7
11	2.2	1.9	5.4	e56	e62	21	e23	7.8	9.2	5.1	3.4	2.7
12	2.2	1.7	4.9	e190	66	22	e25	15	8.7	5.1	3.3	2.6
13	2.2	5.1	4.6	e70	56	41	e28	9.5	8.4	5.0	3.3	2.6
14	2.2	2.2	38	e56	119	27	e17	8.3	8.3	5.0	3.3	2.7
15	2.2	7.0	e20	e152	78	e24	e15	8.1	8.2	4.9	3.4	2.6
16	2.2	8.3	e8.5	e90	74	e21	e14	8.0	8.1	4.9	3.4	2.6
17	2.1	2.8	e7.2	e41	64	e19	e13	7.7	7.6	5.0	3.3	2.6
18	2.2	6.4	e6.1	e73	50	e17	e11	7.5	7.3	5.0	3.1	2.5
19	2.3	7.3	e5.4	e97	115	e15	e10	7.3	7.1	4.9	3.2	2.6
20	2.2	2.3	5.2	e40	91	e14	e9.8	7.3	7.0	4.7	3.2	2.5
21	2.2	1.9	4.9	e34	e360	e17	e9.3	7.1	6.9	4.7	3.1	2.5
22	2.2	2.3	4.8	e31	e130	24	e10	6.8	6.9	4.6	3.2	2.5
23	2.2	2.8	4.5	35	e185	50	e17	6.9	6.7	4.4	3.1	2.5
24	2.1	2.8	4.4	30	e90	86	e13	6.7	6.3	4.4	3.2	2.5
25	2.2	6.9	4.3	27	72	59	e12	6.5	6.3	4.3	3.2	2.6
26	2.3	53	4.0	26	56	49	e11	6.4	6.2	4.2	3.2	2.6
27	2.4	9.8	3.9	36	48	42	e10	7.3	6.2	4.5	3.1	2.6
28	2.3	5.1	3.8	32	41	42	9.9	48	6.0	4.2	3.0	2.6
29	2.4	6.2	3.7	135	---	34	9.3	46	5.9	4.1	2.9	2.7
30	2.4	17	3.7	75	---	30	9.0	30	5.8	4.1	2.9	2.6
31	2.3	---	3.6	64	---	39	---	24	---	4.1	2.9	---
TOTAL	70.2	176.8	231.6	1638.5	4672	1057	650.3	378.1	282.4	151.7	102.7	78.9
MEAN	2.26	5.89	7.47	52.9	167	34.1	21.7	12.2	9.41	4.89	3.31	2.63
MAX	3.8	53	38	190	622	86	53	48	21	5.7	3.8	2.8
MIN	2.0	1.7	3.6	3.5	41	14	9.0	6.4	5.8	4.1	2.9	2.5
AC-FT	139	351	459	3250	9270	2100	1290	750	560	301	204	156

e Estimated.

11160430 BEAN CREEK NEAR SCOTTS VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.37	3.43	13.1	41.6	39.6	24.2	7.53	5.50	3.47	2.50	2.20	2.08
MAX	3.14	5.89	72.5	99.7	167	71.8	21.7	12.2	9.41	4.89	3.31	2.63
(WY)	1995	1998	1997	1995	1998	1995	1998	1998	1998	1998	1998	1998
MIN	1.96	1.96	2.16	2.11	2.42	3.81	2.62	2.33	1.79	1.71	1.84	1.76
(WY)	1991	1993	1991	1991	1991	1994	1990	1989	1994	1991	1989	1990

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1989 - 1998	
ANNUAL TOTAL	4626.8		9490.2			
ANNUAL MEAN	12.7		26.0		12.6	
HIGHEST ANNUAL MEAN					26.0	1998
LOWEST ANNUAL MEAN					3.00	1990
HIGHEST DAILY MEAN	594	Jan 1	622	Feb 3	900	Dec 10 1996
LOWEST DAILY MEAN	1.7	Nov 12	1.7	Nov 12	.94	Jan 31 1992
ANNUAL SEVEN-DAY MINIMUM	1.9	Jul 21	2.1	Oct 1	1.0	Jan 21 1992
INSTANTANEOUS PEAK FLOW			1710	Feb 3	1710	Feb 3 1998
INSTANTANEOUS PEAK STAGE			10.85	Feb 3	10.85	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	9180		18820		9160	
10 PERCENT EXCEEDS	21		57		24	
50 PERCENT EXCEEDS	3.4		6.9		2.7	
90 PERCENT EXCEEDS	2.0		2.3		1.9	

11160500 SAN LORENZO RIVER AT BIG TREES, CA

LOCATION.—Lat 37°02'40", long 122°04'17", in Zayante Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank 20 ft upstream from bridge on Henry Cowell State Park Road, 200 ft upstream from Shingle Mill Creek, 0.3 mi downstream from Zayante Creek, 0.9 mi northwest of Big Trees Station on Southern Pacific Railroad, and 5.3 mi northwest of Santa Cruz.

DRAINAGE AREA.—106 mi^2.

PERIOD OF RECORD.—October 1936 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1906–7, 1952–67, 1969–70, 1973–75, 1977, 1980–81.
WATER TEMPERATURE: Water years 1966–82, daily.
SEDIMENT DISCHARGE: Water years 1973–82, daily; 1986, 1990–93, monthly.

REVISED RECORDS.—WSP 1315-B: 1938(M). WSP 1715: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 227.00 ft above sea level. Prior to Oct. 6, 1972, at site 1.3 mi downstream at different datum.

REMARKS.—Records good. Low flow partially regulated by Loch Lomond Reservoir since 1961, capacity, 8,820 acre-ft, and by an inflatable fiber dam located 500 ft upstream from gage. Many small diversions upstream from station for domestic supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,400 ft^3/s, Dec. 23, 1955, gage height, 22.55 ft, site and datum then in use, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 28.85 ft, Jan. 5, 1982; minimum daily discharge, 5.6 ft^3/s, July 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,800 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1700	3,000	10.43	Feb. 7	1520	13,300	20.06
Jan. 15	1515	2,440	9.61	Feb. 21	1505	5,820	13.83
Feb. 3	0245	19,400	24.04				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	91	37	1080	542	354	201	216	82	50	34
2	17	17	61	165	3650	490	301	194	199	82	49	34
3	16	17	50	154	7330	444	432	175	187	82	46	34
4	16	17	46	322	1820	410	508	191	177	79	44	34
5	16	16	80	167	1480	425	403	183	169	77	44	33
6	16	17	61	118	4150	424	345	173	163	74	44	31
7	15	17	291	133	5310	364	341	167	165	72	43	31
8	16	17	208	108	2790	342	e326	161	157	70	43	31
9	27	17	117	135	1680	318	295	155	155	68	42	32
10	22	26	84	412	1250	299	283	148	147	68	42	32
11	20	26	68	408	1020	284	280	146	148	66	40	31
12	19	25	59	2010	910	263	261	201	146	71	40	30
13	20	47	54	697	813	434	325	173	142	74	39	30
14	17	37	304	372	1420	332	289	156	137	72	39	30
15	17	72	166	1300	1130	295	272	146	133	70	40	30
16	17	87	107	708	1130	277	255	144	127	67	39	30
17	16	45	85	422	1110	264	239	138	118	64	39	30
18	16	41	75	617	904	252	229	137	108	62	39	29
19	16	89	68	672	1450	255	218	130	104	61	39	29
20	16	39	60	432	1180	227	223	127	103	61	41	29
21	17	29	55	344	2640	231	205	123	101	60	41	29
22	17	27	51	281	1700	224	198	122	99	58	40	30
23	17	35	48	246	1670	393	234	118	97	58	39	30
24	18	32	46	220	1220	704	222	116	95	57	39	30
25	17	47	44	197	947	432	203	113	90	56	41	30
26	16	513	42	209	798	352	191	112	98	55	38	30
27	16	157	41	367	692	323	185	127	95	54	39	31
28	17	74	41	259	603	344	181	496	93	53	36	31
29	17	59	40	888	---	304	178	435	89	52	36	30
30	17	279	39	467	---	277	169	298	82	53	35	30
31	17	---	38	448	---	e339	---	244	---	52	34	---
TOTAL	536	1938	2620	13315	51877	10864	8145	5550	3940	2030	1260	925
MEAN	17.3	64.6	84.5	430	1853	350	272	179	131	65.5	40.6	30.8
MAX	27	513	304	2010	7330	704	508	496	216	82	50	34
MIN	15	16	38	37	603	224	169	112	82	52	34	29
AC-FT	1060	3840	5200	26410	102900	21550	16160	11010	7810	4030	2500	1830

e Estimated.

11160500 SAN LORENZO RIVER AT BIG TREES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.0	54.1	153	328	412	303	176	73.7	41.8	27.0	20.2	18.2
MAX	176	461	1319	1242	1853	1483	1005	322	131	65.8	44.0	52.1
(WY)	1963	1951	1956	1952	1998	1983	1958	1983	1998	1983	1983	1959
MIN	8.26	11.4	14.7	13.8	16.6	21.4	12.3	11.6	9.37	6.66	6.50	8.28
(WY)	1978	1991	1991	1991	1977	1977	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1937 - 1998	
ANNUAL TOTAL	58687		103000			
ANNUAL MEAN	161		282		134	
HIGHEST ANNUAL MEAN					391	1983
LOWEST ANNUAL MEAN					13.2	1977
HIGHEST DAILY MEAN	6470	Jan 1	7330	Feb 3	17000	Dec 23 1955
LOWEST DAILY MEAN	15	Sep 24	15	Oct 1	5.6	Jul 27 1977
ANNUAL SEVEN-DAY MINIMUM	15	Sep 24	16	Oct 1	5.8	Jul 26 1977
INSTANTANEOUS PEAK FLOW			19400	Feb 3	30400	Dec 23 1955
INSTANTANEOUS PEAK STAGE			24.04	Feb 3	28.85	Jan 5 1982
INSTANTANEOUS LOW FLOW					5.6	Jul 27 1977
ANNUAL RUNOFF (AC-FT)	116400		204300		97400	
10 PERCENT EXCEEDS	293		566		280	
50 PERCENT EXCEEDS	41		97		33	
90 PERCENT EXCEEDS	17		20		13	

11161000 SAN LORENZO RIVER AT SANTA CRUZ, CA

LOCATION.—Lat 36°59'27", long 122°01'51", in La Carbonera Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank, in city of Santa Cruz Water Meter Repair compound, 0.3 mi upstream from intersection of State Highways 1 and 9, 1.0 mi north of Santa Cruz, and 2.4 mi upstream from mouth.

DRAINAGE AREA.—115 mi^2.

PERIOD OF RECORD.—October 1952 to September 1960, October 1987 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 5.84 ft above sea level (levels by city of Santa Cruz Water Department). October 1952 to September 1960, water-stage recorder at site 0.1 mi downstream at different datum.

REMARKS.—Records fair including estimated daily discharges and poor for the period of Feb. 3 to March 9. Low flow partially regulated by Loch Lomond Reservoir since 1961, capacity, 8,820 acre-ft, and by an inflatable fiber dam located 6.8 mi upstream from gage. Water is diverted 50 ft upstream from station by city of Santa Cruz for municipal supply; many small diversions upstream from station for domestic supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,400 ft^3/s, Dec. 23, 1955, gage height, 23.10 ft, site and datum then in use, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow; no flow for several days in 1955 and many days in 1960.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,800 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1730	3,890	10.40	Feb. 7	1600	17,200	16.94
Jan. 29	0800	2,230	8.62	Feb. 21	1530	7,370	12.37
Feb. 3	unknown	19,000	17.60				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	10	136	34	1640	689	492	225	236	e84	53	29
2	11	10	76	209	4090	601	398	218	211	82	51	29
3	10	9.9	60	240	e9800	530	596	e210	193	83	49	29
4	10	9.9	51	494	5200	493	740	212	e185	80	46	29
5	10	9.5	87	256	3430	503	585	e210	e178	80	46	28
6	10	9.7	61	162	5980	536	489	e193	e170	80	46	28
7	11	9.8	378	181	7660	431	486	e185	e170	78	46	27
8	9.3	9.8	338	148	5360	400	425	e176	e163	76	45	27
9	17	9.9	169	162	2780	361	395	e169	e158	75	44	30
10	18	17	103	642	1490	333	375	e179	e151	75	44	29
11	12	19	75	664	1400	311	366	e210	e151	73	42	30
12	11	16	62	3110	1380	279	336	220	e149	72	41	27
13	12	29	54	1250	859	508	436	e210	e147	71	40	27
14	11	26	453	646	1700	378	372	e192	e144	69	40	27
15	10	74	264	1990	1290	322	353	e176	e137	66	41	27
16	10	129	149	1280	1220	300	322	e163	e133	64	41	27
17	9.8	69	106	730	1220	280	298	e154	e125	63	40	27
18	9.8	43	90	922	943	263	282	e148	e116	62	38	25
19	9.8	155	76	1170	1780	264	267	e143	e112	62	38	26
20	10	50	61	735	1410	224	270	e140	e107	61	38	26
21	11	35	55	566	3160	222	245	e135	e105	60	38	27
22	10	33	52	470	2500	214	230	e131	e102	60	36	26
23	10	38	45	405	2390	391	266	e128	e99	60	35	26
24	10	35	43	357	1710	1050	260	e125	e97	59	35	26
25	9.9	44	42	319	1210	643	227	e130	e96	59	35	25
26	9.7	830	40	313	1010	499	210	e170	e98	57	35	27
27	9.6	256	37	586	875	437	e200	e210	e97	56	34	27
28	10	105	36	407	767	471	e190	588	e94	55	32	27
29	10	65	35	1390	---	405	e190	589	e91	53	30	26
30	10	426	35	792	---	359	e210	368	e85	54	30	26
31	10	---	34	742	---	424	---	280	---	54	29	---
TOTAL	331.2	2582.5	3303	21372	74254	13121	10511	6587	4100	2083	1238	817
MEAN	10.7	86.1	107	689	2652	423	350	212	137	67.2	39.9	27.2
MAX	18	830	453	3110	9800	1050	740	589	236	84	53	30
MIN	9.3	9.5	34	34	767	214	190	125	85	53	29	25
AC-FT	657	5120	6550	42390	147300	26030	20850	13070	8130	4130	2460	1620

e Estimated.

11161000 SAN LORENZO RIVER AT SANTA CRUZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.8	27.7	174	355	441	238	143	71.7	36.1	18.8	10.9	10.3
MAX	28.9	86.1	1366	1391	2652	999	1017	212	137	67.2	39.9	40.4
(WY)	1990	1998	1956	1997	1998	1995	1958	1998	1998	1998	1998	1959
MIN	1.83	3.45	7.30	5.60	15.3	16.8	15.9	13.7	4.64	1.48	.27	.17
(WY)	1989	1991	1991	1991	1991	1988	1990	1988	1988	1988	1960	1960

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1953 - 1998	
ANNUAL TOTAL	66988.0		140299.7			
ANNUAL MEAN	184		384		127	
HIGHEST ANNUAL MEAN					384	1998
LOWEST ANNUAL MEAN					21.5	1988
HIGHEST DAILY MEAN	7320	Jan 1	9800	Feb 3	17400	Dec 23 1955
LOWEST DAILY MEAN	9.1	Sep 29	9.3	Oct 1	.00	Sep 3 1955
ANNUAL SEVEN-DAY MINIMUM	9.4	Sep 25	9.8	Nov 3	.00	Sep 20 1960
INSTANTANEOUS PEAK FLOW			19000	Feb 3	30400	Dec 23 1955
INSTANTANEOUS PEAK STAGE			17.60	Feb 3	23.10	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	132900		278300		91860	
10 PERCENT EXCEEDS	369		807		263	
50 PERCENT EXCEEDS	43		106		25	
90 PERCENT EXCEEDS	10		12		2.7	

11161300 CARBONERA CREEK AT SCOTTS VALLEY, CA

LOCATION.—Lat 37°03'02", long 122°00'45" in San Augustin Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank at east city limits of Scotts Valley, 1.1 mi upstream from Glen Canyon Road, 3.3 mi east of Felton, and 4.1 mi upstream from Branciforte Creek.

DRAINAGE AREA.—3.60 mi^2.

PERIOD OF RECORD.—February 1985 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 550 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation or diversion upstream from station. Low flows affected by return flow from urban irrigation and by periodic flushing of upstream county well.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,620 ft^3/s, Dec. 10, 1996, gage height, 11.89 ft, from rating curve extended above slope-area measurement made at gage height 9.48 ft; no flow for many days in several years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 1	1230	903	9.45	Feb. 21	1215	644	7.95
Feb. 7	1215	602	7.69				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	1.1	2.8	1.6	135	8.6	12	7.3	6.0	.84	.51	.16
2	1.2	1.1	1.9	19	239	7.5	8.3	4.3	4.9	.65	.55	.21
3	.41	1.3	1.6	28	215	6.6	33	2.8	4.6	.83	.39	.26
4	.51	1.0	2.0	32	50	6.0	20	3.4	4.2	.69	.35	.17
5	.40	1.0	6.3	9.2	48	23	12	6.0	3.3	.81	.33	.16
6	.52	2.1	3.9	8.0	179	12	11	2.9	3.3	.51	.35	.20
7	.41	2.2	16	8.8	167	7.6	9.3	2.6	3.1	.39	.48	.27
8	.63	1.3	9.4	5.5	93	6.6	7.1	2.4	2.4	.42	.49	.40
9	4.6	1.4	4.3	19	42	5.6	6.3	2.5	2.3	.60	.39	1.5
10	.59	5.1	3.0	29	27	5.1	5.5	2.0	2.2	.39	.39	.47
11	.43	.98	2.4	25	18	4.8	6.7	2.0	2.0	.38	.34	.59
12	.36	.37	2.0	120	17	5.3	7.2	15	2.0	.30	.30	.50
13	.43	7.5	1.7	23	13	29	14	4.0	1.9	.30	.30	.81
14	.35	2.0	47	15	80	9.2	7.7	3.2	1.6	.30	.30	.84
15	.36	9.6	10	82	26	7.5	6.4	2.8	1.5	.41	.30	.45
16	.35	12	5.7	22	40	7.0	5.3	2.4	1.2	.63	.37	.51
17	.44	1.6	4.3	11	25	5.8	4.8	2.0	1.3	.82	.41	.35
18	.54	8.5	3.7	44	17	5.1	4.6	2.0	1.1	.81	.30	.33
19	.52	9.1	3.3	24	83	4.8	4.0	1.7	.86	.90	1.1	.73
20	.56	1.9	2.7	12	32	4.7	3.8	1.7	1.0	1.4	.47	.47
21	.72	1.9	2.4	7.8	150	4.2	3.5	1.6	.96	1.0	.26	.56
22	.70	2.3	2.5	5.2	46	3.9	3.3	1.4	.81	1.2	.27	.37
23	.81	3.2	2.5	3.5	75	45	8.6	1.4	.81	1.1	.36	.27
24	.87	3.3	2.3	2.5	33	38	3.7	1.4	.85	.26	.29	.24
25	.70	13	2.1	1.7	20	17	3.0	1.4	.81	.21	.34	.21
26	1.0	56	1.7	8.5	15	11	2.6	1.4	.81	.21	.42	.29
27	.73	5.9	1.6	17	12	9.7	2.5	3.7	.78	.21	.36	.40
28	.73	2.5	1.6	9.7	10	9.7	2.3	48	.65	.36	.35	.26
29	.73	4.2	1.6	88	---	6.8	2.2	23	.65	.44	.20	.20
30	.73	17	1.6	21	---	5.8	2.0	11	.65	.48	.20	.27
31	.93	---	1.6	25	---	18	---	7.3	---	.51	.15	---
TOTAL	22.68	180.45	155.5	728.0	1907	340.9	222.7	174.6	58.54	18.36	11.62	12.45
MEAN	.73	6.01	5.02	23.5	68.1	11.0	7.42	5.63	1.95	.59	.37	.41
MAX	4.6	56	47	120	239	45	33	48	6.0	1.4	1.1	1.5
MIN	.35	.37	1.6	1.6	10	3.9	2.0	1.4	.65	.21	.15	.16
AC-FT	45	358	308	1440	3780	676	442	346	116	36	23	25

11161300 CARBONERA CREEK AT SCOTTS VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.68	2.32	7.21	14.5	18.6	11.0	1.94	1.57	.40	.16	.19	.21
MAX	3.01	6.24	38.3	41.0	68.1	32.0	7.42	5.63	1.95	.59	.91	.68
(WY)	1990	1997	1997	1995	1998	1986	1998	1998	1998	1998	1989	1989
MIN	.039	.002	.51	.35	.95	.25	.41	.099	.002	.005	.000	.000
(WY)	1987	1987	1987	1991	1988	1988	1987	1987	1987	1990	1985	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1985 - 1998	
ANNUAL TOTAL	1655.62		3832.80			
ANNUAL MEAN	4.54		10.5		4.86	
HIGHEST ANNUAL MEAN					10.5	1998
LOWEST ANNUAL MEAN					1.33	1990
HIGHEST DAILY MEAN	292	Jan 1	239	Feb 2	370	Dec 10 1996
LOWEST DAILY MEAN	.27	May 9	.15	Aug 31	.00	Jun 28 1985
ANNUAL SEVEN-DAY MINIMUM	.30	May 5	.19	Aug 30	.00	Jun 28 1985
INSTANTANEOUS PEAK FLOW			903	Feb 1	1620	Dec 10 1996
INSTANTANEOUS PEAK STAGE			9.45	Feb 1	11.89	Dec 10 1996
ANNUAL RUNOFF (AC-FT)	3280		7600		3520	
10 PERCENT EXCEEDS	7.4		24		7.9	
50 PERCENT EXCEEDS	.73		2.1		.41	
90 PERCENT EXCEEDS	.36		.35		.00	

11162500 PESCADERO CREEK NEAR PESCADERO, CA

LOCATION.—Lat 37°15'39", long 122°19'40", in SW 1/4 sec.5, T.8 S., R.4 W., San Mateo County, Hydrologic Unit 18050006, on left bank at downstream side of highway bridge, 3.0 mi east of Pescadero, and 5.3 mi upstream from mouth.

DRAINAGE AREA.—45.9 mi^2.

PERIOD OF RECORD.—April 1951 to current year.
CHEMICAL DATA: Water year 1977.
WATER TEMPERATURE: Water years 1965–80.
SEDIMENT DATA: Water years 1971, 1973, 1980, 1986, 1990–93.

REVISED RECORDS.—WSP 1445: 1952–53(M). WSP 1715: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 62.3 ft above sea level.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Small diversions upstream from station by pumping.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,600 ft^3/s, Feb. 3, 1998, gage height, 22.47 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 700 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	0800	1,800	8.28	Feb. 3	0145	10,600	22.47
Jan. 15	1600	1,730	8.10	Feb. 7	1615	4,110	14.01
Jan. 18	1915	1,330	7.05	Feb. 21	1530	3,050	12.27
Jan. 29	0745	707	5.15				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.4	36	9.2	302	e360	e125	50	62	20	13	10
2	3.3	2.5	22	32	1280	e300	e120	51	54	21	13	10
3	3.6	2.6	17	62	4060	e240	e130	45	49	21	13	9.6
4	4.0	2.5	14	141	681	e200	e183	48	47	21	12	9.4
5	3.2	2.4	18	69	500	e170	e183	44	44	21	11	9.0
6	3.0	2.3	16	43	1930	150	e150	43	42	21	11	8.8
7	4.8	2.4	68	47	1850	126	e163	42	41	20	11	8.8
8	2.4	2.6	101	38	1140	116	e150	44	42	20	11	8.6
9	2.9	2.7	48	35	e630	105	e130	42	39	19	11	8.6
10	4.9	4.1	23	176	e520	96	e112	40	37	20	11	9.0
11	4.0	8.5	21	259	e460	89	e101	39	36	20	11	8.9
12	3.3	7.8	16	1290	e420	84	e87	53	35	19	11	8.4
13	3.0	6.4	17	381	e390	132	e105	50	33	18	11	8.1
14	2.7	9.3	124	178	e640	104	e130	44	31	18	10	7.9
15	2.6	12	81	724	e510	91	e115	42	30	18	11	7.8
16	2.5	20	46	449	e440	85	96	41	27	17	11	7.8
17	2.5	15	33	212	e360	83	87	39	28	17	11	7.9
18	2.5	7.6	28	490	e450	e80	80	37	27	17	11	7.7
19	2.4	12	22	530	e700	e76	76	35	26	17	12	7.7
20	2.4	12	20	263	e440	e76	71	34	25	16	13	7.7
21	2.5	7.4	18	170	e1500	e76	67	32	24	16	13	7.8
22	2.5	6.2	16	130	e870	e70	63	32	23	16	12	7.8
23	2.6	6.4	8.4	115	e1200	e96	62	31	23	16	12	7.8
24	2.6	6.9	10	99	e820	e140	62	30	23	15	12	7.8
25	2.5	7.2	12	87	e700	e220	56	30	23	15	12	8.1
26	2.5	122	5.9	81	e550	e170	53	28	22	15	12	8.9
27	2.4	69	6.0	146	e470	e115	50	31	21	14	12	10
28	2.5	29	7.2	113	e415	e115	48	144	20	14	12	9.7
29	2.4	19	10	432	---	e115	46	184	20	14	11	9.8
30	2.4	77	9.7	244	---	e92	44	112	21	14	11	9.9
31	2.4	---	9.4	194	---	e120	---	77	---	14	11	---
TOTAL	90.1	487.2	883.6	7239.2	24228	4092	2945	1594	975	544	359	259.3
MEAN	2.91	16.2	28.5	234	865	132	98.2	51.4	32.5	17.5	11.6	8.64
MAX	4.9	122	124	1290	4060	360	183	184	62	21	13	10
MIN	2.4	2.3	5.9	9.2	302	70	44	28	20	14	10	7.7
AC-FT	179	966	1750	14360	48060	8120	5840	3160	1930	1080	712	514

e Estimated.

11162500 PESCADERO CREEK NEAR PESCADERO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.44	13.4	57.6	124	133	95.5	55.2	19.1	9.04	5.11	3.51	2.71
MAX	92.8	85.9	469	435	865	540	398	93.8	32.5	17.5	11.6	8.64
(WY)	1963	1984	1956	1997	1998	1983	1958	1983	1998	1998	1998	1998
MIN	.38	1.61	2.30	2.75	2.92	4.25	1.93	2.00	.78	.20	.012	.083
(WY)	1962	1992	1977	1991	1977	1988	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	19321.8		43696.4			
ANNUAL MEAN	52.9		120		43.3	
HIGHEST ANNUAL MEAN					164	1983
LOWEST ANNUAL MEAN					1.72	1977
HIGHEST DAILY MEAN	2500	Jan 2	4060	Feb 3	5560	Dec 23 1955
LOWEST DAILY MEAN	2.3	Nov 6	2.3	Nov 6	.00	Sep 9 1961
ANNUAL SEVEN-DAY MINIMUM	2.4	Oct 26	2.4	Oct 26	.00	Aug 17 1977
INSTANTANEOUS PEAK FLOW			10600	Feb 3	10600	Feb 3 1998
INSTANTANEOUS PEAK STAGE			22.47	Feb 3	22.47	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	38320		86670		31360	
10 PERCENT EXCEEDS	92		301		89	
50 PERCENT EXCEEDS	8.8		25		6.9	
90 PERCENT EXCEEDS	2.7		3.8		1.4	

11162620 PILARCITOS CREEK BELOW STONE DAM, NEAR HILLSBOROUGH, CA

LOCATION.—Lat 37°31'29", long 122°23'54", NE 1/4 SW 1/4 Sec.3, T.5 S., R.5W., in San Mateo County, Hydrologic Unit 18050006, on left bank, 50 ft downstream of unnamed tributary, 0.2 mi downstream of Stone Dam, and 2.4 mi southwest of Hillsborough.

DRAINAGE AREA.—6.54 mi^2.

PERIOD OF RECORD.—October 1997 to September 1998.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 500 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Flow regulated by storage in Pilarcitos Lake, 2.6 mi upstream, capacity, 3,100 acre-ft. Water is diverted by city of San Francisco water system at Pilarcitos Lake and Stone Dam.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 119 ft^3/s, February 7, 21, gage-height 6.69 ft; minimum daily discharge, 0.03 ft^3/s, many days in October and November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.08	.03	.61	e.40	14	e36	.79	.66	.64	.38	.35	.20
2	e.08	.03	.39	e1.0	16	e24	.80	.65	.59	.38	.33	.22
3	e.08	.03	.27	e2.4	82	e12	.93	.61	.56	.37	.32	.20
4	e.08	.03	.23	e3.0	57	6.3	1.0	.67	.54	.35	.31	.18
5	e.08	.03	.31	e1.8	38	1.9	.98	.63	.51	.35	.31	.22
6	e.08	.03	.21	e1.4	95	1.7	1.1	.61	.51	.38	.31	.21
7	e.08	.03	1.5	e1.6	102	1.5	1.2	.61	.51	.38	.30	.19
8	e.08	.03	1.4	e1.0	96	1.4	1.2	.59	.51	.40	.31	.20
9	e.08	.03	.85	.60	87	1.3	1.2	.56	.47	.43	.30	.22
10	e.08	.17	.55	2.6	81	1.3	1.1	.56	.47	.45	.28	.23
11	.05	.13	.32	25	77	1.2	1.1	.58	.44	.43	.28	.23
12	.04	.05	.25	91	70	1.1	1.1	.62	.48	.43	.27	.22
13	.03	.07	.23	42	61	1.1	1.5	.66	.69	.42	.26	.19
14	.03	.16	1.2	40	59	.99	1.4	.60	.50	.42	.25	.20
15	.03	.19	.80	60	51	.95	1.3	.57	.45	.41	.25	.21
16	.03	.41	.49	48	46	.90	1.3	.55	.42	.39	.24	.25
17	.03	.12	.35	87	42	.89	1.2	.52	.41	.39	.25	.25
18	.03	.15	.29	79	35	.84	1.1	.51	.43	.38	.25	.27
19	.03	.65	e.28	39	47	.82	.99	.50	.43	.38	.24	.28
20	.03	.15	e.26	78	46	.79	.94	.48	.42	.38	.23	.25
21	.03	.09	e.24	87	71	.77	.89	.47	.39	.39	.23	.26
22	.03	.08	e.24	60	77	.75	.85	.47	.39	.39	.22	.23
23	.03	.09	e.23	30	75	.97	.82	.44	.39	.38	.21	.23
24	.03	.16	e.24	22	69	1.1	.78	.42	.39	.36	.22	.22
25	.03	.45	e.23	13	61	.94	.77	.41	.39	.36	.22	.22
26	.03	3.1	e.22	6.8	53	.88	.72	.39	.39	.35	.22	.23
27	.03	1.7	e.21	1.4	e47	.87	.70	.55	.39	.35	.21	.23
28	.03	.70	e.20	1.2	e36	.88	.68	1.0	.38	.35	.20	.23
29	.03	.63	e.20	3.4	---	.84	.66	.86	.38	.35	.20	.23
30	.03	1.1	e.20	14	---	.80	.65	.76	.38	.37	.22	.23
31	.03	---	e.20	30	---	.87	---	.72	---	.36	.20	---
TOTAL	1.46	10.62	13.20	873.60	1691	106.65	29.75	18.23	13.85	11.91	7.99	6.73
MEAN	.047	.35	.43	28.2	60.4	3.44	.99	.59	.46	.38	.26	.22
MAX	.08	3.1	1.5	91	102	36	1.5	1.0	.69	.45	.35	.28
MIN	.03	.03	.20	.40	14	.75	.65	.39	.38	.35	.20	.18
AC-FT	2.9	21	26	1730	3350	212	59	36	27	24	16	13

e Estimated.

11162630 PILARCITOS CREEK AT HALF MOON BAY, CA

LOCATION.—Lat 37°28'00", long 122°25'59", on north boundary of Miramontes Grant, San Mateo County, Hydrologic Unit 18050006, on left bank 50 ft downstream from State Highway 1, 0.3 mi northwest of town of Half Moon Bay, and 1.0 mi upstream from mouth.

DRAINAGE AREA.—27.1 mi^2.

PERIOD OF RECORD.—July 1966 to current year.
SEDIMENT DATA: June 1990.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 31.51 ft above sea level. Prior to Nov. 17, 1983, at site 800 ft downstream at different datum.

REMARKS.—Records fair except for discharges less than 1 ft^3/s, which are poor. Flow slightly regulated by storage in Pilarcitos Lake 10 mi upstream, capacity, 3,100 acre-ft. Water is diverted to city of San Francisco water system; small diversions for irrigation upstream from station by pumping.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,750 ft^3/s, Jan. 4, 1982, gage height, 13.08 ft, site and datum then in use, from rating curve extended above 1,000 ft^3/s on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	0930	210	4.93	Jan. 18	1545	1,540	10.99
Dec. 14	0715	213	4.95	Feb. 3	0230	1,950	12.27
Jan. 4	0230	388	6.13	Feb. 21	1315	907	8.59
Jan. 12	0730	1,070	9.32				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.09	18	1.9	148	118	29	15	28	9.5	2.1	1.1
2	.00	.04	13	62	574	102	26	15	26	9.5	2.8	1.2
3	.00	.00	11	67	1150	84	52	14	24	10	2.8	1.4
4	.00	.00	11	186	518	68	53	21	26	10	2.1	.99
5	.00	.00	20	63	284	55	42	26	25	10	1.8	.83
6	.00	.10	6.5	44	785	51	41	23	24	9.2	e1.9	.76
7	.00	.13	66	47	548	45	45	19	26	6.6	e1.9	.89
8	.00	.12	45	38	450	42	35	19	25	6.1	e2.0	.55
9	1.9	.10	24	44	285	38	35	17	22	6.2	e2.1	.68
10	.12	5.8	15	185	218	35	33	16	22	7.0	e2.2	.76
11	.06	6.3	10	285	173	31	30	17	20	6.7	e2.3	.52
12	.01	3.1	7.4	794	148	31	28	21	17	6.3	e2.5	.34
13	.00	4.0	7.1	232	125	37	68	24	20	6.0	e2.1	.54
14	.00	8.4	124	126	215	30	44	17	15	4.8	e2.1	1.0
15	.00	8.7	44	331	171	28	35	16	12	4.0	e2.3	2.1
16	.00	8.8	27	223	180	28	32	15	9.6	2.3	e2.5	e3.0
17	.00	3.3	19	209	175	28	29	14	8.7	2.5	e2.7	e3.0
18	.00	3.5	13	581	139	27	27	13	9.3	3.2	e2.9	e2.0
19	.00	9.4	8.9	328	310	26	26	12	8.6	3.4	e3.2	e1.2
20	.00	3.9	8.2	213	229	26	25	12	8.0	3.4	e3.6	e1.2
21	.00	3.2	5.9	182	541	26	23	11	8.5	3.2	e3.6	e1.2
22	.00	3.5	4.9	123	405	24	22	11	7.7	4.0	2.3	e1.3
23	.02	3.6	4.2	69	446	40	21	10	8.1	3.7	2.3	e1.3
24	.00	4.9	3.8	51	284	68	20	11	9.4	4.0	2.1	e1.4
25	.00	12	3.6	34	230	42	18	11	13	4.5	1.9	e1.5
26	.00	110	2.8	26	190	35	18	9.9	11	4.2	1.9	e1.6
27	.00	51	2.3	16	162	32	16	16	11	4.0	1.8	e1.7
28	.00	15	2.1	11	138	34	15	55	11	3.0	1.4	e1.7
29	.10	18	2.1	119	---	29	14	48	9.1	2.8	1.2	e1.7
30	.11	58	1.9	52	---	26	14	36	9.1	3.2	1.4	e1.7
31	.11	---	1.7	117	---	34	---	31	---	2.5	1.5	---
TOTAL	2.43	344.98	533.4	4859.9	9221	1320	916	595.9	474.1	165.8	69.3	39.16
MEAN	.078	11.5	17.2	157	329	42.6	30.5	19.2	15.8	5.35	2.24	1.31
MAX	1.9	110	124	794	1150	118	68	55	28	10	3.6	3.0
MIN	.00	.00	1.7	1.9	125	24	14	9.9	7.7	2.3	1.2	.34
AC-FT	4.8	684	1060	9640	18290	2620	1820	1180	940	329	137	78

e Estimated.

11162630 PILARCITOS CREEK AT HALF MOON BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.12	5.61	16.4	49.8	50.1	38.6	18.8	6.11	2.45	1.01	.59	.35
MAX	4.44	32.5	92.1	164	329	278	127	37.2	15.8	5.35	2.24	1.31
(WY)	1983	1983	1971	1982	1998	1983	1982	1983	1998	1998	1998	1998
MIN	.000	.000	.59	.48	.66	1.44	.073	.009	.000	.000	.000	.000
(WY)	1967	1991	1991	1991	1977	1988	1977	1977	1972	1966	1966	1966

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998		
ANNUAL TOTAL	7104.03		18541.97				
ANNUAL MEAN	19.5		50.8		15.8		
HIGHEST ANNUAL MEAN					73.9		1983
LOWEST ANNUAL MEAN					.51		1977
HIGHEST DAILY MEAN	1160	Jan 2	1150	Feb 3	2150	Jan 4	1982
LOWEST DAILY MEAN	.00	Jun 26	.00	Oct 1	.00	Jul 1	1966
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 15	.00	Oct 1	.00	Jul 1	1966
INSTANTANEOUS PEAK FLOW			1950	Feb 3	4750	Jan 4	1982
INSTANTANEOUS PEAK STAGE			12.27	Feb 3	13.08	Jan 4	1982
ANNUAL RUNOFF (AC-FT)	14090		36780		11410		
10 PERCENT EXCEEDS	23		148		31		
50 PERCENT EXCEEDS	1.9		11		1.9		
90 PERCENT EXCEEDS	.00		.12		.00		

11162690 SAN FRANCISCO BAY AT PRESIDIO MILITARY RESERVATION, CA

LOCATION.—Lat 37°48'24", long 122°27'54", in NE 1/4 NE 1/4 sec.36, T.1 S., R.6 W., in San Miguel Grant, San Francisco County, Hydrologic Unit 18050002, at end of Coast Guard dock at Presidio Military Reservation.

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: October 1990 to current year.
WATER TEMPERATURE: October 1990 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1990.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments. The probe is set at 4.0 ft below Mean Lower Low Water (MLLW). Daily maximums and minimums sometimes differ from tidal cycle (24.8 hours) maximums and minimums.

EXTREMES FOR PERIOD OF RECORD.—
SPECIFIC CONDUCTANCE: Maximum recorded, 50,900 microsiemens, May 26, June 30, and July 1, 1991; minimum recorded, 4,250 microsiemens, Feb. 18, 1998.
WATER TEMPERATURE: Maximum recorded, 19.0°C, several days during August and September 1997; minimum recorded 8.0°C, several days during December 1990 and January 1991.

EXTREMES FOR CURRENT YEAR.—
SPECIFIC CONDUCTANCE: Maximum recorded, 49,800 microsiemens, Oct. 5; minimum recorded, 4,250 microsiemens, Feb.18.
WATER TEMPERATURE: Maximum recorded, 18.0°C, Oct. 4, Aug. 2; minimum recorded, 10.5°C, Feb. 11, 18–20, 22.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	49300	48000	48700	47200	47200	45000	46500	44200	45000	30200	42900	17400
2	49200	48100	48600	47300	47000	44900	46000	44200	45100	30800	42300	17400
3	49400	48000	48800	47300	46900	44400	46100	44100	45300	19300	42400	16500
4	49600	48000	48800	47300	47100	44300	46000	44400	44100	19600	41700	16500
5	49800	48000	48600	47200	47300	44500	45900	44200	41100	17800	---	---
6	49300	48100	48500	47200	47200	44300	46100	43800	44800	19700	42200	16700
7	49700	48000	48500	47100	46600	44100	45800	43500	42800	15100	44400	18900
8	49400	48100	48400	46900	46300	43600	46400	43700	37800	14300	44000	23300
9	49700	47800	48400	47100	46400	43500	46400	43700	37100	14100	43700	23200
10	49400	47900	48400	47200	46500	43300	46300	43300	38500	13600	43100	24800
11	49400	47900	48300	47200	46400	43700	46100	43200	40200	12200	43300	25400
12	49300	47800	48500	47000	46100	43100	45800	43000	40200	14200	43500	29400
13	49500	47800	48100	46800	46600	43500	45500	42300	37000	13900	42800	29700
14	49300	47800	48100	46600	46600	43600	45600	41000	38600	14800	42500	28900
15	49200	47800	48100	46600	46400	42900	46000	39300	36400	11300	43900	27300
16	49200	47800	48100	46500	46400	43500	45700	36500	36000	12500	44700	26300
17	48900	47600	48400	46400	46400	43300	45000	32900	27500	7660	44600	25000
18	48900	47600	47900	46300	46400	43200	45300	30700	24700	4250	45000	23300
19	49100	47700	48100	46000	46200	43100	44300	23700	23800	6400	45700	23700
20	49000	47600	48000	46300	46100	41800	43200	18600	20000	6560	40500	24700
21	48900	47600	47800	46000	45500	41300	44400	17200	31600	10000	39500	26600
22	48900	47700	48000	45500	46300	41500	42800	17300	35100	8500	43700	24000
23	48900	47800	47900	46700	46800	41700	43700	18100	36400	13800	44500	29400
24	49100	47400	48200	46400	46600	42000	45000	22800	36600	14000	45100	30100
25	49200	47800	47600	45900	46600	43100	44900	26700	40500	15000	44800	33400
26	49300	47800	47400	45500	47000	43600	45800	30700	43200	16200	43800	33700
27	49000	47700	47100	45500	46600	43900	46000	32500	43100	18000	44600	33100
28	48800	47600	47300	45300	46700	43700	46700	32400	42500	17100	44600	30600
29	48800	47500	47300	45300	46600	43900	47200	33600	---	---	45200	28800
30	48800	47200	46900	45100	46600	44200	44500	30600	---	---	45300	26300
31	48500	47200	---	---	46700	44000	46100	29300	---	---	46100	28300
MONTH	49800	47200	48800	45100	47300	41300	47200	17200	45300	4250	---	---

11162690 SAN FRANCISCO BAY AT PRESIDIO MILITARY RESERVATION, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	43900	24800	45900	36700	45800	28800	46000	29800	48200	40200	48700	40500
2	42200	24800	46900	32200	44900	27900	47500	29500	48300	38400	48800	42200
3	42000	21900	46300	29700	46000	27600	47800	33700	48000	40200	48500	43300
4	42400	21400	46300	29000	46400	27000	47400	33200	48100	40700	48000	43200
5	42200	20800	45600	29300	45500	29400	48000	35400	47800	40900	47500	43300
6	42400	23200	46000	30800	45500	29000	48200	38600	47400	41600	47300	43800
7	42900	24900	46200	32300	46000	32100	47900	37100	47100	42500	47300	43500
8	44700	25100	45700	33100	45500	32300	47800	36700	47300	42800	47400	43600
9	43800	28300	45500	35300	45500	31300	47700	38300	46900	42900	48000	43800
10	43500	28000	46400	36200	46500	32200	47100	38700	47400	42800	48200	43600
11	43400	27800	46000	35200	46900	32700	47100	38300	47600	43500	48300	44000
12	42900	29600	46600	36400	47300	31300	47700	38100	47400	43400	48500	43900
13	44500	27500	45800	33100	46400	32400	47700	39500	47400	44000	48400	43400
14	44200	27300	45100	34200	46800	31500	47600	38400	47800	44400	48200	43400
15	44000	25600	45200	33000	47300	31400	48400	36600	48000	44100	48200	43600
16	44900	25600	44800	33900	46300	31700	48700	35900	48300	44100	48100	43600
17	45100	25600	45000	31700	47400	30100	47800	40500	48300	44200	48100	43300
18	45000	25300	45200	30600	47600	30800	47700	40400	48300	44000	47900	43600
19	45500	24200	46400	30200	46700	36300	47800	38300	48300	43700	47800	43300
20	46200	26100	45500	31000	47500	37700	47600	39500	48000	43900	48300	43800
21	45600	28000	46700	32100	47100	36400	48000	40400	47700	43900	48500	44300
22	46000	31100	46500	36200	---	---	48000	41200	47800	43600	47900	44600
23	46100	37100	46200	37100	46700	35600	47800	41800	47800	43400	47900	44100
24	45200	34700	46000	36500	46500	35400	48100	42200	47900	43300	48100	43800
25	45200	35300	45700	37200	46500	35900	47600	42100	48000	44300	47700	43700
26	46000	34900	46700	37500	46200	34300	47800	42000	48100	44000	47600	41000
27	45900	33500	46000	37300	46600	34100	47700	41700	48100	42800	48100	40200
28	46200	34600	45600	36500	46700	35100	47500	39400	47900	42500	47900	39600
29	46600	34700	46000	35800	46200	33000	47500	38400	48500	41700	47900	38300
30	46700	34300	46700	33400	46600	31000	47300	38000	49100	40300	47800	40400
31	---	---	46800	32500	---	---	47500	40300	49200	39900	---	---
MONTH	46700	20800	46900	29000	---	---	48700	29500	49200	38400	48800	38300

11162690 SAN FRANCISCO BAY AT PRESIDIO MILITARY RESERVATION, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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

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

11162700 SAN FRANCISCO BAY AT PIER 24, AT SAN FRANCISCO, CA

LOCATION.—Lat 37°47'27", long 122°23'05", in SE 1/4 NW 1/4 sec.2, T.2 S., R.5 W., in San Miguel Grant, San Francisco County, Hydrologic Unit 18050002, at end of Pier 24 and directly under the west end of the San Francisco–Oakland Bay Bridge.

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: October 1989 to current year.
WATER TEMPERATURE: October 1989 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1989.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments and siesmic work on the bridge. Upper probe is set at 9.0 ft below Mean Lower Low Water (MLLW). Lower probe is set at 30.0 ft below MLLW.

EXTREMES FOR PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 50,700 microsiemens, Aug. 13, 1991; minimum recorded, 4,630 microsiemens, Feb. 22, 1998.
(Lower probe) Maximum recorded, 50,300 microsiemens, Sept. 6, 9–12, 1991; minimum recorded, 3,040 microsiemens, Mar. 18, 1995.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 20.5°C, July 23, 1992, Sept. 1, 1997; minimum recorded, 7.5°C, Dec. 26, 30, 1990, Jan. 1–3, 1991.
(Lower probe) Maximum recorded, 20.5°C, Sept. 1, 1997; minimum recorded, 7.5°C, Jan. 2, 3, 1991.

EXTREMES FOR CURRENT YEAR.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 48,600 microsiemens, Oct. 8; minimum recorded, 4,630 microsiemens, Feb. 22.
(Lower probe) Maximum recorded, 48,700 microsiemens, Oct. 6, 9; minimum recorded, 5,330 microsiemens, Feb. 20.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 19.5°C, Oct. 4, 6, Aug. 3; minimum recorded, 10.5°C, Dec. 23, Jan. 21, and several days in February.
(Lower probe) Maximum recorded, 19.5°C, Oct. 4; minimum recorded, 10.0°C, Feb. 20.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	48200	47300	47600	46800	46600	42400	45800	42700	38700	18300	32500	10100
2	48200	47400	47700	46800	46600	42100	45600	42900	37100	16900	32900	11000
3	48200	47400	47800	46800	46400	40900	45600	43300	38600	17600	35500	9510
4	48400	47300	47900	46700	46300	42000	45600	43200	31400	13100	28100	13200
5	48300	47000	47800	46700	46000	42000	45300	41400	31500	9940	33200	12800
6	48400	47200	47900	46700	45800	40900	45200	41100	---	---	30800	13700
7	48500	47200	47700	46700	46100	41000	45500	40400	---	---	35900	13700
8	48600	47500	47700	46700	45400	40900	45500	40800	---	---	31800	14900
9	48500	46600	47700	46700	44900	40600	46000	40500	---	---	38300	15300
10	48500	46600	47800	46600	45100	39800	46100	40100	---	---	35700	18800
11	48200	47400	47800	46600	45100	39400	45600	40600	---	---	37300	20500
12	48200	47300	47800	46700	45200	39400	45300	39100	---	---	37200	23000
13	48300	47300	47800	46600	45500	39500	44400	37200	---	---	36900	21200
14	48300	47300	47700	46400	45800	38800	43800	35900	---	---	36500	21500
15	48300	47200	47700	45200	45300	38900	42900	32300	---	---	36900	23100
16	48300	47300	47600	46200	45200	38700	41100	27400	---	---	38600	22000
17	48400	47200	47600	44400	44400	40100	39600	22900	---	---	---	---
18	48200	47200	47300	46100	44900	39600	39700	23500	---	---	34900	21100
19	48200	47200	47300	45900	44000	39600	38600	17900	---	---	35700	22800
20	48100	47200	47000	44400	43700	39000	34900	18400	16500	4990	34600	23100
21	48100	47100	46500	44100	42600	37500	35100	15800	21700	5570	35700	18800
22	48000	47100	46300	43100	41500	38200	35300	15500	20500	4630	36600	19900
23	48000	46400	46300	44600	43600	36900	35600	17200	25400	7810	38300	24200
24	47800	46000	46600	43400	43000	37700	33700	17100	26000	5850	39900	24500
25	47700	45700	46500	44400	43300	40100	38000	20400	28100	7780	39700	24600
26	47700	45900	47200	44400	44400	40700	40400	19800	32100	7780	40000	27600
27	47700	46700	46300	43100	46000	40700	39900	20800	33100	8640	39300	26000
28	47600	46800	46800	43100	46000	41700	39400	22700	34500	9010	39400	23500
29	47700	46900	46800	43300	45900	42000	40400	23200	---	---	38900	19700
30	47700	46900	46600	42100	45900	42200	38200	20300	---	---	38200	16900
31	47700	46900	---	---	45800	42400	40200	18100	---	---	37300	17100
MONTH	48600	45700	47900	42100	46600	36900	46100	15500	---	---	---	---

11162700 SAN FRANCISCO BAY AT PIER 24, AT SAN FRANCISCO, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	37500	14900	41100	27800	39600	24400	41500	29500	44100	36900	---	---
2	32300	15900	40300	23700	39600	23400	42300	29800	44400	35900	---	---
3	31900	14500	38400	23500	38300	24600	44100	32500	44800	36000	---	---
4	35400	16200	41500	25700	38300	24600	42500	29100	44700	36400	---	---
5	35900	19000	42100	26600	40500	25100	44200	31200	45000	38600	---	---
6	35300	19700	40800	28100	40800	24800	44000	30000	45000	39800	---	---
7	34700	20600	41500	28500	40500	27900	43900	32000	46100	39600	---	---
8	36700	21100	40400	28900	40000	22800	43800	31500	45200	38300	---	---
9	37800	21500	40900	28200	41800	23500	43300	32200	45000	39400	---	---
10	36100	22600	41700	24600	41800	27400	43300	35000	45200	39400	---	---
11	36100	20400	41800	27100	40300	23000	43000	32500	45400	39900	---	---
12	35700	21500	41800	25900	42100	22900	43400	32600	45500	39800	---	---
13	37700	17900	41100	24900	40200	23400	43200	33400	45800	40000	---	---
14	35600	17600	41600	26900	40500	24500	42900	33300	---	---	---	---
15	33900	17000	40500	27600	40800	25100	43200	31600	---	---	---	---
16	33200	18700	39300	28400	41000	25600	43600	33000	---	---	---	---
17	33500	19700	38700	24700	40000	26600	44800	33600	---	---	---	---
18	32900	19400	40500	25200	41100	27700	45000	34000	---	---	---	---
19	34900	20900	41000	26500	42100	29700	45100	33900	---	---	---	---
20	35500	22100	---	---	42200	27800	44200	36400	---	---	---	---
21	37100	22100	40900	29600	41700	27600	43800	36000	---	---	---	---
22	39200	26500	41500	27800	42200	27500	43500	35400	---	---	---	---
23	40100	31200	42000	29500	41900	29600	43400	36200	---	---	---	---
24	38600	28000	42300	30500	41600	29500	44000	37100	---	---	---	---
25	39700	28100	42400	30000	41500	31000	43800	36700	---	---	---	---
26	42400	27300	42100	31100	41100	26800	43800	35700	---	---	---	---
27	42400	25700	42200	28900	41200	27600	43400	34100	---	---	---	---
28	---	---	42300	26700	41000	26300	43800	36500	---	---	---	---
29	41800	27700	41400	29100	41400	28000	43900	36300	---	---	---	---
30	42500	26700	40800	23100	39500	28400	44300	36600	---	---	---	---
31	---	---	40800	26800	---	---	44400	36600	---	---	---	---
MONTH	---	---	---	---	42200	22800	45100	29100	---	---	---	---

11162700 SAN FRANCISCO BAY AT PIER 24, AT SAN FRANCISCO, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	48500	47400	48000	46900	47000	42600	45800	42600	41800	19700	38400	11400
2	48600	47500	48200	46800	46900	42300	45900	42800	42300	18900	38600	12000
3	48600	47500	48100	46900	46800	41400	45600	43200	42100	18400	39300	10900
4	48500	47500	48300	46800	46500	42100	45600	43000	41800	14500	42000	13200
5	48600	47400	48100	46700	46200	42400	45300	41500	41500	10500	44600	14100
6	48700	47400	47900	46700	45900	40100	45600	41000	---	---	44700	14200
7	48600	47400	47800	46600	46700	41200	45700	40600	---	---	44000	13800
8	48600	47400	47700	46600	45900	41200	45800	40800	---	---	44000	15600
9	48700	46500	47700	46600	45300	40800	46400	40900	---	---	42700	16400
10	48500	46500	47700	46600	45800	40000	46600	40200	---	---	40700	19300
11	---	---	47800	46400	46000	40100	46200	40900	---	---	40300	21400
12	48300	47200	47900	46600	45900	40000	45700	39600	---	---	40200	23600
13	48500	47200	47900	46500	46200	40100	45000	37500	---	---	40800	22200
14	48400	47200	47700	46400	46400	39500	44100	36500	---	---	39500	22500
15	48600	47200	47700	46200	46000	39400	44300	33300	---	---	40600	24300
16	48600	47300	47500	46200	45700	39500	42900	29100	---	---	40100	24100
17	48600	47200	47700	44400	44800	39900	41200	24900	---	---	---	---
18	48400	47100	47200	45900	44800	39400	41700	24600	---	---	43500	22700
19	48200	47200	47300	45800	44400	39400	41000	24600	---	---	44400	23600
20	48300	47100	47100	44400	44600	39300	41600	23200	40700	5330	45100	23600
21	48300	47100	47000	44000	44700	37500	42800	19800	42000	6050	45200	20100
22	48200	47100	46900	43300	41400	38100	44100	21300	39000	5710	45300	21200
23	48100	46400	46900	45000	44500	37600	44000	19200	38300	8790	44300	25400
24	47800	46000	46900	43800	44200	37900	42900	19000	34200	6670	42400	25300
25	47900	45700	46700	44500	44700	40300	42500	21600	36500	8510	41900	25400
26	47800	45900	47200	44800	44900	40500	42700	22400	37700	8820	41800	27800
27	47900	46600	46400	43100	46000	40700	41900	22900	39000	8980	41600	26000
28	47700	46800	46900	43000	46400	41600	42800	23700	38600	10200	41100	23100
29	47800	46800	46800	43600	46100	41900	42300	24900	---	---	41800	20500
30	47900	47000	46600	39600	46400	42100	40800	21900	---	---	42800	18000
31	48100	46900	---	---	46000	42300	42500	20200	---	---	42900	17900
MONTH	---	---	48300	39600	47000	37500	46600	19000	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	41000	15500	42400	28500	43600	24500	43600	30000	45200	37800	---	---
2	40000	16700	43700	24800	43900	24100	44600	30400	45600	36000	---	---
3	43000	14000	44200	23700	43900	24700	45200	32700	46600	36100	---	---
4	42000	16100	44400	26000	43400	23900	45000	30800	46000	37100	---	---
5	42400	18800	43900	27500	42700	24900	44600	31400	45900	38800	---	---
6	41200	20100	43800	28100	43000	24800	44600	29900	45900	39900	---	---
7	39900	20200	43000	28600	41900	27600	44600	31900	46500	39700	---	---
8	41300	22000	41900	28000	41800	22600	44200	31300	---	---	---	---
9	41000	22400	42200	28700	42400	24300	43700	31800	46200	39600	---	---
10	40800	24000	42900	26300	42400	27100	44000	34800	45900	39700	---	---
11	39800	21900	43700	27800	42200	23900	43700	33200	46100	40100	---	---
12	40000	22600	43700	27900	43700	23900	44000	32500	46400	40200	---	---
13	41000	19600	42800	26000	42600	23800	44400	33200	46500	40300	---	---
14	40100	19500	42500	27200	43100	24200	44700	33500	---	---	---	---
15	41000	19600	41900	28500	43400	25200	46100	31800	---	---	---	---
16	42100	20000	41600	29000	44200	25300	47000	33100	---	---	---	---
17	43600	20600	42400	25700	45400	26800	46400	34500	---	---	---	---
18	44400	19700	43200	25600	45300	28200	46700	33800	---	---	---	---
19	45100	22000	43800	27100	45500	29700	46900	33900	---	---	---	---
20	44500	22700	---	---	45100	29100	45100	36200	---	---	---	---
21	44200	23100	44300	30300	45400	28500	45800	35700	---	---	---	---
22	45300	28900	44700	28500	45400	28900	45600	35700	---	---	---	---
23	43300	32100	44600	30100	44100	30000	44900	36300	---	---	---	---
24	42300	29400	45100	31500	44100	29900	44900	37400	---	---	---	---
25	43800	29500	44400	31200	43100	31000	44700	37400	---	---	---	---
26	45300	28300	43800	32300	42800	27500	45100	36500	---	---	---	---
27	45400	27500	45100	29800	43300	27800	45400	35200	---	---	---	---
28	---	---	43400	27400	42800	27000	45300	36700	---	---	---	---
29	44500	28200	42400	29200	42600	28900	45200	36500	---	---	---	---
30	43300	27800	43500	23100	43300	28700	45300	36600	---	---	---	---
31	---	---	43000	26600	---	---	45400	38000	---	---	---	---
MONTH	---	---	---	---	45500	22600	47000	29900	---	---	---	---

11162700 SAN FRANCISCO BAY AT PIER 24, AT SAN FRANCISCO, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

(UPPER PROBE)

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.0	13.0	15.5	13.5	16.5	14.5	18.0	14.5	18.5	15.5	---	---
2	14.0	13.0	16.0	14.0	16.5	14.5	17.0	14.0	19.0	15.5	---	---
3	13.5	13.0	16.5	14.0	16.0	14.5	17.0	13.5	19.5	16.0	---	---
4	13.5	12.5	16.5	13.5	16.0	14.5	17.5	14.0	18.5	16.0	---	---
5	13.5	12.5	16.0	13.5	16.5	14.5	17.0	13.5	18.0	15.5	---	---
6	13.5	13.0	15.5	14.0	16.0	14.5	17.0	13.5	18.5	16.0	---	---
7	13.5	13.0	15.5	14.0	16.0	14.5	16.5	13.5	18.5	15.5	---	---
8	14.0	13.0	15.5	14.0	16.5	14.5	17.0	13.5	18.5	16.0	---	---
9	14.0	13.0	15.0	14.0	16.5	14.0	16.5	14.0	18.0	16.0	---	---
10	13.5	13.0	15.5	13.5	16.0	14.0	16.5	14.0	19.0	15.5	---	---
11	13.5	13.0	15.0	13.5	16.5	14.5	17.0	14.0	18.5	15.5	---	---
12	13.5	13.0	14.5	13.5	16.5	14.0	17.5	14.0	18.5	15.5	---	---
13	13.5	13.0	15.0	13.5	17.0	14.0	17.0	14.0	18.5	15.5	---	---
14	13.5	12.5	15.0	13.5	17.0	14.0	17.5	14.5	---	---	---	---
15	13.5	12.5	15.5	13.5	17.5	14.5	18.0	14.5	---	---	---	---
16	14.0	13.0	15.0	14.0	18.0	14.5	18.5	14.0	---	---	---	---
17	14.0	13.0	15.5	14.0	18.0	15.0	18.0	13.5	---	---	---	---
18	14.0	13.0	15.5	13.5	18.5	14.5	19.0	13.5	---	---	---	---
19	15.0	13.0	15.5	14.0	17.5	14.5	18.0	13.0	---	---	---	---
20	16.0	13.0	---	---	17.0	14.5	17.5	14.0	---	---	---	---
21	15.5	13.0	15.5	13.5	17.0	15.0	17.0	14.0	---	---	---	---
22	16.0	13.0	15.5	13.5	17.0	15.0	17.0	14.0	---	---	---	---
23	15.0	13.0	15.0	13.0	16.5	15.0	17.0	14.0	---	---	---	---
24	15.0	13.0	15.0	13.5	16.5	15.0	17.0	14.0	---	---	---	---
25	15.0	13.5	15.0	13.5	17.0	15.0	17.5	14.5	---	---	---	---
26	15.0	12.5	15.5	13.5	18.0	15.0	17.5	14.5	---	---	---	---
27	15.5	13.0	15.5	13.5	17.5	15.0	18.0	15.0	---	---	---	---
28	---	---	15.0	13.0	17.5	15.0	17.5	15.5	---	---	---	---
29	16.0	13.0	15.0	13.5	17.5	14.5	17.5	15.5	---	---	---	---
30	16.5	13.0	15.5	14.0	---	---	18.0	15.5	---	---	---	---
31	---	---	16.0	14.0	---	---	18.5	15.5	---	---	---	---
MONTH	---	---	---	---	---	---	19.0	13.0	---	---	---	---

11162700 SAN FRANCISCO BAY AT PIER 24, AT SAN FRANCISCO, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(LOWER PROBE)

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

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

11162765 SAN FRANCISCO BAY AT SAN MATEO BRIDGE, NEAR FOSTER CITY, CA

LOCATION.—Lat 37°35'04", long 122°14'59", unsurveyed, T.4 S., R.4 W., in San Mateo County, Hydrologic Unit 18050004, on Pier 20 of the San Mateo Bridge.

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: October 1989 to current year.
WATER TEMPERATURE: October 1989 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1989.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments. Upper probe is set at 3.5 ft below Mean Lower Low Water (MLLW). Lower probe is set at 38.0 ft below MLLW. Daily maximums and minimums sometimes differ from tidal-cycle (24.8 hours) maximums and minimums.

EXTREMES FOR PERIOD OF RECORD.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 50,200 microsiemens, Sept. 5, 1990; minimum recorded, 11,500 microsiemens, Mar. 17, 1996.
(Lower probe) Maximum recorded, 50,300 microsiemens, Oct. 31, Nov. 4, 9, 1990; minimum recorded, 14,900 microsiemens, Mar. 5, 1998.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.5°C, Aug. 1, 2, 28, 1993, Aug. 8, 1995; minimum recorded, 6.5°C, on several days in December 1990 and January 1991.
(Lower probe) Maximum recorded, 23.0°C, on several days in August 1990, July 16, 17, 1992, Aug. 2–6, 1993, July 16, 31, and several days in August 1995; minimum recorded, 6.5°C, Dec. 30, 1990, to Jan. 2, 1991.

EXTREMES FOR CURRENT YEAR.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 47,200 microsiemens, Oct. 7, 8; minimum recorded, 13,600 microsiemens, Feb. 21.
(Lower probe) Maximum recorded, 47,200 microsiemens, Oct. 16, 17; minimum recorded, 14,900 microsiemens, Mar. 5.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 22.5°C, July 18; minimum recorded, 9.5°C, Dec. 26–28.
(Lower probe) Maximum recorded, 22.0°C, Oct.1, July 21, 22, several days in August, Sept. 6–8; minimum recorded, 9.5°C, Dec. 27, 28.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	47000	45500	46800	45400	45600	44000	42700	41700	31100	30000	17200	15500
2	46500	44700	47000	46000	45600	44100	42400	40800	30800	30000	17000	15400
3	46600	45000	46800	46000	45400	43900	42300	41100	30600	28200	16800	15400
4	46700	45200	46800	46000	45200	44200	42400	41000	30000	27500	16800	15300
5	47000	45200	46500	44800	45200	44100	42300	41100	29400	28100	19200	14900
6	47000	46000	46500	45200	44800	43700	42400	41200	28900	26900	17400	14900
7	47200	45800	46600	45300	44500	43300	42100	41200	28900	25600	19700	14900
8	47200	46100	46800	45700	44500	43400	41900	41100	28100	24200	22700	16600
9	47000	45600	46800	45400	44400	43000	42100	41000	26600	20000	23100	17500
10	47000	45600	46400	45100	44300	42500	42100	40900	24100	19400	24000	19600
11	47100	46000	46200	45100	44200	42300	41900	40800	23100	19800	24300	20000
12	47100	46000	46400	44900	44300	42500	41800	39900	21900	19100	24000	21300
13	47000	45900	46300	45300	44200	42300	41700	39800	21200	18800	24100	21700
14	47000	45900	46300	45100	43200	41900	41600	40000	20800	17800	24500	21500
15	46900	45900	46400	45100	43000	42000	41500	40100	20200	17700	25000	21300
16	46800	45800	46100	44900	42900	41900	41300	39300	19700	17200	24900	21400
17	46700	45800	46000	44800	42700	41900	40700	38300	19300	17200	26000	21400
18	46700	46000	45800	45000	42900	41800	40800	38400	18700	15400	26000	21700
19	46900	46000	46100	45000	42800	41900	40300	37000	18400	14700	---	---
20	46700	45900	46500	45000	42800	42200	38900	34800	17700	14400	26300	22100
21	46800	45600	46600	45700	42900	42200	36400	28000	17600	13600	29300	21600
22	46700	45900	46500	45300	42900	42000	35300	27100	17400	13700	29400	23200
23	47000	45300	46400	45400	43000	42200	33000	26000	20700	14500	34100	25800
24	47100	46100	46600	45400	42900	42100	32900	27200	19900	15400	30300	27300
25	46900	45200	46300	45200	42800	41900	32100	28300	18800	15800	32200	29300
26	46900	46000	46200	44500	43300	41800	32100	28500	17700	15500	32100	29100
27	47000	46000	45900	44500	43300	41600	31800	29800	17300	15700	31600	29400
28	46800	45900	46000	44300	42900	41600	31900	30100	17300	15400	31000	29200
29	46800	46000	45900	44700	42900	41800	31800	30000	---	---	30800	28600
30	46700	45800	45400	44300	42800	41800	31600	30200	---	---	30900	28800
31	46600	46000	---	---	42700	41700	31300	30000	---	---	30700	29100
MONTH	47200	44700	47000	44300	45600	41600	42700	26000	31100	13600	---	---

11162765 SAN FRANCISCO BAY AT SAN MATEO BRIDGE, NEAR FOSTER CITY, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	30700	29400	32000	28900	32000	30000	32100	30400	36100	33300	39100	37000
2	30400	28400	32600	29500	31900	30000	31800	30700	36400	33500	39000	37000
3	29800	28700	33000	29900	31900	30100	32100	30900	36700	33500	38800	37200
4	29600	28200	32900	29800	31800	30500	32500	30800	37000	33800	38900	37300
5	29200	25600	31900	30200	31800	30200	32800	30700	36600	34100	39000	37500
6	28400	25700	31900	30600	31800	30100	32900	30700	36400	34400	39300	37800
7	28000	26400	31700	30800	31900	30300	32900	30800	36500	34500	39600	38000
8	27900	26700	31600	30500	31900	30400	32900	30900	36300	34200	39500	38200
9	27600	26800	31500	30100	31800	30100	32700	30700	36300	34200	39400	38300
10	27500	26700	31200	29900	31700	30000	32700	30600	36600	34400	---	---
11	27400	26800	31200	29600	---	---	33100	30600	36600	34300	39700	38700
12	27200	26300	31500	29800	---	---	33200	30800	36700	34500	39700	38600
13	27200	26400	31700	29600	31600	29800	33300	30900	36900	34900	39600	38500
14	27200	26400	31300	29200	31400	29600	33500	31300	37300	35500	39500	38400
15	27200	26200	---	---	31400	29500	34200	31400	37800	35500	40100	38400
16	27400	25700	31400	29100	31000	29400	34200	31800	37800	35900	39700	38600
17	27200	25400	31500	29500	31100	29500	34500	32100	38100	36100	39700	38600
18	26900	25600	31600	28800	30800	29800	34900	32100	38400	36000	39500	38300
19	26700	25400	31600	29400	30800	29700	34800	32300	39200	35800	39800	38600
20	27300	25400	31400	29300	30900	29600	34700	32300	39300	36600	39700	38500
21	28200	25000	30900	29100	31000	29100	34300	32000	39400	36600	39500	38400
22	30000	25100	31400	29300	30900	29400	34600	31800	39400	36800	39600	38400
23	30400	26500	31100	29200	31000	29200	34600	32200	39300	37000	39800	38800
24	30400	27900	31200	29100	31000	28900	34800	32500	39400	37100	39800	38900
25	31100	27500	31100	29100	31100	29000	34900	32700	39300	37200	40000	39200
26	31300	27300	31300	28800	31100	29000	35000	32900	39200	37400	40200	39400
27	31600	27300	31800	29200	31100	29300	35000	33200	39200	37400	40100	39500
28	31700	27800	32200	29700	31300	29300	35100	33300	39100	37300	40300	39300
29	31800	28200	32400	30400	31200	29700	---	---	38800	36900	40300	39300
30	31600	28300	32400	30300	---	---	35400	33300	39200	36800	40300	39300
31	---	---	32500	30200	---	---	35600	33500	39300	36700	---	---
MONTH	31800	25000	---	---	---	---	---	---	39400	33300	---	---

11162765 SAN FRANCISCO BAY AT SAN MATEO BRIDGE, NEAR FOSTER CITY, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	47000	46000	46900	45500	44900	43200	42200	41400	30800	30200	16600	15400
2	47000	46300	47000	46000	44700	42900	42100	41500	30600	30100	16600	15400
3	47000	46400	46900	45900	44600	42900	42100	41700	30200	29400	16600	15000
4	47100	46000	46900	46000	44500	43200	42100	41600	29800	28700	16400	15200
5	47000	46200	46800	45700	44400	43500	41900	41400	29200	28000	24100	14900
6	47100	46200	46700	45800	44300	43400	41800	41300	29000	27500	26700	16500
7	46900	46000	46700	45500	44200	43300	42000	41200	28700	27100	28100	20800
8	47100	46200	46700	45700	43900	42400	41900	41100	27900	25500	29100	23800
9	47100	46600	46600	45400	43500	42400	42000	41000	26900	24100	28900	23000
10	46800	46500	46500	45800	43600	41900	41900	40800	25100	21900	27900	21200
11	---	---	46300	45300	43700	41800	42000	40700	23200	20500	26200	22300
12	46800	46000	46200	45000	43600	41700	41900	40600	21900	19900	25300	22000
13	46900	45500	46100	44700	43500	41600	41500	40500	20800	19600	26400	22300
14	47100	46000	46200	44800	43400	41700	41500	40100	20100	18900	26200	22400
15	47100	46100	46200	45000	43200	41800	41500	40200	19500	18700	26900	22300
16	47200	46100	46000	44800	43100	41800	41300	39700	22100	17600	26200	22900
17	47200	45900	45900	44700	43000	41900	41200	40200	24700	19900	27700	23200
18	47100	45800	45800	44900	43000	42200	40900	40000	24400	20600	29100	25300
19	47000	45800	45900	45200	42900	42300	40300	39300	23500	20800	---	---
20	47000	45900	45900	45300	42900	42200	40000	38700	---	---	32700	28900
21	47000	45900	45800	45300	42700	42000	39700	37700	---	---	36100	31700
22	46900	46100	45800	45200	42500	41600	39200	35800	---	---	37300	33300
23	46800	46000	45900	45300	42400	41800	38700	33600	---	---	37300	34300
24	46700	45900	45900	45400	42300	41400	37600	32500	---	---	37300	32100
25	46700	45600	45900	45300	42100	41100	36000	31900	---	---	35600	31200
26	46500	45700	45800	45000	42100	41200	33200	30600	17700	15300	33400	29500
27	46600	45300	45400	44100	42200	41200	31300	30500	17000	15100	31800	29600
28	46500	45300	45200	43800	42100	41100	31100	30500	16800	15200	31600	29300
29	46400	45300	45100	43600	42200	41100	30900	30400	---	---	31100	29200
30	46800	45600	45000	43200	42200	41200	30700	30300	---	---	31200	29000
31	46900	45500	---	---	42100	41200	30600	30200	---	---	31400	29300
MONTH	---	---	47000	43200	44900	41100	42200	30200	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	30900	29300	32700	29700	---	---	32100	30900	---	---	---	---
2	30700	29500	34600	30900	---	---	32200	31100	---	---	---	---
3	29900	29400	34700	32400	---	---	32400	31300	---	---	---	---
4	29800	28900	34900	32300	---	---	32700	31400	---	---	---	---
5	29300	27900	34200	31900	---	---	33200	31600	---	---	---	---
6	28800	27400	33300	31300	---	---	33800	31900	---	---	---	---
7	28000	27100	32300	31200	---	---	33800	31900	---	---	---	---
8	27600	26900	31900	30900	---	---	34000	32400	---	---	---	---
9	27500	27200	31600	30100	---	---	34000	32600	---	---	---	---
10	27400	27100	31800	29800	---	---	34000	32400	---	---	---	---
11	27300	26700	31600	29600	---	---	34200	32600	---	---	---	---
12	27200	26300	32100	29800	---	---	34300	32800	---	---	---	---
13	27400	26200	32200	30000	31600	30100	34300	32900	---	---	---	---
14	27300	26000	32100	29700	31600	30200	34500	32700	---	---	---	---
15	27400	26100	---	---	31800	30400	34400	33000	---	---	---	---
16	27500	25900	32200	29700	31500	30200	34900	33000	---	---	---	---
17	27000	25500	32000	29700	31500	30400	34800	33100	---	---	---	---
18	26700	25700	32200	29600	31300	29500	35100	33100	---	---	---	---
19	31700	25600	32400	29500	31300	27200	35100	33200	---	---	---	---
20	34300	27000	32000	29800	31400	26900	34700	33400	---	---	---	---
21	34300	27300	31500	28900	31600	27400	34600	33200	---	---	---	---
22	33900	27600	32200	29300	31800	26100	34800	33100	---	---	---	---
23	31900	28300	31900	29300	31800	27100	35000	33300	---	---	---	---
24	30800	28300	32000	29400	31800	29400	35300	33300	---	---	---	---
25	31400	27600	32000	29500	31800	29200	35600	33900	---	---	---	---
26	31700	27800	32100	29500	31800	29300	35600	34100	---	---	---	---
27	32000	28000	32500	29600	32000	29800	35500	34200	---	---	---	---
28	32200	28300	33200	30100	31800	30000	35500	34000	---	---	---	---
29	32200	28800	33700	30800	31900	30000	---	---	---	---	---	---
30	32000	28800	---	---	---	---	36200	34000	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	34300	25500	---	---	---	---	---	---	---	---	---	---

11162765 SAN FRANCISCO BAY AT SAN MATEO BRIDGE, NEAR FOSTER CITY, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	21.0	18.0	17.0	14.5	14.0	10.5	10.0	12.5	12.5	13.0	12.0
2	21.5	21.0	18.0	17.5	14.5	14.0	11.0	10.0	12.5	12.5	13.0	12.5
3	21.5	21.0	18.0	17.5	14.5	14.0	11.0	10.5	13.0	12.5	13.0	12.5
4	21.0	21.0	18.0	17.5	14.0	13.5	11.0	10.5	13.0	12.5	13.0	12.5
5	21.0	20.5	18.0	17.5	14.0	13.5	11.0	10.5	12.5	12.5	13.0	12.5
6	20.5	18.5	18.0	17.5	14.0	13.5	11.0	10.5	12.5	12.0	12.5	12.0
7	19.0	18.0	18.0	17.5	14.0	13.5	11.0	10.5	12.5	12.0	12.5	12.0
8	18.5	18.0	18.0	17.5	13.5	13.5	11.0	10.5	12.0	11.5	13.0	12.0
9	19.0	18.0	17.5	17.0	13.5	12.5	11.0	10.5	12.0	11.0	14.0	12.5
10	18.5	17.5	17.5	17.0	13.0	12.5	11.0	10.5	11.5	11.5	14.0	12.5
11	17.5	17.0	17.0	17.0	13.0	12.5	11.0	11.0	12.0	11.5	14.5	13.0
12	17.5	16.5	17.0	16.5	12.5	12.5	11.5	11.0	12.0	11.5	14.0	13.5
13	17.5	16.5	16.5	16.5	12.5	12.0	11.0	11.0	12.0	11.5	14.5	13.5
14	18.0	17.0	16.5	16.0	12.5	12.0	11.5	11.0	12.0	11.5	14.5	13.5
15	18.0	17.5	16.5	16.0	12.5	11.5	11.5	11.0	12.5	11.5	15.0	13.5
16	18.5	17.5	16.0	15.5	12.0	12.0	12.0	11.5	12.0	11.5	15.0	14.0
17	18.5	18.0	16.0	15.5	12.5	12.0	13.0	11.5	12.0	11.5	15.0	14.5
18	18.5	18.0	16.0	15.5	12.5	12.0	12.5	12.0	12.0	11.5	16.0	14.5
19	18.0	18.0	15.5	15.0	12.0	11.5	12.0	12.0	12.0	11.5	---	---
20	18.0	18.0	15.5	15.0	12.0	11.5	12.0	12.0	11.5	11.0	15.5	15.0
21	18.5	18.0	15.5	15.0	11.5	11.5	12.0	11.5	11.5	11.0	15.5	15.0
22	18.0	17.5	15.0	15.0	11.5	10.5	12.0	11.0	12.0	11.0	16.0	15.0
23	18.0	17.5	15.0	15.0	10.5	10.5	11.5	11.5	12.0	11.5	15.5	14.5
24	17.5	17.5	15.0	15.0	10.5	10.0	12.0	11.5	12.0	11.0	16.0	15.0
25	17.5	17.0	15.5	15.0	10.5	10.0	12.0	11.5	12.0	11.5	16.0	15.0
26	17.5	17.0	15.0	15.0	10.0	9.5	12.5	12.0	12.0	11.5	15.5	15.0
27	17.5	17.0	15.0	15.0	10.0	9.5	12.5	12.0	12.5	11.5	15.5	15.0
28	17.0	17.0	15.0	14.5	10.0	9.5	13.0	12.0	13.0	12.0	15.0	14.5
29	17.0	17.0	15.0	14.5	10.0	10.0	13.0	12.0	---	---	14.5	14.5
30	17.5	17.0	14.5	14.5	10.5	10.0	13.0	12.5	---	---	14.5	14.0
31	17.5	17.0	---	---	10.5	10.0	13.0	12.5	---	---	14.5	14.0
MONTH	22.0	16.5	18.0	14.5	14.5	9.5	13.0	10.0	13.0	11.0	---	---

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

11162765 SAN FRANCISCO BAY AT SAN MATEO BRIDGE, NEAR FOSTER CITY, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	21.0	18.0	17.5	14.5	14.5	10.5	10.0	13.0	12.5	12.5	12.0
2	21.5	21.0	18.0	17.5	14.5	14.5	10.5	10.0	13.0	12.5	13.0	12.5
3	21.5	21.0	18.0	17.5	14.5	14.0	11.0	10.5	13.0	12.5	13.0	12.5
4	21.5	20.5	18.0	17.5	14.5	14.0	11.0	10.5	13.0	12.5	13.0	12.5
5	21.0	20.5	18.0	17.5	14.0	14.0	11.0	10.5	12.5	12.5	13.0	12.5
6	20.5	18.5	18.0	17.5	14.0	14.0	11.0	10.5	12.5	12.5	12.5	12.0
7	19.0	18.0	18.0	17.5	14.0	14.0	11.0	10.5	12.5	12.0	12.5	12.5
8	18.5	18.0	18.0	17.0	14.0	13.5	10.5	10.5	12.5	12.0	12.5	12.5
9	18.5	18.0	17.5	17.0	13.5	13.0	10.5	10.5	12.0	11.5	12.5	12.5
10	18.5	17.5	17.5	17.0	13.5	13.0	11.0	10.5	12.0	11.5	13.0	12.5
11	18.0	17.0	17.0	16.5	13.0	13.0	11.0	10.5	12.0	11.5	13.5	12.5
12	17.5	17.0	17.0	16.5	13.0	12.5	11.0	11.0	12.0	11.5	13.5	13.0
13	18.0	17.0	16.5	16.5	12.5	12.5	11.0	11.0	12.0	11.5	13.5	13.0
14	18.0	17.0	16.5	16.0	12.5	12.0	11.0	11.0	12.0	12.0	14.0	13.5
15	18.0	17.5	16.5	16.0	12.5	12.0	11.5	11.0	12.0	12.0	14.5	13.5
16	18.5	18.0	16.0	15.5	12.5	12.0	11.5	11.5	12.0	11.5	14.5	14.0
17	18.5	18.0	16.0	15.5	12.5	12.0	12.0	11.5	12.0	12.0	14.5	14.0
18	18.5	18.0	16.0	15.5	12.5	12.0	12.0	11.5	12.0	12.0	14.5	14.0
19	18.5	18.0	15.5	15.5	12.0	12.0	12.0	12.0	12.0	12.0	---	---
20	18.0	18.0	15.5	15.5	12.0	12.0	12.0	12.0	12.5	12.0	14.5	14.0
21	18.0	18.0	15.5	15.0	12.0	11.5	12.0	12.0	12.5	11.5	14.0	14.0
22	18.0	17.5	15.5	15.0	11.5	10.0	12.0	11.5	12.5	12.0	14.0	14.0
23	18.0	17.5	15.5	15.0	10.5	10.5	12.0	11.5	12.5	11.5	14.0	14.0
24	17.5	17.5	15.5	15.0	10.5	10.0	12.0	11.5	12.0	12.0	15.0	14.0
25	17.5	17.0	15.5	15.0	10.5	10.0	12.0	12.0	12.0	12.0	15.5	14.0
26	17.5	17.0	15.5	15.0	10.0	10.0	12.0	12.0	12.0	11.5	15.5	14.5
27	17.5	17.0	15.0	15.0	10.0	9.5	12.5	12.0	12.5	12.0	15.5	14.5
28	17.5	17.0	15.0	15.0	10.0	9.5	13.0	12.0	12.5	12.0	15.0	14.0
29	17.0	16.5	15.0	15.0	10.0	10.0	13.0	12.0	---	---	14.5	14.0
30	17.5	17.0	15.0	14.5	10.0	10.0	13.0	12.5	---	---	14.5	14.0
31	17.5	17.0	---	---	10.0	10.0	13.0	12.5	---	---	14.5	14.0
MONTH	22.0	16.5	18.0	14.5	14.5	9.5	13.0	10.0	13.0	11.5	---	---

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

11164500 SAN FRANCISQUITO CREEK AT STANFORD UNIVERSITY, CA

LOCATION.—Lat 37°25'24", long 122°11'18", in San Francisquito Grant, Santa Clara County, Hydrologic Unit 18050003, at golf course on right bank 1.1 mi downstream from Los Trancos Creek, 1.1 mi west of Stanford University Post Office, and 5 mi downstream from Searsville Lake.

DRAINAGE AREA.—37.4 mi^2.

PERIOD OF RECORD.—October 1930 to September 1941, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 115.75 ft above sea level. Recording rain gage (station 372724122101201) at 345 Middlefield Road in Menlo Park, 2.5 mi northeast of gage (discontinued Sept. 30, 1995).

REMARKS.—Records fair, except for estimated daily discharges, which are poor. Flow slightly regulated by Searsville Lake, capacity, 952 acre-ft. Diversions of about 800 acre-ft each year upstream from station to Los Trancos and Lagunita Canals for irrigation on Stanford University Campus downstream from station. Low flow affected by wastewater from Stanford Linear Accelerator.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,200 ft^3/s, Feb. 2, 1998. Maximum gage height, 13.60 ft, Dec. 22, 1995; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 700 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	0715	3,000	7.54	Feb. 3	0200	7,200	13.40
Jan. 15	1430	2,580	6.83	Feb. 6	1715	2,120	6.09
Jan. 18	1830	1,800	5.58	Feb. 21	1500	1,880	5.71
Jan. 29	0545	1,280	4.79				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.50	21	4.0	242	e92	92	17	18	6.9	2.2	e.82
2	.51	.51	11	74	1210	e84	56	20	17	6.9	2.1	e.81
3	.45	.58	8.0	69	2610	e78	151	19	16	7.0	1.9	.71
4	.40	.75	6.5	240	681	e72	218	34	15	7.1	1.5	.66
5	.34	.72	10	53	404	e110	126	26	14	7.1	1.3	.58
6	.33	.75	6.8	27	1310	e170	87	25	13	6.9	1.1	.57
7	.33	.75	170	39	1180	e110	85	21	13	6.7	1.0	.49
8	.33	.75	121	24	961	e80	68	19	14	6.3	.94	.45
9	1.9	.75	34	24	567	e61	58	18	13	5.4	.94	.55
10	.83	1.1	18	175	346	e53	52	17	12	5.1	1.0	.63
11	e.80	2.6	12	303	259	e44	50	16	12	4.9	1.0	.58
12	e.67	1.4	9.6	1710	233	e40	44	26	13	4.7	e1.1	.51
13	e.52	3.1	8.4	310	190	e280	111	22	12	4.6	e1.0	.51
14	e.48	2.3	106	129	436	e135	71	17	11	4.3	e1.0	.51
15	e.44	13	38	1080	272	e78	55	16	11	4.0	e.99	.51
16	e.42	11	17	413	e220	e60	46	15	11	3.8	e.98	.54
17	e.41	2.9	13	160	e190	e44	40	14	11	3.5	e.97	.65
18	e.40	1.7	10	627	165	e37	37	14	10	3.3	e.96	.70
19	e.39	4.4	8.5	432	523	e32	35	13	9.9	3.1	e.95	.62
20	e.39	2.3	7.8	179	313	e27	33	12	9.7	3.0	e.94	.63
21	e.39	1.4	7.0	115	888	e25	29	12	9.6	2.7	e.93	.66
22	.39	1.4	6.0	80	557	e21	27	12	9.3	2.4	e.92	.67
23	.39	1.4	5.4	64	597	90	25	11	9.3	2.4	e.91	.62
24	.39	1.4	5.1	50	353	284	25	11	9.3	2.4	e.90	.69
25	.39	3.0	4.8	43	e215	150	24	11	9.0	2.4	e.89	.66
26	.40	220	4.4	41	e180	111	22	10	8.9	2.2	e.88	.69
27	.45	56	4.2	125	e140	82	20	15	8.5	2.2	e.87	.75
28	.47	17	4.2	59	e120	68	19	58	7.9	2.2	e.86	.82
29	.51	11	4.0	653	---	55	17	50	7.4	2.2	e.85	.84
30	.64	112	4.0	189	---	45	16	30	7.1	2.2	e.84	.91
31	.70	---	4.0	146	---	64	---	22	---	2.2	e.83	---
TOTAL	15.76	476.46	689.7	7637.0	15362	2682	1739	623	341.9	130.1	33.55	19.34
MEAN	.51	15.9	22.2	246	549	86.5	58.0	20.1	11.4	4.20	1.08	.64
MAX	1.9	220	170	1710	2610	284	218	58	18	7.1	2.2	.91
MIN	.30	.50	4.0	4.0	120	21	16	10	7.1	2.2	.83	.45
AC-FT	31	945	1370	15150	30470	5320	3450	1240	678	258	67	38

e Estimated.

11164500 SAN FRANCISQUITO CREEK AT STANFORD UNIVERSITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.92	6.01	24.7	64.0	77.0	53.6	25.3	3.66	1.07	.46	.25	.30
MAX	28.2	91.9	220	301	549	315	232	39.5	11.4	4.20	1.61	2.11
(WY)	1963	1951	1956	1997	1998	1983	1958	1983	1998	1998	1983	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1931 - 1998	
ANNUAL TOTAL	12339.27		29749.81			
ANNUAL MEAN	33.8		81.5		21.2	
HIGHEST ANNUAL MEAN					83.4	1983
LOWEST ANNUAL MEAN					.000	1931
HIGHEST DAILY MEAN	1580	Jan 2	2610	Feb 3	2650	Dec 23 1955
LOWEST DAILY MEAN	.03	Jun 1	.30	Oct 1	.00	Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 25	.38	Oct 1	.00	Oct 1 1930
INSTANTANEOUS PEAK FLOW			7200	Feb 3	7200	Feb 3 1998
INSTANTANEOUS PEAK STAGE			13.40	Feb 3	13.60	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	24470		59010		15340	
10 PERCENT EXCEEDS	54		190		35	
50 PERCENT EXCEEDS	1.7		11		.40	
90 PERCENT EXCEEDS	.35		.58		.00	

11166000 MATADERO CREEK AT PALO ALTO, CA

LOCATION.—Lat 37°25'18", long 122°08'04", in Rincon de San Francisquito Grant, Santa Clara County, Hydrologic Unit 18050003, on right bank on Ash Street 150 ft upstream from Lambert Avenue Bridge and 2.1 mi southeast of Palo Alto Post Office.

DRAINAGE AREA.—7.26 mi^2.

PERIOD OF RECORD.—July 1952 to April 1991, June 1992 to current year.

REVISED RECORDS.—WDR CA-80-2: 1971, 1973–74, 1978, 1971–75(P). WDR CA-82-2: 1973–74(P), 1978(P).

GAGE.—Water-stage recorder. Datum of gage is 17.01 ft above sea level. Prior to Sept. 25, 1958, at site 150 ft downstream at different datum. Prior to Apr. 9, 1991, at same site, different datum.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,560 ft^3/s, Feb. 2, 1998, gage height, 10.00 ft, from rating curve extended above 300 ft^3/s on basis of step-backwater computation; no flow at times.

EXTREMES FOR 1997 WATER YEAR (NOT PREVIOUSLY PUBLISHED).—

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0645	345	4.83	Jan. 2	0715	504	5.36
Dec. 21	0545	260	4.53	Jan. 25	0545	633	5.74

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	0030	302	4.68	Feb. 2	2400	2,560	10.00
Nov. 30	0045	252	4.50	Feb. 7	1200	950	6.60
Jan. 12	1415	252	4.50	Feb. 14	0545	203	4.32
Jan. 18	1500	619	5.70	Feb. 21	1145	345	4.83
Jan. 29	0415	514	5.39				

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

DAILY MEAN VALUES (NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.07	.42	126	6.4	2.1	1.2	.69	.33	.34	.30	.24
2	.25	.07	.27	158	5.0	2.6	1.1	.67	.29	.32	.29	.23
3	.12	.05	.32	29	5.5	2.8	1.2	.67	1.4	.39	.29	.32
4	.09	.04	.98	14	7.4	2.3	1.1	.58	.92	.35	.24	.17
5	.08	.07	18	13	4.4	2.2	1.1	.48	.43	.31	.30	.24
6	.07	.16	3.3	5.0	3.5	2.1	1.1	.54	.33	.33	.38	.23
7	.14	.13	.71	5.2	3.2	1.9	1.1	.47	.31	.29	.31	.22
8	.10	.09	.53	5.0	3.0	2.0	1.0	.52	.42	.33	.20	.21
9	.09	.09	5.3	2.3	2.9	1.9	.92	.50	.33	.34	.35	.22
10	.07	.09	97	1.9	2.8	2.1	1.0	.46	.27	.40	.39	.27
11	.07	.13	6.6	1.8	2.7	2.4	.84	.48	.30	.32	.35	.20
12	.07	.09	5.4	5.4	2.6	2.1	1.1	.50	.32	.37	.30	.21
13	.08	.05	1.9	2.1	2.5	1.7	.84	.42	.28	.39	.39	.20
14	.15	.06	.94	5.0	2.4	1.8	.84	.26	.31	.36	.29	.22
15	.12	.09	.73	13	2.4	1.6	.84	.38	.29	.36	.27	.22
16	.13	9.0	.64	2.8	2.4	2.3	.76	.40	.37	.32	.24	.27
17	.07	43	.61	2.0	4.3	1.5	.85	.35	.35	.33	.21	.30
18	.11	2.3	.52	1.7	2.4	1.6	1.0	.38	.38	.35	.21	.30
19	.04	4.2	.49	1.6	2.3	1.6	3.4	.39	.44	.38	3.7	.29
20	.04	.78	.47	33	2.4	1.7	.91	.33	.64	.34	5.0	.30
21	.10	1.3	103	15	2.4	1.7	.93	.31	.45	.32	.40	.30
22	.08	5.0	39	147	2.4	1.7	.89	.35	.44	.33	.29	.28
23	.03	.78	7.2	41	2.3	1.8	.84	9.7	.34	.35	.27	.29
24	.05	.49	2.7	57	2.1	1.6	.79	.69	.33	.30	.29	.30
25	.04	.36	2.0	160	2.3	1.5	.77	.47	.32	.31	.25	.25
26	.06	.44	4.0	73	2.4	1.3	.73	.45	.38	.34	.29	.24
27	.05	.33	3.1	17	2.4	1.3	.70	.43	.46	.30	.29	.25
28	.08	.21	1.8	12	2.2	1.2	.86	.42	.40	.27	.25	.43
29	1.8	.19	15	10	---	1.2	.74	.40	.38	.32	.24	.22
30	1.1	.18	13	8.9	---	1.2	.67	.41	.33	.29	.23	.25
31	.25	---	6.7	7.6	---	1.2	---	.39	---	.28	.28	---
TOTAL	5.79	69.84	342.63	976.3	89.0	56.0	30.12	23.49	12.54	10.33	17.09	7.67
MEAN	.19	2.33	11.1	31.5	3.18	1.81	1.00	.76	.42	.33	.55	.26
MAX	1.8	43	103	160	7.4	2.8	3.4	9.7	1.4	.40	5.0	.43
MIN	.03	.04	.27	1.6	2.1	1.2	.67	.26	.27	.27	.20	.17
AC-FT	11	139	680	1940	177	111	60	47	25	20	34	15

11166000 MATADERO CREEK AT PALO ALTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.41	1.50	3.57	8.46	7.25	5.45	2.07	.50	.24	.15	.15	.16
MAX	2.95	9.82	24.3	32.3	38.2	37.8	25.2	4.39	1.90	.66	.70	.66
(WY)	1973	1973	1956	1983	1973	1983	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.016	.014	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1954	1954	1964	1959	1954	1953	1953	1953	1953	1953

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1953 - 1997	
ANNUAL TOTAL	1695.75		1640.80			
ANNUAL MEAN	4.63		4.50		2.50	
HIGHEST ANNUAL MEAN					10.9	1983
LOWEST ANNUAL MEAN					.062	1954
HIGHEST DAILY MEAN	132	Feb 4	160	Jan 25	363	Jan 10 1995
LOWEST DAILY MEAN	.02	Aug 13	.03	Oct 23	.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	.05	Jul 21	.05	Oct 19	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			633	Jan 25	1500	Jan 24 1983
INSTANTANEOUS PEAK STAGE			5.74	Jan 25	9.88	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	3360		3250		1810	
10 PERCENT EXCEEDS	8.5		5.2		3.0	
50 PERCENT EXCEEDS	.53		.44		.14	
90 PERCENT EXCEEDS	.06		.13		.00	

11166000 MATADERO CREEK AT PALO ALTO, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.38	2.7	.98	33	11	6.0	4.5	1.7	.96	.51	.46
2	.55	.40	1.5	20	331	10	3.6	3.9	1.6	1.0	.45	.40
3	.28	.37	1.2	3.8	437	9.7	21	3.7	1.6	1.1	.41	.50
4	.24	.35	1.2	28	39	9.2	12	9.9	1.6	.92	.50	.48
5	.25	.42	4.9	5.3	21	13	5.4	14	1.5	.90	.48	.47
6	.21	.40	1.2	7.7	254	11	6.0	3.4	1.4	.84	.48	.42
7	.23	.38	36	5.2	256	9.5	4.8	2.9	1.5	.78	.49	.37
8	.32	.36	25	2.6	141	8.0	3.7	2.7	1.4	.78	.49	.38
9	6.6	.39	4.0	10	40	6.3	3.6	2.5	1.4	.78	.52	.50
10	1.2	4.8	2.1	11	24	6.1	3.5	2.3	1.2	.71	.45	.39
11	.50	1.7	1.6	10	19	5.5	6.3	2.9	1.3	.69	.48	.47
12	.43	.70	1.3	103	21	5.7	4.0	7.5	1.4	.68	.44	.46
13	.37	4.6	1.3	18	16	43	16	4.9	1.2	.63	.49	.43
14	.37	3.3	28	11	63	9.9	5.8	2.4	1.2	.63	.50	.41
15	.44	16	5.1	55	23	6.8	3.8	2.4	1.4	.86	.50	.44
16	.35	19	2.5	17	29	5.8	3.4	2.6	1.1	1.1	.52	.50
17	.35	1.1	2.1	8.7	22	5.3	3.2	2.1	.97	1.0	.44	.46
18	.41	1.2	2.0	122	16	4.7	3.0	2.6	.96	.69	.49	.43
19	.43	1.9	1.4	43	81	4.2	2.9	3.0	.98	.65	.46	.42
20	.36	1.3	1.3	16	25	4.5	3.0	3.5	.96	.57	.52	.34
21	.38	.60	1.2	9.5	112	5.0	3.2	3.7	.94	.64	.57	.34
22	.43	1.0	1.0	5.2	35	4.5	3.2	4.4	.92	.69	.65	.31
23	.48	.78	1.0	3.8	65	13	3.0	4.6	.89	.59	.59	.41
24	.44	2.6	1.0	3.0	20	9.3	3.2	4.6	.94	.67	.78	.37
25	.32	6.9	1.1	2.6	15	11	3.4	4.6	.94	.60	.75	.48
26	.35	82	.97	3.9	14	5.4	3.5	4.4	.91	.65	.73	.62
27	.31	14	.92	23	13	5.0	3.7	5.5	.85	.53	.52	.53
28	.38	1.7	.92	5.2	11	6.9	4.3	14	.82	.53	.59	.50
29	.43	11	.96	149	---	4.3	4.2	7.2	.76	.69	.57	.47
30	.41	41	1.0	17	---	3.7	4.8	2.2	.84	.60	.54	.51
31	.42	---	1.0	12	---	11	---	1.8	---	.61	.50	---
TOTAL	18.58	220.63	137.47	732.48	2176	268.3	157.5	140.7	35.18	23.07	16.41	13.27
MEAN	.60	7.35	4.43	23.6	77.7	8.65	5.25	4.54	1.17	.74	.53	.44
MAX	6.6	82	36	149	437	43	21	14	1.7	1.1	.78	.62
MIN	.21	.35	.92	.98	11	3.7	2.9	1.8	.76	.53	.41	.31
AC-FT	37	438	273	1450	4320	532	312	279	70	46	33	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.41	1.63	3.58	8.80	8.80	5.52	2.14	.60	.26	.16	.15	.16
MAX	2.95	9.82	24.3	32.3	77.7	37.8	25.2	4.54	1.90	.74	.70	.66
(WY)	1973	1973	1956	1983	1998	1983	1958	1998	1983	1998	1983	1983
MIN	.000	.000	.000	.016	.014	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1954	1954	1964	1959	1954	1953	1953	1953	1953	1953

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1953 - 1998	
ANNUAL TOTAL	1599.22		3939.59			
ANNUAL MEAN	4.38		10.8		2.69	
HIGHEST ANNUAL MEAN					10.9	1983
LOWEST ANNUAL MEAN					.062	1954
HIGHEST DAILY MEAN	160	Jan 25	437	Feb 3	437	Feb 3 1998
LOWEST DAILY MEAN	.17	Sep 4	.21	Oct 6	.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	.22	Sep 7	.30	Oct 2	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			2560	Feb 2	2560	Feb 2 1998
INSTANTANEOUS PEAK STAGE			10.00	Feb 2	10.00	Feb 2 1998
ANNUAL RUNOFF (AC-FT)	3170		7810		1950	
10 PERCENT EXCEEDS	5.0		19		3.3	
50 PERCENT EXCEEDS	.64		1.5		.14	
90 PERCENT EXCEEDS	.27		.41		.00	

11169000 GUADALUPE RIVER AT SAN JOSE, CA

LOCATION.—Lat 37°20'04", long 121°53'54", Santa Clara County, Hydrologic Unit 18050003, on right bank 150 ft upstream from St. John Street Bridge, one block below Santa Clara Avenue, and 100 ft downstream from Los Gatos Creek.

DRAINAGE AREA.—146 mi^2.

PERIOD OF RECORD.—October 1929 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to 1945, published as Guadalupe Creek at San Jose.
CHEMICAL DATA: Water years 1979–91.
SEDIMENT DATA: Water years 1985–89.

REVISED RECORDS.—WSP 1315-B: 1943(M), 1945(M), 1949(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 72.00 ft above sea level.

REMARKS.—Records good. Flow regulated by Lexington Reservoir 12 mi upstream and by Calero, Almaden, and Guadalupe Reservoirs, and Lake Elsman (combined usable capacity, about 42,000 acre-ft), with water released during summer for percolation in spreading basins on tributaries. Diversions into the above impoundments come from San Luis Reservoir (part of the San Felipe Project), from the South Bay Aqueduct, and from the Hetch Hetchy Aqueduct. There are also upstream diversions by the San Jose Water Works for urban use.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,000 ft^3/s, Mar. 10, 1995, gage height, 17.4 ft, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement of peak flow; no flow several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	8.0	36	10	239	701	144	67	115	22	26	17
2	21	7.3	27	51	1540	668	146	87	112	22	26	16
3	12	8.7	23	33	3010	531	322	104	110	21	26	21
4	9.4	8.8	20	344	816	283	235	92	107	21	27	21
5	8.6	8.4	102	54	478	195	243	98	85	20	28	19
6	8.1	8.2	31	64	2550	209	246	83	62	19	26	16
7	10	12	250	70	2610	176	210	73	53	21	25	16
8	9.1	13	199	25	1730	172	205	66	50	20	26	16
9	89	14	46	87	1600	192	198	67	46	22	26	21
10	52	37	27	82	1150	160	198	64	42	22	26	17
11	27	40	22	32	878	136	292	70	41	22	22	24
12	12	20	20	412	908	116	217	126	32	21	21	23
13	8.8	69	16	140	769	549	456	165	27	22	19	18
14	8.2	67	149	91	754	145	219	82	26	20	19	18
15	9.7	252	27	149	868	123	198	81	26	25	19	17
16	9.8	156	18	47	903	139	173	80	25	31	19	17
17	9.0	31	15	36	791	128	147	77	24	28	22	15
18	8.1	25	18	393	720	121	135	51	26	26	21	15
19	7.4	34	15	221	1040	146	132	49	26	25	20	14
20	6.8	19	12	72	765	244	131	47	27	25	30	13
21	7.6	16	11	64	1530	188	130	42	29	24	26	14
22	7.6	11	14	53	1050	100	125	37	27	29	23	16
23	7.3	9.7	23	40	959	106	109	32	24	32	20	16
24	7.2	8.8	12	36	1170	219	110	36	24	32	19	15
25	5.7	31	24	34	1010	172	102	50	24	30	19	15
26	8.0	893	19	32	890	362	100	47	23	29	20	17
27	8.8	115	10	30	866	359	97	44	23	28	20	20
28	9.9	31	9.0	29	808	334	82	192	23	29	19	22
29	8.6	23	12	470	---	265	74	269	23	28	18	16
30	7.2	390	17	74	---	167	70	167	23	26	18	15
31	8.3	---	16	52	---	184	---	142	---	27	17	---
TOTAL	421.7	2366.9	1240.0	3327	32402	7590	5246	2687	1305	769	693	520
MEAN	13.6	78.9	40.0	107	1157	245	175	86.7	43.5	24.8	22.4	17.3
MAX	89	893	250	470	3010	701	456	269	115	32	30	24
MIN	5.7	7.3	9.0	10	239	100	70	32	23	19	17	13
AC-FT	836	4690	2460	6600	64270	15050	10410	5330	2590	1530	1370	1030

11169000 GUADALUPE RIVER AT SAN JOSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.13	15.3	40.2	104	163	137	66.3	11.4	3.97	3.26	3.03	3.19
MAX	129	123	311	998	1157	1165	847	219	43.5	24.8	22.4	31.0
(WY)	1963	1984	1932	1997	1998	1983	1982	1983	1998	1998	1998	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1931	1930	1931	1930	1930	1930	1930	1930	1930

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1930 - 1998		
ANNUAL TOTAL	43919.7		58567.6				
ANNUAL MEAN	120		160		45.8		
HIGHEST ANNUAL MEAN					270		1983
LOWEST ANNUAL MEAN					.000		1931
HIGHEST DAILY MEAN	3450	Jan 26	3010	Feb 3	7870	Mar 10	1995
LOWEST DAILY MEAN	5.7	Oct 25	5.7	Oct 25	.00	Oct 1	1929
ANNUAL SEVEN-DAY MINIMUM	7.1	Oct 19	7.1	Oct 19	.00	Oct 1	1929
INSTANTANEOUS PEAK FLOW			7510	Feb 3	11000	Mar 10	1995
INSTANTANEOUS PEAK STAGE			12.59	Feb 3	17.40	Mar 10	1995
ANNUAL RUNOFF (AC-FT)	87110		116200		33200		
10 PERCENT EXCEEDS	220		391		55		
50 PERCENT EXCEEDS	19		31		.56		
90 PERCENT EXCEEDS	9.4		11		.00		

11169500 SARATOGA CREEK AT SARATOGA, CA

LOCATION.—Lat 37°15'16", long 122°02'18", in Quito Grant, Santa Clara County, Hydrologic Unit 18050003, on right bank on upstream side of private road bridge, 0.5 mi southwest of Saratoga, and 0.7 mi downstream from diversion dam.

DRAINAGE AREA.—9.22 mi^2.

PERIOD OF RECORD.—October 1933 to current year. Prior to October 1951, published as Campbell Creek at Saratoga.
CHEMICAL DATA: Water years 1972 to December 1972.

REVISED RECORDS.—WSP 1445: 1940, 1952(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 500 ft above sea level, from topographic map. Prior to Dec. 6, 1968, at site 40 ft downstream at different datum.

REMARKS.—Records poor. Water is diverted for municipal use by San Jose Water Works at diversion dam upstream from station. Low flows partially regulated by Lake McKenzie 8 mi upstream, usable capacity, 184 acre-ft.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,730 ft^3/s, Dec. 22, 1955, from rating curve extended above 510 ft^3/s on basis of slope-area measurement of peak flow, site and datum then in use. Maximum gage height, 7.80 ft Feb. 3, 1998; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 110 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1415	334	4.34	Feb. 3	0045	2,210	7.80
Jan. 15	1400	186	3.86	Feb. 7	1345	879	5.58
Jan. 18	1530	159	3.74	Feb. 21	1245	352	4.39
Jan. 29	0100	123	3.56				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	.96	1.7	.74	70	46	23	10	14	e2.5	1.5	1.1
2	.89	1.0	.54	5.7	400	42	17	9.1	12	2.5	1.1	1.5
3	.87	1.0	.74	3.1	699	40	36	8.5	10	2.8	1.1	2.4
4	.86	.97	.42	31	239	37	41	8.1	12	3.0	1.6	2.4
5	.86	.83	2.0	10	171	40	37	10	13	3.2	2.5	2.9
6	.85	.94	.57	6.0	283	35	30	9.8	11	3.0	1.6	2.8
7	.81	.88	42	6.0	404	34	27	9.1	11	3.0	1.5	2.9
8	.77	.87	22	4.1	275	28	25	8.4	11	2.3	1.6	2.7
9	1.9	.90	6.0	10	163	29	25	7.4	10	4.0	1.6	2.7
10	1.3	1.5	3.0	23	132	26	23	6.3	9.2	3.2	1.3	2.9
11	1.2	1.7	1.9	30	101	24	23	6.2	8.7	2.4	2.1	2.9
12	1.0	1.3	.88	158	73	22	21	11	7.9	1.9	2.9	2.8
13	.92	2.0	1.2	90	61	40	32	9.2	6.9	2.5	1.6	2.6
14	.84	1.9	22	55	84	26	22	6.1	6.3	4.4	3.1	2.5
15	.82	6.9	8.6	107	71	24	18	5.9	4.9	2.3	2.1	2.6
16	.85	5.6	4.3	88	78	23	17	5.1	5.2	2.9	1.7	2.4
17	.86	2.1	2.5	64	75	21	13	5.3	4.3	2.6	1.6	2.3
18	.97	1.5	1.7	90	59	20	12	4.9	3.7	1.6	1.6	2.2
19	.86	3.2	1.1	99	78	18	11	5.2	2.8	2.7	1.5	2.3
20	.93	1.2	1.2	74	66	14	8.5	4.9	3.1	2.7	1.5	2.3
21	.94	.34	.87	59	147	13	8.8	4.5	3.4	1.9	1.2	2.3
22	.94	.30	1.0	48	152	11	9.0	4.4	3.1	1.8	1.3	2.3
23	.94	.54	1.0	43	147	25	11	4.1	e3.0	2.6	1.3	2.3
24	.93	.44	.96	29	105	42	12	4.1	e2.9	2.1	1.4	2.3
25	.87	.84	.85	22	81	27	10	3.7	e2.8	1.8	1.3	2.3
26	.88	41	.87	22	67	22	8.2	3.8	e2.8	2.1	1.7	2.5
27	.88	7.1	.79	38	58	21	7.3	5.1	e2.7	1.2	1.8	2.5
28	.87	.86	.80	23	52	23	7.7	40	e2.6	.89	1.8	2.4
29	.80	.85	.79	94	---	22	6.0	32	e2.6	1.2	1.6	2.3
30	.82	18	.99	64	---	19	5.5	22	e2.6	1.2	1.4	2.2
31	.89	---	.80	54	---	26	---	17	---	1.1	1.5	---
TOTAL	28.99	107.52	134.07	1450.64	4391	840	547.0	291.2	195.5	73.39	51.4	72.6
MEAN	.94	3.58	4.32	46.8	157	27.1	18.2	9.39	6.52	2.37	1.66	2.42
MAX	1.9	41	42	158	699	46	41	40	14	4.4	3.1	2.9
MIN	.77	.30	.42	.74	52	11	5.5	3.7	2.6	.89	1.1	1.1
AC-FT	58	213	266	2880	8710	1670	1080	578	388	146	102	144

e Estimated.

11169500 SARATOGA CREEK AT SARATOGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.89	2.73	9.30	23.2	31.2	23.4	13.7	3.92	1.37	.57	.37	.39
MAX	17.5	25.5	83.2	104	157	114	131	35.7	6.97	2.95	1.66	2.42
(WY)	1963	1951	1956	1997	1998	1983	1982	1983	1941	1941	1998	1998
MIN	.000	.037	.25	.31	.086	.32	.24	.065	.000	.000	.000	.000
(WY)	1950	1949	1957	1976	1964	1972	1972	1959	1950	1947	1934	1934

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1934 - 1998		
ANNUAL TOTAL	4482.21		8183.31				
ANNUAL MEAN	12.3		22.4		9.14		
HIGHEST ANNUAL MEAN					32.5		1983
LOWEST ANNUAL MEAN					.54		1977
HIGHEST DAILY MEAN	618	Jan 1	699	Feb 3	1260	Feb 27	1940
LOWEST DAILY MEAN	.20	Sep 22	.30	Nov 22	.00	Oct 1	1933
ANNUAL SEVEN-DAY MINIMUM	.22	Sep 18	.83	Dec 26	.00	Oct 1	1933
INSTANTANEOUS PEAK FLOW			2210	Feb 3	2730	Dec 22	1955
INSTANTANEOUS PEAK STAGE			7.80	Feb 3	7.80	Feb 3	1998
ANNUAL RUNOFF (AC-FT)	8890		16230		6620		
10 PERCENT EXCEEDS	22		59		20		
50 PERCENT EXCEEDS	1.5		3.2		.87		
90 PERCENT EXCEEDS	.44		.87		.00		

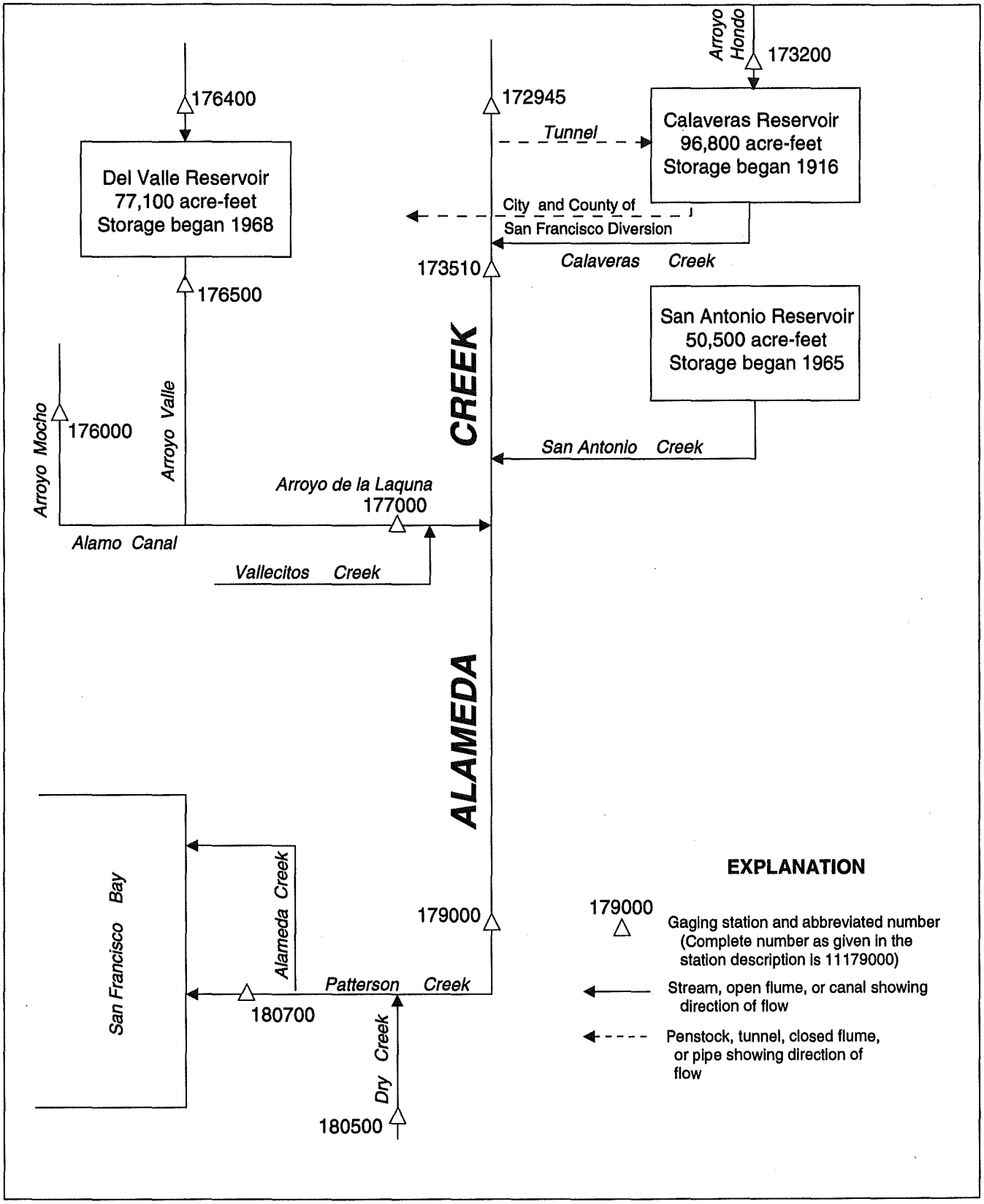


Figure 20. Diversions and storage in Alameda Creek Basin.

11172945 ALAMEDA CREEK ABOVE DIVERSION DAM, NEAR SUNOL, CA

LOCATION.—Lat 37°29'51", long 121°46'21", in SE 1/4 NE 1/4 sec.17, T.5 S., R.2 E., Alameda County, Hydrologic Unit 18050004, on right bank 700 ft upstream from diversion dam, and 9.3 mi southeast of Sunol.

DRAINAGE AREA.—33.3 mi^2

PERIOD OF RECORD.—October 1994 to current year.

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

REMARKS.—Records fair including estimated daily discharges. No regulation or diversion upstream from gage. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,390 ft^3/s, Jan. 9, 1995, gage height, 7.96 ft from rating curve extended above 100 ft^3/s on basis of flow over dam computation; no flow several days in 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 (revised) ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1545	1,360	5.48	Feb. 3	0300	2,800	7.36
Jan. 15	1245	1,310	5.40	Feb. 7	1615	1,270	5.34

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.18	12	3.6	80	62	75	23	14	5.8	2.6	1.4
2	.20	.18	6.1	3.7	387	55	60	24	13	5.8	2.4	1.3
3	.21	.18	4.1	3.9	1120	50	72	32	13	5.7	2.3	1.3
4	.22	.17	3.4	113	385	46	77	26	13	5.5	2.1	1.3
5	.22	.15	3.6	36	218	46	65	24	12	4.9	2.0	1.4
6	.18	.17	11	18	666	59	65	23	12	4.5	2.0	1.4
7	.19	.20	124	30	e900	45	84	22	13	4.3	2.0	1.3
8	.19	.21	170	23	679	49	69	20	13	4.3	1.9	1.4
9	.30	.22	43	17	333	43	62	19	12	4.3	1.9	1.5
10	.27	.26	20	87	188	40	58	18	12	4.2	1.9	1.5
11	.24	.51	14	124	121	39	61	18	11	4.1	1.8	1.3
12	.22	.31	11	621	156	39	55	23	11	4.0	1.8	1.2
13	.20	.31	8.8	264	144	48	120	26	10	3.8	1.8	.95
14	.20	.31	13	145	369	43	91	23	9.6	3.7	1.8	.92
15	.18	.45	24	637	274	37	73	22	8.9	3.5	1.7	1.1
16	.15	.42	13	378	169	36	64	20	8.5	3.5	1.8	.89
17	.15	.35	9.7	166	151	34	56	19	7.8	3.3	1.8	.84
18	.15	.31	8.1	358	91	32	51	17	7.5	3.2	1.8	1.1
19	.15	.44	7.0	461	236	30	47	16	7.2	3.1	1.8	.87
20	.18	.38	6.3	214	184	30	43	15	7.2	3.0	1.7	.87
21	.19	.37	5.8	114	387	28	39	15	7.0	3.0	1.7	1.1
22	.19	.36	5.3	80	323	26	37	15	7.1	3.0	1.7	1.1
23	.18	.37	4.9	64	360	28	36	14	7.2	3.0	1.6	1.2
24	.17	.40	4.6	52	228	146	36	14	7.0	3.0	1.6	1.2
25	.17	.51	4.5	44	148	81	32	14	7.0	3.0	1.6	1.3
26	.15	34	4.3	37	104	67	28	13	6.8	2.9	1.6	1.4
27	.15	36	4.0	35	83	58	27	13	6.4	2.8	1.6	1.4
28	.16	11	3.8	31	71	86	26	20	6.2	2.8	1.5	1.4
29	.17	5.5	3.8	263	---	68	24	23	6.1	2.8	1.5	1.4
30	.16	20	3.8	113	---	57	23	18	5.8	e3.1	1.4	1.4
31	.39	---	3.6	77	---	69	---	15	---	2.7	1.4	---
TOTAL	6.04	114.22	560.5	4613.2	8555	1577	1656	604	282.3	116.6	56.1	36.74
MEAN	.19	3.81	18.1	149	306	50.9	55.2	19.5	9.41	3.76	1.81	1.22
MAX	.39	36	170	637	1120	146	120	32	14	5.8	2.6	1.5
MIN	.15	.15	3.4	3.6	71	26	23	13	5.8	2.7	1.4	.84
AC-FT	12	227	1110	9150	16970	3130	3280	1200	560	231	111	73

e Estimated.

11172945 ALAMEDA CREEK ABOVE DIVERSION DAM, NEAR SUNOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MEAN	.19	6.89	40.9	195	151	99.8	24.8	14.4	5.81	2.05	.79	.49
MAX	.45	22.7	125	237	306	211	55.2	27.3	9.79	3.76	1.81	1.22
(WY)	1997	1997	1997	1997	1998	1995	1998	1995	1995	1998	1998	1998
MIN	.009	.17	6.76	149	16.7	10.7	5.58	2.76	1.30	.54	.28	.16
(WY)	1995	1996	1995	1998	1995	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	9438.76		18177.70			
ANNUAL MEAN	25.9		49.8		44.7	
HIGHEST ANNUAL MEAN					49.8	1998
LOWEST ANNUAL MEAN					36.5	1997
HIGHEST DAILY MEAN	868	Jan 2	1120	Feb 3	1200	Jan 10 1995
LOWEST DAILY MEAN	.14	Sep 5	.15	Oct 16	.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	.14	Sep 23	.16	Oct 24	.00	Oct 13 1994
INSTANTANEOUS PEAK FLOW			2800	Feb 3	3390	Jan 9 1995
INSTANTANEOUS PEAK STAGE			7.36	Feb 3	7.96	Jan 9 1995
ANNUAL RUNOFF (AC-FT)	18720		36060		32410	
10 PERCENT EXCEEDS	35		122		111	
50 PERCENT EXCEEDS	2.1		7.8		4.3	
90 PERCENT EXCEEDS	.17		.23		.18	

11173200 ARROYO HONDO NEAR SAN JOSE, CA

LOCATION.—Lat 37°27'42", long 121°46'06", in NE 1/4 NE 1/4 sec.32, T.5 S., R.2 E., Santa Clara County, Hydrologic Unit 18050004, on right bank 150 ft upstream from road bridge, 3.5 mi southeast of Calaveras Dam, 3.5 mi northeast of city limits of San Jose.

DRAINAGE AREA.—77.1 mi^2.

PERIOD OF RECORD.—October 1968 to September 1981, October 1994 to current year.

GAGE.—Water-stage recorder. Datum of gage is 783.86 ft above sea level.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,340 ft^3/s, Feb. 3, 1998, gage height, 15.85 ft; minimum daily, 0.11 ft^3/s, July 28–30, 1972.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 800 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1745	4,320	12.76	Feb. 6	1930	3,640	12.14
Jan. 15	1530	3,520	11.96	Feb. 14	2015	1,480	9.03
Feb. 3	0500	7,340	15.85	Feb. 21	1800	2,370	10.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.5	33	7.1	204	176	245	e68	44	17	10	3.6
2	1.8	1.5	20	7.8	914	153	178	e89	41	18	9.1	3.5
3	1.8	1.6	14	9.4	3410	136	222	e79	40	18	8.7	3.4
4	1.8	1.6	11	215	1050	121	265	e70	38	18	8.4	3.2
5	1.7	1.6	21	112	573	117	217	e61	36	17	7.6	3.3
6	1.7	1.7	60	57	1620	157	188	e56	35	16	7.3	3.6
7	1.9	1.7	174	69	2100	119	212	e53	35	15	7.0	3.6
8	1.9	1.7	267	65	1860	127	172	e50	35	15	6.7	3.6
9	2.2	1.7	110	49	1080	110	150	e47	33	15	6.5	3.9
10	2.3	1.9	52	260	664	99	136	e41	32	14	6.6	4.0
11	2.2	2.2	32	333	482	91	138	e55	31	14	6.6	4.2
12	2.4	2.1	23	1490	470	88	128	67	29	14	6.2	4.1
13	2.4	3.1	18	630	521	102	257	79	28	13	6.0	3.8
14	2.7	3.6	20	265	785	96	263	72	26	12	5.8	3.6
15	2.7	5.3	44	1440	880	85	215	64	26	12	5.5	3.6
16	2.6	7.2	32	795	649	81	171	59	24	11	5.5	3.5
17	2.0	6.6	23	344	681	78	145	54	23	11	5.5	3.5
18	1.9	5.1	19	444	454	75	125	50	23	11	5.8	3.5
19	1.8	4.4	16	710	689	69	111	44	21	10	6.1	3.5
20	1.7	4.2	14	350	717	67	100	43	21	10	6.1	3.6
21	1.7	3.9	13	229	1050	64	90	41	21	e10	5.8	3.6
22	1.6	3.6	11	169	1020	61	84	39	20	e10	5.5	3.8
23	1.5	3.6	10	134	980	65	81	38	20	e10	5.3	4.2
24	1.5	3.8	9.2	110	735	538	79	36	20	e10	4.8	4.4
25	1.6	4.4	8.6	92	470	391	73	36	20	e10	4.9	4.5
26	1.5	70	8.1	80	337	351	67	36	19	e9.7	4.8	4.8
27	1.5	90	7.8	75	262	245	63	36	18	e9.3	4.4	5.2
28	1.5	36	7.5	69	209	266	e60	54	18	e8.8	4.4	5.6
29	1.5	19	7.2	435	---	221	e57	78	17	e11	4.1	5.5
30	1.5	28	7.2	271	---	175	e53	60	17	e13	4.0	5.2
31	1.5	---	7.2	196	---	191	---	49	---	e11	3.8	---
TOTAL	58.1	322.6	1099.8	9512.3	24866	4715	4345	1704	811	393.8	188.8	119.4
MEAN	1.87	10.8	35.5	307	888	152	145	55.0	27.0	12.7	6.09	3.98
MAX	2.7	90	267	1490	3410	538	265	89	44	18	10	5.6
MIN	1.5	1.5	7.2	7.1	204	61	53	36	17	8.8	3.8	3.2
AC-FT	115	640	2180	18870	49320	9350	8620	3380	1610	781	374	237

e Estimated.

11173200 ARROYO HONDO NEAR SAN JOSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.52	14.5	55.5	206	223	145	50.8	16.1	7.15	3.10	1.53	1.22
MAX	3.73	69.4	312	595	888	523	178	55.0	27.0	12.7	6.09	3.98
(WY)	1974	1973	1997	1997	1998	1995	1974	1998	1998	1998	1998	1998
MIN	.24	.67	1.42	3.35	2.98	5.58	2.93	1.67	.74	.33	.18	.25
(WY)	1978	1978	1977	1976	1977	1977	1977	1976	1976	1977	1972	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1969 - 1998		
ANNUAL TOTAL	23508.8		48135.8				
ANNUAL MEAN	64.4		132		59.7		
HIGHEST ANNUAL MEAN					132		1998
LOWEST ANNUAL MEAN					2.12		1977
HIGHEST DAILY MEAN	2410	Jan 2	3410	Feb 3	3580	Jan 10	1995
LOWEST DAILY MEAN	1.0	Aug 15	1.5	Oct 23	.11	Jul 28	1972
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 11	1.5	Oct 26	.13	Jul 27	1972
INSTANTANEOUS PEAK FLOW			7340	Feb 3	7340	Feb 3	1998
INSTANTANEOUS PEAK STAGE			15.85	Feb 3	15.85	Feb 3	1998
ANNUAL RUNOFF (AC-FT)	46630		95480		43270		
10 PERCENT EXCEEDS	91		340		127		
50 PERCENT EXCEEDS	6.5		21		4.6		
90 PERCENT EXCEEDS	1.5		2.2		.68		

11173510 ALAMEDA CREEK BELOW CALAVERAS CREEK, NEAR SUNOL, CA

LOCATION.—Lat 37°30'13", long 121°49'25", in NE 1/4 NE 1/4 sec.13, T.5 S., R.1 E., Alameda County, Hydrologic Unit 18050004, on right bank 0.2 mi downstream from Calaveras Creek, 1.1 mi downstream from Calaveras Dam, and 7.3 mi southeast of Sunol.

DRAINAGE AREA.—135 mi^2

PERIOD OF RECORD.—October 1995 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 430 ft above sea level, from topographic map.

REMARKS.—Records good. No records computed above 200 ft^3/s. Flow regulated by Calaveras Reservoir, capacity 100,000 acre-ft, 1.1 mi upstream from gage and by diversion dam on Alameda Creek, 2.9 mi upstream. Flow is diverted out of basin from Calaveras Reservoir by city and county of San Francisco for domestic use. See schematic diagram of Alameda Creek Basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.39	11	4.0	190	---	---	47	35	5.5	2.1	1.1
2	.31	.41	5.2	4.6	---	---	187	46	31	5.5	2.1	1.1
3	.31	.42	3.1	4.6	---	194	200	44	29	5.5	2.1	1.0
4	.31	.42	2.3	93	---	154	---	49	28	5.4	2.0	.99
5	.30	.34	1.9	40	---	137	---	56	27	5.1	2.0	.93
6	.30	.24	6.8	21	---	168	187	56	26	4.9	1.9	.91
7	.31	.24	104	30	---	148	---	53	26	4.6	2.1	1.4
8	.30	.24	159	25	---	154	174	50	23	4.5	3.5	2.3
9	.39	.24	46	19	---	139	150	45	13	4.3	6.8	2.3
10	.33	.27	20	74	---	124	127	42	11	4.1	7.5	2.3
11	.35	.38	14	126	---	114	114	41	11	3.9	1.3	2.3
12	.42	.27	10	---	---	107	101	49	10	4.0	1.3	1.8
13	.43	.27	8.7	---	---	142	179	62	9.9	4.0	1.3	1.2
14	.42	.27	16	115	---	116	196	65	9.2	3.9	1.4	1.2
15	.42	.40	27	---	---	90	180	60	8.4	3.8	1.3	1.3
16	.41	.34	15	---	---	76	156	55	8.1	3.7	1.3	1.3
17	.41	.28	12	---	---	64	126	50	7.6	3.6	1.3	1.3
18	.38	.28	9.9	---	---	54	99	38	7.3	2.9	1.3	1.3
19	.34	.37	8.0	---	---	45	82	35	7.2	2.3	1.3	1.3
20	.34	.33	7.0	---	---	40	70	31	7.1	2.2	1.3	1.4
21	.34	.32	6.2	167	---	38	53	31	7.1	2.2	1.3	1.4
22	.34	.33	5.5	---	---	34	58	30	7.3	2.2	1.3	1.3
23	.33	.35	5.0	---	---	36	72	26	7.2	2.1	1.2	1.3
24	.35	.36	4.7	---	---	---	70	22	7.3	2.1	1.2	1.3
25	.39	.41	4.3	---	---	---	63	19	7.2	2.2	1.1	1.3
26	.41	15	4.0	---	---	---	58	15	6.9	2.2	1.1	1.2
27	.40	27	3.8	157	---	---	54	16	6.3	2.1	1.2	.46
28	.40	9.0	4.0	153	---	---	53	30	6.2	2.1	1.3	.45
29	.40	4.1	4.3	---	---	---	49	42	6.0	2.2	1.2	.45
30	.40	16	4.2	---	---	197	50	40	5.7	2.3	1.2	.46
31	.39	---	4.1	190	---	187	---	38	---	2.3	1.1	---
TOTAL	11.23	79.27	537.0	---	---	---	---	1283	402.0	107.7	58.4	38.35
MEAN	.36	2.64	17.3	---	---	---	---	41.4	13.4	3.47	1.88	1.28
MAX	.43	27	159	---	---	---	---	65	35	5.5	7.5	2.3
MIN	.30	.24	1.9	---	---	---	---	15	5.7	2.1	1.1	.45
AC-FT	22	157	1070	---	---	---	---	2540	797	214	116	76

11176000 ARROYO MOCHO NEAR LIVERMORE, CA

LOCATION.—Lat 37°37'35", long 121°42'13", in NW 1/4 SE 1/4 sec.36, T.3 S., R.2 E., Alameda County, Hydrologic Unit 18050004, on right bank 40 ft downstream from Mines Road Bridge, 2.4 mi upstream from small right-bank tributary, and 5.2 mi southeast of Livermore.

DRAINAGE AREA.—38.2 mi^2.

PERIOD OF RECORD.—January 1912 to September 1930, October 1963 to current year. Records for water year 1914 incomplete; yearly estimate and monthly discharge only for some months, published in WSP 1315-B.

GAGE.—Water-stage recorder. Datum of gage is 746.49 ft above sea level. January 1912 to October 1914, at present site at different datum. November 1914 to Sept. 30, 1930, at site 1 mi upstream at different datum.

REMARKS.—Records fair including estimated daily discharges. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge recorded, 2,250 ft^3/s, Jan. 24, 1983, gage height, 8.80 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 10.44 ft, Feb. 19, 1986, from floodmarks; no flow for parts of most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 23, 1955, reached a discharge of 1,880 ft^3/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 90 ft^3/s, or maximum.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	2045	143	5.13	Feb. 7	1700	804	7.90
Jan. 15	0815	130	5.07	Feb. 14	1945	265	5.84
Jan. 19	0230	126	5.02	Feb. 21	1630	499	6.72
Feb. 3	0415	1,600	10.28				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.17	3.4	1.3	17	33	25	9.3	6.0	e2.3	.99	.35
2	.10	.16	2.4	1.3	137	28	19	11	5.7	e2.2	.84	.32
3	.10	.16	1.8	1.5	769	25	26	14	5.7	e2.2	.78	.29
4	.10	.16	1.5	15	255	22	29	14	5.8	e2.1	.71	.27
5	.10	.16	1.5	14	80	22	24	16	5.9	e2.1	.64	.26
6	.11	.17	4.1	7.7	347	30	23	15	5.9	e2.0	.57	.27
7	.12	.18	3.9	6.3	479	21	21	14	5.8	e2.0	.55	.28
8	.12	.18	26	5.7	447	23	18	11	5.7	e1.9	.57	.24
9	.12	.22	11	5.0	135	19	17	9.6	5.2	e1.9	.55	.26
10	.12	.25	5.4	6.7	58	17	15	8.7	5.2	e1.8	.53	.32
11	.12	.73	3.5	8.4	35	16	18	8.6	5.2	e1.8	.56	.38
12	.12	.79	2.8	29	36	15	17	11	5.1	e1.7	.54	.35
13	.13	.66	2.4	26	36	17	29	14	4.9	e1.7	.50	.31
14	.13	.58	2.6	14	118	18	27	11	4.7	e1.6	.45	.28
15	.13	.79	3.5	42	92	15	30	9.2	4.4	e1.6	.51	.26
16	.13	1.2	3.0	26	46	14	25	8.3	4.0	e1.5	.51	.26
17	.14	.97	2.5	14	53	14	21	7.5	3.6	e1.5	.56	.26
18	.15	.74	2.0	34	32	13	18	6.7	3.4	1.4	.58	.23
19	.15	.70	1.7	60	144	12	17	6.3	3.2	1.4	.61	.21
20	.15	.72	1.6	24	131	12	15	6.1	3.2	1.3	.66	.19
21	.15	.68	1.5	19	239	12	14	5.9	3.0	1.2	.69	.19
22	.16	.64	1.4	14	242	12	13	5.7	3.0	1.3	.62	.20
23	.16	.62	1.4	11	256	12	13	5.7	3.0	1.3	.63	.20
24	.16	.58	1.3	9.3	186	20	14	5.5	2.9	1.3	.56	.22
25	.16	.65	1.2	7.9	101	17	12	5.5	2.7	1.3	.56	.26
26	.16	5.3	1.2	7.0	71	25	11	5.5	e2.6	1.2	.58	.33
27	.16	4.4	1.1	6.9	52	17	11	5.7	e2.5	1.1	.54	.45
28	.16	2.9	1.2	6.3	40	19	10	7.0	e2.4	1.1	.46	.50
29	.16	2.0	1.3	26	---	18	9.9	9.2	e2.4	.95	.44	.49
30	.16	3.1	1.2	23	---	15	9.4	8.0	e2.3	.96	.41	.52
31	.16	---	1.2	17	---	19	---	6.5	---	1.0	.38	---
TOTAL	4.19	30.56	100.6	489.3	4634	572	551.3	281.5	125.4	48.71	18.08	8.95
MEAN	.14	1.02	3.25	15.8	166	18.5	18.4	9.08	4.18	1.57	.58	.30
MAX	.16	5.3	26	60	769	33	30	16	6.0	2.3	.99	.52
MIN	.10	.16	1.1	1.3	17	12	9.4	5.5	2.3	.95	.38	.19
AC-FT	8.3	61	200	971	9190	1130	1090	558	249	97	36	18

e Estimated.

11176000 ARROYO MOCHO NEAR LIVERMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.10	.87	4.10	14.7	23.9	14.5	5.03	1.74	.67	.23	.10	.084
MAX	1.55	11.6	33.2	122	166	155	41.8	21.5	6.96	4.04	2.57	2.47
(WY)	1984	1984	1984	1983	1998	1983	1982	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1913	1915	1919	1991	1991	1924	1924	1920	1913	1913	1913	1913

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1913 - 1998	
ANNUAL TOTAL	3413.34		6864.59			
ANNUAL MEAN	9.35		18.8		5.49	
HIGHEST ANNUAL MEAN					38.8	1983
LOWEST ANNUAL MEAN					.035	1924
HIGHEST DAILY MEAN	560	Jan 23	769	Feb 3	1510	Mar 1 1983
LOWEST DAILY MEAN	.10	Aug 16	.10	Oct 1	.00	Oct 1 1912
ANNUAL SEVEN-DAY MINIMUM	.10	Aug 16	.10	Oct 1	.00	Oct 1 1912
INSTANTANEOUS PEAK FLOW			1600	Feb 3	2250	Jan 24 1983
INSTANTANEOUS PEAK STAGE			10.28	Feb 3	10.44	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	6770		13620		3970	
10 PERCENT EXCEEDS	11		28		7.1	
50 PERCENT EXCEEDS	1.1		3.0		.26	
90 PERCENT EXCEEDS	.10		.17		.00	

11176400 ARROYO VALLE BELOW LANG CANYON, NEAR LIVERMORE, CA

LOCATION.—Lat 37°33'41", long 121°40'58", in NE 1/4 NE 1/4 sec.30, T.4 S., R.3 E., Alameda County, Hydrologic Unit 18050004, on left bank 100 ft upstream from small left-bank tributary, 1.2 mi downstream from Lang Canyon, and 9.5 mi southeast of Livermore.

DRAINAGE AREA.—130 mi^2.

PERIOD OF RECORD.—October 1963 to current year. Prior to October 1974, published as "above Lang Canyon, near Livermore."

GAGE.—Water-stage recorder. Concrete control since June 19, 1975. Elevation of gage is 750 ft above sea level, from topographic map. Prior to June 19, 1975, at site 1.4 mi upstream at different datum.

REMARKS.—Records good except for flows below 5 ft^3/s, which are fair. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,790 ft^3/s, Feb. 17, 1986, gage height, 7.36 ft, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurements at gage heights 4.13, 5.40, and 7.36 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	2315	1,370	2.81	Feb. 3	0900	7,750	6.73
Jan. 15	1930	1,800	3.15	Feb. 7	1930	4,950	5.07
Jan. 19	0100	1,240	2.76	Feb. 21	2130	2,210	3.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	11	4.6	174	277	121	48	30	10	2.3	.20
2	.00	.00	5.8	5.2	1210	249	101	48	28	8.8	1.9	.20
3	.00	.00	4.1	6.3	4920	205	110	51	26	8.8	1.7	.25
4	.00	.00	3.6	47	1090	183	142	56	25	8.8	1.5	.33
5	.00	.00	4.4	63	514	171	124	51	25	9.9	1.2	.28
6	.00	.00	12	39	1560	190	113	54	25	10	1.2	.27
7	.00	.00	33	34	2730	155	114	54	25	8.8	1.0	.27
8	.00	.00	135	34	2380	162	101	47	25	8.8	1.0	.27
9	.00	.00	54	28	1110	141	91	43	25	8.6	1.0	.31
10	.00	.00	24	60	588	126	85	40	25	7.6	.93	.37
11	.00	1.1	15	108	413	113	89	38	25	7.6	.87	.30
12	.00	.48	11	492	418	108	89	47	23	6.6	.66	.23
13	.00	.51	8.7	553	523	111	125	52	23	6.6	.65	.20
14	.00	.44	9.7	176	766	114	137	46	22	6.5	.58	.20
15	.00	.93	16	858	843	100	169	41	20	4.9	.63	.18
16	.00	.94	12	573	536	89	136	38	19	4.6	.74	.13
17	.00	.54	12	205	667	85	111	36	17	3.9	.74	.30
18	.00	.33	12	323	429	80	96	34	15	3.8	.74	.34
19	.00	.80	10	743	589	82	85	32	15	3.8	.74	.29
20	.00	.76	8.6	292	707	81	79	30	13	3.8	.74	.17
21	.00	.76	8.1	176	1040	75	74	30	13	3.8	.74	.26
22	.00	.76	7.1	124	1150	71	70	30	13	3.8	.74	.30
23	.00	.66	6.3	98	969	69	66	30	13	3.8	.67	.20
24	.00	.50	6.3	84	807	129	65	28	12	3.8	.63	.29
25	.00	.76	5.4	77	523	116	60	28	12	3.6	.56	.34
26	.00	19	5.4	71	387	121	55	25	12	2.5	.52	.34
27	.00	28	4.8	70	305	99	52	27	11	2.6	.52	.47
28	.00	9.6	4.6	70	273	105	51	32	10	2.5	.46	.52
29	.00	5.2	4.6	266	---	101	53	38	10	2.5	.40	.52
30	.00	9.8	4.6	248	---	89	50	36	10	2.5	.30	.47
31	.00	---	4.6	181	---	94	---	33	---	2.5	.26	---
TOTAL	0.00	81.87	463.7	6109.1	27621	3891	2814	1223	567	176.1	26.62	8.80
MEAN	.000	2.73	15.0	197	986	126	93.8	39.5	18.9	5.68	.86	.29
MAX	.00	28	135	858	4920	277	169	56	30	10	2.3	.52
MIN	.00	.00	3.6	4.6	174	69	50	25	10	2.5	.26	.13
AC-FT	.00	162	920	12120	54790	7720	5580	2430	1120	349	53	17

11176400 ARROYO VALLE BELOW LANG CANYON, NEAR LIVERMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.23	7.39	34.1	125	158	106	39.7	9.68	3.06	.77	.20	.11
MAX	3.12	79.2	216	588	986	625	322	71.5	18.9	7.43	3.67	2.00
(WY)	1984	1983	1984	1997	1998	1983	1982	1983	1998	1983	1983	1983
MIN	.000	.000	.000	.000	.24	.82	.14	.001	.000	.000	.000	.000
(WY)	1965	1977	1990	1991	1991	1977	1977	1977	1976	1964	1964	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	22886.26		42982.19			
ANNUAL MEAN	62.7		118		39.8	
HIGHEST ANNUAL MEAN					174	1983
LOWEST ANNUAL MEAN					.24	1977
HIGHEST DAILY MEAN	2540	Jan 23	4920	Feb 3	4920	Feb 3 1998
LOWEST DAILY MEAN	.00	Jul 15	.00	Oct 1	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 15	.00	Oct 1	.00	Oct 1 1963
INSTANTANEOUS PEAK FLOW			7750	Feb 3	8790	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.73	Feb 3	7.36	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	45390		85260		28840	
10 PERCENT EXCEEDS	100		256		62	
50 PERCENT EXCEEDS	3.1		12		1.4	
90 PERCENT EXCEEDS	.00		.00		.00	

11176500 ARROYO VALLE NEAR LIVERMORE, CA

LOCATION.—Lat 37°37'24", long 121°45'28", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank 900 ft downstream from highway bridge, 1.1 mi upstream from Dry Creek, 1.3 mi downstream from Del Valle Dam, 4.1 mi south of Livermore, and 6.9 mi southeast of Pleasanton.

DRAINAGE AREA.—147 mi^2.

PERIOD OF RECORD.—January 1912 to September 1930, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as Arroyo del Valle near Livermore, 1912–29.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 510.44 ft above sea level. Prior to November 1914, at site 900 ft upstream at different datum. Nov. 1, 1914, to Sept. 30, 1930, at site 300 ft upstream at different datum.

REMARKS.—Records fair. Flow regulated by Del Valle Reservoir 1.3 mi upstream beginning in September 1968, capacity, 77,100 acre-ft. Water from Sacramento–San Joaquin Delta imported through South Bay Aqueduct can be pumped into Del Valle Reservoir for storage and later released into the channel for downstream percolation or returned to the South Bay Aqueduct. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,200 ft^3/s, Apr. 2, 1958, gage height, 10.91 ft; no flow at times. Maximum discharge since construction of Del Valle Dam in 1968, 2,980 ft^3/s, Feb. 4, 1998, gage height, 9.17 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 23, 1955, reached a stage of 13.9 ft from floodmarks, discharge, 18,200 ft^3/s, on basis of contracted-opening and slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	2.0	1.1	3.8	.70	350	1.3	1.4	15	9.1	3.3	.29
2	20	2.1	1.0	4.8	5.5	235	1.1	1.4	15	9.1	3.3	.27
3	12	2.4	1.0	5.3	38	81	1.6	3.4	15	9.1	3.3	.26
4	.38	2.5	.99	7.8	1470	80	1.4	1.7	15	9.5	3.1	.25
5	.27	2.6	1.0	6.6	2110	80	1.3	1.7	15	10	3.0	.25
6	.25	3.5	1.2	6.4	1230	80	58	1.5	16	10	2.1	.25
7	.24	3.8	2.9	7.1	303	81	99	1.3	16	9.9	.36	.24
8	.25	4.0	5.2	7.1	1220	82	98	1.2	16	10	.31	.26
9	.32	4.2	1.1	7.2	1950	82	100	1.1	16	10	.30	.38
10	.26	4.9	.79	7.1	2210	82	99	1.1	16	10	.27	.50
11	.25	5.5	.70	7.2	1390	82	99	1.2	16	10	.26	.38
12	.24	5.5	.63	9.6	1670	82	100	1.6	16	10	.27	.30
13	.26	5.8	.63	5.4	1690	83	93	1.6	17	10	.27	.30
14	.33	5.9	.88	4.8	1060	82	86	1.3	17	9.7	.29	.32
15	.35	6.8	.83	6.5	520	82	86	1.2	17	8.5	.30	.66
16	.34	6.6	.73	5.1	708	82	86	1.1	17	4.2	.35	1.1
17	.61	5.8	.73	3.9	909	82	87	1.1	18	4.3	.37	1.1
18	1.5	5.8	.70	10	706	82	87	6.0	18	4.3	.33	1.2
19	1.5	3.4	.68	3.4	470	82	86	19	18	4.4	.32	1.2
20	.96	1.1	1.0	2.1	471	59	86	19	18	4.5	.35	1.3
21	1.0	1.1	2.1	.99	477	38	86	19	18	4.6	.32	1.2
22	1.0	1.0	2.4	.86	1200	39	88	20	17	4.5	.31	1.3
23	1.0	1.0	2.6	.86	1410	40	88	20	17	6.4	.32	1.5
24	1.0	1.2	2.7	.85	871	20	36	20	13	4.6	.32	.34
25	1.3	1.3	3.2	.52	683	1.5	1.8	21	9.9	4.4	.33	.27
26	1.2	6.9	3.2	.55	460	1.3	1.5	22	9.9	4.3	.36	.28
27	1.5	2.2	3.2	.76	407	1.3	1.4	22	11	4.3	.35	.30
28	1.5	1.2	3.4	.73	349	1.2	1.3	23	9.1	4.2	.33	.27
29	1.6	1.0	3.5	3.7	---	1.1	1.3	22	9.0	3.8	.32	.29
30	1.7	2.0	3.5	.81	---	1.1	1.3	19	8.8	3.4	.30	.29
31	1.8	---	3.5	.70	---	1.4	---	14	---	3.3	.30	---
TOTAL	74.91	103.1	57.09	132.53	25988.20	2176.9	1663.3	290.9	449.7	214.4	26.01	16.85
MEAN	2.42	3.44	1.84	4.28	928	70.2	55.4	9.38	15.0	6.92	.84	.56
MAX	20	6.9	5.2	10	2210	350	100	23	18	10	3.3	1.5
MIN	.24	1.0	.63	.52	.70	1.1	1.1	1.1	8.8	3.3	.26	.24
AC-FT	149	204	113	263	51550	4320	3300	577	892	425	52	33

11176500 ARROYO VALLE NEAR LIVERMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.016	2.63	18.0	87.6	146	51.4	47.2	7.37	1.83	.32	.089	.021
MAX	.15	69.2	125	851	522	280	620	57.8	9.47	2.28	.83	.24
(WY)	1967	1927	1965	1914	1915	1958	1958	1915	1967	1967	1958	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.094	.000	.000	.000	.000
(WY)	1914	1914	1918	1918	1920	1924	1924	1924	1918	1914	1913	1913

SUMMARY STATISTICS	WATER YEARS 1912 - 1968		
ANNUAL MEAN	29.6		
HIGHEST ANNUAL MEAN	118		1914
LOWEST ANNUAL MEAN	.008		1924
HIGHEST DAILY MEAN	5930	Jan 25	1914
LOWEST DAILY MEAN	.00	Sep 22	1912
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 22	1912
INSTANTANEOUS PEAK FLOW	12200	Apr 2	1958
INSTANTANEOUS PEAK STAGE	10.91	Apr 2	1958
ANNUAL RUNOFF (AC-FT)	21460		
10 PERCENT EXCEEDS	35		
50 PERCENT EXCEEDS	.20		
90 PERCENT EXCEEDS	.00		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.83	8.28	7.62	51.4	118	73.4	21.3	5.90	8.83	13.4	12.0	9.93
MAX	43.2	39.4	35.9	544	928	653	334	30.8	51.7	46.0	54.3	48.1
(WY)	1971	1981	1981	1997	1998	1983	1982	1970	1980	1980	1981	1981
MIN	.17	.30	.36	.35	.30	.36	.22	.23	.15	.079	.11	.16
(WY)	1987	1987	1989	1990	1991	1994	1990	1990	1990	1985	1989	1984

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998		
ANNUAL TOTAL	18724.93		31193.89				
ANNUAL MEAN	51.3		85.5		27.7		
HIGHEST ANNUAL MEAN					131		1983
LOWEST ANNUAL MEAN					.44		1987
HIGHEST DAILY MEAN	2110	Jan 27	2210	Feb 10	2370	Mar 3	1983
LOWEST DAILY MEAN	.14	Aug 5	.24	Oct 7	.00	Jun 25	1983
ANNUAL SEVEN-DAY MINIMUM	.16	Aug 2	.25	Sep 2	.05	Jun 24	1983
INSTANTANEOUS PEAK FLOW			2980	Feb 4	2980	Feb 4	1998
INSTANTANEOUS PEAK STAGE			9.17	Feb 4	9.17	Feb 4	1998
ANNUAL RUNOFF (AC-FT)	37140		61870		20090		
10 PERCENT EXCEEDS	53		87		36		
50 PERCENT EXCEEDS	1.0		3.5		1.4		
90 PERCENT EXCEEDS	.35		.32		.24		

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA

LOCATION.—Lat 37°36'55", long 121°52'50", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank 0.3 mi upstream from small left bank tributary, 0.8 mi downstream from highway bridge, and 3.2 mi south of Pleasanton.

DRAINAGE AREA.—405 mi^2.

PERIOD OF RECORD.—January 1912 to September 1930, October 1969 to September 1983, October 1987 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 248.40 ft above sea level. January 1912 to September 1917, at site 3.0 mi upstream at different datum. October 1917 to September 1930, at site 0.8 mi downstream at different datum. October 1969 to September 1983, at datum 3.00 ft higher.

REMARKS.—Records poor. Flow partly regulated by Del Valle Reservoir 15 mi upstream, beginning in September 1968, capacity, 77,100 acre-ft. Water imported from Sacramento–San Joaquin Delta (see REMARKS for station 11176500). See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,400 ft^3/s, Jan. 5, 1982, gage height, 22.61 ft, present datum; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	e22	e60	35	190	e459	e210	45	e74	e40	e28	27
2	36	e22	e38	104	1890	e360	e310	48	e70	e39	e30	20
3	41	e21	e30	69	5560	e300	e290	55	e63	e39	e31	25
4	38	e21	e26	307	1860	e250	e450	293	e60	e42	e29	24
5	36	e20	e30	84	3140	e210	e350	283	e56	e46	e27	23
6	34	e20	e32	49	3350	296	e300	184	e52	e45	e28	23
7	31	e21	e190	55	2550	e255	e270	102	e100	e42	e27	23
8	26	e23	e560	45	2920	e215	e250	92	e146	e40	e28	25
9	98	e25	e260	64	2900	e200	e215	88	e130	e38	e27	28
10	40	e35	e100	85	3120	e180	e190	81	e63	e37	e27	29
11	28	e88	e72	120	2040	e175	e190	71	e58	41	e28	27
12	29	e140	e45	1000	2540	e160	e185	222	e56	44	28	23
13	29	e62	e46	311	e2350	e520	e410	163	e55	44	28	23
14	27	e55	e110	139	e2800	e260	e350	73	e52	e49	27	23
15	27	e70	e65	906	e2100	e188	245	62	e50	e47	23	28
16	28	e160	e49	398	e1700	e170	140	56	e50	e40	23	20
17	24	e50	41	132	e1900	e150	126	54	e49	e39	24	24
18	24	e35	38	1430	e1600	e140	120	49	e48	e42	24	32
19	26	e40	36	918	e1400	e130	119	51	e49	e40	23	27
20	25	e68	35	293	e1350	e118	117	51	e50	e38	24	20
21	e24	e45	37	159	e2350	e110	110	53	e50	e38	18	18
22	e24	e35	36	112	e2900	e100	107	51	e48	e36	19	31
23	e23	e38	35	84	e2800	e175	104	54	e47	e34	23	28
24	e23	e40	35	71	e1500	e500	93	56	e48	e30	22	30
25	e23	e40	34	e66	1200	e380	88	57	e48	e33	23	29
26	e23	e660	34	e310	720	e410	78	57	e49	e34	23	41
27	e22	e140	34	e220	641	e500	71	76	e48	e34	24	44
28	e22	e75	35	e190	487	e380	55	278	e45	e34	22	28
29	e22	e40	34	853	---	e255	55	121	e43	e30	17	22
30	e22	e145	35	185	---	e160	47	e90	e41	e32	21	29
31	e22	---	35	132	---	e190	---	e80	---	e30	22	---
TOTAL	931	2256	2247	8926	59858	7896	5645	3096	1798	1197	768	794
MEAN	30.0	75.2	72.5	288	2138	255	188	99.9	59.9	38.6	24.8	26.5
MAX	98	660	560	1430	5560	520	450	293	146	49	31	44
MIN	22	20	26	35	190	100	47	45	41	30	17	18
AC-FT	1850	4470	4460	17700	118700	15660	11200	6140	3570	2370	1520	1570

e Estimated.

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1930, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.43	1.96	15.9	174	234	59.5	18.5	8.67	3.52	2.06	1.36	1.19
MAX	9.90	13.4	105	1349	728	207	59.8	74.0	13.9	13.1	8.76	6.98
(WY)	1917	1927	1914	1914	1915	1919	1926	1915	1916	1916	1916	1916
MIN	.000	.000	.000	.000	.84	.53	.000	.000	.000	.000	.000	.000
(WY)	1914	1914	1919	1925	1924	1924	1929	1924	1918	1913	1913	1913

SUMMARY STATISTICS	WATER YEARS 1912 - 1930	
ANNUAL MEAN	42.5	
HIGHEST ANNUAL MEAN	180	1914
LOWEST ANNUAL MEAN	.69	1913
HIGHEST DAILY MEAN	9810	Jan 25 1914
LOWEST DAILY MEAN	.00	Jun 30 1913
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 30 1913
ANNUAL RUNOFF (AC-FT)	30800	
10 PERCENT EXCEEDS	33	
50 PERCENT EXCEEDS	.90	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.8	36.0	59.0	208	274	201	72.4	27.5	19.6	19.6	17.9	16.7
MAX	42.3	92.3	185	991	2138	1510	517	116	59.9	40.6	43.5	41.1
(WY)	1971	1983	1997	1997	1998	1983	1982	1983	1998	1975	1981	1981
MIN	3.34	2.59	6.46	6.07	12.7	9.39	6.49	4.05	2.88	1.80	2.31	2.28
(WY)	1991	1993	1990	1991	1977	1988	1990	1992	1991	1992	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998	
ANNUAL TOTAL	46252		95412			
ANNUAL MEAN	127		261		80.1	
HIGHEST ANNUAL MEAN					339	1983
LOWEST ANNUAL MEAN					11.6	1977
HIGHEST DAILY MEAN	3410	Jan 26	5560	Feb 3	5560	Feb 3 1998
LOWEST DAILY MEAN	14	Aug 23	17	Aug 29	.33	Jul 11 1990
ANNUAL SEVEN-DAY MINIMUM	18	Aug 9	21	Nov 1	1.1	Jul 6 1992
INSTANTANEOUS PEAK FLOW			9040	Feb 3	11400	Jan 5 1982
INSTANTANEOUS PEAK STAGE			19.95	Feb 3	22.61	Jan 5 1982
ANNUAL RUNOFF (AC-FT)	91740		189200		58040	
10 PERCENT EXCEEDS	140		492		104	
50 PERCENT EXCEEDS	36		50		20	
90 PERCENT EXCEEDS	21		23		4.6	

11179000 ALAMEDA CREEK NEAR NILES, CA

LOCATION.—Lat 37°35'14", long 121°57'35", in NW 1/4 sec.15, T.4 S., R.1 W., Alameda County, Hydrologic Unit 18050004, on right bank 0.3 mi downstream from railroad bridge, 1.2 mi northeast of Niles, and 8.3 mi downstream from James H. Turner Dam on San Antonio Creek.

DRAINAGE AREA.—633 mi^2.

PERIOD OF RECORD.—January 1891 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Niles Dam" 1891–1900 and as "at Sunolglen" 1901–21.

REVISED RECORDS.—WSP 1315-B: 1921. WSP 1515: 1951–52, 1956. WSP 1565: 1945. WDR CA-86-2: 1984(M).

GAGE.—Water-stage recorder and concrete control. Datum of gage is 85.65 ft above sea level. Prior to 1901, nonrecording gage at site 1 mi upstream at different datum. From 1901 to Sept. 30, 1914, nonrecording gage; Oct. 1, 1914, to Sept. 30, 1916, water-stage recorder at site 4.5 mi upstream at different datum; Oct. 1, 1916, to Dec. 17, 1923, water-stage recorder at site 800 ft upstream at different datum.

REMARKS.—Records good. Flow regulated since 1916 by Calaveras Reservoir, although dam not completed until 1925, usable capacity, 96,800 acre-ft, most of which is diverted for San Francisco water supply; since February 1965 by San Antonio Reservoir, capacity, 51,000 acre-ft; and since September 1968 by Del Valle Reservoir, 23 mi upstream, capacity, 77,100 acre-ft. Natural flow of stream affected by water imported from Delta–Mendota Canal beginning in 1962. Other diversions from ground-water basin for irrigation of 9,000 acres upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 29,000 ft^3/s, Dec. 23, 1955, gage height, 14.9 ft; minimum (water years 1892–1962), no flow at times; minimum daily (water years 1963–96), 0.63 ft^3/s, Oct. 7–10, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	21	103	51	633	1300	515	171	130	59	40	33
2	29	19	61	119	2700	1180	501	169	126	58	38	25
3	34	18	52	124	9770	805	579	173	125	56	43	31
4	33	17	48	460	3320	476	708	362	122	65	42	28
5	31	17	50	195	4090	486	608	360	118	68	33	39
6	29	19	54	91	4780	607	456	287	114	64	38	45
7	28	21	556	96	5480	462	481	192	125	59	33	47
8	23	21	787	88	6450	532	453	175	213	56	33	45
9	81	23	244	91	5670	422	416	170	226	52	31	41
10	68	63	111	202	5230	393	377	157	96	51	29	49
11	48	129	80	340	3740	374	358	144	97	52	36	50
12	49	50	67	2040	3540	367	345	246	92	55	40	46
13	47	45	64	916	3440	914	675	300	91	54	44	46
14	45	61	208	341	4410	454	583	191	88	53	45	45
15	45	144	163	1890	3430	351	554	176	84	48	45	51
16	44	95	82	1300	2800	318	419	165	81	46	46	44
17	43	48	67	483	3070	294	364	159	77	45	47	43
18	44	35	57	1970	2640	274	330	145	74	51	43	52
19	47	61	52	2070	2570	258	303	136	72	53	33	51
20	47	44	50	768	2480	249	284	139	74	51	29	45
21	44	31	48	414	3750	235	262	134	75	48	28	47
22	44	33	49	647	3930	221	251	123	71	47	27	51
23	45	34	46	1380	4780	375	272	119	67	48	30	49
24	43	34	56	1340	3440	822	270	118	68	42	30	49
25	42	110	76	1310	2710	657	255	115	70	45	25	50
26	47	1140	73	963	2000	759	238	111	69	49	28	51
27	47	333	69	475	1730	573	221	122	63	48	29	68
28	42	96	76	359	1450	583	193	292	61	42	29	52
29	43	64	74	1700	---	491	187	218	63	41	25	28
30	45	314	72	757	---	409	178	157	60	45	26	36
31	40	---	72	585	---	504	---	140	---	43	28	---
TOTAL	1325	3140	3667	23565	104033	16145	11636	5666	2892	1594	1073	1337
MEAN	42.7	105	118	760	3715	521	388	183	96.4	51.4	34.6	44.6
MAX	81	1140	787	2070	9770	1300	708	362	226	68	47	68
MIN	23	17	46	51	633	221	178	111	60	41	25	25
AC-FT	2630	6230	7270	46740	206300	32020	23080	11240	5740	3160	2130	2650

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1961, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.61	21.0	101	185	322	213	156	18.9	8.19	5.46	3.26	3.14
MAX	36.5	581	1469	2578	2431	1439	2323	95.5	46.1	50.1	47.5	48.9
(WY)	1936	1951	1956	1952	1938	1938	1958	1941	1938	1935	1935	1935
MIN	.000	.000	.000	.22	.71	.17	1.08	.11	.000	.000	.000	.000
(WY)	1925	1926	1931	1949	1948	1931	1929	1934	1931	1929	1925	1925

SUMMARY STATISTICS	WATER YEARS 1925 - 1961	
ANNUAL MEAN	85.4	
HIGHEST ANNUAL MEAN	401	1952
LOWEST ANNUAL MEAN	.90	1961
HIGHEST DAILY MEAN	23900	Dec 23 1955
LOWEST DAILY MEAN	.00	Oct 1 1924
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1924
INSTANTANEOUS PEAK FLOW	29000	Dec 23 1955
INSTANTANEOUS PEAK STAGE	14.9	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	61830	
10 PERCENT EXCEEDS	91	
50 PERCENT EXCEEDS	2.7	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.8	59.1	111	325	512	385	144	61.7	46.9	40.8	39.2	32.6
MAX	78.6	247	434	1975	3715	2725	1163	318	154	62.9	65.9	62.1
(WY)	1992	1984	1984	1997	1998	1983	1982	1983	1973	1981	1972	1981
MIN	9.91	17.2	20.1	28.4	28.9	32.5	18.3	18.6	16.4	20.6	15.8	2.51
(WY)	1979	1996	1979	1985	1977	1977	1991	1971	1978	1974	1995	1984

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998	
ANNUAL TOTAL	89261		176073			
ANNUAL MEAN	245		482		147	
HIGHEST ANNUAL MEAN					621	1983
LOWEST ANNUAL MEAN					31.5	1977
HIGHEST DAILY MEAN	6630	Jan 26	9770	Feb 3	9770	Feb 3 1998
LOWEST DAILY MEAN	17	Nov 4	17	Nov 4	.63	Oct 7 1984
ANNUAL SEVEN-DAY MINIMUM	19	Nov 1	19	Nov 1	.66	Oct 4 1984
INSTANTANEOUS PEAK FLOW			17900	Feb 3	17900	Feb 3 1998
INSTANTANEOUS PEAK STAGE			14.83	Feb 3	14.83	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	177000		349200		106400	
10 PERCENT EXCEEDS	306		1300		196	
50 PERCENT EXCEEDS	44		81		42	
90 PERCENT EXCEEDS	26		33		16	

11180500 DRY CREEK AT UNION CITY, CA

LOCATION.—Lat 37°36'22", long 122°01'22", in Arroyo de la Alameda Grant, Alameda County, Hydrologic Unit 18050004, on right bank 900 ft downstream from bridge on State Highway 238 in Decoto District in Union City, and 1.7 mi upstream from mouth.

DRAINAGE AREA.—9.39 mi^2.

PERIOD OF RECORD.—October 1916 to September 1919 (published as "near Decoto"), April 1959 to current year.

REVISED RECORDS.—WSP 2129: 1962(M), 1963(P), 1965(P). WDR CA-76-2: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 85.12 ft above sea level, from topographic map. Prior to Apr. 1, 1959, at site 1.4 mi downstream at different datum.

REMARKS.—Records good. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,680 ft^3/s, Jan. 9, 1995, gage height, 5.32 ft, from rating curve extended above 600 ft^3/s on 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 90 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1400	475	3.74	Feb. 3	0115	1,500	5.15
Jan. 15	1345	400	3.58	Feb. 6	1400	301	3.34
Jan. 18	1530	531	3.85	Feb. 21	1215	495	3.78
Jan. 29	0415	107	2.67	Mar. 13	0815	153	2.87

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.46	.11	25	22	12	5.7	1.3	.11	.18	.00
2	.00	.00	.18	1.2	152	20	10	5.7	1.2	.12	.12	.00
3	.00	.00	.06	1.7	453	19	19	5.5	1.2	.10	.08	.00
4	.00	.00	.00	12	91	17	27	5.4	1.1	.07	.05	.00
5	.00	.00	.00	3.9	60	19	16	5.3	1.0	.04	.03	.00
6	.00	.00	.00	2.5	138	18	16	5.1	1.0	.28	.02	.00
7	.00	.00	4.8	2.7	103	16	16	5.1	1.1	.71	.03	.00
8	.00	.00	29	2.2	84	16	12	4.7	1.2	.00	.03	.00
9	.12	.00	6.7	2.2	52	14	11	4.6	.90	.00	.04	.00
10	.00	.17	3.1	29	40	13	10	4.4	.85	.00	.02	.00
11	.00	.09	2.0	58	34	12	9.8	4.3	.84	.00	.01	.00
12	.00	.00	1.4	218	33	11	9.1	4.2	.72	.00	.00	.00
13	.00	.01	1.1	47	28	45	22	3.7	.67	.18	.00	.00
14	.00	.02	7.0	27	50	20	13	3.3	.65	.47	.00	.00
15	.00	.11	4.3	122	39	17	9.6	3.0	.63	.45	.00	.00
16	.00	.03	2.5	53	34	16	8.8	2.7	.55	.39	.00	.00
17	.00	.00	2.1	30	32	14	8.3	2.5	.42	.35	.00	.00
18	.00	.00	2.0	115	26	12	8.1	2.3	.36	.34	.00	.00
19	.00	.00	1.5	70	41	11	7.8	2.2	.33	.30	.00	.00
20	.00	.00	1.3	37	32	10	7.7	2.1	.27	.26	.00	.00
21	.00	.00	1.2	24	120	10	7.5	2.0	.25	.28	.00	.00
22	.00	.00	.74	18	65	9.6	7.3	1.9	.23	.55	.00	.00
23	.00	.00	.64	14	67	17	7.2	1.9	.23	.59	.00	.00
24	.00	.05	.57	12	43	27	6.9	1.8	.25	2.1	.00	.00
25	.00	.08	.47	10	37	21	6.9	1.7	.26	2.5	.00	.00
26	.00	3.1	.35	9.4	32	17	6.5	1.6	.20	2.0	.00	.00
27	.00	.96	.32	18	27	14	6.3	1.7	.16	.30	.00	.00
28	.00	.09	.29	10	25	15	6.1	4.8	.11	.83	.00	.00
29	.00	.06	.21	50	---	11	6.0	2.4	.12	.22	.00	.00
30	.00	2.5	.17	22	---	10	5.9	1.8	.12	.24	.00	.00
31	.00	---	.12	23	---	16	---	1.5	---	.21	.00	---
TOTAL	0.12	7.27	74.58	1044.91	1963	509.6	319.8	104.9	18.22	13.99	0.61	0.00
MEAN	.004	.24	2.41	33.7	70.1	16.4	10.7	3.38	.61	.45	.020	.000
MAX	.12	3.1	29	218	453	45	27	5.7	1.3	2.5	.18	.00
MIN	.00	.00	.00	.11	25	9.6	5.9	1.5	.11	.00	.00	.00
AC-FT	.2	14	148	2070	3890	1010	634	208	36	28	1.2	.00

11180500 DRY CREEK AT UNION CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.16	.58	2.44	8.73	9.91	6.74	2.99	.64	.17	.038	.013	.004
MAX	6.31	11.3	21.0	33.8	70.1	58.2	20.1	6.45	2.87	.82	.51	.10
(WY)	1963	1984	1974	1997	1998	1983	1982	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1917	1917	1918	1918	1918	1972	1917	1917	1917	1917	1917	1917

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1917 - 1998	
ANNUAL TOTAL	1388.49		4057.00			
ANNUAL MEAN	3.80		11.1		2.67	
HIGHEST ANNUAL MEAN					13.0	1983
LOWEST ANNUAL MEAN					.002	1977
HIGHEST DAILY MEAN	199	Jan 2	453	Feb 3	453	Feb 3 1998
LOWEST DAILY MEAN	.00	May 19	.00	Oct 1	.00	Oct 1 1916
ANNUAL SEVEN-DAY MINIMUM	.00	May 27	.00	Oct 1	.00	Oct 1 1916
INSTANTANEOUS PEAK FLOW			1500	Feb 3	1680	Jan 9 1995
INSTANTANEOUS PEAK STAGE			5.15	Feb 3	5.32	Jan 9 1995
ANNUAL RUNOFF (AC-FT)	2750		8050		1940	
10 PERCENT EXCEEDS	6.5		28		4.7	
50 PERCENT EXCEEDS	.03		.83		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11180700 PATTERSON CREEK AT UNION CITY, CA

LOCATION.—Lat 37°55'09", long 122°02'50", in Potrero de los Cerritos Grant, Alameda County, Hydrologic Unit 18050004, on right bank 0.1 mi downstream from effluence from Alameda Creek, 0.2 mi upstream from bridge on Interstate 880 (Nimitz Freeway), and 2.0 mi southwest of Decoto District in Union City.

PERIOD OF RECORD.—October 1958 to current year.

GAGE.—Water-stage recorder. Datum of gage is 4.13 ft above sea level. Prior to Oct. 26, 1966, at site 0.2 mi downstream at same datum.

REMARKS.—Records poor. This stream is a distributary of Alameda Creek. Diversion by Alameda County Water District to percolation ponds between station 11179000 and this station; additional percolation to ground water by placing check dams in channel. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 25,800 ft^3/s, Feb. 3, 1998, gage height, 20.43 ft; no flow at times in each year.

EXTREMES FOR 1997 WATER YEAR (NOT PREVIOUSLY PUBLISHED).—

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 26	unknown	11,600	16.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	202	.07	598	1100	560	e108	55	17	6.1	.00
2	.00	.00	56	4.4	4180	983	538	e100	48	16	6.1	.00
3	.00	.00	2.2	117	14400	649	627	e105	60	11	5.9	.00
4	.00	.00	.07	929	3220	300	e720	e200	44	9.9	6.0	.00
5	e.00	.00	.07	327	4850	297	e650	e360	41	25	6.2	.00
6	e.00	.00	.02	3.1	5530	545	e500	e290	168	21	6.8	.00
7	e.00	.00	942	2.1	6340	403	e450	e210	168	14	7.1	.00
8	e.10	.00	1910	.81	7710	381	e380	e150	262	22	7.3	.00
9	e3.1	.00	437	1.4	6520	272	e350	e130	412	31	7.3	.00
10	e1.1	3.7	4.2	46	5700	205	e320	e117	89	20	7.0	.00
11	e.26	380	1.2	331	3730	188	e270	e98	36	17	7.1	.00
12	e.08	105	.38	4860	3510	211	e250	e150	33	11	7.3	.00
13	e.00	41	.24	2040	3500	1120	e400	e240	34	15	7.3	.00
14	e.00	5.0	196	616	4840	446	e700	176	32	15	7.6	.00
15	e.00	235	22	3610	3480	273	e540	123	31	16	6.7	.00
16	e.00	304	e1.6	2430	2680	252	e450	88	30	14	.00	.00
17	e.00	71	e.65	809	3110	186	e320	98	29	9.0	.00	.00
18	e.00	.82	e.50	3360	2630	169	e275	70	26	16	.00	.00
19	e.00	.35	e.30	3600	2640	153	e250	41	26	15	.00	.00
20	e.00	.03	e.25	1150	2560	144	e200	53	22	13	.00	.00
21	e.00	.00	.20	649	4290	153	e170	39	23	7.4	.00	.00
22	.00	.00	.16	755	4360	234	e160	39	24	8.3	.00	.00
23	.00	.00	.14	1800	5500	440	e180	37	29	8.5	.00	.00
24	.00	1.4	.14	1580	3700	1020	e150	38	26	6.2	.00	.00
25	.00	48	.11	1500	2850	730	e145	37	28	5.9	.00	.00
26	.00	3100	.09	1210	2040	884	e140	34	47	5.7	.00	.00
27	.00	929	.07	312	1670	606	e130	36	19	5.6	.00	.00
28	.00	189	.07	269	1340	625	e125	475	21	5.6	.00	.00
29	.00	93	.07	2350	---	522	e120	375	16	5.7	.00	.00
30	.00	659	.07	1010	---	434	e115	152	16	6.1	.00	.00
31	.00	---	.07	562	---	527	---	45	---	5.8	.00	---
TOTAL	4.64	6165.30	3777.87	36233.88	117478	14452	10185	4214	1895	398.7	101.80	0.00
MEAN	.15	206	122	1169	4196	466	340	136	63.2	12.9	3.28	.000
MAX	3.1	3100	1910	4860	14400	1120	720	475	412	31	7.6	.00
MIN	.00	.00	.02	.07	598	144	115	34	16	5.6	.00	.00
AC-FT	9.2	12230	7490	71870	233000	28670	20200	8360	3760	791	202	.00

e Estimated.

11180700 PATTERSON CREEK AT UNION CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.60	42.2	92.5	283	414	281	118	29.3	9.83	2.06	.53	1.14
MAX	53.0	404	757	2073	4196	3007	1091	312	120	27.1	8.73	19.1
(WY)	1963	1984	1997	1997	1998	1983	1982	1983	1973	1995	1970	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1959	1959	1959	1959	1961	1960	1959	1959	1959	1959	1959	1959

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1959 - 1998	
ANNUAL TOTAL	92239.81		194906.19			
ANNUAL MEAN	253		534		105	
HIGHEST ANNUAL MEAN					703	1983
LOWEST ANNUAL MEAN					.000	1961
HIGHEST DAILY MEAN	7480	Jan 26	14400	Feb 3	14400	Feb 3 1998
LOWEST DAILY MEAN	.00	Aug 1	.00	Oct 1	.00	Oct 1 1958
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 1	.00	Oct 1	.00	Oct 1 1958
INSTANTANEOUS PEAK FLOW			25800	Feb 3	25800	Feb 3 1998
INSTANTANEOUS PEAK STAGE			20.43	Feb 3	20.43	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	183000		386600		76100	
10 PERCENT EXCEEDS	322		1620		152	
50 PERCENT EXCEEDS	10		29		.01	
90 PERCENT EXCEEDS	.00		.00		.00	

11180810 PALOMARES CREEK NEAR HAYWARD, CA

LOCATION.—Lat 37°41'40", long 122°01'26", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on left bank, at Palomares School, 0.1 mi upstream of confluence with San Lorenzo Creek, 3.6 mi northeast of Hayward.

DRAINAGE AREA.—9.08 mi^2.

PERIOD OF RECORD.—October 1997 to September 1998.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 310 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1430	615	5.62	Feb. 3	0100	1,940	10.67
Jan. 15	1400	413	4.57	Feb. 6	1000	266	4.19
Jan. 18	1515	494	5.01	Feb. 21	1230	370	4.81

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.02	e.07	.38	.27	16	17	12	3.9	2.6	1.2	.53	.27
2	e.11	e.08	e.29	2.5	140	15	11	3.7	2.5	1.2	.49	.25
3	e.05	e.08	e.27	2.0	e410	14	19	3.6	2.3	1.0	.43	.24
4	e.03	e.08	e.25	16	e90	12	23	3.5	2.3	1.0	.40	.22
5	e.03	e.07	e.40	6.4	e71	12	18	4.3	2.2	.96	.38	.24
6	e.04	e.07	e.29	4.8	e101	11	17	3.9	2.2	.92	.43	.23
7	e.04	.09	e20	4.8	e95	9.7	16	3.5	2.3	.85	.46	e.23
8	e.04	.11	e4.0	3.9	e87	8.9	14	3.7	2.3	.87	.46	e.22
9	e.80	.11	e.70	4.1	e62	8.0	13	3.4	2.1	.96	.39	e.22
10	e.20	.81	e.50	21	e39	7.2	12	3.1	2.2	.94	.40	e.21
11	e.07	.21	.38	60	e50	6.7	11	3.2	2.1	.89	.31	e.20
12	e.06	.13	.24	207	e65	6.5	9.8	3.8	1.9	.81	.33	.20
13	e.07	.14	.21	56	e49	28	17	3.2	1.7	.76	.33	.18
14	e.06	.15	2.9	26	e94	15	11	2.9	1.7	.74	.30	.16
15	e.06	.77	.96	127	e48	13	9.4	2.8	1.6	.72	.35	.21
16	e.06	.17	.53	65	e67	13	8.8	2.8	1.6	.68	.39	.25
17	e.06	.15	.41	25	e41	11	8.1	2.6	1.5	.66	.42	.25
18	e.05	.15	.37	100	e38	10	7.6	2.6	1.4	.64	.43	.27
19	e.05	.24	.29	57	e58	9.5	7.3	2.5	1.4	.58	.39	.28
20	e.06	.17	.28	28	e46	9.0	6.8	2.4	1.4	.59	.38	.22
21	e.05	.16	.30	19	e90	8.3	6.4	2.4	1.3	.65	.37	.25
22	e.05	.16	.27	15	e44	7.8	6.0	2.3	1.2	.63	.37	.27
23	e.05	.16	.28	11	71	16	5.6	2.2	1.2	.62	.36	.23
24	e.05	.46	.28	8.7	42	21	5.4	2.2	1.2	.62	.34	.26
25	e.05	.44	.28	7.0	35	18	5.1	2.2	1.2	.57	.33	.25
26	e.05	7.2	.24	6.2	28	16	4.8	2.3	1.2	.54	.32	.27
27	e.05	.92	.26	7.9	23	16	3.8	2.7	1.1	.53	.31	.32
28	e.05	.29	.28	5.2	20	14	4.2	6.5	1.1	.71	.31	.29
29	e.04	.36	.29	27	---	12	4.1	3.9	1.1	.53	.29	.80
30	e.06	3.1	.29	15	---	11	3.9	3.1	1.1	.61	.31	.71
31	e.07	---	.27	16	---	15	---	2.8	---	.58	.28	---
TOTAL	2.53	17.10	36.69	954.77	2020	391.6	301.1	98.0	51.0	23.56	11.59	8.20
MEAN	.082	.57	1.18	30.8	72.1	12.6	10.0	3.16	1.70	.76	.37	.27
MAX	.80	7.2	20	207	410	28	23	6.5	2.6	1.2	.53	.80
MIN	.02	.07	.21	.27	16	6.5	3.8	2.2	1.1	.53	.28	.16
AC-FT	5.0	34	73	1890	4010	777	597	194	101	47	23	16

e Estimated.

11180810 PALOMARES CREEK NEAR HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.082	.57	1.18	30.8	72.1	12.6	10.0	3.16	1.70	.76	.37	.27
MAX	.082	.57	1.18	30.8	72.1	12.6	10.0	3.16	1.70	.76	.37	.27
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.082	.57	1.18	30.8	72.1	12.6	10.0	3.16	1.70	.76	.37	.27
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS	FOR 1998 WATER YEAR		
ANNUAL TOTAL	3916.14		
ANNUAL MEAN	10.7		
HIGHEST DAILY MEAN	410	Feb	3
LOWEST DAILY MEAN	.02	Oct	1
ANNUAL SEVEN-DAY MINIMUM	.05	Oct	1
INSTANTANEOUS PEAK FLOW	1940	Feb	3
INSTANTANEOUS PEAK STAGE	10.67	Feb	3
ANNUAL RUNOFF (AC-FT)	7770		
10 PERCENT EXCEEDS	25		
50 PERCENT EXCEEDS	1.2		
90 PERCENT EXCEEDS	.11		

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA

LOCATION.—Lat 37°41'43", long 122°02'38", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on right bank at Interstate Highway 580, 0.3 mi southeast of Independent School and 2.2 mi east of Castro Valley.

DRAINAGE AREA.—18.0 mi^2.

PERIOD OF RECORD.—October 1980 to September 1994, October 1997 to September 1998.

GAGE.—Water-stage recorder. Elevation of gage is 260 ft above sea level, from topographic map. October 1980 to September 1994 at site 250 ft downstream at same datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Some regulation of low flow by ponds upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,890 ft^3/s, Feb. 3, 1998, gage height, 15.48 ft; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 275 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1445	1,170	8.59	Feb. 3	0130	3,890	15.48
Jan. 15	1345	972	7.89	Feb. 14	0600	408	5.63
Jan. 18	1515	1,340	9.15	Feb. 21	1300	1,120	8.43
Jan. 29	0315	282	5.00	Mar. 13	0730	453	5.84

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.15	.22	e4.4	1.3	37	30	22	6.2	6.5	2.6	1.1	.53
2	e.46	.19	e3.1	9.5	418	24	21	7.4	6.4	2.6	1.1	.54
3	e.18	.16	e2.6	5.2	1270	22	43	7.4	6.2	2.5	.97	.53
4	e.16	.16	e2.4	31	261	18	50	7.4	6.0	2.6	1.0	.55
5	e.14	.18	e2.9	8.6	144	21	25	11	6.0	2.5	.90	.54
6	e.17	.23	e2.7	e7.0	425	17	21	9.7	5.8	2.3	.88	.51
7	e.27	.24	e61	e6.6	438	16	19	9.0	6.2	2.2	.86	.49
8	e.50	.26	e18	e6.2	302	13	16	9.8	6.1	2.2	.89	.48
9	e1.9	.29	e5.5	e6.0	155	11	15	8.9	5.5	2.2	.85	.52
10	e.60	6.9	e3.6	e18	103	9.8	14	8.5	5.5	2.2	.84	.53
11	e.35	1.1	e2.5	75	69	8.8	13	8.3	5.3	2.2	.78	.50
12	e.25	.31	2.1	401	70	8.6	13	12	5.2	2.1	.75	.45
13	e.25	.48	1.9	79	48	99	42	8.7	4.9	1.7	.72	.45
14	e.20	.87	11	29	192	29	24	7.6	4.7	1.6	.75	.45
15	e.18	6.3	3.0	298	84	25	13	7.4	4.6	1.8	.79	.49
16	e.17	1.2	2.3	112	76	26	11	7.3	4.3	1.6	.80	.53
17	e.20	.34	2.1	45	60	23	11	7.2	4.1	1.6	.84	.46
18	e.20	.89	2.0	326	42	21	10	7.1	3.9	1.6	.89	.44
19	e.22	2.2	1.7	154	148	19	9.7	7.0	3.7	1.5	.85	.46
20	e.23	.40	1.7	60	65	18	9.3	6.9	3.7	1.3	.80	.45
21	.21	e.46	1.7	35	294	17	8.8	6.8	3.5	e1.5	.70	.45
22	.21	e.37	1.6	24	167	16	8.4	6.8	3.4	e1.6	.70	.45
23	.19	e.48	1.4	18	216	e46	8.3	6.8	2.9	e1.6	.62	.43
24	.17	e2.2	1.4	14	112	e75	8.0	7.0	2.9	e1.5	.60	.45
25	.15	e.62	1.4	12	81	e45	7.4	7.3	2.9	e1.4	.60	.46
26	.16	e26	1.3	11	61	e29	7.1	6.8	2.7	e1.2	.60	.52
27	.20	e1.8	1.3	13	47	30	6.3	9.9	2.7	e1.0	.61	.56
28	.21	e1.5	1.3	8.4	38	26	6.3	24	2.6	e1.1	.59	.57
29	.19	e.90	1.3	113	---	22	6.1	8.8	2.5	e1.3	.59	.87
30	.22	e10	1.4	28	---	21	5.7	6.8	2.5	1.3	.63	1.0
31	.22	---	1.3	32	---	31	---	6.8	---	1.2	.60	---
TOTAL	8.91	67.25	151.9	1986.8	5423	817.2	474.4	262.6	133.2	55.6	24.20	15.66
MEAN	.29	2.24	4.90	64.1	194	26.4	15.8	8.47	4.44	1.79	.78	.52
MAX	1.9	26	61	401	1270	99	50	24	6.5	2.6	1.1	1.0
MIN	.14	.16	1.3	1.3	37	8.6	5.7	6.2	2.5	1.0	.59	.43
AC-FT	18	133	301	3940	10760	1620	941	521	264	110	48	31

e Estimated.

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MEAN	.88	3.33	6.61	18.1	33.0	18.0	7.45	2.96	1.36	.51	.22	.21
MAX	2.20	16.6	30.1	79.3	194	90.7	42.3	13.0	4.44	2.05	.78	.53
(WY)	1992	1984	1984	1993	1998	1983	1982	1983	1998	1983	1998	1986
MIN	.072	.12	.65	.16	.65	.47	.70	.19	.14	.023	.001	.000
(WY)	1989	1993	1990	1991	1989	1990	1990	1991	1990	1989	1988	1988

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1981 - 1998		
ANNUAL TOTAL	9420.72				
ANNUAL MEAN	25.8		7.58		
HIGHEST ANNUAL MEAN			25.8		1998
LOWEST ANNUAL MEAN			.70		1989
HIGHEST DAILY MEAN	1270	Feb 3	1270	Feb 3	1998
LOWEST DAILY MEAN	.14	Oct 5	.00	Aug 28	1981
ANNUAL SEVEN-DAY MINIMUM	.18	Oct 23	.00	Sep 6	1981
INSTANTANEOUS PEAK FLOW	3890	Feb 3	3890	Feb 3	1998
INSTANTANEOUS PEAK STAGE	15.48	Feb 3	15.48	Feb 3	1998
ANNUAL RUNOFF (AC-FT)	18690		5490		
10 PERCENT EXCEEDS	49		13		
50 PERCENT EXCEEDS	3.1		.71		
90 PERCENT EXCEEDS	.33		.04		

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—December 1980 to September 1994, October 1997 to September 1998, (storm season only).
WATER TEMPERATURE: December 1980 to September 1994, October 1997 to September 1998.
SEDIMENT DATA: December 1980 to September 1994, October 1997 to September 1998.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: December 1980 to September 1994, October 1997 to September 1998.
SUSPENDED-SEDIMENT DISCHARGE: December 1980 to September 1994, October 1997 to September 1998.

REMARKS.—Sediment samples were collected on most days where water temperature is published. Zero-bedload discharge observed for flows less than 29.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.—
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 15,300 mg/L, Feb. 3, 1998; minimum daily mean, 0 mg/L, Feb. 26, 1989.
SEDIMENT LOAD (storm season only): Miximum daily, 80,900 tons, Feb. 3, 1998; minimum daily, 0 ton several days in most years.

EXTREMES FOR CURRENT YEAR.—
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 15,300 mg/L, Feb. 3; minimum daily mean, 23 mg/L, Oct. 5.
SEDIMENT LOAD (storm season only): Maximum daily, 80,900 tons, Feb. 3; minimum daily, 0.01 tons several days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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. 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)
NOV								
22...	1345	.37	10.5	27	.03	--	--	--
26...	2350	23	12.0	351	22	--	--	--
DEC								
07...	1525	58	13.0	6560	1030	60	70	83
10...	1510	2.8	9.0	68	.51	--	--	--
15...	0035	4.0	10.5	120	1.3	--	--	--
JAN								
02...	1055	5.7	10.5	237	3.6	--	--	--
10...	1250	19	10.0	214	11	--	--	--
15...	1610	597	--	8690	14000	29	33	40
18...	1530	1330	12.0	19000	68300	--	--	--
FEB								
02...	1545	1250	12.0	20600	69500	--	--	--
05...	1735	117	12.0	1820	575	30	31	39
08...	1355	501	10.5	7630	10300	--	--	--
MAR								
13...	1855	41	13.0	866	96	--	--	--
26...	1545	29	13.0	272	22	--	--	--
APR								
30...	2350	5.5	15.0	93	1.4	--	--	--
MAY								
02...	1025	8.1	13.0	60	1.3	--	--	--

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
NOV							
22...	--	--	36	--	--	--	--
26...	--	--	97	99	100	--	--
DEC							
07...	92	95	97	99	100	--	--
10...	--	--	74	--	--	--	--
15...	--	--	98	99	100	--	--
JAN							
02...	--	--	99	100	--	--	--
10...	--	--	91	--	--	--	--
15...	52	62	71	84	94	99	100
18...	--	--	--	--	--	--	--
FEB							
02...	--	--	--	--	--	--	--
05...	53	64	75	81	92	99	100
08...	--	--	--	--	--	--	--
MAR							
13...	--	--	81	88	95	99	100
26...	--	--	95	98	99	100	--
APR							
30...	--	--	66	--	--	--	--
MAY							
02...	--	--	66	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)
DEC							
10...	1515	1	2.3	9.0	21	41	56
10...	1520	1	2.3	9.0	19	37	55
10...	1525	1	2.3	9.0	1	2	8
10...	1530	1	2.3	9.0	1	4	17
10...	1535	1	2.3	9.0	19	48	76
MAY							
02...	1045	1	8.1	13.0	11	20	30
02...	1050	1	8.1	13.0	26	40	51
02...	1055	1	7.9	13.0	1	3	6
02...	1100	1	7.8	13.0	14	36	71
02...	1105	1	7.8	13.0	20	52	80
02...	1115	1	7.8	13.0	6	34	83
02...	1120	1	7.8	13.0	13	23	34

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
DEC							
10...	65	76	86	97	100	--	--
10...	64	71	82	95	100	--	--
10...	16	23	32	42	52	67	100
10...	36	47	57	66	78	92	100
10...	88	93	96	100	--	--	--
MAY							
02...	39	48	56	67	80	89	100
02...	62	70	79	87	93	97	100
02...	9	10	15	25	40	59	100
02...	84	88	92	98	100	--	--
02...	92	98	100	--	--	--	--
02...	92	96	98	100	--	--	--
02...	99	100	--	--	--	--	--
02...	45	57	71	90	100	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	STARTING TIME (2400 HOURS) (82073)	ENDING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORIZONTAL WIDTH OF VERTICAL (FEET) (04121)
JAN									
15...	1720	1000	1100	.25	0	1710	1730	10	2
FEB									
05...	1745	1000	1120	.25	0	1740	1750	10	1

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VERTICALS IN COMPOSITE SAMPLE (NUM) (04119)	NUMBER OF SAMPLING POINTS (COUNT) (00063)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COMPOSITE SAMPLE T/D/FT (04122)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY) (80225)
JAN								
15...	1	13	13	2	493	--	.18	5.2
FEB								
05...	1	21	21	1	118	12.0	.92	21

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM (80226)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)
JAN								
15...	--	3	34	80	92	96	97	100
FEB								
05...	1	2	26	95	98	99	100	--

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	10.5	12.0	---	---	13.0	---	---	---	---
3	---	13.0	11.5	---	12.0	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	13.0	---	---	12.0	---	---	---	---	---	---	---
6	---	---	---	7.5	11.5	---	12.5	---	---	---	---	---
7	---	---	13.0	---	12.0	---	---	---	---	---	---	---
8	---	---	---	9.0	10.5	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	9.0	10.0	---	---	---	---	---	---	---	---
11	---	---	---	---	13.0	---	---	---	---	---	---	---
12	---	---	---	11.0	---	---	---	---	---	---	---	---
13	---	---	---	10.5	13.0	13.0	---	---	---	---	---	---
14	---	---	---	11.0	11.0	---	---	---	---	---	---	---
15	---	---	10.5	---	---	---	12.5	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	17.0
17	---	---	12.0	13.0	---	---	---	---	---	---	---	---
18	---	---	---	12.0	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	12.5	---	---	10.5	---	---	---	---	---	---	---	---
21	---	---	---	---	---	14.5	---	---	---	---	---	---
22	---	10.5	---	---	---	---	---	---	---	---	---	---
23	---	---	---	11.5	---	---	14.5	---	---	---	---	---
24	---	---	---	---	---	15.5	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	12.0	---	---	---	13.0	---	---	17.5	---	---	---
27	---	13.0	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	12.5	---	11.0	---	9.5	---	---	---	---	---	---
30	---	12.5	---	---	---	---	15.0	---	---	---	---	---
31	---	---	9.0	12.5	---	---	---	---	---	---	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	e.15	24	.01	.22	36	.02	e4.4	170	2.02
2	e.46	67	.08	.19	35	.02	e3.1	150	1.26
3	e.18	28	.01	.16	33	.01	e2.6	56	.39
4	e.16	26	.01	.16	32	.01	e2.4	52	.34
5	e.14	23	.01	.18	34	.02	e2.9	60	.47
6	e.17	27	.01	.23	37	.02	e2.7	57	.42
7	e.27	41	.03	.24	39	.03	e61	1430	236
8	e.50	70	.09	.26	42	.03	e18	460	22.4
9	e1.9	205	1.05	.29	42	.03	e5.5	150	2.23
10	e.60	82	.13	6.9	207	4.7	e3.6	88	.86
11	e.35	56	.05	1.1	84	.39	e2.5	63	.42
12	e.25	39	.03	.31	27	.02	2.1	54	.31
13	e.25	38	.02	.48	42	.06	1.9	48	.24
14	e.20	33	.02	.87	74	.27	11	254	9.6
15	e.18	30	.01	6.3	289	19	3.0	93	.76
16	e.17	28	.01	1.2	69	.37	2.3	83	.52
17	e.20	33	.02	.34	32	.03	2.1	76	.43
18	e.20	33	.02	.89	58	.40	2.0	70	.38
19	e.22	35	.02	2.2	118	1.1	1.7	66	.31
20	e.23	36	.02	.40	31	.03	1.7	63	.29
21	.21	33	.02	e.46	31	.04	1.7	59	.27
22	.21	32	.02	e.37	27	.03	1.6	56	.24
23	.19	28	.01	e.48	32	.04	1.4	53	.20
24	.17	26	.01	e2.2	120	.71	1.4	50	.19
25	.15	24	.01	e.62	40	.07	1.4	48	.18
26	.16	26	.01	e26	846	59.4	1.3	45	.16
27	.20	34	.02	e1.8	170	.83	1.3	43	.15
28	.21	46	.03	e1.5	155	.63	1.3	40	.14
29	.19	38	.02	e.90	66	.16	1.3	37	.13
30	.22	37	.02	e10	354	9.56	1.4	33	.12
31	.22	36	.02	---	---	---	1.3	31	.11
TOTAL	8.91	---	1.84	67.25	---	98.03	151.9	---	281.54

e Estimated.

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
		JANUARY			FEBRUARY			MARCH	
1	1.3	32	.11	37	457	51	30	751	60
2	9.5	308	12	418	5150	13800	24	646	42
3	5.2	227	5.8	1270	15300	80900	22	573	34
4	31	386	70	261	3500	2710	18	474	23
5	8.6	31	.73	144	2160	874	21	563	34
6	e7.0	24	.45	425	5230	7500	17	458	22
7	e6.6	27	.48	438	5450	6980	16	399	17
8	e6.2	30	.50	302	4350	3800	13	340	12
9	e6.0	28	.45	155	2050	882	11	291	8.6
10	e18	200	9.72	103	1220	347	9.8	270	7.2
11	75	744	302	69	757	143	8.8	239	5.7
12	401	5020	7510	70	1060	215	8.6	232	5.4
13	79	1570	395	48	950	123	99	1750	870
14	29	614	50	192	4190	2570	29	558	43
15	298	3980	5840	84	3070	698	25	509	35
16	112	979	340	76	2780	577	26	538	38
17	45	323	42	60	1690	279	23	447	28
18	326	3620	8540	42	1010	117	21	371	21
19	154	1510	704	148	3540	2700	19	308	16
20	60	442	75	65	1740	310	18	256	13
21	35	204	20	294	5440	7730	17	213	9.9
22	24	165	11	167	3680	1680	16	183	7.8
23	18	158	7.7	216	4120	3300	e46	300	37.3
24	14	137	5.2	112	2360	718	e75	555	112
25	12	110	3.4	81	1770	387	e45	401	48.7
26	11	103	3.3	61	1330	219	e29	270	21.1
27	13	150	5.8	47	1060	134	30	274	24
28	8.4	75	1.7	38	893	92	26	256	18
29	113	1430	630	---	---	---	22	191	11
30	28	350	26	---	---	---	21	148	8.5
31	32	397	36	---	---	---	31	274	25
TOTAL	1986.8	---	24648.34	5423	---	139836	817.2	---	1658.2

e Estimated.

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL		
1	22	210	13
2	21	177	10
3	43	394	68
4	50	582	110
5	25	309	21
6	21	243	14
7	19	214	11
8	16	192	8.4
9	15	178	7.1
10	14	165	6.0
11	13	153	5.3
12	13	158	6.2
13	42	699	106
14	24	577	48
15	13	343	12
16	11	272	8.2
17	11	231	6.6
18	10	196	5.4
19	9.7	167	4.4
20	9.3	141	3.6
21	8.8	120	2.9
22	8.4	102	2.3
23	8.3	87	1.9
24	8.0	76	1.6
25	7.4	67	1.4
26	7.1	60	1.2
27	6.3	57	.97
28	6.3	69	1.2
29	6.1	56	.92
30	5.7	45	.69
31	---	---	---
TOTAL	474.4	---	489.28
PERIOD	8929.46		167013.23

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1997	8.91	1.84	0	2
NOVEMBER	67.25	98.03	27	125
DECEMBER	151.90	281.54	52	334
JANUARY 1998	1986.80	24648.34	75	24700
FEBRUARY	5423.00	139836.00	707	141000
MARCH	817.20	1658.20	22	1680
APRIL	474.40	489.28	9	498
PERIOD	8929.46	167013.23	892	168339

11180900 CROW CREEK NEAR HAYWARD, CA

LOCATION.—Lat 37°42'18", long 122°02'34", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on right bank upstream side of Crow Canyon Rd. bridge, 0.4 mi east of Canyon High School, 0.8 mi upstream of confluence of Cull Creek, 2.3 mi northeast of Castro Valley.

DRAINAGE AREA.—10.51 mi^2.

PERIOD OF RECORD.—October 1997 to September 1998.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 270 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 CURRENT YEAR.—Peak discharges greater than base discharge of 350 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	1500	1,080	10.12	Feb. 14	1300	605	8.08
Feb. 3	0015	1,990	13.07	Feb. 21	1230	597	8.04
Feb. 7	1545	649	8.29	Apr. 4	0045	466	7.36

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.05	e.18	e1.6	e.70	41	28	13	7.0	4.5	2.3	1.1	.58
2	e.30	e.20	e1.2	e3.1	413	26	13	7.0	4.5	2.4	1.0	.58
3	e.16	e.20	e1.1	e2.8	465	23	53	6.8	4.4	2.3	.92	.59
4	e.09	e.20	e.90	e26	123	19	90	6.8	4.2	2.1	.82	.59
5	e.09	e.17	e1.1	e10	97	26	15	8.2	4.0	2.0	.77	.59
6	e.11	e.18	e1.0	e6.4	217	22	14	6.8	4.0	1.9	.79	.59
7	e.11	e.20	e42	e5.8	204	21	13	6.3	4.3	1.8	.83	.61
8	e.11	e.28	e13	e5.1	163	17	12	6.0	4.1	1.8	.92	.60
9	e1.4	e.29	e5.9	e6.0	104	15	11	5.1	3.8	1.9	.95	.59
10	e.42	e1.3	e2.9	e22	86	13	11	4.9	3.8	1.9	.87	.61
11	e.20	e.50	2.0	e76	72	12	10	5.2	3.8	1.8	.78	.59
12	e.16	e.21	1.8	e300	81	12	11	10	3.6	1.7	.68	.59
13	e.19	e.24	1.7	e100	68	83	52	7.1	3.5	1.6	.63	.59
14	e.17	e.28	6.8	e48	185	17	17	5.5	3.3	1.6	.63	.60
15	e.16	e1.2	e2.7	e200	94	13	12	5.3	3.2	1.6	.68	.58
16	e.16	e.40	e1.3	67	92	12	11	5.2	3.1	1.5	.72	.60
17	e.16	e.22	e1.1	34	76	11	11	5.0	2.8	1.5	.72	.58
18	e.15	e.22	e.90	234	59	10	10	5.0	2.7	1.5	.86	.58
19	e.15	e.40	e.77	92	118	9.4	9.7	4.9	2.7	1.3	.89	.59
20	e.17	e.27	e.66	39	71	10	9.4	4.8	2.7	1.0	.84	.59
21	e.16	e.21	e.61	27	155	9.0	9.1	4.7	2.7	1.4	.82	.58
22	e.15	e.20	e.55	21	87	8.3	8.9	4.7	2.6	1.5	.70	e.58
23	e.15	e.23	e.56	17	113	51	8.6	4.5	2.7	1.5	.69	e.57
24	e.15	e.59	e.55	15	69	55	8.5	4.5	2.8	1.3	.67	e.59
25	e.14	e.54	e.59	14	55	50	8.2	4.4	2.8	1.2	.69	e.61
26	e.14	e11	e.48	14	45	21	7.9	4.3	2.5	1.0	.76	e.60
27	e.14	e1.4	e.51	15	37	17	7.7	6.1	2.3	.90	.65	e.66
28	e.13	e.82	e.56	12	32	15	7.4	19	2.2	.95	.59	e.61
29	e.11	e.90	e.58	107	---	13	7.3	6.1	2.3	1.1	.62	e.94
30	e.14	e5.1	e.54	22	---	12	7.0	5.1	2.4	1.3	.59	e.83
31	e.18	---	e.50	20	---	24	---	4.7	---	1.3	.59	---
TOTAL	6.10	28.13	96.46	1561.90	3422	674.7	478.7	191.0	98.3	48.95	23.77	18.39
MEAN	.20	.94	3.11	50.4	122	21.8	16.0	6.16	3.28	1.58	.77	.61
MAX	1.4	11	42	300	465	83	90	19	4.5	2.4	1.1	.94
MIN	.05	.17	.48	.70	32	8.3	7.0	4.3	2.2	.90	.59	.57
AC-FT	12	56	191	3100	6790	1340	950	379	195	97	47	36

e Estimated.

11180900 CROW CREEK NEAR HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.20	.94	3.11	50.4	122	21.8	16.0	6.16	3.28	1.58	.77	.61
MAX	.20	.94	3.11	50.4	122	21.8	16.0	6.16	3.28	1.58	.77	.61
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.20	.94	3.11	50.4	122	21.8	16.0	6.16	3.28	1.58	.77	.61
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS	FOR 1998 WATER YEAR		
ANNUAL TOTAL	6648.40		
ANNUAL MEAN	18.2		
HIGHEST DAILY MEAN	465	Feb	3
LOWEST DAILY MEAN	.05	Oct	1
ANNUAL SEVEN-DAY MINIMUM	.13	Oct	1
INSTANTANEOUS PEAK FLOW	1990	Feb	3
INSTANTANEOUS PEAK STAGE	13.07	Feb	3
ANNUAL RUNOFF (AC-FT)	13190		
10 PERCENT EXCEEDS	52		
50 PERCENT EXCEEDS	2.6		
90 PERCENT EXCEEDS	.21		

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA

LOCATION.—Lat 37°42'55", long 122°03'12", in San Lorenzo (Castro) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 0.9 mi upstream from Cull Creek Dam and 1.1 mi northeast of Castro Valley Post Office.

DRAINAGE AREA.—5.79 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1978 to current year.

REVISED RECORDS.—WDR CA-80-2: 1979(P).

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

REMARKS.—Records fair except for estimated daily discharges, which are poor. No storage or diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,690 ft^3/s, Jan. 5, 1982, gage height, 8.71 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1400	404	3.87	Feb. 7	1500	227	2.96
Jan. 15	1315	329	3.48	Feb. 14	1300	311	3.42
Jan. 18	1500	726	5.26	Feb. 21	1300	286	3.29
Feb. 3	0030	1,560	8.21				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.14	.56	21	16	8.7	3.6	1.8	e.84	.25	.07
2	.00	.00	.10	1.8	181	15	7.8	3.3	1.7	e.81	.21	.07
3	.00	.00	.08	1.6	369	13	18	3.1	1.7	e.80	.19	.07
4	.00	.00	.08	17	68	12	28	3.1	1.7	e.77	.18	.07
5	.00	.00	.09	2.0	37	13	15	3.4	1.6	e.71	.17	.07
6	.00	.00	.08	1.1	91	13	9.7	3.2	1.5	e.70	.16	.07
7	.00	.00	12	1.0	89	11	8.5	3.0	1.7	e.68	.17	.07
8	.00	.00	4.0	.79	77	10	7.2	2.9	1.6	e.66	.18	.07
9	.03	.00	1.5	.91	32	8.7	6.8	2.7	1.5	e.64	.17	e.06
10	.01	.03	.93	7.1	25	8.4	6.0	2.5	1.5	e.60	.16	e.06
11	.00	.03	.72	34	35	8.2	5.5	2.7	1.5	e.57	.14	.05
12	.00	.01	.63	140	40	8.0	5.0	3.8	1.4	e.55	.13	.05
13	.00	.03	.60	25	33	30	25	3.5	1.3	e.52	.12	.04
14	.00	.03	2.6	18	85	10	12	2.4	1.2	e.50	.11	.04
15	.00	.10	1.4	124	38	8.4	9.2	2.3	1.2	e.47	.12	.04
16	.00	.05	1.1	37	44	7.9	8.3	2.2	1.1	e.45	.12	.07
17	.00	.04	.97	11	31	7.5	7.4	2.1	.99	e.44	.12	.04
18	.00	.04	.90	162	23	7.0	6.5	2.0	.97	e.43	.14	.04
19	.00	.07	.76	78	51	6.8	6.0	1.9	.97	e.41	.14	.03
20	.00	.04	.76	22	21	6.5	5.7	1.9	.96	e.40	.12	.04
21	.00	.04	.74	12	69	6.3	5.5	1.8	.94	e.39	.12	.03
22	.00	.04	.66	9.2	30	6.0	5.2	1.8	.93	e.37	.11	.04
23	.00	.04	.68	8.4	45	27	4.9	1.8	.98	e.35	.10	.03
24	.00	.08	.69	7.2	30	27	4.9	1.8	1.1	.32	.10	.03
25	.00	.09	.66	6.1	26	20	4.6	1.7	e1.2	.31	.09	.03
26	.00	2.8	.62	5.9	22	14	4.1	1.7	e1.2	.30	.10	.04
27	.00	.38	.65	6.3	19	12	4.1	2.4	e1.1	.27	.09	.05
28	.00	.09	.67	4.9	17	10	4.0	7.0	e1.0	.26	.08	.05
29	.00	.06	.68	37	---	9.1	3.8	3.1	e.96	.27	.08	.04
30	.00	.68	.63	12	---	8.2	3.8	2.2	e.90	.29	.08	.04
31	.00	---	.55	11	---	11	---	1.8	---	.28	.08	---
TOTAL	0.04	4.77	36.67	804.86	1649	371.0	251.2	82.7	38.20	15.36	4.13	1.50
MEAN	.001	.16	1.18	26.0	58.9	12.0	8.37	2.67	1.27	.50	.13	.050
MAX	.03	2.8	12	162	369	30	28	7.0	1.8	.84	.25	.07
MIN	.00	.00	.08	.56	17	6.0	3.8	1.7	.90	.26	.08	.03
AC-FT	.08	9.5	73	1600	3270	736	498	164	76	30	8.2	3.0

e Estimated.

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.043	.81	2.84	10.7	13.5	9.25	3.03	.87	.29	.081	.017	.007
MAX	.45	6.00	14.0	43.7	58.9	54.3	16.8	3.56	1.27	.50	.13	.079
(WY)	1983	1984	1984	1997	1998	1983	1982	1983	1998	1998	1998	1983
MIN	.000	.000	.001	.000	.045	.13	.055	.016	.007	.000	.000	.000
(WY)	1979	1987	1990	1991	1991	1988	1990	1988	1988	1981	1979	1979

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1979 - 1998	
ANNUAL TOTAL	1613.86		3259.43			
ANNUAL MEAN	4.42		8.93		3.40	
HIGHEST ANNUAL MEAN					10.3	1983
LOWEST ANNUAL MEAN					.054	1990
HIGHEST DAILY MEAN	270	Jan 2	369	Feb 3	445	Feb 15 1982
LOWEST DAILY MEAN	.00	Aug 6	.00	Oct 1	.00	Oct 1 1978
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 6	.00	Oct 1	.00	Oct 1 1978
INSTANTANEOUS PEAK FLOW			1560	Feb 3	1690	Jan 5 1982
INSTANTANEOUS PEAK STAGE			8.21	Feb 3	8.71	Jan 5 1982
ANNUAL RUNOFF (AC-FT)	3200		6470		2460	
10 PERCENT EXCEEDS	6.5		22		6.3	
50 PERCENT EXCEEDS	.21		.96		.11	
90 PERCENT EXCEEDS	.00		.00		.00	

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1979 to current year (storm season only).
WATER TEMPERATURE: Water years 1979 to current year.
SEDIMENT DATA: Water years 1979 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1978 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1978 to current year.

REMARKS.—Zero bedload discharge observed at flows less than 3.30 ft^3/s. Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.—
SEDIMENT CONCENTRATION: Maximum daily mean, 24,400 mg/L, Mar. 13, 1993; minimum daily mean, no flow many days during most years.
SEDIMENT LOAD: Maximum daily, 26,400 tons, Feb. 17, 1986; minimum daily, 0 ton many days during most years.

EXTREMES FOR CURRENT YEAR.—
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 8,920 mg/L, Jan. 12; minimum daily mean, no flow on many days.
SEDIMENT LOAD (storm season only): Maximum daily, 14,300 tons, Feb. 3; minimum daily, 0 ton on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 M (70339)
NOV								
26...	2025	.72	11.0	526	1.0	--	--	--
DEC								
07...	1455	26	11.5	5940	417	46	55	67
JAN								
12...	1700	130	11.0	7760	2720	22	26	34
18...	1420	586	11.5	31300	49500	28	30	35
28...	0910	5.9	10.5	137	2.2	--	--	--
FEB								
02...	1405	162	11.0	13700	5990	18	23	26
05...	1130	49	11.0	2800	370	31	37	43
06...	1735	109	10.5	10100	2970	22	28	32
MAR								
24...	1425	20	14.5	535	29	--	--	--
25...	1055	17	12.0	594	27	--	--	--

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
NOV								
26...	--	--	98	99	100	--	--	--
DEC								
07...	81	88	93	95	98	99	100	--
JAN								
12...	44	55	67	78	94	99	100	--
18...	47	57	69	74	88	98	99	100
28...	--	--	57	79	95	100	--	--
FEB								
02...	34	43	54	64	90	98	99	100
05...	57	68	78	87	97	99	100	--
06...	42	54	67	76	94	99	99	100
MAR								
24...	--	--	91	95	98	100	--	--
25...	--	--	93	97	99	100	--	--

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	TEMPERATURE WATER (DEG C) (00010)	NUMBER OF SAMPLING POINTS (COUNT) (00063)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)
MAY								
01...	1450	14.0	1	3.4	16	31	51	68
01...	1453	14.0	1	3.4	2	8	27	49
01...	1455	14.0	1	3.4	6	18	47	65
01...	1500	14.0	1	3.4	--	1	4	13
01...	1505	14.0	1	3.4	--	2	7	15
01...	1510	14.0	1	3.4	4	13	35	61
01...	1515	14.0	1	3.4	16	43	76	87

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)
MAY							
01...	88	99	100	--	--	--	--
01...	65	76	87	94	100	--	--
01...	71	81	92	98	100	--	--
01...	24	39	58	73	87	100	--
01...	20	27	38	46	55	68	100
01...	78	89	97	100	--	--	--
01...	92	98	100	--	--	--	--

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)
FEB									
05...	1155	1000	1120	.250	0	1150	1200	15	.5
05...	1210	1000	1120	.250	0	1205	1215	15	.5
MAR									
25...	1120	1000	1120	.250	0	1110	1125	15	.5
25...	1135	1000	1120	.250	0	1130	1140	15	.5

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)
FEB								
05...	2	25	25	.60	50	11.0	2.41	24
05...	2	25	25	.60	45	11.0	1.35	24
MAR								
25...	2	25	25	.40	17	12.0	.55	6.1
25...	2	25	25	.40	16	12.0	.41	6.1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)
FEB								
05...	--	4	16	34	62	87	96	100
05...	1	10	28	42	62	83	94	100
MAR								
25...	--	2	23	49	74	92	99	100
25...	--	4	27	56	80	94	99	100

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	14	---	---	---	---
2	---	---	---	9.5	11	---	---	---	---	---	---	---
3	---	---	9.5	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	11	---	---	---	---	---	---	---
6	---	---	---	6.0	10.5	---	11.5	---	---	---	---	---
7	---	---	10.5	---	---	---	---	---	---	---	---	---
8	---	---	---	8.0	10.5	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	6.0	---	---	---	---	---	---	---	---	17
11	---	---	---	---	12	---	---	---	---	---	---	---
12	---	---	---	11	---	---	---	---	---	---	---	---
13	---	---	---	10	12.5	12	---	---	---	---	---	---
14	---	---	---	10.5	---	---	---	---	---	---	---	---
15	---	---	7.5	12.5	---	---	11.5	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	9.5	12.5	---	---	---	---	---	---	---	---
18	---	---	---	11.5	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	9.5	---	---	---	---	---	---	---	---
21	---	---	---	---	---	14	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	10.5	---	---	14	---	---	---	---	---
24	---	---	---	---	---	14.5	---	---	---	---	---	---
25	---	---	---	---	---	12	---	---	14	---	---	---
26	---	11	---	---	---	---	---	---	---	---	---	---
27	---	11	---	---	---	---	---	---	---	---	---	---
28	---	---	5.5	10.5	---	---	---	---	---	---	---	---
29	---	10.5	---	10	---	9.0	---	---	---	---	---	---
30	---	---	8.0	---	---	---	14	---	---	---	---	---
31	---	---	---	11.5	---	---	---	---	---	---	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	.00	0	.00	.00	0	.00	.14	70	.03
2	.00	0	.00	.00	0	.00	.10	44	.01
3	.00	0	.00	.00	0	.00	.08	36	.01
4	.00	0	.00	.00	0	.00	.08	37	.01
5	.00	0	.00	.00	0	.00	.09	41	.01
6	.00	0	.00	.00	0	.00	.08	45	.01
7	.00	0	.00	.00	0	.00	12	1900	147
8	.00	0	.00	.00	0	.00	4.0	387	4.7
9	.03	0	.00	.00	0	.00	1.5	107	.45
10	.01	0	.00	.03	6	.00	.93	34	.09
11	.00	0	.00	.03	1	.00	.72	27	.05
12	.00	0	.00	.01	0	.00	.63	25	.04
13	.00	0	.00	.03	0	.00	.60	23	.04
14	.00	0	.00	.03	0	.00	2.6	293	2.5
15	.00	0	.00	.10	0	.00	1.4	254	1.0
16	.00	0	.00	.05	0	.00	1.1	121	.35
17	.00	0	.00	.04	0	.00	.97	58	.15
18	.00	0	.00	.04	0	.00	.90	45	.11
19	.00	0	.00	.07	0	.00	.76	44	.09
20	.00	0	.00	.04	0	.00	.76	42	.09
21	.00	0	.00	.04	0	.00	.74	41	.08
22	.00	0	.00	.04	0	.00	.66	40	.07
23	.00	0	.00	.04	0	.00	.68	39	.07
24	.00	0	.00	.08	4	.00	.69	37	.07
25	.00	0	.00	.09	1	.00	.66	36	.06
26	.00	0	.00	2.8	924	9.1	.62	35	.06
27	.00	0	.00	.38	119	.16	.65	34	.06
28	.00	0	.00	.09	34	.01	.67	33	.06
29	.00	0	.00	.06	23	.00	.68	35	.07
30	.00	0	.00	.68	243	.57	.63	38	.06
31	.00	0	.00	---	---	---	.55	41	.06
TOTAL	0.04	---	0.00	4.77	---	9.84	36.67	---	157.46

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
		JANUARY			FEBRUARY			MARCH	
1	.56	41	.06	21	980	116	16	76	3.2
2	1.8	94	.53	181	4500	4890	15	75	2.9
3	1.6	76	.35	369	6860	14300	13	73	2.6
4	17	564	93	68	3270	608	12	72	2.2
5	2.0	20	.11	37	2360	247	13	115	4.8
6	1.1	16	.05	91	7040	2170	13	111	4.2
7	1.0	18	.05	89	7650	2070	11	88	2.8
8	.79	21	.04	77	4620	1000	10	71	1.9
9	.91	23	.06	32	1500	138	8.7	66	1.6
10	7.1	230	8.9	25	927	62	8.4	63	1.4
11	34	1820	523	35	822	77	8.2	61	1.3
12	140	8920	4430	40	914	102	8.0	58	1.3
13	25	775	75	33	675	61	30	1620	191
14	18	363	19	85	4720	1590	10	251	6.9
15	124	4710	3070	38	259	31	8.4	165	3.7
16	37	395	51	44	1100	250	7.9	151	3.2
17	11	203	8.2	31	219	20	7.5	146	2.9
18	162	8410	9050	23	89	5.5	7.0	142	2.7
19	78	5250	1300	51	1850	532	6.8	138	2.5
20	22	802	52	21	274	17	6.5	135	2.4
21	12	455	15	69	2940	1220	6.3	130	2.2
22	9.2	332	8.3	30	470	41	6.0	115	1.9
23	8.4	243	5.5	45	1290	270	27	1220	245
24	7.2	207	4.0	30	168	14	27	1600	179
25	6.1	186	3.1	26	92	6.3	20	511	31
26	5.9	167	2.7	22	84	5.0	14	96	3.6
27	6.3	150	2.6	19	79	4.1	12	90	2.9
28	4.9	129	1.7	17	78	3.6	10	84	2.4
29	37	1580	273	---	---	---	9.1	79	1.9
30	12	413	14	---	---	---	8.2	79	1.7
31	11	356	10	---	---	---	11	123	4.0
TOTAL	804.86	---	19021.25	1649	---	29850.5	371.0	---	721.1

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL	
1	8.7	79	1.9
2	7.8	77	1.6
3	18	204	12
4	28	744	79
5	15	104	4.1
6	9.7	110	2.9
7	8.5	108	2.5
8	7.2	102	2.0
9	6.8	97	1.8
10	6.0	92	1.5
11	5.5	87	1.3
12	5.0	82	1.1
13	25	385	40
14	12	85	2.8
15	9.2	73	1.8
16	8.3	64	1.5
17	7.4	56	1.1
18	6.5	49	.86
19	6.0	43	.69
20	5.7	38	.57
21	5.5	33	.49
22	5.2	29	.40
23	4.9	25	.33
24	4.9	24	.31
25	4.6	23	.29
26	4.1	22	.25
27	4.1	22	.24
28	4.0	21	.23
29	3.8	21	.22
30	3.8	20	.21
31	---	---	---
TOTAL	251.2	---	163.99
PERIOD	3117.54		49924.14

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1997	0.04	0.00	0	0
NOVEMBER	4.77	9.84	0	10
DECEMBER	36.67	157.46	3	160
JANUARY 1998	804.86	19021.25	677	19700
FEBRUARY	1649.00	29850.50	1519	31400
MARCH	371.00	721.10	93	814
APRIL	251.20	163.99	44	208
PERIOD	3117.54	49924.14	2336	52300

11181000 SAN LORENZO CREEK AT HAYWARD, CA

LOCATION.—Lat 37°41'08", long 122°03'48", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on left bank, 300 ft downstream of Center Street Bridge, just outside city limits of Hayward, 0.6 mi downstream from Crow Creek, and 1.0 mi downstream from Don Castro Dam.

DRAINAGE AREA.—37.5 mi^2.

PERIOD OF RECORD.—October 1939 to September 1940, October 1946 to Apr. 28, 1983; October 1997 to September 1998. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1315-B: 1947(M), 1949(M). WSP 1345: 1940(M). WSP 1715: 1947.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 133.16 ft above sea level. January to September 1940, nonrecording gage on bridge 0.1 mi upstream at present datum.

REMARKS.—Records fair. Flow partly regulated since October 1962 by Cull Creek Reservoir, capacity, 310 acre-ft, and since January 1965 by Don Castro Reservoir, 1.0 mi upstream, capacity, 380 acre-ft. A few very small diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,140 ft^3/s, Feb. 3, 1998, maximum gage height, 21.85 ft, Feb. 3, 1998; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 550 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1500	2,010	11.34	Feb. 7	1615	1,360	10.21
Jan. 15	1415	1,710	10.55	Feb. 14	1400	980	9.03
Jan. 18	1600	2,910	13.42	Feb. 21	1330	1,560	10.77
Jan. 29	0515	647	7.00	Mar. 13	0830	598	7.61
Feb. 3	0200	8,140	21.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.38	e1.3	e16	4.2	119	86	49	17	12	8.1	e3.7	e1.6
2	e.79	e1.5	e11	26	784	79	45	17	10	8.0	e3.4	e1.6
3	e.53	e1.5	e7.1	15	2000	75	95	20	11	8.5	e3.1	e1.6
4	e.52	e1.4	e5.8	123	369	66	117	16	10	7.5	e2.9	e1.5
5	e.51	e1.3	e6.8	21	260	76	62	28	9.7	6.4	e2.6	e1.5
6	e.50	e1.3	e6.0	14	587	73	58	17	9.5	6.9	e2.7	e1.4
7	e.52	e1.5	e100	14	559	65	55	16	11	5.6	e2.8	e1.4
8	e.73	e2.0	e47	11	428	60	48	15	10	6.1	e2.9	e1.3
9	e3.2	e2.2	e17	13	252	52	44	12	9.7	5.6	e2.9	e1.3
10	e1.4	e21	8.7	54	202	47	41	11	9.5	6.7	e2.8	e1.5
11	e.79	e5.1	6.6	169	166	44	40	12	8.5	6.6	e2.5	e1.3
12	e.65	e2.0	5.6	722	173	45	37	21	7.8	5.7	e2.4	e1.2
13	e.64	e2.2	4.9	161	138	191	133	16	7.0	4.5	e2.1	e1.1
14	e.59	e3.2	33	119	382	67	72	15	6.6	4.4	e2.1	e1.1
15	e.59	e19	11	606	202	57	54	18	7.1	4.1	e2.5	e1.2
16	e.58	e5.4	7.0	255	196	55	51	18	7.3	5.0	e2.5	e1.3
17	e.60	e1.8	6.4	156	166	51	46	19	5.7	4.7	e2.4	e1.1
18	e.62	e1.9	5.9	685	133	47	45	18	5.0	4.2	e2.7	.85
19	e.67	e5.1	5.1	295	280	44	42	15	4.9	3.8	e2.7	1.1
20	e.70	e1.8	4.8	164	163	43	37	13	4.3	3.7	e2.6	1.1
21	e.66	e1.2	4.9	118	425	41	40	15	3.7	3.8	e2.5	.93
22	.65	e1.2	4.3	90	231	38	39	14	3.5	4.3	e2.2	.56
23	.71	e1.5	4.0	72	285	110	30	15	5.4	4.4	e2.2	.52
24	.65	e4.6	4.0	62	177	133	29	13	5.3	e4.1	e2.1	.73
25	.65	e3.9	4.1	51	147	98	24	12	7.4	e3.7	e2.1	.83
26	.69	e80	3.9	48	124	65	22	14	7.3	e3.5	e2.3	1.1
27	.61	e19	4.2	57	108	62	19	23	6.8	e3.1	e2.1	1.5
28	.65	e11	4.5	43	96	57	20	69	7.3	e3.3	e1.9	2.6
29	.66	e8.9	4.5	262	---	48	23	22	7.5	e3.6	e2.0	2.4
30	e.88	e28	4.4	91	---	44	19	15	7.5	e3.8	e1.9	2.9
31	e1.3	---	4.3	86	---	71	---	12	---	e3.8	e1.8	---
TOTAL	23.62	241.8	362.8	4607.2	9152	2090	1436	558	228.3	157.5	77.4	40.12
MEAN	.76	8.06	11.7	149	327	67.4	47.9	18.0	7.61	5.08	2.50	1.34
MAX	3.2	80	100	722	2000	191	133	69	12	8.5	3.7	2.9
MIN	.38	1.2	3.9	4.2	96	38	19	11	3.5	3.1	1.8	.52
AC-FT	47	480	720	9140	18150	4150	2850	1110	453	312	154	80

e Estimated.

11181000 SAN LORENZO CREEK AT HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.78	3.58	21.7	56.4	53.2	37.9	25.3	5.57	2.24	1.00	.69	.59
MAX	107	30.1	184	227	327	267	255	21.3	9.03	5.22	4.58	2.89
(WY)	1963	1951	1956	1952	1998	1983	1958	1967	1967	1982	1980	1968
MIN	.000	.000	.13	.39	.73	.84	.29	.12	.043	.000	.000	.000
(WY)	1947	1949	1949	1949	1948	1972	1977	1976	1977	1961	1947	1947

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	18974.74			
ANNUAL MEAN	52.0		16.4	
HIGHEST ANNUAL MEAN			56.4	1982
LOWEST ANNUAL MEAN			.63	1977
HIGHEST DAILY MEAN	2000	Feb 3	2600	Oct 13 1962
LOWEST DAILY MEAN	.38	Oct 1	.00	Sep 19 1940
ANNUAL SEVEN-DAY MINIMUM	.54	Oct 1	.00	Oct 1 1946
INSTANTANEOUS PEAK FLOW	8140	Feb 3	8140	Feb 3 1998
INSTANTANEOUS PEAK STAGE	21.85	Feb 3	21.85	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	37640		11880	
10 PERCENT EXCEEDS	133		34	
50 PERCENT EXCEEDS	7.5		1.5	
90 PERCENT EXCEEDS	1.1		.00	

11181008 CASTRO VALLEY CREEK AT HAYWARD, CA

LOCATION.—Lat 37°40'48", long 122°04'46", in San Lorenzo (Castro) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 500 ft east of Hayward City Hall, 700 ft upstream from mouth, and 700 ft downstream from small left-bank tributary.

DRAINAGE AREA.—5.51 mi^2.

PERIOD OF RECORD.—October 1971 to current year (seasonal records only, water years 1975–77).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 100 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, 1,550 ft^3/s, Feb. 2, 1998, gage height, 9.12 ft, from rating curve extended above 61 ft^3/s on basis of slope-area measurement at gage height 3.92 ft and step-backwater computation to gage height 10.40 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	0825	969	7.21	Jan. 18	1350	1,160	7.89
Dec. 7	1135	568	5.56	Feb. 2	2400	1,550	9.12
Jan. 4	0110	570	5.57	Feb. 21	1120	663	5.99
Jan. 12	1310	1,040	7.48				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.29	2.1	.58	17	4.3	3.4	e1.0	1.3	.53	.40	.32
2	.63	.28	1.4	22	243	3.9	4.5	e.98	1.2	.54	.39	.30
3	.12	.28	1.2	12	226	3.4	30	e.90	1.1	.55	.41	.30
4	.14	.28	.94	54	44	3.0	11	e.85	1.1	.53	.42	.27
5	.15	.26	3.8	2.9	23	12	4.4	e.97	1.0	.51	.38	e.27
6	.14	.26	1.2	3.7	110	4.2	6.1	e1.2	1.1	.50	.38	e.27
7	.13	.28	108	3.9	86	7.2	3.7	e1.1	2.5	.53	.39	e.27
8	.11	.30	32	1.6	46	3.6	2.7	e1.0	1.6	.52	.55	e.26
9	19	.28	3.6	8.9	15	2.7	2.5	e.98	.93	.51	.36	e.26
10	.93	17	1.8	36	11	2.3	2.2	e.91	.92	.52	.38	.26
11	.31	2.0	1.3	93	e21	2.3	2.1	e1.1	.89	.51	.39	.25
12	.31	.43	1.1	212	e31	4.3	13	e3.0	.85	.48	.39	.25
13	.35	1.5	.98	17	e16	57	59	e2.4	.77	.50	.40	.24
14	.33	2.7	29	19	e69	6.1	4.4	1.4	.80	.45	.35	.24
15	.31	22	2.5	83	e22	4.1	2.9	1.2	.84	.49	.35	.24
16	.32	5.5	1.6	12	e33	3.8	2.3	1.1	.79	.50	.37	.25
17	.33	.60	1.4	9.6	9.6	3.0	2.1	1.1	.74	.45	.35	.27
18	.31	2.5	1.2	164	7.2	2.6	2.0	1.0	.69	.47	.34	.24
19	.31	6.4	.98	35	50	2.3	1.9	.98	.70	.46	.36	.26
20	.34	.61	.87	7.2	11	2.2	1.7	.92	.68	.44	.35	.24
21	.32	.74	.80	4.8	98	3.3	2.1	.92	.66	.42	.44	.24
22	.31	.92	.89	9.4	17	2.6	1.6	.89	.65	.42	.41	.23
23	.32	.77	.72	3.0	35	46	1.8	.90	.69	.43	.34	.23
24	.30	16	.68	2.5	11	13	1.5	.90	e.73	.42	.37	.24
25	.29	31	.67	2.2	8.9	19	1.2	.91	e.79	.43	.34	.25
26	.30	164	.62	3.7	6.7	4.8	1.2	1.6	e.71	.42	.50	.31
27	.28	17	.62	2.5	5.6	8.3	1.2	7.7	.55	.42	.33	.27
28	.26	1.9	.62	1.8	4.8	6.6	1.1	38	.53	.40	.32	.27
29	.26	14	.66	69	---	3.2	e1.1	7.6	.55	.42	.33	.26
30	.32	28	.60	5.2	---	2.6	e1.0	2.0	.51	.42	.35	.26
31	.28	---	.56	7.3	---	13	---	1.5	---	.40	.36	---
TOTAL	27.99	338.08	204.41	908.78	1277.8	256.7	175.7	87.01	26.87	14.59	11.80	7.82
MEAN	.90	11.3	6.59	29.3	45.6	8.28	5.86	2.81	.90	.47	.38	.26
MAX	19	164	108	212	243	57	59	38	2.5	.55	.55	.32
MIN	.11	.26	.56	.58	4.8	2.2	1.0	.85	.51	.40	.32	.23
AC-FT	56	671	405	1800	2530	509	349	173	53	29	23	16

e Estimated.

11181008 CASTRO VALLEY CREEK AT HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.58	4.87	5.49	10.1	10.4	7.60	2.81	1.14	.58	.38	.38	.49
MAX	4.97	19.0	14.2	29.3	45.6	34.6	12.3	3.23	1.55	1.15	1.50	1.62
(WY)	1976	1974	1997	1998	1998	1983	1974	1990	1995	1974	1983	1983
MIN	.15	.24	.24	.39	1.06	.60	.20	.30	.28	.17	.14	.12
(WY)	1978	1993	1990	1991	1977	1988	1977	1992	1980	1991	1980	1980

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1972 - 1998	
ANNUAL TOTAL	1513.13		3337.55			
ANNUAL MEAN	4.15		9.14		4.02	
HIGHEST ANNUAL MEAN					9.14	1998
LOWEST ANNUAL MEAN					1.51	1972
HIGHEST DAILY MEAN	164	Nov 26	243	Feb 2	322	Jan 4 1982
LOWEST DAILY MEAN	.11	Oct 8	.11	Oct 8	.00	Oct 11 1977
ANNUAL SEVEN-DAY MINIMUM	.18	Sep 13	.20	Oct 2	.00	Oct 11 1977
INSTANTANEOUS PEAK FLOW			1550	Feb 2	1550	Feb 2 1998
INSTANTANEOUS PEAK STAGE			9.12	Feb 2	9.12	Feb 2 1998
ANNUAL RUNOFF (AC-FT)	3000		6620		2910	
10 PERCENT EXCEEDS	4.9		20		6.8	
50 PERCENT EXCEEDS	.41		.97		.48	
90 PERCENT EXCEEDS	.22		.27		.18	

11181040 SAN LORENZO CREEK AT SAN LORENZO, CA

LOCATION.—Lat 37°41'03", long 122°08'20", in San Lorenzo (Soto) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 400 ft downstream from Washington Ave. Bridge in San Lorenzo and 1.6 mi upstream from mouth.

DRAINAGE AREA.—44.6 mi^2.

PERIOD OF RECORD.—October 1967 to September 1978, October 1987 to current year.
WATER TEMPERATURE: Water years 1989–93 (storm season only).
SEDIMENT DATA: Water years 1989–93 (storm season only).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 6.13 ft above sea level (levels by Alameda County Flood Control and Water Conservation District).

REMARKS.—Records poor. Flow partly regulated by Cull Creek Reservoir beginning in October 1962 (capacity, 310 acre-ft) and Don Castro Reservoir (capacity, 380 acre-ft) 7 mi upstream beginning in January 1965. A few very small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,300 ft^3/s, Feb. 3, 1998, gage height, 14.27 ft from rating curve extended above 1,200 ft^3/s; minimum daily, 0.01 ft^3/s, several days in June and July, 1977.

EXTREMES FOR 1997 WATER YEAR. (NOT PREVIOUSLY PUBLISHED).—

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 17	0625	2,520	7.01	Jan. 2	0740	5,440	9.62
Dec. 5	0615	1,170	5.71	Jan. 22	1955	3,430	7.81
Dec. 10	1025	1,360	5.93	Jan. 26	0625	3,220	7.63
Dec. 21	2220	1,330	5.89				

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 850 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	unknown	3,770	8.12	Feb. 7	unknown	3,360	7.75
Jan. 15	unknown	unknown	unknown	Feb. 14	unknown	unknown	unknown
Jan. 18	unknown	unknown	unknown	Feb. 21	unknown	1,970	6.51
Feb. 3	unknown	10,300	14.27				

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

DAILY MEAN VALUES (NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.7	26	1300	59	15	6.7	4.1	2.8	5.5	1.0	2.6
2	1.6	1.6	3.5	1780	47	18	6.1	4.0	2.8	3.7	1.3	2.3
3	1.8	1.5	2.3	270	39	17	6.3	4.2	13	3.3	1.1	2.7
4	1.9	1.5	2.6	127	40	16	6.7	4.3	14	4.0	1.1	1.9
5	1.3	1.4	413	93	33	16	6.8	4.4	3.7	3.3	1.0	1.8
6	1.1	1.4	41	64	30	16	6.8	4.6	2.2	3.6	1.1	1.7
7	1.2	1.6	21	52	29	17	6.8	4.4	1.9	3.1	.99	1.8
8	.92	1.4	18	40	28	17	6.7	4.5	1.7	2.9	1.1	1.8
9	.76	1.4	23	32	26	18	6.5	4.5	1.8	2.8	.90	1.7
10	.70	1.4	434	28	24	18	6.4	4.5	1.9	2.7	.93	1.7
11	.73	1.4	55	25	23	19	6.2	4.9	2.2	2.1	.95	1.8
12	.76	1.5	55	68	22	16	5.9	5.0	2.5	2.0	.92	1.6
13	1.4	1.6	47	26	20	14	5.9	5.0	2.3	1.9	.84	1.6
14	1.5	1.7	27	21	20	13	5.5	5.2	2.2	1.6	.80	1.7
15	1.4	1.8	24	48	19	14	5.2	5.2	2.0	1.6	.69	1.7
16	1.6	33	17	21	19	16	4.7	4.8	2.0	1.3	.66	1.6
17	2.0	397	16	19	31	12	4.6	4.8	2.0	1.2	.63	1.8
18	2.4	33	15	19	19	10	45	4.8	1.9	1.2	.74	2.0
19	2.7	28	14	18	19	9.7	46	4.7	1.9	1.2	7.0	2.1
20	2.4	13	14	51	19	9.5	4.3	4.9	2.0	1.2	38	2.5
21	2.3	6.0	812	48	18	9.3	3.1	5.1	1.6	1.3	3.7	2.7
22	1.9	69	278	693	18	8.6	2.9	4.8	1.7	1.6	2.1	3.0
23	1.7	15	65	369	17	8.2	3.1	19	1.8	1.5	1.8	3.0
24	2.3	4.7	38	231	16	7.9	2.7	7.7	1.7	1.6	2.0	2.8
25	3.7	3.4	30	837	16	7.3	2.3	4.6	1.6	1.6	2.1	2.6
26	1.9	2.8	53	1160	17	7.3	2.1	3.4	1.7	1.8	2.1	2.3
27	1.2	2.2	110	217	17	7.1	2.4	3.1	1.2	2.4	2.1	2.1
28	1.1	3.1	46	128	16	6.8	2.9	3.0	.86	2.0	2.1	1.9
29	53	2.1	68	94	---	7.0	3.5	3.5	.92	1.9	2.1	1.8
30	19	1.8	56	76	---	6.7	3.9	3.8	14	1.2	3.7	1.5
31	2.5	---	40	67	---	6.9	---	3.1	---	1.3	2.3	---
TOTAL	120.37	637.0	2864.4	8022	701	384.3	228.0	153.9	93.88	68.4	87.85	62.1
MEAN	3.88	21.2	92.4	259	25.0	12.4	7.60	4.96	3.13	2.21	2.83	2.07
MAX	53	397	812	1780	59	19	46	19	14	5.5	38	3.0
MIN	.70	1.4	2.3	18	16	6.7	2.1	3.0	.86	1.2	.63	1.5
AC-FT	239	1260	5680	15910	1390	762	452	305	186	136	174	123

11181040 SAN LORENZO CREEK AT SAN LORENZO, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.27	8.85	25.6	71.1	50.2	43.0	20.8	8.30	3.79	1.66	1.40	1.76
MAX	30.2	38.1	106	259	183	154	108	31.9	17.0	3.52	3.25	4.58
(WY)	1992	1974	1971	1997	1969	1995	1974	1996	1993	1993	1969	1975
MIN	.23	1.49	1.41	1.14	2.15	1.83	2.07	.85	.066	.64	.11	.35
(WY)	1978	1991	1990	1991	1977	1972	1976	1972	1977	1990	1977	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	15893.87		13423.20			
ANNUAL MEAN	43.4		36.8		20.1	
HIGHEST ANNUAL MEAN					40.9	1974
LOWEST ANNUAL MEAN					2.38	1977
HIGHEST DAILY MEAN	948	Feb 21	1780	Jan 2	2400	Jan 21 1970
LOWEST DAILY MEAN	.70	Oct 10	.63	Aug 17	.01	Jun 12 1977
ANNUAL SEVEN-DAY MINIMUM	.88	Oct 6	.75	Aug 12	.01	Jun 10 1977
INSTANTANEOUS PEAK FLOW			5440	Jan 2	5440	Jan 2 1997
INSTANTANEOUS PEAK STAGE			9.62	Jan 2	9.62	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	31530		26620		14530	
10 PERCENT EXCEEDS	77		47		42	
50 PERCENT EXCEEDS	6.1		3.8		2.4	90
PERCENT EXCEEDS	1.4		1.3		.57	

11181040 SAN LORENZO CREEK AT SAN LORENZO, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	3.0	e19	e5.0	121	e95	e55	25	16	e9.1	3.8	2.5
2	3.5	2.9	e13	e50	e1080	e87	60	24	14	e9.0	3.3	2.3
3	2.0	2.8	e8.7	e28	e2340	e82	e131	22	12	e9.5	3.3	2.3
4	1.8	2.8	e7.1	e186	e434	e72	e134	22	11	e8.4	3.3	2.1
5	1.6	2.4	e11	e25	e297	e92	91	63	9.5	e7.3	3.5	2.2
6	1.5	2.5	e7.6	e19	e732	e81	75	22	8.7	e7.8	2.8	2.3
7	1.4	2.6	e218	e19	e677	e76	78	19	11	e6.4	2.9	2.2
8	1.5	2.6	e83	e13	e498	e67	68	20	12	e7.0	3.4	2.1
9	69	2.7	e22	e23	e280	e57	61	18	11	e6.4	3.5	2.3
10	10	38	e11	e95	e224	e52	59	17	11	e7.6	3.4	2.8
11	4.3	15	e8.3	e275	e196	e49	58	21	12	7.5	3.4	2.7
12	3.4	e4.8	e7.0	e981	e214	e52	e53	27	12	6.6	3.3	2.5
13	3.1	e7.2	e6.2	e187	e162	e260	e202	20	11	6.2	3.2	2.1
14	3.0	e9.3	e65	e145	e474	e77	e80	17	11	6.2	2.8	2.1
15	3.4	62	e14	e723	e235	e64	e60	16	10	5.7	3.1	2.1
16	4.2	13	e9.0	e280	e240	e62	e56	16	9.7	5.7	3.2	e2.2
17	4.3	4.6	e8.2	e174	e184	55	e51	16	8.5	5.0	3.1	e1.9
18	4.5	e4.6	e7.5	e891	e147	52	e49	15	8.1	5.1	5.7	e1.6
19	4.1	e12	e6.4	e347	e347	47	e46	15	8.2	4.9	3.7	e1.8
20	3.9	e2.5	e6.0	198	e183	44	e41	15	8.2	4.4	3.2	e1.7
21	3.6	e2.0	e6.0	e145	e549	45	e44	15	8.1	4.6	3.4	e1.5
22	3.5	e2.2	e5.4	119	e260	42	e43	16	8.1	5.2	3.3	e1.1
23	3.2	e2.4	e5.0	92	e336	e164	e33	16	8.5	5.3	3.0	e1.1
24	3.4	e22	e4.9	78	e197	e153	e32	15	9.4	4.5	2.9	e1.1
25	2.9	e37	e5.0	65	e164	e123	e26	15	e8.6	4.4	3.0	e1.2
26	2.6	e256	e4.7	55	e137	e73	e24	16	e8.4	4.2	3.3	e1.5
27	2.6	e38	e5.1	e70	e119	82	e21	24	e7.7	4.2	3.0	e1.9
28	2.3	e14	e5.4	e53	e106	78	26	127	e8.2	4.2	2.6	e3.0
29	2.5	e24	e5.4	391	---	64	27	25	e8.5	4.4	2.5	e2.8
30	2.7	e59	e5.3	91	---	59	23	18	e8.4	4.6	2.6	e3.3
31	2.9	---	e5.1	88	---	e88	---	18	---	4.4	2.7	---
TOTAL	164.2	653.9	595.3	5911.0	10933	2494	1807	735	298.8	185.8	100.2	62.3
MEAN	5.30	21.8	19.2	191	390	80.5	60.2	23.7	9.96	5.99	3.23	2.08
MAX	69	256	218	981	2340	260	202	127	16	9.5	5.7	3.3
MIN	1.4	2.0	4.7	5.0	106	42	21	15	7.7	4.2	2.5	1.1
AC-FT	326	1300	1180	11720	21690	4950	3580	1460	593	369	199	124

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.27	9.44	25.3	76.5	65.6	44.7	22.6	9.00	4.07	1.86	1.48	1.77
MAX	30.2	38.1	106	259	390	154	108	31.9	17.0	5.99	3.25	4.58
(WY)	1992	1974	1971	1997	1998	1995	1974	1996	1993	1998	1969	1975
MIN	.23	1.49	1.41	1.14	2.15	1.83	2.07	.85	.066	.64	.11	.35
(WY)	1978	1991	1990	1991	1977	1972	1976	1972	1977	1990	1977	1988

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1968 - 1998	
ANNUAL TOTAL	11214.83		23940.5			
ANNUAL MEAN	30.7		65.6		22.1	
HIGHEST ANNUAL MEAN					65.6	1998
LOWEST ANNUAL MEAN					2.38	1977
HIGHEST DAILY MEAN	1780	Jan 2	2340	Feb 3	2400	Jan 21 1970
LOWEST DAILY MEAN	.63	Aug 17	1.1	Sep 22	.01	Jun 12 1977
ANNUAL SEVEN-DAY MINIMUM	.75	Aug 12	1.3	Sep 20	.01	Jun 10 1977
INSTANTANEOUS PEAK FLOW			10300	Feb 3	10300	Feb 3 1998
INSTANTANEOUS PEAK STAGE			14.27	Feb 3	14.27	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	22240		47490		16030	
10 PERCENT EXCEEDS	38		168		45	
50 PERCENT EXCEEDS	4.5		11		2.6	
90 PERCENT EXCEEDS	1.6		2.5		.59	

e Estimated.

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA

LOCATION.—Lat 37°57'53", long 122°25'42", in NW 1/4 sec.3, T.1 N., R.5 W., Contra Costa County, Hydrologic Unit 18050002, on north end of Richmond Terminal No. 4 Pier on west side of Point San Pablo.

GAGE-HEIGHT RECORDS

DRAINAGE AREA.—Indeterminate.

PERIOD OF RECORD.—October 1989 to current year (gage height only).

GAGE.—Water-stage recorder. Datum of gage is 10.00 ft below sea level.

REMARKS.—Daily maximums and minimums sometimes differ from tidal-cycle (24.8 hours) maximums and minimums.

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height recorded, 16.17 ft, Feb. 6, 1998; minimum gage height recorded, 4.93 ft, June 13, 1995.

EXTREMES FOR CURRENT YEAR.—Maximum gage height recorded, 16.17 ft, Feb. 6; minimum gage height recorded, 6.04 ft, May 26.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.69	9.06	13.73	7.57	14.66	7.33	14.71	7.70	14.71	8.99	13.82	8.11
2	13.64	8.76	13.95	7.65	14.66	7.41	14.82	8.12	14.83	10.07	14.04	8.36
3	13.74	8.62	14.05	7.80	14.61	7.71	14.24	8.95	15.88	10.61	13.97	8.19
4	13.64	8.34	14.05	8.04	14.39	8.23	14.52	8.50	15.10	9.78	13.67	8.40
5	13.53	8.37	13.95	8.13	14.29	8.67	14.05	8.88	15.10	9.87	13.78	8.62
6	13.51	8.32	13.75	8.24	14.21	8.91	14.12	8.83	16.17	9.49	13.74	8.31
7	13.44	8.13	13.26	8.09	14.70	8.96	14.43	8.33	15.84	9.59	13.49	8.05
8	13.39	8.50	13.19	8.09	14.31	8.96	14.74	7.97	15.30	8.55	13.43	7.71
9	13.30	8.26	13.69	8.28	13.97	8.17	15.11	7.97	14.75	8.15	13.40	7.73
10	13.39	8.20	14.52	8.89	14.08	7.36	15.27	7.43	14.81	8.28	13.46	7.69
11	13.08	7.96	14.69	8.83	14.36	6.93	15.04	7.24	14.49	8.21	13.57	8.01
12	13.13	7.45	14.84	8.16	14.53	6.64	15.19	7.29	14.35	8.74	13.79	8.42
13	13.39	7.51	15.27	7.66	15.01	7.08	14.48	7.05	13.98	9.19	13.77	8.68
14	13.72	7.79	15.02	7.25	15.34	7.05	14.53	7.44	14.22	9.65	13.51	8.88
15	14.18	7.69	15.24	7.09	14.77	6.92	---	---	13.82	9.67	13.37	8.85
16	14.43	7.45	14.79	7.09	14.37	7.06	---	---	13.66	10.60	13.40	8.93
17	14.51	7.30	14.33	7.08	14.12	7.51	---	---	13.72	10.30	13.39	8.97
18	14.51	7.38	14.12	8.15	13.73	7.79	---	---	13.27	9.83	13.32	8.90
19	14.30	7.50	13.67	7.90	13.19	8.44	---	---	13.42	9.90	13.25	8.95
20	13.93	7.68	13.06	8.14	13.52	8.97	---	---	13.42	9.36	13.19	9.01
21	13.67	8.03	13.15	8.43	13.73	8.99	---	---	14.05	9.31	13.20	8.72
22	13.27	8.35	13.49	8.67	13.12	9.11	---	---	13.87	8.39	13.29	8.39
23	13.03	8.36	13.73	9.51	13.74	9.23	---	---	14.73	8.43	13.67	8.60
24	13.19	8.47	13.80	9.37	13.73	8.56	---	---	14.74	7.60	13.99	8.17
25	13.21	8.55	13.85	9.12	13.90	8.27	---	---	14.27	7.10	14.36	7.86
26	13.37	8.73	15.15	9.10	14.19	7.66	---	---	14.16	7.09	14.05	7.36
27	13.58	9.03	14.22	8.10	14.23	7.29	---	---	14.13	7.07	14.36	7.70
28	13.71	8.75	14.27	7.77	14.52	7.03	15.30	7.24	13.72	7.38	14.41	8.06
29	13.72	8.33	14.69	7.92	14.72	7.03	15.28	7.34	---	---	14.36	7.40
30	13.67	7.87	14.60	7.46	14.91	7.10	14.67	7.61	---	---	14.44	7.12
31	13.73	7.54	---	---	14.83	7.06	14.50	8.32	---	---	14.66	7.25
MONTH	14.51	7.30	15.27	7.08	15.34	6.64	---	---	16.17	7.07	14.66	7.12

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.59	7.27	13.99	7.40	12.91	8.24	12.82	8.71	13.27	8.94	13.64	8.21
2	13.88	7.69	13.37	7.86	13.07	8.64	13.02	9.21	13.46	8.57	14.00	7.98
3	13.62	8.15	12.79	8.21	13.16	9.07	13.24	9.08	13.94	8.25	14.16	7.86
4	13.47	8.51	13.05	8.43	13.21	9.17	13.51	8.68	14.16	8.02	14.24	7.47
5	13.21	8.55	13.28	8.77	13.59	8.78	13.71	8.12	14.24	7.52	14.20	7.37
6	13.11	8.47	13.25	8.81	13.79	8.44	13.95	7.66	14.36	7.21	14.14	7.39
7	12.87	8.13	13.35	8.86	13.85	8.08	14.09	7.18	14.33	7.05	14.13	7.59
8	13.06	8.17	13.19	8.41	14.00	7.52	14.17	7.01	14.23	6.91	14.08	8.04
9	13.45	8.57	13.30	7.78	14.08	7.22	14.25	6.80	14.05	6.83	14.03	8.16
10	13.66	8.63	13.43	7.59	14.27	7.21	14.23	6.68	13.91	7.05	13.99	8.09
11	13.66	8.65	13.87	7.40	14.27	6.96	14.00	6.53	13.56	7.54	14.02	8.13
12	13.28	8.00	13.88	7.39	14.06	7.05	13.72	6.68	13.78	8.09	13.96	8.01
13	13.46	7.71	13.93	7.35	13.86	6.81	13.43	6.87	13.90	8.65	13.84	8.01
14	13.35	7.82	13.56	7.08	13.38	7.04	13.33	7.25	13.97	8.43	13.82	7.92
15	13.22	7.92	13.37	6.98	13.12	7.58	13.38	7.96	14.05	8.37	13.74	7.82
16	12.90	7.84	13.22	7.44	13.28	8.00	13.76	8.71	14.06	8.05	13.83	7.77
17	12.62	7.80	12.81	7.40	13.49	8.48	14.00	8.78	14.15	7.64	13.51	7.61
18	12.42	7.79	12.50	7.79	13.74	8.73	14.25	8.23	14.19	7.36	13.20	7.78
19	12.31	7.80	12.75	7.96	14.17	8.75	14.46	7.60	14.10	6.92	13.25	7.70
20	12.29	7.85	13.04	7.96	14.48	7.95	14.53	7.20	13.89	7.00	13.23	7.98
21	12.88	7.82	13.45	8.03	14.62	7.29	14.52	6.65	13.73	6.78	13.24	8.50
22	13.73	7.86	13.92	7.96	14.66	6.81	14.46	6.43	13.73	7.06	13.20	8.49
23	13.90	7.82	14.16	7.27	14.75	6.41	14.37	6.60	13.48	7.42	13.16	8.43
24	13.89	7.94	14.51	6.68	14.55	6.29	14.37	6.80	13.36	8.08	13.17	8.51
25	14.04	7.04	14.48	6.21	14.58	6.37	14.13	7.10	13.19	8.37	13.20	8.59
26	14.31	6.40	14.44	6.04	14.13	6.30	13.83	7.42	13.08	8.77	13.07	8.48
27	14.34	6.10	14.56	6.18	13.70	6.71	13.31	7.84	13.04	9.18	12.61	8.45
28	14.29	6.17	14.55	6.58	13.22	7.21	13.09	8.21	12.91	8.90	12.69	8.46
29	14.24	6.38	14.05	6.67	12.80	7.72	13.03	8.65	12.80	8.71	12.78	8.46
30	14.03	6.82	13.40	7.15	12.70	8.18	13.07	9.28	12.98	8.58	12.90	8.19
31	---	---	12.89	7.78	---	---	13.17	9.10	13.27	8.52	---	---
MONTH	14.59	6.10	14.56	6.04	14.75	6.29	14.53	6.43	14.36	6.78	14.24	7.37

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: October 1989 to current year.
WATER TEMPERATURE: October 1989 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1989.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments. Upper probe is set about 4.0 ft below Mean Lower Low Water (MLLW). Lower probe is set about 20.0 ft below MLLW. Daily maximums and minimums sometimes differ from tidal-cycle (24.8 hours) maximums and minimums.

EXTREMES FOR PERIOD OF RECORD.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 50,900 microsiemens, Aug. 25, 28, 1992; minimum recorded, 155 microsiemens, Jan. 5, 1997.
(Lower probe) Maximum recorded, 50,100 microsiemens, July 23, 1990; minimum recorded 147 microsiemens, Jan. 5, 1997.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 24.0°C, July 31, 1993; minimum recorded, 4.5°C, Dec. 23, 1990.
(Lower probe) Maximum recorded, 22.5°C, July 30, 1995, Aug. 26, 28, Sept. 4, 1997; minimum recorded 5.0°C, Dec. 21, 23, 1990.

EXTREMES FOR CURRENT YEAR.—
SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 47,800 microsiemens, Oct. 18; minimum recorded, 423 microsiemens, Feb. 8.
(Lower probe) Maximum recorded, 47,600 microsiemens, Nov. 15; minimum recorded, 649 microsiemens, Feb. 12.
WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.5°C, Aug. 2; minimum recorded, 8.5°C, Dec. 22.
(Lower probe) Maximum recorded, 21.5°C, Aug. 27, Sept. 7; minimum recorded, 9.0°C, Dec. 22.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	46800	40200	46200	37600	43800	34000	44500	34600	---	---	25000	742
2	---	---	46300	37900	43900	32400	44000	34300	31700	7350	29200	2180
3	46300	39700	46200	38500	43600	31700	43400	34300	27000	5170	22600	2430
4	46200	39700	46300	39000	43400	31700	43700	34400	29100	4640	---	---
5	46000	39900	46000	39300	42900	31400	43000	33800	24300	4000	30300	5530
6	46100	41100	45900	39300	42600	31200	43400	32500	21000	3360	34600	5950
7	46400	40800	46000	39800	42600	31200	43300	31700	15000	1770	33100	7860
8	46600	38300	45700	39100	41800	32400	43700	31000	15900	423	31100	8220
9	46100	38100	46100	38600	41400	31600	44100	30800	22500	573	30000	9010
10	46200	38400	46100	38700	41700	28700	43800	30300	19200	557	28700	11200
11	46400	40100	46100	40200	41900	24600	43100	29900	24000	490	29800	10900
12	46600	40300	46700	39500	41900	25800	43200	30300	17800	523	31600	9740
13	46800	37900	46200	38700	42500	26500	---	---	22200	1170	30100	10700
14	47200	39500	46400	38500	42300	27400	40800	23100	21200	1560	29700	9720
15	47600	40400	46600	37600	41800	27700	39100	20300	18200	990	29200	9480
16	47400	40300	46400	37300	42800	29000	36400	10700	18800	956	27900	9340
17	47400	39700	45800	37700	42900	29200	32800	10400	19500	855	30100	10900
18	47800	39800	46100	37400	41900	30800	34300	10500	17800	782	32400	9470
19	47700	39500	44800	37200	42300	27300	29200	9770	16500	689	35200	12900
20	47300	39900	44700	37200	42300	27400	28000	7150	17100	1230	37100	8790
21	46700	39900	44600	35900	42800	29000	28100	6080	21200	1190	36200	11100
22	46700	40500	45000	33800	43000	30400	28600	6680	21500	1290	37200	11100
23	46400	39900	44400	35400	43400	28200	31500	8120	19900	1290	33400	12000
24	46100	38900	44500	36000	43500	30900	31000	10800	19800	1850	33300	13800
25	46000	39300	44300	36000	43700	32600	32800	10400	18200	1510	33800	14400
26	46000	36600	44800	36700	43400	32100	33200	12700	22900	1080	32900	12700
27	46100	39800	44200	34600	43800	31400	35800	12500	20500	1720	34600	7030
28	45900	39800	44400	34900	44000	32000	35100	10700	21500	1970	34600	7880
29	46200	38800	44600	33600	44100	32600	---	---	---	---	30200	2840
30	46100	39100	44000	34800	44300	32700	36400	8850	---	---	30000	6050
31	46000	37900	---	---	44600	33800	33300	9510	---	---	32000	4630
MONTH	---	---	46700	33600	44600	24600	---	---	---	---	---	---

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	30200	4000	34700	11000	34900	8580	35400	13800	38200	23200	39100	22700
2	24400	2790	32600	9620	35000	12000	35400	14200	38500	23500	40700	25200
3	28600	2460	32300	11500	35800	9540	35300	16300	42000	22700	43600	28000
4	30200	5550	36600	10800	32100	9450	35300	16200	42100	23900	44100	25800
5	34100	5620	35800	12600	30500	9680	37000	16700	43900	26000	44200	29500
6	31900	6010	35800	13400	34700	11600	36700	16600	43000	29100	43100	28400
7	29900	6510	33300	14600	31100	11800	38800	14600	44100	29600	43300	28300
8	27700	7360	31400	14800	31200	10600	37700	13800	44800	27900	---	---
9	27900	8440	35700	14800	31800	10000	38200	20100	44800	28400	---	---
10	29500	7830	35600	13300	31800	11300	40600	20000	44100	27800	---	---
11	28600	8870	34600	12700	33000	11600	39800	15700	43500	26300	---	---
12	26200	8710	36500	13100	33000	9120	37900	17000	43700	26100	---	---
13	27900	4530	38300	13900	34500	12200	38800	16100	44000	27900	---	---
14	28300	6550	35800	14800	32900	8420	39200	15300	44400	29100	---	---
15	31900	9110	34500	12900	33900	10800	39400	14900	43400	28500	---	---
16	31800	8630	35300	11500	36000	9630	41600	17300	43200	28900	42100	26800
17	35300	6310	34900	10400	33800	12700	40700	19300	43200	27100	---	---
18	35800	6570	35700	9560	36200	13300	40500	15900	---	---	---	---
19	34500	8010	35000	13200	40100	13300	42200	18400	---	---	41200	26200
20	37200	9620	34400	14200	40200	13700	42500	21600	---	---	41800	23200
21	38100	11900	37000	14600	40100	15600	42800	23500	---	---	40900	21700
22	37400	14300	39100	15600	38400	15700	42800	22600	---	---	41300	24600
23	37300	15700	40000	17100	40600	14400	43000	24600	---	---	40600	23300
24	36800	16000	39800	19100	39700	14000	43500	25000	---	---	39400	24600
25	36900	14900	40800	18500	39900	14300	42700	25200	---	---	39100	23700
26	37500	14300	41100	14900	35500	12400	41100	20700	41400	25400	39000	26000
27	39900	14800	40300	15800	36600	11000	40200	23600	39400	24500	39500	22700
28	37700	13500	37600	13400	36600	10400	40500	21900	---	---	41900	23400
29	37900	13700	35000	13900	35200	11400	39700	23100	---	---	41100	23600
30	36200	12800	33700	12300	33900	12000	37300	22300	39700	25300	40800	27900
31	---	---	33900	6800	---	---	38500	22900	---	---	---	---
MONTH	39900	2460	41100	6800	40600	8420	43500	13800	---	---	---	---

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	47100	41000	46600	38500	45500	35100	44400	34000	---	---	30900	929
2	---	---	46700	38600	45500	33500	44100	34800	36400	9860	31200	2680
3	47100	41800	46700	39300	44800	33000	43900	34800	38900	5870	34800	3690
4	47100	41700	47000	39700	45100	33100	43800	35800	35500	5280	---	---
5	47100	41300	46700	39800	44500	32600	43300	34600	33500	4610	39700	6690
6	47100	41700	46300	39800	44200	32600	43300	32200	31000	3510	42300	5930
7	46800	41400	46300	40300	44600	32600	43500	31700	28300	2250	40200	7880
8	46600	40300	46100	39800	43600	33500	43700	30900	25800	775	39100	8450
9	46400	38500	46600	39100	42900	33000	44100	30800	27400	1070	40100	9610
10	46400	38800	47200	39300	43200	30100	44400	31000	31000	1220	39000	11100
11	46100	40100	47000	41200	43400	26700	44200	30900	27100	949	38500	12900
12	46400	40200	47400	40300	43400	26800	44400	30500	27800	649	38000	13200
13	46700	39400	47100	39500	44000	27100	---	---	28900	1870	36900	14200
14	46800	40200	47400	39200	44200	28200	41900	23800	32100	2070	36500	11900
15	47200	40500	47600	38400	43500	29100	41200	21200	29900	1600	36900	9850
16	47300	40700	47500	38700	44000	29300	39300	11200	28500	2050	36300	9190
17	47300	39900	47200	38800	44100	29600	38600	12000	26200	1870	37100	10600
18	47500	39500	47000	38400	43100	31900	39800	11700	25700	1040	39100	11000
19	47300	38900	46100	38000	42800	28900	38600	12500	25600	1840	40600	15700
20	47000	39400	46000	38100	42800	27400	39200	10000	32500	1490	41900	15000
21	46800	39800	45900	36900	43200	30700	38000	9290	30400	2050	41100	11800
22	46400	40000	46400	34900	43500	30700	39400	9590	29800	1800	41200	12200
23	46300	39600	46300	37000	43200	31100	41800	9520	32200	1600	39300	13500
24	46200	39100	46300	37600	43100	30400	40000	10900	27400	1940	39300	14000
25	46400	39500	46200	37200	43300	32500	41200	11300	28200	1660	40000	14900
26	46300	38300	46700	37900	43100	31800	39100	13800	28200	1330	37900	12700
27	46400	40400	45700	35700	43600	31400	39100	13000	30700	1820	36800	9930
28	45900	40000	46100	36100	43600	31700	39300	11000	29300	1820	36600	7820
29	46200	39800	46100	35000	43800	32300	---	---	---	---	36500	6370
30	46300	39400	45600	35900	44200	32500	36600	8780	---	---	36700	7360
31	46400	38300	---	---	44300	33400	35700	9940	---	---	37700	5700
MONTH	---	---	47600	34900	45500	26700	---	---	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	37500	5630	38300	11500	38600	13100	41900	18000	43700	26900	42600	27000
2	35000	3460	39500	10000	39000	13800	39900	19900	43300	27200	42600	26900
3	34200	2730	41500	13200	40600	13000	40100	17200	44400	28100	43700	28400
4	37800	6930	40600	14500	40000	13500	41700	20000	44800	26600	44100	27600
5	38100	9810	41200	15900	39100	9230	41500	18100	44600	27100	44100	29700
6	37800	7920	41800	16400	39100	13100	41300	17400	43700	29600	43600	28700
7	37400	8020	41000	16100	39100	13200	42000	16200	44500	30200	43400	28800
8	34900	8820	40900	18500	39200	11200	42000	13600	45000	28400	---	---
9	36600	9330	40300	18200	39700	10700	41500	21000	44900	29200	42600	29200
10	37100	8300	40800	13900	39200	10700	41800	20500	44500	28500	43500	26700
11	36500	10700	40800	14700	38700	12200	41100	16800	44200	27300	43400	26300
12	36700	11200	40200	14300	38400	9600	40900	19700	44400	27800	43700	26400
13	36200	5180	41200	14300	39300	12000	40600	17600	44700	29100	43300	25200
14	36600	7430	40100	15600	38300	8260	40300	16700	44700	29900	42900	25200
15	37200	9440	38700	14000	37300	11700	41100	16100	44200	29500	42900	26600
16	36700	9260	38000	13800	40100	12200	42600	19400	43900	29500	42800	26700
17	38700	7150	37700	14400	38800	16000	42600	21700	43900	28100	43300	26300
18	40200	6850	40100	11500	41900	16500	43300	17100	43900	27800	42900	28400
19	39700	9400	40600	14000	40900	16400	42900	20300	44100	27100	42200	27500
20	40500	11000	41300	15000	41600	14200	43200	23500	44100	25800	42300	24600
21	40500	14100	40100	18100	41100	15900	43200	24500	44700	25700	42500	24500
22	40000	16900	40800	18400	40200	16500	43200	23500	45100	24800	42600	28200
23	38400	15600	40300	18000	41100	14800	43400	25400	44800	24300	42200	26400
24	38400	17300	40300	19600	40700	14100	43600	25600	44200	23700	42400	26500
25	37100	17200	41400	19400	40900	15500	43300	25900	42400	25300	42200	29900
26	39000	14600	41200	16400	39900	14400	43300	21700	42400	27300	41700	27600
27	40200	15700	40700	17400	39700	11100	42700	25400	43600	26300	41500	22500
28	40000	15000	40500	15100	39300	11200	42000	22400	42800	26900	43200	23400
29	40300	14500	38500	15400	40100	13200	43000	24300	42300	28500	42700	24400
30	40400	13400	39400	13300	41400	13200	44000	27600	43300	26900	42500	30600
31	---	---	37500	9440	---	---	43300	24600	44100	27900	---	---
MONTH	40500	2730	41800	9440	41900	8260	44000	13600	45100	23700	---	---

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	18.5	18.0	16.0	14.5	13.5	12.5	10.5	13.0	11.0	12.5	11.0
2	20.5	18.0	18.0	16.0	14.5	13.0	12.5	11.0	13.0	11.0	13.0	11.0
3	20.5	18.0	17.5	16.5	14.5	13.0	12.5	11.0	12.5	11.0	13.0	11.0
4	21.0	18.0	17.5	16.5	14.5	12.5	12.5	11.0	12.5	11.0	13.0	11.0
5	20.0	18.5	17.5	16.5	14.5	13.0	12.5	10.5	12.5	11.0	13.0	11.5
6	19.5	18.0	17.5	16.5	14.0	12.5	12.0	10.5	12.0	11.0	13.0	11.0
7	18.5	16.0	17.0	16.0	14.5	13.0	12.0	10.0	11.5	10.5	13.0	12.0
8	18.0	17.5	16.5	16.0	14.0	12.5	12.0	10.0	11.5	10.0	13.0	11.5
9	18.5	17.5	16.5	16.0	14.0	11.5	12.0	10.0	11.5	10.0	13.5	12.0
10	18.5	17.0	16.5	15.5	14.0	11.5	12.0	10.0	11.5	10.0	14.0	11.5
11	18.0	16.0	16.0	15.5	13.5	12.0	12.0	10.5	12.0	10.0	14.5	11.5
12	18.0	15.5	16.0	15.5	13.5	11.0	12.5	11.0	11.5	10.0	13.5	12.5
13	18.0	16.5	16.0	15.5	13.5	10.5	---	---	11.5	10.0	14.0	12.5
14	18.5	16.5	16.0	15.0	13.5	10.5	12.0	10.5	12.0	10.5	14.5	12.5
15	18.5	16.5	15.5	14.5	13.5	10.5	12.0	10.5	11.5	10.0	15.0	13.0
16	19.0	16.5	15.5	14.5	13.5	10.5	12.0	10.5	12.0	10.5	15.5	13.0
17	19.0	16.5	15.5	14.5	13.5	11.0	12.0	10.5	11.5	10.0	15.5	13.5
18	18.0	16.5	15.5	14.5	13.0	11.0	12.0	10.5	11.5	10.5	15.5	13.5
19	17.5	16.5	15.0	14.5	13.0	10.5	11.5	10.5	11.5	10.5	15.5	14.0
20	17.5	16.5	15.0	14.0	13.0	10.5	11.5	10.5	11.0	10.0	15.5	14.0
21	17.5	16.5	15.0	14.5	12.5	10.0	12.0	10.5	12.0	10.5	15.0	14.0
22	17.5	16.5	15.0	14.5	12.5	8.5	12.0	10.5	12.0	10.0	15.5	14.0
23	17.5	16.0	15.5	14.5	12.5	9.0	12.0	10.5	11.5	10.0	15.5	14.0
24	17.0	16.0	15.0	14.5	12.5	10.0	12.0	11.0	11.5	10.0	16.5	14.0
25	17.0	16.0	15.0	14.5	12.5	9.0	12.5	11.0	11.5	10.0	17.0	14.5
26	17.0	15.5	15.0	14.5	12.5	10.0	12.5	11.0	12.0	10.0	15.5	14.5
27	17.0	15.5	15.0	14.0	12.0	9.5	13.0	11.0	12.0	10.5	15.5	14.0
28	17.0	15.5	15.0	14.0	12.5	10.0	13.0	11.0	12.5	10.5	15.0	13.0
29	17.0	15.5	15.0	13.5	12.0	10.0	13.0	11.5	---	---	15.5	12.5
30	17.5	16.0	15.0	13.5	12.0	10.0	13.0	11.0	---	---	15.0	13.5
31	18.0	16.0	---	---	12.5	10.0	13.0	11.0	---	---	14.0	13.5
MONTH	21.0	15.5	18.0	13.5	14.5	8.5	---	---	13.0	10.0	17.0	11.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	12.5	---	---	---	---	---	---	21.0	18.0	20.5	17.5
2	14.0	12.5	---	---	17.0	15.0	---	---	23.5	18.0	21.5	17.0
3	13.5	13.0	---	---	16.5	14.5	19.5	16.0	22.5	17.0	21.0	16.5
4	14.0	13.0	---	---	17.0	15.0	19.5	16.0	22.5	17.5	20.0	16.5
5	15.0	13.0	---	---	18.5	15.0	19.0	15.5	21.5	17.0	21.0	16.5
6	14.0	13.0	17.0	15.0	17.5	15.0	20.0	16.0	21.0	17.5	22.0	17.0
7	15.0	12.5	17.5	15.0	16.5	15.0	19.5	15.5	20.5	17.0	22.0	17.0
8	---	---	16.5	15.0	17.5	15.5	19.5	16.0	20.0	17.0	---	---
9	---	---	17.0	14.5	17.5	15.5	19.0	15.5	20.5	17.0	---	---
10	---	---	17.5	15.0	18.0	15.5	19.5	15.0	21.0	17.0	---	---
11	---	---	16.0	14.5	17.5	15.5	19.0	15.0	21.5	17.0	20.5	17.0
12	---	---	15.5	14.5	17.5	15.5	20.0	16.0	21.5	17.0	---	---
13	---	---	16.0	14.0	18.5	15.0	19.5	15.5	21.0	17.0	---	---
14	---	---	15.5	14.0	19.5	15.5	19.5	15.5	20.5	17.0	---	---
15	---	---	16.5	14.5	19.5	15.5	21.0	15.5	20.5	17.0	---	---
16	---	---	16.0	14.0	20.0	15.5	20.5	15.0	20.5	17.0	20.5	17.0
17	---	---	17.0	14.0	20.0	16.0	20.0	15.5	20.5	17.0	---	---
18	---	---	17.0	14.0	20.5	16.0	22.5	16.0	---	---	---	---
19	---	---	17.0	14.5	19.0	15.0	21.5	15.0	---	---	20.5	17.5
20	---	---	---	---	19.0	15.5	19.5	15.0	---	---	20.0	17.0
21	---	---	---	---	19.0	15.5	19.5	15.0	---	---	19.0	17.0
22	---	---	---	---	19.0	16.0	20.0	15.0	---	---	19.0	17.0
23	---	---	18.0	14.0	18.5	15.5	19.0	15.0	---	---	18.5	16.5
24	---	---	17.0	14.0	18.5	16.0	19.0	15.0	---	---	18.5	17.0
25	---	---	17.5	14.0	19.5	16.0	20.0	15.5	---	---	18.0	17.0
26	---	---	16.5	14.0	19.5	16.5	20.0	16.0	19.5	17.0	17.5	16.5
27	---	---	16.0	14.0	19.5	16.0	20.0	16.5	20.5	18.0	17.5	16.5
28	18.0	14.5	15.5	14.0	19.0	16.0	20.0	16.5	---	---	18.0	16.0
29	---	---	16.0	14.0	---	---	19.5	17.0	---	---	18.0	16.0
30	---	---	17.0	14.5	---	---	19.5	17.5	---	---	17.5	16.5
31	---	---	17.0	14.5	---	---	20.0	17.0	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	18.0	18.0	16.0	15.0	13.5	12.5	10.5	13.5	11.0	12.5	11.0
2	20.5	18.0	18.0	16.0	14.5	13.0	12.5	11.0	13.0	11.5	13.0	11.0
3	20.5	18.0	17.5	16.0	14.5	13.0	12.5	11.0	13.5	11.0	13.0	11.5
4	20.5	18.0	17.5	16.0	14.5	12.5	12.5	11.0	13.0	11.0	13.0	11.0
5	20.0	18.0	17.0	16.0	14.5	13.0	12.5	11.0	13.0	11.0	13.0	12.0
6	19.0	18.0	17.0	16.0	14.0	12.5	12.0	10.5	13.0	11.0	13.0	11.0
7	19.0	16.5	17.0	16.0	14.5	13.0	12.0	10.5	12.5	10.5	13.5	12.0
8	18.0	17.5	16.5	16.0	14.0	12.5	12.0	10.0	12.5	10.0	13.0	11.5
9	18.0	17.0	16.5	16.0	14.0	11.5	12.0	10.0	12.0	10.0	13.5	12.0
10	18.0	16.5	16.5	15.5	14.0	12.0	12.0	10.5	12.5	10.0	13.5	12.0
11	18.0	16.0	16.0	15.5	13.5	12.0	12.0	10.5	12.0	10.0	14.5	12.5
12	17.5	16.0	16.0	15.5	13.5	11.5	12.5	11.0	12.0	10.0	13.5	12.5
13	18.0	16.5	16.0	15.5	13.5	11.0	---	---	12.5	10.0	14.0	12.5
14	18.5	16.5	16.0	15.5	13.5	10.5	12.0	10.5	12.5	10.0	14.5	12.5
15	18.5	16.5	16.0	14.5	13.5	10.5	12.0	10.5	12.5	10.0	14.5	13.0
16	18.5	16.5	15.5	14.5	13.5	11.0	12.0	10.5	12.5	10.0	15.0	13.0
17	18.5	16.5	15.5	14.5	13.5	11.0	12.5	11.0	12.0	10.0	14.5	13.5
18	18.0	16.0	15.5	14.5	13.0	11.0	12.5	11.0	12.0	10.5	15.0	13.0
19	17.5	16.5	15.0	14.5	13.0	11.0	12.5	10.5	12.0	10.0	15.0	13.5
20	17.5	16.5	15.5	14.0	13.0	11.0	12.5	10.5	12.5	10.0	15.0	13.0
21	17.5	16.5	15.0	14.5	13.0	10.0	13.0	10.5	12.5	10.5	15.0	13.5
22	17.5	16.0	15.0	14.5	13.0	9.0	13.0	11.0	12.5	10.5	15.0	13.5
23	17.0	16.0	15.5	14.5	12.5	10.0	13.0	11.0	12.5	10.0	15.0	13.5
24	17.0	16.0	15.0	14.5	12.5	10.0	13.5	11.5	12.5	10.0	16.0	14.0
25	17.0	15.5	15.0	14.5	12.5	9.5	13.5	11.0	12.5	10.0	16.5	14.0
26	17.0	15.5	15.0	14.5	12.5	10.0	13.5	11.5	12.5	10.0	15.5	14.5
27	17.0	15.5	15.0	14.5	12.5	10.0	13.5	11.5	12.5	10.0	15.5	14.0
28	17.0	15.5	15.0	14.0	12.5	10.0	13.5	11.0	12.5	10.5	15.0	13.0
29	17.0	15.5	15.0	14.0	12.5	10.0	13.5	11.5	---	---	15.5	12.0
30	17.5	16.0	15.0	13.5	12.5	10.0	13.5	11.0	---	---	15.0	13.5
31	18.0	16.0	---	---	12.5	10.5	13.5	11.5	---	---	14.0	13.5
MONTH	20.5	15.5	18.0	13.5	15.0	9.0	---	---	13.5	10.0	16.5	11.0

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

11182500 SAN RAMON CREEK AT SAN RAMON, CA

LOCATION.—Lat 37°46'23", long 121°59'37", in sec.8, T.2 S., R.1 W., Contra Costa County, Hydrologic Unit 18050001, on right bank 0.2 mi downstream from Bollinger Creek and 1.0 mi southwest of San Ramon.

DRAINAGE AREA.—5.89 mi^2.

PERIOD OF RECORD.—October 1952 to current year.

REVISED RECORDS.—WSP 1445: 1953–54(P).

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 530 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,600 ft^3/s, Oct. 13, 1962, gage height, 16.98 ft, from rating curve extended above 200 ft^3/s on basis of culvert computations at gage heights 11.80, 12.09, 14.20, and 16.98 ft; no flow for parts of most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1400	319	4.46	Feb. 6	1345	303	4.36
Jan. 15	1215	266	4.13	Feb. 14	1245	309	4.40
Jan. 18	1445	469	5.35	Feb. 21	1215	333	4.55
Feb. 3	0045	1,530	13.81				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.06	.62	e.50	26	22	9.7	3.9	2.5	e1.1	e.50	e.35
2	.02	.05	.48	1.7	146	19	8.6	4.0	2.5	e1.1	e.40	e.31
3	.01	.04	.42	1.5	275	18	17	3.9	2.5	e1.1	e.44	e.36
4	.01	.04	.35	22	62	16	e23	3.9	2.4	e1.1	e.41	e.31
5	.01	.04	.47	3.3	e47	20	11	4.3	2.2	e1.1	e.38	e.31
6	.02	.03	.44	1.8	112	18	10	4.0	2.1	e1.0	e.37	e.31
7	.02	.03	20	1.7	111	16	9.6	3.9	2.3	e.97	e.51	e.31
8	.02	.04	4.8	1.4	94	15	8.6	3.8	2.2	e.93	e.60	e.30
9	.51	.06	1.5	1.5	65	13	8.3	3.5	2.0	e.90	e.50	e.31
10	.10	.30	.91	7.7	e35	12	8.0	3.3	2.0	e.87	e.47	e.30
11	.04	.38	.73	32	e46	11	7.9	3.5	2.0	e.85	e.43	e.28
12	.03	.15	.68	116	e61	11	7.6	6.1	1.9	e.83	e.41	e.29
13	.03	.21	.62	23	e46	35	16	4.9	1.8	e.81	e.40	e.28
14	.03	.83	3.2	15	105	14	8.2	3.5	1.8	e.77	e.37	e.27
15	.03	1.3	1.3	109	e54	12	7.4	3.3	1.7	e.73	e.37	e.26
16	.03	.40	.83	41	e62	11	6.8	3.2	1.6	e.69	e.40	e.29
17	.03	.22	.78	22	e45	11	6.5	3.1	1.5	e.65	e.38	e.40
18	.03	.23	.71	103	e34	9.8	6.3	2.9	1.5	e.63	e.36	e.31
19	.03	.88	.63	51	e62	9.2	6.0	2.8	1.5	e.62	e.39	e.26
20	.03	.36	.62	25	e41	9.0	5.9	2.7	1.4	e.59	e.37	e.31
21	.03	.25	.62	17	88	8.7	5.6	2.6	1.4	e.58	e.48	e.25
22	.03	.23	.54	13	50	8.4	5.4	2.6	1.5	e.57	e.46	e.32
23	.03	.23	e.61	12	60	26	5.2	2.5	1.4	e.54	e.40	e.26
24	.03	.38	e.62	10	40	30	5.4	2.5	1.4	e.51	e.44	e.24
25	.03	.88	e.61	8.8	34	16	5.0	2.4	1.5	e.49	e.40	e.30
26	.03	10	e.53	8.7	30	12	4.5	2.4	e2.0	e.50	e.56	e.36
27	.03	2.0	e.56	9.6	27	11	4.4	3.2	e1.6	e.51	e.41	e.30
28	.03	.64	e.58	7.5	24	10	4.3	7.1	e1.3	e.47	e.34	e.25
29	.03	.55	e.62	48	---	9.2	4.0	4.2	e1.3	e.44	e.37	e.24
30	.04	2.4	e.54	14	---	8.6	3.9	3.2	e1.2	e.49	e.38	e.23
31	.06	---	e.53	14	---	12	---	2.8	---	e.59	e.40	---
TOTAL	1.41	23.21	46.45	742.70	1882	453.9	240.1	110.0	54.0	23.03	13.10	8.87
MEAN	.045	.77	1.50	24.0	67.2	14.6	8.00	3.55	1.80	.74	.42	.30
MAX	.51	10	20	116	275	35	23	7.1	2.5	1.1	.60	.40
MIN	.01	.03	.35	.50	24	8.4	3.9	2.4	1.2	.44	.34	.23
AC-FT	2.8	46	92	1470	3730	900	476	218	107	46	26	18

e Estimated.

11182500 SAN RAMON CREEK AT SAN RAMON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MEAN	.49	.62	3.42	9.61	10.4	7.86	4.82	1.39	.55	.21	.087	.057	
MAX	17.0	5.49	27.2	42.3	67.2	60.6	44.9	4.92	1.99	.83	.42	.33	
(WY)	1963	1984	1956	1997	1998	1983	1958	1967	1967	1958	1998	1982	
MIN	.000	.000	.001	.002	.039	.17	.016	.000	.000	.000	.000	.000	
(WY)	1953	1956	1977	1991	1991	1977	1977	1977	1976	1955	1954	1954	

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1953 - 1998		
ANNUAL TOTAL	1787.24		3598.77				
ANNUAL MEAN	4.90		9.86		3.26		
HIGHEST ANNUAL MEAN					12.4		1983
LOWEST ANNUAL MEAN					.029		1977
HIGHEST DAILY MEAN	195	Jan 1	275	Feb 3	411	Oct 13	1962
LOWEST DAILY MEAN	.01	Sep 9	.01	Oct 1	.00	Oct 1	1952
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 21	.01	Oct 1	.00	Oct 1	1952
INSTANTANEOUS PEAK FLOW			1530	Feb 3	1600	Oct 13	1962
INSTANTANEOUS PEAK STAGE			13.81	Feb 3	16.98	Oct 13	1962
ANNUAL RUNOFF (AC-FT)	3540		7140		2360		
10 PERCENT EXCEEDS	8.1		26		6.6		
50 PERCENT EXCEEDS	.59		1.4		.29		
90 PERCENT EXCEEDS	.03		.06		.00		

11456000 NAPA RIVER NEAR ST. HELENA, CA

LOCATION.—Lat 38°29'52", long 122°25'37", in Carne Humana Grant, Napa County, Hydrologic Unit 18050002, on right bank 0.2 mi upstream from highway bridge, 1.3 mi northeast of Zinfandel, and 2.5 mi east of St. Helena.

DRAINAGE AREA.—81.4 mi^2.

PERIOD OF RECORD.—October 1929 to September 1932, October 1939 to June 30, 1995. Stage only July 1, 1995, to current year. Monthly discharge only for some periods, published in WSP 1315-B.
WATER TEMPERATURE.—Water years 1958–79.
SEDIMENT DATA.—Water years 1961–62.

REVISED RECORDS.—WSP 1929: Drainage area. WDR CA-78-2: 1977(M).

GAGE.—Water-stage recorder. Datum of gage is 170.12 ft above sea level. Prior to Nov. 22, 1958, at datum 3.00 ft higher. Nov. 22, 1958, to July 22, 1976, at datum 2.00 ft higher.

REMARKS.—Some regulation by Kimball Creek Reservoir, capacity 344 acre-ft, since 1939, and Bell Canyon Reservoir, capacity, 2,530 acre-ft, since 1959. Small diversions upstream from station for irrigation of about 1,500 acres.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16,900 ft^3/s, Feb. 17, 1986, gage height, 18.52 ft, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.73	2.71	2.74	2.73	3.96	3.54	3.28	3.25	7.79	5.41	4.74	4.57
2	2.74	2.72	2.75	2.73	3.54	3.38	3.84	3.28	15.01	6.47	4.59	4.47
3	2.75	2.73	2.76	2.74	3.51	3.33	4.83	3.68	17.02	7.80	4.50	4.35
4	2.74	2.72	2.79	2.75	3.62	3.40	5.73	4.83	7.96	6.31	4.35	4.24
5	2.75	2.73	2.82	2.79	3.96	3.45	4.84	4.22	9.66	6.27	4.40	4.21
6	2.75	2.72	2.82	2.80	3.75	3.58	4.38	4.03	11.21	7.69	4.38	4.13
7	2.75	2.74	2.80	2.78	6.23	3.57	4.58	4.26	12.20	8.14	4.16	4.08
8	2.79	2.75	2.79	2.78	5.32	4.34	4.26	4.03	9.42	7.02	4.14	4.04
9	2.78	2.72	2.80	2.79	4.34	3.88	4.21	3.95	7.15	6.04	4.06	3.98
10	2.74	2.73	3.01	2.80	3.88	3.64	4.84	4.21	6.25	5.82	3.99	3.92
11	2.73	2.72	3.01	2.84	3.64	3.51	8.26	4.58	6.13	5.54	3.94	3.88
12	2.76	2.72	2.94	2.91	3.51	3.43	9.73	7.23	6.14	5.46	4.33	3.83
13	2.76	2.72	3.05	2.90	3.44	3.41	7.27	5.51	6.15	5.56	4.97	4.31
14	2.74	2.71	3.06	2.93	5.17	3.42	6.90	5.26	8.59	5.60	4.36	4.13
15	2.76	2.72	3.29	2.98	4.86	4.02	7.56	6.69	7.33	6.01	4.15	4.03
16	2.75	2.73	3.74	3.19	4.02	3.78	6.90	6.10	7.63	5.80	4.05	3.95
17	2.75	2.74	4.39	3.31	3.79	3.74	6.63	5.93	7.10	5.93	3.96	3.88
18	2.77	2.72	3.31	3.15	3.75	3.62	9.70	5.64	6.00	5.50	3.88	3.82
19	2.78	2.76	3.58	3.26	3.62	3.52	8.34	6.14	12.58	5.50	3.83	3.76
20	2.77	2.72	3.39	3.21	3.52	3.47	6.22	5.49	8.69	6.43	3.78	3.73
21	2.74	2.72	3.21	3.13	3.48	3.44	5.56	5.10	13.42	6.29	3.79	3.72
22	2.74	2.73	3.20	3.10	3.46	3.38	5.15	4.88	8.33	6.53	3.79	3.72
23	2.74	2.72	3.18	3.10	3.39	3.35	4.98	4.77	7.74	6.39	5.89	3.71
24	2.75	2.71	3.31	3.08	3.36	3.34	4.96	4.72	6.85	5.89	5.51	4.60
25	2.76	2.75	3.38	3.14	3.35	3.32	4.75	4.59	6.00	5.43	4.64	4.47
26	2.76	2.74	5.42	3.36	3.33	3.30	6.33	4.75	5.49	5.15	4.50	4.26
27	2.79	2.75	4.60	3.70	3.31	3.29	6.28	5.46	5.18	4.89	4.28	4.18
28	2.78	2.72	3.70	3.41	3.30	3.28	5.46	5.15	4.93	4.70	4.21	4.10
29	2.75	2.73	4.14	3.33	3.29	3.28	7.47	5.20	---	---	4.12	3.96
30	2.75	2.74	4.90	3.95	3.29	3.27	6.52	5.61	---	---	3.97	3.87
31	2.74	2.72	---	---	3.27	3.25	5.71	5.44	---	---	4.55	3.90
MONTH	2.79	2.71	5.42	2.73	6.23	3.25	9.73	3.25	17.02	4.70	5.89	3.71

11456000 NAPA RIVER NEAR ST. HELENA, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.45	4.17	3.74	3.69	4.05	3.85	3.22	3.20	3.02	2.99	2.95	2.92
2	4.18	4.05	3.72	3.67	3.87	3.75	3.21	3.20	3.01	2.98	2.95	2.92
3	4.80	4.06	3.69	3.62	3.76	3.70	3.21	3.19	3.02	2.97	2.94	2.92
4	4.99	4.80	3.64	3.61	3.71	3.61	3.19	3.18	3.00	2.97	2.93	2.90
5	4.83	4.58	3.61	3.58	3.63	3.58	3.19	3.17	2.99	2.96	2.93	2.90
6	4.60	4.41	3.60	3.55	3.60	3.57	3.18	3.16	2.98	2.96	2.92	2.90
7	4.44	4.24	3.56	3.53	3.57	3.55	3.17	3.15	2.98	2.96	2.93	2.89
8	4.27	4.13	3.54	3.51	3.56	3.51	3.16	3.14	2.96	2.95	2.95	2.91
9	4.30	4.15	3.52	3.48	3.53	3.49	3.16	3.14	2.96	2.94	2.95	2.91
10	4.26	4.18	3.50	3.47	3.50	3.46	3.15	3.14	2.98	2.96	2.96	2.92
11	4.19	4.08	3.49	3.47	3.47	3.46	3.14	3.13	2.98	2.94	2.95	2.92
12	4.80	4.00	3.67	3.49	3.47	3.43	3.14	3.13	2.96	2.93	2.95	2.92
13	4.94	4.60	3.56	3.47	3.44	3.41	3.13	3.12	2.96	2.94	2.93	2.89
14	4.60	4.35	3.48	3.46	3.42	3.39	3.13	3.11	2.94	2.91	2.93	2.90
15	4.41	4.23	3.46	3.41	3.41	3.37	3.12	3.08	2.94	2.91	2.96	2.93
16	4.27	4.15	3.45	3.40	3.39	3.34	3.10	3.09	2.96	2.94	2.96	2.94
17	4.17	4.04	3.43	3.40	3.36	3.32	3.10	3.06	2.96	2.94	2.97	2.92
18	4.07	3.97	3.41	3.38	3.34	3.32	3.07	3.04	2.95	2.94	3.10	2.93
19	3.99	3.90	3.39	3.37	3.33	3.31	3.06	3.04	2.96	2.95	3.06	2.92
20	3.92	3.84	3.38	3.36	3.32	3.30	3.08	3.04	2.95	2.93	2.92	2.89
21	3.87	3.81	3.37	3.35	3.32	3.30	3.08	3.05	2.94	2.92	2.91	2.89
22	3.82	3.74	3.37	3.34	3.31	3.29	3.08	3.06	2.92	2.91	2.92	2.90
23	6.81	3.74	3.35	3.33	3.30	3.28	3.08	3.06	2.92	2.90	2.91	2.89
24	5.03	4.27	3.34	3.33	3.29	3.27	3.07	3.04	2.92	2.89	2.91	2.89
25	4.29	4.07	3.35	3.32	3.28	3.26	3.05	3.04	2.94	2.92	2.91	2.90
26	4.07	3.94	3.33	3.31	3.27	3.24	3.05	3.04	2.97	2.93	2.93	2.91
27	3.96	3.85	3.39	3.31	3.25	3.22	3.05	3.03	2.97	2.94	2.96	2.90
28	3.86	3.79	4.01	3.39	3.24	3.22	3.03	3.02	2.95	2.93	2.96	2.92
29	3.81	3.73	6.25	3.96	3.23	3.21	3.03	3.01	2.94	2.88	2.96	2.95
30	3.74	3.69	5.35	4.40	3.22	3.21	3.03	3.02	2.90	2.87	2.95	2.94
31	---	---	4.41	4.04	---	---	3.04	3.02	2.92	2.88	---	---
MONTH	6.81	3.69	6.25	3.31	4.05	3.21	3.22	3.01	3.02	2.87	3.10	2.89

11458000 NAPA RIVER NEAR NAPA, CA

LOCATION.—Lat 38°22'06", long 122°18'08", in Yajome Grant, Napa County, Hydrologic Unit 18050002, on left bank at downstream side of Oak Knoll Avenue Bridge, 0.4 mi downstream from Dry Creek, 5 mi north of Napa, and 12.8 mi downstream from Conn Dam.

DRAINAGE AREA.—218 mi^2.

PERIOD OF RECORD.—October 1929 to September 1932, October 1959 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1973–93.
BIOLOGICAL DATA: Water years 1978–81.
SPECIFIC CONDUCTANCE: Water years 1978–93.
WATER TEMPERATURE: Water years 1977–93.
SEDIMENT DATA: Water years 1971, 1977–93.

REVISED RECORDS.—WSP 1315-B: 1930(M). WDR CA-87-2: 1963(M), 1965(M), 1967(M), 1982–85.

GAGE.—Water-stage recorder. Datum of gage is 24.74 ft above sea level.

REMARKS.—Records good. Flow regulated by Lake Hennessey beginning in December 1945, 12.8 mi upstream, capacity 31,000 acre-ft; Rector Reservoir beginning in 1948, 12.4 mi upstream, capacity 4,400 acre-ft; Bell Canyon Reservoir beginning in 1959, 19.6 mi upstream, capacity 2,530 acre-ft. Diversions for irrigation upstream from station of about 10,000 acres.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 37,100 ft^3/s, Feb. 18, 1986, gage height, 30.20 ft, from floodmarks; maximum gage height, 30.50 ft, Mar. 9, 1995; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	1.4	146	57	1170	648	304	158	247	43	12	2.7
2	.23	1.3	78	87	3150	572	261	163	207	42	11	2.7
3	.23	.91	55	147	15000	516	291	158	183	41	11	2.8
4	.23	.90	71	586	3670	463	403	147	166	40	9.7	2.6
5	.23	.94	134	363	3760	434	382	145	150	38	7.2	2.4
6	.22	.90	156	234	7210	438	332	142	137	35	6.4	3.1
7	.21	.86	478	331	8750	389	299	132	132	32	6.1	3.3
8	.21	.80	560	274	5550	369	264	128	126	31	5.9	2.5
9	.38	.65	263	231	2630	341	255	122	118	29	6.5	2.1
10	.27	.65	179	320	1740	319	257	116	112	29	7.2	2.1
11	.22	.64	140	858	1460	300	248	119	109	29	5.1	2.8
12	.21	1.0	117	3610	1310	288	224	151	105	27	5.7	3.1
13	.20	1.3	103	1560	1340	391	380	154	100	26	5.0	3.1
14	.20	1.5	145	944	2910	334	330	128	96	25	4.7	2.9
15	.23	3.3	304	1830	2190	295	304	119	88	31	4.2	2.7
16	.32	11	184	1460	1970	274	284	112	83	21	5.0	2.8
17	.36	80	152	1290	2360	244	259	105	78	18	4.7	3.0
18	.37	50	143	1880	1460	230	239	103	74	16	4.8	3.0
19	.42	59	121	2350	5050	218	223	93	72	16	4.4	4.9
20	.50	58	108	1150	3860	204	209	90	69	16	4.4	5.8
21	.54	29	100	781	5730	202	197	87	68	14	4.3	4.3
22	.59	17	95	604	3650	199	188	83	66	16	3.7	4.4
23	.62	18	86	506	2970	301	293	82	63	16	3.9	2.6
24	.63	14	78	474	2250	540	460	81	61	16	3.9	2.3
25	.54	17	75	409	1500	392	302	79	58	15	3.7	2.2
26	.72	233	70	453	1130	353	250	77	56	14	3.6	2.2
27	1.3	285	66	782	905	292	221	78	52	15	3.7	2.9
28	1.6	103	65	555	749	271	200	136	49	13	3.6	3.3
29	1.9	58	64	1070	---	240	183	453	46	13	2.3	3.5
30	1.7	242	62	875	---	211	165	545	44	13	2.1	3.5
31	1.5	---	60	658	---	262	---	324	---	12	3.4	---
TOTAL	17.11	1291.05	4458	26729	95424	10530	8207	4610	3015	742	169.2	91.6
MEAN	.55	43.0	144	862	3408	340	274	149	101	23.9	5.46	3.05
MAX	1.9	285	560	3610	15000	648	460	545	247	43	12	5.8
MIN	.20	.64	55	57	749	199	165	77	44	12	2.1	2.1
AC-FT	34	2560	8840	53020	189300	20890	16280	9140	5980	1470	336	182

11458000 NAPA RIVER NEAR NAPA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MEAN	12.4	80.8	277	747	722	488	184	50.8	17.5	5.76	2.77	2.33
MAX	338	616	1474	3083	4089	2598	1341	226	101	23.9	9.43	10.7
(WY)	1963	1974	1984	1995	1986	1983	1982	1983	1998	1998	1983	1982
MIN	.000	1.10	.73	2.17	.42	2.60	.20	.000	.000	.000	.000	.000
(WY)	1961	1991	1977	1991	1977	1977	1977	1977	1977	1961	1960	1960

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1998		
ANNUAL TOTAL	97216.27		155283.96				
ANNUAL MEAN	266		425		214		
HIGHEST ANNUAL MEAN					585		1983
LOWEST ANNUAL MEAN					.72		1977
HIGHEST DAILY MEAN	14600	Jan 1	15000	Feb 3	26200	Feb 17	1986
LOWEST DAILY MEAN	.16	Sep 21	.20	Oct 13	.00	Jul 14	1960
ANNUAL SEVEN-DAY MINIMUM	.19	Sep 17	.22	Oct 2	.00	Jul 14	1960
INSTANTANEOUS PEAK FLOW			19800	Feb 3	37100	Feb 18	1986
INSTANTANEOUS PEAK STAGE			26.72	Feb 3	30.50	Mar 9	1995
ANNUAL RUNOFF (AC-FT)	192800		308000		154700		
10 PERCENT EXCEEDS	374		921		432		
50 PERCENT EXCEEDS	17		86		14		
90 PERCENT EXCEEDS	.21		1.2		.52		

11459500 NOVATO CREEK AT NOVATO, CA

LOCATION.—Lat 38°06'28", long 122°34'44", in Novato Grant, Marin County, Hydrologic Unit 18050002, on left bank in Novato, 100 ft upstream from 7th Street Bridge, and 3.9 mi downstream from Novato Creek Dam.

DRAINAGE AREA.—17.6 mi^2.

PERIOD OF RECORD.—October 1946 to current year. Prior to October 1966, published as "near Novato."

GAGE.—Water-stage recorder. Datum of gage is 14.76 ft above sea level. Prior to Aug. 23, 1967, at site 0.6 mi upstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow regulated by Stafford Lake beginning Dec. 1, 1951, capacity, 4,500 acre-ft since Oct. 18, 1954. Diversion from Stafford Lake for municipal water supply began Apr. 25, 1952.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,000 ft^3/s, Jan. 4, 1982, gage height, 14.52 ft from contracted opening and slope-area measurements of 3,800 ft^3/s at the gage site, and slope-conveyance computations of 1,200 ft^3/s of overflow about 1 mi upstream, which entered the adjoining Warner Creek Basin; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.25	4.4	3.0	251	54	7.0	3.7	2.6	1.9	1.1	.69
2	.27	.27	3.3	9.9	874	44	5.5	3.3	2.2	1.9	1.1	.65
3	.10	.85	5.0	14	1670	39	19	2.3	2.2	1.9	1.1	.66
4	.10	.42	4.3	28	546	33	29	2.2	2.0	1.8	.88	.63
5	.07	.22	21	10	605	31	19	2.3	1.8	1.8	.77	.54
6	.06	.26	7.3	9.2	983	28	14	2.1	1.8	1.8	.79	.73
7	.03	.33	75	15	1060	23	12	1.8	1.8	2.2	.87	.62
8	1.0	.28	38	9.8	565	20	9.3	1.8	1.8	1.8	.92	.45
9	8.6	.28	16	25	294	16	7.7	1.3	1.7	1.6	.92	1.1
10	.82	1.8	11	42	208	13	7.0	1.6	1.6	1.6	.95	.69
11	.29	1.2	9.3	83	155	11	6.9	1.8	1.4	1.6	1.3	.51
12	.22	.39	8.6	157	137	12	8.1	10	1.5	1.5	.88	.48
13	.18	8.3	7.0	53	109	12	13	4.3	1.5	1.5	.81	.52
14	.19	8.8	28	99	178	10	7.6	2.3	1.5	1.5	.80	.63
15	.17	24	13	136	133	9.0	5.7	1.8	1.6	1.4	.86	.75
16	.18	9.0	11	123	175	8.6	4.6	1.7	1.5	1.4	.80	.86
17	.19	4.2	10	109	147	7.8	4.1	1.7	1.5	1.3	.80	.64
18	.16	5.9	8.5	222	116	6.2	3.7	1.7	1.5	1.3	.84	.53
19	.18	5.2	7.1	177	444	6.1	3.5	1.6	2.7	1.3	.88	.50
20	.53	1.7	7.0	126	298	5.7	3.3	1.5	2.0	1.3	.89	.52
21	.32	1.5	5.8	92	517	5.8	3.2	1.5	2.0	e1.3	.90	.53
22	.20	3.0	5.3	69	321	5.8	3.0	1.6	2.0	e1.3	.85	.91
23	.20	3.0	5.0	55	368	15	4.4	2.2	2.0	e1.2	.88	.92
24	.56	1.7	4.7	46	232	9.8	3.7	1.5	2.0	e1.2	.84	.39
25	.18	11	4.3	37	159	8.6	2.6	1.4	2.1	1.1	1.5	.41
26	.14	35	3.9	46	115	7.1	2.9	1.4	2.1	1.1	.85	.48
27	.16	6.7	3.7	43	87	5.6	2.4	5.9	2.0	1.2	.74	.57
28	.16	3.2	3.5	37	67	5.2	2.2	25	2.0	1.9	.72	.62
29	.17	9.9	3.5	92	---	4.7	2.2	14	2.3	1.1	.67	.63
30	.24	12	3.3	56	---	4.3	2.1	5.6	2.0	1.1	.73	.62
31	.27	---	3.2	77	---	7.7	---	3.2	---	1.1	.74	---
TOTAL	16.03	160.65	341.0	2100.9	10814	469.0	218.7	114.1	56.7	46.0	27.68	18.78
MEAN	.52	5.36	11.0	67.8	386	15.1	7.29	3.68	1.89	1.48	.89	.63
MAX	8.6	35	75	222	1670	54	29	25	2.7	2.2	1.5	1.1
MIN	.03	.22	3.2	3.0	67	4.3	2.1	1.3	1.4	1.1	.67	.39
AC-FT	32	319	676	4170	21450	930	434	226	112	91	55	37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	3.22	15.7	49.7	48.5	26.2	9.18	1.47	.75	.64	.40	.30
MAX	9.07	17.2	117	210	386	207	81.3	12.9	7.73	8.61	8.53	5.40
(WY)	1963	1974	1956	1995	1998	1983	1958	1983	1980	1980	1980	1967
MIN	.000	.000	.000	.26	.35	.84	.17	.016	.000	.000	.000	.000
(WY)	1947	1948	1950	1948	1948	1976	1977	1961	1951	1947	1947	1947

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	5442.78		14383.54			
ANNUAL MEAN	14.9		39.4		12.9	
HIGHEST ANNUAL MEAN					47.9	1983
LOWEST ANNUAL MEAN					.40	1976
HIGHEST DAILY MEAN	683	Jan 26	1670	Feb 3	2850	Jan 4 1982
LOWEST DAILY MEAN	.01	Sep 28	.03	Oct 7	.00	Oct 1 1946
ANNUAL SEVEN-DAY MINIMUM	.08	Sep 27	.10	Oct 1	.00	Oct 1 1946
INSTANTANEOUS PEAK FLOW			3380	Feb 3	5000	Jan 4 1982
INSTANTANEOUS PEAK STAGE			13.70	Feb 3	14.52	Jan 4 1982
INSTANTANEOUS LOW FLOW					.00	Oct 1 1946
ANNUAL RUNOFF (AC-FT)	10800		28530		9350	
10 PERCENT EXCEEDS	18		89		22	
50 PERCENT EXCEEDS	.94		2.2		.60	
90 PERCENT EXCEEDS	.17		.42		.00	

e Estimated.

11460400 LAGUNITAS CREEK AT SAMUEL P. TAYLOR STATE PARK, CA

LOCATION.—Lat 38°01'37", long 122°44'07", Marin County, Hydrologic Unit 18050005, in Samuel P. Taylor State Park, on left bank 300 ft upstream from Deadman's Gulch, 0.9 mi downstream from park entrance, 2.1 mi northwest of Lagunitas, and 3.4 mi downstream from Kent Lake.

DRAINAGE AREA.—34.3 mi^2.

PERIOD OF RECORD.—December 1982 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 102.89 ft above sea level.

REMARKS.—Records good. Flow regulated by Kent Lake, capacity, 16,680 acre-ft, and Alpine Lake, capacity, 8,890 acre-ft, both of which divert for domestic and industrial use in Marin County.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,830 ft^3/s, Feb. 3, 1998, gage height, 10.00 ft; minimum daily, 3.8 ft^3/s, Oct. 16–18, 1986.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.4	59	28	868	127	56	18	88	8.5	7.9	8.4
2	8.3	8.5	42	101	1690	109	51	16	73	8.5	7.9	8.5
3	8.1	8.4	41	88	2870	93	69	15	63	8.4	7.8	8.3
4	8.1	8.4	44	177	973	82	118	15	53	8.2	7.7	8.2
5	8.1	8.5	78	76	973	76	130	15	46	8.3	7.6	8.2
6	8.0	8.5	51	53	1310	74	127	15	42	8.2	7.8	8.1
7	8.1	8.6	166	72	1490	51	119	14	38	8.1	7.9	8.0
8	9.0	8.6	106	52	1030	41	101	14	35	8.2	7.9	8.1
9	20	8.7	57	64	595	33	96	13	32	8.0	7.9	8.2
10	9.7	9.8	39	148	441	28	86	13	30	7.8	7.8	8.5
11	9.0	10	35	332	416	27	76	13	27	7.6	8.0	8.0
12	9.5	9.3	33	529	354	31	67	21	25	7.3	8.0	7.9
13	8.7	27	30	194	338	46	85	18	24	7.6	8.0	7.8
14	8.7	39	91	275	699	39	75	16	22	7.8	8.1	7.9
15	8.6	73	63	443	604	35	66	15	21	7.6	8.1	7.9
16	8.6	64	43	586	518	34	58	14	19	7.6	8.1	8.2
17	8.5	38	35	538	495	32	50	14	18	7.6	8.1	7.5
18	8.5	33	30	792	355	29	44	13	16	7.8	8.2	7.6
19	8.6	82	27	914	1090	26	37	13	15	7.7	8.2	7.8
20	8.5	32	26	532	888	24	32	12	13	7.7	8.2	7.9
21	8.6	30	23	309	1120	23	28	12	12	7.7	8.2	7.9
22	8.6	32	23	217	948	22	26	13	11	7.8	8.5	7.7
23	8.5	61	25	174	709	90	34	14	11	7.9	8.5	7.7
24	8.5	41	27	161	552	139	30	14	10	7.8	8.4	7.9
25	8.5	46	26	143	366	116	26	14	9.3	7.7	8.4	8.0
26	8.4	255	25	271	256	95	22	13	9.0	7.6	8.5	7.8
27	8.4	104	24	495	192	80	18	16	8.9	7.7	8.4	7.8
28	8.5	52	24	387	152	70	15	120	8.7	8.0	8.5	7.8
29	8.4	55	24	558	---	58	14	149	8.7	8.0	8.4	7.8
30	8.4	120	25	401	---	48	14	141	8.7	8.0	8.4	7.9
31	8.4	---	27	387	---	59	---	110	---	8.0	8.4	---
TOTAL	275.8	1289.7	1369	9497	22292	1837	1770	913	797.3	244.7	251.8	239.3
MEAN	8.90	43.0	44.2	306	796	59.3	59.0	29.5	26.6	7.89	8.12	7.98
MAX	20	255	166	914	2870	139	130	149	88	8.5	8.5	8.5
MIN	8.0	8.4	23	28	152	22	14	12	8.7	7.3	7.6	7.5
AC-FT	547	2560	2720	18840	44220	3640	3510	1810	1580	485	499	475

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.29	24.5	55.4	138	169	112	26.3	19.3	9.73	6.81	6.06	5.95
MAX	13.4	66.3	201	568	796	503	67.3	66.9	26.6	8.69	8.65	8.90
(WY)	1990	1985	1997	1995	1998	1983	1983	1995	1998	1995	1996	1996
MIN	4.34	4.74	6.84	14.5	11.2	13.6	8.39	7.43	6.30	4.92	4.44	4.29
(WY)	1987	1987	1987	1991	1989	1988	1987	1987	1987	1992	1984	1984

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	20389.5		40776.6			
ANNUAL MEAN	55.9		112		44.1	
HIGHEST ANNUAL MEAN					112	1998
LOWEST ANNUAL MEAN					14.7	1987
HIGHEST DAILY MEAN	2600	Jan 1	2870	Feb 3	2870	Feb 3 1998
LOWEST DAILY MEAN	7.6	Sep 22	7.3	Jul 12	3.8	Oct 16 1986
ANNUAL SEVEN-DAY MINIMUM	7.7	Sep 18	7.6	Jul 11	4.0	Oct 16 1986
INSTANTANEOUS PEAK FLOW			5830	Feb 3	5830	Feb 3 1998
INSTANTANEOUS PEAK STAGE			10.00	Feb 3	10.00	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	40440		80880		31970	
10 PERCENT EXCEEDS	77		344		81	
50 PERCENT EXCEEDS	13		22		12	
90 PERCENT EXCEEDS	8.0		7.9		5.1	

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA

LOCATION.—Lat 38°04'49", long 122°47'00", in Nicasio (Black) Grant, Marin County, Hydrologic Unit 18050005, on right bank at upstream side of road bridge, 300 ft downstream from small right-bank tributary, 1.4 mi northeast of town of Point Reyes Station, and 2.5 mi downstream from Nicasio Dam.

DRAINAGE AREA.—81.7 mi^2.

PERIOD OF RECORD.—October 1974 to current year.
WATER TEMPERATURE: October 1989 to September 1990.
SEDIMENT DATA: October 1989 to September 1990.

REVISED RECORDS.—WDR CA-79-2: 1975, 1978. WDR CA-82-2: 1975(M), 1978(M), 1980(M).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow regulated by Nicasio Reservoir, capacity, 22,450 acre-ft; Kent Lake, capacity, 16,680 acre-ft; and Alpine Lake, capacity, 8,890 acre-ft, all of which divert water for domestic and industrial use in Marin County.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 22,100 ft^3/s, Jan. 4, 1982, gage height, 26.96 ft, from rating curve extended above 6,200 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.01 ft^3/s, Sept. 26, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	9.1	100	31	e1650	227	113	41	103	12	9.5	8.6
2	8.7	9.1	65	104	e4460	192	95	41	85	12	9.3	8.5
3	8.3	9.1	54	114	7720	167	138	35	72	12	9.1	8.5
4	8.2	9.1	69	261	2150	147	219	33	62	11	8.8	8.4
5	8.2	9.1	117	127	2710	142	230	33	55	11	8.7	8.4
6	8.1	9.1	85	82	4410	145	211	35	49	11	8.9	8.4
7	8.2	9.1	255	115	4590	113	198	31	45	11	8.9	8.4
8	8.7	9.1	211	89	2430	100	166	29	42	11	9.1	8.4
9	24	9.1	115	88	1140	83	154	29	39	11	9.1	8.5
10	12	11	74	413	844	72	140	25	36	11	9.1	8.8
11	9.9	11	56	940	833	66	123	24	33	10	9.2	8.4
12	9.5	10	50	2390	726	70	107	48	31	10	9.1	8.2
13	9.8	26	43	e560	690	123	177	51	29	9.9	9.0	8.2
14	9.2	37	139	e790	1430	99	150	38	27	10	9.0	8.1
15	9.1	83	119	e1160	1200	82	126	33	26	10	9.1	8.1
16	9.1	79	77	e1890	1060	75	108	27	24	9.9	9.0	8.7
17	9.1	60	60	e1450	1000	70	95	24	23	9.9	9.1	8.0
18	9.1	29	49	e2060	722	63	83	23	21	10	9.1	8.0
19	9.1	125	42	e3050	2840	56	73	21	19	9.8	9.2	8.0
20	9.1	46	38	e1250	1960	52	63	18	18	9.7	9.2	8.0
21	9.1	34	34	e690	2760	50	56	17	16	9.7	9.1	8.0
22	9.1	35	31	e420	1980	50	51	16	15	9.8	9.2	8.0
23	9.1	70	31	e320	1420	138	64	18	14	9.8	9.2	7.8
24	9.0	50	33	e290	1060	265	64	18	14	9.6	9.1	8.2
25	9.0	50	31	e250	726	212	53	17	13	9.7	9.1	8.4
26	8.9	370	29	e470	504	162	45	17	13	9.2	9.2	8.6
27	9.0	186	29	e1020	364	137	38	19	12	9.3	8.8	8.5
28	9.0	85	28	e890	279	120	33	130	12	9.7	8.8	8.7
29	9.0	63	27	e1320	---	102	30	172	12	9.7	8.8	8.5
30	9.1	219	28	e1060	---	88	28	162	12	9.9	8.8	8.8
31	9.2	---	30	e920	---	115	---	129	---	9.8	8.7	---
TOTAL	295.1	1760.9	2149	24614	53658	3583	3231	1354	972	318.4	280.3	250.1
MEAN	9.52	58.7	69.3	794	1916	116	108	43.7	32.4	10.3	9.04	8.34
MAX	24	370	255	3050	7720	265	230	172	103	12	9.5	8.8
MIN	8.1	9.1	27	31	279	50	28	16	12	9.2	8.7	7.8
AC-FT	585	3490	4260	48820	106400	7110	6410	2690	1930	632	556	496

e Estimated.

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.36	37.7	104	318	350	224	62.5	20.5	8.44	5.82	4.98	4.70
MAX	19.2	177	542	1427	1916	1109	531	91.4	32.4	10.3	9.04	8.89
(WY)	1984	1983	1984	1995	1998	1983	1982	1995	1998	1998	1998	1996
MIN	.19	1.35	1.51	2.37	3.52	7.40	1.59	.67	.45	1.77	1.47	1.12
(WY)	1977	1977	1977	1976	1977	1977	1977	1977	1977	1976	1976	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1975 - 1998	
ANNUAL TOTAL	40051.5		92465.8			
ANNUAL MEAN	110		253		94.5	
HIGHEST ANNUAL MEAN					269	1983
LOWEST ANNUAL MEAN					2.54	1977
HIGHEST DAILY MEAN	6050	Jan 1	7720	Feb 3	10700	Jan 4 1982
LOWEST DAILY MEAN	7.7	Sep 20	7.8	Sep 23	.01	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	7.7	Sep 19	8.0	Sep 17	.02	Oct 14 1977
INSTANTANEOUS PEAK FLOW			12200	Feb 3	22100	Jan 4 1982
INSTANTANEOUS PEAK STAGE			22.56	Feb 3	26.96	Jan 4 1982
ANNUAL RUNOFF (AC-FT)	79440		183400		68480	
10 PERCENT EXCEEDS	132		726		150	
50 PERCENT EXCEEDS	13		31		9.8	
90 PERCENT EXCEEDS	8.0		8.7		2.5	

11460750 WALKER CREEK NEAR MARSHALL, CA

LOCATION.—Lat 38°10'33", long 122°49'02", in Soulajule (Vasquez) Grant, Marin County, Hydrologic Unit 18050005, on right bank 0.8 mi downstream from Verde Canyon, 2.8 mi below confluence of Arroyo Sausal and Salmon Creek, and 4.0 mi east of Marshall.

DRAINAGE AREA.—31.1 mi^2.

PERIOD OF RECORD.—October 1983 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 140 ft above sea level, from topographic map.

REMARKS.—Records fair. Flow affected by regulation and diversions and by Soulajule Reservoir on Arroyo Sausal; reservoir capacity, 10,570 acre-ft.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,500 ft^3/s, Feb. 2, 1998, gage height, 14.21 ft, from rating curve extended above 1,100 ft^3/s on basis of comparison with discontinued downstream station Walker Creek near Tomales; minimum daily, 0.73 ft^3/s, Nov. 26, 1991.

EXTREMES OUTSIDE OF PERIOD OF RECORD.—Flood of Jan. 4, 1982, reached a stage of 15.9 ft, present datum, from floodmarks, discharge, 14,600 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	6.7	53	15	566	61	61	13	12	6.3	6.1	5.2
2	5.6	6.6	38	27	2250	54	43	11	11	6.3	6.1	5.4
3	5.5	6.6	39	45	4230	54	105	10	11	6.2	6.0	5.4
4	5.5	6.5	35	88	528	45	95	9.9	10	6.1	6.0	5.4
5	5.5	6.4	57	51	985	41	78	11	9.7	6.0	6.0	5.5
6	5.5	6.4	38	48	1940	46	71	10	9.5	5.9	6.1	5.4
7	5.6	6.3	101	62	2060	39	67	9.8	9.7	5.9	6.1	5.4
8	6.1	6.2	121	48	705	42	53	9.6	9.2	5.9	6.0	5.5
9	6.5	6.3	72	48	306	48	52	9.2	8.8	6.0	5.9	5.5
10	5.5	7.0	47	141	225	38	47	9.0	8.8	6.0	5.9	5.5
11	5.5	6.6	32	325	198	34	42	9.2	8.7	5.8	5.8	5.4
12	5.3	6.4	24	510	187	36	39	12	8.5	5.6	5.8	5.4
13	5.3	8.4	23	386	184	71	60	11	8.3	5.6	5.8	5.3
14	5.4	8.0	81	711	415	45	43	12	8.0	5.6	5.7	5.4
15	5.3	23	47	1130	320	34	35	12	7.9	5.5	5.8	5.5
16	5.2	16	32	675	363	28	29	12	7.7	5.4	5.8	5.6
17	5.2	13	29	471	358	27	25	12	7.5	5.4	5.8	5.6
18	5.2	17	26	764	258	27	23	12	7.4	5.4	5.7	5.6
19	5.3	33	23	628	1710	26	20	12	7.3	5.3	5.7	5.6
20	5.3	19	21	337	706	23	18	12	7.1	5.4	5.8	5.6
21	5.3	16	20	217	1240	30	17	12	6.9	5.8	5.8	5.7
22	5.3	17	18	145	595	27	16	12	6.9	6.4	5.7	5.6
23	5.5	22	17	99	530	56	21	12	6.9	6.3	5.7	5.7
24	6.5	19	17	92	324	78	19	12	6.9	6.2	5.7	5.7
25	6.6	20	16	81	199	79	14	12	6.5	6.3	5.8	5.9
26	6.6	141	16	126	143	56	12	12	6.3	6.3	5.9	5.7
27	6.6	95	15	154	107	56	11	14	6.3	6.3	5.8	5.8
28	6.7	48	15	120	75	58	11	20	6.4	6.2	5.8	5.8
29	6.7	49	15	392	---	42	10	35	6.4	6.2	5.9	5.8
30	6.7	91	15	250	---	37	10	20	6.3	6.2	5.8	5.9
31	6.7	---	15	263	---	56	---	14	---	6.1	5.3	---
TOTAL	179.0	733.4	1118	8449	21707	1394	1147	393.7	243.9	183.9	181.1	166.8
MEAN	5.77	24.4	36.1	273	775	45.0	38.2	12.7	8.13	5.93	5.84	5.56
MAX	6.7	141	121	1130	4230	79	105	35	12	6.4	6.1	5.9
MIN	5.2	6.2	15	15	75	23	10	9.0	6.3	5.3	5.3	5.2
AC-FT	355	1450	2220	16760	43060	2760	2280	781	484	365	359	331

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.80	11.2	43.0	129	142	64.7	12.8	7.33	5.30	4.73	4.59	4.67
MAX	6.27	46.3	247	572	775	374	38.2	18.6	8.13	5.93	5.84	5.80
(WY)	1990	1984	1984	1995	1998	1995	1998	1995	1998	1998	1998	1984
MIN	1.35	1.23	1.85	1.71	2.14	10.4	5.52	2.18	1.90	1.42	1.42	1.22
(WY)	1991	1992	1991	1991	1991	1988	1991	1991	1991	1991	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1984 - 1998	
ANNUAL TOTAL	13140.5		35896.8			
ANNUAL MEAN	36.0		98.3		35.6	
HIGHEST ANNUAL MEAN					98.3	1998
LOWEST ANNUAL MEAN					7.41	1991
HIGHEST DAILY MEAN	2810	Jan 1	4230	Feb 3	4940	Feb 17 1986
LOWEST DAILY MEAN	5.0	Jul 31	5.2	Oct 16	.73	Nov 26 1991
ANNUAL SEVEN-DAY MINIMUM	5.1	Aug 21	5.3	Oct 15	.78	Nov 23 1991
INSTANTANEOUS PEAK FLOW			10500	Feb 2	10500	Feb 2 1998
INSTANTANEOUS PEAK STAGE			14.21	Feb 2	14.21	Feb 2 1998
ANNUAL RUNOFF (AC-FT)	26060		71200		25820	
10 PERCENT EXCEEDS	39		198		43	
50 PERCENT EXCEEDS	6.7		12		5.8	
90 PERCENT EXCEEDS	5.3		5.5		3.9	

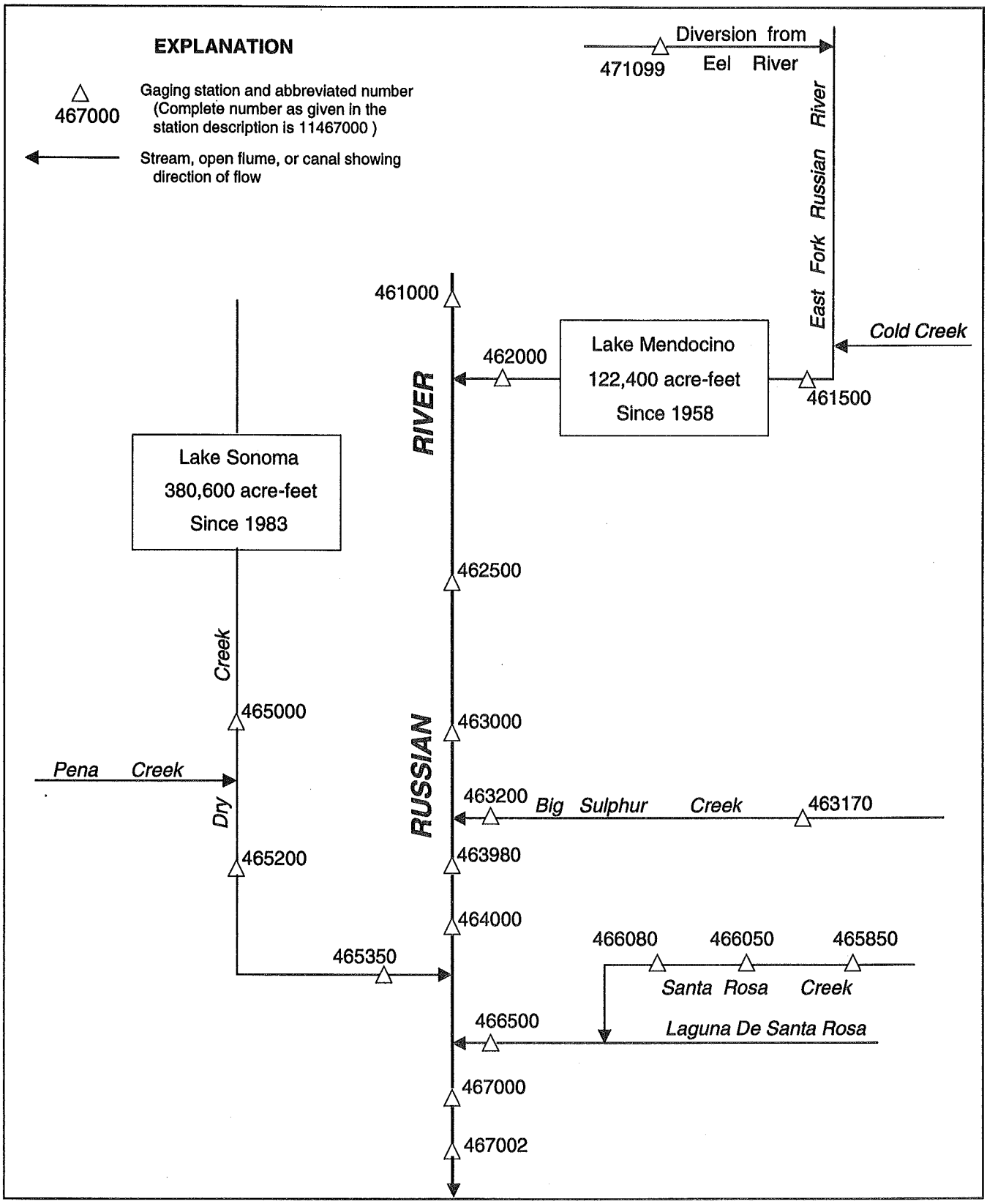


Figure 21. Diversions and storage in Russian River Basin.

11461000 RUSSIAN RIVER NEAR UKIAH, CA

LOCATION.—Lat 39°11'44", long 123°11'38", in Yokaya Grant, Mendocino County, Hydrologic Unit 18010110, on right bank 20 ft upstream from bridge on Lake Mendocino Drive, 0.4 mi upstream from East Fork, 0.6 mi downstream from York Creek, and 3.2 mi north of Ukiah.

DRAINAGE AREA.—100 mi^2.

PERIOD OF RECORD.—August 1911 to September 1913, October 1952 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1977–79
BIOLOGICAL DATA: Water years 1977–79
WATER TEMPERATURE: Water years 1965–68
SEDIMENT DATA: Water years 1964–68, 1991–92, 1994–97

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 599.22 ft above sea level. Prior to October 1952, nonrecording gage at bridge 20 ft upstream at different datum. Oct. 1, 1952, to Nov. 8, 1971, water-stage recorder at site 0.6 mi upstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation. Diversions upstream from station for irrigation of about 1,000 acres. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 18,900 ft^3/s, Dec. 21, 1955, gage height, 19.0 ft, site and datum then in use; maximum gage height, 20.87 ft, Jan. 20, 1993; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1300	6,400	13.17	Feb. 3	0045	5,750	12.60
Jan. 18	1300	5,110	12.01	Feb. 7	1315	8,710	14.98
Jan. 26	1900	5,090	11.99	Feb. 19	1315	7,760	14.27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	e4.6	166	47	1220	335	673	85	163	16	6.0	2.8
2	2.3	e4.4	117	884	1930	301	464	91	133	17	5.9	2.5
3	2.1	e4.3	100	633	3060	267	422	77	116	16	5.3	2.3
4	2.5	e4.2	100	1230	1560	232	364	76	102	16	4.5	2.1
5	2.6	e4.4	128	587	3010	212	307	85	90	16	4.2	2.1
6	2.6	e4.7	99	496	4370	195	283	84	81	14	4.3	2.3
7	2.7	e4.9	657	539	4150	181	261	71	76	12	3.7	2.3
8	12	e4.7	892	351	2520	205	222	66	71	11	4.2	2.3
9	26	e5.0	434	279	1240	170	322	61	65	11	4.6	2.2
10	8.8	e5.9	234	257	938	153	329	57	59	10	4.5	2.1
11	6.5	e7.7	165	2080	1290	141	290	57	56	11	3.8	2.1
12	4.8	e15	129	3590	1240	272	309	78	52	11	3.6	2.1
13	5.7	e26	108	1360	929	729	521	76	49	10	2.7	2.0
14	3.9	e52	502	2950	1360	348	352	62	45	8.9	2.9	1.9
15	3.7	e100	391	3470	1210	272	293	55	41	8.7	3.3	1.8
16	3.5	e180	260	2190	1490	233	247	52	37	8.9	3.0	1.7
17	3.3	e78	392	2840	1720	204	217	50	34	8.5	3.5	1.7
18	3.1	52	279	2960	1030	181	193	44	32	7.9	3.2	1.8
19	3.2	141	198	2090	3560	161	173	41	30	8.0	3.3	2.0
20	3.3	81	160	1210	1690	147	157	41	29	7.9	3.5	2.2
21	3.3	44	136	804	3810	181	142	37	25	7.7	3.7	2.2
22	e3.4	35	113	548	1610	892	131	36	26	7.6	3.8	2.2
23	e3.7	65	96	573	1550	971	140	35	26	6.2	3.7	2.2
24	e4.0	241	82	530	1100	838	130	36	27	6.4	3.6	2.2
25	e3.7	180	72	566	790	691	112	42	25	7.0	3.5	2.2
26	e3.6	882	64	3090	601	494	103	35	21	6.6	3.3	2.3
27	e3.7	444	59	1670	483	405	95	37	19	6.6	2.8	1.9
28	e3.8	166	55	887	394	362	87	183	18	5.3	3.2	2.5
29	e4.0	228	51	1370	---	291	81	973	16	5.1	3.0	2.6
30	e4.5	364	49	822	---	251	76	425	15	5.7	2.8	2.5
31	e4.8	---	45	693	---	981	---	231	---	6.2	2.9	---
TOTAL	146.7	3428.8	6333	41596	49855	11296	7496	3379	1579	300.2	116.3	65.1
MEAN	4.73	114	204	1342	1781	364	250	109	52.6	9.68	3.75	2.17
MAX	26	882	892	3590	4370	981	673	973	163	17	6.0	2.8
MIN	1.6	4.2	45	47	394	141	76	35	15	5.1	2.7	1.7
AC-FT	291	6800	12560	82510	98890	22410	14870	6700	3130	595	231	129

e Estimated.

11461000 RUSSIAN RIVER NEAR UKIAH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.71	116	349	586	497	359	157	43.7	11.7	2.37	.61	.61
MAX	147	682	1663	1986	1975	1436	770	201	57.4	10.8	3.75	2.70
(WY)	1963	1974	1965	1995	1958	1983	1963	1995	1993	1983	1998	1983
MIN	.000	.15	1.77	3.82	14.3	20.0	4.33	3.15	.22	.000	.000	.000
(WY)	1953	1953	1960	1991	1977	1988	1977	1977	1977	1977	1977	1970

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1912 - 1998	
ANNUAL TOTAL	52470.31		125591.1			
ANNUAL MEAN	144		344		176	
HIGHEST ANNUAL MEAN					420	1983
LOWEST ANNUAL MEAN					5.76	1977
HIGHEST DAILY MEAN	9200	Jan 1	4370	Feb 6	13300	Dec 22 1964
LOWEST DAILY MEAN	.21	Aug 18	1.6	Oct 1	.00	Oct 1 1911
ANNUAL SEVEN-DAY MINIMUM	.42	Aug 13	1.8	Sep 13	.00	Oct 1 1911
INSTANTANEOUS PEAK FLOW			8710	Feb 7	18900	Dec 21 1955
INSTANTANEOUS PEAK STAGE			14.98	Feb 7	20.87	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	104100		249100		127800	
10 PERCENT EXCEEDS	268		1000		419	
50 PERCENT EXCEEDS	19		61		13	
90 PERCENT EXCEEDS	.80		2.7		.12	

11461500 EAST FORK RUSSIAN RIVER NEAR CALPELLA, CA

LOCATION.—Lat 39°14'48", long 123°07'45", in NW 1/4 NW 1/4 sec.18, T.16 N., R.11 W., Mendocino County, Hydrologic Unit 18010110, on left bank 0.1 mi downstream from Cold Creek and 3.9 mi east of Calpella.

DRAINAGE AREA.—92.2 mi^2.

PERIOD OF RECORD.—October 1941 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.—Water-stage recorder. Datum of gage is 787.87 ft above sea level. Prior to May 28, 1957, at site 1.3 mi downstream at different datum. May 28, 1957, to Apr. 5, 1966, at site 0.4 mi downstream at same datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow greatly affected by diversion from Eel River through Potter Valley Powerplant Intake and Tailrace (stations 11471000, 11471099, respectively). Diversion for irrigation of about 8,000 acres upstream from station. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 18,700 ft^3/s, Dec. 22, 1964, gage height, 20.21 ft, site then in use; maximum gage height, 22.89 ft, Jan. 20, 1993; minimum daily, 1.7 ft^3/s, July 23, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,300 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 11	1445	5,330	16.70	Feb. 3	0730	4,360	15.26
Jan. 14	2115	6,100	17.76	Feb. 7	1145	7,470	19.54
Jan. 18	1330	5,460	16.88	Feb. 19	1230	7,950	20.17
Jan. 26	1830	5,120	16.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	288	384	250	1530	637	771	394	444	300	127	138
2	218	287	314	1020	e2300	608	595	395	425	243	130	148
3	215	287	293	796	e3150	582	660	393	417	245	144	171
4	213	285	304	1430	1190	557	603	411	407	225	147	201
5	222	286	378	699	2710	546	564	399	399	163	138	117
6	228	290	318	709	4400	532	548	390	395	162	117	117
7	229	289	1050	714	3880	524	533	388	390	159	106	112
8	250	298	1160	565	2390	539	494	384	385	166	111	174
9	286	295	524	527	1200	510	531	377	383	169	112	264
10	255	300	382	510	1030	497	522	376	366	165	120	284
11	244	295	324	2130	1400	487	501	376	365	168	127	259
12	248	287	270	2660	1460	661	558	395	373	168	144	141
13	249	295	250	957	1060	1090	732	391	377	172	142	132
14	247	263	784	2780	1540	631	596	382	376	179	140	186
15	245	203	519	3020	1100	571	537	378	367	170	103	281
16	243	320	436	1880	1620	544	500	376	364	161	106	289
17	243	238	462	2670	1640	524	481	368	357	159	105	294
18	229	225	460	3020	1060	482	471	367	357	152	99	264
19	52	362	390	1840	3730	501	456	363	354	152	112	150
20	39	318	346	1050	1530	492	444	371	347	158	118	143
21	36	302	320	758	3540	522	432	368	346	129	117	185
22	30	315	283	629	1400	949	424	349	343	119	126	275
23	31	351	271	685	1780	1020	434	259	334	115	137	275
24	30	455	252	610	1100	892	423	247	329	122	131	276
25	28	388	241	763	878	842	409	243	327	125	122	262
26	26	765	235	2970	807	699	404	234	319	138	137	143
27	26	464	224	1370	732	649	398	267	314	123	98	147
28	30	334	219	815	673	e620	395	492	321	121	117	219
29	47	464	223	1830	---	e600	390	1080	308	124	117	293
30	53	609	222	905	---	541	386	600	303	133	113	294
31	80	---	218	769	---	1310	---	485	---	128	142	---
TOTAL	4784	10158	12056	41331	50830	20159	15192	12298	10892	5013	3805	6234
MEAN	154	339	389	1333	1815	650	506	397	363	162	123	208
MAX	286	765	1160	3020	4400	1310	771	1080	444	300	147	294
MIN	26	203	218	250	673	482	386	234	303	115	98	112
AC-FT	9490	20150	23910	81980	100800	39990	30130	24390	21600	9940	7550	12370

e Estimated.

11461500 EAST FORK RUSSIAN RIVER NEAR CALPELLA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	228	286	475	648	618	520	347	233	163	138	139	190
MAX	352	738	1476	1720	1815	1611	847	422	363	275	276	298
(WY)	1963	1982	1965	1970	1998	1983	1982	1983	1998	1967	1952	1967
MIN	4.89	74.0	30.2	42.2	21.5	42.7	11.9	23.5	15.3	8.25	19.0	23.9
(WY)	1960	1978	1960	1991	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998	
ANNUAL TOTAL	96438		192752			
ANNUAL MEAN	264		528		331	
HIGHEST ANNUAL MEAN					586	1983
LOWEST ANNUAL MEAN					76.8	1977
HIGHEST DAILY MEAN	6170	Jan 1	4400	Feb 6	12500	Dec 22 1964
LOWEST DAILY MEAN	26	Oct 26	26	Oct 26	1.7	Jul 23 1990
ANNUAL SEVEN-DAY MINIMUM	29	Oct 22	29	Oct 22	3.2	Jul 11 1977
INSTANTANEOUS PEAK FLOW			7950	Feb 19	18700	Dec 22 1964
INSTANTANEOUS PEAK STAGE			20.17	Feb 19	22.89	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	191300		382300		239800	
10 PERCENT EXCEEDS	408		1080		554	
50 PERCENT EXCEEDS	168		351		254	
90 PERCENT EXCEEDS	84		122		79	

11462000 EAST FORK RUSSIAN RIVER NEAR UKIAH, CA

LOCATION.—Lat 39°11'51", long 123°11'11", in Yokaya Grant, Mendocino County, Hydrologic Unit 18010110, on right bank of outlet channel, 500 ft downstream from Coyote Dam, 1,300 ft upstream from mouth, and 3.2 mi northeast of Ukiah.

DRAINAGE AREA.—105 mi^2.

PERIOD OF RECORD.—August 1911 to September 1913, October 1951 to June 1956, October 1957 to current year.
CHEMICAL DATA: Water years 1953–55, 1973–82.
BIOLOGICAL DATA: Water years 1977–78.
WATER TEMPERATURE: Water years 1953–55, 1965–68, 1973–1994.
SEDIMENT DATA: Water years 1953–55, 1964–68.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 614.41 ft above sea level. Prior to October 1951, nonrecording gage at site 0.5 mi upstream at different datum. October 1951 to June 1956, water-stage recorder at site 1.0 mi upstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow affected by diversion from Eel River through Potter Valley Powerplant Intake (station 11471000) and since November 1958 by storage in Lake Mendocino, capacity, 122,400 acre-ft, 500 ft upstream. Diversions upstream from station for irrigation of about 8,000 acres and about 10 ft^3/s at times, through a fish taking station which bypasses the gage. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Prior to regulation by Lake Mendocino, maximum discharge, 13,300 ft^3/s, Dec. 21, 1955, gage height, 16.86 ft, site and datum then in use, from rating curve extended above 6,300 ft^3/s on basis of maximum flow at station upstream which was defined to 8,600 ft^3/s; no flow Aug. 13–15, 1913. Maximum discharge, since regulation (1959), 7,350 ft^3/s, Jan. 24, 1970, gage height, 10.84 ft; minimum daily, 0.02 ft^3/s, Apr. 17, 1973.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	202	85	137	149	531	210	327	688	205	206	254
2	242	202	85	137	37	531	211	394	425	160	206	239
3	242	202	83	138	1130	531	550	394	405	159	210	222
4	242	198	76	140	3150	335	1030	394	400	156	217	291
5	242	182	66	1210	615	213	1030	397	401	156	218	345
6	242	177	66	1310	35	202	1020	400	402	156	222	345
7	241	175	67	143	75	203	1020	400	395	166	230	345
8	238	174	68	143	724	205	902	404	397	176	231	345
9	189	173	68	143	3690	206	732	410	394	173	230	267
10	161	173	65	143	3290	206	651	410	394	173	229	336
11	169	173	62	152	3490	206	531	416	390	175	230	335
12	170	161	61	93	2620	207	531	420	389	177	227	335
13	170	143	63	1160	2190	210	531	420	390	176	228	335
14	170	143	63	1390	2010	210	531	420	389	184	230	335
15	170	143	63	297	4240	210	881	420	389	191	230	335
16	170	143	63	1870	2890	210	1140	420	384	191	230	e345
17	170	143	63	23	2020	210	737	420	384	208	226	e345
18	170	143	63	501	3500	210	533	420	380	223	222	e350
19	170	143	63	1650	1320	796	533	420	371	222	222	354
20	176	144	63	3310	1680	1090	533	420	363	222	222	350
21	183	146	63	3860	987	726	535	420	362	222	222	348
22	184	146	63	3080	1330	210	536	420	364	222	222	345
23	184	146	63	3630	1580	210	533	420	312	221	222	345
24	184	142	108	3640	2990	212	536	420	268	222	222	345
25	184	130	137	3050	3560	1310	537	420	255	222	222	345
26	184	109	137	1440	2930	1910	537	302	228	222	222	345
27	190	88	137	2130	1060	1170	466	188	206	213	222	349
28	202	86	137	1890	531	210	362	188	206	206	222	349
29	202	86	137	1490	---	210	301	540	233	202	226	296
30	202	86	137	1740	---	210	259	1210	263	204	226	242
31	202	---	137	241	---	210	---	1220	---	206	245	---
TOTAL	6077	4502	2612	40281	53823	13310	18439	13874	10827	6011	6939	9717
MEAN	196	150	84.3	1299	1922	429	615	448	361	194	224	324
MAX	242	202	137	3860	4240	1910	1140	1220	688	223	245	354
MIN	161	86	61	23	35	202	210	188	206	156	206	222
AC-FT	12050	8930	5180	79900	106800	26400	36570	27520	21480	11920	13760	19270

e Estimated.

11462000 EAST FORK RUSSIAN RIVER NEAR UKIAH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1958, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	200	271	576	871	649	461	399	309	213	162	166	161
MAX	316	437	1138	1289	1784	709	775	367	307	260	272	266
(WY)	1958	1913	1956	1956	1958	1958	1958	1912	1953	1953	1953	1954
MIN	20.0	21.0	40.0	258	105	182	214	226	102	65.0	23.8	2.03
(WY)	1912	1912	1912	1912	1913	1913	1955	1913	1913	1912	1913	1913

SUMMARY STATISTICS	WATER YEARS 1911 - 1958	
ANNUAL MEAN	356	
HIGHEST ANNUAL MEAN	526	1958
LOWEST ANNUAL MEAN	183	1912
HIGHEST DAILY MEAN	7300	Dec 22 1955
LOWEST DAILY MEAN	.00	Aug 13 1913
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 13 1913
INSTANTANEOUS PEAK FLOW	13300	Dec 21 1955
INSTANTANEOUS PEAK STAGE	16.86	Dec 21 1955
ANNUAL RUNOFF (AC-FT)	257700	
10 PERCENT EXCEEDS	647	
50 PERCENT EXCEEDS	286	
90 PERCENT EXCEEDS	63	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	226	243	362	646	619	448	314	225	220	249	259	243
MAX	419	635	1175	1905	1934	1780	1026	448	361	336	388	416
(WY)	1994	1984	1965	1970	1986	1983	1982	1998	1998	1961	1961	1974
MIN	42.3	13.4	6.97	20.7	17.9	13.3	52.6	76.3	104	179	163	92.7
(WY)	1978	1978	1978	1977	1977	1977	1977	1968	1988	1988	1988	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1998	
ANNUAL TOTAL	103614		186412			
ANNUAL MEAN	284		511		337	
HIGHEST ANNUAL MEAN					598	1983
LOWEST ANNUAL MEAN					103	1977
HIGHEST DAILY MEAN	3610	Jan 4	4240	Feb 15	6620	Jan 25 1970
LOWEST DAILY MEAN	15	Jan 26	23	Jan 17	.02	Apr 17 1973
ANNUAL SEVEN-DAY MINIMUM	63	Dec 11	63	Dec 11	.14	Jan 2 1971
INSTANTANEOUS PEAK FLOW			4830	Feb 13	7350	Jan 24 1970
INSTANTANEOUS PEAK STAGE			7.84	Feb 13	10.84	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	205500		369700		243900	
10 PERCENT EXCEEDS	280		1210		529	
50 PERCENT EXCEEDS	202		230		230	
90 PERCENT EXCEEDS	137		137		65	

11462500 RUSSIAN RIVER NEAR HOPLAND, CA

LOCATION.—Lat 39°01'36", long 123°07'46", in Rancho de Sanel Grant, Mendocino County, Hydrologic Unit 18010110, on right bank at abandoned highway bridge, 0.2 mi downstream from McNab Creek, 4 mi north of Hopland, and 15.2 mi downstream from Coyote Valley Dam on the East Fork Russian River.

DRAINAGE AREA.—362 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1041: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 497.61 ft above sea level. Prior to Sept. 9, 1943, nonrecording gage at same site and datum.

REMARKS.—Records good. Diversions for irrigation of about 11,800 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino, capacity, 129,600 acre-ft, 15.2 mi upstream. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 45,000 ft^3/s, Dec. 22, 1955, gage height, 27.00 ft; minimum daily, 9.1 ft^3/s, Apr. 20, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1937 reached a stage of 30.0 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	205	559	286	3660	1620	1730	517	1100	286	201	232
2	243	205	414	1520	4540	1500	1280	613	784	224	195	227
3	237	206	359	1400	10100	1410	1380	584	708	219	204	201
4	233	206	360	3000	7550	1210	1740	573	662	214	204	226
5	239	191	443	2230	8650	995	1650	593	627	207	201	302
6	246	185	376	2740	12600	915	1550	583	601	204	205	308
7	247	190	1400	1610	11400	856	1510	564	579	194	215	312
8	261	191	2230	1110	8400	887	1360	555	564	213	217	314
9	265	191	1310	891	7170	809	1310	548	545	212	225	259
10	182	198	738	812	6090	764	1290	539	530	209	228	309
11	179	197	530	3410	6170	727	1140	540	515	207	226	308
12	179	192	423	7010	5780	939	1080	593	510	207	218	306
13	179	185	363	4060	4850	2030	1640	580	500	206	221	306
14	175	198	1040	5790	4800	1220	1260	545	490	196	225	306
15	175	230	1090	7460	7110	1040	1320	529	479	203	224	303
16	176	765	697	5960	7050	942	1460	521	470	199	233	308
17	172	429	829	5120	6300	874	1230	517	460	199	230	307
18	172	252	708	6880	6490	811	986	506	450	219	216	310
19	173	383	540	6710	9910	1060	939	497	439	221	212	312
20	171	309	458	6070	6310	1380	898	493	426	227	215	313
21	175	246	403	5810	9880	1250	862	486	420	226	216	317
22	167	228	354	4530	6100	1870	837	480	421	221	211	318
23	168	264	319	4850	6170	2670	838	476	392	218	212	314
24	177	471	310	4860	6160	2390	813	475	336	221	212	312
25	181	618	334	4230	6090	2870	775	484	316	226	212	314
26	185	2530	319	7180	5140	3130	752	438	304	224	216	309
27	181	1640	307	5750	2850	2430	712	296	261	221	212	316
28	196	595	300	4670	1840	1190	598	605	255	209	214	317
29	197	512	294	4610	---	993	547	3060	264	207	212	297
30	199	1180	288	4350	---	878	476	2120	301	206	208	236
31	203	---	282	2410	---	1980	---	1520	---	207	221	---
TOTAL	6154	13392	18377	127319	189160	43640	33963	21430	14709	6652	6661	8819
MEAN	199	446	593	4107	6756	1408	1132	691	490	215	215	294
MAX	265	2530	2230	7460	12600	3130	1740	3060	1100	286	233	318
MIN	167	185	282	286	1840	727	476	296	255	194	195	201
AC-FT	12210	26560	36450	252500	375200	86560	67370	42510	29180	13190	13210	17490

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	231	426	1152	1879	1788	1277	710	330	218	198	206	209
MAX	555	1656	4849	5856	6799	5361	2572	820	490	326	369	383
(WY)	1958	1984	1965	1970	1958	1983	1982	1983	1998	1961	1961	1974
MIN	35.1	96.5	87.6	37.2	28.8	57.1	44.1	77.0	59.6	79.7	105	78.9
(WY)	1978	1978	1991	1977	1977	1977	1977	1977	1949	1948	1950	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	238615		490276			
ANNUAL MEAN	654		1343		714	
HIGHEST ANNUAL MEAN					1587	1983
LOWEST ANNUAL MEAN					94.0	1977
HIGHEST DAILY MEAN	17900	Jan 1	12600	Feb 6	33800	Dec 22 1955
LOWEST DAILY MEAN	154	Jun 11	167	Oct 22	9.1	Apr 20 1977
ANNUAL SEVEN-DAY MINIMUM	160	Jun 6	171	Oct 17	13	Apr 15 1977
INSTANTANEOUS PEAK FLOW			15900	Feb 6	45000	Dec 22 1955
INSTANTANEOUS PEAK STAGE			16.57	Feb 6	27.00	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	473300		972500		517400	
10 PERCENT EXCEEDS	1270		4820		1580	
50 PERCENT EXCEEDS	239		471		253	
90 PERCENT EXCEEDS	184		200		137	

11463000 RUSSIAN RIVER NEAR CLOVERDALE, CA

LOCATION.—Lat 38°52'46", long 123°03'09", in NW 1/4 NW 1/4 sec.23, T.12 N., R.11 W., Mendocino County, Hydrologic Unit 18010110, on left bank 0.3 mi downstream from Cummisky Creek, 5.5 mi northwest of Cloverdale, and 28 mi downstream from Coyote Dam.

DRAINAGE AREA.—503 mi^2.

PERIOD OF RECORD.—July 1951 to current year.
WATER TEMPERATURE: Water years 1964–96.
SEDIMENT DATA: Water years 1964–68, 1994–96.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 350 ft above sea level, from topographic map. Prior to July 30, 1970, at site 0.2 mi upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Diversions for irrigation of about 15,000 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 55,200 ft^3/s, Dec. 22, 1964, gage height, 31.60 ft, site and datum then in use; minimum daily, 12 ft^3/s, Apr. 22, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	194	859	319	4550	2320	2690	677	2030	486	297	322
2	200	198	610	1600	7000	2090	1990	830	1500	407	279	317
3	209	199	503	2090	21800	2000	2000	771	1330	390	292	234
4	201	198	529	4420	10500	e1800	2400	745	1220	377	296	197
5	208	193	751	2660	12800	e1580	2230	774	1130	366	287	273
6	217	184	620	3490	21300	e1350	2040	754	1060	359	279	299
7	220	183	1620	2460	16700	e1290	1950	728	1010	340	296	308
8	229	184	2740	1570	13600	e1240	1810	710	967	344	297	310
9	289	185	1820	1260	9290	e1200	1700	695	931	350	313	280
10	209	193	1050	1270	7850	e1150	1710	678	894	349	328	287
11	186	199	767	3720	7370	1130	1530	673	862	337	322	308
12	182	196	608	10700	7450	1000	1460	761	840	329	319	309
13	179	193	508	6220	7150	2940	2220	742	819	327	304	304
14	177	201	1410	7550	7540	e1950	1790	696	802	318	319	305
15	174	232	1560	10300	e9000	e1600	1750	668	776	309	313	307
16	169	688	1000	7860	e9500	e1450	1880	654	753	306	318	310
17	168	704	985	8230	e9550	e1250	1670	646	739	294	329	310
18	160	377	948	9790	8020	e1140	1330	632	719	305	325	310
19	166	613	742	9910	11900	e1350	1250	619	702	310	317	312
20	167	446	626	7970	9980	e1750	1170	610	681	320	308	314
21	172	328	547	7190	14300	1640	1120	596	669	308	312	319
22	166	286	476	5960	9300	2690	1070	583	664	319	303	315
23	164	312	424	5560	8830	4660	1100	581	650	321	296	311
24	165	543	384	5790	8240	3970	1060	575	571	326	304	308
25	164	837	393	5220	7460	3890	983	579	535	335	303	311
26	163	3160	379	9490	6430	4040	944	572	523	340	305	313
27	167	3170	360	11700	4030	3450	914	446	471	336	304	313
28	171	975	351	10200	2680	1960	775	1040	441	306	297	324
29	185	637	340	8870	---	1600	719	5820	436	304	299	326
30	188	1420	329	6750	---	1350	642	3770	475	304	287	265
31	191	---	319	3500	---	2410	---	2550	---	293	295	---
TOTAL	5791	17428	24558	183619	274120	63240	45897	31175	25200	10415	9443	9021
MEAN	187	581	792	5923	9790	2040	1530	1006	840	336	305	301
MAX	289	3170	2740	11700	21800	4660	2690	5820	2030	486	329	326
MIN	160	183	319	319	2680	1000	642	446	436	293	279	197
AC-FT	11490	34570	48710	364200	543700	125400	91040	61840	49980	20660	18730	17890

e Estimated.

11463000 RUSSIAN RIVER NEAR CLOVERDALE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	247	580	1590	2801	2562	1815	912	396	246	214	221	216
MAX	659	2636	6398	8324	9790	7015	3708	1156	840	336	359	385
(WY)	1963	1984	1965	1995	1998	1983	1982	1983	1998	1998	1961	1974
MIN	34.5	114	97.8	53.7	44.5	97.2	47.3	80.7	99.9	117	118	72.5
(WY)	1978	1992	1991	1977	1977	1977	1977	1977	1988	1988	1988	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	327260		699907			
ANNUAL MEAN	897		1918		977	
HIGHEST ANNUAL MEAN					2144	1983
LOWEST ANNUAL MEAN					99.2	1977
HIGHEST DAILY MEAN	28100	Jan 1	21800	Feb 3	42800	Dec 22 1964
LOWEST DAILY MEAN	157	Jun 12	160	Oct 18	12	Apr 22 1977
ANNUAL SEVEN-DAY MINIMUM	166	Oct 18	166	Oct 18	16	Apr 16 1977
INSTANTANEOUS PEAK FLOW			23300	Feb 3	55200	Dec 22 1964
INSTANTANEOUS PEAK STAGE			19.64	Feb 3	31.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	649100		1388000		708000	
10 PERCENT EXCEEDS	1680		7060		2290	
50 PERCENT EXCEEDS	240		642		268	
90 PERCENT EXCEEDS	180		200		155	

11463170 BIG SULPHUR CREEK AT GEYSERS RESORT, NEAR CLOVERDALE, CA

LOCATION.—Lat 38°47'52", long 122°48'05", in NW 1/4 NW 1/4 sec.19, T.11 N., R.8 W., Sonoma County, Hydrologic Unit 18010110, on left bank 400 ft downstream from unnamed tributary and 12 mi east of Cloverdale.

DRAINAGE AREA.—13.1 mi^2.

PERIOD OF RECORD.—October 1980 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 1,430 ft above sea level, from topographic map.

REMARKS.—Records fair. Diversion for industrial use 150 ft upstream from station when flows are above 10 ft^3/s. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,010 ft^3/s, Jan. 1, 1997, gage height, 9.78 ft, from rating curve extended above 1,200 ft^3/s on basis of culvert computation of peak flow; minimum daily, 0.08 ft^3/s, Aug. 31, 1983.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1100	1,230	6.31	Feb. 21	0830	1,820	6.86
Feb. 3	0015	2,240	7.18	May 29	1045	1,540	6.62

REVISIONS.---The peak discharges reported for water year 1996 have been revised as shown in the following table. They supersede figures published in the report for 1995-96.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0615	4,070	8.25	Feb. 4	1100	1,900	6.93
Dec. 15	0245	1,500	6.58	Feb. 20	2230	1,800	6.84
Jan. 20	2000	1,200	6.28	May 17	1815	1,560	6.64
Jan. 24	2000	1,360	6.44				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	e1.9	28	11	236	47	57	19	95	11	4.5	1.9
2	1.7	e1.9	12	145	502	41	42	20	73	11	4.2	1.9
3	1.4	e1.9	17	244	975	34	89	14	58	11	3.9	1.8
4	1.3	e1.9	13	286	349	27	79	13	38	11	3.8	1.8
5	1.2	e1.9	41	104	656	24	60	11	25	10	3.7	1.8
6	1.3	e2.1	27	76	800	21	50	11	19	10	3.5	1.9
7	1.4	2.2	111	72	831	21	40	11	14	9.7	3.5	1.9
8	1.3	2.3	69	52	504	21	31	11	12	9.2	3.5	1.8
9	e3.8	2.3	41	48	268	21	59	11	12	9.0	3.5	1.8
10	e1.5	3.6	24	187	185	21	61	11	12	9.0	3.3	1.8
11	e1.4	2.9	14	483	137	19	51	12	13	8.6	3.2	1.8
12	e1.3	2.6	12	719	133	20	56	16	12	8.3	3.1	1.7
13	e1.3	4.3	11	246	117	37	74	11	12	7.9	3.0	1.7
14	e1.2	10	91	202	243	17	58	12	12	7.3	3.0	1.6
15	e1.2	16	51	264	178	14	54	13	11	6.9	2.9	1.6
16	e1.2	12	33	175	228	14	46	13	9.7	6.7	2.9	1.6
17	e1.1	23	36	163	207	14	37	12	8.9	6.5	2.8	1.6
18	e1.1	14	27	309	154	14	31	12	8.2	6.3	2.9	1.6
19	e1.2	42	16	246	562	14	25	11	8.3	6.1	2.9	1.6
20	e1.3	9.9	12	149	301	14	21	10	8.1	5.8	2.9	1.6
21	e1.5	9.6	12	98	661	14	17	11	8.1	5.7	2.9	1.6
22	e1.5	9.5	12	71	406	24	14	10	7.9	5.7	2.7	1.7
23	e1.5	10	11	58	338	284	55	10	7.9	5.6	2.5	1.7
24	e1.6	73	10	49	203	182	31	10	7.7	5.5	2.4	1.7
25	e1.6	25	11	45	135	114	15	9.9	7.7	5.2	2.3	1.7
26	e1.6	339	11	386	97	83	11	10	8.7	5.0	2.3	1.8
27	e1.7	73	11	280	75	62	12	11	7.7	4.8	2.3	1.8
28	e1.7	21	11	143	58	50	12	232	7.7	4.6	2.2	2.0
29	e1.8	45	11	327	---	39	11	839	7.8	4.7	2.1	1.9
30	e1.8	81	11	157	---	30	11	284	7.6	4.7	2.1	1.8
31	e1.8	---	11	122	---	49	---	141	---	4.7	2.0	---
TOTAL	46.4	844.8	808	5917	9539	1386	1210	1821.9	540.0	227.5	92.8	52.5
MEAN	1.50	28.2	26.1	191	341	44.7	40.3	58.8	18.0	7.34	2.99	1.75
MAX	3.8	339	111	719	975	284	89	839	95	11	4.5	2.0
MIN	1.1	1.9	10	11	58	14	11	9.9	7.6	4.6	2.0	1.6
AC-FT	92	1680	1600	11740	18920	2750	2400	3610	1070	451	184	104

e Estimated.

11463170 BIG SULPHUR CREEK AT GEYSERS RESORT, NEAR CLOVERDALE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.37	27.5	83.1	124	121	105	31.5	20.4	6.51	2.94	1.47	1.34
MAX	20.9	146	341	639	571	358	162	81.6	18.0	7.34	2.99	2.90
(WY)	1990	1984	1997	1995	1986	1995	1982	1990	1998	1998	1998	1985
MIN	.74	1.22	1.81	2.52	7.34	8.57	8.44	4.79	2.62	.86	.70	.65
(WY)	1989	1981	1991	1991	1989	1988	1990	1986	1987	1984	1988	1988

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1981 - 1998		
ANNUAL TOTAL	11640.05		22485.9				
ANNUAL MEAN	31.9		61.6		43.8		
HIGHEST ANNUAL MEAN					101		1995
LOWEST ANNUAL MEAN					15.5		1994
HIGHEST DAILY MEAN	1480	Jan 1	975	Feb 3	3920	Feb 17	1986
LOWEST DAILY MEAN	.80	Sep 9	1.1	Oct 1	.08	Aug 31	1983
ANNUAL SEVEN-DAY MINIMUM	.85	Sep 6	1.2	Oct 13	.24	Oct 13	1983
INSTANTANEOUS PEAK FLOW			2240	Feb 3	8010	Jan 1	1997
INSTANTANEOUS PEAK STAGE			7.18	Feb 3	9.78	Jan 1	1997
ANNUAL RUNOFF (AC-FT)	23090		44600		31760		
10 PERCENT EXCEEDS	43		186		91		
50 PERCENT EXCEEDS	5.7		11		6.1		
90 PERCENT EXCEEDS	1.1		1.7		1.0		

11463200 BIG SULPHUR CREEK NEAR CLOVERDALE, CA

LOCATION.—Lat 38°49'34", long 122°59'45", in Rincon de Masalacon Grant, Sonoma County, Hydrologic Unit 18010110, on right bank 900 ft downstream from unnamed tributary, 1.0 mi upstream of Russian River, and 1.8 mi northeast of Cloverdale.

DRAINAGE AREA.—85.5 mi^2.

PERIOD OF RECORD.—July 1957 to September 1972. October 1989 to current year (since October 1989, low flow records only).

REVISED RECORDS.—WSP 1929: 1958–60.

GAGE.—Water-stage recorder. Elevation of gage is 350 ft above sea level, from topographic map. Prior to September 1972, at site 0.8 mi upstream at different datum.

REMARKS.—Records poor. No records computed above 200 ft^3/s. Diversions for irrigation and geothermal recharge upstream from station. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (water years 1958–72), 15,700 ft^3/s, Dec. 22, 1964, gage height, 15.08 ft, site and datum then in use, from rating curve extended above 5,700 ft^3/s on basis of slope-area measurement at gage height 16.8 ft; minimum daily, 0.90 ft^3/s, Aug. 17, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1955, reached a stage of 16.8 ft from floodmarks, site and datum then in use, discharge, 20,000 ft^3/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.7	7.7	152	59	---	---	---	e141	---	e60	e23	e10
2	e3.5	7.5	131	---	---	---	---	149	---	e59	e22	e10
3	e2.9	7.2	149	---	---	---	---	97	---	e58	e21	e9.9
4	e2.7	7.1	137	---	---	---	---	69	---	e57	e20	e9.7
5	e2.5	6.9	---	---	---	e196	---	72	e165	e56	e19	e9.5
6	e2.4	7.1	157	---	---	e185	---	72	e120	e54	e18	e9.4
7	e2.4	7.2	---	---	---	e178	---	71	e110	e52	e18	e9.3
8	e2.3	7.1	---	---	---	e172	---	72	e100	e50	e18	e9.2
9	e15	7.4	---	---	---	e169	---	73	e92	e49	e17	e9.1
10	e6.0	9.8	165	---	---	e165	---	74	e84	e47	e17	e9.0
11	e5.5	9.8	119	---	---	e160	---	77	e78	e46	e17	e8.9
12	e5.2	7.4	93	---	---	e156	---	97	e73	e44	e17	e8.9
13	e4.8	9.1	81	---	---	---	---	89	e68	e42	e16	e8.8
14	e4.6	14	---	---	---	e133	---	86	e63	e40	e16	e8.7
15	e4.4	19	---	---	---	e116	---	87	e58	e38	e16	e8.6
16	e4.1	92	---	---	---	e105	---	90	e54	e36	e15	e8.5
17	e3.7	86	---	---	---	e105	---	93	e52	e34	e15	e8.4
18	e3.7	47	---	---	---	e104	---	94	e50	e33	e15	e8.3
19	e4.1	83	155	---	---	e102	e188	96	e48	e32	e15	e8.4
20	e4.4	42	132	---	---	e100	e158	99	e46	e30	e15	e8.5
21	e5.1	31	118	---	---	e98	e126	95	e44	e29	e15	e8.5
22	e5.1	27	106	---	---	e170	e103	79	e44	e29	e14	e8.6
23	e5.2	29	97	---	---	---	---	79	e44	e29	e13	e8.7
24	e5.3	84	89	---	---	---	---	81	e44	e28	e13	e8.7
25	e5.3	94	82	---	---	---	e111	82	e45	e27	e12	e8.8
26	e6.1	---	75	---	---	---	e102	80	e45	e26	e12	e8.9
27	e6.5	---	70	---	---	---	e97	91	e44	e26	e12	e8.9
28	e6.8	---	67	---	---	---	e92	---	e42	e25	e11	e9.0
29	e7.0	---	66	---	---	---	e88	---	e40	e25	e11	e10
30	e7.2	---	62	---	---	---	e85	---	e39	e24	e11	e9.0
31	e7.5	---	59	---	---	---	---	---	---	e24	e10	---
TOTAL	154.0	---	---	---	---	---	---	---	---	1209	484	270.2
MEAN	4.97	---	---	---	---	---	---	---	---	39.0	15.6	9.01
MAX	15	---	---	---	---	---	---	---	---	60	23	10
MIN	2.3	---	---	---	---	---	---	---	---	24	10	8.3
AC-FT	305	---	---	---	---	---	---	---	---	2400	960	536

e Estimated.

11463200 BIG SULPHUR CREEK NEAR CLOVERDALE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1972, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.2	99.8	387	611	564	286	224	60.0	26.3	10.7	6.26	8.21
MAX	290	283	1228	1972	1962	747	726	175	67.0	22.0	11.9	51.4
(WY)	1963	1967	1965	1970	1958	1958	1958	1963	1967	1963	1967	1957
MIN	4.08	4.15	6.82	94.0	81.7	66.4	37.9	21.9	11.0	4.23	3.13	2.79
(WY)	1967	1960	1960	1962	1964	1964	1964	1959	1959	1959	1959	1970

SUMMARY STATISTICS	WATER YEARS 1957 - 1972	
ANNUAL MEAN	192	
HIGHEST ANNUAL MEAN	376	1958
LOWEST ANNUAL MEAN	53.1	1972
HIGHEST DAILY MEAN	10400	Dec 22 1964
LOWEST DAILY MEAN	1.8	Oct 20 1964
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 15 1964
INSTANTANEOUS PEAK FLOW	15700	Dec 22 1964
INSTANTANEOUS PEAK STAGE	15.08	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	138800	
10 PERCENT EXCEEDS	395	
50 PERCENT EXCEEDS	33	
90 PERCENT EXCEEDS	4.2	

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA

LOCATION.—Lat 38°37'59", long 122°51'16", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on right bank, 1,800 ft downstream from unnamed tributary and 1.6 mi northeast of Healdsburg.

DRAINAGE AREA.—791 mi^2.

PERIOD OF RECORD.—October 1988 to current year (low flow only). Records for October 1985 to September 1988 are in the files of the U.S. Geological Survey.

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

REMARKS.—Record good except for estimated discharges, which are fair. No records computed above 400 ft^3/s. See schematic diagram of Russian River Basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	188	---	---	---	---	---	---	---	---	e232	e199
2	178	190	---	---	---	---	---	---	---	---	e228	e211
3	182	191	---	---	---	---	---	---	---	---	e225	e223
4	189	193	---	---	---	---	---	---	---	392	e222	e208
5	186	193	---	---	---	---	---	---	---	378	e220	e262
6	191	186	---	---	---	---	---	---	---	360	e221	e280
7	198	184	---	---	---	---	---	---	---	348	e240	e290
8	207	183	---	---	---	---	---	---	---	e340	e255	e260
9	246	186	---	---	---	---	---	---	---	e320	e260	e235
10	303	193	---	---	---	---	---	---	---	e303	e265	e270
11	231	201	---	---	---	---	---	---	---	e295	e260	e290
12	206	207	---	---	---	---	---	---	---	e290	e240	e298
13	197	213	---	---	---	---	---	---	---	e282	e235	e299
14	190	229	---	---	---	---	---	---	---	e273	e232	e290
15	184	258	---	---	---	---	---	---	---	e265	e230	e293
16	176	---	---	---	---	---	---	---	---	e260	e229	e298
17	169	---	---	---	---	---	---	---	---	e250	e228	e299
18	166	---	---	---	---	---	---	---	---	e245	e227	e298
19	165	---	---	---	---	---	---	---	---	e248	e226	e299
20	168	---	---	---	---	---	---	---	---	e255	e225	e299
21	168	---	---	---	---	---	---	---	---	e258	e220	e301
22	166	---	---	---	---	---	---	---	---	e262	e216	e299
23	167	---	---	---	---	---	---	---	---	e267	e214	e295
24	167	---	---	---	---	---	---	---	---	e270	e212	e292
25	166	---	---	---	---	---	---	---	---	e273	e211	e295
26	165	---	---	---	---	---	---	---	---	e275	e209	e298
27	166	---	---	---	---	---	---	---	---	e260	e207	e300
28	169	---	---	---	---	---	---	---	---	e250	e206	e302
29	166	---	---	---	---	---	---	---	---	e245	e204	e310
30	181	---	---	---	---	---	---	---	---	e243	e202	e320
31	185	---	---	---	---	---	---	---	---	e235	e200	---
TOTAL	5771	---	---	---	---	---	---	---	---	---	7001	8413
MEAN	186	---	---	---	---	---	---	---	---	---	226	280
MAX	303	---	---	---	---	---	---	---	---	---	265	320
MIN	165	---	---	---	---	---	---	---	---	---	200	199
AC-FT	11450	---	---	---	---	---	---	---	---	---	13890	16690

e Estimated.

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA

LOCATION.—Lat 38°36'48", long 122°50'07", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on left bank 2 mi east of Healdsburg and 3.5 mi upstream from Dry Creek.

DRAINAGE AREA.—793 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 981: 1942. WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 77.01 ft above sea level.

REMARKS.—Records fair, including estimated daily discharges. Several diversions for irrigation of about 17,800 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino, 63 mi upstream. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 73,000 ft^3/s, Jan. 9, 1995, gage height, 26.23 ft; maximum gage height, 30.0 ft, Feb. 28, 1940; minimum daily discharge, 12 ft^3/s, June 14, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1937 reached a stage of 30.8 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	180	2080	580	9310	3980	3890	1110	3010	444	219	185
2	174	183	1430	1060	12000	3490	2850	1280	2170	397	216	185
3	176	186	1170	3140	37000	3220	3180	1250	1820	314	210	195
4	179	187	1200	7360	21700	2960	3710	1180	1620	299	208	183
5	181	187	1450	4620	24400	2550	3370	1130	1450	294	201	181
6	183	182	1460	4210	34600	2350	3070	1090	1330	285	197	225
7	188	179	2130	4230	32900	2100	2900	1070	1240	277	198	253
8	195	178	4190	2740	26200	2040	2650	1080	1170	263	212	231
9	219	181	3530	2130	15800	1920	2570	1080	1100	266	216	206
10	293	189	2150	2770	12900	1770	2710	1080	1040	266	224	207
11	273	198	1600	4710	11200	1670	2550	1080	1010	261	229	275
12	211	204	1290	15900	11300	1630	2240	1120	977	255	224	291
13	190	212	1150	12100	9950	4150	3210	1150	944	249	219	290
14	184	231	2070	9800	10900	3000	2890	990	900	246	210	288
15	179	258	3270	14900	12100	2330	2630	960	856	240	213	289
16	171	723	2070	11600	12400	2050	2600	953	805	233	208	293
17	165	1380	1760	10200	13700	1870	2500	952	753	226	207	296
18	163	777	1810	11900	11500	1730	2090	952	720	220	204	294
19	160	1100	1500	16500	21700	1600	1890	952	689	215	205	293
20	160	895	1270	12000	19300	1930	1780	866	659	222	205	295
21	164	602	1170	9860	21600	2040	1670	778	632	228	203	295
22	167	468	1060	8270	17700	2830	1600	759	616	232	201	295
23	166	431	954	6810	14900	5400	1650	745	602	234	198	295
24	164	508	863	7330	12900	7290	1750	733	563	235	197	295
25	162	1250	795	6580	11100	5570	1540	734	488	237	194	295
26	160	4290	765	10800	9640	5350	1450	726	447	237	194	295
27	157	6390	716	14900	7050	4700	1390	694	424	239	191	295
28	159	2230	681	10200	4780	3460	1290	1440	384	235	191	303
29	160	1440	652	12000	---	2700	1200	9650	364	227	188	310
30	167	3590	627	10200	---	2220	1150	7760	e383	223	189	311
31	179	---	602	6650	---	2420	---	4110	---	223	188	---
TOTAL	5618	29009	47465	256050	460530	92320	69970	49454	29166	8022	6359	7944
MEAN	181	967	1531	8260	16450	2978	2332	1595	972	259	205	265
MAX	293	6390	4190	16500	37000	7290	3890	9650	3010	444	229	311
MIN	157	178	602	580	4780	1600	1150	694	364	215	188	181
AC-FT	11140	57540	94150	507900	913500	183100	138800	98090	57850	15910	12610	15760

e Estimated.

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	275	783	2472	4209	4040	2808	1459	567	272	186	185	191
MAX	1605	5293	8945	14490	16450	11810	6592	1638	972	300	331	360
(WY)	1958	1974	1956	1995	1998	1983	1982	1983	1998	1961	1974	1974
MIN	33.7	122	111	90.9	58.7	146	55.7	85.1	81.3	70.5	82.8	67.4
(WY)	1978	1992	1991	1977	1977	1977	1977	1977	1977	1947	1947	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	512810		1061907			
ANNUAL MEAN	1405		2909		1443	
HIGHEST ANNUAL MEAN					3277	1983
LOWEST ANNUAL MEAN					101	1977
HIGHEST DAILY MEAN	59400	Jan 1	37000	Feb 3	69300	Jan 9 1995
LOWEST DAILY MEAN	126	Aug 9	157	Oct 27	12	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	133	Aug 5	161	Oct 23	21	Apr 20 1977
INSTANTANEOUS PEAK FLOW			43500	Feb 3	73000	Jan 9 1995
INSTANTANEOUS PEAK STAGE			19.34	Feb 3	30.00	Feb 28 1940
ANNUAL RUNOFF (AC-FT)	1017000		2106000		1045000	
10 PERCENT EXCEEDS	2380		10100		3390	
50 PERCENT EXCEEDS	272		952		313	
90 PERCENT EXCEEDS	156		187		140	

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1951 to current year.
CHEMICAL DATA: Water years 1951–66, 1980.
WATER TEMPERATURE: Water years 1966 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1965 to current year.

INSTRUMENTATION.—Temperature recorder since October 1965 provides hourly recordings.

REMARKS.—Temperature during summer months affected by recreation dams above and below gage. Interruptions in record due to equipment malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: Maximum recorded, 32.0°C, July 18, 1998, and Aug. 3, 1998; minimum recorded, 3.0°C, Dec. 23, 1990.

EXTREMES FOR CURRENT YEAR.—
WATER TEMPERATURE: Maximum recorded, 32.0°C, July 18 and Aug. 3; minimum recorded, 8.5°C, Dec. 22, 23, 26, and 27.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	20.5	---	---	---	---	12.5	11.5	---	---	---	---
2	---	---	---	---	---	---	13.0	11.5	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	11.0	10.5	---	---
6	---	---	---	---	---	---	---	---	11.0	10.0	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	10.5	10.5	---	---
11	---	---	---	---	---	---	---	---	11.5	10.5	---	---
12	---	---	---	---	---	---	12.5	12.0	11.0	11.0	---	---
13	---	---	---	---	---	---	12.0	11.5	12.0	11.0	---	---
14	---	---	---	---	---	---	12.0	11.0	11.5	11.0	---	---
15	---	---	---	---	---	---	12.5	11.0	11.5	10.5	---	---
16	---	---	---	---	---	---	12.5	12.0	11.0	9.0	---	---
17	---	---	---	---	---	---	13.5	12.5	10.0	9.0	---	---
18	---	---	---	---	---	---	13.5	12.0	10.5	10.0	---	---
19	---	---	---	---	---	---	12.0	11.0	10.5	9.5	---	---
20	---	---	---	---	---	---	11.0	10.0	---	---	---	---
21	---	---	---	---	10.0	9.0	11.0	10.0	---	---	---	---
22	---	---	---	---	9.5	8.5	11.0	10.0	---	---	---	---
23	---	---	---	---	10.0	8.5	11.0	10.5	---	---	---	---
24	---	---	---	---	10.0	9.5	11.5	10.5	---	---	---	---
25	---	---	---	---	10.0	9.0	---	11.0	---	---	---	---
26	---	---	---	---	9.5	8.5	---	---	---	---	---	---
27	---	---	---	---	9.5	8.5	---	---	---	---	---	---
28	---	---	---	---	10.5	9.5	---	---	---	---	---	---
29	---	---	---	---	11.0	10.5	---	---	---	---	---	---
30	---	---	---	---	11.5	10.5	---	---	---	---	---	---
31	---	---	---	---	12.5	11.5	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	19.5	17.0	17.5	14.5	26.0	21.5	27.0	24.0	27.0	23.5
2	---	---	17.5	15.5	18.0	15.5	25.5	21.5	28.0	25.5	27.5	24.0
3	---	---	17.0	15.0	17.0	15.0	26.5	22.0	32.0	26.5	27.5	24.5
4	---	---	18.0	16.0	16.5	14.0	27.5	22.5	31.5	27.5	27.0	25.0
5	---	---	18.0	16.0	19.0	15.0	28.0	23.0	31.0	27.5	26.0	24.5
6	---	---	17.5	15.5	18.5	16.0	28.5	23.0	30.0	26.5	25.5	23.0
7	---	---	17.5	15.5	18.5	17.0	29.0	23.5	29.0	26.0	28.0	25.0
8	---	---	17.5	16.0	20.0	16.0	27.5	23.5	27.0	24.5	27.5	25.0
9	---	---	17.5	14.5	21.0	17.0	25.5	23.0	27.0	24.0	25.5	23.5
10	---	---	18.5	15.0	22.0	18.5	26.5	22.0	28.5	25.0	24.0	21.5
11	---	---	18.0	14.5	21.0	17.5	27.5	22.5	29.5	26.0	24.5	22.0
12	---	---	15.0	13.5	19.0	17.5	28.5	24.0	30.5	27.0	24.5	22.0
13	---	---	16.0	12.5	20.5	17.0	28.5	24.5	29.5	27.0	25.0	23.0
14	---	---	16.5	14.0	23.0	18.0	29.0	24.0	28.5	25.5	25.5	23.0
15	---	---	17.5	14.0	25.0	20.5	29.5	24.5	28.0	25.0	24.0	22.0
16	15.0	11.5	17.0	14.5	23.5	20.5	30.0	25.0	28.0	24.5	24.0	21.0
17	15.5	11.5	18.0	14.0	23.5	19.5	30.5	25.5	27.0	24.5	23.5	21.5
18	16.0	12.5	19.5	15.0	23.0	19.5	32.0	27.0	26.5	23.5	23.0	21.0
19	17.5	13.0	18.5	16.0	23.0	19.0	31.5	27.0	25.5	23.0	22.5	20.0
20	18.5	14.5	18.5	14.5	21.5	18.5	29.0	27.5	25.0	22.5	23.0	20.5
21	19.0	14.5	19.0	15.0	19.5	18.0	27.5	25.5	25.5	22.5	22.5	20.5
22	18.0	16.5	20.0	16.0	20.0	17.5	26.5	24.5	26.5	23.5	22.0	20.0
23	18.0	15.5	19.5	17.5	21.0	18.5	25.0	24.0	26.5	24.0	20.5	18.5
24	16.5	14.5	19.0	17.0	23.0	19.5	25.0	24.0	26.5	24.0	21.5	19.0
25	16.5	14.0	19.0	15.5	25.0	21.5	26.0	24.0	26.0	23.5	21.0	19.5
26	17.0	15.0	17.0	15.0	24.5	20.5	27.0	24.5	24.5	22.0	19.5	18.0
27	18.0	16.0	16.0	15.0	26.0	21.5	26.5	25.0	25.5	22.5	19.0	18.0
28	18.5	17.0	15.0	13.5	25.0	21.0	26.0	24.5	25.5	23.0	20.5	17.5
29	19.0	17.5	13.5	11.0	25.0	20.5	25.5	24.0	26.0	23.5	20.5	18.5
30	20.5	18.0	16.0	12.0	25.5	20.5	25.0	23.5	27.0	23.5	20.0	18.5
31	---	---	17.0	14.0	---	---	24.5	22.5	27.0	23.0	---	---
MONTH	---	---	20.0	11.0	26.0	14.0	32.0	21.5	32.0	22.0	28.0	17.5

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA

LOCATION.—Lat 38°43'11", long 122°59'58", in Tzabaco Grant, Sonoma County, Hydrologic Unit 18010110, on right bank of outlet channel, 500 ft downstream from Warm Springs Dam, 500 ft upstream from county road bridge, and 5.0 mi west of Geyserville.

DRAINAGE AREA.—131 mi^2.

PERIOD OF RECORD.—October 1939 to September 1942 (published as "Dry Creek near Healdsburg"), October 1981 to current year. WATER TEMPERATURE RECORD: Water years 1981–94.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 188.21 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1942, nonrecording gage at site 500 ft downstream at different datum.

REMARKS.—Records good. Flow affected by storage in Lake Sonoma, capacity, 380,600 acre-ft, beginning October 1983. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 22,500 ft^3/s, Feb. 28, 1940, gage height, 16.9 ft, datum then in use; no flow Oct.1 to Dec. 8, 1939. Maximum discharge since regulation by Lake Sonoma, 5,590 ft^3/s, Feb. 11, 1998, gage height, 10.38 ft; minimum daily, 6.3 ft^3/s July 10, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1937 reached a stage of 21.8 ft from floodmarks, discharge about 25,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	131	115	99	1510	4500	523	173	223	102	100	99
2	100	130	115	84	229	3920	523	173	313	102	100	99
3	98	130	116	86	220	2710	523	173	308	102	100	99
4	78	130	115	93	221	1420	523	173	308	102	100	100
5	49	130	111	91	477	937	523	173	283	102	100	100
6	29	129	109	96	121	475	523	173	304	102	100	100
7	28	129	112	96	95	250	523	173	304	101	100	100
8	28	129	113	96	90	250	524	174	305	101	100	100
9	28	129	115	96	1910	250	525	174	305	101	100	100
10	28	129	115	97	4160	162	425	174	304	101	100	95
11	28	129	115	99	5300	136	258	131	304	101	100	104
12	28	129	115	94	3240	138	256	94	304	101	100	103
13	28	129	116	87	3010	138	256	94	304	101	100	103
14	28	128	118	129	3760	136	256	95	304	100	100	102
15	28	129	116	186	5000	136	256	94	305	100	100	103
16	35	139	124	186	4970	304	256	95	308	100	100	103
17	60	131	121	186	4920	551	256	95	310	100	100	103
18	93	132	121	191	4800	555	257	95	309	100	100	102
19	96	131	121	1160	1960	549	259	95	308	100	100	102
20	123	131	121	2030	142	363	259	95	308	100	100	102
21	144	131	121	740	152	178	259	95	308	100	100	102
22	135	131	120	187	863	179	259	95	308	100	100	102
23	117	131	124	961	2580	180	259	95	308	100	100	101
24	117	132	119	3130	4390	1160	259	95	307	100	100	101
25	120	131	119	2670	4580	2260	259	98	228	100	100	101
26	117	131	119	963	4540	1010	259	95	181	100	100	101
27	117	115	119	148	4530	653	229	95	182	99	100	101
28	116	115	119	489	4550	1210	175	96	182	100	100	100
29	116	117	116	1030	---	1210	174	147	147	100	100	97
30	116	115	112	2120	---	902	173	181	106	100	100	96
31	122	---	109	3290	---	523	---	182	---	100	99	---
TOTAL	2451	3853	3621	21010	72320	27345	10009	3990	8278	3118	3099	3021
MEAN	79.1	128	117	678	2583	882	334	129	276	101	100	101
MAX	144	139	124	3290	5300	4500	525	182	313	102	100	104
MIN	28	115	109	84	90	136	173	94	106	99	99	95
AC-FT	4860	7640	7180	41670	143400	54240	19850	7910	16420	6180	6150	5990

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	79.5	157	199	462	533	405	174	94.7	115	118	110	89.5
MAX	120	524	1501	1986	2583	1494	948	265	276	274	169	122
(WY)	1997	1984	1984	1997	1998	1995	1995	1995	1998	1987	1987	1996
MIN	7.70	50.8	49.8	49.3	73.3	25.0	23.0	26.1	25.1	27.0	42.0	39.0
(WY)	1984	1986	1986	1986	1988	1985	1985	1985	1985	1985	1985	1985

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1984 - 1998	
ANNUAL TOTAL	112884		162115			
ANNUAL MEAN	309		444		210	
HIGHEST ANNUAL MEAN					512	1995
LOWEST ANNUAL MEAN					46.0	1985
HIGHEST DAILY MEAN	3990	Jan 8	5300	Feb 11	5300	Feb 11 1998
LOWEST DAILY MEAN	28	Oct 7	28	Oct 7	6.1	Oct 21 1983
ANNUAL SEVEN-DAY MINIMUM	28	Oct 7	28	Oct 7	6.3	Oct 18 1983
INSTANTANEOUS PEAK FLOW			5590	Feb 11	5590	Feb 11 1998
INSTANTANEOUS PEAK STAGE			10.38	Feb 11	10.38	Feb 11 1998
ANNUAL RUNOFF (AC-FT)	223900		321600		152000	
10 PERCENT EXCEEDS	189		947		226	
50 PERCENT EXCEEDS	116		121		100	
90 PERCENT EXCEEDS	96		95		40	

11465200 DRY CREEK NEAR GEYSERVILLE, CA

LOCATION.—Lat 38°41'55", long 122°57'25", in Tzabaco Grant, Sonoma County, Hydrologic Unit 18010110, on left bank pier of bridge 0.3 mi downstream from Pena Creek, 3.0 mi downstream from Warm Springs Dam, and 3 mi west of Geyserville.

DRAINAGE AREA.—162 mi^2.

PERIOD OF RECORD.—October 1959 to current year.
CHEMICAL DATA: Water years 1971–81.
WATER TEMPERATURE: Water years 1964–86.
SEDIMENT DATA: Water years 1964–87.
TURBIDITY: Water years 1964–86.

REVISED RECORDS.—WDR CA-65-1: 1962(M), 1963(M).

GAGE.—Water-stage recorder. Datum of gage is 156.40 ft above sea level. Prior to Oct. 1, 1964, at datum 4.00 ft higher. Oct. 1, 1964, to Apr. 8, 1976, at datum 3.00 ft higher; Apr. 9, 1976, to Sept. 30, 1982, at datum 2.00 ft higher.

REMARKS.—Records good except for estimated daily discharges, which are fair. Small diversions upstream from station for irrigation of about 1,200 acres. Flow affected by storage in Lake Sonoma, 3.0 mi upstream, capacity 380,600 acre-ft, beginning October 1983. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 32,400 ft^3/s, Jan. 31, 1963, gage height, 20.50 ft, present datum; no flow at times. Maximum discharge since regulation by Lake Sonoma, 7,600 ft^3/s, Jan. 8, 1995, gage height, 15.48 ft; minimum daily, 19 ft^3/s, Oct. 18–25, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	143	185	116	2690	5610	668	227	391	115	102	98
2	97	143	163	130	2370	4550	647	231	496	113	102	98
3	98	143	162	187	2780	2900	682	217	478	113	100	97
4	82	142	167	388	970	1760	676	220	465	112	99	98
5	53	143	206	229	2620	1160	671	226	420	112	99	99
6	32	143	178	208	2330	687	663	224	444	111	99	99
7	29	143	225	246	1850	429	654	220	439	110	99	98
8	29	142	233	208	1130	415	647	218	433	108	100	98
9	29	142	205	190	2700	401	650	216	428	110	101	98
10	28	144	182	280	5350	282	563	214	423	109	100	91
11	28	143	167	576	6170	223	404	170	419	108	100	98
12	29	142	157	1170	4290	255	405	129	418	107	99	98
13	30	145	153	636	3780	396	430	120	415	107	99	98
14	30	145	296	657	4620	299	408	116	412	106	100	98
15	30	148	244	889	6080	275	402	111	410	105	100	98
16	34	275	213	698	6260	407	392	112	412	104	100	99
17	55	174	194	558	6250	689	385	111	410	103	100	99
18	91	158	179	955	5990	690	379	110	409	104	99	99
19	98	244	167	2030	4380	684	374	109	408	104	99	99
20	122	162	161	2910	e1370	509	368	108	406	104	99	99
21	144	155	156	1440	e1290	273	363	107	406	104	99	99
22	140	151	149	462	1670	314	359	106	405	105	99	99
23	126	155	152	1070	3490	499	374	106	403	104	99	99
24	125	213	145	3650	5620	1290	359	106	401	103	99	99
25	129	207	144	3270	5550	2320	352	109	291	103	99	99
26	126	698	142	1980	5460	1310	347	105	210	103	99	99
27	126	268	141	858	5410	817	304	107	207	102	98	100
28	126	180	140	748	5540	1330	214	167	205	102	98	98
29	126	187	134	863	---	1320	210	809	173	102	98	95
30	127	258	127	2170	---	1060	207	537	125	102	99	92
31	133	---	122	2950	---	679	---	399	---	101	98	---
TOTAL	2549	5636	5389	32722	108010	33833	13557	6067	11362	3296	3081	2938
MEAN	82.2	188	174	1056	3858	1091	452	196	379	106	99.4	97.9
MAX	144	698	296	3650	6260	5610	682	809	496	115	102	100
MIN	28	142	122	116	970	223	207	105	125	101	98	91
AC-FT	5060	11180	10690	64900	214200	67110	26890	12030	22540	6540	6110	5830

e Estimated.

11465200 DRY CREEK NEAR GEYSERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1983, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.5	240	610	1178	959	666	345	80.3	23.3	6.01	1.70	1.35
MAX	323	1619	2035	3930	2038	3095	1499	369	76.0	20.9	8.91	8.61
(WY)	1963	1974	1965	1970	1983	1983	1982	1983	1983	1983	1983	1983
MIN	.000	.54	4.31	22.7	27.1	34.1	9.58	5.64	.25	.000	.000	.000
(WY)	1961	1981	1977	1976	1977	1977	1977	1977	1977	1977	1972	1972

SUMMARY STATISTICS	WATER YEARS 1960 - 1983	
ANNUAL MEAN	342	
HIGHEST ANNUAL MEAN	790	1983
LOWEST ANNUAL MEAN	8.81	1977
HIGHEST DAILY MEAN	19400	Jan 16 1974
LOWEST DAILY MEAN	.00	Sep 17 1960
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 17 1960
INSTANTANEOUS PEAK FLOW	32400	Jan 31 1963
INSTANTANEOUS PEAK STAGE	20.50	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	247800	
10 PERCENT EXCEEDS	868	
50 PERCENT EXCEEDS	32	
90 PERCENT EXCEEDS	.08	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	88.8	141	175	724	888	632	215	116	138	133	120	96.1
MAX	116	459	539	2634	3858	2110	1115	341	379	296	180	128
(WY)	1997	1987	1997	1997	1998	1995	1995	1995	1998	1987	1987	1988
MIN	42.2	60.4	88.2	83.0	85.4	86.0	38.5	36.6	91.8	89.4	96.1	44.1
(WY)	1991	1986	1991	1991	1991	1988	1990	1991	1996	1996	1990	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	138840		228440			
ANNUAL MEAN	380		626		276	
HIGHEST ANNUAL MEAN					676	1995
LOWEST ANNUAL MEAN					90.5	1990
HIGHEST DAILY MEAN	4070	Jan 9	6260	Feb 16	6260	Feb 16 1998
LOWEST DAILY MEAN	28	Oct 10	28	Oct 10	27	May 20 1992
ANNUAL SEVEN-DAY MINIMUM	29	Oct 7	29	Oct 7	29	Oct 7 1997
INSTANTANEOUS PEAK FLOW			7420	Feb 19	7600	Jan 8 1995
INSTANTANEOUS PEAK STAGE			14.54	Feb 19	15.48	Jan 8 1995
ANNUAL RUNOFF (AC-FT)	275400		453100		199900	
10 PERCENT EXCEEDS	586		1530		423	
50 PERCENT EXCEEDS	140		170		109	
90 PERCENT EXCEEDS	98		98		73	

11465350 DRY CREEK NEAR MOUTH, NEAR HEALDSBURG, CA

LOCATION.—Lat 38°35'15", long 122°51'40", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on right bank 0.25 mi upstream from mouth, 0.4 mi downstream from Mill Creek, 1.7 mi south of Healdsburg, and 13.5 mi downstream from Warm Springs Dam.

DRAINAGE AREA.—217 mi^2.

PERIOD OF RECORD.—November 1980 to current year (low flow only).

GAGE.—Water-stage recorder. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.—Records good. No records computed above 200 ft^3/s. Some diversions for irrigation upstream from station. Flow regulated by Lake Sonoma 13.5 mi upstream beginning October 1983. See schematic diagram of Russian River Basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	118	---	141	---	---	---	---	---	148	100	91
2	83	121	200	---	---	---	---	---	---	142	100	97
3	85	121	196	---	---	---	---	---	---	140	99	96
4	80	123	---	---	---	---	---	---	---	136	96	94
5	65	126	---	---	---	---	---	---	---	136	94	96
6	47	126	---	---	---	---	---	---	---	134	93	98
7	31	126	---	---	---	---	---	---	---	133	93	99
8	27	125	---	---	---	---	---	---	---	132	93	98
9	31	124	---	---	---	---	---	---	---	131	94	96
10	25	129	---	---	---	---	---	---	---	130	94	92
11	19	129	---	---	---	---	---	---	---	129	94	91
12	19	125	184	---	---	---	---	---	---	127	91	93
13	19	134	174	---	---	---	---	185	---	126	91	95
14	19	139	---	---	---	---	---	169	---	122	92	96
15	17	153	---	---	---	---	---	159	---	118	93	94
16	17	---	---	---	---	---	---	155	---	112	93	94
17	26	---	---	---	---	---	---	150	---	110	96	94
18	53	---	---	---	---	---	---	147	---	110	96	95
19	73	---	---	---	---	---	---	142	---	110	96	96
20	84	193	193	---	---	---	---	139	---	109	96	96
21	110	164	185	---	---	---	---	143	---	106	96	96
22	118	157	174	---	---	---	---	136	---	106	96	96
23	112	161	166	---	---	---	---	134	---	106	96	95
24	110	---	163	---	---	---	---	133	---	106	96	94
25	111	---	161	---	---	---	---	133	---	106	96	94
26	112	---	154	---	---	---	---	131	---	104	98	95
27	112	---	153	---	---	---	---	132	---	102	96	96
28	112	---	152	---	---	---	---	---	---	102	96	96
29	112	---	151	---	---	---	---	---	197	102	93	96
30	112	---	146	---	---	---	---	---	163	102	94	96
31	112	---	140	---	---	---	---	---	---	102	94	---
TOTAL	2136	---	---	---	---	---	---	---	---	3679	2945	2855
MEAN	68.9	---	---	---	---	---	---	---	---	119	95.0	95.2
MAX	118	---	---	---	---	---	---	---	---	148	100	99
MIN	17	---	---	---	---	---	---	---	---	102	91	91
AC-FT	4240	---	---	---	---	---	---	---	---	7300	5840	5660

11465850 SPRING LAKE AT SANTA ROSA, CA

LOCATION.—Lat 38°27'26", long 122°38'59", in Sonoma County, Hydrologic Unit 18010110, 100 ft northwest of spillway, in Santa Rosa.

PERIOD OF RECORD.—October 1997 to September 1998.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Reservoir is formed by earth-fill dam, capacity 3,500 acre-ft. Spring Lake is a flood-control reservoir. Water is diverted from Santa Rosa Creek into Spring Lake during flood events. Gage is for local flood warning and is operated seasonally from Oct. 1 to Apr. 30. Spillway elevation is 307.07 ft. Figures given represent only those days when the elevation was above 291.50 ft. See schematic diagram of Russian River Basin.

RESERVOIR ELEVATION SURFACE WATER (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	295.01	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11465850 SPRING LAKE AT SANTA ROSA, CA

RESERVOIR ELEVATION SURFACE WATER (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11466050 SANTA ROSA CREEK AT MISSION BOULEVARD, AT SANTA ROSA, CA

LOCATION.—Lat 38°27'28", long 122°40'16", in Sonoma County, Hydrologic Unit 18010110, at upstream side of bridge on Mission Boulevard, in Santa Rosa.

PERIOD OF RECORD.—Nov. 1, 1997, to Apr. 30, 1998.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments. Gage is for local flood warning and is operated seasonally from Oct. 1 to Apr. 30. See schematic diagram of Russian River Basin.

ELEVATION (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	216.2	215.8	216.9	216.5	216.5	216.3	218.7	217.2	217.2	216.9
2	---	---	216.3	215.9	216.7	216.5	217.3	216.5	222.0	217.8	217.1	216.9
3	---	---	216.3	216.0	217.0	216.5	218.3	216.9	221.8	219.9	217.1	216.8
4	---	---	216.3	215.9	216.8	216.5	218.4	217.3	---	---	216.9	216.6
5	---	---	216.4	216.2	217.1	216.6	217.3	216.9	---	---	217.0	216.7
6	---	---	216.3	216.2	216.8	216.6	217.3	216.8	220.3	218.5	217.0	216.5
7	---	---	216.3	215.4	218.6	216.7	217.2	216.9	220.7	219.6	216.9	216.6
8	---	---	216.3	216.1	217.6	217.0	217.0	216.8	220.2	218.7	216.8	216.5
9	---	---	216.3	216.1	217.1	216.8	217.1	216.8	218.7	217.9	216.8	216.4
10	---	---	217.1	216.2	216.9	216.5	217.8	216.9	218.3	217.9	216.9	216.5
11	---	---	216.3	215.9	216.8	216.5	219.8	217.2	218.2	217.5	216.8	216.5
12	---	---	216.1	215.9	216.7	216.5	220.4	219.1	218.0	217.6	217.3	216.6
13	---	---	216.7	216.0	216.7	216.5	219.1	217.8	217.8	217.5	217.3	216.8
14	---	---	216.9	216.1	218.1	216.6	218.7	217.6	219.4	217.5	217.0	216.6
15	---	---	217.2	216.1	217.2	216.8	219.0	218.3	218.4	217.7	216.9	216.6
16	---	---	218.1	216.4	216.9	216.7	218.5	218.0	218.8	217.7	216.8	216.5
17	---	---	217.9	216.6	216.9	216.7	218.4	217.8	218.4	217.8	216.7	216.4
18	---	---	217.2	216.4	216.8	216.5	219.7	217.7	217.9	217.6	216.7	216.4
19	---	---	217.2	216.6	216.7	216.3	219.3	218.1	221.0	217.7	216.6	216.3
20	---	---	216.6	216.3	216.7	216.4	218.2	217.6	220.1	218.4	216.5	216.3
21	---	---	216.5	216.3	216.6	216.4	217.7	217.3	220.9	218.1	216.5	216.3
22	---	---	216.6	216.2	216.6	216.3	217.4	217.1	220.2	219.0	216.5	216.3
23	---	---	216.6	216.2	216.6	216.2	217.3	217.1	219.5	218.3	218.0	216.4
24	---	---	216.9	216.3	216.6	216.3	217.3	216.9	218.6	218.0	217.5	216.8
25	---	---	217.1	216.3	216.5	216.1	217.2	216.9	218.1	217.6	218.1	216.6
26	---	---	218.7	216.9	216.5	216.2	217.8	217.1	217.7	217.5	217.2	216.8
27	---	---	217.6	216.9	216.5	216.2	217.5	217.2	217.5	217.2	217.0	216.7
28	---	---	216.9	216.6	216.5	216.1	217.2	217.0	217.3	217.0	217.0	216.7
29	---	---	217.8	216.5	216.4	216.1	218.4	217.2	---	---	216.9	216.5
30	---	---	217.8	216.9	216.5	216.2	217.5	217.2	---	---	216.9	216.5
31	---	---	---	---	216.4	216.2	217.4	217.2	---	---	217.4	216.7
MONTH	---	---	218.7	215.4	218.6	216.1	220.4	216.3	---	---	218.1	216.3

11466050 SANTA ROSA CREEK AT MISSION BOULEVARD, AT SANTA ROSA, CA—Continued

ELEVATION (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	217.3	216.8	---	---	---	---	---	---	---	---	---	---
2	216.9	216.7	---	---	---	---	---	---	---	---	---	---
3	217.3	216.8	---	---	---	---	---	---	---	---	---	---
4	217.3	217.0	---	---	---	---	---	---	---	---	---	---
5	217.2	216.8	---	---	---	---	---	---	---	---	---	---
6	217.0	216.8	---	---	---	---	---	---	---	---	---	---
7	216.9	216.4	---	---	---	---	---	---	---	---	---	---
8	216.7	216.4	---	---	---	---	---	---	---	---	---	---
9	216.8	216.6	---	---	---	---	---	---	---	---	---	---
10	216.8	216.5	---	---	---	---	---	---	---	---	---	---
11	216.7	216.4	---	---	---	---	---	---	---	---	---	---
12	217.4	216.4	---	---	---	---	---	---	---	---	---	---
13	217.3	216.7	---	---	---	---	---	---	---	---	---	---
14	217.0	216.5	---	---	---	---	---	---	---	---	---	---
15	216.9	216.4	---	---	---	---	---	---	---	---	---	---
16	216.9	216.3	---	---	---	---	---	---	---	---	---	---
17	216.9	216.5	---	---	---	---	---	---	---	---	---	---
18	216.7	216.4	---	---	---	---	---	---	---	---	---	---
19	216.7	216.4	---	---	---	---	---	---	---	---	---	---
20	216.6	216.3	---	---	---	---	---	---	---	---	---	---
21	216.6	216.4	---	---	---	---	---	---	---	---	---	---
22	216.7	216.4	---	---	---	---	---	---	---	---	---	---
23	219.5	216.4	---	---	---	---	---	---	---	---	---	---
24	218.5	217.2	---	---	---	---	---	---	---	---	---	---
25	217.3	216.9	---	---	---	---	---	---	---	---	---	---
26	217.1	216.8	---	---	---	---	---	---	---	---	---	---
27	217.0	216.6	---	---	---	---	---	---	---	---	---	---
28	216.9	216.5	---	---	---	---	---	---	---	---	---	---
29	216.8	216.4	---	---	---	---	---	---	---	---	---	---
30	216.6	216.4	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	219.5	216.3	---	---	---	---	---	---	---	---	---	---

11466080 SANTA ROSA CREEK AT ALDERBROOK DRIVE, AT SANTA ROSA, CA

LOCATION.—Lat 38°26'58", long 122°41'50", in Sonoma County, Hydrologic Unit 18010110, on upstream side of bridge on Alderbrook Drive in Santa Rosa.

PERIOD OF RECORD.—October 1997 to September 1998.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instruments. Gage is for local flood warning and is operated seasonally from Oct. 1 to Apr. 30. See schematic diagram of Russian River Basin.

ELEVATION (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	169.8	169.5	170.6	170.3	170.4	169.8	174.7	170.9	170.8	170.6
2	---	---	169.8	169.5	170.3	170.1	171.0	170.4	180.9	171.6	170.7	170.6
3	---	---	169.8	169.6	170.9	170.1	172.7	170.4	180.9	174.4	170.6	170.5
4	---	---	169.8	169.6	---	---	172.7	170.9	174.5	173.3	170.6	170.3
5	---	---	169.8	169.6	---	---	170.9	170.5	175.2	173.3	170.8	170.4
6	---	---	169.8	169.7	---	---	171.0	170.3	176.0	172.9	170.6	170.3
7	---	---	169.8	169.6	---	---	171.1	170.5	179.0	173.9	170.6	170.3
8	---	---	169.8	169.6	---	---	170.5	170.3	174.5	172.8	170.5	170.2
9	---	---	169.8	169.6	---	---	170.7	170.3	172.8	171.8	170.4	170.2
10	---	---	171.3	169.7	---	---	171.7	170.5	172.5	171.6	170.3	170.1
11	---	---	170.0	169.7	---	---	175.3	170.8	172.1	171.3	170.3	170.1
12	---	---	169.7	169.6	---	---	176.7	173.2	172.2	171.3	171.5	170.2
13	---	---	170.8	169.6	170.2	170.0	173.2	171.6	171.7	171.2	171.6	170.4
14	---	---	171.2	169.8	173.3	170.2	173.7	171.3	174.5	171.2	170.5	170.3
15	---	---	171.2	169.7	170.9	170.4	173.5	172.2	172.4	171.5	170.4	170.2
16	---	---	171.6	170.0	170.4	170.3	172.5	172.0	173.2	171.4	170.3	170.2
17	---	---	172.0	170.2	170.4	170.3	172.3	171.7	172.5	171.5	170.3	170.1
18	---	---	171.4	170.0	170.3	170.1	176.1	171.5	171.6	171.3	170.3	170.1
19	---	---	171.5	170.3	170.2	170.0	173.6	171.9	179.3	171.4	170.2	170.1
20	---	---	170.3	170.0	170.1	169.9	171.9	171.3	174.7	172.5	170.2	170.1
21	---	---	170.0	169.9	170.2	170.0	171.3	171.0	177.8	172.2	170.2	170.1
22	---	---	170.0	169.9	170.0	169.8	171.0	170.8	174.5	172.8	170.3	170.1
23	---	---	170.1	169.8	170.0	169.8	171.1	170.7	174.3	172.4	172.1	170.1
24	---	---	170.7	169.8	170.0	169.8	170.9	170.6	172.5	171.7	171.4	170.6
25	---	---	170.8	169.9	170.0	169.7	170.8	170.5	171.8	171.3	172.3	170.5
26	---	---	173.5	170.7	170.0	169.7	172.4	170.7	171.4	171.1	170.9	170.5
27	---	---	171.6	170.4	169.9	169.7	171.4	170.8	171.1	170.9	170.6	170.4
28	---	---	170.5	170.2	169.9	169.7	170.9	170.7	171.0	170.7	170.5	170.3
29	---	---	172.5	170.2	169.9	169.7	173.3	170.9	---	---	170.5	170.2
30	---	---	172.5	170.5	169.9	169.8	171.2	170.9	---	---	170.4	170.2
31	169.8	169.7	---	---	169.9	169.7	171.2	170.9	---	---	171.3	170.3
MONTH	---	---	173.5	169.5	---	---	176.7	169.8	180.9	170.7	172.3	170.1

11466080 SANTA ROSA CREEK AT ALDERBROOK DRIVE, AT SANTA ROSA, CA—Continued

ELEVATION (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	171.0	170.5	---	---	---	---	---	---	---	---	---	---
2	170.5	170.4	---	---	---	---	---	---	---	---	---	---
3	171.8	170.4	---	---	---	---	---	---	---	---	---	---
4	171.3	170.8	---	---	---	---	---	---	---	---	---	---
5	170.8	170.6	---	---	---	---	---	---	---	---	---	---
6	170.7	170.5	---	---	---	---	---	---	---	---	---	---
7	170.6	170.4	---	---	---	---	---	---	---	---	---	---
8	170.5	170.4	---	---	---	---	---	---	---	---	---	---
9	170.7	170.4	---	---	---	---	---	---	---	---	---	---
10	170.6	170.4	---	---	---	---	---	---	---	---	---	---
11	170.5	170.3	---	---	---	---	---	---	---	---	---	---
12	171.2	170.3	---	---	---	---	---	---	---	---	---	---
13	171.2	170.6	---	---	---	---	---	---	---	---	---	---
14	170.6	170.4	---	---	---	---	---	---	---	---	---	---
15	170.6	170.4	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11466500 LAGUNA DE SANTA ROSA NEAR GRATON, CA

LOCATION.—Lat 38°27'10", long 122°50'03", in Molinos Grant, Sonoma County, Hydrologic Unit 18010110, on downstream side of left bank pier of highway bridge, 0.2 mi downstream from Santa Rosa Creek, and 2 mi northeast of Graton.

PERIOD OF RECORD.—February 1940 to September 1949 (contents only), October 1964 to current year.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to Dec. 31, 1958, at site 75 ft downstream at same datum.

REMARKS.—The laguna is a natural water channel and overflow basin connecting Santa Rosa Creek, Mark West Creek, and other smaller creeks with the Russian River. During floods, directions of flow may be either to or from the Russian River, and the laguna acts as a natural regulator of floods on the lower Russian River. Figures given represent only those days when the elevation was above 55.0 ft. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum elevation, 74.6 ft, Feb. 18, 1986.

EXTREMES FOR CURRENT YEAR.—Maximum elevation recorded, 66.3 ft, Feb. 3.

ELEVATION (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	55.8	---	58.4	e57.5	---	---	---	---	---	---
2	---	---	55.4	---	62.6	e57.0	---	---	---	---	---	---
3	---	---	55.2	55.2	65.7	e56.6	55.9	---	---	---	---	---
4	---	---	---	56.2	61.6	e56.1	55.7	---	---	---	---	---
5	---	---	---	55.9	62.2	e55.8	---	---	---	---	---	---
6	---	---	---	55.6	64.4	e55.7	---	---	---	---	---	---
7	---	---	56.3	55.6	65.3	e55.4	---	---	---	---	---	---
8	---	---	56.5	55.2	62.9	e55.1	---	---	---	---	---	---
9	---	---	55.9	55.1	59.6	---	---	---	---	---	---	---
10	---	---	55.2	55.7	58.0	---	---	---	---	---	---	---
11	---	---	---	58.8	e57.6	---	---	---	---	---	---	---
12	---	---	---	61.1	e57.6	---	---	---	---	---	---	---
13	---	---	---	58.7	e57.6	---	---	---	---	---	---	---
14	---	---	55.8	58.9	e58.5	---	---	---	---	---	---	---
15	---	---	55.9	59.4	e58.6	---	---	---	---	---	---	---
16	---	55.0	55.3	58.1	e58.7	---	---	---	---	---	---	---
17	---	55.4	55.0	57.3	e58.7	---	---	---	---	---	---	---
18	---	55.6	---	60.0	e57.6	---	---	---	---	---	---	---
19	---	55.5	---	59.0	e61.9	---	---	---	---	---	---	---
20	---	55.1	---	57.3	e59.2	---	---	---	---	---	---	---
21	---	---	---	e56.1	e59.8	---	---	---	---	---	---	---
22	---	---	---	e55.3	e59.0	---	---	---	---	---	---	---
23	---	---	---	e55.1	e58.3	55.0	---	---	---	---	---	---
24	---	---	---	e55.6	e58.5	55.3	55.3	---	---	---	---	---
25	---	---	---	55.2	e58.4	55.3	---	---	---	---	---	---
26	---	56.4	---	56.1	e58.3	---	---	---	---	---	---	---
27	---	56.4	---	56.1	e58.1	---	---	---	---	---	---	---
28	---	55.8	---	55.7	e57.8	---	---	---	---	---	---	---
29	---	55.9	---	57.3	---	---	---	55.6	---	---	---	---
30	---	56.1	---	56.3	---	---	---	55.3	---	---	---	---
31	---	---	---	e55.8	---	---	---	---	---	---	---	---
MAX	---	---	---	---	65.7	---	---	---	---	---	---	---
MIN	---	---	---	---	57.6	---	---	---	---	---	---	---

e Estimated.

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA
(National Stream-Quality Accounting Network Station)

LOCATION.—Lat 38°30'31", long 122°55'36", in NE 1/4 SE 1/4 sec.26, T.8 N., R.10 W., Sonoma County, Hydrologic Unit 18010110, on right bank at downstream side of Hacienda Bridge, 0.1 mi upstream from Hobson Creek, and 3.8 mi east of Guerneville.

DRAINAGE AREA.—1,338 mi^2.

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "at Guerneville."
CHEMICAL DATA: Water years 1951–1995. Published as "at Guerneville" in 1961–65.
BIOLOGICAL DATA: Water years 1975–81.
SPECIFIC CONDUCTANCE: Water years 1973–81.
WATER TEMPERATURE: Water years 1964–81.
SEDIMENT DATA: Water years 1966–95.

REVISED RECORDS.—WSP 1395: Drainage area at former site. WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 20.14 ft above sea level. Prior to Oct. 1, 1954, nonrecording gage at bridge 5.3 mi downstream at datum 8.58 ft lower. Oct. 1, 1954, to Oct. 23, 1974, at site 0.7 mi downstream at datum 2.75 ft lower. Supplementary water-stage recorder 2.1 mi downstream used during periods of low flow, 1948–54.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow regulated by Lake Mendocino 77 mi upstream, beginning November 1958, and by Lake Sonoma 26 mi upstream, beginning October 1983. Many diversions upstream from station for irrigation of about 29,000 acres. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations), and by diversion for municipal use at Wohler Pumping Plant 4.0 mi upstream beginning in May 1959. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 102,000 ft^3/s, Feb. 18, 1986, gage height, 48.56 ft, from rating curve extended above 57,000 ft^3/s; maximum gage height, 49.7 ft, Dec. 23, 1955, site and datum then in use, from floodmarks; minimum daily discharge, 0.75 ft^3/s, May 6, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	244	3060	e825	14700	10800	4970	1420	4080	524	250	187
2	170	254	1990	e1280	18000	9900	4110	1640	3130	565	232	194
3	180	256	1570	e3450	47600	7940	4550	1640	2590	518	223	201
4	186	255	1590	e7890	41100	6340	5790	1490	2310	479	222	192
5	173	239	1750	e4950	31200	5110	5110	1490	2090	464	193	181
6	171	265	1830	4590	47000	4460	4440	1540	1910	454	201	210
7	147	236	2430	4600	51500	3750	4040	1460	1780	422	183	258
8	153	258	4180	3980	46900	3500	3680	1400	1680	400	190	278
9	248	262	4230	3100	29100	3270	3600	1340	1580	413	208	269
10	306	293	3090	3900	22100	2980	3680	1290	1500	400	216	255
11	293	354	2160	e5350	20300	2690	3370	1250	1420	405	212	255
12	222	346	1650	15900	18900	2570	3010	1360	1270	367	214	257
13	196	391	1370	22600	16500	4790	3870	1550	1280	353	212	286
14	165	467	2450	13800	18500	4510	3940	1420	1240	342	193	252
15	184	523	4360	20300	21900	3440	3560	1310	1200	331	208	261
16	183	1190	3120	18400	20700	2990	3350	1230	1150	307	191	273
17	154	1690	2410	14100	24400	2960	3190	1160	1100	299	207	295
18	148	1280	2270	14100	20900	2820	2840	1090	1070	277	192	279
19	183	1730	1880	24500	29700	2670	2590	1040	1040	268	199	279
20	190	1430	1570	19400	39900	2760	2430	1010	1020	265	199	284
21	225	1040	1370	14500	29900	2690	2290	970	1000	285	194	293
22	233	841	1220	10600	33000	3160	2180	942	982	271	194	317
23	192	755	1090	8350	22800	5080	2240	844	984	296	191	317
24	199	757	998	10500	23900	9570	2610	818	962	275	186	312
25	211	1220	926	10600	19800	8730	2450	846	882	282	181	305
26	215	2990	887	12000	17300	8030	2210	851	768	284	182	317
27	217	3840	845	20300	14600	6070	2010	830	716	271	215	315
28	194	3280	810	12700	12000	5500	1780	1500	671	271	197	325
29	214	1980	779	16000	---	4520	1590	8620	631	264	176	328
30	238	3820	753	16100	---	3960	1450	11800	510	249	173	325
31	223	---	722	12900	---	3470	---	5730	---	258	192	---
TOTAL	6174	32486	59360	351565	754200	151030	96930	60881	42546	10859	6226	8100
MEAN	199	1083	1915	11340	26940	4872	3231	1964	1418	350	201	270
MAX	306	3840	4360	24500	51500	10800	5790	11800	4080	565	250	328
MIN	147	236	722	825	12000	2570	1450	818	510	249	173	181
AC-FT	12250	64440	117700	697300	1496000	299600	192300	120800	84390	21540	12350	16070

e Estimated.

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	311	1189	4072	7114	6902	4620	2298	743	313	180	168	184
MAX	2515	9425	17410	25220	26940	23290	11700	2798	1418	350	308	345
(WY)	1963	1974	1956	1995	1998	1983	1982	1983	1998	1998	1961	1961
MIN	25.3	140	116	127	88.2	201	48.2	39.0	22.6	32.0	36.7	35.9
(WY)	1978	1940	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	844296		1580357			
ANNUAL MEAN	2313		4330		2322	
HIGHEST ANNUAL MEAN					5898	1983
LOWEST ANNUAL MEAN					88.7	1977
HIGHEST DAILY MEAN	75000	Jan 2	51500	Feb 7	97700	Feb 18 1986
LOWEST DAILY MEAN	140	Jun 21	147	Oct 7	.75	May 6 1977
ANNUAL SEVEN-DAY MINIMUM	154	Sep 8	169	Oct 2	5.9	Jul 29 1977
INSTANTANEOUS PEAK FLOW			56100	Feb 3	102000	Feb 18 1986
INSTANTANEOUS PEAK STAGE			38.66	Feb 3	49.70	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	1675000		3135000		1682000	
10 PERCENT EXCEEDS	3830		14500		5570	
50 PERCENT EXCEEDS	320		1230		358	
90 PERCENT EXCEEDS	168		195		140	

11467002 RUSSIAN RIVER AT JOHNSONS BEACH, AT GUERNEVILLE, CA

LOCATION.—Lat 38°30'03", long 122°59'36", in NE 1/4 NW 1/4 sec.32, T.8 N., R.10 W., Sonoma County, Hydrologic Unit 18010110, on downstream side of Highway 116 bridge, 0.1 mi upstream from Pocket Creek in Guerneville.

DRAINAGE AREA.—1353 mi^2.

PERIOD OF RECORD.—December 1939 to September 1954 published as "at Guerneville" (station 11467000). Oct. 13, 1995, to current year, stage only above 5.96 ft.

GAGE.—Water-stage recorder. Datum of gage is 8.67 ft above sea level.

REMARKS.—Records good. Stage data for the period June 1 to Sept. 30 are affected by summer recreation dam. Flow regulated by Lake Mendocino, 82 mi upstream, and by Lake Sonoma, 31 mi upstream. Many diversions upstream from station for irrigation of about 29,000 acres. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations 11461500 and 11462000) and by diversion for municipal use. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OUTSIDE OF RECORD.—Maximum elevation, 48.8 ft, Feb. 18, 1986.

EXTREMES FOR PERIOD OF RECORD.—Maximum elevation, 46.87 ft, Feb. 28, 1940.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	10.47	8.43	---	---	20.61	16.02	15.75	15.11
2	---	---	---	---	8.43	7.55	7.17	---	23.36	18.75	15.13	14.22
3	---	---	---	---	7.55	7.16	9.22	7.17	36.68	23.36	14.22	12.77
4	---	---	---	---	7.41	7.19	13.90	9.21	36.33	27.19	12.77	11.30
5	---	---	---	---	7.82	7.13	13.67	10.90	31.07	25.21	11.31	10.66
6	---	---	---	---	7.84	7.35	11.09	10.16	35.58	31.07	10.66	9.95
7	---	---	---	---	9.96	7.28	11.58	10.85	35.99	35.54	9.95	9.44
8	---	---	---	---	11.39	9.96	10.85	9.37	35.64	31.08	9.46	9.29
9	---	---	---	---	10.96	9.94	9.37	8.81	31.08	23.32	9.31	8.98
10	---	---	---	---	9.94	8.46	10.71	8.89	23.32	22.01	8.99	8.63
11	---	---	---	---	8.46	7.59	15.88	10.39	22.24	21.06	8.65	8.38
12	---	---	---	---	7.59	7.05	24.35	15.88	21.06	20.47	8.70	8.30
13	---	---	---	---	7.06	6.73	24.61	18.84	20.50	18.67	12.04	8.70
14	---	---	---	---	10.05	6.77	19.12	16.44	22.13	19.13	11.78	9.95
15	---	---	---	---	10.63	9.79	22.35	19.12	22.70	22.06	9.95	9.26
16	---	---	---	---	9.79	8.49	22.33	18.67	22.99	21.31	9.26	8.87
17	---	---	8.84	8.16	8.49	8.05	18.68	16.65	24.18	22.94	9.04	8.90
18	---	---	8.16	6.84	8.06	7.85	20.98	16.45	22.94	21.19	8.92	8.73
19	---	---	7.72	6.82	7.85	7.32	24.30	20.98	32.46	21.11	8.74	8.56
20	---	---	7.57	6.76	7.32	6.98	22.30	19.24	33.06	26.85	8.96	8.53
21	---	---	6.76	6.15	6.98	6.70	19.24	16.40	29.83	24.46	8.84	8.66
22	---	---	---	---	6.70	6.46	16.40	14.33	30.17	24.20	10.04	8.76
23	---	---	---	---	6.46	6.26	14.34	13.08	24.20	22.28	13.80	10.04
24	---	---	---	---	6.27	6.09	15.56	13.50	24.40	22.24	15.89	13.41
25	---	---	---	---	6.10	---	15.43	14.84	22.28	20.49	14.36	13.53
26	---	---	13.18	6.99	6.00	---	19.48	14.51	20.50	19.20	13.94	12.63
27	---	---	14.05	11.62	---	---	22.83	18.52	19.21	17.25	12.63	11.65
28	---	---	11.62	8.64	---	---	18.52	16.02	17.25	15.74	11.97	10.88
29	---	---	8.64	7.72	---	---	20.35	16.19	---	---	10.88	10.35
30	---	---	10.84	7.93	---	---	20.28	17.84	---	---	10.36	9.74
31	---	---	---	---	---	---	17.84	16.19	---	---	10.04	9.41
MONTH	---	---	---	---	---	---	---	---	36.68	15.74	15.89	8.30

11467002 RUSSIAN RIVER AT JOHNSONS BEACH, AT GUERNEVILLE, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.40	10.04	7.28	7.09	10.74	9.73	8.54	7.78	8.41	7.99	8.47	8.38
2	10.83	10.01	7.67	7.27	9.73	8.82	8.65	8.45	8.31	7.70	8.46	8.42
3	11.72	9.91	7.66	7.39	8.82	8.36	8.60	8.46	8.28	7.66	8.51	8.42
4	12.05	11.50	7.40	7.23	8.36	8.02	8.47	8.40	8.32	7.66	8.70	8.39
5	11.50	10.91	7.40	7.23	8.03	7.84	8.42	8.39	8.24	7.51	8.59	8.46
6	10.91	10.36	7.45	7.32	8.01	7.76	8.43	8.36	8.21	8.13	8.65	8.41
7	10.38	10.07	7.33	7.22	7.93	7.68	8.38	8.30	8.37	8.13	8.72	8.64
8	10.07	9.74	7.23	7.13	7.80	7.62	8.31	8.25	8.42	8.35	8.68	8.37
9	9.87	9.74	7.14	7.04	7.67	7.48	8.34	8.23	8.51	8.41	8.52	8.34
10	9.93	9.79	7.04	6.96	7.53	7.27	8.34	8.25	8.54	8.42	8.43	8.34
11	9.79	9.35	6.96	6.89	7.40	7.16	8.58	8.26	8.50	8.46	8.63	8.33
12	9.35	9.06	7.16	6.88	7.24	6.70	8.49	8.43	8.52	8.43	8.65	8.57
13	10.63	9.06	7.36	7.16	7.13	6.95	8.49	8.41	8.50	8.42	8.70	8.65
14	10.62	9.84	7.16	6.99	7.01	6.75	8.43	8.41	8.49	8.36	8.67	8.54
15	9.88	9.61	6.99	6.84	6.83	6.50	8.42	8.37	8.49	8.43	8.65	8.60
16	9.61	9.49	6.85	6.72	6.60	6.38	8.38	8.33	8.48	8.37	8.67	8.63
17	9.54	9.29	6.72	6.62	6.60	6.35	8.45	8.31	8.49	8.44	8.75	8.64
18	9.30	8.76	6.62	6.26	6.52	6.27	8.42	8.37	8.47	8.40	8.68	8.65
19	8.77	8.55	6.26	6.12	6.41	6.24	8.38	8.34	8.48	8.42	8.68	8.64
20	8.55	8.36	6.99	6.08	6.37	6.26	8.38	8.32	8.46	8.44	8.69	8.65
21	8.37	8.19	7.26	6.37	6.33	6.14	8.45	8.37	8.46	8.42	8.72	8.66
22	8.19	8.07	7.04	6.66	6.29	6.08	8.44	8.36	8.44	8.43	8.76	8.71
23	8.49	8.06	6.70	---	6.37	6.08	8.49	8.37	8.44	8.41	8.74	8.71
24	8.81	8.49	6.32	---	6.38	6.08	8.42	8.37	8.43	8.38	8.74	8.69
25	8.63	8.38	6.35	6.31	6.29	---	8.46	8.38	8.42	8.37	8.72	8.67
26	8.38	8.05	6.41	6.27	7.05	---	8.46	8.38	8.42	8.36	8.74	8.70
27	8.05	7.83	6.35	6.20	8.43	6.88	8.43	8.37	8.52	8.42	8.73	8.69
28	7.83	7.51	8.97	6.20	8.42	8.33	8.43	8.38	8.50	8.44	8.75	8.70
29	7.51	7.31	18.37	8.91	8.34	8.22	8.40	8.36	8.45	8.37	8.75	8.72
30	7.31	7.11	18.95	13.16	8.29	7.73	8.37	8.29	8.38	8.36	8.75	8.71
31	---	---	13.16	10.74	---	---	8.39	8.31	8.48	8.38	---	---
MONTH	12.05	7.11	18.95	---	10.74	---	8.65	7.78	8.54	7.51	8.76	8.33

11468000 NAVARRO RIVER NEAR NAVARRO, CA

LOCATION.—Lat 39°10'20", long 123°40'06", in SE 1/4 sec.7, T.15 N., R.16 W., Mendocino County, Hydrologic Unit 18010108, on right bank 2.9 mi downstream from North Fork, 5.2 mi upstream from mouth, and 6.8 mi west of Navarro.

DRAINAGE AREA.—303 mi^2.

PERIOD OF RECORD.—October 1950 to current year.

REVISED RECORDS.—WSP 1445: 1954(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2.79 ft above sea level. Prior to Jan. 9, 1995, at datum 2.00 ft higher. Prior to Oct. 1, 1969, at site 0.2 mi upstream at datum 1.86 ft higher.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation. Minor diversion upstream from station at discharges above 200 ft^3/s for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 64,500 ft^3/s, Dec. 22, 1955, gage height, 40.60 ft, site and datum then in use, from rating curve extended above 19,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.23 ft^3/s, July 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1937 reached a stage of 38.2 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 7,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	2145	7,400	17.99	Feb. 6	1630	20,900	27.97
Jan. 12	1745	12,300	23.16	Feb. 21	1615	14,800	24.76
Jan. 18	2130	9,880	20.85	Mar. 22	unknown	unknown	unknown
Jan. 26	2215	10,900	21.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	24	719	154	3260	1110	e1530	305	852	110	51	23
2	7.8	21	496	1020	3740	982	e1350	358	686	109	49	22
3	10	20	376	1320	10700	899	e1200	301	579	108	46	22
4	15	19	368	3270	5600	813	e1000	292	500	104	42	21
5	13	18	425	2100	7930	759	e820	297	439	101	40	21
6	10	18	403	1280	16300	728	e730	295	391	98	39	20
7	9.6	20	872	1300	13800	673	e680	263	350	95	36	20
8	17	20	1860	952	9660	663	e635	248	317	94	37	19
9	77	21	1380	776	4950	621	e600	236	292	90	36	19
10	83	24	838	676	3360	588	e660	222	267	89	35	19
11	50	32	595	2040	2910	559	e620	213	247	88	35	19
12	34	38	460	7940	2710	599	e700	231	235	83	34	19
13	26	44	375	5070	2600	1660	e840	276	217	78	31	19
14	24	85	993	3510	3090	1130	e780	236	203	74	29	19
15	21	125	1390	6370	3490	917	e886	218	191	71	27	19
16	19	587	899	4080	3490	814	e768	212	179	68	27	18
17	19	738	729	3940	5170	739	712	202	169	64	28	18
18	20	309	646	5720	3630	679	653	195	159	64	27	18
19	19	381	524	6820	8140	e640	604	189	145	62	27	18
20	18	357	448	4350	7220	e620	563	185	147	59	29	17
21	18	218	404	2850	9410	e590	522	179	143	59	28	17
22	18	165	333	2130	6930	e6780	490	169	139	58	27	19
23	19	215	284	1610	5050	e5800	480	170	135	55	27	20
24	18	353	264	1550	4190	e5010	478	168	130	55	27	20
25	17	651	246	1280	2920	e3500	423	173	127	52	27	19
26	17	2590	215	6200	2100	e2300	391	165	126	52	27	20
27	17	2800	195	6420	1630	e1850	368	157	124	53	26	20
28	16	853	179	3270	1320	e1560	348	274	120	50	24	21
29	16	564	176	4530	---	e1380	330	2800	113	49	22	21
30	18	1280	168	3430	---	e1170	303	1950	112	49	21	19
31	21	---	153	2540	---	e950	---	1130	---	52	21	---
TOTAL	693.8	12590	17413	98498	155300	47083	20464	12309	7834	2293	982	586
MEAN	22.4	420	562	3177	5546	1519	682	397	261	74.0	31.7	19.5
MAX	83	2800	1860	7940	16300	6780	1530	2800	852	110	51	23
MIN	6.4	18	153	154	1320	559	303	157	112	49	21	17
AC-FT	1380	24970	34540	195400	308000	93390	40590	24410	15540	4550	1950	1160

e Estimated.

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	40.2	272	984	1754	1475	1076	489	141	55.0	21.5	11.5	10.4
MAX	367	2033	4396	6496	5546	4280	2517	499	261	74.0	31.7	32.6
(WY)	1958	1974	1965	1995	1998	1983	1982	1983	1998	1998	1998	1957
MIN	2.95	9.06	18.5	24.0	58.6	69.8	34.2	14.1	4.23	.62	.67	1.33
(WY)	1995	1991	1977	1991	1977	1988	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	173739.2		376045.8			
ANNUAL MEAN	476		1030		524	
HIGHEST ANNUAL MEAN					1310	1983
LOWEST ANNUAL MEAN					25.0	1977
HIGHEST DAILY MEAN	32200	Jan 1	16300	Feb 6	45100	Jan 16 1974
LOWEST DAILY MEAN	5.0	Sep 6	6.4	Oct 1	.23	Jul 13 1977
ANNUAL SEVEN-DAY MINIMUM	5.1	Sep 5	10	Oct 1	.28	Jul 8 1977
INSTANTANEOUS PEAK FLOW			20900	Feb 6	64500	Dec 22 1955
INSTANTANEOUS PEAK STAGE			27.97	Feb 6	40.60	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	344600		745900		379400	
10 PERCENT EXCEEDS	766		3310		1230	
50 PERCENT EXCEEDS	70		235		60	
90 PERCENT EXCEEDS	7.5		19		7.7	

11468500 NOYO RIVER NEAR FORT BRAGG, CA

LOCATION.—Lat 39°25'42", long 123°44'12", in NE 1/4 sec.15, T.18 N., R.17 W., Mendocino County, Hydrologic Unit 18010108, on right bank 0.7 mi downstream from South Fork and 3.5 mi east of Fort Bragg.

DRAINAGE AREA.—106 mi^2.

PERIOD OF RECORD.—August 1951 to current year.

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 11.73 ft above sea level.

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, 26,600 ft^3/s, Mar. 29, 1974, gage height, 27.14 ft, from rating curve extended above 4,500 ft^3/s on basis of slope-conveyance study; minimum daily, 0.79 ft^3/s, Sept. 8, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,400 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1630	5,950	17.77	Feb. 21	1515	5,200	16.60
Jan. 26	2115	5,130	16.49	Mar. 22	1530	3,440	13.40
Feb. 6	2130	2,950	12.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	27	270	69	934	508	818	133	209	44	22	10
2	11	21	183	242	1030	450	697	132	183	44	21	10
3	13	18	141	597	2350	408	589	125	162	43	20	11
4	10	16	114	1240	1710	362	516	122	144	42	18	11
5	8.1	15	100	902	1410	338	440	133	129	41	17	11
6	7.0	15	86	608	2310	320	395	126	119	37	16	11
7	6.4	17	214	489	2370	288	360	120	111	36	16	11
8	20	18	657	382	2120	272	315	117	106	34	16	11
9	102	16	649	313	1580	250	312	111	100	33	16	10
10	59	22	397	257	1180	232	317	104	94	34	16	10
11	39	55	252	1020	1130	218	314	100	90	33	15	10
12	29	41	e170	3650	1070	337	311	108	85	32	15	10
13	24	47	e130	2330	1010	892	458	113	78	31	15	10
14	21	61	e390	1820	1060	673	474	104	71	30	14	9.8
15	19	72	e640	3600	1220	526	443	97	71	29	13	9.6
16	18	180	e510	2540	1210	439	386	95	68	29	13	9.1
17	17	194	e400	3740	1710	374	332	92	66	27	13	8.8
18	16	126	e330	3220	1300	323	289	85	61	27	13	8.8
19	16	110	e270	3090	2290	279	256	82	59	26	13	8.8
20	15	108	229	1860	2680	249	231	81	57	25	13	8.8
21	15	93	189	1200	3690	295	208	79	56	24	14	8.8
22	14	81	162	865	2830	2660	201	76	55	24	13	8.8
23	14	104	135	694	1790	2410	199	73	55	23	14	9.3
24	14	106	117	590	1580	1850	201	75	52	22	14	9.7
25	13	109	105	530	1200	1340	177	81	51	22	13	9.5
26	12	492	94	3430	912	961	164	75	51	22	13	9.3
27	12	487	86	2990	731	740	154	73	47	21	13	9.3
28	12	222	80	1470	597	612	146	161	46	21	13	9.3
29	12	221	76	1910	---	502	140	440	45	21	12	9.3
30	15	437	73	1510	---	418	134	378	43	22	11	9.3
31	23	---	70	1070	---	582	---	273	---	22	10	---
TOTAL	612.8	3531	7319	48228	45004	20108	9977	3964	2564	921	455	292.3
MEAN	19.8	118	236	1556	1607	649	333	128	85.5	29.7	14.7	9.74
MAX	102	492	657	3740	3690	2660	818	440	209	44	22	11
MIN	6.3	15	70	69	597	218	134	73	43	21	10	8.8
AC-FT	1220	7000	14520	95660	89270	39880	19790	7860	5090	1830	902	580

e Estimated.

11468500 NOYO RIVER NEAR FORT BRAGG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.9	117	407	680	548	450	214	78.7	35.2	14.5	7.94	6.53
MAX	166	750	2293	1890	2114	1406	877	377	170	32.0	17.7	12.7
(WY)	1963	1974	1965	1953	1958	1983	1963	1990	1993	1953	1953	1983
MIN	2.97	5.29	9.25	16.6	18.1	32.4	11.7	9.50	3.88	1.90	1.35	2.16
(WY)	1979	1960	1977	1977	1977	1988	1977	1977	1977	1977	1977	1970

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1952 - 1998	
ANNUAL TOTAL	72587.2		142976.1			
ANNUAL MEAN	199		392		214	
HIGHEST ANNUAL MEAN					484	1983
LOWEST ANNUAL MEAN					10.9	1977
HIGHEST DAILY MEAN	9630	Jan 1	3740	Jan 17	20500	Dec 22 1964
LOWEST DAILY MEAN	5.9	Sep 30	6.3	Oct 1	.79	Sep 8 1977
ANNUAL SEVEN-DAY MINIMUM	6.7	Sep 25	8.8	Oct 1	1.0	Aug 16 1977
INSTANTANEOUS PEAK FLOW			5950	Jan 12	26600	Mar 29 1974
INSTANTANEOUS PEAK STAGE			17.77	Jan 12	27.14	Mar 29 1974
ANNUAL RUNOFF (AC-FT)	144000		283600		154700	
10 PERCENT EXCEEDS	381		1200		532	
50 PERCENT EXCEEDS	59		100		33	
90 PERCENT EXCEEDS	9.6		11		5.3	

11469000 MATTOLE RIVER NEAR PETROLIA, CA

LOCATION.—Lat 40°18'48", long 124°16'56", in SE 1/4 NW 1/4 sec.10, T.2 S., R.2 W., Humboldt County, Hydrologic Unit 18010107, on downstream side of bridge, on left bank 0.2 mi downstream from Mill Creek, 0.8 mi south of Petrolia, and 0.6 mi upstream from North Fork.

DRAINAGE AREA.—245 mi^2.

PERIOD OF RECORD.—October 1911 to December 1913, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1285: 1912–13. WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 49.41 ft above sea level. November 1911 to December 1913, nonrecording gages at several sites upstream within 0.3 mi of present site at various datums. Dec. 11, 1950, to July 14, 1955, at site 0.3mi upstream at datum 7.48 ft higher. July 15, 1955, to Oct. 26, 1967, at site 0.4 mi downstream at different datum. Oct. 27, 1967, to Oct.30, 1996, at site 1.1 mi upstream at datum 7.00 ft higher.

REMARKS.—Records fair. Diversions for irrigation of about 350 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 90,400 ft^3/s, Dec. 22, 1955, gage height, 36.60 ft, site and datum then in use, from rating curve extended above 26,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 17 ft^3/s, Sept. 5, 15, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1000	19,500	21.44	Feb. 21	1100	22,100	22.08
Feb. 5	2230	15,200	20.27	Mar. 23	1430	29,500	23.89

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	161	1680	918	4940	2150	1960	647	441	156	65	39
2	249	119	1170	4300	6100	1880	1690	650	401	155	63	38
3	134	99	1010	4770	10300	1750	1600	580	381	149	58	37
4	93	89	1520	6770	8380	1570	1690	552	361	145	56	37
5	78	82	1190	4200	8890	1430	1460	531	340	142	53	35
6	70	87	950	3770	11500	1310	1360	509	324	139	52	35
7	69	133	3250	4790	9670	1190	1270	487	305	132	51	34
8	115	117	3700	3720	10200	1190	1170	473	297	127	50	34
9	500	102	3000	2960	6720	1090	1260	465	286	124	49	34
10	243	110	2100	2320	5230	1010	2150	448	276	122	50	33
11	180	154	1600	4920	4510	943	2230	447	268	116	49	34
12	129	143	1130	11600	4430	1550	2010	444	261	111	48	33
13	107	267	961	8550	4820	2460	2470	432	254	110	47	33
14	97	360	3090	11600	5640	1700	2100	397	243	106	46	32
15	86	360	4170	12300	5520	1330	1840	379	232	101	44	32
16	81	1610	3570	8160	5400	1260	1620	367	227	97	44	32
17	74	1630	5740	16100	6560	1150	1430	360	223	94	43	32
18	71	649	4220	12800	6020	1050	1310	339	214	89	43	32
19	66	866	2970	11000	12800	955	1200	336	208	86	43	32
20	65	689	2190	7140	9340	892	1100	357	205	81	43	32
21	62	502	1750	5110	16300	949	1010	334	203	77	43	32
22	70	451	1350	3960	10200	15800	960	319	197	76	43	32
23	71	1170	1130	4050	7170	23500	921	309	192	75	42	32
24	70	1730	976	4760	5660	11700	911	313	189	75	43	32
25	68	1690	832	4560	4620	7880	802	353	186	73	43	32
26	67	4250	730	9870	3820	5320	744	324	178	71	42	33
27	61	2810	667	9040	3130	4170	706	304	175	67	42	32
28	63	1460	604	5570	2610	3370	672	545	170	66	41	32
29	68	1840	582	7200	---	2730	635	920	164	65	40	33
30	71	2840	532	5520	---	2290	608	677	158	65	40	33
31	144	---	500	4490	---	2210	---	522	---	66	40	---
TOTAL	3400	26570	58864	206818	200480	107779	40889	14120	7559	3158	1456	1003
MEAN	110	886	1899	6672	7160	3477	1363	455	252	102	47.0	33.4
MAX	500	4250	5740	16100	16300	23500	2470	920	441	156	65	39
MIN	61	82	500	918	2610	892	608	304	158	65	40	32
AC-FT	6740	52700	116800	410200	397700	213800	81100	28010	14990	6260	2890	1990

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	233	1410	2933	3661	3051	2286	1207	553	216	83.6	50.9	61.4
MAX	1900	7159	8340	8928	10710	7929	5225	1842	1058	191	164	237
(WY)	1951	1974	1956	1970	1958	1983	1963	1960	1993	1993	1983	1977
MIN	23.8	41.8	39.7	135	243	187	166	151	68.9	31.3	22.9	22.0
(WY)	1988	1960	1977	1977	1977	1988	1988	1970	1977	1977	1977	1970

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1912 - 1998	
ANNUAL TOTAL	333843		672096			
ANNUAL MEAN	915		1841		1305	
HIGHEST ANNUAL MEAN					2642	1983
LOWEST ANNUAL MEAN					157	1977
HIGHEST DAILY MEAN	38000	Jan 1	23500	Mar 23	55200	Dec 22 1964
LOWEST DAILY MEAN	31	Sep 9	32	Sep 14	17	Sep 5 1977
ANNUAL SEVEN-DAY MINIMUM	33	Sep 5	32	Sep 14	17	Sep 5 1977
INSTANTANEOUS PEAK FLOW			29500	Mar 23	90400	Dec 22 1955
INSTANTANEOUS PEAK STAGE			23.89	Mar 23	36.60	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	662200		1333000		945800	
10 PERCENT EXCEEDS	1920		5540		3330	
50 PERCENT EXCEEDS	263		444		276	
90 PERCENT EXCEEDS	40		42		36	

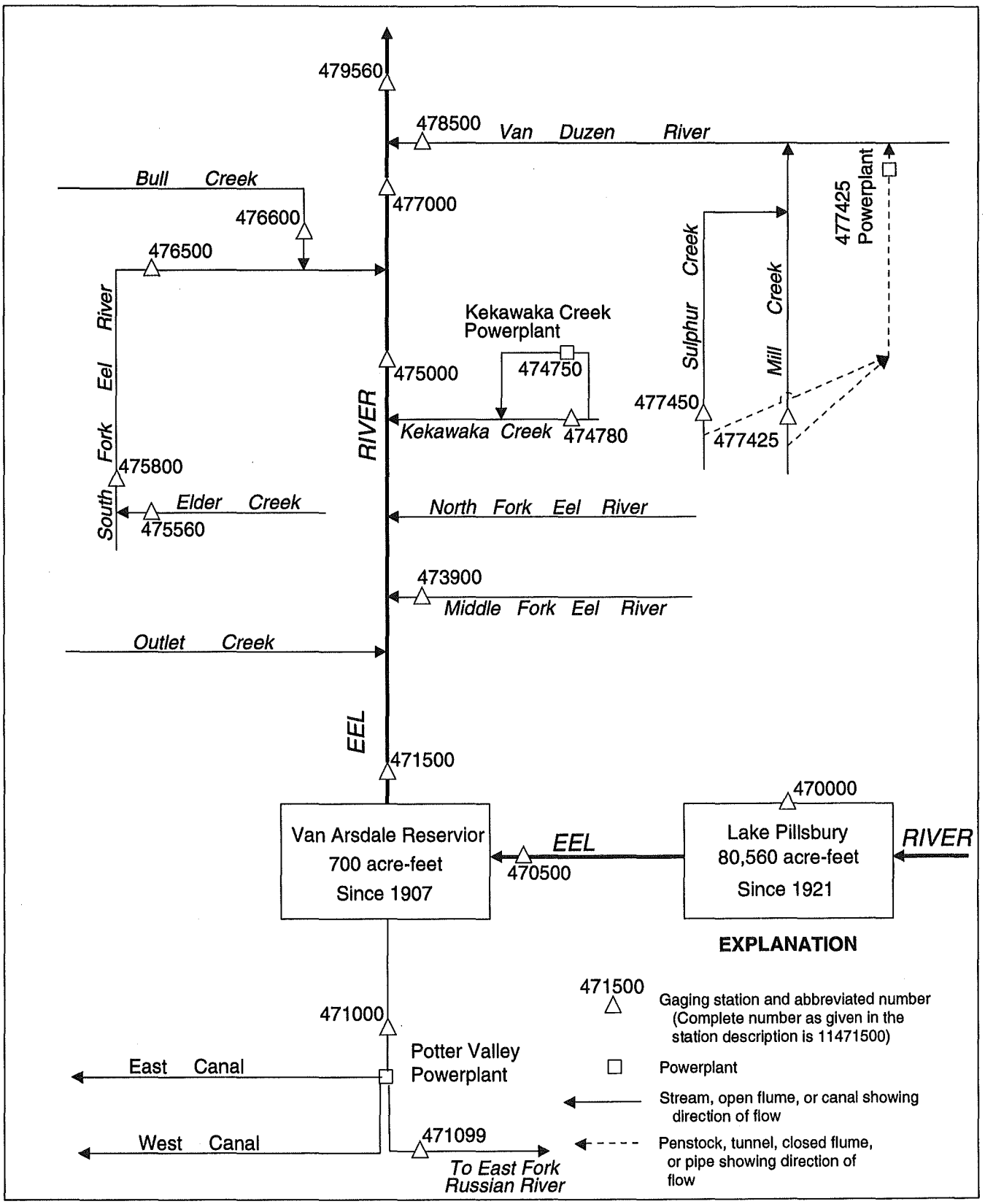


Figure 22. Diversions and storage in Eel River Basin.

11470000 LAKE PILLSBURY NEAR POTTER VALLEY, CA

LOCATION.—Lat 39°24'30", long 122°57'30", on line between secs.14 and 23, T.18 N., R.10 W., Lake County, Hydrologic Unit 18010103, Mendocino National Forest, at Scott Dam near right bank of Eel River, 0.3 mi downstream from Rice Fork, and 10.2 mi northeast of town of Potter Valley.

DRAINAGE AREA.—289 mi^2.

PERIOD OF RECORD.—October 1922 to September 1928 (daily gage heights only), October 1928 to current year. Monthend contents only for some periods, published in WSP 1315-B. Prior to October 1953, published as "at Hullville."

GAGE.—Water-stage recorder and nonrecording gage. Datum of gage is 81.7 ft below sea level (river-profile survey). Prior to Jan. 26, 1950, nonrecording gage at same site and datum.

REMARKS.—Reservoir is formed by concrete overflow-type dam; storage began in December 1921. Beginning Oct. 1, 1985, capacity based on 1984 resurvey. Usable capacity, 80,556 acre-ft between gage heights 1,822.4 ft, sill of outlet gate, and 1,910.0 ft, top of spillway gates; dead storage, 87 acre-ft. Water is released down Eel River to Van Arsdale Reservoir, most of which is diverted through tunnel to Potter Valley Powerplant (station 11477100); part is then used for irrigation and remainder flows into East Fork Russian River. Records given, including extremes, represent total contents at 2400 hours. See schematic diagram of Eel River Basin.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 95,600 acre-ft, May 13, 16, 1925, gage height, 1,910.8 ft; maximum gage height, 1,911.84 ft, Dec. 22, 1964, from floodmarks; minimum contents, 10 acre-ft, Dec. 9, 10, 1931, gage height, 1,822.5 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated April 1984)

1,822.4	87	1,835	1,371	1,855	7,831	1,875	22,451	1,895	50,179
1,824	153	1,840	2,463	1,860	10,456	1,880	28,071	1,900	59,469
1,827	333	1,845	3,391	1,865	13,701	1,885	34,474	1,905	69,675
1,830	626	1,850	5,710	1,870	17,664	1,890	41,811	1,910	80,643

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34700	27000	28300	38900	63900	62200	61800	76700	79400	78100	73900	65000
2	34300	26500	28400	39600	64600	62100	62800	76100	79000	77900	73700	64700
3	33800	26000	28300	42000	69500	62200	64500	75400	78700	77800	73500	64200
4	33400	25400	28300	46500	66500	62000	66000	75500	78900	77800	73200	63800
5	33000	24900	28500	49300	65900	61900	66900	75400	79300	77800	72900	63500
6	32600	24400	28800	50500	67900	61800	67400	75200	80600	77700	72700	63200
7	32100	23800	29700	51800	68200	61600	67600	75400	79600	77700	72500	62900
8	31800	23300	32200	53200	67400	61500	67700	76000	79000	77600	72100	62400
9	31600	22700	33200	54400	65200	61400	67900	76600	78900	77500	71900	61700
10	31400	22200	33500	55900	64200	61300	67400	76500	79200	77400	71600	61100
11	31000	21700	33600	59900	63900	61200	67500	76100	79000	77300	71400	60600
12	30600	21100	33600	66500	63800	61900	67600	75800	79600	77100	70700	60300
13	30100	20600	33400	66100	64100	64400	67900	75300	78600	77000	70700	59900
14	29700	20200	33700	65300	64800	63600	67700	75200	78500	76800	70400	59400
15	29200	20000	35400	67900	64600	63000	67800	75200	78600	76700	70200	58800
16	28800	20400	36200	66100	64000	62900	68000	75300	78900	76600	69900	58100
17	28300	21200	37900	66700	63700	62800	68100	75400	79000	76500	69700	57400
18	28000	21100	39600	66900	63300	62600	68200	75700	79200	76300	69300	57000
19	28000	21300	40600	67000	64900	61800	68500	75900	79300	76200	69100	56700
20	28000	21600	41100	64800	64900	61700	69100	76100	79400	76100	68700	56300
21	28000	21400	41400	63600	66900	62300	70100	76200	79500	76000	68500	55800
22	28000	21200	41500	62900	66200	65100	71300	76500	79500	75800	68100	55100
23	28000	21100	41400	62500	65000	66600	73200	77000	79400	75600	67900	54500
24	28000	21400	41300	62400	64400	65100	74700	77700	79300	75500	67500	53900
25	27900	22700	41100	62100	63600	63900	75000	78300	79300	75400	67200	53400
26	27900	23900	40900	65200	63000	63000	74600	79000	79100	75200	67000	53000
27	27900	26100	40600	66600	62600	62500	75500	79300	78900	75000	66600	52800
28	27800	26500	40200	64500	62400	62100	75700	80100	78700	74800	66400	52300
29	27800	26600	39900	64700	---	61700	75900	80000	78500	74600	66000	51600
30	27700	27600	39500	64200	---	61500	76100	79600	78300	74400	65800	51000
31	27500	---	39200	63500	---	61800	---	79600	---	74200	65400	---
TOTAL	926900	693900	1111300	1841500	1819400	1939500	2082500	2378100	2373200	2370400	2164500	1750400
MEAN	29900	23130	35848	59403	64979	62565	69417	76713	79107	76465	69823	58347
MAX	34700	27600	41500	67900	69500	66600	76100	80100	80600	78100	73900	65000
MIN	27500	20000	28300	38900	62400	61200	61800	75200	78300	74200	65400	51000
a	1879.35	1880.06	1888.18	1902.03	1901.46	1901.17	1907.96	1909.52	1908.98	1907.12	1902.95	1895.45
b	-7400	+100	+11600	+24300	-1100	-600	+14300	+3500	-1300	-4100	-8800	-14400

CAL YR 1997 TOTAL 19086600 MEAN 52292 MAX 77100 MIN 20000
WTR YR 1998 TOTAL 21451600 MEAN 58772 MAX 80600 MIN 20000

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

11470500 EEL RIVER BELOW SCOTT DAM, NEAR POTTER VALLEY, CA

LOCATION.—Lat 39°24'29", long 122°58'29", in SE 1/4 sec.15, T.18 N., R.10 W., Lake County, Hydrologic Unit 18010103, Mendocino National Forest, on left bank 0.4 mi upstream from Soda Creek, 0.7 mi downstream from Scott Dam, and 9.7 mi northeast of town of Potter Valley.

DRAINAGE AREA.—290 mi^2.

PERIOD OF RECORD.—October 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as "South Eel River at Hullville," and October 1929 to September 1953, "at Hullville."

REVISED RECORDS.—WSP 1315-B: 1923(M), 1938(M). WSP 1395: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 1,740 ft above sea level, from topographic map. Prior to Dec. 15, 1930, at datum 3.00 ft higher.

REMARKS.—Flow regulated by Lake Pillsbury (station 11470000) 0.7 mi upstream. No diversion upstream from station. See schematic diagram of Eel River Basin.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 56,300 ft^3/s, Dec. 22, 1964, gage height, 24.24 ft, from floodmarks, from rating curve extended above 37,000 ft^3/s; minimum daily, 0.1 ft^3/s, Sept. 8, 1924.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	327	381	409	3320	1620	1910	1130	1390	331	146	195
2	262	325	390	418	4120	1580	1290	1490	1380	306	146	193
3	254	323	390	423	11300	1600	833	1460	1300	321	155	238
4	247	321	390	437	6410	1530	848	1100	944	219	186	247
5	252	319	391	435	5620	1450	1120	1140	678	180	187	161
6	251	322	391	437	8510	1370	1210	1150	689	185	148	158
7	250	328	399	440	8770	1280	1170	867	1070	185	154	171
8	254	331	403	441	7810	1250	1180	564	1260	185	161	273
9	260	329	403	443	4870	1180	1200	578	886	185	157	362
10	258	328	403	446	3560	1120	1230	814	676	190	153	355
11	263	326	403	1160	3250	1110	1270	1020	831	196	152	232
12	269	323	403	6860	3130	1450	1270	995	1040	181	180	190
13	268	322	402	5990	3500	3800	1310	968	1500	165	191	188
14	268	217	407	5060	4160	2990	1320	807	856	160	186	284
15	266	183	409	8660	4100	2390	1220	602	646	160	151	382
16	265	186	413	6010	3260	2270	1080	535	537	160	150	375
17	265	186	418	6900	3020	2200	1070	426	498	154	150	360
18	114	282	419	7230	2590	1990	1020	382	428	141	150	241
19	27	326	419	7200	4270	1820	972	386	430	140	155	168
20	27	295	418	4340	4400	1710	800	389	420	143	161	174
21	26	304	417	2970	6770	1720	641	392	410	143	161	286
22	26	322	417	2190	6100	4670	587	261	411	143	161	380
23	26	326	416	1850	4450	6090	559	151	404	143	159	375
24	27	330	414	1760	3830	6580	611	137	407	142	159	345
25	26	333	414	1580	2890	4860	973	141	414	142	159	251
26	26	340	413	4950	2310	3610	1330	135	406	142	158	165
27	55	344	412	6670	1960	2800	1200	363	395	142	159	177
28	63	358	411	4040	1760	2370	1120	957	393	142	159	278
29	46	380	410	4200	---	2060	1130	2880	417	142	159	362
30	51	339	409	3680	---	1810	1130	2110	397	144	159	357
31	206	---	409	2890	---	1820	---	1490	---	146	172	---
TOTAL	5161	9275	12594	100519	130040	74100	32604	25820	21513	5458	4984	7923
MEAN	166	309	406	3243	4644	2390	1087	833	717	176	161	264
MAX	269	380	419	8660	11300	6580	1910	2880	1500	331	191	382
MIN	26	183	381	409	1760	1110	559	135	393	140	146	158
AC-FT	10240	18400	24980	199400	257900	147000	64670	51210	42670	10830	9890	15720

11470500 EEL RIVER BELOW SCOTT DAM, NEAR POTTER VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	220	278	749	1317	1427	1063	669	336	201	178	180	211
MAX	361	1851	4945	5687	6625	4536	3357	1184	717	329	334	336
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1998	1959	1959	1996
MIN	19.1	13.3	27.6	35.8	7.28	11.8	15.4	34.4	50.3	64.5	65.0	34.4
(WY)	1978	1934	1960	1944	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1923 - 1998	
ANNUAL TOTAL	204667		429991			
ANNUAL MEAN	561		1178		565	
HIGHEST ANNUAL MEAN					1443	1983
LOWEST ANNUAL MEAN					85.4	1977
HIGHEST DAILY MEAN	30400	Jan 1	11300	Feb 3	45300	Dec 22 1964
LOWEST DAILY MEAN	26	Oct 21	26	Oct 21	.10	Sep 8 1924
ANNUAL SEVEN-DAY MINIMUM	26	Oct 20	26	Oct 20	.43	Sep 6 1924
INSTANTANEOUS PEAK FLOW			13800	Feb 3	56300	Dec 22 1964
INSTANTANEOUS PEAK STAGE			12.93	Feb 3	24.24	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	406000		852900		409500	
10 PERCENT EXCEEDS	818		3580		1130	
50 PERCENT EXCEEDS	191		407		234	
90 PERCENT EXCEEDS	123		151		91	

11471000 POTTER VALLEY POWERHOUSE INTAKE NEAR POTTER VALLEY, CA

LOCATION.—Lat 39°22'00", long 123°07'35", in SW 1/4 SW 1/4 sec.31, T.18 N., R.11 W., Mendocino County, Hydrologic Unit 18010103, in penstock of powerhouse of Pacific Gas & Electric Co., 1.5 mi southwest of Van Arsdale Dam, and 3.2 mi northwest of town of Potter Valley.

PERIOD OF RECORD.—December 1909 to current year. Prior to October 1922, monthly discharge only, published in WSP 1315-B. Prior to October 1931, published as Snow Mountain Water and Power Co.'s Tailrace near Potter Valley. October 1931 to September 1984, published as Potter Valley Powerhouse Tailrace near Potter Valley.

REVISED RECORDS.—WSP 1395: 1950. WDR CA-89-2: 1988.

GAGE.—Acoustic flowmeter in penstock of powerplant. Elevation of gage is 1,440 ft above sea level, from topographic map. Prior to Dec. 11, 1985, water-stage recorder and Parshall flume. See WSP 1929 for history of changes prior to Apr. 12, 1950.

REMARKS.—Water is diverted from Eel River above Van Arsdale Dam. After passing through powerhouse, part is used for irrigation in Potter Valley and remainder flows into East Fork Russian River. See schematic diagram of Eel River Basin.

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

EXTREMES FOR PERIOD OF RECORD (1922 TO CURRENT YEAR).—Maximum daily discharge, 351 ft^3/s, Oct. 31, 1982; no flow at times in several years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	293	325	201	328	330	330	331	327	325	153	144
2	249	296	286	304	328	330	330	330	327	247	157	139
3	259	293	269	328	318	328	330	330	328	247	157	157
4	251	296	271	328	169	328	330	330	327	251	159	251
5	254	292	274	327	169	328	330	330	328	159	160	160
6	249	292	278	327	48	328	328	331	327	154	160	166
7	243	298	275	327	169	328	330	330	327	159	159	165
8	261	303	322	327	169	328	330	330	327	163	159	174
9	277	304	328	328	169	328	330	328	327	169	159	283
10	260	301	299	328	169	328	330	327	293	166	159	325
11	251	301	272	328	319	327	330	327	295	168	157	325
12	260	296	228	322	327	327	330	324	325	166	159	178
13	259	304	219	130	328	328	330	322	325	168	157	178
14	257	304	222	130	328	330	328	327	325	183	157	178
15	259	197	328	132	328	330	328	327	327	185	159	327
16	254	207	318	127	328	327	331	328	325	175	159	327
17	254	239	295	325	328	327	333	328	325	171	157	325
18	262	186	328	324	328	328	331	330	325	169	157	324
19	24	295	318	325	330	336	330	327	325	162	159	175
20	23	324	292	324	325	336	330	327	327	153	157	175
21	23	298	274	324	327	334	330	328	324	153	157	175
22	17	309	245	324	324	336	330	328	325	154	162	322
23	21	325	245	322	148	336	330	191	324	156	162	321
24	18	327	231	322	148	334	331	165	325	154	162	327
25	18	327	227	322	237	334	331	156	325	157	162	327
26	18	325	219	322	330	328	331	156	325	154	162	141
27	18	327	210	322	330	334	330	156	327	154	144	177
28	18	298	206	322	330	331	330	330	325	154	162	177
29	38	292	210	328	---	331	331	234	325	154	162	322
30	41	322	212	330	---	330	331	284	325	154	162	322
31	53	---	212	328	---	330	---	327	---	154	159	---
TOTAL	4931	8771	8238	9158	7479	10238	9904	9219	9712	5438	4916	7087
MEAN	159	292	266	295	267	330	330	297	324	175	159	236
MAX	277	327	328	330	330	336	333	331	328	325	162	327
MIN	17	186	206	127	48	327	328	156	293	153	144	139
AC-FT	9780	17400	16340	18160	14830	20310	19640	18290	19260	10790	9750	14060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	187	194	211	225	242	244	232	214	178	159	155	180
MAX	321	311	311	316	325	330	330	330	325	314	320	314
(WY)	1991	1963	1982	1982	1982	1998	1998	1982	1982	1953	1953	1967
MIN	.000	9.70	3.10	15.4	11.8	.000	18.9	39.0	38.5	11.0	2.29	2.67
(WY)	1960	1934	1934	1944	1977	1950	1977	1977	1920	1920	1920	1920

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1910 - 1998	
ANNUAL TOTAL	64640.5		95091			
ANNUAL MEAN	177		261		202	
HIGHEST ANNUAL MEAN					305	1967
LOWEST ANNUAL MEAN					84.0	1920
HIGHEST DAILY MEAN	331	Jan 20	336	Mar 19	351	Oct 31 1982
LOWEST DAILY MEAN	1.5	Jan 2	17	Oct 22	.00	Jul 31 1910
ANNUAL SEVEN-DAY MINIMUM	18	Oct 22	18	Oct 22	.00	Aug 7 1913
ANNUAL RUNOFF (AC-FT)	128200		188600		146400	
10 PERCENT EXCEEDS	304		330		312	
50 PERCENT EXCEEDS	154		318		215	
90 PERCENT EXCEEDS	98		155		59	

11471099 POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CA

LOCATION.—Lat 39°21'42", long 123°07'38", in SW 1/4 NW 1/4 sec.6, T.17 N., R.11 W., Mendocino County, Hydrologic Unit 18010103, 100 ft downstream from powerhouse of Pacific Gas and Electric Co., 1.8 mi southwest of Van Arsdale Dam, and 2.9 mi northwest of town of Potter Valley.

PERIOD OF RECORD.—October 1987 to current year. October 1931 to September 1984, record published for Potter Valley Powerhouse Intake (station 11471000) not equivalent because diversion for irrigation is included.

GAGE.—Discharge computed as difference between Potter Valley Powerhouse Intake (station 11471000) and the combined flows of Potter Valley Irrigation District East Canal (station 11471105) and Potter Valley Irrigation District West Canal (station 11471106). Elevation of tailrace is 1,020 ft above sea level, from topographic map.

REMARKS.—Flow represents inflow into the Russian River Basin after passing through powerhouse. See schematic diagrams of Eel and Russian River Basins.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 335 ft^3/s, Mar. 19, 20, 22, 23, 1998; no flow Apr. 4, 5, and July 18–20, 1990; Nov.15–19, 1993; and many days in 1995.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	292	324	200	326	329	328	330	323	278	117	99
2	239	295	285	302	325	329	327	329	324	201	121	97
3	249	292	268	327	317	327	329	329	326	199	121	113
4	241	295	270	327	169	327	329	329	326	205	120	211
5	248	291	273	326	168	327	329	329	328	112	118	118
6	247	291	277	326	47	327	327	330	327	107	113	120
7	242	297	273	326	168	327	329	329	327	113	109	119
8	260	302	320	326	168	327	329	329	327	118	110	131
9	276	303	327	327	168	326	329	327	327	125	113	247
10	258	300	298	327	168	325	329	326	293	127	112	294
11	247	300	271	326	318	326	329	326	295	136	110	295
12	256	295	227	320	325	326	329	323	322	133	119	143
13	256	303	218	129	326	327	327	321	324	133	116	140
14	254	303	220	129	326	329	321	326	324	149	112	148
15	256	196	326	131	326	329	311	326	319	147	108	306
16	251	206	315	126	326	326	311	327	312	136	109	305
17	250	238	292	323	326	326	324	327	306	130	109	299
18	259	185	327	321	326	327	326	327	307	127	110	299
19	20	294	317	323	327	335	327	321	305	135	120	144
20	19	323	291	323	323	335	329	324	299	139	135	142
21	20	297	273	323	324	331	329	327	294	114	126	139
22	15	308	244	323	323	335	329	327	291	113	125	283
23	18	324	244	320	147	335	329	190	293	114	131	283
24	16	326	230	321	147	333	330	163	292	112	140	289
25	16	326	226	321	234	333	330	155	292	115	140	291
26	16	324	218	320	324	327	330	154	288	113	130	106
27	16	326	209	321	329	333	329	154	288	110	102	144
28	16	297	205	321	329	330	329	324	285	109	122	152
29	36	291	209	326	---	330	330	225	280	109	122	300
30	39	321	211	329	---	329	329	278	278	111	120	299
31	51	---	211	327	---	329	---	322	---	116	117	---
TOTAL	4818	8741	8199	9117	7430	10202	9813	9154	9222	4186	3677	6056
MEAN	155	291	264	294	265	329	327	295	307	135	119	202
MAX	276	326	327	329	329	335	330	330	328	278	140	306
MIN	15	185	205	126	47	325	311	154	278	107	102	97
AC-FT	9560	17340	16260	18080	14740	20240	19460	18160	18290	8300	7290	12010

11471099 POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	186	175	187	205	226	245	207	186	156	108	108	159
MAX	311	291	292	294	319	329	327	316	307	160	151	286
(WY)	1991	1998	1989	1998	1996	1998	1998	1993	1998	1993	1996	1996
MIN	79.3	90.1	60.5	35.8	45.0	51.4	53.7	97.0	59.0	60.1	81.5	66.4
(WY)	1989	1988	1995	1991	1991	1995	1990	1988	1994	1994	1988	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1988 - 1998	
ANNUAL TOTAL	61362.2		90615			
ANNUAL MEAN	168		248		179	
HIGHEST ANNUAL MEAN					248	1998
LOWEST ANNUAL MEAN					82.8	1995
HIGHEST DAILY MEAN	330	Jan 24	335	Mar 19	335	Mar 19 1998
LOWEST DAILY MEAN	1.2	Jan 2	15	Oct 22	.00	Apr 4 1990
ANNUAL SEVEN-DAY MINIMUM	16	Oct 22	16	Oct 22	.00	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	121700		179700		129400	
10 PERCENT EXCEEDS	303		329		321	
50 PERCENT EXCEEDS	149		295		136	
90 PERCENT EXCEEDS	90		113		73	

11471500 EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CA

LOCATION.—Lat 39°23'19", long 123°06'54", in NE 1/4 sec.30, T.18 N., R.11 W, Mendocino County, Hydrologic Unit 18010103, on left bank 1,000 ft downstream from Van Arsdale Dam and 4.6 mi north of town of Potter Valley.

DRAINAGE AREA.—349 mi^2.

PERIOD OF RECORD.—November 1909 to September 1922 (combined monthly discharge only, of Eel River at this station and Snow Mountain Water and Power Co.'s tailrace near Potter Valley), October 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Van Arsdale Dam, near Potter Valley.

REVISED RECORDS.—WSP 1315-B: 1913, 1920–23, 1925–27. WSP 1395: 1923(M), 1938.

GAGE.—Water-stage recorder. Elevation of gage is 1,400 ft above sea level, from topographic map. Nov. 18, 1909, to Mar. 3, 1927, recorder in reservoir 800 ft upstream from Van Arsdale Dam at different datum. Oct. 1, 1927, to Feb. 28, 1937, nonrecording gage at present site and datum.

REMARKS.—Flow regulated by Lake Pillsbury (station 11470000) 11 mi upstream. Low flows may be further regulated at Van Arsdale Dam by calibrated gates in dam and fish ladder. Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley Powerhouse Intake (station 11471000), after which part is used for irrigation and remainder flows into East Fork Russian River (see station 11471099). Records given represent only flow in the Eel River. See schematic diagram of Eel River Basin.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 64,100 ft^3/s, Dec. 22, 1964, gage height, 33.9 ft from floodmarks; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	10	84	118	10300	1660	1580	671	1190	44	6.3	7.9
2	7.7	10	101	266	9090	1510	1110	1030	1080	44	7.9	7.9
3	7.8	10	103	273	12000	1490	479	1170	983	44	7.4	7.5
4	8.1	11	102	545	8960	1420	565	649	671	44	6.4	7.5
5	8.3	11	101	420	7560	1260	663	670	374	45	6.6	7.6
6	8.0	11	101	524	8250	1140	736	714	371	45	7.2	8.0
7	8.1	11	242	503	6720	985	785	534	626	42	7.2	8.2
8	7.8	11	238	515	7270	936	794	242	869	38	7.3	8.1
9	8.2	11	109	553	10300	846	822	251	590	33	7.1	7.9
10	8.2	11	113	734	6480	760	903	366	349	23	7.0	8.1
11	8.2	11	113	1100	3890	724	960	578	431	19	7.3	8.1
12	8.2	11	114	4450	3400	863	958	570	564	18	7.7	7.8
13	8.2	10	138	4710	4010	3650	1040	550	1240	13	7.8	7.8
14	8.1	10	204	5770	4370	3570	1060	643	493	7.8	7.8	7.8
15	8.1	11	247	10600	5170	2530	958	878	320	5.1	7.8	7.6
16	8.2	71	188	7960	3900	2260	752	955	213	5.4	7.8	7.4
17	8.1	11	116	8600	3660	2160	722	1240	45	5.6	7.9	7.5
18	12	21	117	8360	3140	1850	678	1470	45	6.2	7.9	7.5
19	8.8	31	116	9700	4330	1550	607	1490	45	6.8	7.9	7.8
20	6.2	19	116	7780	6170	1410	520	1480	45	6.8	7.9	7.4
21	8.9	11	114	9990	6970	1460	377	1500	45	6.7	7.8	7.5
22	7.2	10	114	11400	9210	5070	339	1670	45	6.5	7.8	7.4
23	6.4	11	114	12300	6030	6250	324	1840	45	5.9	7.8	7.9
24	8.3	10	114	12500	5450	6760	350	1870	45	6.7	7.6	7.8
25	7.7	115	114	13100	3850	4920	544	1650	45	7.2	7.8	7.4
26	7.5	11	114	9560	2840	3490	909	1870	45	7.2	7.6	7.2
27	7.6	51	115	8740	2220	2560	803	1720	45	7.1	7.6	7.3
28	7.0	76	115	8220	1870	2080	668	801	45	6.9	7.9	7.3
29	6.3	102	114	8850	---	1690	671	2250	45	6.9	7.8	7.5
30	6.8	76	114	8940	---	1400	665	3320	45	5.8	7.8	7.3
31	9.0	---	114	10400	---	1450	---	1110	---	5.6	7.8	---
TOTAL	246.7	786	4019	187481	167410	69704	22342	35752	10994	568.2	233.5	230.0
MEAN	7.96	26.2	130	6048	5979	2249	745	1153	366	18.3	7.53	7.67
MAX	12	115	247	13100	12000	6760	1580	3320	1240	45	7.9	8.2
MIN	6.2	10	84	118	1870	724	324	242	45	5.1	6.3	7.2
AC-FT	489	1560	7970	371900	332100	138300	44320	70910	21810	1130	463	456

11471500 EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.9	128	719	1426	1519	1049	559	179	27.9	5.34	5.62	5.37
MAX	153	2389	5249	6296	8904	5492	3863	1174	366	18.3	54.1	27.9
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1998	1998	1980	1959
MIN	.86	1.30	1.78	2.00	3.62	2.00	2.00	2.00	1.07	1.06	1.09	1.10
(WY)	1953	1953	1937	1924	1977	1924	1924	1924	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1923 - 1998	
ANNUAL TOTAL	181642.5		499766.4			
ANNUAL MEAN	498		1369		460	
HIGHEST ANNUAL MEAN					1546	1983
LOWEST ANNUAL MEAN					3.46	1977
HIGHEST DAILY MEAN	32200	Jan 1	13100	Jan 25	49500	Dec 22 1964
LOWEST DAILY MEAN	6.2	Oct 20	5.1	Jul 15	.00	Sep 13 1953
ANNUAL SEVEN-DAY MINIMUM	7.3	Oct 23	6.1	Jul 15	.16	Dec 5 1965
INSTANTANEOUS PEAK FLOW			15000	Feb 3	64100	Dec 22 1964
INSTANTANEOUS PEAK STAGE			19.58	Feb 3	33.90	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	360300		991300		333600	
10 PERCENT EXCEEDS	653		5110		1100	
50 PERCENT EXCEEDS	20		114		9.2	
90 PERCENT EXCEEDS	7.7		7.4		2.0	

11473900 MIDDLE FORK EEL RIVER NEAR DOS RIOS, CA

LOCATION.—Lat 39°42'23", long 123°19'27", in NE 1/4 SE 1/4 sec.5, T.21 N., R.13 W., Mendocino County, Hydrologic Unit 18010104, on right bank 0.6 mi upstream from Eastman Creek, 1.7 mi southeast of Dos Rios, and 1.9 mi upstream from mouth.

DRAINAGE AREA.—745 mi^2.

PERIOD OF RECORD.—October 1965 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 901.58 ft above sea level.

REMARKS.—Records fair for discharges below 16,000 ft^3/s and poor for discharges above 16,000 ft^3/s and estimated daily discharges. No regulation or diversion upstream from station. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 135,100 ft^3/s, Jan. 1, 1997, gage height, 31.46 ft, from rating curve extended above 52,000 ft^3/s; minimum daily, 0.39 ft^3/s, Sept. 1, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 25,000 ft^3/s, or maximum.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1600	40,300	19.06	Mar. 22	1100	36,100	18.23
Jan. 17	1215	38,000	18.60				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	72	e1790	514	6830	3610	3500	4920	3060	e690	e99	34
2	20	93	e1380	1900	7680	3620	3140	4920	3000	e651	e97	32
3	24	74	e1010	3180	20200	4490	2840	3910	3060	e620	e95	30
4	27	62	e890	4690	9570	4100	2670	3570	2860	e595	e91	29
5	24	54	e840	2380	9500	3740	2460	3630	2590	e566	e86	27
6	23	51	e805	1870	16300	3490	2300	3370	2490	e539	84	27
7	23	75	e1710	2280	17000	3140	2210	3260	2870	e515	81	28
8	36	99	e5030	2080	14000	3060	2010	3280	2610	e486	78	28
9	677	79	e3220	1930	8060	2850	2090	3180	2380	e449	75	30
10	541	69	e2030	2070	6750	2760	2470	2590	2220	e418	73	31
11	265	68	e1250	8650	7390	2820	2600	2250	2120	e388	72	33
12	173	87	1020	21800	7230	5230	2360	2200	1980	e360	70	32
13	128	95	e890	12700	8790	12700	3310	1970	3070	e334	67	30
14	103	158	e2110	13600	10300	6990	3160	1810	2340	e309	65	28
15	88	214	e5190	24100	8720	5890	2760	1690	2070	e285	62	27
16	78	1290	e2350	15100	6910	6230	2570	1640	1910	e267	59	26
17	71	2090	e4890	28400	6960	6580	2420	1570	1640	e243	58	26
18	66	1210	e4150	21600	5650	5840	2360	1460	1510	e222	57	25
19	61	2260	1980	15300	13300	5600	2470	1440	e1400	e209	57	25
20	58	1890	1520	8330	9130	5730	2750	1440	e1310	e195	56	26
21	51	1270	1290	5670	16200	6410	3140	1410	e1210	e178	55	26
22	48	1060	1050	4440	9930	28400	3910	1380	e1120	e163	54	26
23	46	1900	883	4510	7930	20500	4790	1480	e1070	e151	52	26
24	45	2160	766	4590	6930	15800	4860	1540	e1010	e143	49	28
25	43	3030	672	4120	5250	10100	3800	1930	e978	e137	46	28
26	42	2750	583	18900	4380	7490	3310	1770	e942	e129	45	27
27	41	e2840	522	14800	3910	6180	3410	1610	e884	e122	44	27
28	41	e1720	483	7740	3740	5080	3800	2670	e829	e117	42	28
29	41	e1430	474	11900	---	4180	4160	5250	e779	e114	40	28
30	45	e3150	516	8480	---	3510	4530	4080	e732	e109	37	28
31	51	---	525	6250	---	3760	---	3390	---	e103	36	---
TOTAL	2996	31400	51819	283874	258540	209880	92160	80610	56044	9807	1982	846
MEAN	96.6	1047	1672	9157	9234	6770	3072	2600	1868	316	63.9	28.2
MAX	677	3150	5190	28400	20200	28400	4860	5250	3070	690	99	34
MIN	16	51	474	514	3740	2760	2010	1380	732	103	36	25
AC-FT	5940	62280	102800	563100	512800	416300	182800	159900	111200	19450	3930	1680

e Estimated.

11473900 MIDDLE FORK EEL RIVER NEAR DOS RIOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	101	1155	2495	4483	3515	3471	2064	1262	434	87.4	25.9	23.8
MAX	475	6823	7477	13540	12870	8622	6632	3852	1868	316	63.9	172
(WY)	1980	1974	1997	1970	1986	1983	1982	1983	1998	1998	1998	1986
MIN	5.11	26.9	30.5	94.3	172	384	333	241	82.5	13.2	4.33	1.04
(WY)	1995	1996	1977	1977	1977	1977	1977	1977	1977	1977	1994	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	595293		1079958			
ANNUAL MEAN	1631		2959		1586	
HIGHEST ANNUAL MEAN					3351	1983
LOWEST ANNUAL MEAN					121	1977
HIGHEST DAILY MEAN	81200	Jan 1	28400	Jan 17	81200	Jan 1 1997
LOWEST DAILY MEAN	12	Aug 17	16	Oct 1	.39	Sep 1 1994
ANNUAL SEVEN-DAY MINIMUM	13	Sep 7	22	Oct 1	.42	Aug 28 1994
INSTANTANEOUS PEAK FLOW			40300	Jan 12	135000	Jan 1 1997
INSTANTANEOUS PEAK STAGE			19.06	Jan 12	31.46	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	1181000		2142000		1149000	
10 PERCENT EXCEEDS	2990		7570		3870	
50 PERCENT EXCEEDS	314		1520		350	
90 PERCENT EXCEEDS	19		34		16	

11474780 KEKAWAKA CREEK BELOW KEKAWAKA CREEK POWERHOUSE DIVERSION, NEAR ZENIA, CA

LOCATION.—Lat 40°06'37", long 123°27'59", in SW 1/4 SE 1/4 sec.14, T.4 S., R.6 E., Trinity County, Hydrologic Unit 18010105, on left bank approximately 200 ft downstream from diversion dam, 3.6 mi upstream from confluence with Eel River, and 6.7 mi south of Zenia.

DRAINAGE AREA.—20.7 mi^2.

PERIOD OF RECORD.—January 1990 to current year.

GAGE.—Water-stage recorder, and 120° V-notch weir. Elevation of gage is 1,480 ft above sea level, from topographic map.

REMARKS.—Water is diverted from creek upstream from gage to Kekawaka Creek Powerplant (station 11474750). See station 11474781 for records of combined discharge of creek and powerplant. See schematic diagram of Eel River Basin.

COOPERATION.—Records provided by STS Hydro Power Ltd., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Creek only, maximum discharge, 3,040 ft^3/s, Dec. 31, 1996 gage height, 11.03 ft. Combined flow: Maximum discharge, 3,040 ft^3/s, Dec. 31, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	2.9	4.9	4.0	163	33	50	3.6	3.5	6.9	2.1	.7
2	1.7	2.4	3.9	3.8	288	28	29	3.5	3.4	6.6	1.9	.6
3	1.5	2.2	3.7	20	467	21	23	3.6	3.4	6.4	1.7	.5
4	1.5	2.1	3.5	26	281	13	15	3.6	3.3	6.2	1.6	.5
5	1.3	1.9	3.4	6.8	335	11	16	4.0	3.5	5.8	1.5	.5
6	1.3	2.3	3.4	4.4	737	8.6	9.1	3.9	3.5	5.4	1.6	.6
7	1.4	3.1	57	5.1	769	6.4	10	3.7	3.7	5.1	1.6	.7
8	4.5	3.0	45	4.0	640	9.0	5.1	3.7	3.8	4.9	1.6	.9
9	9.0	2.7	9.8	6.2	314	5.7	6.5	3.6	3.7	4.7	1.6	.9
10	5.4	2.7	5.1	5.3	208	4.6	15	3.6	3.6	4.7	1.5	.9
11	4.4	3.5	4.2	59	186	4.6	12	3.8	3.6	4.5	1.4	.8
12	3.1	3.4	3.9	400	172	75	17	3.8	3.6	4.4	1.3	.6
13	2.3	4.1	3.7	216	155	179	48	3.6	3.6	4.3	1.2	.6
14	2.0	12	154	367	230	78	16	3.4	8.4	4.0	1.1	.5
15	2.3	10	89	478	208	48	16	3.7	12	3.7	1.2	.5
16	1.7	74	22	343	234	27	9.4	3.8	12	3.6	1.3	.5
17	1.6	19	30	863	221	12	6.3	3.7	11	3.3	1.4	.6
18	1.6	4.4	9.6	627	199	6.9	3.9	3.5	10	3.2	1.4	.7
19	1.6	49	3.7	424	628	4.2	8.6	3.6	9.9	3.1	1.4	.9
20	1.6	5.8	4.8	219	320	4.7	7.1	3.6	9.3	3.0	1.3	.9
21	1.6	3.5	4.1	138	722	27	14	3.6	9.0	4.9	1.4	.9
22	1.5	23	3.4	98	373	424	4.5	3.5	8.7	2.8	1.3	.8
23	1.6	66	3.7	54	287	477	8.5	3.5	8.4	2.6	1.3	.8
24	1.5	43	3.7	43	230	351	4.6	3.7	8.2	2.6	1.3	.9
25	1.4	8.4	3.4	61	171	246	4.0	3.5	8.1	2.4	1.1	1.0
26	1.4	23	3.2	565	131	155	3.8	3.4	7.7	2.3	1.0	.9
27	1.4	9.2	3.9	312	74	119	3.6	4.3	7.2	2.1	.9	.9
28	1.5	8.0	4.6	161	49	87	3.6	51	6.8	2.0	.9	.9
29	1.9	34	4.3	323	---	60	3.8	21	6.7	2.2	.8	.8
30	2.1	29	4.1	182	---	42	3.7	5.2	6.6	2.3	.8	.8
31	2.9	---	4.0	131	---	62	---	3.8	---	2.3	.7	---
TOTAL	69.50	457.6	507.0	6149.6	8792	2629.7	377.1	179.8	196.2	122.3	41.2	22.1
MEAN	2.24	15.3	16.4	198	314	84.8	12.6	5.80	6.54	3.95	1.33	.74
MAX	9.0	74	154	863	769	477	50	51	12	6.9	2.1	1.0
MIN	.90	1.9	3.2	3.8	49	4.2	3.6	3.4	3.3	2.0	.70	.50
AC-FT	138	908	1010	12200	17440	5220	748	357	389	243	82	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.08	5.15	50.5	122	70.2	50.4	12.4	9.22	5.43	2.14	.81	.55
MAX	2.24	15.3	214	262	314	198	51.4	21.1	14.2	4.09	1.88	1.05
(WY)	1998	1998	1997	1995	1998	1995	1995	1990	1993	1993	1993	1995
MIN	.52	1.31	3.48	5.08	8.02	5.12	3.36	3.59	1.90	.51	.036	.008
(WY)	1995	1991	1991	1991	1991	1994	1991	1994	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998	
ANNUAL TOTAL	7602.86		19544.10			
ANNUAL MEAN	20.8		53.5		28.3	
HIGHEST ANNUAL MEAN					53.5	1998
LOWEST ANNUAL MEAN					6.47	1991
HIGHEST DAILY MEAN	1700	Jan 1	863	Jan 17	1700	Jan 1 1997
LOWEST DAILY MEAN	.19	Aug 9	.50	Sep 3	.00	Sep 3 1992
ANNUAL SEVEN-DAY MINIMUM	.24	Aug 7	.57	Sep 12	.00	Sep 3 1992
INSTANTANEOUS PEAK FLOW			1510	Jan 17	3040	Dec 31 1996
INSTANTANEOUS PEAK STAGE			7.81	Jan 17	11.03	Dec 31 1996
ANNUAL RUNOFF (AC-FT)	15080		38770		20520	
10 PERCENT EXCEEDS	25		191		51	
50 PERCENT EXCEEDS	2.7		4.0		3.2	
90 PERCENT EXCEEDS	.64		1.0		.41	

11474781 KEKAWAKA CREEK BELOW KEKAWAKA CREEK POWERHOUSE DIVERSION, NEAR ZENIA, CA—Continued

KEKAWAKA CREEK BELOW KEKAWAKA CREEK POWERHOUSE DIVERSION AND

KEKAWAKA CREEK POWERHOUSE, NEAR ZENIA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	2.9	47	11	222	95	95	22	30	6.9	2.1	.7
2	1.7	2.4	30	34	354	90	75	20	27	6.6	1.9	.6
3	1.5	2.2	24	70	498	79	68	20	24	6.4	1.7	.5
4	1.5	2.1	21	88	338	66	61	28	22	6.2	1.6	.5
5	1.3	1.9	18	68	372	63	61	28	19	5.8	1.5	.5
6	1.3	2.3	16	63	737	57	55	27	18	5.4	1.6	.6
7	1.4	3.1	113	72	769	51	56	22	18	5.1	1.6	.7
8	4.5	3.0	99	67	640	59	50	20	16	4.9	1.6	.9
9	9.0	2.7	66	67	321	49	52	18	14	4.7	1.6	.9
10	5.4	2.7	45	66	264	45	61	17	13	4.7	1.5	.9
11	4.4	3.5	35	121	250	42	58	21	12	4.5	1.4	.8
12	3.1	3.4	28	434	235	129	50	23	12	4.4	1.3	.6
13	2.3	4.1	23	268	216	247	69	25	11	4.3	1.2	.6
14	2.0	13	210	414	298	139	62	21	14	4.0	1.1	.5
15	2.3	33	154	505	252	105	62	20	15	3.7	1.2	.5
16	1.7	127	86	405	234	85	55	20	12	3.6	1.3	.5
17	1.6	70	97	889	221	67	52	23	11	3.3	1.4	.6
18	1.6	24	72	647	199	56	49	18	10	3.2	1.4	.7
19	1.6	101	53	451	628	49	52	18	9.9	3.1	1.4	.9
20	1.6	53	48	278	332	43	49	21	9.3	3.0	1.3	.9
21	1.6	30	41	197	722	71	43	17	9.0	2.9	1.4	.9
22	1.5	32	31	143	389	496	38	15	8.7	2.8	1.3	.8
23	1.6	66	25	123	325	507	45	14	8.4	2.6	1.3	.8
24	1.5	56	22	111	266	381	41	17	8.2	2.6	1.3	.9
25	1.4	61	18	111	209	287	32	23	8.1	2.4	1.1	1.0
26	1.4	84	15	612	166	201	28	18	7.7	2.3	1.0	.9
27	1.4	54	14	357	140	164	26	18	7.2	2.1	.9	.9
28	1.5	32	13	216	113	132	22	93	6.8	2.0	.9	.9
29	1.9	78	12	382	---	105	21	67	6.7	2.2	.8	.8
30	2.1	96	12	243	---	87	19	46	6.6	2.3	.8	.8
31	2.9	---	11	185	---	104	---	37	---	2.3	.7	---
TOTAL	69.50	1046.3	1499	7698	9710	4151	1507	797	394.6	120.3	41.2	22.1
MEAN	2.24	34.9	48.4	248	347	134	50.2	25.7	13.2	3.88	1.33	.74
MAX	9.0	127	210	889	769	507	95	93	30	6.9	2.1	1.0
MIN	.90	1.9	11	11	113	42	19	14	6.6	2.0	.70	.50
AC-FT	138	2080	2970	15270	19260	8230	2990	1580	783	239	82	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.08	9.06	72.9	161	113	94.6	41.6	24.0	12.5	2.25	.81	.55
MAX	2.24	34.9	268	317	347	255	111	50.5	45.8	5.16	1.88	1.05
(WY)	1998	1998	1997	1995	1998	1995	1995	1993	1993	1993	1993	1995
MIN	.52	1.31	3.48	6.26	17.1	27.1	7.49	5.78	1.90	.51	.036	.008
(WY)	1995	1991	1991	1991	1991	1994	1990	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998	
ANNUAL TOTAL	13633.96		27056.00			
ANNUAL MEAN	37.4		74.1		45.3	
HIGHEST ANNUAL MEAN					74.1	1998
LOWEST ANNUAL MEAN					14.0	1991
HIGHEST DAILY MEAN	1700	Jan 1	889	Jan 17	1700	Jan 1 1997
LOWEST DAILY MEAN	.19	Aug 9	.50	Sep 3	.00	Sep 3 1992
ANNUAL SEVEN-DAY MINIMUM	.24	Aug 7	.57	Sep 12	.00	Sep 3 1992
INSTANTANEOUS PEAK FLOW			1510	Jan 17	3040	Dec 31 1996
ANNUAL RUNOFF (AC-FT)	27040		53670		32810	
10 PERCENT EXCEEDS	82		238		119	
50 PERCENT EXCEEDS	7.3		19		6.3	
90 PERCENT EXCEEDS	.64		1.0		.41	

11475000 EEL RIVER AT FORT SEWARD, CA

LOCATION.—Lat 40°13'05", long 123°37'54", in SE 1/4 NE 1/4 sec.8, T.3 S., R.5 E., Humboldt County, Hydrologic Unit 18010105, on right bank at downstream side of bridge, 1.0 mi southeast of Fort Seward, 1.9 mi upstream from Dobbyn Creek, and 11.8 mi northeast of Garberville.

DRAINAGE AREA.—2,107 mi^2.

PERIOD OF RECORD.—September 1955 to current year. Prior to October 1965, published as "at Alderpoint."

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 217.26 ft above sea level. Prior to Dec. 22, 1964, at site 7.5 mi upstream at datum 46.55 ft higher. Feb. 2 to Sept. 30, 1965, at site 7.7 mi upstream at datum 49.42 ft higher.

REMARKS.—Records good. Flow slightly regulated by Lake Pillsbury (station 11470000) 99 mi upstream and by diversion through Potter Valley Powerhouse Intake (station 11471000). See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 561,000 ft^3/s, Dec. 22, 1964, gage height, 82.6 ft, from floodmarks, present site and datum, 87.2 ft, from floodmarks, site and datum then in use, from rating curve extended above 110,000 ft^3/s on basis of slope-area measurement at gage height 72.5 ft; minimum daily, 1.2 ft^3/s, Sept. 13, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 41,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1545	106,000	35.30	Feb. 21	1845	82,000	31.38
Jan. 27	0045	78,500	30.77	Mar. 22	1700	82,200	31.40
Feb. 8	0030	85,800	32.01				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	113	4120	1600	20100	10700	11200	6290	6540	1180	176	70
2	42	141	2790	3120	24400	9630	9890	6650	5810	1110	170	68
3	44	160	2260	9810	62600	9580	8290	6280	5600	1050	165	67
4	50	151	2090	17500	45000	8810	7480	5790	5240	1000	157	64
5	55	133	2070	11300	35400	7730	6970	5450	4550	959	148	62
6	57	127	2030	7830	59700	6950	6600	5330	4030	890	141	60
7	56	122	4320	8600	74200	6090	6530	5170	4240	834	132	59
8	68	139	10400	7800	71700	5930	6100	4860	4380	772	124	58
9	228	190	7200	6340	39600	5540	5930	4510	4250	711	121	59
10	962	181	4780	5790	27000	4970	7080	4120	3750	661	119	58
11	652	166	3640	14300	26300	4710	7540	3740	3350	603	118	58
12	391	158	3040	59300	22700	6040	6970	4070	3200	524	117	62
13	259	204	2670	62100	25100	21600	9050	4080	3900	485	113	63
14	189	316	6600	49900	26900	16400	9810	3740	4330	446	108	65
15	150	530	12600	80100	28800	12800	8670	3500	3250	413	103	63
16	128	3510	7350	60600	22500	11500	7620	3160	2920	385	98	60
17	114	6340	10600	90400	23100	10900	6780	3160	2600	357	94	58
18	104	2790	9970	70600	19400	9660	6240	2880	2370	331	92	56
19	97	3840	6680	69000	36600	8560	5910	2680	2210	312	89	54
20	92	4470	5040	37600	39100	7910	5760	2680	2100	298	90	54
21	89	2290	4280	24500	54200	7870	5680	2640	1980	283	90	53
22	86	1700	3440	18600	49800	53700	5830	2530	1850	264	92	54
23	88	2970	2900	16300	31600	58300	6380	2490	1760	251	91	57
24	84	3580	2540	16000	28700	50700	7240	2530	1690	239	89	58
25	81	5040	2290	14200	20500	35700	6280	2840	1600	229	86	58
26	81	4580	2050	45700	16400	23900	5700	3020	1540	224	86	58
27	81	5710	1860	59000	13800	18300	5830	2750	1460	227	84	59
28	79	3300	1730	29900	12100	15100	5890	4040	1360	209	80	59
29	84	2690	1630	34800	---	12700	5980	10600	1270	193	78	60
30	88	6960	1590	29500	---	10600	6100	10900	1220	184	76	61
31	97	---	1600	20400	---	10100	---	7960	---	178	74	---
TOTAL	4712	62601	136160	982490	957300	482980	211330	140440	94350	15802	3401	1795
MEAN	152	2087	4392	31690	34190	15580	7044	4530	3145	510	110	59.8
MAX	962	6960	12600	90400	74200	58300	11200	10900	6540	1180	176	70
MIN	36	113	1590	1600	12100	4710	5680	2490	1220	178	74	53
AC-FT	9350	124200	270100	1949000	1899000	958000	419200	278600	187100	31340	6750	3560

11475000 EEL RIVER AT FORT SEWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	382	2905	8865	13630	12520	9778	5236	2324	728	151	54.8	55.6
MAX	4938	18740	56050	43180	47700	30660	23040	7449	4194	510	199	359
(WY)	1963	1974	1965	1995	1986	1995	1982	1983	1993	1998	1983	1986
MIN	20.5	49.4	45.5	222	434	1071	476	356	131	18.4	3.27	9.57
(WY)	1965	1960	1977	1991	1977	1988	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1955 - 1998	
ANNUAL TOTAL	1617100		3093361			
ANNUAL MEAN	4430		8475		4688	
HIGHEST ANNUAL MEAN					10350	1983
LOWEST ANNUAL MEAN					260	1977
HIGHEST DAILY MEAN	207000	Jan 1	90400	Jan 17	434000	Dec 22 1964
LOWEST DAILY MEAN	25	Aug 19	36	Oct 1	1.2	Sep 13 1977
ANNUAL SEVEN-DAY MINIMUM	29	Aug 14	49	Oct 1	1.4	Sep 7 1977
INSTANTANEOUS PEAK FLOW			106000	Jan 17	561000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			35.30	Jan 17	82.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	3208000		6136000		3396000	
10 PERCENT EXCEEDS	7400		24700		11800	
50 PERCENT EXCEEDS	918		2970		724	
90 PERCENT EXCEEDS	36		68		36	

11475560 ELDER CREEK NEAR BRANSCOMB, CA
(Hydrologic Benchmark Station)

LOCATION.—Lat 39°43'47", long 123°38'34", in NW 1/4 NE 1/4 sec.29, T.22 N., R.16 W., Mendocino County, Hydrologic Unit 18010106, on right bank 0.2 mi upstream from mouth and 5.3 mi north of Branscomb.

DRAINAGE AREA.—6.50 mi^2.

PERIOD OF RECORD.—October 1967 to current year.
CHEMICAL DATA: Water years 1968 to March 1996
WATER TEMPERATURE: Water years 1968–79
SEDIMENT DATA: Water years 1969 to March 1996

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,391.08 ft above sea level.

REMARKS.—Records good. No regulation; small diversion upstream from station for domestic use. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,480 ft^3/s, Dec. 30, 1996, gage height, 9.88 ft, from rating curve extended above 700 ft^3/s on basis of slope-area measurements at gage heights 9.40 and 11.41 ft; minimum daily, 0.27 ft^3/s, Sept. 10–15, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 11.41 ft, from floodmarks, discharge, 3,660 ft^3/s by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 400 ft^3/s, or maximum.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0545	524	6.31	Feb. 21	1030	431	6.05

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.2	22	12	124	54	46	18	29	6.6	2.7	1.0
2	1.9	1.9	18	23	136	49	44	17	25	6.5	2.6	1.0
3	1.6	1.7	16	40	230	45	42	16	23	6.2	2.4	.95
4	1.5	1.6	14	75	223	42	39	15	20	6.1	2.3	.90
5	1.4	1.5	12	64	215	39	35	15	19	5.7	2.2	.90
6	1.3	1.9	11	54	248	35	34	14	18	5.5	2.1	.91
7	1.3	2.1	29	47	280	32	31	13	17	5.4	2.1	.91
8	9.3	1.9	36	42	277	31	29	13	16	5.2	2.1	.90
9	9.3	1.7	34	39	202	28	31	12	15	5.0	2.0	.90
10	5.8	2.4	28	37	142	27	42	12	14	5.0	1.9	.95
11	3.8	2.5	23	118	108	25	46	12	13	4.8	1.9	.93
12	3.0	2.3	20	337	102	41	48	12	13	4.7	1.8	.89
13	2.5	3.5	18	262	108	70	55	12	12	4.6	1.7	.91
14	2.2	7.5	39	244	130	60	56	11	12	4.5	1.6	.89
15	2.0	8.7	50	278	134	51	51	11	11	4.3	1.6	.87
16	1.9	25	47	255	122	44	46	11	11	4.1	1.6	.86
17	1.7	27	72	421	122	39	43	11	10	4.0	1.6	.85
18	1.6	14	64	308	111	34	39	10	9.8	3.8	1.6	.89
19	1.6	16	49	271	208	31	35	10	9.5	3.7	1.6	.90
20	1.5	14	39	199	214	28	32	10	9.2	3.6	1.5	.91
21	1.5	11	31	133	343	35	29	9.7	8.9	3.5	1.5	.90
22	1.4	10	26	94	254	212	27	9.4	8.7	3.4	1.4	.88
23	1.4	18	23	81	179	296	28	9.3	8.3	3.3	1.4	.89
24	1.4	19	20	73	141	251	26	9.9	8.0	3.3	1.4	.91
25	1.4	18	18	80	109	178	24	10	7.9	3.2	1.3	.91
26	1.3	22	16	273	87	125	22	9.5	7.6	3.1	1.3	.90
27	1.3	21	15	253	73	94	21	9.4	7.3	3.0	1.2	.87
28	1.3	18	14	165	62	74	20	22	7.1	2.8	1.2	.89
29	1.5	22	13	210	---	61	18	49	6.9	2.8	1.1	.90
30	1.6	28	12	198	---	51	18	41	6.7	2.8	1.1	.88
31	2.4	---	11	141	---	48	---	34	---	2.9	1.1	---
TOTAL	73.1	326.4	840	4827	4684	2230	1057	468.2	383.9	133.4	52.9	27.15
MEAN	2.36	10.9	27.1	156	167	71.9	35.2	15.1	12.8	4.30	1.71	.90
MAX	9.3	28	72	421	343	296	56	49	29	6.6	2.7	1.0
MIN	1.3	1.5	11	12	62	25	18	9.3	6.7	2.8	1.1	.85
AC-FT	145	647	1670	9570	9290	4420	2100	929	761	265	105	54

11475560 ELDER CREEK NEAR BRANSCOMB, CA—Continued
(Hydrologic Benchmark Station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.23	19.5	49.9	75.0	59.5	55.2	25.9	11.9	5.97	2.41	1.34	1.12
MAX	8.72	132	192	210	173	147	91.9	33.4	31.6	5.84	2.49	2.36
(WY)	1980	1974	1997	1970	1986	1983	1982	1996	1993	1993	1990	1986
MIN	.57	.99	1.04	2.32	3.40	5.45	3.01	2.13	1.35	.67	.48	.51
(WY)	1988	1996	1977	1977	1977	1988	1977	1977	1977	1977	1977	1988

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1968 - 1998	
ANNUAL TOTAL	9158.36		15103.05			
ANNUAL MEAN	25.1		41.4		25.7	
HIGHEST ANNUAL MEAN					54.4	1974
LOWEST ANNUAL MEAN					2.12	1977
HIGHEST DAILY MEAN	1620	Jan 1	421	Jan 17	1620	Jan 1 1997
LOWEST DAILY MEAN	.93	Sep 29	.85	Sep 17	.27	Sep 10 1981
ANNUAL SEVEN-DAY MINIMUM	.97	Sep 7	.88	Sep 12	.27	Sep 9 1981
INSTANTANEOUS PEAK FLOW			524	Jan 17	2480	Dec 30 1996
INSTANTANEOUS PEAK STAGE			6.31	Jan 17	9.88	Dec 30 1996
ANNUAL RUNOFF (AC-FT)	18170		29960		18630	
10 PERCENT EXCEEDS	36		131		67	
50 PERCENT EXCEEDS	8.2		13		5.4	
90 PERCENT EXCEEDS	1.3		1.3		.95	

11475800 SOUTH FORK EEL RIVER AT LEGGETT, CA

LOCATION.—Lat 39°52'29", long 123°43'10", in NE 1/4 SE 1/4 sec.3, T.23 N., R.17 W., Mendocino County, Hydrologic Unit 18010106, on right bank near Standish Hickey State Park, 0.2 mi upstream from Rock Creek, and 0.7 mi northwest of Leggett.

DRAINAGE AREA.—248 mi^2.

PERIOD OF RECORD.—October 1965 to June 30, 1995, Oct. 1, 1997, to Apr. 30, 1998 (seasonal). Stage only July 1, 1995, to Sept. 30, 1997.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 691.32 ft above sea level. Prior to July 29, 1988, at datum 2.00 ft higher.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 72,700 ft^3/s, Jan. 4, 1966, gage height, 27.4 ft, from floodmarks, present datum, from rating curve extended above 21,000 ft^3/s on basis of slope-area measurement at gage height 28.13 ft; minimum daily, 7.3 ft^3/s, Aug. 4–6, 12, 1977. Maximum gage height since July 1, 1995, 19.44 ft, Dec. 31, 1997; minimum gage height since July 1, 1995, 0.57 ft, Sept. 8–13 and 30, 1997.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 28.13 ft, from floodmarks, present datum, discharge, 78,700 ft^3/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 8,500 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1030	18,200	14.15	Feb. 21	1245	14,800	12.81
Feb. 8	0145	10,500	10.50				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	101	977	334	4030	1550	1470	---	---	---	---	---
2	58	84	715	980	4360	1420	1220	---	---	---	---	---
3	58	70	572	1740	8240	1330	1160	---	---	---	---	---
4	54	61	506	e4510	6840	1190	1120	---	---	---	---	---
5	42	56	442	e2110	6790	1110	1020	---	---	---	---	---
6	37	58	389	e1950	8820	1050	1010	---	---	---	---	---
7	35	69	1400	1870	9020	951	947	---	---	---	---	---
8	192	74	2080	1470	8930	1020	879	---	---	---	---	---
9	593	69	1650	1280	5730	914	968	---	---	---	---	---
10	304	82	1140	1190	4390	838	1270	---	---	---	---	---
11	182	104	873	4860	4080	788	1330	---	---	---	---	---
12	125	117	706	10800	3890	1370	1280	---	---	---	---	---
13	97	136	597	7310	3970	2960	2040	---	---	---	---	---
14	81	277	2460	8190	4660	1900	1880	---	---	---	---	---
15	71	399	2740	9700	4480	1510	1620	---	---	---	---	---
16	63	2020	2020	8610	4110	1300	1380	---	---	---	---	---
17	57	1780	3360	13400	4540	1150	1200	---	---	---	---	---
18	53	748	2310	9700	3850	1020	1030	---	---	---	---	---
19	50	1060	1620	8800	7680	908	925	---	---	---	---	---
20	48	751	1240	5860	6670	825	841	---	---	---	---	---
21	46	529	1030	4040	10300	984	768	---	---	---	---	---
22	44	445	835	3140	6530	8690	710	---	---	---	---	---
23	42	1030	705	2840	4600	9010	720	---	---	---	---	---
24	41	907	609	2660	3850	6930	731	---	---	---	---	---
25	40	919	539	2690	2970	5080	629	---	---	---	---	---
26	39	1130	481	10300	2400	3290	582	---	---	---	---	---
27	39	1150	438	7760	2060	2430	546	---	---	---	---	---
28	38	781	403	4650	1770	1960	512	---	---	---	---	---
29	42	909	376	7200	---	1620	484	---	---	---	---	---
30	49	1730	356	5170	---	1380	460	---	---	---	---	---
31	81	---	332	3840	---	1440	---	---	---	---	---	---
TOTAL	2728	17646	33901	158954	149560	67918	30732	---	---	---	---	---
MEAN	88.0	588	1094	5128	5341	2191	1024	---	---	---	---	---
MAX	593	2020	3360	13400	10300	9010	2040	---	---	---	---	---
MIN	27	56	332	334	1770	788	460	---	---	---	---	---
AC-FT	5410	35000	67240	315300	296700	134700	60960	---	---	---	---	---

e Estimated.

11476500 SOUTH FORK EEL RIVER NEAR MIRANDA, CA

LOCATION.—Lat 40°10'55", long 123°46'30", in NW 1/4 sec.30, T.3 S., R.4 E., Humboldt County, Hydrologic Unit 18010106, on right bank 0.5 mi upstream from Rocky Glen Creek, 4.3 mi southeast of Miranda, and 20 mi upstream from mouth.

DRAINAGE AREA.—537 mi^2.

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
TEMPERATURE DATA: Water years 1960–83.
SEDIMENT DATA: Water year 1981.

REVISED RECORDS.—WSP 1395: Drainage area. WSP 2129: 1955.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 217.57 ft above sea level. Prior to Nov. 2, 1940, nonrecording gage at site 200 ft upstream at datum 0.8 ft higher. Nov. 2, 1940, to Oct. 31, 1944, nonrecording gage at present site and datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Occasional storage and release for recreational use during summer months at Benbow Reservoir, capacity, 1,060 acre-ft, 16 mi upstream. No diversion upstream from station. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 199,000 ft^3/s, Dec. 22, 1964, gage height, 46.0 ft, from floodmarks, from rating curve extended above 53,000 ft^3/s on basis of slope-area measurement at gage height 42.7 ft; minimum observed, 9 ft^3/s, Oct. 17, 1944.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1230	46,600	24.32	Feb. 21	1630	31,200	20.44
Jan. 26	2245	28,600	19.70	Mar. 22	2000	38,800	22.45
Feb. 7	2300	23,100	18.07				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	121	1970	896	7150	3360	3120	949	852	298	110	43
2	49	137	1460	2210	9260	3060	2650	958	791	296	122	42
3	76	121	1180	3670	18000	2880	2450	914	768	301	92	41
4	69	105	1140	7680	13600	2560	2400	876	727	273	91	39
5	64	95	968	5230	12600	2380	2170	844	686	252	88	38
6	55	104	842	4190	17400	2230	2050	817	646	254	91	37
7	48	109	2010	4020	19100	2080	1960	783	619	244	86	35
8	96	111	3510	3220	19700	2200	1800	756	607	231	68	35
9	790	110	2880	2740	11900	2120	1830	727	586	216	75	34
10	592	129	2090	2430	8230	1970	2430	701	560	175	75	33
11	391	183	1640	5880	7070	1880	2730	692	541	176	74	48
12	252	183	1350	22500	6030	2490	2580	701	525	161	73	168
13	183	234	1140	17400	6230	5870	3740	727	505	171	72	125
14	146	488	4240	16700	6870	3980	3720	688	487	168	70	42
15	125	660	6110	23200	7460	3200	3200	e647	470	157	54	35
16	111	3400	4030	15900	6270	2760	2750	e613	451	156	54	29
17	102	3650	5490	37100	7140	2430	2390	e594	435	153	59	29
18	95	1500	4660	23000	6180	2210	2110	e579	418	149	59	29
19	87	1680	3360	19800	12600	2120	1890	572	407	144	60	29
20	82	1540	2650	12600	12700	1870	1720	577	447	140	66	30
21	79	1070	2270	8370	21900	2150	1570	562	429	137	63	31
22	77	936	1890	6120	17200	24400	1450	533	407	133	62	31
23	73	2010	1650	5180	11600	26200	1400	510	396	127	51	33
24	70	2170	1460	4910	9310	18300	1450	512	351	125	54	35
25	68	2240	1300	4710	6900	14000	1280	583	351	122	57	36
26	68	2920	1160	18900	5440	8580	1170	554	347	119	57	36
27	67	2450	1050	18200	4500	6050	1110	525	339	113	54	37
28	66	1670	969	9720	3830	4670	1060	1170	331	52	48	38
29	70	1800	906	13300	---	3740	1010	1860	315	55	46	39
30	76	3040	855	10400	---	3120	962	1540	308	69	45	40
31	88	---	807	7370	---	3110	---	1030	---	80	44	---
TOTAL	4244	34966	67037	337546	296170	167970	62152	24094	15102	5247	2120	1297
MEAN	137	1166	2162	10890	10580	5418	2072	777	503	169	68.4	43.2
MAX	790	3650	6110	37100	21900	26200	3740	1860	852	301	122	168
MIN	29	95	807	896	3830	1870	962	510	308	52	44	29
AC-FT	8420	69360	133000	669500	587500	333200	123300	47790	29950	10410	4210	2570

e Estimated.

11476500 SOUTH FORK EEL RIVER NEAR MIRANDA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	266	1471	4103	5532	4765	3620	1847	704	310	114	61.4	60.9
MAX	3332	10130	17260	17530	16640	13000	8425	2370	1755	276	131	221
(WY)	1963	1974	1965	1970	1986	1983	1982	1990	1993	1993	1983	1986
MIN	20.0	25.0	74.6	207	284	304	176	122	52.7	20.4	18.0	29.1
(WY)	1940	1940	1977	1977	1977	1988	1977	1977	1977	1977	1977	1949

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	564841		1017945			
ANNUAL MEAN	1548		2789		1894	
HIGHEST ANNUAL MEAN					4393	1983
LOWEST ANNUAL MEAN					156	1977
HIGHEST DAILY MEAN	81400	Jan 1	37100	Jan 17	161000	Dec 22 1964
LOWEST DAILY MEAN	23	Aug 10	29	Oct 1	10	Aug 30 1964
ANNUAL SEVEN-DAY MINIMUM	24	Aug 9	30	Sep 16	14	Jul 30 1977
INSTANTANEOUS PEAK FLOW			46600	Jan 17	199000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			24.32	Jan 17	46.00	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1120000		2019000		1372000	
10 PERCENT EXCEEDS	2930		7550		4920	
50 PERCENT EXCEEDS	441		727		347	
90 PERCENT EXCEEDS	32		52		45	

11476600 BULL CREEK NEAR WEOTT, CA

LOCATION.—Lat 40°21'05", long 124°00'10", in SW 1/4 NW 1/4 sec.30, T.1 S., R.2 E., Humboldt County, Hydrologic Unit 18010106, on left bank 0.2 mi downstream from Albee Creek, 4.5 mi northwest of Weott, and 4.6 mi upstream from mouth.

DRAINAGE AREA.—28.1 mi^2.

PERIOD OF RECORD.—October 1960 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 269.36 ft above sea level. Prior to Dec. 22, 1964, water-stage recorder, and Jan. 14 to Aug. 10, 1965, nonrecording gage at site 150 ft downstream at datum 8.90 ft lower.

REMARKS.—Records poor. Minor diversions upstream from station for domestic and recreational use. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,830 ft^3/s, Dec. 31, 1996, gage height, 12.84 ft; maximum gage height, 20.6 ft^3/s Dec. 22, 1964, site and datum then in use; minimum daily, 0.25 ft^3/s, Sept. 27, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,700 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	unknown	1,690	6.51				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	8.2	e101	e150	781	243	188	52	34	15	5.8	1.9
2	e8.1	6.3	e70	e330	851	215	170	46	33	14	5.3	1.9
3	e5.2	5.1	e61	761	984	188	174	44	32	14	5.2	1.8
4	4.7	4.5	e91	675	968	162	169	40	31	13	5.2	1.7
5	3.5	4.1	e71	417	965	138	153	35	30	13	4.9	1.6
6	3.5	6.4	e95	608	1030	121	144	32	29	12	5.2	1.6
7	3.1	7.0	e325	521	1040	109	137	30	28	12	5.2	1.5
8	9.8	5.6	e370	331	1030	100	127	29	27	11	4.8	1.6
9	e25	4.7	e300	271	940	87	128	28	26	11	4.8	1.6
10	e16	9.5	e210	229	786	78	196	27	25	11	4.5	1.6
11	9.6	11	e96	290	640	72	194	28	25	10	4.3	e1.7
12	7.2	8.1	e68	717	604	122	199	27	24	9.9	4.0	e1.6
13	5.9	17	e96	577	568	129	213	26	23	e9.5	3.6	e1.6
14	4.9	e36	e309	603	650	107	204	26	22	e9.2	3.3	e1.6
15	4.3	e36	e417	796	633	94	189	26	22	e9.0	3.1	e1.6
16	3.9	e97	e357	1070	640	84	170	26	21	e8.7	3.1	e1.6
17	3.5	e98	e574	1210	665	88	152	26	21	e8.4	3.1	e1.6
18	3.3	e65	e338	1030	591	82	134	26	20	e8.2	3.1	e1.6
19	3.1	e87	e297	e900	1210	78	120	26	19	e8.0	3.1	e1.6
20	3.1	e69	e219	e820	955	75	107	26	19	e7.8	3.0	e1.6
21	3.0	e50	e105	e760	1330	101	103	26	19	e7.6	3.0	e1.5
22	2.8	e45	e81	e680	922	780	91	25	18	e7.5	3.0	e1.5
23	2.7	e70	e68	635	731	1210	92	25	18	e7.3	2.9	e1.5
24	2.7	e104	e98	554	602	863	85	26	17	e7.1	2.9	e1.5
25	2.7	e101	e83	601	490	646	77	26	17	e6.9	2.8	e1.5
26	2.6	e425	e73	875	403	486	65	25	16	e6.8	2.7	e1.5
27	2.5	e281	e67	967	336	375	62	26	16	e6.6	2.6	e1.5
28	2.5	e88	e60	784	284	305	57	67	15	e6.4	2.3	e1.5
29	5.4	e110	e58	916	---	247	54	56	15	e6.2	2.2	e1.6
30	4.9	e284	e53	795	---	214	48	40	15	6.1	2.2	e1.7
31	12	---	e50	707	---	206	---	35	---	6.1	2.1	---
TOTAL	176.9	2143.5	5261	20580	21629	7805	4002	1003	677	289.3	113.3	48.2
MEAN	5.71	71.4	170	664	772	252	133	32.4	22.6	9.33	3.65	1.61
MAX	25	425	574	1210	1330	1210	213	67	34	15	5.8	1.9
MIN	2.5	4.1	50	150	284	72	48	25	15	6.1	2.1	1.5
AC-FT	351	4250	10440	40820	42900	15480	7940	1990	1340	574	225	96

e Estimated.

11476600 BULL CREEK NEAR WEOTT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.2	111	264	336	298	237	120	41.5	17.4	6.70	3.49	2.97
MAX	160	683	780	901	1056	717	526	137	88.0	14.5	10.0	12.8
(WY)	1963	1974	1997	1978	1986	1983	1963	1963	1993	1993	1983	1986
MIN	.72	3.61	3.67	10.5	13.8	16.0	11.2	10.3	4.84	1.81	.70	.50
(WY)	1988	1994	1977	1977	1977	1988	1988	1988	1977	1977	1992	1988

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1961 - 1998	
ANNUAL TOTAL	36328.46		63728.2			
ANNUAL MEAN	99.5		175		120	
HIGHEST ANNUAL MEAN					287	1983
LOWEST ANNUAL MEAN					9.72	1977
HIGHEST DAILY MEAN	3010	Jan 1	1330	Feb 21	4900	Jan 16 1974
LOWEST DAILY MEAN	.98	Sep 27	1.5	Sep 7	.25	Sep 27 1994
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 22	1.5	Sep 21	.29	Sep 22 1994
INSTANTANEOUS PEAK FLOW			1690	Mar 23	7830	Dec 31 1996
INSTANTANEOUS PEAK STAGE			6.51	Mar 23	20.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	72060		126400		87110	
10 PERCENT EXCEEDS	199		656		315	
50 PERCENT EXCEEDS	20		30		23	
90 PERCENT EXCEEDS	1.3		2.6		2.0	

11477000 EEL RIVER AT SCOTIA, CA

LOCATION.—Lat 40°29'30", long 124°05'55", in SW 1/4 sec.5, T.1 N., R.1 E., Humboldt County, Hydrologic Unit 18010105, near center of span in left pier of A.S. Murphy Memorial Bridge on State Highway 283, 0.5 mi north of Scotia, and 6 mi upstream from Van Duzen River.

DRAINAGE AREA.—3,113 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1910 to current year. Monthly discharge only for some periods and yearly estimates for 1915–16, published in WSP 1315-B.

REVISED RECORDS.—WSP 931: 1938. WSP 1315-B: 1914–15(M), 1917(M), 1927–28(M), 1936(M), 1939(M). WSP 1345: Drainage area. WSP 1715: 1959.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 35.50 ft above sea level. Prior to Dec. 12, 1940, nonrecording gage at same site and datum.

REMARKS.—Records good. Low flow slightly regulated by Lake Pillsbury (station 11470000) 138 mi upstream since December 1921 and by diversion through Potter Valley Powerhouse Intake (station 11471000). See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 752,000 ft^3/s, Dec. 23, 1964, gage height, 72.0 ft, from floodmarks, from rating curve extended above 220,000 ft^3/s on basis of maximum flow at upstream stations; minimum observed, 10 ft^3/s, Aug. 12–14, 1924.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 72,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2000	170,000	38.61	Feb. 22	0100	124,000	33.66
Jan. 27	0730	119,000	33.02	Mar. 22	2400	144,000	35.85
Feb. 8	0630	129,000	34.29				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	289	11600	2970	30700	15300	16700	7560	8800	1500	349	170
2	158	315	7480	7290	40700	14100	15300	7850	7970	1470	359	166
3	180	345	5680	15700	84900	13800	13700	7560	7560	1420	375	165
4	190	359	5190	33100	76200	13100	13000	7370	7320	1350	349	160
5	195	352	4700	25800	58300	11900	12000	6600	6730	1310	332	155
6	193	336	4200	16700	81000	11100	11500	6530	5960	1240	316	152
7	191	356	7160	17600	104000	10300	11100	6330	5720	1170	306	148
8	201	355	19300	15900	113000	9870	10600	6040	5990	1090	293	143
9	372	343	16400	12900	66600	9720	10200	5700	6060	1030	276	138
10	1570	404	11200	11500	41800	8950	11700	5390	5640	971	263	139
11	1880	455	8370	15900	37900	8470	13500	4860	4950	892	260	140
12	1230	487	6680	71600	31900	8860	12500	5040	4710	858	258	139
13	803	524	5570	99400	36200	26600	15100	5310	4620	807	256	183
14	610	715	10600	61200	36500	25400	17000	5050	6070	774	250	242
15	498	1310	28600	115000	45300	18300	15100	4670	4880	741	239	178
16	421	4820	16600	78400	33400	15800	13300	4300	4270	691	228	154
17	370	15300	19700	132000	37300	14900	11700	4170	3880	648	212	143
18	338	8580	22100	110000	31000	13900	10600	3960	3450	614	208	136
19	307	6480	14700	111000	51100	12600	9810	3690	3200	592	207	129
20	289	9950	11000	64600	72200	11800	9210	3740	2960	558	201	129
21	269	6230	9460	39700	74900	11500	8870	3730	2740	538	207	129
22	258	4310	7930	27600	91000	68400	8520	3550	2530	523	209	126
23	250	6690	6560	23200	52800	116000	8760	3410	2340	501	205	124
24	245	9450	5640	23700	46300	89600	9670	3430	2200	486	205	124
25	240	10500	4880	20400	32600	64700	9140	3890	2060	479	194	125
26	231	12800	4270	56900	25000	39600	7930	4360	1930	475	194	128
27	224	12800	3800	100000	20200	28400	7730	4020	1850	460	195	131
28	220	9250	3450	52000	17400	22900	7640	5420	1730	458	192	129
29	234	6920	3200	51800	---	18800	7490	10800	1630	415	187	128
30	242	13800	3020	54200	---	16000	7440	14800	1560	359	184	128
31	253	---	2920	34400	---	15200	---	11400	---	347	178	---
TOTAL	12806	144825	291960	1502460	1470200	765870	336810	180530	131310	24767	7687	4381
MEAN	413	4828	9418	48470	52510	24710	11230	5824	4377	799	248	146
MAX	1880	15300	28600	132000	113000	116000	17000	14800	8800	1500	375	242
MIN	144	289	2920	2970	17400	8470	7440	3410	1560	347	178	124
AC-FT	25400	287300	579100	2980000	2916000	1519000	668100	358100	260500	49130	15250	8690

11477000 EEL RIVER AT SCOTIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	677	5111	13980	20330	19820	14370	8878	3688	1296	343	151	144
MAX	10910	38690	84420	69950	77680	51150	39190	11570	7511	920	422	735
(WY)	1963	1974	1965	1970	1958	1983	1982	1912	1993	1993	1983	1986
MIN	50.5	59.3	168	659	389	946	703	278	75.7	25.1	22.1	19.4
(WY)	1930	1930	1977	1977	1920	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1911 - 1998	
ANNUAL TOTAL	2731368		4873606			
ANNUAL MEAN	7483		13350		7344	
HIGHEST ANNUAL MEAN					17300	1983
LOWEST ANNUAL MEAN					563	1977
HIGHEST DAILY MEAN	316000	Jan 1	132000	Jan 17	648000	Dec 23 1964
LOWEST DAILY MEAN	104	Sep 12	124	Sep 23	12	Aug 12 1924
ANNUAL SEVEN-DAY MINIMUM	107	Sep 7	126	Sep 20	14	Aug 10 1924
INSTANTANEOUS PEAK FLOW			170000	Jan 17	752000	Dec 23 1964
INSTANTANEOUS PEAK STAGE			38.61	Jan 17	72.00	Dec 23 1964
INSTANTANEOUS LOW FLOW					10	Aug 12 1924
ANNUAL RUNOFF (AC-FT)	5418000		9667000		5320000	
10 PERCENT EXCEEDS	13700		38600		17900	
50 PERCENT EXCEEDS	1470		4950		1400	
90 PERCENT EXCEEDS	141		191		104	

11477000 EEL RIVER AT SCOTIA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1955-95; October 1997 to September 1998 (discontinued).
CHEMICAL DATA: Water years 1952–75, 1977, 1979–95.
BIOLOGICAL DATA: Water years 1979–81.
SPECIFIC CONDUCTANCE: Water years 1979–81.
WATER TEMPERATURE: Water years 1958–82.
SEDIMENT DATA: Water years 1955–95; October 1997 to September 1998 (discontinued).

PERIOD OF DAILY RECORD.—
SPECIFIC CONDUCTANCE: June 1979 to September 1981.
WATER TEMPERATURE: October 1957 to June 1982.
SUSPENDED-SEDIMENT DISCHARGE: October 1957 to September 1980.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
JAN										
06...	1445	15800	6.5	426	18200	74	83	92	97	100
MAR										
02...	1510	14100	10.0	202	7690	64	73	86	98	100

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)
JAN									
06...	1540	1000	1100	.250	0	1520	1600	15	20.0
06...	1630	1000	1100	.250	0	1615	1645	15	20.0
MAR									
02...	1330	1000	1100	.250	0	1310	1345	15	20.0
02...	1415	1000	1100	.250	0	1355	1440	15	20.0

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)
JAN									
06...	2	27	27	10.0	16000	6.5	6.24	3490	1
06...	2	27	27	10.0	15700	6.5	6.55	3490	3
MAR									
02...	2	27	27	10.0	14000	10.0	6.72	4150	2
02...	2	27	27	10.0	13900	10.0	8.52	4150	2

11477000 EEL RIVER AT SCOTIA, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM (80236)
JAN								
06...	13	32	48	73	90	96	100	--
06...	24	51	62	74	86	95	100	--
MAR								
02...	31	54	67	78	89	97	99	100
02...	33	56	72	84	93	98	100	--

11477425 MILL CREEK BELOW DIVERSION DAM, NEAR DINSMORE, CA

LOCATION.—Lat 40°27'52", long 123°35'59", in NE 1/4 SW 1/4 sec.15, T.1 N., R.5 E., Humboldt County, Hydrologic Unit 18010105, on left bank 1.9 mi south-southeast of Dinsmore.

DRAINAGE AREA.—0.74 mi^2.

PERIOD OF RECORD.—October 1990 to current year.

GAGE.—Water-stage recorder and 90° V-notch weir. Elevation of gage is 3,660 ft above sea level, from topographic map.

REMARKS.—Records of fishery release normally are computed only during periods of diversion to power house. Flow over spillway bypasses this station. See schematic diagram of Eel River Basin.

COOPERATION.—Records provided by North Coast Hydroelectric, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.33	.33	.46	.38	.42	.35	.33	---	---	---
2	---	---	.33	.38	.46	.40	.38	.35	.31	---	---	---
3	---	---	.33	.38	.46	.40	.35	.35	.31	---	---	---
4	---	---	.33	.35	.44	.38	.35	.33	.31	---	---	---
5	---	---	.33	.35	.44	.38	.35	.35	.31	---	---	---
6	---	---	.33	.35	.46	.38	.35	.35	.31	---	---	---
7	---	---	.38	.38	.44	.40	.35	.35	.31	---	---	---
8	---	---	.38	.35	.44	.42	.33	.35	.31	---	---	---
9	.33	.29	.35	.35	.42	.40	.35	.35	---	---	---	---
10	.42	.46	.35	.38	.42	.38	.35	.35	---	---	---	---
11	---	.46	.35	.40	.42	.38	.35	.31	---	---	---	---
12	---	.46	.35	.40	.44	.42	.35	.31	---	---	---	---
13	---	---	.35	.35	.44	.42	.35	.31	---	---	---	---
14	---	.46	.38	.35	.44	.42	.33	.31	---	---	---	---
15	---	.44	.40	.35	.44	.42	.33	.31	---	---	---	---
16	---	.44	.42	.35	.44	.42	.33	.31	---	---	---	---
17	---	.33	.38	.33	.44	.42	.33	.31	---	---	---	---
18	---	.38	.35	.31	.44	.42	.33	.31	---	---	---	---
19	---	.42	.35	.38	.46	.44	.33	.31	---	---	---	---
20	---	.38	.35	.46	.44	.44	.35	.31	---	---	---	---
21	---	.38	.33	.46	.49	.46	.35	.31	---	---	---	---
22	---	.38	.33	.49	.49	.51	.35	.31	---	---	---	---
23	---	.40	.33	e.50	.46	.49	.35	.31	---	---	---	---
24	---	.42	.33	e.50	.40	.46	.35	.31	---	---	---	---
25	---	.42	.31	e.50	.38	.44	.35	.31	---	---	---	---
26	---	.42	.31	.51	.38	.44	.35	.31	---	---	---	---
27	---	.38	.31	.49	.38	.44	.35	.31	---	---	---	---
28	---	.38	.31	.49	.38	.44	.35	.31	---	---	---	---
29	---	.38	.31	.49	---	.42	.35	.29	---	---	---	---
30	---	.38	.31	.49	---	.42	.35	.33	---	---	---	---
31	---	---	.31	.46	---	.42	---	.33	---	---	---	---
TOTAL	---	---	10.61	12.66	12.20	13.06	10.46	10.01	---	---	---	---
MEAN	---	---	.34	.41	.44	.42	.35	.32	---	---	---	---
MAX	---	---	.42	.51	.49	.51	.42	.35	---	---	---	---
MIN	---	---	.31	.31	.38	.38	.33	.29	---	---	---	---
AC-FT	---	---	21	25	24	26	21	20	---	---	---	---

e Estimated.

11477450 SULPHUR CREEK BELOW DIVERSION DAM, NEAR DINSMORE, CA

LOCATION.—Lat 40°27'50", long 123°36'15", in NW 1/4 SW 1/4 sec.15, T.1 N., R.5 E., Humboldt County, Hydrologic Unit 18010105, on right bank 2 mi south-southeast of Dinsmore.

DRAINAGE AREA.—1.06 mi^2.

PERIOD OF RECORD.—October 1990 to current year.

GAGE.—Water-stage recorder and 90° V-notch weir. Elevation of gage is 3,660 ft above sea level, from topographic map.

REMARKS.—Records of fishery release normally are computed only during periods of diversion to power house. Flow over spillway bypasses this station. See Schematic diagram of Eel River Basin.

COOPERATION.—Records provided by North Coast Hydroelectric, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.42	.46	.40	.46	---	.27	.33	---	---	---
2	---	---	.38	.69	.46	.49	.38	.27	.33	---	---	---
3	---	---	.38	.69	.42	.51	.38	.27	.27	---	---	---
4	---	---	.38	.60	.38	---	.38	.29	.27	---	---	---
5	---	---	.38	.44	.40	---	.38	.29	.27	---	---	---
6	---	---	.35	.44	.42	---	.38	.29	.27	---	---	---
7	---	---	.49	.69	---	---	.35	.29	.29	---	---	---
8	---	---	.33	.63	---	---	.33	.27	.29	---	---	---
9	.78	.38	.29	.63	---	---	.38	.27	---	---	---	---
10	.66	.44	.29	.69	---	---	.44	.27	---	---	---	---
11	---	.63	.29	---	.44	.44	.40	.27	---	---	---	---
12	---	.63	.31	---	.49	.60	.35	.29	---	---	---	---
13	---	---	.31	.78	.44	.63	.33	.29	---	---	---	---
14	---	.66	---	---	.44	.57	.33	.29	---	---	---	---
15	---	.54	---	---	.42	.57	.33	.29	---	---	---	---
16	---	---	.63	---	.44	.57	.33	.29	---	---	---	---
17	---	---	---	---	.38	.54	.33	.29	---	---	---	---
18	---	.51	---	---	.40	.51	.33	.27	---	---	---	---
19	---	.49	---	---	---	.49	.33	.27	---	---	---	---
20	---	.49	---	.49	---	.49	.33	.29	---	---	---	---
21	---	.42	---	.46	---	.51	.33	.29	---	---	---	---
22	---	.46	.42	.51	---	---	.33	.29	---	---	---	---
23	---	.66	.42	.57	---	---	.33	.29	---	---	---	---
24	---	.78	.40	.51	.46	---	.31	.33	---	---	---	---
25	---	.66	.40	.46	.46	---	.31	.33	---	---	---	---
26	---	.46	.40	---	.46	.38	.31	.33	---	---	---	---
27	---	.35	.40	---	.46	---	.29	.35	---	---	---	---
28	---	.27	.40	---	.46	---	.29	.54	---	---	---	---
29	---	.31	.40	---	---	---	.29	.46	---	---	---	---
30	---	.31	.42	---	---	---	.27	.42	---	---	---	---
31	---	---	.42	.40	---	---	---	.31	---	---	---	---
TOTAL	---	---	---	---	---	---	---	9.56	---	---	---	---
MEAN	---	---	---	---	---	---	---	.31	---	---	---	---
MAX	---	---	---	---	---	---	---	.54	---	---	---	---
MIN	---	---	---	---	---	---	---	.27	---	---	---	---
AC-FT	---	---	---	---	---	---	---	19	---	---	---	---

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CA

LOCATION.—Lat 40°28'50", long 123°53'23", in NE 1/4 SE 1/4 sec.12, T.1 N., R.2 E., Humboldt County, Hydrologic Unit 18010105, on left bank at downstream side of bridge on State Highway 36, 0.9 mi upstream from Grizzly Creek, and 5 mi west of Bridgeville.

DRAINAGE AREA.—222 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1950 to current year.

REVISED RECORDS.—WSP 1735: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 358.18 ft above sea level. Prior to Oct. 1, 1965, at site 2.4 mi upstream at different datum.

REMARKS.—Records good. No storage or large diversion upstream from station. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 48,700 ft^3/s, Dec. 22, 1964, gage height, 24.0 ft, from floodmarks, present site and datum, from rating curve extended above 20,000 ft^3/s on basis of slope-area measurement at gage height 21.3 ft, former site and datum; minimum daily, 4.4 ft^3/s, Sept. 28, 1992.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0615	19,200	12.28	Feb. 21	1030	16,000	11.16
Jan. 26	1845	16,200	11.21	Mar. 22	1900	21,700	13.16
Feb. 3	0415	15,500	10.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	151	816	214	2900	1360	1260	655	734	107	29	13
2	61	96	600	2440	4750	1400	1120	739	653	105	28	13
3	65	72	482	2770	10500	1510	1060	622	597	102	27	13
4	51	60	573	3660	5690	1250	1130	629	539	98	27	12
5	45	53	434	1680	5530	1100	1150	617	481	94	25	12
6	40	58	370	1330	8340	980	1130	621	437	88	24	12
7	37	123	2450	1570	7640	863	1100	550	413	83	24	12
8	49	111	2490	1410	7510	853	968	524	392	78	23	12
9	328	86	1480	1170	4320	782	1020	487	359	74	21	12
10	304	77	1140	1220	3190	712	1720	437	334	72	21	12
11	213	90	980	3910	2950	713	1720	419	320	70	21	12
12	129	106	875	8310	3450	1940	1400	483	300	67	20	13
13	90	102	754	5670	3980	4190	1480	449	277	65	19	12
14	71	221	3830	7490	4590	2100	1430	412	258	63	17	12
15	60	330	3560	9220	4010	1670	1310	408	239	59	16	12
16	52	1860	2190	7300	3070	1530	1150	389	223	57	16	11
17	46	1630	3480	14100	2780	1370	1030	396	209	55	15	11
18	42	677	2060	10500	2380	1150	922	352	195	52	16	11
19	40	1550	1120	7730	7170	1020	848	338	181	49	16	11
20	38	1180	919	4370	4650	999	801	506	171	46	16	11
21	36	678	829	2810	10100	1110	758	496	161	42	16	12
22	34	554	642	2360	6000	13800	763	408	153	39	16	12
23	33	1680	522	2790	3950	14000	834	371	147	37	16	12
24	32	1750	437	3390	2810	7530	953	423	140	36	15	11
25	32	2080	370	2680	2110	4970	768	732	139	34	15	11
26	30	2330	307	11000	1730	3080	672	648	134	33	15	11
27	30	1220	252	7180	1540	2280	634	615	126	32	15	11
28	30	749	212	3540	1480	1850	649	1450	119	30	15	11
29	37	1060	185	5790	---	1540	661	1350	113	29	14	12
30	43	1610	176	3910	---	1330	655	1130	110	29	14	12
31	132	---	158	2530	---	1360	---	882	---	29	14	---
TOTAL	2249	22344	34693	144044	129120	80342	31096	18538	8654	1854	586	354
MEAN	72.5	745	1119	4647	4611	2592	1037	598	288	59.8	18.9	11.8
MAX	328	2330	3830	14100	10500	14000	1720	1450	734	107	29	13
MIN	19	53	158	214	1480	712	634	338	110	29	14	11
AC-FT	4460	44320	68810	285700	256100	159400	61680	36770	17170	3680	1160	702

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	893	1880	2314	2029	1641	929	445	144	36.7	17.2	20.2
MAX	1464	5476	6046	6608	6233	5015	3255	1139	821	98.0	82.4	144
(WY)	1963	1974	1956	1995	1958	1995	1963	1953	1993	1953	1983	1986
MIN	7.20	16.8	18.8	103	156	172	131	109	40.4	12.2	5.89	5.72
(WY)	1988	1960	1977	1977	1977	1988	1977	1985	1987	1977	1977	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	240705		473874			
ANNUAL MEAN	659		1298		870	
HIGHEST ANNUAL MEAN					1610	1974
LOWEST ANNUAL MEAN					95.7	1977
HIGHEST DAILY MEAN	25800	Jan 1	14100	Jan 17	33900	Dec 22 1964
LOWEST DAILY MEAN	12	Aug 17	11	Sep 16	4.4	Sep 28 1992
ANNUAL SEVEN-DAY MINIMUM	13	Sep 7	11	Sep 14	4.6	Aug 13 1977
INSTANTANEOUS PEAK FLOW			21700	Mar 22	48700	Dec 22 1964
INSTANTANEOUS PEAK STAGE			13.16	Mar 22	24.00	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	477400		939900		630600	
10 PERCENT EXCEEDS	1320		3730		2160	
50 PERCENT EXCEEDS	166		437		180	
90 PERCENT EXCEEDS	17		15		12	

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CA

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1955 to September 1965, and October 1997 to September 1998 (discontinued).
WATER TEMPERATURE:—December 1960 to September 1965.
SEDIMENT DATA:—October 1955 to September 1963, and October 1997 to September 1998 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: Maximum, 80°F, July 11, 12, 1961; minimum, 38°F, Jan. 12–16, 1963.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
JAN											
02...	1355	3210	8.0	924	8010	63	73	84	94	99	100
02...	1540	3130	8.0	750	6340	65	--	--	--	--	--
MAR											
13...	1135	4130	7.5	535	5970	64	72	80	89	97	100

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	START-ING TIME (2400 HOURS) (82073)	END-ING TIME (2400 HOURS) (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORI-ZONTAL WIDTH OF VER-TICAL (FEET) (04121)
JAN									
02...	1430	1000	1100	.225	0	1415	1440	15	10.0
02...	1455	1000	1100	.250	0	1445	1510	15	10.0
MAR									
13...	1020	1000	1100	.250	0	1005	1040	10	10.0
13...	1100	1000	1100	.250	0	1045	1115	10	10.0

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)
JAN									
02...	2	18	18	5.00	3210	8.0	5.36	612	--
02...	2	18	18	5.00	3240	8.0	1.44	612	4
MAR									
13...	2	19	19	3.00	4390	7.5	19.6	2630	--
13...	2	19	19	3.00	4380	7.5	8.54	2630	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM (80236)
JAN								
02...	7	13	18	28	49	66	93	100
02...	42	68	74	80	82	88	100	--
MAR								
13...	--	1	7	25	52	74	96	100
13...	8	24	36	47	60	69	83	100

11479560 EEL RIVER AT FERNBRIDGE, CA

LOCATION.—Lat 40°36'57", long 124°12'06", in SW 1/4 NE 1/4 sec.29, T.3 N., R.1 W, Humboldt County, Hydrologic Unit 18010105, on right bank downstream from bridge on county road at Fernbridge.

DRAINAGE AREA.—3,614 mi^2.

PERIOD OF RECORD.—October 1989 to current year. Records prior to October 1989 are in the files of the California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is 3.64 ft above sea level.

REMARKS.—Data is collected for flood-warning purposes only. Figures given represent only those days when the gage height was above 0.45 ft. See schematic diagram of Eel River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height, 25.31 ft, Jan. 9, 1995.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.02	.89	1.66	1.42	6.45	4.95	3.31	3.18	9.54	8.51	6.33	5.89
2	1.08	1.02	1.66	1.62	4.95	4.29	5.66	3.31	10.57	9.54	5.89	5.65
3	1.17	1.08	1.62	1.59	4.29	3.93	8.27	5.56	15.17	10.52	5.70	5.62
4	1.19	1.13	1.59	1.59	3.94	3.87	10.07	8.27	14.80	12.41	5.64	5.33
5	1.21	1.19	1.60	1.59	3.87	3.73	9.71	7.32	12.41	11.18	5.33	5.04
6	1.20	1.17	1.59	1.47	3.73	3.59	7.32	6.52	15.02	12.25	5.04	4.84
7	1.19	1.18	1.62	1.55	6.02	3.59	7.00	6.77	15.60	15.02	4.84	4.60
8	1.22	1.16	1.69	1.62	7.75	6.02	6.88	6.26	16.93	14.86	4.60	4.55
9	1.71	1.22	1.69	1.64	7.38	6.11	6.26	5.75	14.86	11.27	4.56	4.42
10	2.48	1.71	1.71	1.64	6.11	5.14	5.75	5.47	11.27	9.83	4.42	4.21
11	2.70	2.48	1.75	1.71	5.14	4.58	8.58	5.46	9.90	9.47	4.21	4.11
12	2.53	2.23	1.97	1.75	4.58	4.22	16.07	8.58	9.47	8.75	4.96	4.08
13	2.23	2.00	2.48	1.83	4.22	3.98	16.93	12.56	9.77	9.26	9.27	4.96
14	2.00	1.82	3.41	1.91	8.58	3.98	14.22	11.42	10.85	8.97	9.12	7.03
15	1.82	1.71	2.74	2.09	9.46	7.95	16.72	14.22	11.08	9.93	7.04	6.24
16	1.71	1.61	5.33	2.49	7.95	6.41	15.57	13.29	9.93	9.01	6.24	5.88
17	1.61	1.53	6.82	5.33	8.21	6.43	18.46	14.06	9.83	9.27	5.88	5.67
18	1.53	1.48	5.78	4.24	8.24	7.03	18.32	15.06	9.30	8.48	5.69	5.32
19	1.49	1.35	4.82	4.03	7.03	5.86	16.66	14.16	14.09	8.47	5.32	5.03
20	1.42	1.34	5.41	4.82	5.86	5.34	14.16	11.10	14.31	11.39	5.03	4.85
21	1.37	1.33	4.82	3.94	5.34	4.96	11.10	9.14	16.30	11.19	4.86	4.74
22	1.35	1.28	3.94	3.63	4.96	4.53	9.14	7.98	16.50	12.66	17.94	4.86
23	1.33	1.32	4.78	3.62	4.53	4.23	8.02	7.54	12.66	11.06	17.97	15.96
24	1.32	1.31	5.24	4.78	4.23	4.00	8.31	7.55	11.22	9.89	15.97	13.45
25	1.31	1.22	5.60	4.97	4.00	3.80	7.55	7.06	9.89	8.50	13.55	11.15
26	1.28	1.28	6.45	5.51	3.80	3.63	15.26	7.25	8.50	7.50	11.15	9.00
27	1.28	1.23	6.20	5.66	3.63	3.50	15.88	12.82	7.51	6.85	9.00	7.85
28	1.27	1.22	5.66	4.62	3.50	3.39	12.82	9.96	6.85	6.33	7.87	7.10
29	1.28	1.24	4.93	4.36	3.39	3.30	12.51	9.87	---	---	7.10	6.40
30	1.32	1.28	6.45	4.93	3.30	3.24	12.51	10.15	---	---	6.40	5.86
31	1.42	1.32	---	---	3.24	3.21	10.15	8.80	---	---	6.07	5.81

11479560 EEL RIVER AT FERNBRIDGE, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY d	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.24	6.06	3.90	3.77	4.53	3.96	1.16	1.12	.51	.51	.54	.47
2	6.11	5.61	4.01	3.85	4.03	3.65	1.12	1.11	.51	.51	.53	.52
3	5.61	5.29	4.04	3.81	3.66	3.55	1.11	1.06	.51	.51	.52	.52
4	5.36	5.18	3.89	3.75	3.59	3.45	1.06	1.03	.52	.51	.52	.52
5	5.18	4.96	3.75	3.58	3.45	3.23	1.03	.99	.52	.52	.52	.52
6	4.98	4.87	3.64	3.54	3.23	2.99	.99	.92	.52	.52	.52	.52
7	4.90	4.79	3.54	3.47	2.99	2.91	.92	.85	.52	.52	.52	.52
8	4.79	4.55	3.47	3.38	3.07	2.93	.89	.78	.56	.52	.59	.52
9	4.55	4.51	3.38	3.22	3.05	2.94	.85	.71	.52	.52	.53	.52
10	5.47	4.53	3.22	3.09	2.96	2.83	.80	.65	.52	.52	.52	.52
11	5.62	5.47	3.09	2.97	2.83	2.60	.69	.58	.52	.52	.52	.52
12	5.47	5.14	3.07	2.97	2.61	2.51	.61	.54	.52	.52	.52	.52
13	6.16	5.15	3.14	3.07	2.51	2.48	.55	.51	.52	.52	.52	.52
14	6.29	6.05	3.11	2.98	3.03	2.48	.51	.51	.52	.52	.52	.52
15	6.05	5.63	2.98	2.87	2.94	2.47	.52	.51	.53	.52	.52	.52
16	5.63	5.22	2.87	2.72	2.47	2.31	.51	.50	.53	.53	.52	.52
17	5.22	4.84	2.72	2.69	2.31	2.18	.50	.50	.53	.53	.52	.52
18	4.84	4.56	2.69	2.54	2.18	2.04	.50	.50	.53	.53	.52	.52
19	4.56	4.38	2.54	2.48	2.04	1.95	.50	.50	.53	.53	.52	.52
20	4.38	4.23	2.67	2.47	1.95	1.88	.75	.50	.53	.53	.52	.52
21	4.23	4.13	2.67	2.56	1.89	1.78	.73	.51	.53	.53	.52	.52
22	4.13	4.07	2.56	2.45	1.81	1.70	.80	.51	.53	.53	.52	.52
23	4.17	4.07	2.45	2.38	1.76	1.61	.81	.51	.53	.53	.52	.52
24	4.50	4.17	2.62	2.31	1.68	1.54	.72	.51	.53	.53	.52	.52
25	4.51	4.14	2.78	2.51	1.62	1.49	.51	.51	.53	.53	.52	.52
26	4.14	3.88	2.90	2.76	1.52	1.43	.51	.51	.54	.53	.52	.52
27	3.93	3.85	2.88	2.70	1.43	1.37	.51	.51	.54	.54	.52	.52
28	3.90	3.82	4.27	2.70	1.37	1.29	.51	.51	.54	.54	.52	.52
29	3.88	3.79	5.45	4.27	1.29	1.21	.51	.51	.54	.54	.52	.52
30	3.89	3.77	5.94	5.39	1.21	1.16	.51	.51	.54	.54	.52	.52
31	---	---	5.39	4.53	---	---	.51	.51	.54	.54	---	---

11480390 MAD RIVER ABOVE RUTH RESERVOIR, NEAR FOREST GLEN, CA

LOCATION.—Lat 40°17'04", long 123°20'03", in NW 1/4 NE 1/4 sec.24, T.2 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, on left bank on downstream side of Zenia Road Bridge, 500 ft downstream from unnamed creek, 0.4 mile downstream from Tompkins Creek, and 6.1 mi southwest of Forest Glen.

DRAINAGE AREA.—93.8 mi^2.

PERIOD OF RECORD.—June 1980 to current year. Discharge measurements only September to December 1971, July 1972, June to September 1977.

REVISED RECORDS.—WDR CA-80-2: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 2,700 ft above sea level, from topographic map. June 28 to Sept. 30, 1990, nonrecording gage 400 ft upstream at different datum.

REMARKS.—Records good except for discharges below 10 ft^3/s, which are fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,000 ft^3/s, Feb. 17, 1986, gage height, 11.39 ft in gage, 12.94 ft from crest-stage gage, from rating curve extended above 5,000 ft^3/s, maximum gage height 13.10 ft, Jan. 20, 1993; no flow at times each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1400	6,340	9.56	Feb. 3	0545	3,970	7.93
Jan. 17	0830	7,680	10.46	Feb. 21	1215	4,680	8.46
Jan. 26	2000	4,970	8.66	Mar. 23	1700	5,970	9.33

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	3.1	196	95	907	399	417	148	219	36	4.0	1.0
2	.00	6.7	156	179	1240	405	358	147	191	34	3.6	.98
3	.00	7.5	132	263	3040	478	324	139	174	32	3.4	.89
4	.00	6.6	119	386	1760	412	322	144	159	31	3.2	.82
5	.00	5.8	108	279	1450	358	361	148	144	29	3.0	.79
6	.00	7.1	99	242	2270	322	366	156	136	27	2.8	.79
7	.00	11	243	298	2890	280	378	138	130	25	2.7	.82
8	1.7	13	266	370	2820	280	345	129	118	24	2.5	.69
9	3.8	14	203	355	1620	273	343	122	110	22	2.4	.64
10	1.8	13	166	419	1200	251	427	116	101	20	2.3	.62
11	1.1	13	143	2080	1140	244	469	113	93	19	2.2	.52
12	.71	15	128	3830	1240	454	418	123	88	17	2.0	.49
13	.68	18	120	2130	1320	968	433	115	266	16	2.1	.46
14	1.9	27	341	2740	1510	712	445	110	164	15	2.0	.42
15	4.1	32	411	3830	1300	582	429	106	127	14	1.9	.39
16	4.9	217	411	2810	945	520	413	101	107	13	1.8	.34
17	4.4	262	600	5960	770	454	392	100	95	11	1.7	.31
18	4.1	147	434	4090	728	380	355	94	85	9.9	1.7	.29
19	3.9	258	288	2780	1930	333	321	89	77	9.2	1.6	.27
20	3.3	219	230	1460	1470	302	286	103	72	8.6	1.6	.21
21	3.1	151	197	1040	3240	409	257	113	65	7.8	1.5	.19
22	3.0	129	169	896	2140	3620	239	104	61	7.1	1.5	.17
23	3.0	202	149	916	1300	4270	239	97	56	6.5	1.5	.19
24	2.8	207	136	888	946	3110	244	95	54	6.2	1.4	.16
25	2.8	250	125	911	731	2020	207	121	53	5.8	1.4	.15
26	2.8	211	115	3130	591	1280	187	116	49	5.3	1.3	.11
27	2.6	178	108	2660	497	956	173	143	46	4.9	1.2	.15
28	2.4	145	103	1260	441	767	160	291	44	4.7	1.2	.18
29	2.7	164	98	2090	---	603	154	358	41	4.5	1.1	.10
30	2.7	284	97	1540	---	489	147	325	39	4.4	1.1	.03
31	2.4	---	94	1010	---	458	---	262	---	4.1	1.1	---
TOTAL	66.73	3216.8	6185	50937	41436	26389	9609	4466	3164	474.0	62.8	13.17
MEAN	2.15	107	200	1643	1480	851	320	144	105	15.3	2.03	.44
MAX	4.9	284	600	5960	3240	4270	469	358	266	36	4.0	1.0
MIN	.00	3.1	94	95	441	244	147	89	39	4.1	1.1	.03
AC-FT	132	6380	12270	101000	82190	52340	19060	8860	6280	940	125	26

11480390 MAD RIVER ABOVE RUTH RESERVOIR, NEAR FOREST GLEN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.34	168	445	647	605	525	267	116	50.6	7.93	1.25	1.03
MAX	57.6	741	1684	1887	2136	1299	878	301	229	25.0	4.87	12.2
(WY)	1990	1985	1997	1995	1986	1995	1982	1995	1993	1993	1993	1986
MIN	.000	.000	8.08	28.5	85.3	38.6	32.0	20.4	5.31	1.27	.000	.000
(WY)	1988	1994	1991	1991	1991	1988	1988	1987	1987	1985	1984	1984

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1980 - 1998	
ANNUAL TOTAL	73604.26		146019.50			
ANNUAL MEAN	202		400		235	
HIGHEST ANNUAL MEAN					419	1995
LOWEST ANNUAL MEAN					61.4	1994
HIGHEST DAILY MEAN	10300	Jan 1	5960	Jan 17	10300	Jan 1 1997
LOWEST DAILY MEAN	.00	Sep 8	.00	Oct 2	.00	Oct 8 1980
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 24	.01	Oct 1	.00	Sep 11 1982
INSTANTANEOUS PEAK FLOW			7680	Jan 17	15000	Feb 17 1986
INSTANTANEOUS PEAK STAGE			10.46	Jan 17	13.10	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	146000		289600		170300	
10 PERCENT EXCEEDS	314		1240		606	
50 PERCENT EXCEEDS	41		119		33	
90 PERCENT EXCEEDS	.26		.86		.00	

11480400 RUTH RESERVOIR NEAR FOREST GLEN, CA

LOCATION.—Lat 40°22'08", long 123°25'56", in NW 1/4 NW 1/4 sec.19, T.1 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, near center of Robert W. Matthews Dam on Mad River, 5.6 mi west of Forest Glen.

DRAINAGE AREA.—121 mi^2.

PERIOD OF RECORD.—October 1966 to current year. Records prior to October 1966 in files of Humboldt Bay Municipal Water District.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Humboldt Bay Municipal Water District).

REMARKS.—Reservoir is formed by earthfill dam; storage began July 1961. Total capacity, 48,000 acre-ft at elevation 2,654.0 ft, crest of spillway. Minimum pool capacity, 7,810 acre-ft at elevation 2,600 ft. Water is released down Mad River for municipal use. Records given represent total contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 68,000 acre-ft, Feb. 17, 1986, elevation, 2,667.06 ft; minimum, 11,700 acre-ft, Oct. 24–28, 1977; minimum elevation, 2,607.13 ft, Oct. 28, 1977.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 55,700 acre-ft, Jan. 17, elevation, 2,660.51 ft; minimum contents, 28,000 acre-ft, Nov. 13–15, elevation, 2633.30 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Humboldt Bay Municipal Water District in 1977)

2,595	5,920	2,620	18,100	2,645	38,600
2,600	7,810	2,625	21,500	2,650	43,700
2,605	10,000	2,630	25,300	2,655	49,200
2,610	12,500	2,635	29,400	2,660	55,100
2,615	15,100	2,640	33,800	2,664	60,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33400	29400	37600	44800	51000	49400	49300	48100	48100	47800	45700	42700
2	33300	29200	37900	45300	51800	49300	49200	48000	48100	47800	45600	42600
3	33200	29100	38100	46100	53100	49400	49100	48000	48100	47700	45500	42500
4	33000	29000	38200	47300	52200	49300	49000	48100	e48100	47700	45400	42400
5	32900	28900	38200	47900	52200	49200	49000	48200	e48200	47700	45300	42300
6	32700	28800	38000	48400	53200	49100	49000	48300	e48000	47700	45200	42200
7	32600	28600	38600	49000	53800	49000	49000	48400	48100	47700	45100	42100
8	32600	28500	39100	49400	53100	48900	49000	48400	48100	47600	45000	42000
9	32400	28400	39300	49500	51900	48800	49000	48400	48100	47600	44900	41800
10	32400	28300	39400	49800	51500	48800	49300	48400	48100	47500	44800	41800
11	32200	28200	39300	52000	51100	48700	49300	48600	48100	47500	44800	41600
12	32100	28100	39400	54400	51400	49500	49300	48600	48200	47400	44700	41500
13	32000	28000	39400	52700	51300	50300	49300	48800	48300	47400	44600	41400
14	31800	28000	40800	54200	51700	50100	49300	48800	48200	47300	44500	41300
15	31700	28000	41900	54000	51300	49900	49300	48500	e48200	47200	44400	41200
16	31600	29000	43100	54100	50900	49700	49200	48300	e48000	47100	44200	41000
17	31400	29800	44900	55700	50500	49500	49100	48000	47900	46900	44100	40900
18	31300	30200	45900	55400	50500	49300	49000	47800	47600	46900	44100	40800
19	31100	31100	46500	53400	52300	49200	48900	47600	47600	46800	43900	40700
20	31000	31600	46800	51900	51700	49000	48800	47400	47600	46700	43800	40500
21	30900	31900	46900	50900	53700	49700	48800	47200	47700	46600	43700	40400
22	30700	32200	46900	50600	52400	54500	48700	47000	47700	46600	43600	40300
23	30600	32900	46800	50700	51500	55200	48700	46800	47700	46500	43500	40100
24	30400	33600	46700	50600	50800	53700	48600	46700	47700	46400	43400	40000
25	30300	34400	46500	51000	50300	52300	48500	46500	47800	e46400	43300	39900
26	30100	35000	46300	54100	49900	51300	48400	46400	47800	e46300	43200	39700
27	30000	35400	46100	52900	49700	50700	48300	46400	47800	e46200	43200	39600
28	29900	35700	45800	51700	49500	50200	48200	e47200	47800	46100	43100	39500
29	29800	36200	45600	52400	---	49900	48200	e47500	47800	46000	43000	39400
30	29600	37100	45200	51700	---	49600	48100	47800	47800	45900	42900	39300
31	29500	---	45000	51100	---	49500	---	48000	---	45800	42800	---
MAX	33400	37100	46900	55700	53800	55200	49300	48800	48300	47800	45700	42700
MIN	29500	28000	37600	44800	49500	48700	48100	46400	47600	45800	42800	39300
a	2635.10	2643.47	2651.22	2656.64	2655.28	2655.27	2654.02	2653.98	2653.80	2651.99	2649.17	2645.71
b	-4000	+7600	+7900	+6100	-1600	0.00	-1400	-100	-200	-2000	-3000	-3500

CAL YR 1997 MAX 61200 MIN 28000
WTR YR 1998 MAX 55700 MIN 28000

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

11480410 MAD RIVER BELOW RUTH RESERVOIR, NEAR FOREST GLEN, CA

LOCATION.—Lat 40°22'16", long 123°26'06", in SW 1/4 SW 1/4 sec.18, T.1 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, on left bank 1,200 ft downstream from Robert W. Matthews Dam, and 5.8 mi west of Forest Glen.

DRAINAGE AREA.—121 mi^2.

PERIOD OF RECORD.—October 1980 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 2,560 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are poor. Flow regulated by Ruth Reservoir (station 11480400) 1,200 ft upstream.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 17,800 ft^3/s, Feb. 17, 1986, gage height, 17.61 ft, from floodmarks, from rating curve extended above 8,800 ft^3/s; minimum daily, 5.6 ft^3/s, Mar. 2, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	69	71	241	1630	667	755	256	271	45	44	44
2	70	69	75	241	1800	620	677	255	270	45	44	45
3	70	69	77	242	3150	640	618	254	264	45	44	45
4	70	70	73	242	2840	627	584	202	204	45	44	45
5	69	70	122	245	2380	579	572	149	161	45	43	48
6	71	70	229	250	2760	530	572	165	165	45	43	50
7	71	70	232	382	3510	484	568	181	169	45	43	51
8	71	70	231	586	3740	462	555	185	158	46	43	52
9	71	70	231	688	2760	439	551	184	136	45	43	53
10	72	71	231	795	2050	411	613	182	125	46	44	53
11	71	70	231	1480	1880	382	680	97	114	46	44	52
12	70	70	155	3450	1780	477	675	109	101	46	44	54
13	70	70	151	3790	1940	1010	673	137	241	48	44	58
14	69	70	238	3280	2010	1110	674	149	233	46	43	58
15	69	70	238	4950	2030	957	658	269	128	44	43	58
16	70	72	239	3950	1700	831	626	303	237	89	43	58
17	70	71	241	6080	1450	741	591	262	263	111	44	57
18	70	69	241	5090	1300	659	553	253	260	43	44	54
19	70	69	241	3670	2000	586	512	251	97	42	50	54
20	70	68	241	2710	2350	532	472	249	72	42	61	54
21	69	58	241	1840	3090	543	431	250	58	42	49	57
22	69	68	241	1440	3260	2790	366	250	53	42	44	59
23	69	69	241	1320	2240	4800	385	250	53	42	44	60
24	69	70	241	1340	1700	4470	366	250	47	43	44	60
25	69	70	241	1270	1330	3250	348	250	45	43	43	60
26	69	70	e241	2640	1060	2240	323	215	44	43	44	59
27	70	70	e242	3770	869	1700	301	152	44	44	44	59
28	70	70	241	2530	747	1380	282	152	44	44	44	56
29	70	71	241	2430	---	1120	269	153	44	44	44	55
30	69	72	241	2400	---	930	261	194	46	44	44	54
31	69	---	241	1870	---	827	---	261	---	44	44	---
TOTAL	2167	2085	6440	65212	59356	36794	15511	6469	4147	1484	1383	1622
MEAN	69.9	69.5	208	2104	2120	1187	517	209	138	47.9	44.6	54.1
MAX	72	72	242	6080	3740	4800	755	303	271	111	61	60
MIN	69	58	71	241	747	382	261	97	44	42	43	44
AC-FT	4300	4140	12770	129300	117700	72980	30770	12830	8230	2940	2740	3220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	87.3	150	463	787	818	727	376	162	91.8	64.5	79.5	85.8
MAX	118	607	1780	2490	2993	1990	1426	449	408	89.3	103	101
(WY)	1984	1985	1997	1995	1986	1995	1982	1995	1993	1987	1990	1986
MIN	64.4	24.5	8.35	8.02	7.61	24.4	28.0	47.8	38.2	42.5	44.6	54.1
(WY)	1982	1993	1987	1992	1991	1988	1988	1987	1991	1982	1998	1998

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1981 - 1998	
ANNUAL TOTAL	107634		202670			
ANNUAL MEAN	295		555		322	
HIGHEST ANNUAL MEAN					591	1983
LOWEST ANNUAL MEAN					101	1991
HIGHEST DAILY MEAN	13600	Jan 1	6080	Jan 17	13600	Jan 1 1997
LOWEST DAILY MEAN	40	Apr 18	42	Jul 19	5.6	Mar 2 1991
ANNUAL SEVEN-DAY MINIMUM	41	Apr 12	42	Jul 18	6.0	Feb 19 1991
INSTANTANEOUS PEAK FLOW			7350	Jan 17	17800	Feb 17 1986
INSTANTANEOUS PEAK STAGE			12.55	Jan 17	17.61	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	213500		402000		233400	
10 PERCENT EXCEEDS	371		1870		745	
50 PERCENT EXCEEDS	75		152		91	
90 PERCENT EXCEEDS	44		44		39	

e Estimated.

11481000 MAD RIVER NEAR ARCATA, CA

LOCATION.—Lat 40°54'35", long 124°03'35", in NW 1/4 NW 1/4 sec.15, T.6 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 100 ft upstream from bridge on U.S. Highway 299, 1.0 mi downstream from Warren Creek, and 2.8 mi northeast of Arcata.

DRAINAGE AREA.—485 mi^2.

PERIOD OF RECORD.—October 1910 to September 1913, August 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 2129: 1965(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 10.79 ft above sea level. December 1910 to September 1913, nonrecording gage at site 0.1 mi upstream at different datum. Aug. 15, 1950, to July 23, 1956, water-stage recorder at site 0.6 mi upstream at datum 11.00 ft higher. July 24, 1956, to Aug. 10, 1992, water-stage recorder at different datums, at present site.

REMARKS.—Records fair. Flow regulated by Ruth Reservoir (station 11480400), 68 mi upstream, beginning in July 1961. Water is diverted 0.5 mi upstream from station for municipal supply and industrial use in Humboldt Bay area.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 81,000 ft^3/s, Dec. 22, 1964, gage height, 30.7 ft, prior datum, from high-water profile and flood-routing study; minimum daily, 0.10 ft^3/s, Aug. 29, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	1170	1590	673	5420	2990	2830	953	1100	130	57	41
2	268	460	1100	2260	6590	2980	2430	1000	1010	128	56	38
3	207	285	840	3220	11600	3230	2220	934	941	127	54	38
4	141	207	737	5060	8560	2850	2160	926	879	123	52	37
5	116	159	622	3290	7090	2580	2140	857	799	120	51	37
6	97	196	546	2610	9190	2360	2290	770	720	114	50	37
7	92	624	2330	e2470	9800	2140	2540	743	687	109	48	38
8	95	469	3890	e2310	12400	2030	2170	e735	669	106	47	39
9	553	294	2820	e2190	8950	1880	2010	e731	641	102	45	39
10	525	229	1940	e1870	6480	1770	2190	e725	587	100	45	40
11	348	295	1450	e4730	5950	1750	2530	e721	550	98	44	40
12	235	337	1230	e9900	5420	2080	2360	e719	521	97	42	40
13	149	291	996	e12300	6080	4520	2770	717	474	95	42	38
14	120	308	2370	e10100	6880	3580	2690	716	504	92	42	36
15	106	348	4270	e13400	7790	3070	2400	793	532	90	40	36
16	97	1060	2910	e22800	6060	2830	2150	858	418	87	40	36
17	90	2580	4100	e24500	5390	2590	1950	897	456	83	40	37
18	86	1110	3370	14800	4670	2340	1800	809	475	103	38	38
19	82	1170	2390	14400	8560	2150	1660	801	462	100	38	38
20	81	1630	2150	9240	9120	2040	1560	1260	398	78	38	39
21	79	1030	2320	6380	13200	1950	1450	1290	352	74	38	38
22	77	718	1740	5510	12100	7980	1380	1030	342	72	42	37
23	76	973	1450	5300	8060	17300	1350	910	286	70	42	38
24	74	1450	1250	5150	6000	13600	1520	947	e219	68	40	39
25	73	2660	1110	4550	4600	9890	1290	1450	199	67	40	40
26	72	3150	988	8630	3850	6290	1180	1280	177	65	41	40
27	72	2590	861	11400	3350	4830	1100	1250	160	64	41	39
28	74	1480	771	7460	3180	4020	1050	1600	145	61	41	39
29	89	1420	719	8610	---	3320	1000	2000	134	59	41	41
30	109	2640	701	7810	---	2780	957	1430	132	59	40	41
31	1680	---	673	5990	---	3040	---	1220	---	59	40	---
TOTAL	6031	31333	54234	238913	206340	126760	57127	31072	14969	2800	1355	1154
MEAN	195	1044	1749	7707	7369	4089	1904	1002	499	90.3	43.7	38.5
MAX	1680	3150	4270	24500	13200	17300	2830	2000	1100	130	57	41
MIN	68	159	546	673	3180	1750	957	716	132	59	38	36
AC-FT	11960	62150	107600	473900	409300	251400	113300	61630	29690	5550	2690	2290

e Estimated.

11481000 MAD RIVER NEAR ARCATA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1960, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	313	1081	2997	4588	4164	2438	1716	1167	358	97.2	40.3	39.3
MAX	2303	2903	9335	9175	9830	5054	3450	2669	1311	210	68.2	128
(WY)	1951	1954	1956	1953	1958	1957	1958	1953	1953	1953	1953	1912
MIN	22.0	32.0	136	852	1232	1028	489	277	104	36.6	19.2	18.2
(WY)	1953	1960	1960	1960	1955	1955	1951	1954	1959	1959	1959	1951

SUMMARY STATISTICS	WATER YEARS 1911 - 1960	
ANNUAL MEAN	1573	
HIGHEST ANNUAL MEAN	2377	1958
LOWEST ANNUAL MEAN	943	1955
HIGHEST DAILY MEAN	63100	Dec 22 1955
LOWEST DAILY MEAN	17	Sep 8 1951
ANNUAL SEVEN-DAY MINIMUM	17	Sep 4 1959
INSTANTANEOUS PEAK FLOW	77800	Dec 22 1955
INSTANTANEOUS PEAK STAGE	27.30	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	1139000	
10 PERCENT EXCEEDS	4010	
50 PERCENT EXCEEDS	400	
90 PERCENT EXCEEDS	31	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	210	1280	2786	3646	2984	2887	1767	675	237	58.7	44.9	64.9
MAX	2255	6671	10400	8847	9796	7150	6253	1654	1721	152	123	392
(WY)	1963	1974	1965	1970	1986	1975	1963	1995	1993	1964	1983	1986
MIN	21.3	52.6	29.8	135	138	194	165	122	31.2	8.40	7.04	15.0
(WY)	1993	1994	1977	1977	1977	1988	1988	1968	1974	1977	1977	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1963 - 1998	
ANNUAL TOTAL	466454		772088			
ANNUAL MEAN	1278		2115		1381	
HIGHEST ANNUAL MEAN					2478	1974
LOWEST ANNUAL MEAN					151	1977
HIGHEST DAILY MEAN	44700	Jan 1	24500	Jan 17	58000	Dec 22 1964
LOWEST DAILY MEAN	47	Sep 7	36	Sep 14	.10	Aug 29 1977
ANNUAL SEVEN-DAY MINIMUM	49	Sep 2	37	Sep 13	.63	Aug 23 1977
INSTANTANEOUS PEAK FLOW			27100	Jan 16	81000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			18.08	Jan 16	30.70	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	925200		1531000		1000000	
10 PERCENT EXCEEDS	2780		6160		3800	
50 PERCENT EXCEEDS	480		809		277	
90 PERCENT EXCEEDS	57		40		31	

11481200 LITTLE RIVER NEAR TRINIDAD, CA

LOCATION.—Lat 41°00'40", long 124°04'50", in NE 1/4 sec.8, T.7 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 0.5 mi upstream from Coon Creek, 4.7 mi southeast of Trinidad, and 9.1 mi north of Arcata.

DRAINAGE AREA.—40.5 mi^2.

PERIOD OF RECORD.—October 1955 to current year. Prior to October 1971, published as "at Crannell."

REVISED RECORDS.—WSP 2129: 1956–60. WDR CA-78-2: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 17.62 ft above sea level.

REMARKS.—Records good. No storage or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,830 ft^3/s, Mar. 18, 1975, gage height, 14.19 ft, from rating curve extended above 3,100 ft^3/s on basis of slope-area measurement at gage height 14.08 ft; minimum daily, 1.8 ft^3/s, Sept. 25–29, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 17–18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 16	2030	3,380	8.36	Feb. 21	1015	4,090	9.22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	77	193	64	290	228	228	68	80	29	15	7.0
2	57	41	126	300	441	278	190	71	75	29	14	7.0
3	24	30	94	464	477	294	170	63	71	29	13	7.0
4	22	25	78	767	475	241	159	58	66	29	13	6.8
5	19	22	65	367	418	206	146	57	62	28	13	6.3
6	15	38	57	270	423	179	147	54	60	26	14	6.3
7	14	91	461	233	539	159	150	52	58	25	13	6.3
8	16	47	427	180	1240	146	134	51	56	25	12	6.3
9	51	36	272	152	680	133	132	49	53	24	12	6.3
10	35	32	155	134	498	124	173	47	51	24	12	6.6
11	33	68	102	490	486	118	185	46	49	24	11	6.9
12	23	56	74	1380	358	214	192	50	45	23	11	6.3
13	18	56	59	938	279	344	351	45	43	22	9.5	6.3
14	15	59	211	754	812	195	247	43	42	22	9.8	6.3
15	14	48	329	800	839	161	186	51	40	21	10	6.3
16	12	92	177	1370	496	144	153	47	39	20	9.6	6.3
17	11	172	460	1690	396	130	132	44	38	20	10	6.3
18	11	87	258	1370	326	118	118	41	37	20	9.7	6.3
19	11	158	159	1270	1230	111	108	45	36	18	8.6	6.8
20	11	214	162	779	884	104	99	211	35	18	8.6	7.7
21	11	120	188	508	2390	105	92	138	35	17	8.6	7.5
22	10	88	131	387	1030	678	89	90	35	17	8.9	7.0
23	9.5	76	101	319	669	1150	88	74	35	17	9.5	7.0
24	9.5	139	81	354	555	682	89	87	33	16	9.5	7.0
25	9.5	269	68	404	425	470	80	128	33	16	9.5	7.0
26	9.5	455	56	672	330	315	73	108	33	15	9.0	7.6
27	8.5	253	48	650	281	283	70	97	30	14	7.7	7.7
28	7.7	145	44	408	251	245	68	156	29	14	7.7	7.7
29	12	356	40	758	---	205	63	151	28	14	7.7	7.7
30	15	384	37	575	---	181	60	108	29	14	7.7	7.7
31	323	---	35	382	---	247	---	91	---	15	7.4	---
TOTAL	864.2	3734	4748	19189	17518	8188	4172	2421	1356	645	322.0	205.3
MEAN	27.9	124	153	619	626	264	139	78.1	45.2	20.8	10.4	6.84
MAX	323	455	461	1690	2390	1150	351	211	80	29	15	7.7
MIN	7.7	22	35	64	251	104	60	41	28	14	7.4	6.3
AC-FT	1710	7410	9420	38060	34750	16240	8280	4800	2690	1280	639	407

11481200 LITTLE RIVER NEAR TRINIDAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.0	159	319	347	292	260	141	74.6	33.5	13.3	8.34	7.95
MAX	202	849	1083	1145	816	819	521	271	168	31.4	23.3	28.4
(WY)	1963	1974	1965	1970	1986	1975	1963	1960	1993	1983	1983	1986
MIN	4.70	4.62	7.45	28.2	19.7	35.5	22.1	21.9	12.2	6.12	3.59	3.89
(WY)	1988	1994	1977	1977	1977	1988	1977	1987	1966	1959	1959	1987

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1956 - 1998	
ANNUAL TOTAL	46034.5		63362.5			
ANNUAL MEAN	126		174		140	
HIGHEST ANNUAL MEAN					240	1974
LOWEST ANNUAL MEAN					23.8	1977
HIGHEST DAILY MEAN	4600	Jan 1	2390	Feb 21	7860	Mar 18 1975
LOWEST DAILY MEAN	7.0	Sep 4	6.3	Sep 5	1.8	Sep 25 1991
ANNUAL SEVEN-DAY MINIMUM	7.0	Sep 4	6.3	Sep 12	1.9	Sep 24 1991
INSTANTANEOUS PEAK FLOW			4090	Feb 21	9830	Mar 18 1975
INSTANTANEOUS PEAK STAGE			9.22	Feb 21	14.19	Mar 18 1975
ANNUAL RUNOFF (AC-FT)	91310		125700		101300	
10 PERCENT EXCEEDS	289		466		364	
50 PERCENT EXCEEDS	41		60		35	
90 PERCENT EXCEEDS	8.6		8.2		6.0	

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA

LOCATION.—Lat 40°54'22", long 123°48'51", in SE 1/4 NE 1/4 sec.15, T.6 N., R.3 E., Humboldt County, Hydrologic Unit 18010102, on right bank 400 ft upstream from Lupton Creek and 9.1 mi east of town of Blue Lake.

DRAINAGE AREA.—67.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 1953 to September 1958. October 1972 to September 1993, and October 1997 to September 1998.

REVISED RECORDS.—WDR CA-78-2: Drainage area.

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

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,200 ft^3/s, Mar. 18, 1975, gage height, 13.70 ft, from rating curve extended above 6,400 ft^3/s; minimum daily, 0.69 ft^3/s, Sept. 30, 1993.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,300 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0430	7,000	10.43	Feb. 21	0915	3,900	7.86
Feb. 3	0145	3,300	7.24	Mar. 23	1415	3,980	7.94

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	85	218	177	789	601	458	219	214	51	14	4.3
2	43	49	167	508	1140	627	414	215	199	51	12	4.3
3	26	37	134	605	2030	621	386	202	189	48	11	4.0
4	23	30	169	756	1090	544	379	197	175	46	11	3.8
5	19	27	129	507	1150	481	373	178	161	43	9.6	3.8
6	16	31	106	444	1640	431	393	170	149	41	9.5	3.8
7	16	53	581	430	1560	e401	398	163	140	38	9.6	3.8
8	19	40	583	376	1860	e368	360	166	135	36	9.8	3.7
9	77	34	381	361	1180	e343	358	161	126	34	9.4	4.0
10	54	31	289	382	962	e315	405	148	124	34	9.4	4.4
11	43	42	242	862	869	e307	401	150	120	33	9.0	4.4
12	30	42	209	1780	887	517	370	164	109	31	8.6	4.0
13	24	41	182	1190	868	686	392	163	101	30	8.0	3.7
14	20	43	490	1620	1040	522	372	166	94	29	7.1	3.7
15	18	50	523	1690	1010	491	337	190	88	27	6.7	3.6
16	16	220	606	2440	914	487	307	178	84	26	6.9	3.4
17	15	361	848	3900	855	455	284	171	80	24	7.1	3.6
18	14	167	569	2370	786	422	270	157	76	23	7.2	3.7
19	13	261	406	2050	1400	409	256	153	73	23	7.2	4.1
20	13	221	435	1380	1140	402	250	203	69	22	7.0	4.0
21	13	160	406	1030	2460	423	244	199	65	21	6.9	3.9
22	12	130	327	1040	1490	1380	249	179	63	20	6.7	3.6
23	12	157	292	1030	1110	2320	278	166	61	19	6.6	3.5
24	12	245	243	857	922	1480	301	193	60	18	6.7	3.5
25	12	389	222	778	825	1040	246	237	61	17	6.2	3.6
26	11	609	209	1390	732	812	223	222	60	16	5.8	3.8
27	11	366	191	1170	664	714	219	217	56	15	5.6	4.0
28	11	232	174	814	636	633	220	375	52	14	5.3	4.3
29	23	261	168	1200	---	548	217	345	50	13	4.8	4.2
30	22	314	167	910	---	497	214	272	50	14	4.7	4.0
31	211	---	161	751	---	516	---	239	---	14	4.5	---
TOTAL	863	4728	9827	34798	32009	19793	9574	6158	3084	871	243.9	116.5
MEAN	27.8	158	317	1123	1143	638	319	199	103	28.1	7.87	3.88
MAX	211	609	848	3900	2460	2320	458	375	214	51	14	4.4
MIN	11	27	106	177	636	307	214	148	50	13	4.5	3.4
AC-FT	1710	9380	19490	69020	63490	39260	18990	12210	6120	1730	484	231

e Estimated.

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	39.8	256	448	514	561	482	300	153	69.7	21.9	9.91	9.18
MAX	226	1179	1563	1628	1479	1306	748	337	253	46.4	27.4	29.2
(WY)	1974	1974	1956	1956	1958	1975	1982	1993	1993	1993	1983	1986
MIN	2.30	15.2	12.3	31.3	42.3	81.5	62.6	53.0	22.3	10.5	3.14	2.19
(WY)	1988	1977	1977	1977	1977	1988	1988	1992	1987	1985	1992	1987

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1954 - 1998	
ANNUAL TOTAL	122065.4			
ANNUAL MEAN	334		237	
HIGHEST ANNUAL MEAN			423	1956
LOWEST ANNUAL MEAN			44.2	1977
HIGHEST DAILY MEAN	3900	Jan 17	8360	Mar 18 1975
LOWEST DAILY MEAN	3.4	Sep 16	.69	Sep 30 1993
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 12	1.0	Sep 24 1993
INSTANTANEOUS PEAK FLOW	7000	Jan 17	12200	Mar 18 1975
INSTANTANEOUS PEAK STAGE	10.43	Jan 17	13.70	Mar 18 1975
ANNUAL RUNOFF (AC-FT)	242100		171800	
10 PERCENT EXCEEDS	917		600	
50 PERCENT EXCEEDS	167		75	
90 PERCENT EXCEEDS	6.0		6.6	

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1973 to current year.
CHEMICAL DATA: Water years 1974–75.
WATER TEMPERATURE: Water years 1973–92.
SEDIMENT DATA: Water years 1973 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1972 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1972 to September 1992.

REMARKS.—Periodic total load sampling above 1,500 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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. 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)
JAN								
12...	1600	2590	7.5	2180	15200	16	18	26
15...	1145	1590	8.0	742	3180	--	--	--
FEB								
21...	1210	3300	6.0	1660	14800	14	16	24

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
JAN								
12...	36	46	56	65	74	86	94	99
15...	--	--	50	58	70	82	92	97
FEB								
21...	32	42	48	56	65	76	86	94

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	STARTING TIME (2400 HOURS) (82073)	ENDING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORIZONTAL WIDTH OF VERTICAL (FEET) (04121)
JAN									
15...	1230	1000	1100	.250	0	1210	1245	15	3.0
15...	1325	1000	1100	.250	0	1300	1350	15	3.0
FEB									
21...	1520	1000	1100	.250	0	1500	1535	10	5.0
21...	1605	1000	1100	.250	0	1545	1625	10	5.0

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VERTICALS IN COMPOSITE SAMPLE (NUM) (04119)	NUMBER OF SAMPLING POINTS (COUNT) (00063)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)
JAN									
15...	2	23	23	2.00	1490	8.0	31.5	2560	1
15...	2	23	23	2.00	1480	8.0	41.6	2560	--
FEB									
21...	2	21	21	3.00	2710	6.0	15.4	2380	2
21...	2	21	21	3.00	2680	6.0	31.3	2380	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM (80236)
JAN								
15...	7	17	32	49	60	77	94	100
15...	4	18	36	50	62	78	93	100
FEB								
21...	18	37	55	68	74	86	98	100
21...	7	19	36	51	58	77	94	100

11482500 REDWOOD CREEK AT ORICK, CA

LOCATION.—Lat 41°17'58", long 124°03'00", in NE 1/4 NE 1/4 sec.34, T.11 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank on U.S. Highway 101, 0.8 mi north of Orick, 300 ft downstream from Prairie Creek, and 3.7 mi upstream from mouth.

DRAINAGE AREA.—277 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—September 1911 to September 1913, October 1953 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1315-B: 1912–13.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 5.16 ft above sea level. Sept. 10, 1911, to Aug. 9, 1913, nonrecording gage at different datum. October 1953 to Apr. 16, 1987, at site 0.9 mi downstream at same datum. May 7, 1987, to Aug. 3, 1987, nonrecording gage at same site and datum.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 50,500 ft^3/s, Dec. 22, 1964, former site, from outside high-water marks, maximum gage height, 28.22 ft, Jan. 1, 1997; minimum daily, 2.1 ft^3/s, Oct. 20–22, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 18, 1953, reached a stage of 23.95 ft, former site, from floodmarks, discharge, 50,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 9,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0400	19,900	23.04	Feb. 21	1545	14,400	21.23
Feb. 8	0915	9,000	19.14	Mar. 23	2030	9,380	19.29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	722	1120	709	2980	2130	1830	657	685	167	80	31
2	304	383	927	1510	3760	2280	1630	690	623	172	79	30
3	206	246	802	2040	5720	2370	1520	644	590	176	74	29
4	163	178	733	4210	4170	2090	1450	608	545	175	71	28
5	135	137	674	2710	3590	1840	1390	587	494	167	65	27
6	112	161	593	2050	4370	1670	1370	542	441	156	59	26
7	99	513	1530	1960	4600	1510	1440	519	408	145	57	25
8	90	369	2310	1610	7500	1450	1340	513	388	140	55	25
9	349	277	1660	1430	5280	1320	1370	517	380	133	55	24
10	504	227	1210	1350	4120	1220	1430	474	360	133	55	24
11	340	282	976	2450	3860	1160	1470	448	348	135	53	23
12	220	306	853	5520	3280	1390	1420	463	323	130	52	23
13	159	291	754	6630	3300	2180	1900	459	299	124	48	23
14	132	348	1060	5600	4110	1630	1750	436	279	123	46	22
15	114	301	1730	7080	5400	1430	1540	463	257	118	44	20
16	99	370	1490	7690	4160	1350	1390	471	245	114	42	20
17	87	1070	3010	15600	3620	1280	1270	459	234	108	40	20
18	80	752	2270	8780	3120	1180	1160	420	222	104	40	20
19	74	886	1660	9200	5860	1100	1090	407	213	104	40	20
20	69	1160	1620	5990	5860	1030	1030	957	205	104	40	20
21	65	838	1850	4190	10300	1020	981	892	198	110	40	20
22	62	697	1440	3720	8350	3570	942	640	192	106	40	20
23	58	684	1260	3420	5470	7060	937	538	194	103	40	20
24	56	1070	1130	3060	4400	5550	1020	579	191	98	40	20
25	55	1590	1020	2750	3560	4010	890	927	182	96	38	20
26	50	1750	928	3910	3010	2940	814	788	191	92	36	20
27	49	1470	852	4850	2570	2570	763	745	184	86	36	20
28	48	1050	782	3500	2320	2320	726	950	172	84	35	19
29	55	1240	731	4660	---	1990	687	1230	164	82	34	19
30	86	1640	686	4360	---	1810	656	921	156	82	32	19
31	878	---	643	3400	---	1990	---	789	---	80	32	---
TOTAL	4877	21008	38304	135939	128640	66440	37206	19733	9363	3747	1498	677
MEAN	157	700	1236	4385	4594	2143	1240	637	312	121	48.3	22.6
MAX	878	1750	3010	15600	10300	7060	1900	1230	685	176	80	31
MIN	48	137	593	709	2320	1020	656	407	156	80	32	19
AC-FT	9670	41670	75980	269600	255200	131800	73800	39140	18570	7430	2970	1340

11482500 REDWOOD CREEK AT ORICK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157	1054	2153	2555	2196	1957	1223	631	259	87.5	42.1	39.7
MAX	1559	5219	8981	6041	6320	5565	4026	1732	1213	194	91.6	149
(WY)	1963	1974	1965	1956	1986	1975	1963	1912	1993	1993	1968	1986
MIN	2.91	35.3	42.1	180	190	297	251	188	77.3	35.7	9.89	4.44
(WY)	1988	1960	1977	1977	1977	1988	1988	1987	1987	1987	1992	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1911 - 1998	
ANNUAL TOTAL	322746		467432			
ANNUAL MEAN	884		1281		1025	
HIGHEST ANNUAL MEAN					1726	1974
LOWEST ANNUAL MEAN					192	1977
HIGHEST DAILY MEAN	30100	Jan 1	15600	Jan 17	43200	Dec 22 1964
LOWEST DAILY MEAN	20	Aug 17	19	Sep 28	2.1	Oct 20 1987
ANNUAL SEVEN-DAY MINIMUM	22	Sep 7	20	Sep 24	2.2	Oct 17 1987
INSTANTANEOUS PEAK FLOW			19900	Jan 17	50500	Dec 22 1964
INSTANTANEOUS PEAK STAGE			23.04	Jan 17	28.22	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	640200		927200		742600	
10 PERCENT EXCEEDS	1770		3740		2750	
50 PERCENT EXCEEDS	348		593		310	
90 PERCENT EXCEEDS	35		37		25	

11482500 REDWOOD CREEK AT ORICK, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1955–56, 1959 to September 1980, October 1981 to current year (storm season only).
CHEMICAL DATA: Water years 1959–66, 1973–81.
WATER TEMPERATURE: Water years 1966–92.
SEDIMENT DATA: Water years 1955–56, 1970 to current year.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: October 1965 to September 1981, October 1981 to September 1992 (storm season only).
SUSPENDED-SEDIMENT DISCHARGE: March 1970 to September 1981, October 1981 to September 1992 (storm season only).

EXTREMES FOR PERIOD OF DAILY RECORD.—
SEDIMENT CONCENTRATION: Maximum daily mean, 9,610 mg/L, Mar. 18, 1975; minimum daily mean, 0 mg/L, Nov. 10–12, 1986, Apr. 20, 29, 30, 1987, several days during 1989–90, many days during 1991.
SEDIMENT LOAD: Maximum daily, 1,070,000 tons, Mar. 18, 1975; minimum daily, 0 tons, Nov. 10–12, 1986, Apr. 20, 29, 30, 1987, several days during 1989–90, many days during 1991.
REMARKS: Periodic total load sampling above 6,000 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, 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)
JAN								
13...	1405	5990	9.0	858	13900	18	22	30
FEB								
03...	1340	5980	8.5	1540	24900	15	21	29
03...	1345	5970	8.5	1280	20600	19	25	35

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
JAN								
13...	43	54	64	74	87	98	100	--
FEB								
03...	40	51	58	66	76	84	95	99
03...	49	62	71	80	90	97	99	100

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	STARTING TIME (2400 HOURS) (82073)	ENDING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORIZONTAL WIDTH OF VERTICAL (FEET) (04121)
JAN									
13...	1045	1000	1100	.250	0	1030	1100	15	10.0
13...	1130	1000	1100	.250	0	1110	1145	15	10.0
FEB									
03...	1435	1000	1100	.250	0	1420	1455	10	8.0
03...	1515	1000	1100	.250	0	1500	1530	10	8.0

11482500 REDWOOD CREEK AT ORICK, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)
JAN									
13...	2	19	19	5.0	6550	9.0	24.4	3520	--
13...	2	19	19	5.0	6420	9.0	14.0	3520	2
FEB									
03...	2	24	24	4.0	5760	8.5	25.1	4910	--
03...	2	24	24	4.0	5600	8.5	26.5	4910	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM (80236)
JAN								
13...	3	8	17	40	70	88	100	--
13...	15	25	34	48	62	84	97	100
FEB								
03...	4	13	25	44	64	83	97	100
03...	3	12	23	38	59	79	94	100

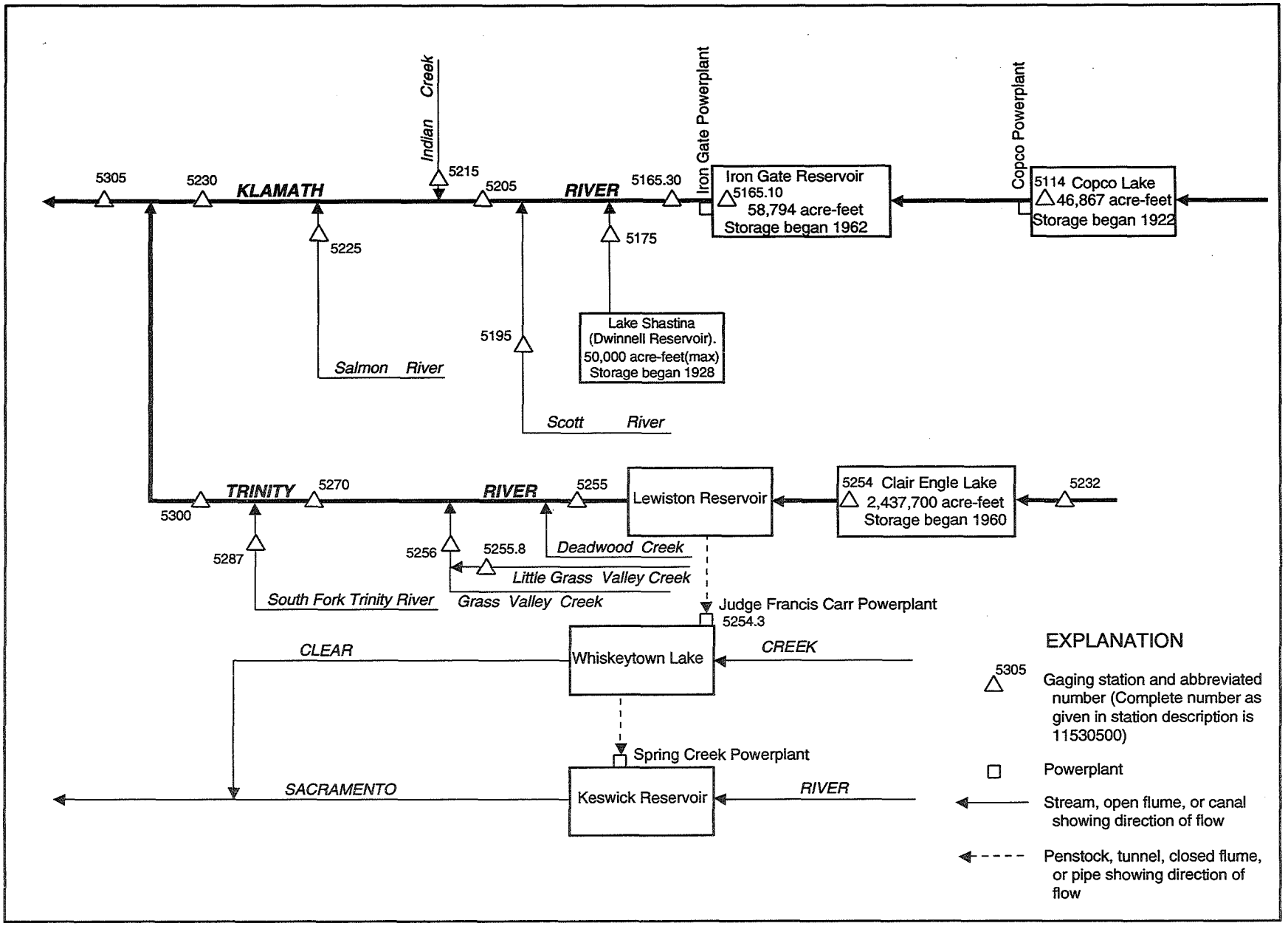


Figure 23 . Diversions and storage in Klamath River and Trinity River Basins.

RESERVOIRS IN KLAMATH RIVER BASIN, CA

11511400 COPCO LAKE NEAR COPCO.—Lat 41°58'46", long 122°20'00", in SE 1/4 SW 1/4 sec.29, T.48 N., R.4 W., Siskiyou County, Hydrologic Unit 18010206, 12.7 mi northeast of Hornbrook. DRAINAGE AREA, 4,300 mi^2, approximately (not including Lost River, Butte Creek, or Lower Klamath Lake Basins). PERIOD OF RECORD, October 1967 to current year (monthend contents only). GAGE, pressure device and telemark read once daily. Datum of gage is sea level (levels by PacifiCorp, formerly Pacific Power and Light Co.). Monthend contents computed from capacity table provided by Pacific Power and Light Co., dated Aug. 25, 1964. REMARKS.—Lake is formed by gravity-type dam completed in 1922. Usable capacity, 17,107 acre-ft between elevations 2,607.5 ft, top of tainter gates, and 2,588.5 ft, invert to powerplant intake. Dead storage 29,760 acre-ft below elevation 2,588.5 ft. Figures given represent total contents at 0800 hours. Lake is used for power generation. See schematic diagram of Klamath River and Trinity River Basins. COOPERATION.—Records were provided by PacifiCorp, formerly Pacific Power & Light Co., in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards. EXTREMES (at 0800) FOR PERIOD OF RECORD.—Maximum contents, 46,818 acre-ft, June 24, 1969, elevation, 2,607.45 ft; minimum since first filling, 30,360 acre-ft, Aug. 19, 1971, elevation, 2,589.24 ft. EXTREMES (at 0800) FOR CURRENT YEAR.—Maximum contents, 46,291 acre-ft, June 13, elevation, 2,606.92 ft; minimum, 40,501 acre-ft, Mar. 12, elevation, 2,600.86 ft.

11516510 IRON GATE RESERVOIR NEAR HORNBROOK.—Lat 41°55'58", long 122°26'06", in SW 1/4 SW 1/4 sec.9, T.47 N., R.5 W., Siskiyou County, Hydrologic Unit 18010206, 6.6 mi northeast of Hornbrook. DRAINAGE AREA, 4,573 mi^2, approximately (not including Lost River, Butte Creek, or Lower Klamath Lake Basins). PERIOD OF RECORD, October 1967 to current year (monthend contents only). GAGE, pressure device and telemark read once daily. Datum of gage is sea level (levels by PacifiCorp, formerly Pacific Power and Light Co.). Monthend contents computed from capacity table provided by Pacific Power and Light Co., dated Feb. 15, 1960. REMARKS.—Reservoir is formed by earth and rockfill dam completed in 1962. Usable capacity, 58,387 acre-ft, between elevations 2,328.0 ft, crest of spillway, and 2,184.75 ft, invert to diversion tunnel. Dead storage 407 acre-ft. Normal operating pool is from elevations 2,305.0 ft, capacity, 39,963 acre-ft, to 2,328.0 ft, capacity, 58,794 acre-ft. Figures given represent total contents at 0800 hours. Reservoir is used for power generation and recreation. See schematic diagram of Klamath River and Trinity River Basins. COOPERATION.—Records were provided by PacifiCorp, formerly Pacific Power and Light Co., in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards. EXTREMES (at 0800) FOR PERIOD OF RECORD.—Maximum contents, 61,797 acre-ft, Jan. 1, 1997, elevation, 2,330.98 ft; minimum since first filling, 50,103 acre-ft, Dec. 9, 1968, elevation, 2,318.40 ft. EXTREMES (at 0800) FOR CURRENT YEAR.—Maximum contents, 60,632 acre-ft, Mar. 25, 26, elevation, 2,329.84 ft; minimum, 54,619 acre-ft, Dec. 8, elevation, 2,323.58 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800 HOURS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (ft)	Contents (acre-ft)	Change in contents (acre-ft)	Elevation (ft)	Contents (acre-ft)	Change in contents (acre-ft)
	11511400 COPCO LAKE			11516510 IRON GATE RESERVOIR		
Sept. 30	2,601.30	40,913	—	2,326.56	57,400	—
Oct. 31	2,604.10	43,554	+2641	2,325.16	56,077	−1,323
Nov. 30	2,602.26	41,810	−1744	2,324.14	55,133	−944
Dec. 31	2,602.94	42,451	+641	2,325.94	56,811	+1,678
CAL YR 1997	—	—	−2,645	—	—	−3,963
Jan. 31	2,601.37	40,978	−1,473	2,329.44	60,226	+3,415
Feb. 28	2,601.23	40,848	−130	2,328.79	59,573	−653
Mar. 31	2,603.10	42,601	+1,753	2,329.49	60,276	+703
Apr. 30	2,605.25	44,659	+2,058	2,328.22	59,009	−1,267
May 31	2,606.25	45,632	+973	2,329.48	60,266	+1,257
June 30	2,606.70	46,074	+442	2,326.99	57,813	−2,453
July 31	2,603.30	42,790	−3,284	2,324.75	55,697	−2,116
Aug. 31	2,605.55	44,950	+2,160	2,325.58	56,470	+773
Sept. 30	2,604.60	44,032	−918	2,324.46	55,429	−1,041
WTR YR 1998	—	—	+3,119	—	—	−1,971

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA

LOCATION.—Lat 41°55'41", long 122°26'35", in SE 1/4 NE 1/4 sec.17, T.47 N., R.5 W., Siskiyou County, Hydrologic Unit 18010206, on left bank 0.1 mi downstream from Bogus Creek, 0.6 mi downstream from Iron Gate Dam, and 5.9 mi northeast of Hornbrook.

DRAINAGE AREA.—4,630 mi^2, approximately (not including Lost River, Butte Creek, or Lower Klamath Lake Basins).

PERIOD OF RECORD.—October 1960 to current year.

CHEMICAL DATA: Water years 1962–81.

WATER TEMPERATURE: Water years 1963–80.

GAGE.—Water-stage recorder. Datum of gage is 2,162.44 ft above sea level (levels by PacifiCorp, formerly Pacific Power & Light Co.).

REMARKS.—Records excellent. Flow regulated by Upper Klamath Lake, capacity, 523,700 acre-ft; Iron Gate Reservoir (station 11516510), other smaller reservoirs, and diversions upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 29,400 ft^3/s, Dec. 22, 1964, gage height, 13.63 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 389 ft^3/s, Aug. 25–28, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290	1500	1750	1760	6480	3910	6570	2210	6370	1170	1120	1370
2	1330	1500	1750	1760	6120	4050	7100	2230	5890	1130	1110	1380
3	1330	1490	1750	1750	6070	4170	7270	2210	5580	1130	1110	1380
4	1330	1490	1750	1760	6210	4260	7540	2390	5470	1130	1120	1380
5	1320	1480	1750	1750	6400	4760	7540	3330	5310	1130	1110	1380
6	1320	1480	1750	1750	5350	5170	7850	3840	5140	1130	1110	1380
7	1320	1680	1750	1750	5250	4800	7920	5450	4720	1130	1120	1380
8	1380	1760	1750	1760	5100	4560	7410	6350	4030	1120	1120	1380
9	1530	1760	1750	1760	4900	4400	7450	6660	3430	1120	1120	1390
10	1520	1760	1750	1770	4510	3820	6480	6590	3210	1120	1120	1390
11	1520	1760	1750	1790	3980	3700	4790	5940	3320	1130	1120	1390
12	1520	1760	1750	1790	3630	3250	4310	5710	3660	1120	1120	1390
13	1520	1760	1750	1780	3620	2600	4310	6350	3700	1120	1120	1390
14	1520	1760	1750	2140	3640	2620	4390	6510	3810	1120	1120	1390
15	1520	1760	1750	2630	3650	2640	4430	6610	3780	1120	1110	1400
16	1520	1760	1750	3190	3610	2690	4410	6790	3650	1120	1120	1400
17	1520	1760	1750	4500	3600	2930	4480	6830	3330	1120	1120	1400
18	1520	1760	1750	4120	3600	3260	4590	6950	2800	1120	1120	1400
19	1520	1760	1760	4080	3970	3230	4460	6540	2200	1120	1120	1400
20	1520	1760	1770	3920	4040	3240	4190	6180	1820	1120	1120	1400
21	1520	1750	1960	3990	4380	3250	3450	6020	1790	1130	1120	1390
22	1520	1760	2130	4060	4330	3600	2480	5580	1870	1120	1120	1400
23	1510	1760	2180	4750	4280	5090	2000	5620	2380	1120	1120	1410
24	1510	1760	2100	5580	4310	7210	1990	5760	1790	1130	1120	1410
25	1520	1770	1760	5510	4470	8680	1960	6150	1760	1130	1120	1410
26	1520	1760	1760	6050	4480	8660	1940	6140	1570	1120	1120	1410
27	1510	1760	1770	6840	3850	7920	1990	5950	1580	1120	1120	1410
28	1510	1750	1770	6710	3800	7290	2150	5820	1580	1120	1120	1410
29	1580	1750	1760	7530	---	6960	2200	6400	1570	1120	1120	1410
30	1760	1760	1760	7050	---	6800	2210	6610	1570	1120	1120	1410
31	1650	---	1760	6580	---	6660	---	6610	---	1120	1130	---
TOTAL	45980	51080	55740	112160	127630	146180	139860	172330	98680	34870	34680	41840
MEAN	1483	1703	1798	3618	4558	4715	4662	5559	3289	1125	1119	1395
MAX	1760	1770	2180	7530	6480	8680	7920	6950	6370	1170	1130	1410
MIN	1290	1480	1750	1750	3600	2600	1940	2210	1570	1120	1110	1370
AC-FT	91200	101300	110600	222500	253200	289900	277400	341800	195700	69160	68790	82990

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1651	2113	2739	3023	3152	3614	2998	2140	1114	770	976	1298
MAX	3353	5254	6735	9553	9150	10780	6922	5559	3289	1429	1208	2052
(WY)	1985	1985	1984	1997	1965	1972	1971	1998	1998	1982	1965	1965
MIN	852	873	889	888	525	511	572	512	506	428	398	538
(WY)	1982	1992	1992	1992	1992	1992	1994	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1961 - 1998	
ANNUAL TOTAL	958316		1061030			
ANNUAL MEAN	2626		2907		2127	
HIGHEST ANNUAL MEAN					3657	1965
LOWEST ANNUAL MEAN					641	1992
HIGHEST DAILY MEAN	18500	Jan 1	8680	Mar 25	25000	Dec 22 1964
LOWEST DAILY MEAN	804	Jul 21	1110	Aug 2	389	Aug 25 1992
ANNUAL SEVEN-DAY MINIMUM	807	Jul 19	1110	Jul 31	390	Aug 24 1992
INSTANTANEOUS PEAK FLOW			8770	Mar 25	29400	Dec 22 1964
INSTANTANEOUS PEAK STAGE			8.81	Mar 25	13.63	Dec 22 1964
INSTANTANEOUS LOW FLOW					389	Aug 25 1992
ANNUAL RUNOFF (AC-FT)	1901000		2105000		1541000	
10 PERCENT EXCEEDS	6860		6380		4220	
50 PERCENT EXCEEDS	1640		1760		1400	
90 PERCENT EXCEEDS	1030		1120		731	

11517500 SHASTA RIVER NEAR YREKA, CA

LOCATION.—Lat 41°49'23", long 122°35'40", in SE 1/4 NE 1/4 sec.24, T.46 N., R.7 W., Siskiyou County, Hydrologic Unit 18010207, on right bank 24 mi downstream from Lake Shastina, 0.5 mi upstream from mouth, and 7 mi north of Yreka.

DRAINAGE AREA.—793 mi^2.

PERIOD OF RECORD.—October 1933 to December 1941, December 1944 to current year.
CHEMICAL DATA: Water years 1959–79.
WATER TEMPERATURE: Water years 1965–79.
SEDIMENT DATA: Water years 1955–56, 1958–62.

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,000 ft above sea level, from topographic map. Prior to Nov. 2, 1933, nonrecording gage at same site and datum.

REMARKS.—Records excellent. Low flow completely regulated by Lake Shastina (formerly Lake Dwinnell) beginning in 1928; storage limited to 50,000 acre-ft. Small powerplant, 5.6 miles upstream, has operated intermittently since summer of 1987. Many diversions upstream from station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,500 ft^3/s, Dec. 22, 1964, gage height, 12.92 ft, in gage well, 13.85 ft, from floodmarks, from rating curve extended above 4,100 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft^3/s, Aug. 24, 1981, July 17, 1985.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 630 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0645	1,250	5.81	Mar. 24	0900	2,910	7.76
Feb. 3	1945	1,410	6.08	May 10	0645	1,090	5.54
Feb. 21	1700	1,140	5.62	May 21	1230	1,180	5.70

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	180	201	206	363	393	555	255	711	204	102	69
2	147	171	199	251	382	487	505	293	625	203	101	68
3	158	167	197	238	1060	530	474	536	660	208	101	67
4	148	167	192	259	1200	482	682	683	819	202	102	67
5	143	167	190	257	769	425	701	895	876	197	94	75
6	150	171	187	239	567	393	697	824	825	189	88	73
7	174	191	189	231	639	364	639	549	794	184	86	57
8	175	182	196	223	762	350	561	470	800	173	88	62
9	172	175	195	221	696	333	506	770	924	174	80	101
10	175	174	190	230	504	327	561	1050	861	164	77	95
11	171	174	182	239	392	325	684	891	855	155	73	93
12	166	175	180	274	358	328	638	779	835	157	80	97
13	168	175	178	308	336	331	428	614	775	150	76	95
14	167	177	176	290	351	354	404	419	715	137	73	99
15	163	174	174	331	379	367	379	371	649	125	71	94
16	160	173	177	443	346	453	353	374	540	116	71	93
17	160	174	184	1130	320	578	325	493	523	112	63	99
18	156	174	201	887	312	655	307	507	471	116	63	94
19	160	178	193	1020	304	608	302	432	434	113	67	103
20	154	177	194	775	313	531	298	633	390	109	71	105
21	152	177	206	557	756	488	278	1090	361	97	67	120
22	157	177	203	446	758	549	274	917	360	93	67	111
23	155	177	193	381	564	1510	280	741	284	95	74	109
24	155	177	194	337	502	2540	288	664	273	103	71	121
25	162	201	194	315	479	1840	295	676	289	104	75	134
26	163	198	187	434	423	1330	283	723	282	100	78	134
27	164	194	183	730	387	1120	270	749	276	92	75	137
28	164	190	184	489	371	848	252	758	267	87	70	152
29	163	185	187	463	---	654	243	857	232	83	68	153
30	159	203	184	521	---	594	239	1080	205	82	66	143
31	176	---	186	432	---	569	---	911	---	101	65	---
TOTAL	4937	5375	5876	13157	14593	20656	12701	21004	16911	4225	2403	3020
MEAN	159	179	190	424	521	666	423	678	564	136	77.5	101
MAX	176	203	206	1130	1200	2540	701	1090	924	208	102	153
MIN	100	167	174	206	304	325	239	255	205	82	63	57
AC-FT	9790	10660	11660	26100	28950	40970	25190	41660	33540	8380	4770	5990

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	194	279	341	342	314	204	140	104	45.1	38.9	75.2
MAX	351	361	1223	1234	1002	946	753	678	564	147	111	182
(WY)	1963	1985	1965	1997	1958	1983	1974	1998	1998	1995	1941	1978
MIN	90.7	117	120	110	133	97.7	31.8	24.5	18.0	10.1	8.35	26.7
(WY)	1989	1937	1937	1937	1934	1977	1992	1992	1955	1960	1939	1981

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1934 - 1998	
ANNUAL TOTAL	91106		124858			
ANNUAL MEAN	250		342		185	
HIGHEST ANNUAL MEAN					364	1974
LOWEST ANNUAL MEAN					77.9	1934
HIGHEST DAILY MEAN	8420	Jan 1	2540	Mar 24	10400	Dec 23 1964
LOWEST DAILY MEAN	16	Aug 16	57	Sep 7	1.5	Aug 24 1981
ANNUAL SEVEN-DAY MINIMUM	22	Aug 13	67	Aug 16	5.5	Aug 9 1939
INSTANTANEOUS PEAK FLOW			2910	Mar 24	21500	Dec 22 1964
INSTANTANEOUS PEAK STAGE			7.76	Mar 24	12.92	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	180700		247700		134300	
10 PERCENT EXCEEDS	456		758		350	
50 PERCENT EXCEEDS	158		205		152	
90 PERCENT EXCEEDS	44		88		26	

11519500 SCOTT RIVER NEAR FORT JONES, CA

LOCATION.—Lat 41°38'27", long 123°00'50", in NE 1/4 NE 1/4 sec.29, T.44 N., R.10 W., Siskiyou County, Hydrologic Unit 18010208, on right bank 1.8 mi upstream from Snow Creek and 9.0 mi west of Fort Jones.

DRAINAGE AREA.—653 mi^2.

PERIOD OF RECORD.—October 1941 to current year. Monthly discharge only October to December 1941, published in WSP 1315-B.
CHEMICAL DATA: Water years 1959–79.
SEDIMENT DATA: Water years 1955–56.

REVISED RECORDS.—WSP 1445: 1942–43(M), 1946(M), 1948. WSP 1715: 1951–52(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2,623.80 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1966, water-stage recorder 400 ft downstream at datum 2.00 ft higher.

REMARKS.—Records excellent. Diversions for irrigation of about 30,000 acres upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 54,600 ft^3/s, Dec. 22, 1964, gage height, 25.34 ft, from floodmarks, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement at 21.40 ft, site and datum then in use; minimum daily, 4.1 ft^3/s, Sept. 20, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,700 ft^3/s, or maximim:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1215	8,500	14.12	Mar. 24	0230	14,900	17.28
Feb. 7	0045	3,310	10.19	May 8	1245	3,270	10.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	216	253	218	1550	1250	1790	2430	1500	1170	291	61
2	45	177	234	270	1630	1360	1660	2940	1850	1100	275	59
3	46	151	220	302	2260	1420	1630	2550	2030	1100	252	57
4	48	137	211	329	2330	1360	1660	2210	2070	1050	219	56
5	49	129	211	323	1890	1280	1610	2260	2090	1010	199	56
6	52	127	210	299	2200	1200	1490	2070	2110	987	183	56
7	53	130	227	291	2760	1120	1380	2280	2180	960	168	57
8	56	137	293	285	2410	1060	1320	2970	2320	963	156	59
9	61	135	267	284	1820	1000	1300	2730	2180	917	144	63
10	75	132	238	285	1590	959	1300	2160	2270	861	137	66
11	85	135	221	351	1450	941	1300	1900	2390	784	125	67
12	87	129	213	688	1440	989	1220	1760	2140	697	115	68
13	87	127	207	1130	1540	1750	1180	1610	2240	666	106	69
14	87	125	207	998	1580	1790	1110	1500	2160	623	100	70
15	88	125	205	1580	1610	1630	1060	1390	2060	581	93	71
16	90	129	212	2280	1410	1940	1010	1320	2000	541	85	72
17	93	146	292	7120	1300	2120	975	1220	1730	510	81	72
18	96	155	345	4340	1200	1890	961	1130	1650	499	77	72
19	97	165	304	4050	1270	1710	983	1100	1680	482	76	72
20	97	184	286	2480	1310	1700	1040	1220	1560	462	74	71
21	97	170	276	1900	1770	1820	1150	1200	1540	435	74	73
22	96	159	257	1610	2070	4810	1400	1120	1610	420	72	72
23	93	163	238	1490	1630	11700	1750	1120	1580	442	72	73
24	91	231	228	1390	1510	11000	1830	1240	1490	503	73	74
25	93	314	223	1340	1400	5670	1620	1580	1460	522	71	74
26	94	294	212	1820	1310	3950	1450	1450	1320	482	68	75
27	94	319	203	2280	1240	3160	1440	1330	1180	417	65	74
28	94	283	200	1890	1220	2670	1620	1340	1120	389	63	76
29	95	258	198	2000	---	2310	1910	1660	1160	354	62	79
30	98	267	200	1890	---	2070	2200	1420	1150	322	60	81
31	162	---	204	1600	---	1930	---	1370	---	309	61	---
TOTAL	2543	5349	7295	47113	46700	79559	42349	53580	53820	20558	3697	2045
MEAN	82.0	178	235	1520	1668	2566	1412	1728	1794	663	119	68.2
MAX	162	319	345	7120	2760	11700	2200	2970	2390	1170	291	81
MIN	44	125	198	218	1200	941	961	1100	1120	309	60	56
AC-FT	5040	10610	14470	93450	92630	157800	84000	106300	106800	40780	7330	4060

11519500 SCOTT RIVER NEAR FORT JONES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	111	338	822	1081	1169	1052	1027	1147	721	192	65.2	55.1
MAX	941	1628	5003	4417	4793	2825	2217	2426	1801	769	269	228
(WY)	1963	1974	1965	1974	1958	1972	1952	1958	1975	1983	1983	1983
MIN	9.58	10.7	52.7	80.9	99.0	83.3	55.1	121	78.0	12.8	5.82	4.75
(WY)	1995	1995	1995	1977	1977	1977	1977	1977	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998	
ANNUAL TOTAL	245023		364608			
ANNUAL MEAN	671		999		646	
HIGHEST ANNUAL MEAN					1496	1974
LOWEST ANNUAL MEAN					74.9	1977
HIGHEST DAILY MEAN	27400	Jan 1	11700	Mar 23	39500	Dec 23 1964
LOWEST DAILY MEAN	21	Aug 19	44	Oct 1	4.1	Sep 20 1994
ANNUAL SEVEN-DAY MINIMUM	21	Aug 17	48	Oct 1	4.3	Sep 15 1994
INSTANTANEOUS PEAK FLOW			14900	Mar 24	54600	Dec 22 1964
INSTANTANEOUS PEAK STAGE			17.28	Mar 24	25.34	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	486000		723200		467800	
10 PERCENT EXCEEDS	1210		2150		1560	
50 PERCENT EXCEEDS	234		666		307	
90 PERCENT EXCEEDS	33		72		46	

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA

LOCATION.—Lat 41°51'14", long 123°13'52", in SW 1/4 SW 1/4 sec.3, T.46 N., R.12 W., Siskiyou County, Hydrologic Unit 18010206, Klamath National Forest, on left bank 0.4 mi upstream from Bittenbender Creek, 1.4 mi downstream from Grider Creek, 2.2 mi west of Seiad Valley, and 55 mi downstream from Iron Gate Dam.

DRAINAGE AREA.—6,940 mi^2, approximately (not including Lost River, Butte Creek, or Lower Klamath Lake Basins).

PERIOD OF RECORD.—October 1912 to September 1925, July 1951 to current year. Monthly discharges only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1959–66.
WATER TEMPERATURE: Water years 1964–79.
SEDIMENT DATA: Water years 1955–56.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above sea level, from river-profile map. November 1912 to June 1925, nonrecording gage at site 3.5 mi upstream at different datum.

REMARKS.—Records excellent. Low flow regulated considerably by reservoirs and powerplants upstream from station. Large diversions upstream from station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 165,000 ft^3/s, Dec. 23, 1964, gage height, 33.75 ft, from floodmarks, from rating curve extended above 49,000 ft^3/s on basis of slope-area measurements at gage heights 20.1 and 29.2 ft; minimum daily, 320 ft^3/s, Nov. 25, 1917.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0745	27,400	14.44	May 9	0915	13,400	10.18
Mar. 24	0330	39,000	17.04				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	2290	2600	2560	10400	7750	11600	8060	11000	3970	1830	1470
2	1630	2150	2550	2840	10400	8430	11700	8640	11100	3590	1790	1630
3	1660	2070	2510	2920	11800	8760	11800	8450	10900	3530	1760	1640
4	1640	2010	2480	3080	12500	8560	12100	8140	11000	3420	1720	1630
5	1630	1970	2460	3000	11500	8420	12200	9300	11000	3290	1680	1640
6	1650	1990	2450	2900	10500	8820	12100	9490	10900	3230	1640	1640
7	1690	2110	2570	2850	10500	8360	12300	10600	10600	3160	1610	1640
8	1720	2310	2620	2810	10400	7710	11600	12700	10100	3100	1600	1630
9	2180	2300	2600	2800	9440	7570	11800	13100	9370	3000	1570	1700
10	2130	2280	2530	2840	8680	6890	11500	12800	9020	2910	1550	1720
11	2030	2280	2480	3280	7860	6650	9670	11900	9070	2800	1530	1710
12	2000	2270	2450	4230	7390	6620	8800	10700	9250	2680	1510	1710
13	1990	2280	2430	5010	7610	6500	8280	11000	9240	2610	1500	1700
14	2000	2280	2490	5070	7700	6860	8170	10800	9110	2530	1480	1710
15	1990	2260	2480	7340	7870	7920	8070	10600	8810	2430	1450	1710
16	1980	2280	2530	9320	7420	8900	7920	10700	8460	2390	1440	1690
17	1980	2310	2980	23500	7080	9420	7830	10700	7760	2310	1430	1710
18	1960	2320	2980	14900	6800	9620	7910	10700	7160	2300	1420	1710
19	1960	2500	2820	14000	7130	9320	7850	10700	6350	2270	1410	1720
20	1950	2460	2760	10300	7470	9180	7720	10300	5730	2230	1420	1720
21	1930	2400	2770	8720	9240	9450	7420	11100	5310	2190	1420	1730
22	1930	2370	2980	7910	10500	15900	6820	10300	5450	2170	1410	1720
23	1920	2450	2990	7960	9230	30800	6660	9870	5840	2150	1400	1740
24	1920	2660	3060	8720	8790	34100	6690	10100	5310	2180	1410	1740
25	1920	2890	2690	8910	8530	24800	6330	10900	5130	2260	1410	1760
26	1940	2780	2500	10100	8620	20400	6000	10900	4810	2200	1400	1770
27	1930	2720	2480	13300	7850	17800	5930	10800	4400	2110	1400	1770
28	1920	2660	2470	11500	7560	15400	6420	10400	4280	2040	1380	1790
29	1960	2620	2480	12000	---	13600	7050	11200	4230	1950	1370	1810
30	2130	2650	2480	12200	---	12600	7600	11400	4170	1860	1360	1790
31	2580	---	2490	10800	---	12200	---	11200	---	1830	1350	---
TOTAL	59170	70920	81160	237670	250770	369310	267840	327550	234860	80690	46650	51050
MEAN	1909	2364	2618	7667	8956	11910	8928	10570	7829	2603	1505	1702
MAX	2580	2890	3060	23500	12500	34100	12300	13100	11100	3970	1830	1810
MIN	1320	1970	2430	2560	6800	6500	5930	8060	4170	1830	1350	1470
AC-FT	117400	140700	161000	471400	497400	732500	531300	649700	465800	160000	92530	101300

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2139	3066	4641	5865	6253	6522	5962	5160	3255	1679	1431	1673
MAX	4490	7654	20280	21500	17980	19120	13940	10700	7980	3908	2778	3000
(WY)	1963	1985	1965	1965	1958	1972	1974	1956	1953	1913	1913	1925
MIN	1047	1200	1395	1408	1466	1145	1132	1285	819	598	436	604
(WY)	1992	1995	1995	1992	1992	1977	1977	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1913 - 1998	
ANNUAL TOTAL	1719640		2077640			
ANNUAL MEAN	4711		5692		3959	
HIGHEST ANNUAL MEAN					7434	1956
LOWEST ANNUAL MEAN					1151	1992
HIGHEST DAILY MEAN	94100	Jan 1	34100	Mar 24	115000	Dec 23 1964
LOWEST DAILY MEAN	1000	Jul 29	1320	Oct 1	320	Nov 25 1917
ANNUAL SEVEN-DAY MINIMUM	1020	Jul 25	1380	Aug 25	417	Aug 18 1992
INSTANTANEOUS PEAK FLOW			39000	Mar 24	165000	Dec 23 1964
INSTANTANEOUS PEAK STAGE			17.04	Mar 24	33.75	Dec 23 1964
INSTANTANEOUS LOW FLOW					320	Nov 25 1917
ANNUAL RUNOFF (AC-FT)	3411000		4121000		2868000	
10 PERCENT EXCEEDS	10600		11200		8160	
50 PERCENT EXCEEDS	2480		3000		2710	
90 PERCENT EXCEEDS	1180		1640		1210	

11521500 INDIAN CREEK NEAR HAPPY CAMP, CA

LOCATION.—Lat 41°50'07", long 123°22'55", in SW 1/4 SW 1/4 sec.26, T.17 N., R.7 E., Siskiyou County, Hydrologic Unit 18010209, on right bank 0.2 mi upstream from Slater Creek, 3.0 mi north of Happy Camp, and 3.5 mi upstream from mouth.

DRAINAGE AREA.—120 mi^2.

PERIOD OF RECORD.—September 1911 to September 1921 (fragmentary), December 1956 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1635: 1957–58.

GAGE.—Water-stage recorder. Datum of gage is 1,198.37 ft above sea level. Prior to December 1956, nonrecording gages at sites 1.0 mi upstream at different datums. December 1956 to Sept. 20, 1969, water-stage recorder at site 0.8 mi upstream at different datum.

REMARKS.—Records excellent. Small diversions upstream and at station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 39,000 ft^3/s, Dec. 22, 1964, gage height, 24.3 ft, from floodmarks, present site and datum; 36.59 ft from floodmarks in gage well, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurement at gage height 29.0 ft, previous site and datum; minimum discharge observed, 20 ft^3/s, Aug. 19 to Sept. 6, 1914.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 21, 1955, reached a stage of 29.0 ft, at 1956–69 site and datum, from floodmarks, discharge, 23,000 ft^3/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,100 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0200	8,930	12.44	Mar. 23	1245	9,090	12.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	181	301	348	1060	806	889	1230	656	223	90	60
2	101	131	270	633	1110	917	829	1260	707	213	88	58
3	87	111	246	649	1190	932	788	1100	657	207	86	57
4	83	102	241	693	1120	830	752	1090	636	197	84	57
5	78	96	224	550	1200	757	718	1130	619	190	81	56
6	76	153	213	496	1300	696	686	1010	631	182	79	56
7	77	264	397	468	1270	648	650	1040	636	176	79	56
8	82	173	398	439	1370	628	632	1060	597	169	78	56
9	248	140	327	424	1170	593	640	913	576	160	77	57
10	208	124	293	443	1080	577	673	788	590	154	77	57
11	148	120	268	891	1000	582	679	719	543	148	75	56
12	128	113	249	1480	1200	857	650	682	515	143	73	56
13	122	112	234	1440	1350	1320	632	631	503	138	72	55
14	124	112	272	1930	1430	1220	605	593	476	135	71	54
15	126	112	271	1970	1270	1240	580	589	461	132	70	54
16	117	160	390	3950	1100	1400	554	557	430	127	70	53
17	106	239	1050	5180	983	1290	541	520	386	124	70	53
18	97	201	651	2960	930	1110	548	498	374	120	70	55
19	90	492	486	2210	1480	1040	578	500	354	116	69	57
20	85	454	419	1570	1270	1120	646	505	333	113	69	57
21	81	311	366	1250	1760	1380	754	489	331	110	69	56
22	78	255	327	1150	1410	5080	945	470	322	107	67	55
23	76	424	304	1200	1190	7270	1120	489	308	104	67	54
24	74	705	286	1220	1030	3890	1010	561	297	104	66	53
25	73	613	268	1260	918	2580	852	616	287	102	65	53
26	72	516	253	1850	831	1970	772	524	265	102	64	54
27	72	423	239	1630	774	1620	814	489	250	98	64	54
28	71	339	230	1340	756	1370	1030	525	243	97	63	53
29	82	347	230	1360	---	1180	1180	524	238	94	62	53
30	83	348	248	1220	---	1050	1240	516	233	93	61	53
31	335	---	263	1060	---	977	---	562	---	91	61	---
TOTAL	3349	7871	10214	43264	32552	46930	22987	22180	13454	4269	2237	1658
MEAN	108	262	329	1396	1163	1514	766	715	448	138	72.2	55.3
MAX	335	705	1050	5180	1760	7270	1240	1260	707	223	90	60
MIN	69	96	213	348	756	577	541	470	233	91	61	53
AC-FT	6640	15610	20260	85810	64570	93090	45590	43990	26690	8470	4440	3290

11521500 INDIAN CREEK NEAR HAPPY CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	81.2	312	627	748	827	791	667	553	262	101	60.2	52.3
MAX	414	1498	3156	2230	2820	1896	1372	1368	579	204	100	102
(WY)	1963	1974	1965	1970	1958	1972	1966	1969	1975	1983	1983	1978
MIN	29.8	45.6	45.7	50.5	87.1	170	202	152	71.8	36.5	26.3	27.9
(WY)	1992	1960	1977	1977	1977	1977	1977	1992	1992	1977	1977	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1957 - 1998	
ANNUAL TOTAL	152145		210965			
ANNUAL MEAN	417		578		422	
HIGHEST ANNUAL MEAN					817	1974
LOWEST ANNUAL MEAN					83.7	1977
HIGHEST DAILY MEAN	17000	Jan 1	7270	Mar 23	30700	Dec 22 1964
LOWEST DAILY MEAN	57	Sep 7	53	Sep 16	21	Sep 12 1977
ANNUAL SEVEN-DAY MINIMUM	58	Sep 3	53	Sep 24	22	Sep 8 1977
INSTANTANEOUS PEAK FLOW			9090	Mar 23	39000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			12.52	Mar 23	24.30	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	301800		418400		305600	
10 PERCENT EXCEEDS	697		1250		968	
50 PERCENT EXCEEDS	238		366		208	
90 PERCENT EXCEEDS	63		65		47	

11522500 SALMON RIVER AT SOMES BAR, CA

LOCATION.—Lat 41°22'40", long 123°28'35", in NE 1/4 sec.3, T.11 N., R.6 E., Siskiyou County, Hydrologic Unit 18010210, Klamath National Forest, on left bank at Somes Bar, 1.0 mi upstream from mouth.

DRAINAGE AREA.—751 mi^2.

PERIOD OF RECORD.—September 1911 to September 1915, October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1285: 1912, 1914, 1915(M), 1946(M), 1948(M). WDR CA-72-1: 1970–71(P).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 482.97 ft above sea level. Prior to October 1927, nonrecording gage at different datum, October 1927 to Dec. 22, 1964, water-stage recorder at site 0.5 mi upstream at datum 6.54 ft higher.

REMARKS.—Records good. No storage or large diversion upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 133,000 ft^3/s, Dec. 22, 1964 (result of failure of upstream debris dam), gage height, 46.6 ft, present site and datum, from floodmarks, from rating curve extended above 33,000 ft^3/s; minimum daily, 70 ft^3/s, Aug. 25, 1931.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0415	31,500	17.22	Mar. 23	1615	34,700	18.29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	1060	e1080	1150	4780	3440	4670	6440	4280	2700	712	284
2	464	693	e1000	1710	4710	3770	4430	6750	4970	2580	660	280
3	400	548	e945	1850	5400	4080	4240	5690	4930	2590	637	277
4	362	473	912	2110	5330	3780	4130	5390	4800	2370	634	273
5	325	433	866	1820	4770	3470	4000	5390	4890	2280	621	267
6	312	454	835	1690	4750	3210	3880	5150	5070	2250	591	266
7	317	687	1350	1710	5030	2940	3770	5410	5290	2220	559	268
8	368	595	1530	1710	5290	2780	3660	6170	5030	2200	523	287
9	928	512	e1350	1680	4840	2580	3600	5380	4830	2090	502	280
10	798	468	e1200	1750	4520	2470	3580	4510	5020	1950	492	349
11	613	474	982	3260	4380	2440	3500	4120	4880	1750	477	298
12	514	480	922	6090	4730	3060	3390	3900	4640	1600	473	269
13	479	476	877	6890	5380	4700	3330	3650	4920	1550	469	249
14	482	493	1020	6510	5510	4620	3220	3530	4790	1480	466	239
15	472	479	1120	9350	5460	4620	3110	3520	4600	1390	445	233
16	447	573	1550	13100	4980	5520	3050	3390	4470	1290	423	229
17	418	865	2970	25400	4490	5440	2990	3190	3850	1330	400	224
18	388	e723	2540	14300	4020	4810	3000	3070	3850	1350	387	227
19	357	e970	1940	11500	4960	4510	3050	3110	3780	1260	384	238
20	337	e1600	1710	8000	5310	4630	3170	3090	3520	1150	390	231
21	321	e1000	1530	e6400	7170	4960	3470	2960	3600	1210	381	224
22	309	e850	1330	e5900	6980	15200	4110	2880	3650	1170	363	217
23	299	e1100	1230	e5400	5720	29000	4840	3070	3490	1160	349	213
24	290	e1500	1150	4930	4920	21900	4740	3460	3320	1340	341	212
25	276	e1950	1070	4940	4330	13000	4210	4210	3210	1280	328	210
26	268	e1720	1000	7360	3910	9740	3960	3580	2850	1090	322	211
27	263	e1450	948	7950	3600	7930	4160	3280	2600	954	316	206
28	259	e1230	911	6500	3460	6750	4900	3350	2580	901	310	227
29	340	e1030	923	6270	---	6000	5580	3670	2710	843	300	228
30	388	e1240	997	5700	---	5410	6150	3430	2730	780	286	215
31	1400	---	1050	5110	---	5000	---	3640	---	747	283	---
TOTAL	13429	26126	38838	188040	138730	201760	117890	128380	123150	48855	13824	7431
MEAN	433	871	1253	6066	4955	6508	3930	4141	4105	1576	446	248
MAX	1400	1950	2970	25400	7170	29000	6150	6750	5290	2700	712	349
MIN	235	433	835	1150	3460	2440	2990	2880	2580	747	283	206
AC-FT	26640	51820	77040	373000	275200	400200	233800	254600	244300	96900	27420	14740

e Estimated.

11522500 SALMON RIVER AT SOMES BAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	350	1100	2199	2963	2984	2954	3010	3125	1924	626	263	203
MAX	2297	5961	10480	11260	11190	9615	5741	6174	4354	1906	839	528
(WY)	1963	1974	1965	1970	1958	1972	1938	1938	1953	1953	1983	1983
MIN	117	130	175	190	255	448	710	786	402	146	81.6	83.1
(WY)	1988	1937	1937	1937	1977	1977	1977	1977	1992	1931	1931	1931

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1912 - 1998	
ANNUAL TOTAL	656422		1046453			
ANNUAL MEAN	1798		2867		1802	
HIGHEST ANNUAL MEAN					3754	1974
LOWEST ANNUAL MEAN					339	1977
HIGHEST DAILY MEAN	64400	Jan 1	29000	Mar 23	100000	Dec 22 1964
LOWEST DAILY MEAN	190	Sep 9	206	Sep 27	70	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	197	Sep 4	213	Sep 21	73	Aug 24 1931
INSTANTANEOUS PEAK FLOW			34700	Mar 23	133000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			18.29	Mar 23	46.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1302000		2076000		1306000	
10 PERCENT EXCEEDS	3160		5450		4240	
50 PERCENT EXCEEDS	1090		2090		1030	
90 PERCENT EXCEEDS	259		295		180	

11523000 KLAMATH RIVER AT ORLEANS, CA

LOCATION.—Lat 41°18'13", long 123°32'00", in SW 1/4 NE 1/4 sec.31, T.11 N., R.6 E., Humboldt County, Hydrologic Unit 18010209, Six Rivers National Forest, on right bank at Orleans, 25 ft upstream from highway bridge, and 0.2 mi downstream from Cheenitch Creek.

DRAINAGE AREA.—8,475 mi^2, not including Lost River or Lower Klamath Lake Basins.

PERIOD OF RECORD.—October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1965, published as "at Somesbar."
SEDIMENT DATA: Water years 1967–79.

REVISED RECORDS.—WSP 1565: 1935(M), 1949.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 353.98 ft above sea level. Prior to Oct. 1, 1965, at site 6.7 mi upstream at different datum. Oct. 1, 1965, to July 14, 1992, water-stage recorder at datum 2.00 ft higher, at present site.

REMARKS.—Records good. Flow considerably regulated by reservoirs and powerplants upstream from station. Large diversions upstream from station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 307,000 ft^3/s, Dec. 22, 1964, gage height, 76.5 ft, from floodmarks, site and datum then in use, from rating curve extended above 80,000 ft^3/s on basis of slope-conveyance study, gage height, 59.4 ft; minimum daily, 320 ft^3/s, Aug. 25, Sept. 1, 1951.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 40,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0600	96,800	24.61	Mar. 23	1915	113,000	26.41

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	5990	6440	5970	23600	17800	22800	21200	18900	8550	3300	2050
2	3040	4460	6000	8590	23700	18900	21900	22000	20000	8010	3220	2230
3	3030	3960	5670	9050	24700	20000	21800	20600	19800	7800	3140	2350
4	2930	3680	5530	10400	26400	19200	21600	19100	19400	7470	3090	2340
5	2830	3520	5330	9290	24700	18100	21800	20100	19600	7210	3000	2310
6	2770	3640	5190	8540	24500	17700	21300	19900	19700	7040	2910	2320
7	2820	5060	6800	8520	24400	17200	21200	20500	19800	6920	2830	2320
8	2920	4570	7720	8320	25400	16500	20400	23600	18900	6810	2760	2330
9	4970	4310	6810	8080	23600	15700	20200	23200	17900	6610	2720	2320
10	5900	4100	6220	8190	22000	15100	20100	21800	17500	6330	2680	2480
11	4480	4040	5820	11900	21400	14600	18900	20400	17300	5950	2640	2430
12	3990	4000	5540	19900	21300	15800	17100	18900	16900	5620	2600	2390
13	3860	3970	5350	24500	23500	19800	16300	17900	17300	5430	2560	2380
14	3860	4000	5720	23700	23700	19800	15700	17600	17100	5260	2520	2350
15	3840	3940	6030	33200	23800	19600	15300	17400	16700	5060	2470	2350
16	3740	4210	7530	39800	22000	21400	14900	17000	16200	4850	2410	2330
17	3590	5160	13600	80200	20400	21800	14500	16800	14800	4780	2370	2310
18	3460	4780	11500	50000	18900	20500	14500	16400	14000	4710	2350	2340
19	3350	6670	9170	41300	22300	19500	14600	16500	13200	4560	2320	2380
20	3270	7570	8210	31100	23000	19500	14900	16100	12000	4380	2320	2390
21	3200	6160	7610	25000	29900	20300	15300	16500	11400	4360	2330	2370
22	3150	5470	7090	23000	31600	48700	16200	16100	11400	4250	2290	2360
23	3110	6490	6890	22600	26700	95400	17400	15600	11300	4220	2250	2350
24	3070	9300	6660	23000	23700	80600	17200	16200	11300	4390	2240	2360
25	3040	10500	6400	22900	21800	54900	15600	18200	10400	4530	2220	2360
26	3030	8920	5750	29600	20300	42700	14400	17400	9700	4260	2200	2380
27	3030	8070	5530	33200	19100	35700	14500	16800	8920	3970	2180	2390
28	2990	7070	5390	29400	17900	31000	16300	16600	8650	3800	2160	2440
29	3130	6660	5390	28400	---	27600	18500	17300	8690	3620	2120	2460
30	3260	7050	5590	27700	---	25200	20100	17600	8670	3460	2090	2440
31	6540	---	5710	25000	---	24100	---	18000	---	3360	2060	---
TOTAL	108340	167320	208190	730350	654300	854700	535300	573300	447430	167570	78350	70610
MEAN	3495	5577	6716	23560	23370	27570	17840	18490	14910	5405	2527	2354
MAX	6540	10500	13600	80200	31600	95400	22800	23600	20000	8550	3300	2480
MIN	2140	3520	5190	5970	17900	14600	14400	15600	8650	3360	2060	2050
AC-FT	214900	331900	412900	1449000	1298000	1695000	1062000	1137000	887500	332400	155400	140100

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3039	6006	10750	13790	14100	13910	12710	11030	6505	2823	2068	2223
MAX	9876	22080	48770	51290	53740	42600	26860	25320	16900	7226	3666	3807
(WY)	1963	1974	1965	1997	1986	1972	1974	1938	1953	1953	1953	1953
MIN	1354	1930	2288	2334	2630	2806	3065	3081	1626	755	549	790
(WY)	1993	1988	1937	1937	1977	1977	1977	1992	1992	1931	1931	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1998	
ANNUAL TOTAL	3868800		4595760			
ANNUAL MEAN	10600		12590		8217	
HIGHEST ANNUAL MEAN					17030	1974
LOWEST ANNUAL MEAN					2520	1977
HIGHEST DAILY MEAN	233000	Jan 1	95400	Mar 23	240000	Dec 23 1964
LOWEST DAILY MEAN	1920	Sep 8	2050	Sep 1	320	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	1950	Sep 4	2120	Aug 26	453	Aug 1 1931
INSTANTANEOUS PEAK FLOW			113000	Mar 23	307000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			26.41	Mar 23	76.50	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	7674000		9116000		5953000	
10 PERCENT EXCEEDS	19900		23700		18000	
50 PERCENT EXCEEDS	5880		8540		4900	
90 PERCENT EXCEEDS	2060		2380		1900	

11523200 TRINITY RIVER ABOVE COFFEE CREEK, NEAR TRINITY CENTER, CA

LOCATION.—Lat 41°06'41", long 122°42'16", in SW 1/4 NW 1/4 sec.32, T.38 N., R.7 W., Trinity County, Hydrologic Unit 18010211, Shasta National Forest, on left bank 24 ft upstream from State Highway No. 3 Bridge, 1.8 mi upstream from Coffee Creek, and 8.6 mi north of Trinity Center.

DRAINAGE AREA.—149 mi^2.

PERIOD OF RECORD.—September 1957 to current year.

REVISED RECORDS.—WDR CA-85-2: 1982(M). WDR CA-97-2: 1982(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2,536.93 ft above sea level. Prior to Oct. 1, 1978, water-stage recorder at site 0.2 mi downstream at datum 3.57 ft lower.

REMARKS.—Records good. No regulation or diversion upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 26,500 ft^3/s, Jan. 16, 1974, gage height, 12.96 ft, site and datum then in use, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 16.82 ft, Jan. 1, 1987, present site and datum from floodmarks; minimum daily, 16 ft^3/s, Sept. 11–14, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1955, reached a stage of 10.5 ft, previous site and datum, from floodmarks, discharge, 11,400 ft^3/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,300 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	1345	5,810	9.56	Mar. 23	1245	10,500	12.51
Jan. 29	0630	3,640	7.94	May 2	0815	5,050	8.98
Feb. 6	1415	2,700	7.15	June 7	2245	3,930	8.28

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	67	206	238	1100	381	1030	3220	1790	1330	208	75
2	58	56	182	288	1010	435	1020	4050	2390	1280	193	74
3	48	52	180	358	2070	e492	1080	2750	2770	1220	183	71
4	43	50	255	412	1420	e480	1010	2200	3000	1140	174	70
5	41	49	246	302	1330	e450	921	2080	2720	1090	167	71
6	40	84	241	265	2100	e420	879	2030	2820	1070	160	71
7	44	120	613	236	1820	e380	832	2610	2890	1080	153	72
8	58	77	455	216	1240	e340	806	3820	2970	1040	149	77
9	84	66	317	211	876	e320	843	3110	2730	938	140	89
10	77	63	253	235	719	e310	987	2130	2930	837	133	83
11	67	68	221	501	608	e320	927	1760	2760	746	130	75
12	60	79	196	970	648	e360	832	1520	2800	702	127	71
13	60	93	177	881	615	e430	774	1300	2860	681	121	68
14	60	96	184	669	710	e500	715	1250	2650	634	118	68
15	57	124	166	526	604	e540	649	1220	2550	579	115	65
16	53	186	161	1180	545	e500	626	1150	2240	548	111	64
17	51	145	166	2450	493	e580	663	1070	1850	543	108	64
18	49	148	158	3920	468	e600	699	1050	1930	530	108	64
19	48	262	148	2430	565	e590	828	1150	1920	480	110	65
20	47	170	149	1320	489	e570	1010	1150	1760	443	105	64
21	47	130	144	933	494	e700	1330	1070	1780	426	101	63
22	46	132	134	745	437	e1700	1820	1060	1760	400	98	62
23	45	326	134	673	417	e4000	2380	1210	1730	385	95	62
24	45	437	132	624	399	e7200	2110	1350	1560	378	92	61
25	45	367	127	621	371	e3500	1680	1800	1420	354	90	61
26	45	404	125	1370	352	2380	1470	1400	1260	315	89	63
27	45	340	123	1660	347	1950	1630	1160	1180	286	86	65
28	45	255	125	1360	354	1640	2060	1480	1220	266	84	79
29	58	236	152	2580	---	1460	2510	1800	1250	247	81	68
30	56	239	191	1560	---	1210	2830	1440	1270	233	78	62
31	78	---	215	1150	---	1130	---	1450	---	223	76	---
TOTAL	1637	4921	6276	30884	22601	35868	36951	55840	64760	20424	3783	2067
MEAN	52.8	164	202	996	807	1157	1232	1801	2159	659	122	68.9
MAX	84	437	613	3920	2100	7200	2830	4050	3000	1330	208	89
MIN	37	49	123	211	347	310	626	1050	1180	223	76	61
AC-FT	3250	9760	12450	61260	44830	71140	73290	110800	128500	40510	7500	4100

e Estimated.

11523200 TRINITY RIVER ABOVE COFFEE CREEK, NEAR TRINITY CENTER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	78.1	210	340	460	582	673	839	1050	505	135	55.4	44.9
MAX	447	1664	1726	1899	2248	1641	1500	2414	2159	778	205	134
(WY)	1963	1974	1965	1974	1958	1995	1966	1983	1998	1983	1983	1978
MIN	24.3	37.4	34.1	35.9	47.2	60.0	137	204	95.7	29.0	20.9	23.3
(WY)	1992	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	120346		286012			
ANNUAL MEAN	330		784		413	
HIGHEST ANNUAL MEAN					851	1974
LOWEST ANNUAL MEAN					66.2	1977
HIGHEST DAILY MEAN	15000	Jan 1	7200	Mar 24	18900	Jan 16 1974
LOWEST DAILY MEAN	35	Sep 7	37	Oct 1	16	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	36	Sep 4	44	Oct 1	16	Sep 8 1977
INSTANTANEOUS PEAK FLOW			10500	Mar 23	26500	Jan 16 1974
INSTANTANEOUS PEAK STAGE			12.51	Mar 23	16.82	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	238700		567300		299400	
10 PERCENT EXCEEDS	667		2090		1050	
50 PERCENT EXCEEDS	177		417		173	
90 PERCENT EXCEEDS	42		63		38	

11525400 TRINITY LAKE NEAR LEWISTON, CA

LOCATION.—Lat 40°48'05", long 122°45'44", in NW 1/4 SW 1/4 sec.15, T.34 N., R.8 W., Trinity County, Hydrologic Unit 18010211, Trinity National Forest, Whiskeytown–Shasta–Trinity National Recreation Area, on side of intake structure of Trinity Dam on Trinity River, 9 mi north of Lewiston.

DRAINAGE AREA.—692 mi^2.

PERIOD OF RECORD.—November 1960 to current year. From October 1963 to September 1997 published as Clair Engle Lake near Lewiston.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to Jan. 4, 1962, nonrecording gage at same site and datum. Contents based on capacity table provided by U.S. Bureau of Reclamation, dated April 1962.

REMARKS.—The lake is formed by an earthfill dam completed in November 1960. Storage began Nov. 23, 1960. Usable capacity, 2,437,700 acre-ft between elevations 1,995.5 ft, elevation of invert of river outlets, and 2,370.0 ft, crest of glory hole spillway. Dead storage, 10,000 acre-ft. Operating pool is from elevation 2,145.0 ft, capacity, 312,621 acre-ft, to 2,370.0 ft, capacity, 2,447,700 acre-ft. Figures given represent total contents at 2400 hours. Lake is used for power generation, flood control, and recreation. See schematic diagram of Klamath River and Trinity River Basins.

COOPERATION.—Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (at 2400) FOR PERIOD OF RECORD.—Maximum contents, 2,588,000 acre-ft, Jan. 19, 1974, elevation, 2,378.32 ft; minimum since first filling, 222,400 acre-ft, Nov. 9, 1977, elevation, 2,120.22 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.—Maximum contents, 2,451,632 acre-ft, July 9, elevation, 2,370.24 ft; minimum, 1,430,846 acre-ft, Nov. 12, 13, elevation, 2,297.33 ft.

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

2,100	162,231	2,250	955,140
2,140	292,859	2,310	1,583,586
2,190	529,611	2,380	2,616,989

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1492438	1437373	1463960	1496991	1811879	1977745	2225154	2123988	2268410	2428218	2388598	2199873
2	1491239	1433994	1465147	1498554	1824248	1979621	2220397	2143095	2275244	2432652	2383579	2193910
3	1489682	1433294	1465978	1501324	1850241	1981926	2214875	2152604	2283024	2436444	2378578	2188427
4	1488243	1433060	1468231	1505300	1869271	1983946	2209810	2158503	2290040	2439576	2373262	2184008
5	1486926	1432827	1469062	1508071	1885096	1985963	2204304	2162891	2296918	2443037	2368430	2179284
6	1485250	1432594	1470603	1511330	1908176	1988277	2197730	2167290	2304747	2446004	2362175	2174577
7	1483463	1432594	1475117	1513146	1933152	1990452	2191321	2174881	2314027	2449147	2356093	2170021
8	1483224	1432594	1478572	1515082	1946794	1993058	2184618	2185072	2323178	2450802	2349849	2165470
9	1481911	1432127	1480840	1516900	1950076	1994943	2178676	2191779	2330455	2451632	2343484	2161077
10	1480721	1431893	1482508	1518958	1950076	1996679	2172909	2194063	2338709	2450802	2337275	2156689
11	1479288	1431777	1483821	1523931	1948080	1998854	2167594	2195285	2347622	2449313	2331564	2152301
12	1478217	1430846	1484653	1534644	1949362	2004370	2162137	2198496	2356249	2447324	2326025	2147917
13	1476546	1430846	1485489	1544799	1950933	2021553	2157446	2201247	2366017	2445839	2320331	2143545
14	1474998	1430962	1487286	1557086	1955071	2034422	2149579	2202930	2375358	2443862	2314814	2139176
15	1472975	1432710	1488602	1566591	1955924	2044831	2142341	2204457	2383417	2442377	2307580	2134502
16	1471553	1435859	1489442	1580356	1956353	2058225	2135105	2205835	2389895	2441226	2300048	2130144
17	1469300	1437256	1491239	1610262	1954357	2069601	2126990	2206141	2393783	2439411	2292857	2125187
18	1467400	1438540	1492918	1642210	1953643	2077300	2119181	2205528	2397833	2437925	2285824	2120233
19	1465622	1441237	1493995	1666574	1958356	2080415	2112599	2209964	2402392	2435289	2279290	2115290
20	1463607	1441589	1494955	1679233	1960793	2080712	2106763	2213800	2405650	2433309	2272445	2111401
21	1460414	1441707	1494355	1687269	1965814	2078636	2103027	2217636	2409724	2430511	2265309	2107362
22	1456520	1442411	1494595	1694950	1969112	2111551	2101689	2220857	2413145	2428710	2258484	2103624
23	1453571	1444404	1495315	1701212	1972413	2174577	2103326	2225617	2415925	2427069	2251522	2100794
24	1451095	1447102	1495915	1706836	1974430	2213493	2104072	2232699	2417889	2424284	2245034	2097964
25	1448863	1449447	1495075	1712863	1975440	2228387	2103922	2242868	2419366	2421167	2239165	2093941
26	1448393	1454162	1495435	1728788	1975295	2235470	2101689	2246731	2419530	2417889	2233161	2089918
27	1447454	1457347	1495195	1746918	1975295	2238398	2100347	2249670	2418546	2414450	2227308	2086502
28	1446397	1459115	1494715	1758893	1976738	2238398	2102132	2255540	2418710	2410050	2221318	2083386
29	1444991	1461001	1494115	1776936	---	2237473	2106464	2261588	2420679	2404834	2216100	2080415
30	1442998	1462657	1494595	1789569	---	2232237	2113048	2263602	2423792	2399134	2210732	2077300
31	1440767	---	1495555	1799691	---	2230545	---	2265154	---	2393783	2205375	---
MAX	1492438	1462657	1495915	1799691	1976738	2238398	2225154	2265154	2423792	2451632	2388598	2199873
MIN	1440767	1430846	1463960	1496991	1811879	1977745	2100347	2123988	2268410	2393783	2205375	2077300
a	2298.18	2300.04	2302.80	2326.63	2339.33	2356.35	2348.61	2358.59	2368.55	2366.71	2354.71	2346.21
b	-53108	+21890	+32898	+304136	+177047	+253807	-117497	+152106	+158638	-30009	-188408	-128075

CAL YR 1997 b -549866
WTR YR 1998 b +583425

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

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.—Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, at powerplant 1.6 mi downstream from Mill Creek and 3.8 mi south of French Gulch.

PERIOD OF RECORD.—April 1963 to current year.

GAGE.—Recorded powerplant output.

REMARKS.—Water is diverted from Trinity River at NW 1/4 SE 1/4 sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of Klamath River and Trinity River Basins.

COOPERATION.—Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 4,000 ft^3/s, Oct. 18, 1987; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	1547	0	0	133	141	750	3320	0	1585	3173	2629
2	250	1474	0	857	112	34	1112	3294	6	2167	3116	2563
3	247	0	0	431	83	110	1225	3198	0	2453	2967	2323
4	248	0	0	0	0	168	1563	3204	0	2444	2956	2148
5	250	0	539	0	0	314	1664	3199	0	2818	2974	1881
6	282	302	135	0	0	392	1675	3189	0	2958	3148	1928
7	281	0	0	0	0	278	1930	3175	0	3159	2928	1905
8	229	0	0	0	0	179	2521	3274	0	3096	2867	1921
9	427	0	0	0	0	129	2725	3314	0	3173	2983	1921
10	398	117	0	0	43	415	2688	3377	37	3145	3060	1782
11	346	434	0	0	34	361	2453	3351	51	3132	3028	1379
12	353	486	0	0	0	586	2183	1941	21	3114	3008	1815
13	493	404	0	22	0	504	1777	1392	22	3023	3009	1730
14	989	0	0	0	0	525	2725	1678	171	3121	2994	1725
15	520	0	0	0	251	503	2780	1613	7	2882	3190	1844
16	411	0	452	42	149	547	2780	1842	1	2773	2980	1672
17	842	0	0	175	223	1389	2958	2049	2	2837	3016	1684
18	795	0	0	137	225	1649	3211	2419	136	2813	2910	1680
19	607	0	0	1482	220	1606	3241	532	222	2809	3004	1448
20	790	154	0	414	172	1388	3121	541	0	3133	3010	1403
21	1360	0	802	419	181	2555	3230	591	198	3134	3017	1453
22	1567	0	0	123	368	1755	3257	530	491	2972	3008	1359
23	1145	175	0	135	262	661	3133	450	823	2281	3111	1125
24	845	220	0	130	163	593	3121	512	922	3008	3111	1313
25	893	268	595	129	216	623	2880	205	952	3053	2616	1315
26	0	0	0	131	98	665	3144	571	1280	2940	2648	1193
27	224	0	407	103	113	705	3257	449	1442	2997	2619	1125
28	225	0	392	126	163	504	3402	0	1398	2834	2614	1387
29	796	150	472	81	---	630	3400	7	2134	2902	2632	1234
30	778	381	0	126	---	1203	3320	35	1639	2980	2602	1182
31	1447	---	0	120	---	552	---	0	---	3016	2399	---
TOTAL	18285	6112	3794	5183	3209	21664	77226	53252	11955	88752	90698	50067
MEAN	590	204	122	167	115	699	2574	1718	399	2863	2926	1669
MAX	1567	1547	802	1482	368	2555	3402	3377	2134	3173	3190	2629
MIN	0	0	0	0	0	34	750	0	0	1585	2399	1125
AC-FT	36270	12120	7530	10280	6370	42970	153200	105600	23710	176000	179900	99310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1336	821	672	583	800	859	1188	1340	1832	2372	2246	2084
MAX	3363	2158	2891	2755	3225	3115	3220	3515	3662	3589	3236	3504
(WY)	1988	1967	1979	1982	1974	1974	1970	1974	1969	1968	1977	1988
MIN	166	18.0	.16	.000	.34	.000	.000	.097	.63	253	507	415
(WY)	1994	1992	1993	1986	1988	1988	1978	1991	1993	1978	1992	1997

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1963 - 1998	
ANNUAL TOTAL	408960		430197			
ANNUAL MEAN	1120		1179		1359	
HIGHEST ANNUAL MEAN					2486	1974
LOWEST ANNUAL MEAN					301	1978
HIGHEST DAILY MEAN	3224	Jul 8	3402	Apr 28	4000	Oct 18 1987
LOWEST DAILY MEAN	0	Mar 15	0	Oct 26	0	May 6 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 15	.00	Dec 7	.00	Oct 14 1969
ANNUAL RUNOFF (AC-FT)	811200		853300		984600	
10 PERCENT EXCEEDS	2980		3110		3140	
50 PERCENT EXCEEDS	778		571		1090	
90 PERCENT EXCEEDS	.00		.00		.00	

11525500 TRINITY RIVER AT LEWISTON, CA

LOCATION.—Lat 40°43'10", long 122°48'09", in SW 1/4 NW 1/4 sec.17, T.33 N., R.8 W., Trinity County, Hydrologic Unit 18010211, on right bank 400 ft upstream from Deadwood Creek, 0.8 mi downstream from Lewiston Diversion Dam, and 0.8 mi northeast of Lewiston.

DRAINAGE AREA.—719 mi^2.

PERIOD OF RECORD.—August 1911 to current year.
CHEMICAL DATA: Water years 1951–81.
WATER TEMPERATURE: Water years 1952–55, 1958–83.
SEDIMENT DATA: Water years 1955–61.

REVISED RECORDS.—WSP 331: 1911–12. WSP 1181: 1949. WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 1,815.95 ft above sea level. See WSP 1929 for history of changes prior to July 7, 1964.

REMARKS.—Records good. Flow completely regulated by Clair Engle Lake (station 11525400) beginning in November 1960 and Lewiston Lake, capacity, 14,660 acre-ft, when diversion to Judge Francis Carr Powerplant (station 11525430) began in April 1963. Small diversions above head of Clair Engle Lake for irrigation, power, placer mining, and domestic use between Trinity Dam and station at Lewiston. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 71,600 ft^3/s, Dec. 22, 1955, gage height, 27.3 ft, from floodmarks, site and datum then in use; minimum, 23 ft^3/s, July 30, 1924. Since completion of Trinity Dam in 1960, maximum discharge, 14,400 ft^3/s, Jan. 18, 1974, gage height, 10.41 ft; minimum daily, 100 ft^3/s, Apr. 14, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1861 reached a stage of 21.6 ft, from floodmarks, at site 1.1 mi downstream at different datum, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	467	303	337	317	311	2070	5770	2870	5940	2150	545	544
2	479	303	338	318	312	2040	5680	2740	5970	1850	543	558
3	480	303	338	317	315	1860	5770	2720	5940	1530	541	577
4	481	306	339	316	532	1580	5130	2720	5980	1250	544	574
5	480	308	337	316	1870	1260	5120	2720	6020	1130	543	559
6	481	308	337	316	3540	1060	5150	2720	6010	1010	553	551
7	480	310	336	316	3660	792	4680	2730	6040	1010	550	557
8	482	311	337	316	4510	745	4120	2730	6050	984	553	556
9	483	313	333	316	5050	764	4060	2740	6040	1010	557	558
10	466	313	333	313	5610	654	4090	2730	6050	1360	559	558
11	452	311	334	315	5640	547	4090	2730	6030	1350	557	553
12	452	311	334	318	4780	447	4080	2730	6100	1350	552	552
13	454	310	337	316	4460	313	4080	2740	6030	1290	543	548
14	461	310	335	321	4420	307	4060	2720	5980	1070	560	552
15	463	313	335	320	4390	308	3670	2550	5900	1030	583	551
16	335	342	335	321	4400	313	3690	2210	5860	1020	576	558
17	298	339	337	321	4400	304	3540	1950	5870	1020	564	556
18	296	337	337	320	4270	492	3250	1820	5910	943	546	556
19	296	336	336	318	4130	1880	3260	1740	5910	849	562	560
20	296	338	337	313	4110	3940	3300	1700	5860	731	562	558
21	300	339	337	314	3650	5650	3330	1710	5700	714	562	560
22	302	341	337	314	3020	5790	3110	1700	5460	709	566	557
23	303	341	336	312	2980	5770	2980	1700	4990	709	566	557
24	306	340	336	312	3030	5770	3000	1720	4720	710	564	551
25	309	340	335	313	3110	5810	3000	1720	4710	663	557	549
26	308	339	335	316	3090	5740	2990	2680	4480	601	550	552
27	306	338	335	316	2630	5730	2990	3990	4380	552	549	553
28	307	337	335	314	2110	5670	2990	5340	4060	540	551	553
29	308	338	336	313	---	5750	3000	5980	3290	541	549	550
30	305	340	328	311	---	5710	3020	5960	2700	545	546	549
31	305	---	328	312	---	5750	---	5930	---	546	547	---
TOTAL	11941	9718	10400	9791	94330	84816	117000	88740	163980	30767	17200	16667
MEAN	385	324	335	316	3369	2736	3900	2863	5466	992	555	556
MAX	483	342	339	321	5640	5810	5770	5980	6100	2150	583	577
MIN	296	303	328	311	311	304	2980	1700	2700	540	541	544
AC-FT	23680	19280	20630	19420	187100	168200	232100	176000	325300	61030	34120	33060

11525500 TRINITY RIVER AT LEWISTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1960, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	302	742	1257	1572	2544	2653	3675	3932	2131	611	201	158
MAX	2174	3055	5319	5734	11670	6116	6986	9062	6311	2579	628	423
(WY)	1951	1921	1956	1956	1958	1941	1915	1958	1915	1941	1941	1912
MIN	92.3	121	147	169	331	519	725	442	115	42.7	41.0	41.1
(WY)	1918	1930	1937	1937	1933	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1912 - 1960	
ANNUAL MEAN	1641	
HIGHEST ANNUAL MEAN	3721	1958
LOWEST ANNUAL MEAN	367	1924
HIGHEST DAILY MEAN	38700	Dec 22 1955
LOWEST DAILY MEAN	28	Jul 30 1924
ANNUAL SEVEN-DAY MINIMUM	31	Jul 26 1924
INSTANTANEOUS PEAK FLOW	71600	Dec 22 1955
INSTANTANEOUS PEAK STAGE	27.3	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	1189000	
10 PERCENT EXCEEDS	4310	
50 PERCENT EXCEEDS	732	
90 PERCENT EXCEEDS	132	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	282	298	361	634	609	684	765	837	740	371	318	308
MAX	424	849	2285	6525	3369	5489	5029	3937	5466	1096	577	556
(WY)	1993	1984	1984	1997	1998	1983	1963	1963	1998	1983	1982	1998
MIN	203	220	144	145	145	149	130	149	146	142	139	150
(WY)	1966	1971	1977	1977	1977	1977	1976	1976	1976	1976	1976	1966

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	437442		655350			
ANNUAL MEAN	1198		1795		517	
HIGHEST ANNUAL MEAN					1795	1998
LOWEST ANNUAL MEAN					165	1977
HIGHEST DAILY MEAN	6910	Jan 26	6100	Jun 12	13800	Jan 19 1974
LOWEST DAILY MEAN	296	Oct 18	296	Oct 18	100	Apr 14 1976
ANNUAL SEVEN-DAY MINIMUM	299	Oct 17	299	Oct 17	103	Apr 12 1976
INSTANTANEOUS PEAK FLOW			6190	Jun 12	14400	Jan 18 1974
INSTANTANEOUS PEAK STAGE			7.63	Jun 12	10.41	Jan 18 1974
ANNUAL RUNOFF (AC-FT)	867700		1300000		374300	
10 PERCENT EXCEEDS	5980		5670		645	
50 PERCENT EXCEEDS	463		558		301	
90 PERCENT EXCEEDS	311		313		155	

11525580 LITTLE GRASS VALLEY CREEK NEAR LEWISTON, CA

LOCATION.—Lat 40°39'45", long 122°47'57", in NE 1/4 NW 1/4 sec.5, T.32 N., R.8 W., Trinity County, Hydrologic Unit 18010211, on left bank 0.2 mi upstream from the confluence with Grass Valley Creek, 0.9 mi west of Buckhorn Station, and 3.1 mi south of Lewiston on State Highway 299.

DRAINAGE AREA.—10.7 mi^2.

PERIOD OF RECORD.—
SEDIMENT DATA: Water years 1985 to current year.

REMARKS.—Zero bedload observed at flows less than 12 ft^3/s. Record is collected for hydrologic and sediment-transport correlation studies with Grass Valley Creek at Fawn Lodge, near Lewiston (station 11525600).

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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. 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)
OCT								
06...	1105	2.5	10.0	2	.01	--	--	--
NOV								
03...	1105	2.4	8.0	3	.02	--	--	--
DEC								
04...	1115	4.9	7.0	5	.07	--	--	--
JAN								
12...	1130	21	5.5	656	37	--	--	--
17...	1030	40	7.0	474	51	--	--	--
29...	1235	32	7.5	230	20	--	--	--
FEB								
06...	1100	506	6.0	12100	16500	10	13	14
MAR								
10...	1200	39	6.5	586	62	--	--	--
25...	1250	53	8.5	556	80	--	--	--
MAY								
14...	1130	22	9.0	70	4.2	--	--	--
JUN								
10...	1245	24	12.0	26	1.7	--	--	--
JUL								
09...	1230	12	15.5	6	.19	--	--	--
AUG								
05...	1215	8.1	14.0	7	.15	--	--	--
SEP								
04...	1055	5.5	14.0	3	.04	--	--	--

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
OCT								
06...	--	--	--	--	--	--	--	--
NOV								
03...	--	--	--	--	--	--	--	--
DEC								
04...	--	--	--	--	--	--	--	--
JAN								
12...	--	--	56	72	88	98	100	--
17...	--	--	46	59	76	93	99	100
29...	--	--	36	50	67	88	100	--
FEB								
06...	23	31	38	63	85	95	98	99
MAR								
10...	--	--	12	21	41	74	95	96
25...	--	--	17	27	45	74	95	100
MAY								
14...	--	--	12	--	--	--	--	--
JUN								
10...	--	--	37	--	--	--	--	--
JUL								
09...	--	--	--	--	--	--	--	--
AUG								
05...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

11525580 LITTLE GRASS VALLEY CREEK NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT) (00063)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)
MAR							
10...	1245	1	44	6.5	--	4	12
10...	1250	1	44	6.5	--	--	2
10...	1255	1	44	6.5	--	--	3
JUL							
09...	1235	1	12	15.5	--	2	4
09...	1240	1	12	15.5	--	2	6
09...	1245	1	12	15.5	1	5	15

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)
MAR							
10...	33	72	97	100	--	--	--
10...	16	44	80	94	99	100	--
10...	17	52	93	100	--	--	--
JUL							
09...	10	20	29	32	37	48	100
09...	11	18	28	35	43	73	100
09...	31	42	51	54	56	66	100

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	STARTING TIME (2400 HOURS) (82073)	ENDING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORIZONTAL WIDTH OF VERTICAL (FEET) (04121)
JAN									
12...	1140	1000	1120	.250	0	1135	1145	30	.5
12...	1150	1000	1120	.250	0	1145	1155	30	.5
17...	1050	1000	1120	.250	0	1045	1055	30	.5
17...	1100	1000	1120	.250	0	1055	1105	30	.5
29...	1250	1000	1120	.250	0	1245	1255	30	.5
29...	1300	1000	1120	.250	0	1255	1305	30	.5
MAR									
10...	1215	1000	1120	.250	0	1210	1225	30	.5
10...	1230	1000	1120	.250	0	1225	1240	30	.5
25...	1305	1000	1120	.250	0	1300	1310	15	.5
25...	1315	1000	1120	.250	0	1310	1320	15	.5

11525580 LITTLE GRASS VALLEY CREEK NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)
JAN									
12...	2	13	13	1.00	21	5.5	1.00	7.2	1
12...	2	13	13	1.00	21	5.5	1.20	7.2	--
17...	2	14	14	1.40	39	7.0	.59	5.9	2
17...	2	14	14	1.40	39	7.0	1.10	5.9	1
29...	2	12	12	2.00	32	7.5	3.00	14	--
29...	2	12	12	2.00	32	7.5	1.70	14	--
MAR									
10...	2	16	16	1.00	40	6.5	4.60	38	--
10...	2	16	16	1.00	42	6.5	4.80	38	--
25...	2	13	13	2.00	53	8.5	11.0	65	--
25...	2	13	13	2.00	53	8.5	9.40	65	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)
JAN								
12...	11	29	50	73	94	100	--	--
12...	4	14	34	65	94	100	--	--
17...	18	52	76	86	96	100	--	--
17...	12	39	64	79	94	100	--	--
29...	6	7	24	58	93	100	--	--
29...	6	20	40	68	94	99	100	--
MAR								
10...	2	9	29	64	94	99	100	--
10...	2	15	46	77	97	100	--	--
25...	2	10	29	57	90	98	99	100
25...	1	7	25	55	87	98	100	--

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA

LOCATION.—Lat 40°40'35", long 122°49'46", in SW 1/4 NE 1/4 sec.36, T.33 N., R.9 W., Trinity County, Hydrologic Unit 18010211, on right bank 0.1 mi upstream from Phillips Gulch and 2.5 mi southwest of Lewiston.

DRAINAGE AREA.—30.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—November 1975 to current year.

REVISED RECORDS.—WDR CA-86-2: 1983(M). WDR CA-94-2: 1993(P). WDR CA-97-2: 1983(P).

GAGE.—Water-stage recorder. Datum of gage is 2,049.73 ft above sea level (California State Highway Department Benchmark).

REMARKS.—Records fair. Minor regulation by Buckhorn Reservoir since 1990, capacity 1,090 acre-ft; small pumping diversions upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,500 ft^3/s, Feb. 28, 1983; gage height, 10.11 ft, from rating curve extended above 700 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.8 ft^3/s, July 29, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 220 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	1630	394	4.54	Mar. 23	1515	758	5.66
Feb. 6	1330	2,020	7.73	May 2	0030	282	4.47
Mar. 13	0715	431	4.93	May 28	1830	353	4.69

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	42	29	280	229	221	201	184	76	39	25
2	12	13	38	36	295	228	224	269	176	75	38	24
3	12	13	37	44	681	221	248	222	151	73	37	23
4	12	13	46	63	544	199	225	207	145	70	36	23
5	12	13	45	48	758	187	214	188	139	67	34	23
6	12	15	45	46	1430	174	203	179	137	65	34	23
7	13	16	63	44	1210	163	189	175	140	65	33	25
8	16	14	57	41	920	157	177	174	139	63	33	25
9	18	14	49	43	632	148	195	163	135	62	33	26
10	14	14	45	49	515	141	235	147	139	60	33	25
11	13	15	43	79	427	139	220	143	150	59	32	24
12	13	15	40	121	418	192	201	141	143	58	31	23
13	13	19	38	104	378	357	190	132	141	56	30	23
14	13	19	44	175	446	269	176	127	134	55	30	22
15	13	39	40	176	369	247	166	121	128	54	30	22
16	13	62	41	218	340	243	157	123	123	52	29	21
17	13	39	45	260	305	230	150	115	116	51	29	21
18	13	30	42	293	283	211	144	111	113	49	30	21
19	13	63	38	256	498	197	141	110	108	48	30	22
20	13	37	37	190	412	191	138	107	103	47	30	22
21	13	30	36	150	438	221	138	102	99	46	29	22
22	13	28	34	135	383	513	142	99	98	46	28	21
23	13	29	33	126	406	639	164	100	97	46	27	21
24	13	31	32	117	351	537	176	110	94	46	28	21
25	13	32	31	117	308	447	155	109	90	45	28	21
26	13	78	31	206	281	382	146	104	85	43	27	22
27	13	72	30	205	262	336	143	99	83	41	27	22
28	13	50	30	159	245	302	146	215	81	40	26	23
29	14	46	29	233	---	270	150	331	79	40	26	22
30	14	50	29	179	---	249	155	262	77	40	26	21
31	13	---	29	171	---	246	---	207	---	39	25	---
TOTAL	407	922	1219	4113	13815	8265	5329	4893	3627	1677	948	679
MEAN	13.1	30.7	39.3	133	493	267	178	158	121	54.1	30.6	22.6
MAX	18	78	63	293	1430	639	248	331	184	76	39	26
MIN	11	13	29	29	245	139	138	99	77	39	25	21
AC-FT	807	1830	2420	8160	27400	16390	10570	9710	7190	3330	1880	1350

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.5	23.0	42.3	78.2	104	111	70.1	52.3	33.5	17.9	11.9	11.3
MAX	18.8	70.4	220	332	493	531	186	174	121	54.1	30.6	23.0
(WY)	1990	1985	1984	1995	1998	1983	1983	1983	1998	1998	1998	1983
MIN	6.94	8.88	8.20	10.2	9.10	13.8	12.3	15.1	9.64	5.85	4.95	6.50
(WY)	1992	1991	1991	1991	1991	1977	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1976 - 1998	
ANNUAL TOTAL	16124.0		45894			
ANNUAL MEAN	44.2		126		48.2	
HIGHEST ANNUAL MEAN					136	1983
LOWEST ANNUAL MEAN					10.2	1977
HIGHEST DAILY MEAN	1400	Jan 1	1430	Feb 6	2420	Mar 2 1983
LOWEST DAILY MEAN	9.4	Aug 14	11	Oct 1	3.8	Jul 29 1994
ANNUAL SEVEN-DAY MINIMUM	9.5	Aug 13	12	Oct 1	4.0	Jul 25 1994
INSTANTANEOUS PEAK FLOW			2020	Feb 6	3500	Feb 28 1983
INSTANTANEOUS PEAK STAGE			7.73	Feb 6	10.11	Feb 28 1983
ANNUAL RUNOFF (AC-FT)	31980		91030		34930	
10 PERCENT EXCEEDS	81		274		105	
50 PERCENT EXCEEDS	26		63		21	
90 PERCENT EXCEEDS	11		14		8.9	

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1976 to current year.
WATER TEMPERATURE: Water years 1976 to current year.
SEDIMENT DATA: Water years 1976 to current year.

PERIOD OF DAILY RECORD.—
SUSPENDED-SEDIMENT DISCHARGE: November 1975 to current year.

REMARKS.—Sediment samples were collected on most days where a water temperature is published. Zero bedload observed at flows less than 48 ft^3/s.

EXTREMES FOR PERIOD OF DAILY RECORD.—
SEDIMENT CONCENTRATION: Maximum daily mean, 9,550 mg/L, Mar. 2, 1983; minimum daily mean, 0 mg/L, several days most years.
SEDIMENT LOAD: Maximum daily, 65,200 tons, Mar. 2, 1983; minimum daily, 0 ton, several days most years.

EXTREMES FOR CURRENT YEAR.—
SEDIMENT CONCENTRATION: Maximum daily mean, 3,620 mg/L, Feb. 6; minimum daily mean, 1 mg/L, several days during October and November.
SEDIMENT LOAD: Maximum daily, 14,700 tons, Feb. 6; minimum daily, 0.04 ton, several days during October and November.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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. 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)
DEC								
04...	1010	48	7.0	10	1.3	--	--	--
JAN								
12...	0935	92	5.5	80	20	--	--	--
29...	1000	252	7.0	217	148	--	--	--
FEB								
02...	0805	272	6.5	152	112	--	--	--
06...	0915	1520	6.0	3650	15000	11	12	15
MAR								
10...	1000	142	5.0	414	159	--	--	--
25...	1010	450	7.0	357	434	--	--	--
MAY								
14...	0955	129	8.0	32	11	--	--	--
JUN								
10...	1020	143	12.0	12	4.6	--	--	--

DATE	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM (70336)
DEC								
04...	--	--	30	--	--	--	--	--
JAN								
12...	--	--	35	41	48	61	87	100
29...	--	--	14	18	26	43	71	92
FEB								
02...	--	--	34	--	--	--	--	--
06...	23	33	42	63	81	94	99	100
MAR								
10...	--	--	8	12	18	37	66	89
25...	--	--	10	14	24	41	71	100
MAY								
14...	--	--	22	--	--	--	--	--
JUN								
10...	--	--	27	--	--	--	--	--

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT) (00063)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)
JUL							
09...	1055	1	64	15.0	--	1	2
09...	1100	1	64	15.0	--	--	1
09...	1105	1	64	15.0	--	--	--
09...	1110	1	64	15.0	--	--	1
09...	1115	1	64	15.0	--	1	3
SEP							
04...	0945	1	23	16.0	1	3	7
04...	0950	1	23	16.0	--	1	3
04...	0955	1	23	16.0	--	--	--
04...	1000	1	23	16.0	--	--	2
04...	1005	1	23	16.0	1	2	4

DATE	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)	BED MAT. SIEVE DIAM. % FINER THAN 128 MM (80175)
JUL							
09...	4	6	8	14	60	100	--
09...	2	4	6	15	38	100	--
09...	--	--	--	1	4	100	--
09...	3	6	7	10	24	100	--
09...	7	12	16	21	40	100	--
SEP							
04...	14	20	23	32	62	100	--
04...	5	8	13	25	49	100	--
04...	1	2	2	6	12	18	100
04...	5	15	21	30	47	100	--
04...	8	16	21	29	63	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	BAG MESH SIZE BEDLOAD SAMPLER (MM) (30333)	TETHER LINE USED IN SAMPLNG (YES=1) (CODE) (04117)	STARTING TIME (2400 HOURS) (82073)	ENDING TIME (2400 HOURS (82074)	TIME ON BED FOR BED LOAD SAMPLE (SEC) (04120)	HORIZONTAL WIDTH OF VERTICAL (FEET) (04121)
JAN									
12...	0955	1000	1120	.250	0	0950	1000	30	1.0
12...	1005	1000	1120	.250	0	1000	1010	30	1.0
29...	1045	1000	1100	.250	0	1035	1055	30	1.0
29...	1105	1000	1100	.250	0	1055	1115	30	1.0
MAR									
10...	1030	1000	1120	.250	0	1020	1035	30	1.0
10...	1045	1000	1120	.250	0	1035	1050	30	1.0
25...	1045	1000	1100	.250	0	1040	1055	30	2.0
25...	1100	1000	1100	.250	0	1055	1110	30	2.0

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	COMPSTD SAMPLES IN X-SEC BEDLOAD MEASMNT (NUM) (04118)	VER-TICALS IN COM-POSITE SAMPLE (NUM) (04119)	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	DISCH, BEDLOAD AV UNIT FOR COM POSITE SAMPLE T/D/FT (04122)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)
JAN								
12...	2	17	17	3.00	96	5.5	1.60	31
12...	2	17	17	3.00	96	5.5	2.00	31
29...	2	13	13	7.00	246	7.0	.77	13
29...	2	13	13	7.00	243	7.0	1.30	13
MAR								
10...	2	18	18	4.00	144	5.0	4.30	75
10...	2	18	18	4.00	144	5.0	4.00	75
25...	2	13	13	9.00	446	7.0	.77	35
25...	2	13	13	9.00	446	7.0	1.90	35

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)
JAN								
12...	6	7	38	87	100	--	--	--
12...	--	2	17	72	98	100	--	--
29...	2	10	26	51	88	99	100	--
29...	1	5	18	38	76	98	100	--
MAR								
10...	--	1	13	55	94	100	--	--
10...	3	10	34	70	94	100	--	--
25...	2	10	26	52	86	100	--	--
25...	1	5	14	34	80	98	99	100

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	7.0	---	6.5	6.5	---	---	---	---	---	---
2	11.5	---	---	5.0	6.5	7.0	---	---	---	---	---	---
3	---	9.0	---	---	6.5	---	7.0	10.0	---	---	---	---
4	---	---	7.0	---	6.0	---	7.0	---	---	---	---	16.0
5	---	---	---	4.0	6.0	5.0	---	12.0	---	---	16.0	---
6	10.5	---	7.5	---	6.0	---	7.0	---	---	---	---	---
7	---	10.0	7.5	---	6.0	---	---	---	---	---	---	17.0
8	---	---	---	4.0	6.0	7.0	---	12.0	---	---	---	---
9	10.5	---	5.5	4.0	5.5	---	---	---	---	15.0	---	---
10	10.0	---	---	---	---	5.0	6.5	---	12.0	---	---	---
11	---	9.0	---	5.5	6.0	---	---	---	---	---	---	---
12	---	9.5	5.0	5.5	6.0	8.0	---	8.0	---	---	---	---
13	---	10.0	---	6.0	6.0	---	6.0	---	---	---	---	---
14	8.0	8.0	---	4.5	6.0	---	---	8.0	---	15.0	---	---
15	---	8.0	5.0	4.5	---	---	---	---	---	---	---	---
16	---	9.0	---	5.5	---	11.0	10.0	---	---	---	---	---
17	---	9.0	---	7.0	5.0	---	---	10.5	---	---	14.5	---
18	---	---	5.0	7.0	5.5	9.5	9.0	---	---	---	---	---
19	9.0	8.5	---	6.0	5.5	---	---	---	---	---	---	---
20	---	---	---	5.5	6.0	---	---	---	---	---	---	12.0
21	8.0	---	4.0	5.5	5.5	---	10.0	---	---	17.0	---	---
22	---	8.0	---	6.0	---	8.0	---	12.5	---	---	---	---
23	---	8.5	3.0	6.0	---	8.0	9.5	---	---	---	---	---
24	---	9.0	---	5.5	6.0	7.0	10.5	10.0	---	---	---	---
25	6.5	8.5	---	---	---	7.0	---	---	---	---	---	---
26	---	9.0	2.0	6.5	7.0	---	---	---	---	---	---	---
27	9.0	8.5	---	7.0	7.5	---	12.0	8.0	---	---	13.5	---
28	---	9.0	2.0	7.5	---	---	---	8.5	---	---	---	---
29	---	---	---	7.0	---	---	---	9.0	---	---	---	---
30	---	7.0	---	7.0	---	5.5	13.0	---	---	---	---	12.0
31	11.5	---	4.0	---	---	---	---	11.5	---	15.0	14.0	---

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	11	2	.07	13	1	.04	42	8	.94
2	12	3	.09	13	1	.04	38	8	.79
3	12	2	.07	13	1	.04	37	7	.66
4	12	2	.05	13	1	.04	46	6	.75
5	12	1	.04	13	1	.04	45	4	.45
6	12	2	.05	15	1	.04	45	3	.38
7	13	3	.09	16	1	.04	63	18	3.4
8	16	3	.14	14	1	.04	57	6	.87
9	18	4	.18	14	1	.04	49	4	.52
10	14	3	.13	14	1	.04	45	3	.40
11	13	3	.11	15	1	.04	43	3	.30
12	13	3	.11	15	1	.04	40	2	.22
13	13	3	.10	19	2	.10	38	2	.20
14	13	3	.10	19	1	.06	44	8	.94
15	13	3	.10	39	40	4.9	40	4	.41
16	13	3	.10	62	28	4.8	41	3	.34
17	13	3	.10	39	7	.74	45	3	.37
18	13	3	.10	30	7	.65	42	3	.33
19	13	3	.10	63	21	3.7	38	3	.27
20	13	3	.12	37	6	.64	37	2	.23
21	13	4	.13	30	4	.34	36	2	.20
22	13	4	.14	28	3	.23	34	2	.22
23	13	4	.14	29	3	.23	33	3	.25
24	13	4	.14	31	3	.25	32	3	.26
25	13	4	.13	32	3	.25	31	3	.25
26	13	2	.07	78	39	10	31	3	.25
27	13	1	.04	72	21	4.4	30	3	.24
28	13	1	.04	50	8	1.1	30	3	.24
29	14	1	.04	46	10	1.3	29	3	.24
30	14	1	.04	50	13	1.9	29	3	.24
31	13	1	.04	---	---	---	29	3	.23
TOTAL	407	---	2.90	922	---	36.07	1219	---	15.39

DAY	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	29	4	.31	280	413	359	229	1300	802
2	36	9	.92	295	244	196	228	1270	778
3	44	9	1.3	681	1090	2050	221	1310	782
4	63	25	4.3	544	591	879	199	1370	739
5	48	12	1.5	758	1490	3380	187	1390	704
6	46	8	.96	1430	3620	14700	174	1250	586
7	44	6	.65	1210	1990	6560	163	1100	486
8	41	4	.43	920	1570	3930	157	955	404
9	43	2	.25	632	991	1710	148	709	283
10	49	2	.26	515	711	991	141	557	212
11	79	57	15	427	594	686	139	442	166
12	121	350	140	418	602	682	192	971	585
13	104	308	88	378	507	519	357	2010	1950
14	175	601	312	446	1240	1530	269	1250	914
15	176	517	249	369	864	864	247	685	456
16	218	850	551	340	662	609	243	433	285
17	260	662	477	305	625	514	230	343	213
18	293	940	842	283	688	528	211	281	160
19	256	492	357	498	1830	2520	197	248	132
20	190	242	125	412	1240	1390	191	225	116
21	150	144	59	438	1250	1480	221	274	176
22	135	98	36	383	834	866	513	1700	2430
23	126	62	21	406	1130	1260	639	1560	2730
24	117	52	16	351	759	721	537	611	907
25	117	47	15	308	749	622	447	238	289
26	206	310	172	281	806	611	382	175	181
27	205	200	111	262	1020	722	336	142	129
28	159	68	30	245	1190	786	302	114	93
29	233	178	120	---	---	---	270	92	68
30	179	74	36	---	---	---	249	77	52
31	171	75	35	---	---	---	246	98	65
TOTAL	4113	---	3817.88	13815	---	51665	8265	---	17873

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	221	69	41	201	255	143	184	63	31
2	224	126	80	269	306	224	176	48	23
3	248	246	165	222	127	77	151	26	11
4	225	308	187	207	93	52	145	19	7.5
5	214	261	151	188	87	44	139	18	6.6
6	203	210	115	179	77	37	137	16	6.1
7	189	202	103	175	68	32	140	16	6.0
8	177	201	96	174	60	28	139	14	5.2
9	195	219	118	163	57	25	135	13	4.7
10	235	241	154	147	56	22	139	12	4.5
11	220	217	129	143	63	24	150	13	5.3
12	201	197	107	141	81	31	143	10	3.9
13	190	179	92	132	50	18	141	8	3.0
14	176	161	77	127	29	10	134	7	2.5
15	166	144	65	121	25	8.2	128	7	2.3
16	157	129	55	123	38	13	123	7	2.2
17	150	122	50	115	34	11	116	6	2.0
18	144	112	44	111	24	7.2	113	6	1.9
19	141	79	30	110	19	5.6	108	6	1.7
20	138	53	20	107	28	8.1	103	6	1.6
21	138	37	14	102	25	6.9	99	5	1.5
22	142	32	12	99	22	6.0	98	5	1.4
23	164	116	57	100	21	5.7	97	5	1.3
24	176	309	147	110	22	6.4	94	5	1.3
25	155	201	84	109	16	4.9	90	5	1.2
26	146	123	48	104	10	2.7	85	5	1.1
27	143	81	31	99	7	1.8	83	4	1.0
28	146	106	42	215	246	175	81	4	.95
29	150	160	65	331	236	211	79	4	.89
30	155	228	96	262	145	104	77	4	.84
31	---	---	---	207	86	49	---	---	---
TOTAL	5329	---	2475	4893	---	1393.5	3627	---	143.48

DAY	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	76	4	.81	39	4	.42	25	2	.11
2	75	4	.76	38	3	.29	24	1	.09
3	73	4	.72	37	2	.20	23	1	.07
4	70	4	.66	36	1	.14	23	2	.09
5	67	3	.62	34	2	.16	23	2	.10
6	65	3	.58	34	2	.19	23	1	.08
7	65	3	.56	33	2	.20	25	1	.07
8	63	3	.52	33	2	.21	25	1	.07
9	62	3	.52	33	3	.22	26	1	.08
10	60	3	.49	33	3	.23	25	1	.09
11	59	3	.48	32	3	.24	24	1	.09
12	58	3	.47	31	3	.25	23	2	.10
13	56	3	.46	30	3	.26	23	2	.10
14	55	6	.91	30	3	.27	22	2	.11
15	54	3	.38	30	4	.29	22	2	.11
16	52	2	.31	29	4	.30	21	2	.12
17	51	2	.26	29	4	.31	21	2	.14
18	49	2	.21	30	4	.31	21	3	.15
19	48	1	.18	30	4	.31	22	3	.16
20	47	1	.15	30	4	.30	22	3	.17
21	46	1	.13	29	4	.28	22	3	.16
22	46	1	.15	28	3	.26	21	3	.14
23	46	1	.18	27	3	.25	21	2	.13
24	46	2	.21	28	3	.24	21	2	.12
25	45	2	.25	28	3	.24	21	2	.11
26	43	2	.29	27	3	.22	22	2	.10
27	41	3	.33	27	3	.21	22	2	.09
28	40	4	.39	26	3	.19	23	1	.08
29	40	4	.46	26	2	.17	22	1	.07
30	40	5	.55	26	2	.15	21	1	.06
31	39	6	.59	25	2	.14	---	---	---
TOTAL	1677	---	13.58	948	---	7.45	679	---	3.16
YEAR	45894		74446.41						

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1997	407.00	2.90	0	3
NOVEMBER	922.00	36.07	1	37
DECEMBER	1219.00	15.39	0	15
JANUARY 1998	4113.00	3817.88	988	4810
FEBRUARY	13815.00	51665.00	38600	90300
MARCH	8265.00	17873.00	8180	26100
APRIL	5329.00	2475.00	852	3330
MAY	4893.00	1393.50	1130	2520
JUNE	3627.00	143.48	118	261
JULY	1677.00	13.58	0	14
AUGUST	948.00	7.45	0	7
SEPTEMBER ...	679.00	3.16	0	3
TOTAL	45894.00	77446.41	49869	127400

11527000 TRINITY RIVER NEAR BURNT RANCH, CA

LOCATION.—Lat 40°47'20", long 123°26'20", in S 1/2 sec.19, T.5 N., R.7 E., Trinity County, Hydrologic Unit 18010211, Trinity National Forest, on left bank 500 ft upstream from Cedar Flat Creek, 700 ft upstream from highway bridge at Cedar Flat, and 2.3 mi southeast of town of Burnt Ranch.

DRAINAGE AREA.—1,439 mi^2.

PERIOD OF RECORD.—October 1931 to September 1940, October 1956 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WDR CA-78-2: 1975(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 944.05 ft above sea level. Oct. 1, 1931, to Jan. 19, 1940, at site 2 mi upstream at different datum.

REMARKS.—Records fair. Flow regulated since November 1960 by Clair Engle Lake (station 11525400), 64 mi upstream, and by transbasin diversion to Judge Francis Carr Powerplant (station 11525430) since April 1963. Small diversions upstream from station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 81,500 ft^3/s, Feb. 25, 1958, gage height, 30.50 ft, from rating curve extended above 40,000 ft^3/s on basis of slope-area measurement at gage height 43.2 ft; minimum, 82 ft^3/s, Aug. 31, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1955, reached a stage of 43.2 ft, from floodmarks, discharge, 172,000 ft^3/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 12,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0845	21,400	15.82	Mar. 23	1830	34,000	19.57
Feb. 6	2245	19,700	15.27				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	612	903	1330	1090	5060	5110	8230	6510	7690	3590	1050	707
2	666	681	1210	1550	6120	5090	8060	7090	7920	3190	1020	706
3	695	620	1120	1950	8810	5160	8420	6170	8060	3130	1010	720
4	684	590	1140	2310	8980	4720	8220	5590	7750	2640	1020	731
5	672	573	1130	2050	8220	4220	7870	5330	7660	2450	1020	e720
6	673	583	1110	1800	14300	3820	7750	5130	7730	2360	989	e710
7	673	720	1530	1670	16400	3380	7380	5180	7930	2330	962	e715
8	694	682	2060	1580	15400	3120	6680	5500	7970	2360	922	e740
9	924	633	1630	1530	12700	2930	6270	5200	7680	2300	911	e760
10	838	608	1390	1660	10900	2780	6460	4730	7670	2310	912	e740
11	757	606	1250	2770	10100	2670	6380	4470	7690	2290	901	e720
12	714	619	1150	5530	9650	3230	6180	4420	7520	2210	903	e710
13	700	635	1080	6780	9610	6800	6060	4220	7750	2230	896	e690
14	703	678	1150	6340	9800	6180	5830	4130	7660	2090	907	e680
15	713	690	1250	8510	9870	5350	5520	4020	7480	1910	886	673
16	704	1080	1270	8710	9070	5520	5010	3720	7380	1850	881	673
17	607	1330	1710	17700	8640	5350	5090	3400	6970	1900	841	676
18	565	995	1910	12300	8020	4740	4650	3130	6980	1930	818	674
19	549	1300	1620	11000	9910	4970	4680	3070	7010	1790	810	677
20	539	1250	1460	7350	11000	5980	4800	3030	6830	1630	821	679
21	532	1010	1360	5350	10400	8630	5040	2920	6820	1610	796	675
22	531	921	1240	4400	9850	18700	5430	2850	6570	1600	782	671
23	530	1190	1170	4050	8670	29800	5750	2900	6360	1590	774	666
24	529	1480	1110	3880	8280	23000	5650	3050	5730	1530	771	666
25	527	1760	1060	3600	7530	15800	5190	3490	5730	1530	762	660
26	523	1780	1010	6560	6870	12900	4940	3260	5510	1420	747	659
27	524	2210	978	9570	6210	11200	5030	4340	5140	1290	738	664
28	522	1600	950	6790	5520	10200	5420	5580	5050	1220	731	685
29	546	1350	951	6510	---	9370	5740	8470	4480	1180	726	683
30	600	1470	1020	5920	---	8850	6140	8100	4000	1110	716	675
31	864	---	1070	5080	---	8600	---	7720	---	1070	708	---
TOTAL	19910	30547	39419	165890	265890	248170	183870	146720	206720	61640	26731	20805
MEAN	642	1018	1272	5351	9496	8005	6129	4733	6891	1988	862	694
MAX	924	2210	2060	17700	16400	29800	8420	8470	8060	3590	1050	760
MIN	522	573	950	1090	5060	2670	4650	2850	4000	1070	708	659
AC-FT	39490	60590	78190	329000	527400	492200	364700	291000	410000	122300	53020	41270

e Estimated.

11527000 TRINITY RIVER NEAR BURNT RANCH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1960, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	499	1192	1654	2936	5702	5569	5831	5674	3161	878	305	241
MAX	2732	4893	6426	6192	24270	10110	10090	11840	7076	2362	835	497
(WY)	1958	1938	1938	1958	1958	1938	1938	1958	1958	1958	1958	1958
MIN	138	209	253	311	831	2487	3319	1955	808	273	123	111
(WY)	1933	1937	1937	1937	1937	1935	1932	1939	1934	1934	1939	1932

SUMMARY STATISTICS	WATER YEARS 1932 - 1960	
ANNUAL MEAN	2784	
HIGHEST ANNUAL MEAN	6557	1958
LOWEST ANNUAL MEAN	1409	1939
HIGHEST DAILY MEAN	65600	Feb 19 1958
LOWEST DAILY MEAN	93	Sep 13 1939
ANNUAL SEVEN-DAY MINIMUM	95	Oct 1 1931
INSTANTANEOUS PEAK FLOW	81500	Feb 25 1958
INSTANTANEOUS PEAK STAGE	30.50	Feb 25 1958
ANNUAL RUNOFF (AC-FT)	2017000	
10 PERCENT EXCEEDS	7120	
50 PERCENT EXCEEDS	1240	
90 PERCENT EXCEEDS	198	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	479	1092	2201	3406	3251	3426	2497	2190	1579	738	472	431
MAX	804	3570	8745	12220	10190	13770	8146	6343	7006	1988	1087	734
(WY)	1980	1974	1965	1997	1983	1983	1974	1983	1983	1998	1983	1983
MIN	298	375	274	322	373	512	530	547	449	200	189	230
(WY)	1965	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	870197		1416312			
ANNUAL MEAN	2384		3880		1807	
HIGHEST ANNUAL MEAN					4816	1983
LOWEST ANNUAL MEAN					372	1977
HIGHEST DAILY MEAN	53300	Jan 1	29800	Mar 23	53300	Jan 1 1997
LOWEST DAILY MEAN	522	Oct 28	522	Oct 28	165	Aug 24 1966
ANNUAL SEVEN-DAY MINIMUM	527	Oct 22	527	Oct 22	170	Aug 21 1966
INSTANTANEOUS PEAK FLOW			34000	Mar 23	78100	Dec 22 1964
INSTANTANEOUS PEAK STAGE			19.57	Mar 23	29.82	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1726000		2809000		1309000	
10 PERCENT EXCEEDS	7910		8490		3910	
50 PERCENT EXCEEDS	1170		2290		973	
90 PERCENT EXCEEDS	627		674		346	

11528700 SOUTH FORK TRINITY RIVER BELOW HYAMPOM, CA

LOCATION.—Lat 40°39'00", long 123°29'35", in NW 1/4 SW 1/4 sec.10, T.3 N., R.6 E., Trinity County, Hydrologic Unit 18010212, Trinity National Forest, on left bank 0.3 mi downstream from Big Creek, 3.0 mi northwest of Hyampom, and 3.5 mi downstream from Hayfork Creek.

DRAINAGE AREA.—764 mi^2.

PERIOD OF RECORD.—October 1965 to current year.
SEDIMENT DATA: Water years 1967–70, 1981–82.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,211.37 ft above sea level.

REMARKS.—Records excellent. No regulation or diversion upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 75,000 ft^3/s, Feb. 17, 1986, gage height, 25.47 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 28.00 ft, Jan. 26, 1983; minimum daily, 14 ft^3/s, Aug. 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 30.45 ft, from floodmarks, discharge, 88,000 ft^3/s, on basis of flood-routing study.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 8,600 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 15	0200	20,200	14.06	Feb. 21	1830	15,900	12.53
Jan. 26	2245	19,000	13.64	Mar. 22	1145	20,200	14.07
Feb. 3	1030	16,500	12.73				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	136	1180	792	7460	4700	3980	2360	1750	623	247	122
2	85	127	982	1800	8670	4770	3630	2430	1690	602	236	118
3	92	122	832	2450	14400	5110	3550	2370	1720	582	226	113
4	91	115	783	3090	11200	4800	3550	2410	1630	566	218	109
5	87	111	753	2470	9590	4370	3470	2550	1540	544	208	106
6	87	129	711	2080	13000	4030	3350	2300	1480	530	200	105
7	95	154	1620	1930	15300	3710	3180	2160	1540	505	194	104
8	121	154	2440	1850	14900	3530	2990	2090	1590	494	190	106
9	254	139	1680	1860	10600	3290	2910	1980	1530	482	189	107
10	310	131	1290	2170	8490	3120	2940	1840	1430	461	184	111
11	216	137	1070	4620	7590	3100	2890	1760	1370	452	180	120
12	172	142	941	11800	8070	4200	2720	1810	1350	442	175	119
13	145	167	843	11100	9180	7290	2730	1670	1400	428	170	116
14	130	196	1230	10900	9480	6390	2630	1620	1300	414	164	112
15	121	215	1740	17300	9040	5890	2530	1560	1240	403	157	106
16	114	505	1750	13000	7730	6060	2490	1490	1190	392	155	102
17	111	1110	2800	18200	6820	6030	2390	1420	1110	380	155	100
18	107	665	2820	16800	6090	5430	2280	1360	1060	369	156	100
19	105	1100	2140	14700	9350	5010	2270	1340	1010	357	159	103
20	104	1100	1760	9240	9390	4870	2250	1340	965	345	162	105
21	102	712	1530	6590	12900	5250	2260	1300	917	332	158	107
22	101	580	1310	5060	12100	16500	2380	1220	884	320	154	104
23	100	1080	1170	4860	9300	17800	2570	1170	839	310	150	103
24	99	1200	1060	5250	7710	16700	2650	1190	786	305	148	104
25	99	1340	972	5010	6540	12500	2360	1240	774	323	145	103
26	97	1410	892	12000	5690	9060	2160	1190	740	302	140	102
27	100	1610	821	14700	5120	7210	2090	1200	715	286	137	102
28	101	1120	769	9290	4840	5890	2140	1520	683	273	134	110
29	109	964	735	10000	---	5060	2180	2360	667	263	131	114
30	116	1370	726	9170	---	4500	2230	2130	643	257	128	115
31	141	---	731	7660	---	4390	---	1880	---	254	125	---
TOTAL	3780	18041	40081	237742	260550	200560	81750	54260	35543	12596	5275	3248
MEAN	122	601	1293	7669	9305	6470	2725	1750	1185	406	170	108
MAX	310	1610	2820	18200	15300	17800	3980	2550	1750	623	247	122
MIN	68	111	711	792	4840	3100	2090	1170	643	254	125	100
AC-FT	7500	35780	79500	471600	516800	397800	162200	107600	70500	24980	10460	6440

11528700 SOUTH FORK TRINITY RIVER BELOW HYAMPOM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	729	2025	3694	3437	3422	1918	1024	474	185	91.7	77.7
MAX	351	3475	8338	11740	12770	9027	4989	2701	1660	406	227	185
(WY)	1980	1974	1997	1970	1986	1995	1982	1983	1993	1998	1983	1983
MIN	27.4	72.9	86.8	144	218	365	224	199	91.1	33.0	17.9	22.8
(WY)	1988	1988	1977	1977	1977	1977	1977	1977	1977	1977	1977	1987

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	445082		953426			
ANNUAL MEAN	1219		2612		1425	
HIGHEST ANNUAL MEAN					3049	1983
LOWEST ANNUAL MEAN					131	1977
HIGHEST DAILY MEAN	41900	Jan 1	18200	Jan 17	59200	Jan 16 1974
LOWEST DAILY MEAN	62	Aug 18	68	Oct 1	14	Aug 24 1977
ANNUAL SEVEN-DAY MINIMUM	64	Sep 3	86	Oct 1	15	Aug 18 1977
INSTANTANEOUS PEAK FLOW			20200	Mar 22	75000	Feb 17 1986
INSTANTANEOUS PEAK STAGE			14.07	Mar 22	28.00	Jan 26 1983
ANNUAL RUNOFF (AC-FT)	882800		1891000		1033000	
10 PERCENT EXCEEDS	2120		8240		3570	
50 PERCENT EXCEEDS	448		1190		406	
90 PERCENT EXCEEDS	73		108		68	

11530000 TRINITY RIVER AT HOOPA, CA

LOCATION.—Lat 41°03'00", long 123°40'15", in SE 1/4 NW 1/4 sec.25, T.8 N., R.4 E., Humboldt County, Hydrologic Unit 18010211, in Hoopa Valley Indian Reservation, on left bank 0.1 mi upstream from Supply Creek, 0.1 mi downstream from Hospital Creek and in the town of Hoopa (revised).

DRAINAGE AREA.—2,853 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1911 to January 1914, October 1916 to September 1918, October 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near Hoopa" 1931–60.

REVISED RECORDS.—WSP 1565: 1913. WDR CA-77-2: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 274.82 ft above sea level. Prior to October 1931, nonrecording gage at site 0.4 mi upstream at different datum. October 1931 to Dec. 22, 1964, water-stage recorder at site 2.5 mi upstream at datum 31.67 ft higher.

REMARKS.—Records good. Flow regulated since November 1960 by Clair Engle Lake (station 11525400) 84 mi upstream, and by transbasin diversion to Judge Francis Carr Powerplant (station 11525430) since April 1963. Small diversions upstream from station for irrigation. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 231,000 ft^3/s, Dec. 22, 1964, gage height, 57.0 ft, present site and datum, from floodmarks, from rating curve extended above 123,000 ft^3/s; minimum daily, 162 ft^3/s, Oct. 4, 1931.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 30,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1330	62,000	32.43	Mar. 23	2145	73,900	34.75
Feb. 8	0800	46,500	29.11				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	737	1930	3840	2740	18000	13300	18100	11800	11700	5510	1710	1030
2	913	1270	3350	4130	20800	13200	17100	12700	11800	4970	1670	1020
3	981	1050	2970	6150	30300	13700	17000	11500	12100	4880	1630	1020
4	942	942	2840	8170	31300	12900	16700	10400	11500	4370	1610	1030
5	902	878	2770	7090	26700	11600	15900	10100	11200	4010	1590	1020
6	876	894	2640	5930	35000	10600	15400	9560	11200	3870	1550	1010
7	881	1100	3830	5530	43400	9620	14700	9390	11400	3770	1510	1000
8	945	1180	6860	5180	44200	9140	13500	9760	11500	3810	1460	1010
9	1440	1050	5300	5030	36800	8520	12500	9380	11200	3710	1430	1020
10	1620	977	4220	5390	30600	8080	12700	8610	11000	3630	1410	1050
11	1400	990	3630	8900	27200	7870	12600	8080	10900	3720	1390	1070
12	1190	990	3250	22600	25200	9080	12100	8080	10600	3560	1380	1040
13	1080	1020	2960	32200	27400	18600	11800	7690	10900	3530	1380	991
14	1030	1100	3380	26400	27300	18400	11300	7440	10700	3410	1350	981
15	1010	1160	4720	41800	28500	15600	10800	7340	10400	3120	1350	964
16	988	1630	5040	35400	25400	15600	9830	7010	10100	2980	1310	949
17	903	3600	7250	57000	23200	15500	9700	6650	9510	3020	1280	939
18	795	2800	8010	46200	20600	13800	9160	6220	9320	3080	1240	937
19	749	2880	6100	43900	25100	12900	9030	6060	9310	2910	1230	946
20	727	3850	5170	31000	31100	13900	9130	6140	9070	2660	1240	958
21	711	2840	4710	22700	34200	16700	9440	5980	8990	2570	1230	952
22	700	2310	4100	18100	36200	39500	10100	5790	8790	2540	1200	946
23	697	2650	3700	16000	29500	66800	11000	5760	8520	2500	1180	938
24	690	3830	3410	15500	25800	59300	11300	5940	7880	2430	1170	933
25	686	4760	3160	13700	21900	44600	10100	6750	7810	2450	1150	930
26	683	4920	2960	22900	18700	35900	9390	6400	7620	2330	1130	922
27	679	5590	2750	38000	16300	29900	9270	7120	7210	2140	1100	926
28	680	4330	2590	28000	14500	25800	9870	8440	7110	1990	1090	966
29	783	3560	2510	26200	---	22600	10500	13500	6620	1900	1070	992
30	864	4090	2570	25500	---	20300	11100	13100	5960	1830	1060	976
31	1330	---	2670	20400	---	19300	---	12100	---	1760	1040	---
TOTAL	28612	70171	123260	647740	775200	632610	361120	264790	291920	98960	41140	29466
MEAN	923	2339	3976	20890	27690	20410	12040	8542	9731	3192	1327	982
MAX	1620	5590	8010	57000	44200	66800	18100	13500	12100	5510	1710	1070
MIN	679	878	2510	2740	14500	7870	9030	5760	5960	1760	1040	922
AC-FT	56750	139200	244500	1285000	1538000	1255000	716300	525200	579000	196300	81600	58450

11530000 TRINITY RIVER AT HOOPA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1960, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	926	2578	6468	9239	11830	10400	10170	8663	4755	1635	650	508
MAX	5405	9589	28060	30140	50380	26370	19320	16700	9875	4265	1365	1248
(WY)	1951	1938	1956	1956	1958	1938	1938	1938	1953	1941	1953	1912
MIN	260	373	531	647	2433	3815	4790	3000	1378	466	249	213
(WY)	1933	1940	1937	1937	1937	1955	1944	1934	1934	1918	1934	1934

SUMMARY STATISTICS	WATER YEARS 1912 - 1960	
ANNUAL MEAN	5618	
HIGHEST ANNUAL MEAN	12270	1958
LOWEST ANNUAL MEAN	2630	1934
HIGHEST DAILY MEAN	158000	Dec 22 1955
LOWEST DAILY MEAN	162	Oct 4 1931
ANNUAL SEVEN-DAY MINIMUM	164	Oct 1 1931
INSTANTANEOUS PEAK FLOW	a190000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	36.90	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	4070000	
10 PERCENT EXCEEDS	12700	
50 PERCENT EXCEEDS	3070	
90 PERCENT EXCEEDS	442	

a From rating curve extended above 56,000 ft^3/s.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	827	3103	7229	11190	10070	10150	6604	4572	2767	1239	741	656
MAX	1805	12900	29710	32090	28810	32240	16040	12020	9731	3233	1681	1309
(WY)	1980	1974	1965	1970	1986	1983	1983	1983	1998	1983	1983	1983
MIN	472	679	529	745	891	1608	1325	1204	746	338	270	336
(WY)	1988	1991	1977	1977	1977	1977	1977	1977	1977	1977	1977	1969

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	1889607		3364989			
ANNUAL MEAN	5177		9219		4908	
HIGHEST ANNUAL MEAN					11350	1983
LOWEST ANNUAL MEAN					786	1977
HIGHEST DAILY MEAN	101000	Jan 1	66800	Mar 23	168000	Dec 22 1964
LOWEST DAILY MEAN	666	Sep 8	679	Oct 27	244	Aug 23 1977
ANNUAL SEVEN-DAY MINIMUM	688	Oct 22	688	Oct 22	246	Aug 18 1977
INSTANTANEOUS PEAK FLOW			73900	Mar 23	231000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			34.75	Mar 23	57.00	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	3748000		6674000		3556000	
10 PERCENT EXCEEDS	12600		25400		11500	
50 PERCENT EXCEEDS	2750		5390		2140	
90 PERCENT EXCEEDS	782		962		580	

11530000 TRINITY RIVER AT HOOPA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1960–79. July to September 1998.
WATER TEMPERATURE: Water year 1998.
SEDIMENT DATA: Water years 1960–79.

PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: July 30, 1998, to Sept. 30, 1998.

INSTRUMENTATION.—Temperature recorder since July 1998.

EXTREMES FOR PERIOD OF DAILY RECORD.—
WATER TEMPERATURE: Maximum recorded, 24.5°C, Aug. 4, 13, and 14, 1998; minimum recorded, 16.5°C, Sept. 26, 27, and 29, 1998.

EXTREME FOR CURRENT YEAR.—
WATER TEMPERATURE: Maximum recorded, 24.5°C, Aug. 4, 13, and 14; minimum recorded, 16.5°C, Sept. 26, 27, and 29.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	23.0	20.0	22.5	20.5
2	---	---	---	---	---	---	---	---	23.0	20.0	22.5	21.0
3	---	---	---	---	---	---	---	---	23.5	20.5	23.0	21.0
4	---	---	---	---	---	---	---	---	24.5	21.0	23.0	21.5
5	---	---	---	---	---	---	---	---	24.0	21.5	22.5	21.5
6	---	---	---	---	---	---	---	---	23.0	20.5	22.5	21.0
7	---	---	---	---	---	---	---	---	22.5	20.5	22.0	21.0
8	---	---	---	---	---	---	---	---	22.5	20.0	21.5	20.0
9	---	---	---	---	---	---	---	---	22.5	20.0	21.0	19.5
10	---	---	---	---	---	---	---	---	23.0	20.0	20.0	18.5
11	---	---	---	---	---	---	---	---	23.5	21.0	20.0	18.0
12	---	---	---	---	---	---	---	---	24.0	21.0	20.0	18.5
13	---	---	---	---	---	---	---	---	24.5	22.0	20.5	19.0
14	---	---	---	---	---	---	---	---	24.5	22.0	21.0	19.5
15	---	---	---	---	---	---	---	---	24.0	22.0	21.0	19.5
16	---	---	---	---	---	---	---	---	---	---	20.5	19.0
17	---	---	---	---	---	---	---	---	---	---	20.0	18.5
18	---	---	---	---	---	---	---	---	---	---	19.0	18.0
19	---	---	---	---	---	---	---	---	---	---	19.0	17.0
20	---	---	---	---	---	---	---	---	21.0	19.5	18.5	17.5
21	---	---	---	---	---	---	---	---	21.5	19.0	18.5	17.0
22	---	---	---	---	---	---	---	---	21.5	19.5	18.5	17.0
23	---	---	---	---	---	---	---	---	22.0	19.5	18.5	17.0
24	---	---	---	---	---	---	---	---	21.5	19.0	18.5	17.0
25	---	---	---	---	---	---	---	---	21.0	19.0	18.5	17.5
26	---	---	---	---	---	---	---	---	21.0	19.0	18.0	16.5
27	---	---	---	---	---	---	---	---	21.5	19.0	18.0	16.5
28	---	---	---	---	---	---	---	---	21.5	19.0	18.0	17.0
29	---	---	---	---	---	---	---	---	21.5	20.0	18.0	16.5
30	---	---	---	---	---	---	22.5	20.0	22.0	20.0	18.0	17.0
31	---	---	---	---	---	---	22.5	20.0	22.0	20.5	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	23.0	16.5

11530500 KLAMATH RIVER NEAR KLAMATH, CA

LOCATION.—Lat 41°30'52", long 123°59'57", in SW 1/4, sec.13, T.13 N., R.2 E., Del Norte County, Hydrologic Unit 18010209, on right bank 0.2 mi upstream from Turwar Creek and 2.2 mi southeast of Klamath.

DRAINAGE AREA.—12,100 mi^2, approximately (not including Lost River or Lower Klamath Lake Basins).

PERIOD OF RECORD.—October 1910 to December 1926 (published as "near Requa"), October 1950 to September 1994, October 1995 to September 1997 (stage only), and October 1997 to September 1998. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1951–95.
BIOLOGICAL DATA: Water years 1975–81.
SPECIFIC CONDUCTANCE: Water years 1975–81.
WATER TEMPERATURE: Water years 1966–81.
SEDIMENT DATA: Water years 1955–56, 1975–95.

REVISED RECORDS.—WSP 1285: 1951(P). WSP 1445: 1918–20. WDR CA-81-2: 1980.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is sea level. Prior to June 1926, nonrecording gage at site 2.6 mi upstream at different datum. Oct. 1, 1950, to Oct. 2, 1975, water-stage recorder at site 2.6 mi upstream at datum 5.60 ft above sea level.

REMARKS.—Records good. Medium and low flows considerably regulated by reservoirs and powerplants upstream from station and by transbasin (from Trinity River) diversion to Judge Francis Carr Powerplant (station 11525430) since April 1963. Large diversions for irrigation upstream from station. See schematic diagram of Klamath River and Trinity River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 557,000 ft^3/s, Dec. 23, 1964, gage height, 55.3 ft, former datum, from floodmarks, from rating curve extended above 230,000 ft^3/s on basis of flood-routing study; minimum daily, 1,310 ft^3/s, Sept. 4, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3390	13000	15600	11100	56900	41300	57000	41100	38100	16400	5960	3970
2	5830	8960	13800	15500	60500	42600	52800	42700	38900	15400	5850	4010
3	5550	7190	12400	21000	70500	45300	51000	41500	39300	14700	5690	4230
4	5750	6320	11500	28800	80500	43400	50000	37300	38600	14000	5620	4230
5	5540	5840	11000	26500	69200	39000	48800	37500	38200	13100	5530	4230
6	4640	6270	10400	22000	74100	35900	47300	37100	38200	12700	5440	4240
7	4300	7960	13100	21400	91400	33600	46200	36600	38400	12300	5320	4280
8	4350	8170	22000	20300	101000	31700	44200	40300	37800	12100	5230	4360
9	9880	7420	19700	19400	88700	29500	42400	41300	36200	11800	5110	4310
10	12200	7160	16300	19500	72500	28000	42400	38400	35100	11400	5060	4250
11	9230	7000	14100	25800	67900	26600	42100	35700	34900	11000	5000	4420
12	7270	7060	12800	51400	61800	27300	38900	34000	34200	10500	4920	4350
13	6380	8080	12100	89100	69900	42200	38600	31800	34400	10100	4870	4190
14	6020	8500	12100	68600	70000	47900	37000	31100	34400	9920	4820	4110
15	5860	7120	15500	113000	77300	42900	35600	30700	32700	9420	4740	4050
16	5710	7110	18000	113000	67700	44700	33800	29700	31700	8980	4650	4030
17	5500	10200	30300	209000	60600	46300	32600	28800	29700	8740	4610	4010
18	5160	10900	32000	158000	54700	42700	31600	27700	28000	8700	4540	4010
19	4880	11500	24100	143000	64900	39300	31200	27200	27200	8580	4490	4060
20	4680	16700	20500	109000	82800	38700	31400	27800	25500	8200	4450	4090
21	4560	13800	19400	80200	97600	41500	32100	27600	24300	7940	4470	4080
22	4460	11200	17000	68000	113000	85100	33800	27100	24000	7930	4420	4080
23	4390	11100	15600	63200	87100	198000	36100	25900	23500	7700	4350	4050
24	4320	16900	14500	60400	73200	205000	37700	26400	23100	7760	4310	4030
25	4260	22700	13600	56500	62400	148000	34500	30500	21700	7850	4270	4020
26	4220	21000	12400	69900	55100	121000	31600	30300	20800	7640	4220	4040
27	4220	20200	11400	102000	49600	102000	30800	29200	19300	7190	4180	4030
28	4210	17400	10900	84900	44000	87100	32400	30400	18400	6780	4120	4100
29	4540	15500	10600	74900	---	74800	36200	36400	18000	6490	4060	4170
30	5210	17000	10600	77300	---	65900	38600	38300	17100	6270	4020	4160
31	11300	---	10800	65200	---	61500	---	37900	---	6070	3990	---
TOTAL	177810	339260	484100	2087900	2024900	1958800	1178700	1038300	901700	307660	148310	124190
MEAN	5736	11310	15620	67350	72320	63190	39290	33490	30060	9925	4784	4140
MAX	12200	22700	32000	209000	113000	205000	57000	42700	39300	16400	5960	4420
MIN	3390	5840	10400	11100	44000	26600	30800	25900	17100	6070	3990	3970
AC-FT	352700	672900	960200	4141000	4016000	3885000	2338000	2059000	1789000	610200	294200	246300

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4987	11130	19480	27730	37540	27340	27710	23170	13830	5921	3383	3339
MAX	18950	30460	72580	83550	123200	53280	48860	37250	29580	12370	5871	5107
(WY)	1951	1921	1956	1953	1958	1957	1952	1952	1953	1953	1953	1912
MIN	2700	3502	4138	7454	6263	6916	6270	3975	2106	1731	1567	1860
(WY)	1920	1960	1960	1924	1920	1924	1924	1924	1924	1924	1918	1918

SUMMARY STATISTICS	WATER YEARS 1911 - 1962	
ANNUAL MEAN	17010	
HIGHEST ANNUAL MEAN	33360	1958
LOWEST ANNUAL MEAN	5156	1924
HIGHEST DAILY MEAN	378000	Dec 22 1955
LOWEST DAILY MEAN	1340	Jul 31 1924
ANNUAL SEVEN-DAY MINIMUM	1440	Jul 30 1924
INSTANTANEOUS PEAK FLOW	a425000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	b49.7	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	12320000	
10 PERCENT EXCEEDS	37300	
50 PERCENT EXCEEDS	10200	
90 PERCENT EXCEEDS	2860	

a From rating curve extended above 140,000 ft^3/s on basis of flood-routing study.
b From floodmarks, site and datum then in use.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4949	14810	26570	34010	33450	34360	26360	19470	11300	4661	3098	3235
MAX	17830	55620	87770	97760	102700	82410	60400	40080	30060	12220	6599	5923
(WY)	1963	1974	1965	1970	1986	1983	1974	1983	1998	1983	1983	1983
MIN	2134	3236	3942	4212	4231	6954	5448	5638	3630	1782	1441	1977
(WY)	1995	1988	1977	1977	1977	1977	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1963 - 1998	
ANNUAL TOTAL	10771630			
ANNUAL MEAN	29510		17760	
HIGHEST ANNUAL MEAN			36100	1983
LOWEST ANNUAL MEAN			4036	1977
HIGHEST DAILY MEAN	209000	Jan 17	420000	Dec 23 1964
LOWEST DAILY MEAN	3390	Oct 1	1310	Sep 4 1977
ANNUAL SEVEN-DAY MINIMUM	4050	Sep 15	1370	Aug 18 1977
INSTANTANEOUS PEAK FLOW	240000	Mar 24	557000	Dec 23 1964
INSTANTANEOUS PEAK STAGE	31.11	Mar 24	55.30	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	21370000		12870000	
10 PERCENT EXCEEDS	69500		40600	
50 PERCENT EXCEEDS	19500		9620	
90 PERCENT EXCEEDS	4270		2820	

11532500 SMITH RIVER NEAR CRESCENT CITY, CA

LOCATION.—Lat 41°47'30", long 124°04'30", in SW 1/4 SW 1/4 sec. 9, T.16 N., R.1 E., Del Norte County, Hydrologic Unit 18010101, Redwood National Park, on right bank opposite mouth of Cedar Creek, 1.6 mi downstream from South Fork, and 7 mi east of Crescent City.

DRAINAGE AREA.—614 mi^2.

PERIOD OF RECORD.—October 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 79.26 ft above sea level. Prior to Oct. 9, 1991, at site 1.1 mi upstream at datum 10.35 ft higher.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 228,000 ft^3/s, Dec. 22, 1964, gage height, 48.5 ft, from floodmarks, from rating curve extended above 110,000 ft^3/s on basis of slope-area measurement at gage height 39.51 ft, former site and datum; minimum daily, 160 ft^3/s, Oct. 24, 25, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Nov. 30, 1926, reached a stage of 41.40 ft at datum 10.35 ft higher, from floodmarks, discharge, 166,000 ft^3/s from rating extension above 39.51 ft.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 36,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0215	93,200	26.81	Feb. 21	0930	40,400	20.07

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	4490	5300	2500	7420	6740	4350	2770	2270	800	450	297
2	4320	2760	4230	5890	9510	8350	4010	2850	2200	784	435	286
3	2620	2060	3560	8520	9930	8720	3740	2680	2050	756	424	283
4	2360	1660	3180	13200	8720	7270	3480	2470	1920	735	417	279
5	2150	1430	2820	8570	9860	6210	3270	2550	1810	719	404	275
6	1630	1940	2540	6720	11100	5360	3130	2330	1730	694	397	275
7	1300	3240	5940	7470	10300	4730	3070	2230	1680	674	396	271
8	1330	2610	7380	7000	16500	4730	2910	2220	1620	660	391	270
9	9850	2120	5890	5810	13400	4460	3260	2130	1540	649	383	272
10	8580	1800	4650	5440	10900	4170	4330	1930	1500	641	386	275
11	5170	1660	3870	11700	14100	4140	5470	1820	1470	640	379	269
12	3460	1520	3370	18300	11700	5640	5180	1850	1370	624	372	263
13	2680	1440	3000	19200	12700	8570	5360	1760	1310	608	365	262
14	2250	1400	3140	16700	12400	6800	5200	1700	1250	594	357	262
15	1920	1320	3540	19300	13100	6000	4710	1900	1200	582	352	262
16	1650	1780	6220	38100	10900	5910	4300	1920	1160	569	348	255
17	1440	3660	17900	52200	8910	5300	4000	2000	1110	557	343	254
18	1290	2850	9420	24600	8210	4600	3690	1940	1070	545	342	288
19	1170	5070	6470	23000	19200	4220	3410	1880	1040	533	342	348
20	1070	9030	5680	16300	15300	4140	3230	2380	999	526	339	312
21	999	5840	5490	11900	29100	4340	3080	3270	969	516	338	288
22	930	4190	4740	13200	20900	20500	3140	2760	951	505	338	279
23	874	4410	4150	13400	14800	27800	3360	2420	933	498	338	275
24	830	10200	3700	12800	10800	16900	3460	2540	911	488	337	272
25	785	8880	3320	12100	8820	11900	2970	3540	948	481	333	270
26	752	7160	3000	17700	7620	9220	2680	3120	936	472	324	272
27	725	5740	2730	12900	6610	7670	2590	2910	871	465	317	271
28	704	4550	2510	9710	6550	6510	2760	2810	832	454	314	267
29	837	5740	2370	10300	---	5600	2860	2770	806	449	305	266
30	1150	7390	2280	10700	---	4950	2830	2550	801	447	303	263
31	11300	---	2170	8340	---	4780	---	2370	---	449	299	---
TOTAL	77586	117940	144560	443570	339360	236230	109830	74370	39257	18114	11168	8281
MEAN	2503	3931	4663	14310	12120	7620	3661	2399	1309	584	360	276
MAX	11300	10200	17900	52200	29100	27800	5470	3540	2270	800	450	348
MIN	704	1320	2170	2500	6550	4140	2590	1700	801	447	299	254
AC-FT	153900	233900	286700	879800	673100	468600	217800	147500	77870	35930	22150	16430

11532500 SMITH RIVER NEAR CRESCENT CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1046	4592	7581	8642	7486	6560	4413	2772	1289	536	340	338
MAX	11770	23620	21740	21930	22680	15760	11970	7550	3876	1217	715	1471
(WY)	1951	1974	1997	1953	1986	1938	1982	1933	1937	1947	1947	1978
MIN	185	200	264	767	1076	1602	1406	835	524	336	226	198
(WY)	1965	1937	1977	1977	1977	1988	1977	1947	1987	1987	1959	1939

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	1259592		1620266			
ANNUAL MEAN	3451		4439		3784	
HIGHEST ANNUAL MEAN					7027	1974
LOWEST ANNUAL MEAN					975	1977
HIGHEST DAILY MEAN	87300	Jan 1	52200	Jan 17	180000	Dec 22 1964
LOWEST DAILY MEAN	279	Sep 8	254	Sep 17	160	Oct 24 1964
ANNUAL SEVEN-DAY MINIMUM	286	Sep 4	261	Sep 11	163	Oct 20 1964
INSTANTANEOUS PEAK FLOW			93200	Jan 17	228000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			26.81	Jan 17	48.50	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	2498000		3214000		2742000	
10 PERCENT EXCEEDS	7020		11200		8930	
50 PERCENT EXCEEDS	1940		2550		1590	
90 PERCENT EXCEEDS	341		335		267	

11532650 SMITH RIVER NEAR FORT DICK, CA

LOCATION.—Lat 41°52'51", long 124°08'07", in SW 1/4 NW 1/4 sec.12, T.17 N., R.1 W, Del Norte County, Hydrologic Unit 18010101, on right bank 10 ft upstream from bridge on U.S. Highway 101, 0.2 mi downstream from Hutsinpillar Creek, and 1.2 mi northeast of Fort Dick.

DRAINAGE AREA.—672 mi^2.

PERIOD OF RECORD.—October 1989 to current year. Records prior to October 1989 are in files of the California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Data is collected for flood-warning purposes. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height, 34.12 ft, Jan. 8, 1990.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.60	12.86	17.34	15.86	16.96	16.31	15.70	14.66	17.48	17.16	17.01	16.96
2	16.94	15.71	15.86	15.19	16.31	15.88	16.84	15.70	18.15	17.48	17.92	17.00
3	15.71	14.83	15.19	14.82	15.88	15.60	20.55	16.57	18.28	17.84	17.91	17.47
4	14.93	14.83	14.82	14.56	15.60	15.35	20.54	18.49	17.90	17.57	17.47	17.02
5	14.91	14.56	14.56	14.40	15.35	15.12	18.49	17.39	18.55	17.88	17.02	16.68
6	14.56	14.23	15.56	14.40	15.13	14.97	17.39	17.03	18.64	18.31	16.68	16.34
7	14.23	13.99	15.83	15.56	17.79	14.97	17.44	17.05	18.31	18.07	16.34	16.14
8	14.48	13.91	15.57	15.17	17.61	17.11	17.39	16.89	20.27	18.30	16.27	16.14
9	18.69	14.48	15.17	14.87	17.11	16.50	16.89	16.56	19.93	18.54	16.14	15.99
10	18.29	17.15	14.87	14.68	16.50	16.00	16.57	16.43	19.09	18.19	15.99	15.88
11	17.15	16.00	14.68	14.59	16.00	15.67	19.61	16.57	19.76	18.84	15.92	15.87
12	16.00	15.34	14.59	14.43	15.67	15.41	22.62	18.35	18.93	18.37	17.28	15.92
13	15.34	14.96	14.44	14.39	15.41	15.21	22.27	19.47	18.99	18.63	17.74	17.28
14	14.96	14.71	14.41	14.30	15.56	15.19	22.14	18.97	19.36	18.42	17.28	16.76
15	14.71	14.51	14.30	14.26	15.60	15.52	22.14	19.43	19.36	18.81	16.76	16.59
16	14.51	14.31	15.42	14.27	18.58	15.56	29.58	19.34	18.81	18.08	16.65	16.50
17	14.32	14.15	16.05	15.42	21.29	18.58	30.39	22.36	18.08	17.66	16.50	16.19
18	14.15	14.00	15.64	15.25	18.91	17.39	22.92	21.17	17.66	17.48	16.19	15.92
19	14.02	13.92	17.64	15.27	17.39	16.65	22.84	20.86	21.74	17.61	15.92	15.80
20	13.92	13.83	18.22	17.43	16.90	16.49	20.87	19.36	20.98	18.94	15.82	15.76
21	13.83	13.76	17.43	16.42	16.90	16.45	19.36	18.44	24.72	19.00	16.20	15.76
22	13.76	13.69	16.42	15.91	16.45	16.12	19.42	18.43	22.22	20.48	22.94	16.20
23	13.69	13.63	16.63	15.91	16.12	15.84	19.40	18.77	20.48	18.97	23.83	21.90
24	13.63	13.58	18.52	16.63	15.84	15.60	19.13	18.68	18.97	18.02	21.90	19.18
25	13.58	13.54	18.17	17.42	15.60	15.40	19.50	18.36	18.02	17.57	19.18	18.13
26	13.54	13.50	17.42	17.07	15.40	15.20	20.54	19.50	17.57	17.17	18.13	17.55
27	13.50	13.46	17.07	16.49	15.20	15.05	19.67	18.48	17.17	16.90	17.55	17.11
28	13.46	13.44	16.50	16.00	15.05	14.93	18.48	17.73	16.98	16.89	17.11	16.71
29	13.75	13.45	18.05	15.90	14.93	14.85	18.70	17.72	---	---	16.71	16.38
30	14.25	13.64	18.03	16.96	14.85	14.78	18.69	17.95	---	---	16.38	16.19
31	19.85	14.25	---	---	14.78	14.70	17.95	17.32	---	---	16.26	16.08

11532650 SMITH RIVER NEAR FORT DICK, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.08	15.88	15.02	14.98	14.80	14.73	13.50	13.50	13.11	13.01	12.95	12.73
2	15.88	15.72	15.06	14.99	14.76	14.68	13.50	13.47	13.06	12.96	12.89	12.71
3	15.72	15.58	15.05	14.86	14.68	14.58	13.47	13.43	13.12	12.96	12.85	12.71
4	15.58	15.46	14.86	14.80	14.58	14.50	13.43	13.41	13.04	12.95	12.85	12.70
5	15.46	15.34	14.92	14.79	14.50	14.44	13.42	13.39	13.06	12.92	12.81	12.70
6	15.34	15.25	14.79	14.71	14.44	14.38	13.39	13.36	13.06	12.90	12.84	12.70
7	15.31	15.19	14.71	14.66	14.38	14.35	13.36	13.34	12.98	12.89	12.77	12.69
8	15.19	15.14	14.69	14.65	14.35	14.28	13.34	13.32	13.00	12.89	12.85	12.69
9	15.39	15.16	14.65	14.55	14.28	14.23	13.32	13.29	12.99	12.88	12.77	12.69
10	16.25	15.39	14.55	14.43	14.25	14.21	13.29	13.28	12.99	12.88	12.86	12.70
11	16.48	16.25	14.43	14.38	---	---	13.29	13.28	13.02	12.87	12.80	12.67
12	16.43	16.23	14.43	14.39	---	---	13.28	13.26	13.03	12.88	12.80	12.65
13	16.53	16.43	14.39	14.33	14.08	14.04	13.26	13.24	13.01	12.84	12.81	12.66
14	16.51	16.27	14.33	14.29	14.04	13.98	13.24	13.22	12.93	12.83	12.73	12.65
15	16.27	16.02	14.47	14.31	13.98	13.94	13.23	13.21	12.93	12.81	12.78	12.64
16	16.02	15.84	14.47	14.46	13.95	13.89	13.23	13.18	12.93	12.81	12.77	12.63
17	15.84	15.69	14.54	14.47	13.89	13.84	13.18	13.16	12.89	12.81	12.77	12.62
18	15.69	15.53	14.49	14.46	13.84	13.81	13.16	13.14	12.91	12.80	12.84	12.65
19	15.53	15.37	14.51	14.43	13.81	13.77	13.15	13.12	12.92	12.80	12.94	12.79
20	15.37	15.28	15.38	14.51	13.77	13.73	13.14	13.12	12.88	12.80	12.91	12.74
21	15.28	15.21	15.48	15.26	13.73	13.70	13.13	13.09	12.90	12.80	12.82	12.69
22	15.29	15.20	15.26	14.97	13.71	13.68	13.11	13.08	12.84	12.81	12.94	12.68
23	15.44	15.26	14.97	14.79	13.68	13.66	13.09	13.07	12.85	12.80	12.81	12.68
24	15.53	15.30	15.41	14.76	13.66	13.63	13.08	13.05	12.83	12.78	12.79	12.70
25	15.30	15.05	15.64	15.41	13.70	13.66	13.08	13.03	12.84	12.77	12.80	12.69
26	15.05	14.92	15.44	15.27	13.70	13.64	13.08	13.02	12.99	12.77	12.80	12.69
27	14.92	14.88	15.27	15.13	13.64	13.58	13.07	13.03	12.85	12.76	12.70	12.67
28	15.03	14.90	15.16	15.10	13.58	13.54	13.11	13.03	12.80	12.74	12.78	12.65
29	15.10	15.00	15.15	15.02	13.55	13.51	13.08	13.01	12.78	12.73	12.76	12.66
30	15.06	14.98	15.02	14.90	13.51	13.50	13.14	13.01	12.83	12.73	12.84	12.67
31	---	---	14.90	14.80	---	---	13.11	12.98	12.85	12.72	---	---

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 1998

Stream.	Tributary to	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements	
					Date	Discharge (ft^3/s)
		Salinas River Basin				
11148500 Estrella River near Estrella, CA	Salinas River	Lat 35°43'02", long 120°38'21", in NW 1/4 NW 1/4 sec 36, T.25 S., R.12 E., San Luis Obispo County, Hydrologic Unit 18060004, on right bank, on right bank 0.2 mi downstream from mouth of Ranchito Canyon, and 1.9 mi northwest of Estrella.	922 not including Carrizo Plains	1954–97	02-04-98	1,800
11151870 Arroyo Seco near Greenfield, CA	Salinas River	Lat 36°14'15", long 121°28'50", in NE 1/4 SE 1/4 sec.36, T.19 S., R.4 E., Monterey County, Hydrologic Unit 18060005, on right bank 0.6 mi downstream from Rocky Creek, and 14.5 mi southwest of Greenfield.	113	1962–97	10-15-97	6.97
					03-20-98	280
					04-15-98	352
					05-26-98	177
					07-29-98	36.6

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.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this volume made at low-flow partial-record stations are given in the following table. The column headed "Period of record" shows the water years in which measurements were made at the same or practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1998

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Klamath River Basin				
11525520	Deadwood Creek at Lewiston, CA	Lat 40°43'02", long 122°48'04", in SW 1/4 NW 1/4 sec.17, T.33 N., R.8 W., Trinity County, 300 ft upstream from mouth and 0.7 mi northeast of Lewiston.	9.10	a1965–75, 1976–98	10-03-97	b0.97
					02-11-98	82.3
					03-11-98	29.2
					04-15-98	28.3

a Published as a miscellaneous measurement.
b Base flow.

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

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

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