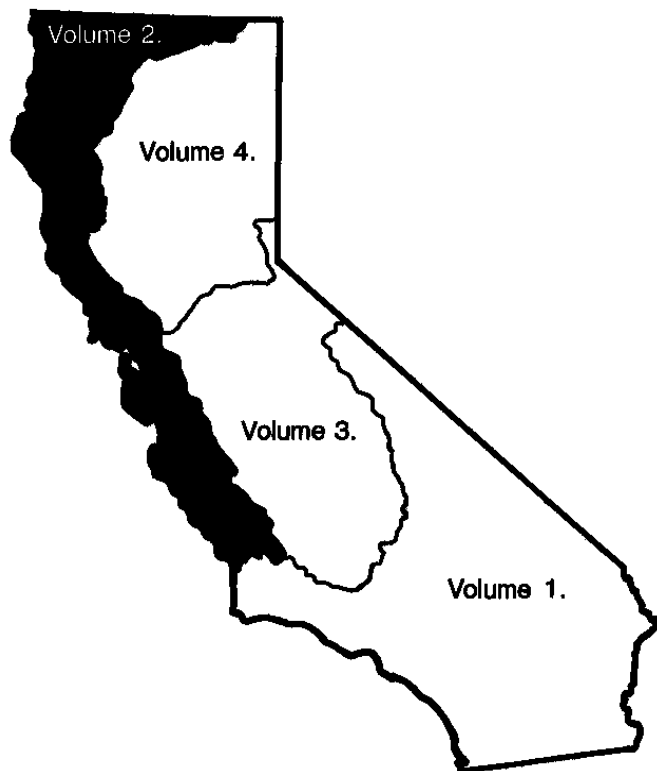


Prepared in cooperation with
California Department of Water Resources and with other agencies

Water Resources Data California Water Year 2003

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



Water-Data Report CA-03-2

CALENDAR FOR WATER YEAR 2003

2002

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2	1	2	3	4	5	6	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
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2003

JANUARY							FEBRUARY							MARCH						
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26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	29
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APRIL							MAY							JUNE							
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20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
27	28	29	30				25	26	27	28	29	30	31	29	30						

JULY							AUGUST							SEPTEMBER							
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27	28	29	30	31			24	25	26	27	28	29	30	28	29	30					

Water Resources Data California Water Year 2003

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

By J.R. Smithson, M.D. Webster, G.L. Pope, M.F. Friebel, and L.A. Freeman

Water-Data Report CA-03-2

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

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

U.S. Department of the Interior

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2004

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PREFACE

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

- Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin and Pacific Slope Basins from the Tijuana River to Santa Maria River
- Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley
- Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River
- Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

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

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

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WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

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Van Duzen River near Bridgeville (d)	11478500	379
Eel River at Fernbridge (g)	11479560	381
<u>MAD RIVER BASIN</u>		
Mad River above Ruth Reservoir, near Forest Glen (d)	11480390	383
Ruth Reservoir near Forest Glen (l)	11480400	385
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Mad River near Arcata (d)	11481000	387
<u>LITTLE RIVER BASIN</u>		
Little River near Trinidad (d)	11481200	389
<u>REDWOOD CREEK BASIN</u>		
Redwood Creek near Blue Lake (ds)	11481500	391
Redwood Creek at Orick (ds)	11482500	395
<u>KLAMATH RIVER BASIN</u>		
Klamath River above Shovel Creek, near Copco (ct)	11510990	498
Copco Lake near Copco (l)	11511400	400
Iron Gate Reservoir near Hornbrook (l)	11516510	400
Klamath River below Iron Gate Dam (dct)	11516530	401
Shasta River near Edgewood (ct)	11516750	504
Shasta River near Grenada (c)	11516880	511
Shasta River near Montague (dct)	11517000	409
Shasta River at Highway 3, near Montague (ct)	11517015	512
Shasta River near Yreka (dct)	11517500	417
Klamath River at Walker Bridge near Klamath River (ct)	11517818	517
Scott River near Fort Jones (d)	11519500	426
Klamath River near Seiad Valley (dct)	11520500	428
Indian Creek near Happy Camp (d)	11521500	437
Salmon River at Somes Bar (d)	11522500	439
Klamath River at Orleans (dct)	11523000	441
Trinity River above Coffee Creek, near Trinity Center (d)	11523200	450
Trinity Lake near Lewiston (l)	11525400	452
Judge Francis Carr Powerplant near French Gulch (d)	11525430	453
Trinity River at Lewiston (d)	11525500	454
Deadwood Creek at Lewiston (d)	11525520	491
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WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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SMITH RIVER BASIN		
Smith River near Crescent City (d)	11532500	487
Smith River near Fort Dick (g)	11532650	489

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 (Water Year)
11137900	Huasna River near Arroyo Grande	10.3	1959–86
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	15.0	1968–78
11142080	Morro Creek at Morro Bay	24.0	1971–78
11142100	Toro Creek near Morro Bay	14.0	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 Carpofo 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
11149700	San Antonio River at Sam Jones Bridge	204	1958–65
11150000	San Antonio River at Pleyto	277	1929–65
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
11152540	El Toro Creek near Spreckels	31.9	1962–2001
11152570	Alisal Creek near Salinas	14.2	1971–74
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
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
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
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
11169000	Guadalupe River at San Jose	146	1930–2003
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
11172365	Zone 6 Line B at Warm Springs Boulevard, at Fremont	0.83	1999–2002
11172500	Laguna Creek at Irvington	12.5	1917–19
11173000	Alameda Creek near Sunol	37.5	1912–30
11174500	Alamo Creek at Dublin	38.7	1915–20

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11174600	Alamo Canal near Pleasanton	40.8	1978–83
11175000	Tassajero Creek near Pleasanton	26.8	1915–19, 1922–30
11176000	Arroyo Mocho near Livermore	38.2	1912–30, 1964–2001
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
11177000	Arroyo de la Laguna near Pleasanton	405	1912–30, 1970–83, 1988–2003
11179500	Crandal Slough near Centerville	—	1917–18
11180000	Alameda Creek near Sunol	639	1917–19
11180750	Alameda Creek at Union City	653	1959–73
11180810	Palomares Creek near Hayward	9.08	1998–2003
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
11181360	San Pablo Strait at Point San Pablo	—	1989–2001
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	Tuluca Creek at Napa	12.6	1972–83
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
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
11467200	Austin Creek near Cazadero	63.1	1959–66
11467295	South Fork Gualala River above Wheatfield Fork, near Annapolis	48.2	2001
11467500	South Fork Gualala River near Annapolis	161	1951–71, 1991–94
11467510	South Fork Gualala River near the Sea Ranch	161	1991–92
11467585	Wheatfield Fork Gualala River above South Fork Gualala River, near Annapolis	111	2001–02
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, 2001, 2003
11468070	South Fork Big River near Comptche	36.2	1960–1971, 2001
11468092	Big River below Two Log Creek, near Comptche	88.7	2001–2002
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
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
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
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	30.0	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
11517800	Beaver Creek near Klamath River	106	1960–65
11517900	East Fork Scott River below Houston Creek, near Callahan	19.7	1970–73
11517950	East Fork Scott River above Kangaroo Creek	49.5	1970–73
11518050	East Fork Scott River at Callahan	110	1959–74
11518310	Cedar Gulch	.99	1961–73
11530020	Supply Creek at Hoopa	15.8	1982–85

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 (Water Year)
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS

The following continuous-record water-quality stations in California have been discontinued. Daily records were collected and are stored in NWIS for the period of record shown for each location.

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
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,T,S	1968–72, 1977
11143000	Big Sur River near Big Sur	46.5	WQ,T	1966–79
11143250	Carmel River near Carmel	247	WQ,S	1954–66, 1990–97
11147040	Santa Rita Creek Tributary near Templeton	2.95	T	1968–72
11147070	Santa Rita Creek near Templeton	18.2	S	1968–72
11148800	Nacimiento River near Bryson	147	T,S	1959, 1961–71
11149400	Nacimiento River below Nacimiento Dam, near Bradley	329	WQ	1963–66
11149700	San Antonio River at Sam Jones Bridge	204	T,S	1959, 1961–62, 1964–65
11150000	San Antonio River at Pleyto	277	T,S	1962, 1965
11151870	Arroyo Seco near Greenfield	113	S	1963–75, 1978–84
11152500	Salinas River near Spreckels	4,156	WQ,B,C, T,S	1950–54, 1958–79
11152540	El Toro Creek near Spreckles	31.9	S	1986, 1990
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
11159000	Pajaro River at Chittenden	1,186	WQ,B,C, T,S	1952–92
11159200	Corralitos Creek at Freedom	27.8	S	1976–77, 1980–81
11160000	Soquel Creek at Soquel	40.2	WQ,T,S	1952–79, 1990–93
11160500	San Lorenzo River at Big Trees	106	WQ,T,S	1906–07, 1952–82
11162500	Pescadero Creek near Pescadero	45.9	WQ,T,S	1965–80, 1986, 1990–93
11162690	San Francisco Bay at Presidio Military Reservation	—	WQ,T	1990–2003
11162700	San Francisco Bay at Pier 24, at San Francisco	—	WQ,T	1990–2002
11162720	Colma Creek at South San Francisco	10.8	S	1966–76
11162722	Spruce Branch at South San Francisco	.70	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
11172300	Agua Fria Creek at Warm Springs Road, at Fremont	1.79	S	1999–2002
11172360	Toroges Creek at Warm Springs Road, at Fremont	1.23	S	1999–2002
11172365	Zone 6 Line B at Warm Springs Boulevard, at Fremont	0.83	T,S	1999–2002
11173575	Alameda Creek below Welch Creek, near Sunol	145	T,S	2000–03
11174000	San Antonio Creek near Sunol	37	S	2000–01
11174060	Alameda Creek at Highway 680, near Sunol	191	S	2000–02
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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
11176145	Arroyo Las Positas at Livermore	53.3	C	1980–83
11176180	Arroyo Las Positas at El Charro Road, 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
11176325	Arroyo Mocho at Hopyard Road, at Pleasanton	170	S	2000–02
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, 1974–76, 1978–79
11176500	Arroyo Valle near Livermore	147	S	1966–67
11176600	Arroyo Valle at Pleasanton	171	WQ,C,T,S	1958–85, 2000–02
11176710	Arroyo de la Laguna at Bernal Avenue, at Pleasanton	396	S	2000–02
11176900	Arroyo de la Laguna above bridge, near Pleasanton	—	T	1960–63
11177200	Vallecitos Creek at Sunol	7.48	C	1975–86
11180825	San Lorenzo Creek above Don Castro Reservoir, near Castro Valley	18.0	T,S	1981–1994, 1998–2003
11180900	Crow Creek near Hayward	10.5	T,S	2000–03
11180940	Cull Creek Tributary No. 4 above Cull Creek Reservoir, near Castro Valley	.45	S	1981, 1986, 1989, 1992
11180960	Cull Creek above Cull Creek reservoir, near Castro Valley	5.79	T,S	1979–2003
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	T,S	1958–79
11458000	Napa River near Napa	218	WQ,B,C T,S	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	1989–90
11460920	Salmon Creek at Bodega	15.7	T,S	1964–75
11461000	Russian River near Ukiah	100	WQ,B,T,S	1964–68, 1977–79, 1991–92, 1994–97
11461500	East Fork Russian River near Calpella	92.2	S	1965–68
11462000	East Fork Russian River near Ukiah	105	WQ,B,T,S	1953–55, 1964–68, 1973–94
11463000	Russian River near Cloverdale	503	T,S	1964–68, 1994–96
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,T	1951–2002
11464500	Dry Creek near Cloverdale	87.8	T	1965–79
11465000	Dry Creek below Warm Springs Dam, near Geyserville	131	T	1981–94
11465150	Pena Creek near Geyserville	22.3	S	1979–86
11465200	Dry Creek near Geyserville	162	WQ,T,S	1964–87
11467295	South Fork Gualala River above Wheatfield Fork, near Annapolis	48.2	T	2001
11467553	North Fork Gualala River above South Fork Gualala River, near Gualala	47.5	T	2001

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
11467585	Wheatfield Fork Gualala River above South Fork Gualala River, near Annapolis	111	T	2001
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
11468010	Albion River near Comptche	14.4	T	2001
11468092	Big River below Two Log Creek, near Comptche	88.7	T	2001
11468070	South Fork Big River near Comptche	36.2	T	2001
11468600	Middle Fork Ten Mile River near Fort Bragg	32.9	T	1965–73
11469000	Mattole River near Petrolia	245	T,S	2001–03
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
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
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	T,S	1960–83
11476600	Bull Creek near Weott	28.1	S	1960–80
11477000	Eel River at Scotia	3,113	WQ,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
11478500	Van Duzen River near Bridgeville	222	T,S	1956–65, 1998
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
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
11488495	Lost River near Hatfield	—	WQ,C, T	2002
11488510	Tulelake Canal at Sheepy Ridge Pumping Station, near Hatfield	—	WQ,C,T	2002
11516600	Cottonwood Creek at Hornbrook	89.8	T	1965–71
11516880	Shasta River near Grenada	525	WQ	2003
11519500	Scott River near Fort Jones	653	WQ,S	1955–56, 1959–79
11525500	Trinity River at Lewiston	719	WQ,T,S	1951–83
11525550	Grass Valley Creek near French Gulch	7.93	S	1985–89
11525580	Little Grass Valley Creek near Lewiston	10.7	S	1985–2000
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
11530020	Supply Creek at Hoopa	15.8	T,S	1982–85

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
11530300	Blue Creek near Klamath	120	T	1966–78
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); P (Precipitation).

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WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003 VOLUME 2—PACIFIC SLOPE BASINS FROM ARROYO GRANDE TO OREGON STATE LINE EXCEPT CENTRAL VALLEY

By J.R. Smithson, M.D. Webster, G.L. Pope, M.F. Friebe, and L.A. Freeman

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 134 streamflow-gaging stations and 2 partial-record stations; (2) stage and content records for 8 lakes and reservoirs; (3) gage-height records for 8 stations; and (4) water-quality records for 37 streamflow-gaging stations and 8 water-quality partial-record stations. Records included for stream stages are only a small fraction of those obtained during the water year.

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

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-03-1." For archiving and general distribution, the reports for 1971–74 water years also are identified as water-data reports. These water-data reports are for sale, in paper copy or 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:

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Alameda County Flood Control and Water Conservation District, Robert Hale, Water Resources Manager.
 Alameda County Flood Control and Water Conservation District, Zone 7, Dale Myers, General Manager.
 Alameda County Water District, Paul Piraino, General Manager.
 Brentwood, city of, Paul R. Eldredge, Associate Civil Engineer.
 California Department of Parks and Recreation, Rusty Areias, Director.
 California Department of Water Resources, Thomas M. Hannigan, Director.
 California State Water Resources Control Board, Winston H. Hickox, Secretary for Environmental Protection.

Contra Costa County Flood Control and Water Conservation District, R. Mitch Avalon, Deputy Director.
 Humboldt Bay Municipal Water District, Carol Rische, General Manager.
 Karuk Tribe of California, Alvis Johnson, Tribal Chairman.
 Marin Municipal Water District, Pamela J. Nicolai, General Manager.
 Monterey County Water Resources Agency, Mr. Curtis V. Weeks, General Manager.
 Monterey Peninsula Water Management District, Fran Farina, General Manager.
 North Marin Water District, Chris DeGabriele, General Manager.
 San Benito County Water District, John S. Gregg, District Manager/Engineer.
 San Francisco Water Department, Patricia E. Martel, General Manager.
 San Jose, city of, Carl W. Mosher, Director, Environmental Services Department.
 San Luis Obispo County Flood Control and Water Conservation District, Noel King, Director.
 San Mateo County Department of Public Works, Neil R. Cullen, Director.
 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, Public Works Department, Bruce Laclergue, Water Resources Manager.
 Santa Rosa, city of, Lynn M. Small, Environmental Services Superintendent.
 Scotts Valley Water District, Jill Duerig, General Manager.
 Sonoma County Permit and Resource Management Department, Kay Randolph-Pollard, Administrative Services Officer.
 Sonoma County Water Agency, Randy O. Poole, General Manager.
 Soquel Creek Water District, Laura D. Brown, General Manager.
 South County Regional Waste Water Authority, Richard Smelser, City Engineer.

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; Bureau of Land Management, Bureau of Reclamation, 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.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two main-stream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indentation in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, 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 composed of both types of stations. Gaps are

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as one would for wells (see fig. 1). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

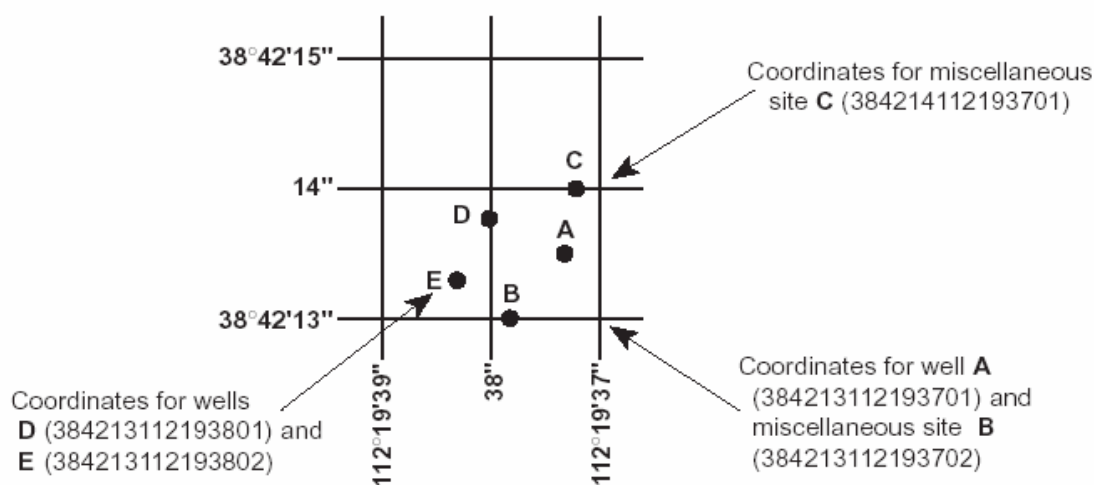


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from <http://water.usgs.gov/hbn/>.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization

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of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from <http://water.usgs.gov/nasqan/>.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from <http://bqs.usgs.gov/acidrain/>.

The USGS National Water-Quality Assessment (NAWQA) Program 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; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 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 is 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 water-resources managers to use in making decisions 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 may be accessed from <http://water.usgs.gov/nawqa/>.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from <http://water.usgs.gov/nsip/>.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), 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).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or

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computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence 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 at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, 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 stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) 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; and (5) a hydrograph of discharge.

Station Manuscript

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

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LOCATION.—Location information is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. 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 term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, 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 either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents 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 USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://water.usgs.gov/nwis/nwis>). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations 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 (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

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 arithmetic 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 is expressed in cubic feet per second per square mile (line headed CFSM); or in inches (line

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headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect 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 volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (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 values. 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary Statistics

A table titled SUMMARY STATISTICS follows the statistics of monthly mean data tabulation. This table consists of four columns with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, WATER YEARS __-__, will consist of all of the station records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 the dates of occurrence do not fall within the selected water years listed in the heading, 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 extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that 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.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

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.

ANNUAL 7-DAY MINIMUM.—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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

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MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS 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 square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

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

90 PERCENT EXCEEDS.—The discharge that has been 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 table lists annual maximum stage and discharge at crest-stage stations, and the second table lists discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a 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. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e—Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

The accuracy of streamflow data 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 observations of stage, measurements of discharge, and interpretations of records.

The degree of accuracy of the records is stated in the REMARKS in the station description. “Excellent” indicates that about 95 percent of the daily discharges are within 5 percent of the true value; “good” within 10 percent; and “fair,” within 15 percent. “Poor” indicates that daily discharges have less than “fair” accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to the nearest tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

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, values of cubic feet per second per square mile and of runoff in inches are not

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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 observed discharge.

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the District office. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (see address that is shown on the back of the title page of this report).

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol “---” in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

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For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRI. A list of TWRI is provided in this report.

One sample can define adequately 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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values 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 (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-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 continuous- or partial-record station, where 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 *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. 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 and 12.

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Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[\leq , less than or equal to; \pm , plus or minus value shown; $^{\circ}$ C, degree Celsius; $>$, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	$\leq \pm 0.2$ $^{\circ}$ C	$> \pm 0.2$ to 0.5 $^{\circ}$ C	$> \pm 0.5$ to 0.8 $^{\circ}$ C	$> \pm 0.8$ $^{\circ}$ C
Specific conductance	$\leq \pm 3\%$	$> \pm 3$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$
Dissolved oxygen	$\leq \pm 0.3$ mg/L	$> \pm 0.3$ to 0.5 mg/L	$> \pm 0.5$ to 0.8 mg/L	$> \pm 0.8$ mg/L
pH	$\leq \pm 0.2$ unit	$> \pm 0.2$ to 0.5 unit	$> \pm 0.5$ to 0.8 unit	$> \pm 0.8$ unit
Turbidity	$\leq \pm 5\%$	$> \pm 5$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$

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.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be 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 on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

Water Temperature

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

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

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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 be 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 observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, 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 then 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 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 information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. 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 parameters individually.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor temperature record, 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 USGS by a cooperating organization are identified here.

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EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://waterdata.usgs.gov/nwis>). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

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.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E." These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

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

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in 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. Many types of blank samples are possible; each is 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.

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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. The reference material 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. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

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

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, each subsample 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.

ACCESS TO USGS WATER DATA

The USGS 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 from <http://water.usgs.gov>.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.)

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DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from <http://water.usgs.gov/glossaries.html>.

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

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

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

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

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

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

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

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year

and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1–March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.)

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

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

Ash mass is the mass or amount of residue present after the residue from a dry-mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also “[Biomass](#)” and “[Dry mass](#)”)

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

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

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

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

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

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

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

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

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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

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

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

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu\text{m}^3/\text{mL}$). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm²) or biovolume per square centimeter ($\mu\text{m}^3/\text{cm}^2$). (See also “[Phytoplankton](#)” and “[Periphyton](#)”)

Bottom material (See “[Bed material](#)”)

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

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada’s first order level network in 1928.

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

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

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

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

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per

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sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See “[Cubic foot per second-day](#)”)

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

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

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

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

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

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

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

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

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic foot per second (CFS, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term “second-foot” sometimes is used synonymously with “cubic foot per second” but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/s)/d]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

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

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

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

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

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

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

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Vertical Datum of 1929,” and “North American Vertical Datum of 1988”)

Diatoms (*Bacillariophyta*) are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu\text{m}^3/\text{mL}$). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu\text{m}^3/\text{cm}^2$). (See also “Phytoplankton” and “Periphyton”)

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

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

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

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

Dissolved solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate.

Alternatively, alkalinity concentration (as mg/L CaCO_3) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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

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

Drainage basin is a part of the Earth’s surface that contains a drainage system with a common outlet for its surface runoff. (See “Drainage area”)

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also “Ash mass,” “Biomass,” and “Wet mass”)

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

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

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

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Enterococci include *Streptococcus fecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also “[Bacteria](#)”)

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

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

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

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

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

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial

growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “[Bacteria](#)”)

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

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

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

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

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

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

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

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

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

Green algae (*Chlorophyta*) are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating “moss” in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu\text{m}^3/\text{mL}$). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu\text{m}^3/\text{cm}^2$). (See also “[Phytoplankton](#)” and “[Periphyton](#)”)

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

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

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

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA Web site:
<http://www.co-ops.nos.noaa.gov/tideglos.html>

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

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

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

Horizontal datum (See “[Datum](#)”)

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

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

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

Instantaneous discharge is the discharge at a particular instant of time. (See also “[Discharge](#)”)

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

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

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a “less than” (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term ‘non-detection value’ (NDV).

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

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

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

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

where I_0 is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

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

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

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

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

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

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

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

“Daily mean suspended-sediment concentration” and “Suspended-sediment concentration”)

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also “Discharge”)

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

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

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

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

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

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

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

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

Micrograms per kilogram (UG/KG, mg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

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

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

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

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

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

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

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

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site:* <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88> (See "North American Vertical Datum of 1988")

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

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

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

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

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

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

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

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

Particle-size classification, as used in this report, agrees with the recommendation made by the American

Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

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

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

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

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

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

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Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

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

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

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

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

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

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

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

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

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also “Primary productivity”)

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

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

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

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

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

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

Return period (See “[Recurrence interval](#)”)

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

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

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

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

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

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

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

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

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

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the

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soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

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

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

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

Stage (See “[Gage height](#)”)

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and, thus, the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of “suspended, recoverable” constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also “[Suspended](#)”)

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

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Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also “[Sediment](#)” and “[Suspended sediment](#)”)

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also “[Sediment](#),” “[Suspended sediment](#),” and “[Suspended-sediment concentration](#)”)

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

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

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as “suspended, total.” Determinations of “suspended, total” constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also “[Suspended](#)”)

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

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

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

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

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

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

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

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

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

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent’s physical or chemical form. This term is used

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only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total.” (Note that the word “total” does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

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

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

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total in bottom material.”

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

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

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

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

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

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

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

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

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

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

Vertical datum (See “[Datum](#)”)

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

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

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

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the “2002 water year.”

Watershed (See “[Drainage basin](#)”)

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

The USGS publishes a series of manuals, the Techniques of Water-Resources Investigations, 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.

Reports in the Techniques of Water-Resources Investigations series, which are listed below, are online at <http://water.usgs.gov/pubs/twri/>. Printed copies are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office), telephone 1-888-ASK-USGS. Please telephone 1-888-ASK-USGS for current prices, and refer to the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Products can then be ordered by telephone, or online at <http://www.usgs.gov/sales.html>, or by FAX to (303)236-469 of an order form available online at <http://mac.usgs.gov/isb/pubs/forms/>. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

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, chap. D1. 1975. 65 p.
- 1–D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 2–D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.
- 2–D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 2–E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
- 2–E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 2–F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

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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, chap. A1. 1967. 30 p.
- 3–A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
- 3–A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3–A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3–A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3–A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
- 3–A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
- 3–A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 3–A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
- 3–A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3–A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3–A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3–A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3–A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3–A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3–A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 3–A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
- 3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3–A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3–B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.

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- 3–B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3–B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3–B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
- 3–B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
- 3–B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
- 3–B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
- 3–B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
- 3–B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

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

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

- 4–A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
- 4–A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.
- 4–A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

Section B. Surface Water

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

Section D. Interrelated Phases of the Hydrologic Cycle

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

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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, chap. A1. 1989. 545 p.
- 5–A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
- 5–A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.
- 5–A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
- 5–A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
- 5–A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

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

Book 6. Modeling Techniques

Section A. Ground Water

- 6–A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
- 6–A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.
- 6–A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
- 6–A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
- 6–A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.
- 6–A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.
- 6–A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

- 7–C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

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- 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, chap. C2. 1978. 90 p.
- 7–C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

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, chap. A1. 1968. 23 p.
- 8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

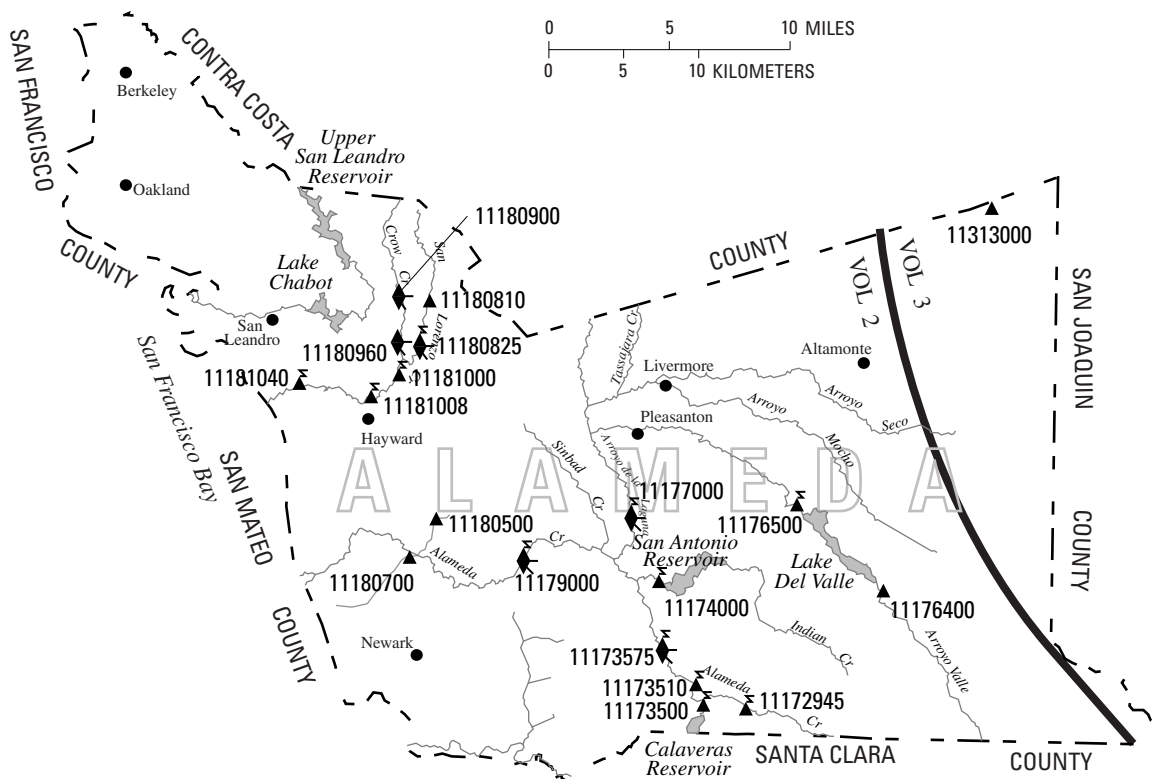
- 8–B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



EXPLANATION

- ▲ Gaging Station
- ▲ Gaging Station with Telemetry
- ◆ Gaging and Water-Quality Station (Sediment, Temperature)
- ◆ Gaging and Water-Quality Station with Telemetry (Sediment)
- ◆ Gaging and Water-Quality Station with Telemetry (Sediment, Temperature)
- ◆ Gaging and Water-Quality Station (Sediment, Miscellaneous Measurement Site)

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

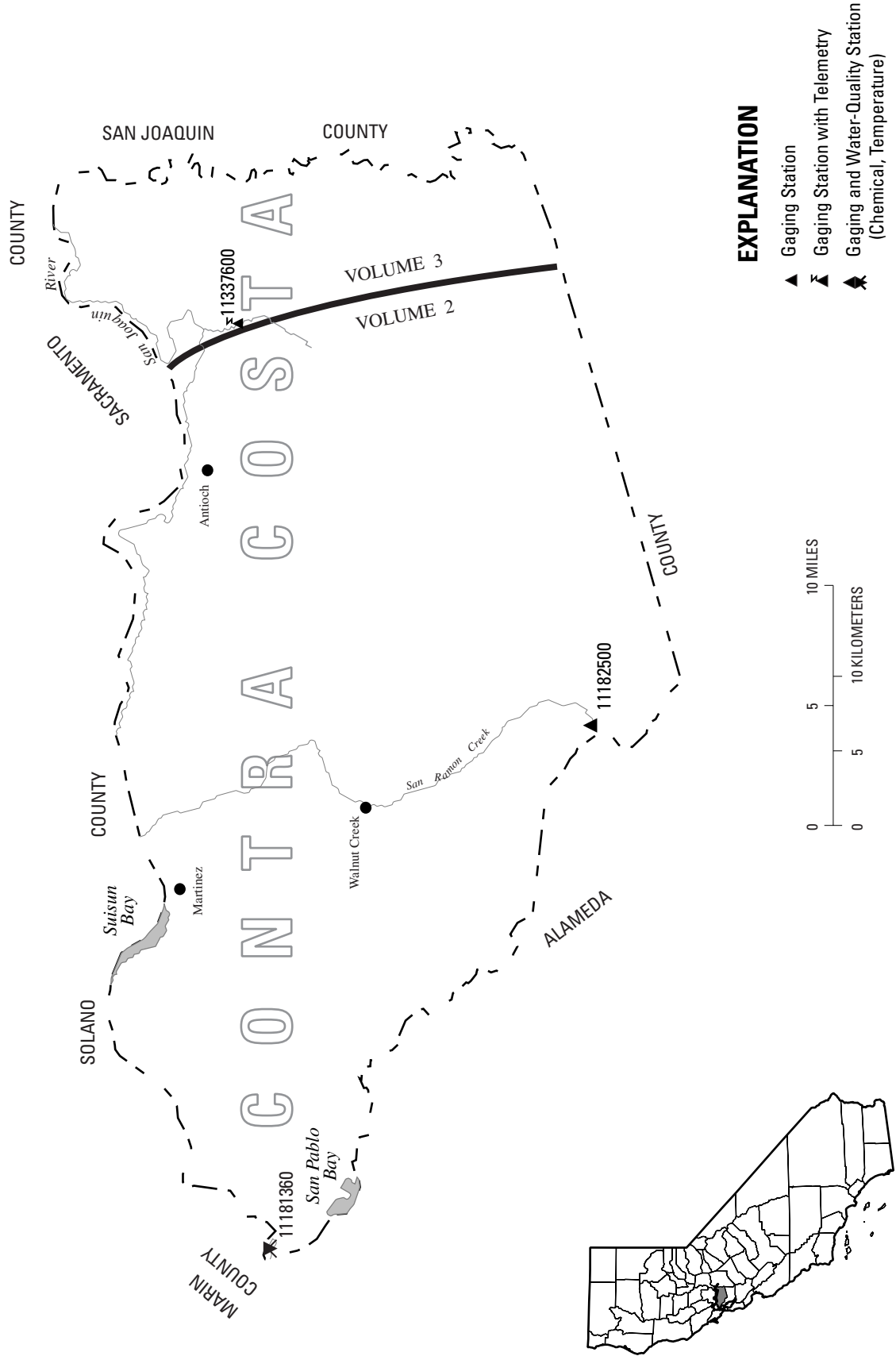


Figure 3. Location of discharge and water-quality stations in Contra Costa County. (NOTE: Record for station 11337000 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

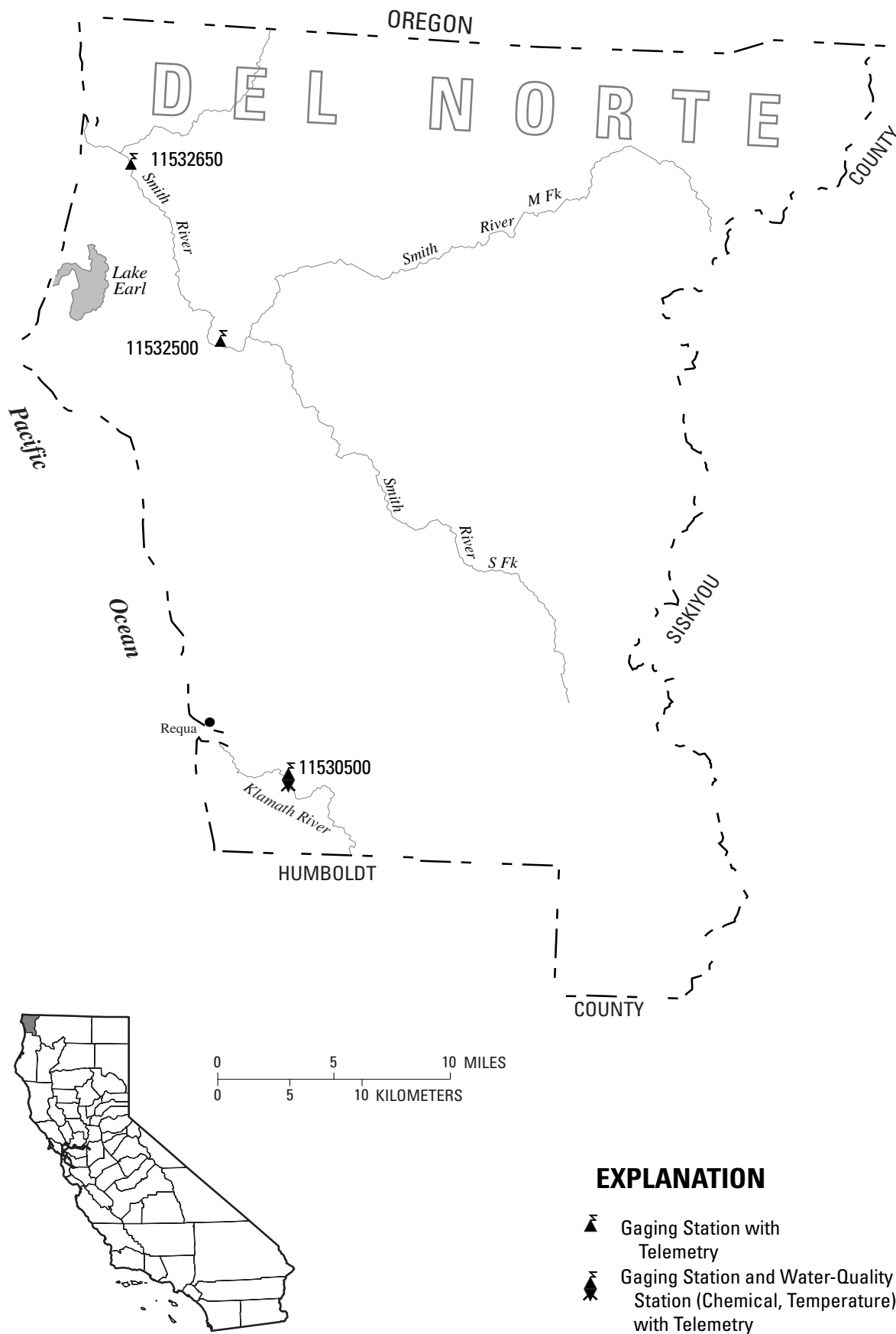


Figure 4. Location of discharge and water-quality stations in Del Norte County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION

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

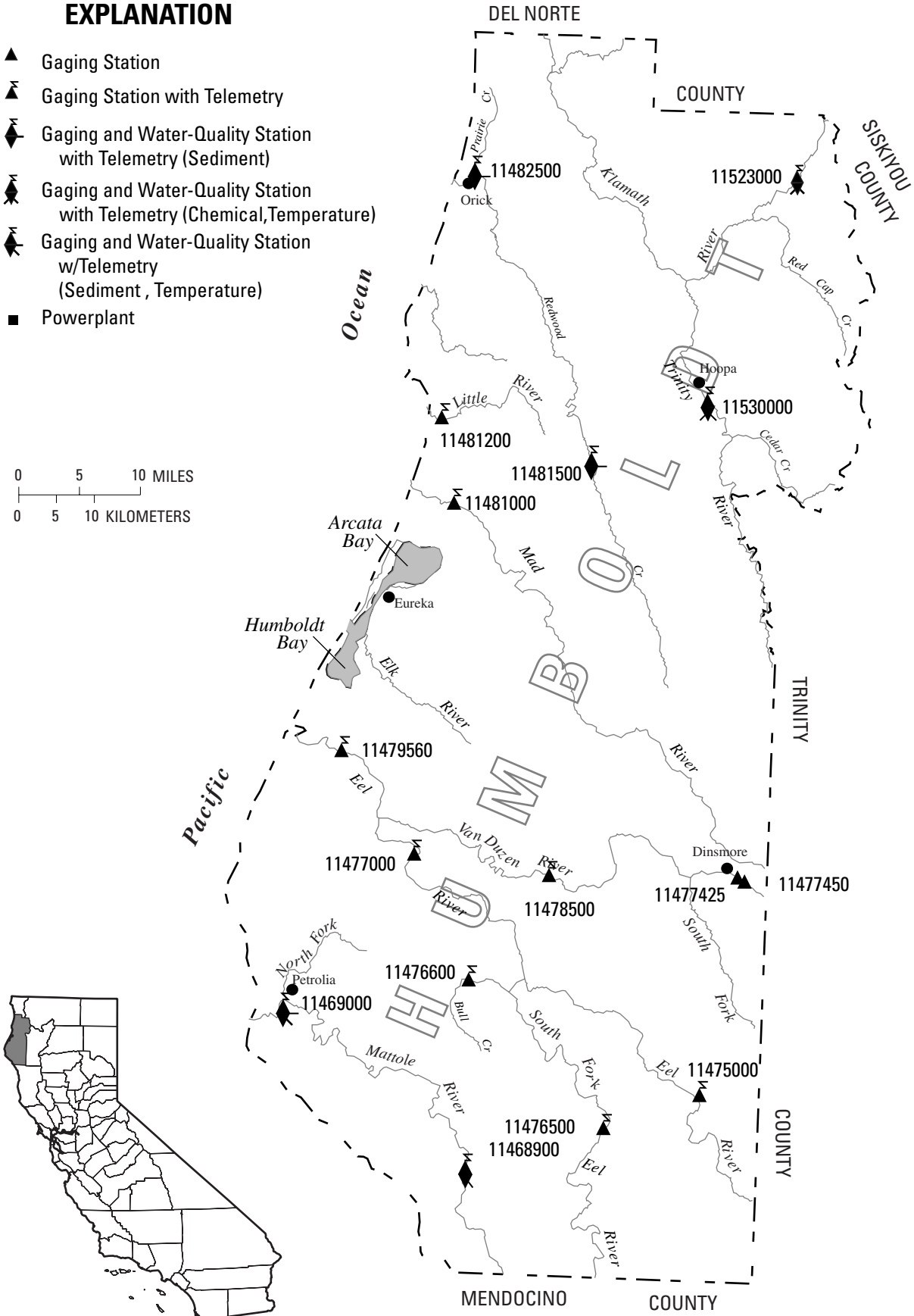
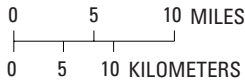


Figure 5. Location of discharge and water-quality stations in Humboldt County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

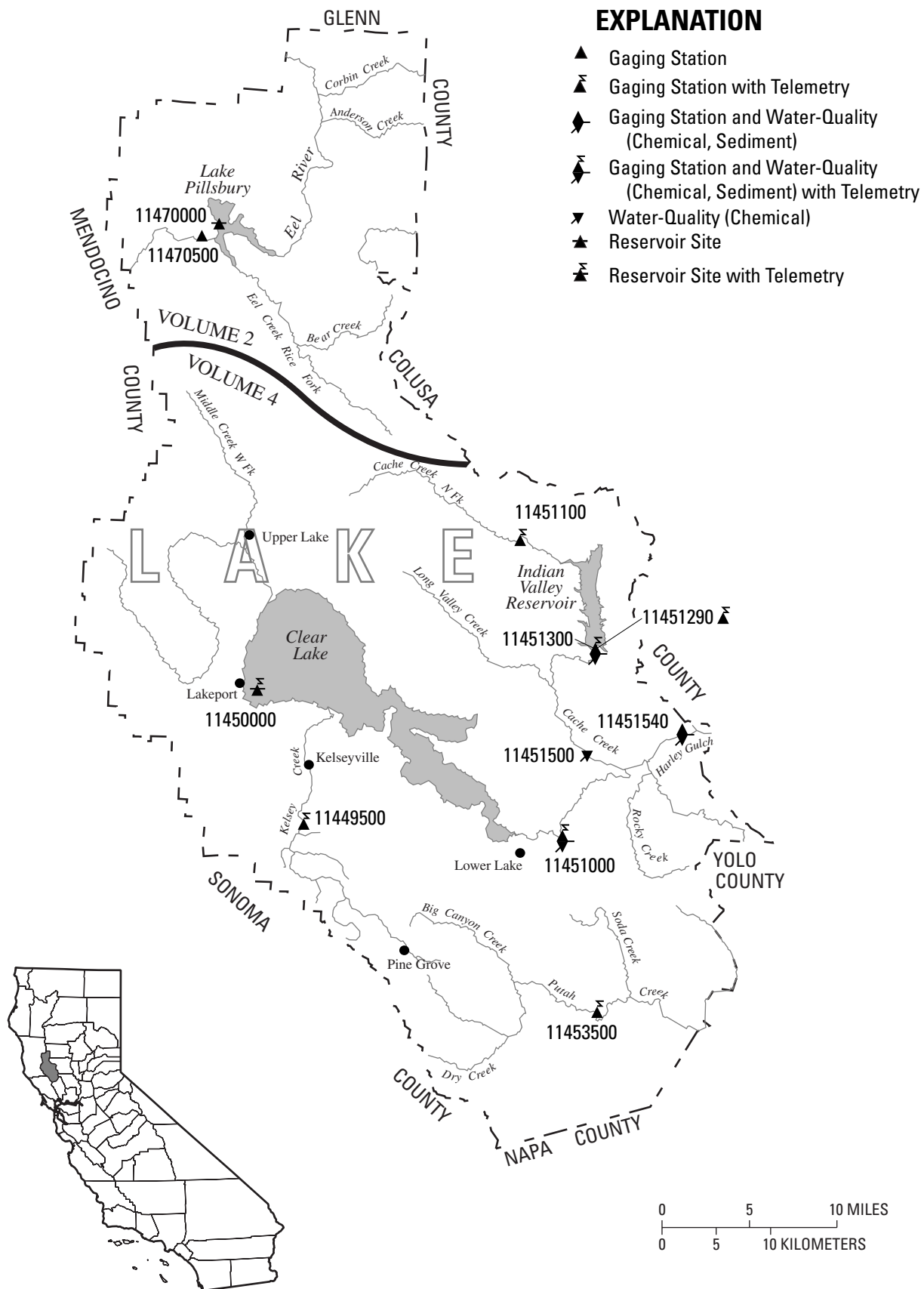


Figure 6. Location of discharge and water-quality stations in Lake County.
 (NOTE: Records for stations 11449500 through 11453500 published in volume 4.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

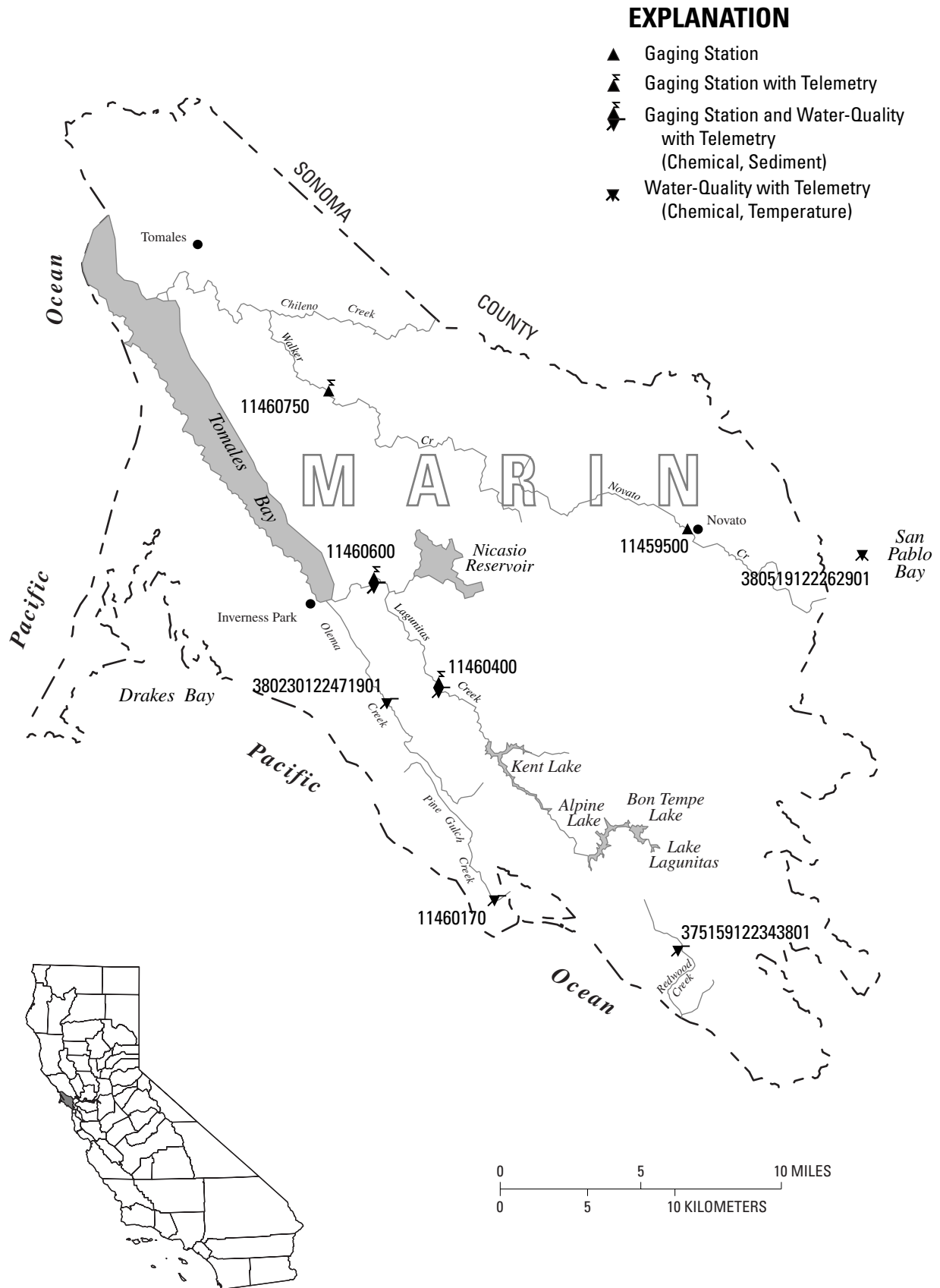


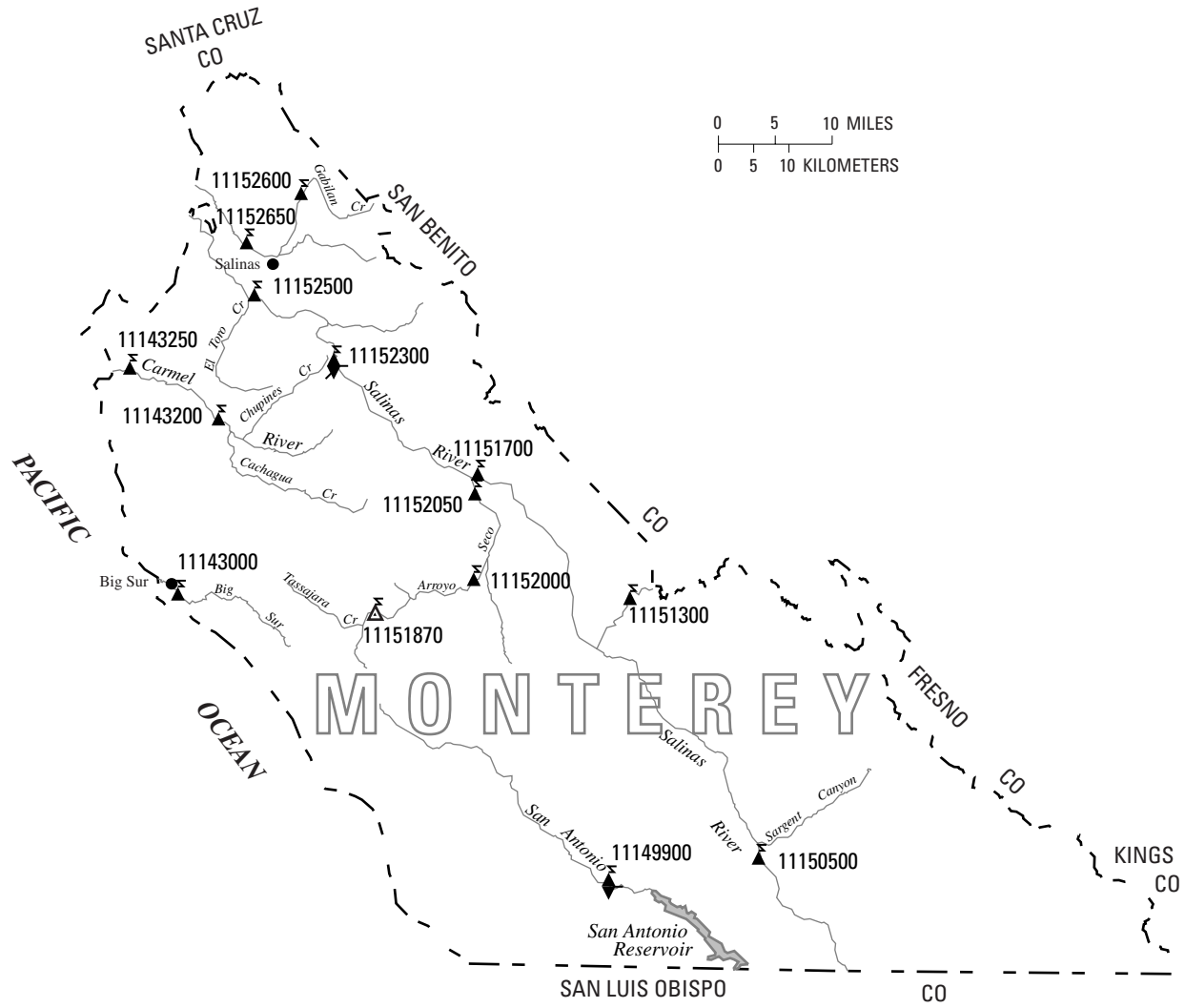
Figure 7. Location of discharge and water-quality stations in Marin County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



EXPLANATION

- ▲ Gaging Station with Telephone, Radio, or Data-Collection Platform (Partial Record)
- ▲ Gaging Station with Telephone, Radio, or Data-Collection Platform
- ◆ Gaging and Water-Quality Station with Data-Collection Platform (Sediment)
- ◆ Gaging and Water-Quality Station with Data-Collection Platform (Chemical, Sediment)

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION

- ▲ Gaging Station with Telemetry
- ★ Reservoir Site and Contents

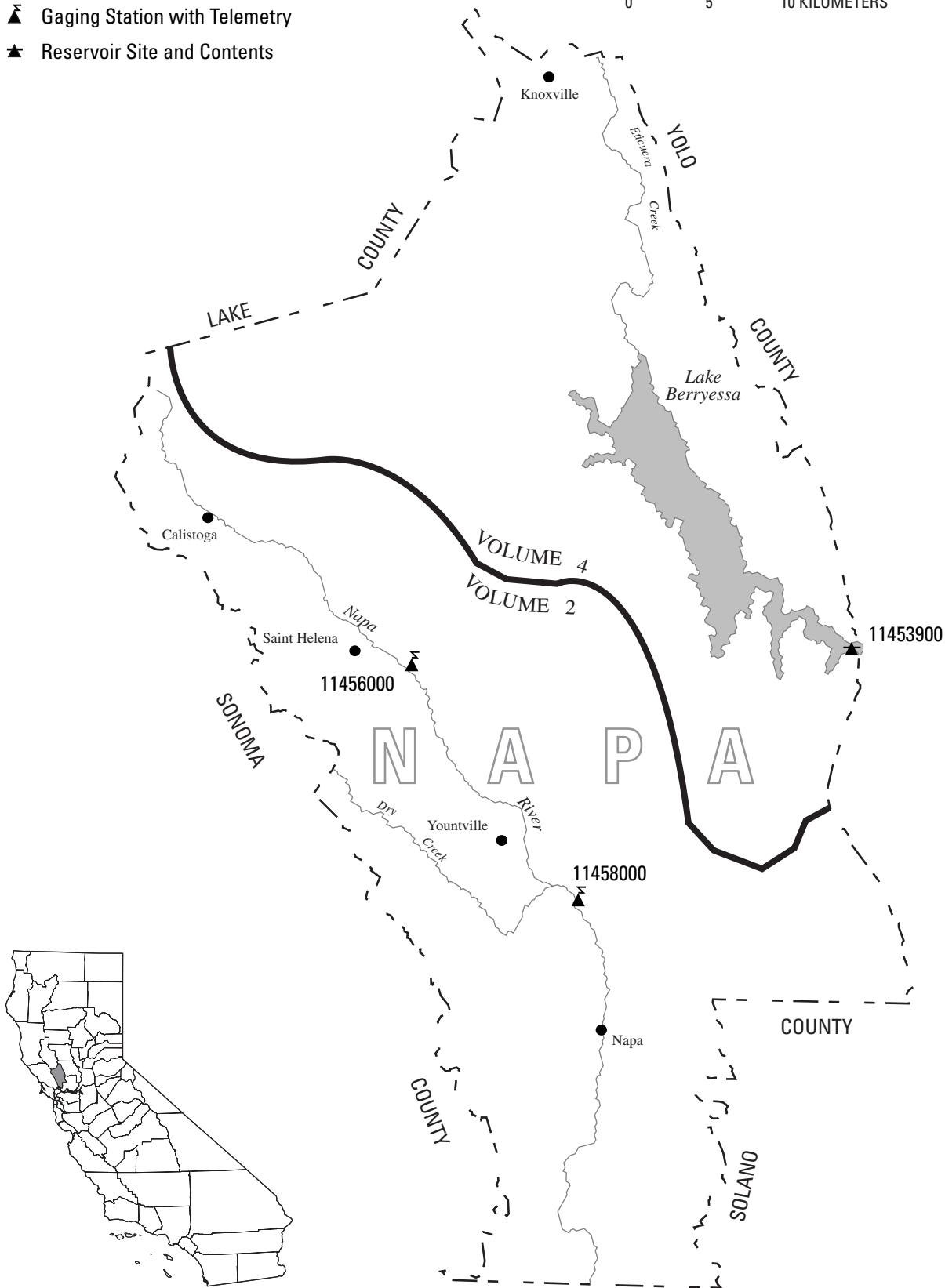
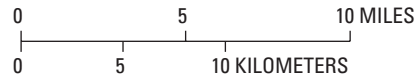


Figure 10. Location of discharge stations in Napa County.
 (NOTE: Record for station 11453900 published in volume 4.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

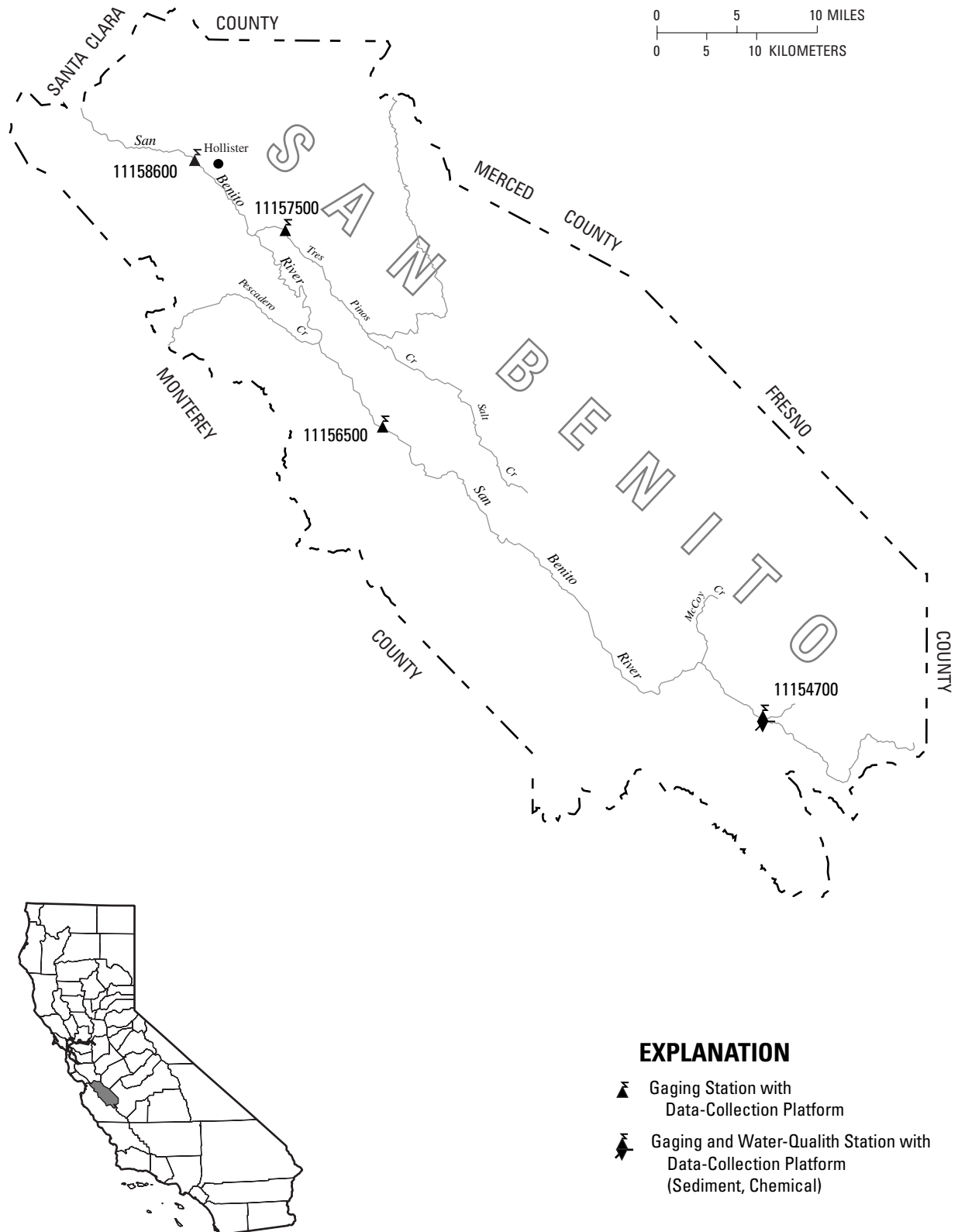


Figure 11. Location of discharge and water-quality stations in San Benito County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

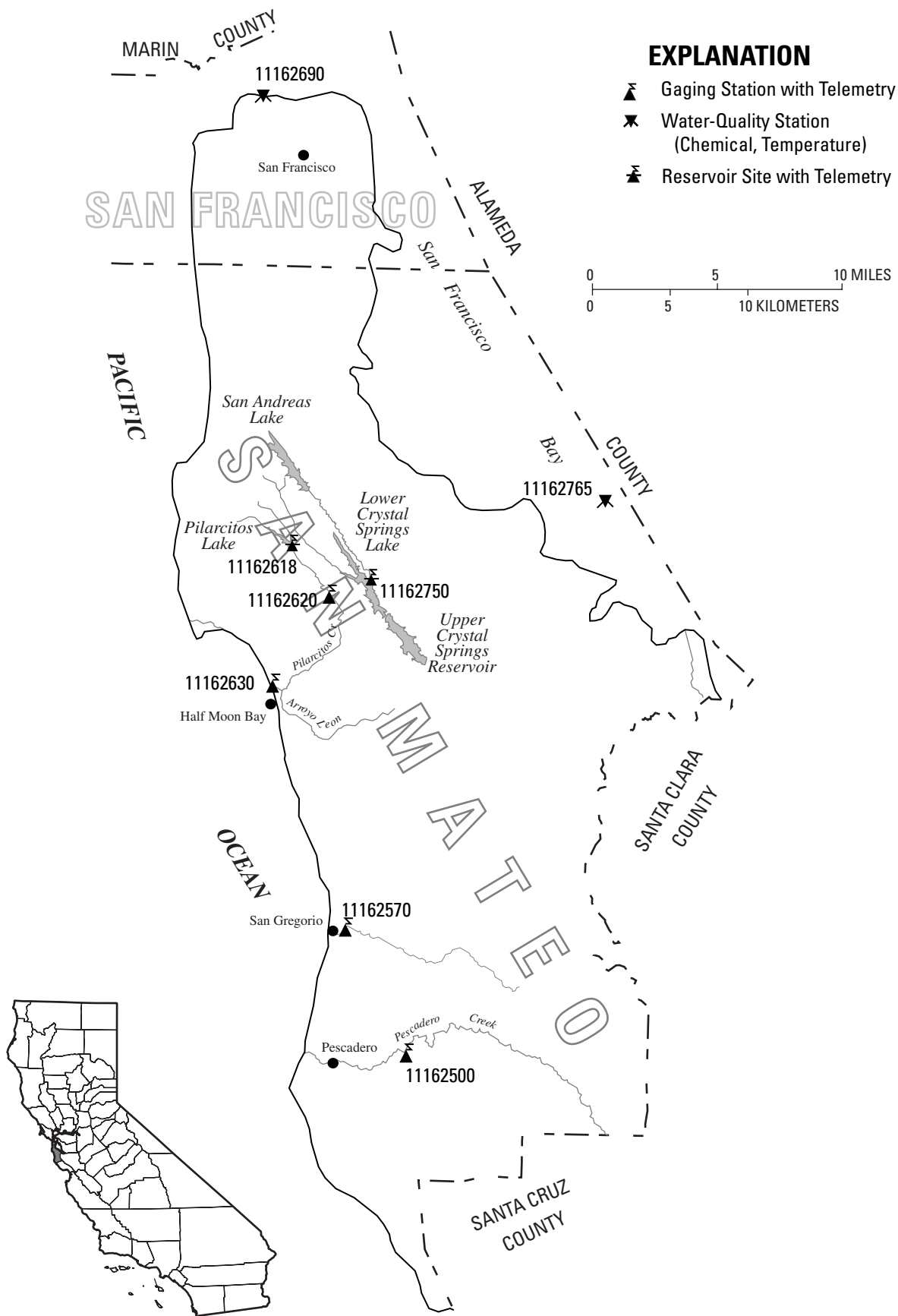


Figure 12. Location of discharge and water-quality stations in San Francisco and San Mateo Counties.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

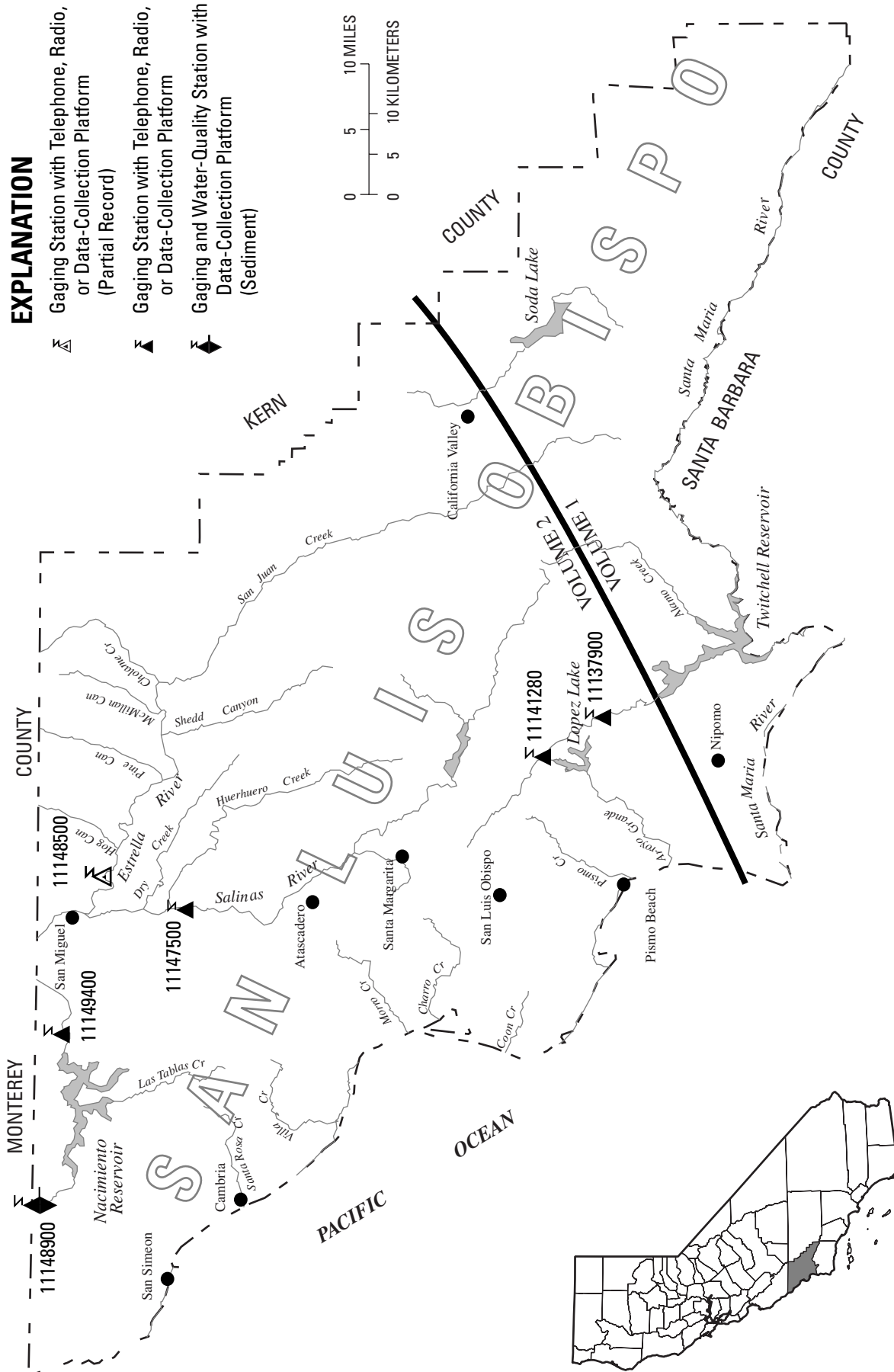
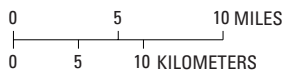


Figure 13. Location of discharge and water-quality stations in San Luis Obispo County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



EXPLANATION

- ▲ Gaging Station with Telephone, Radio, or Data-Collection Platform
- ◆ Gaging Station with Telephone, Radio, or Data-Collection Platform (Sediment)

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

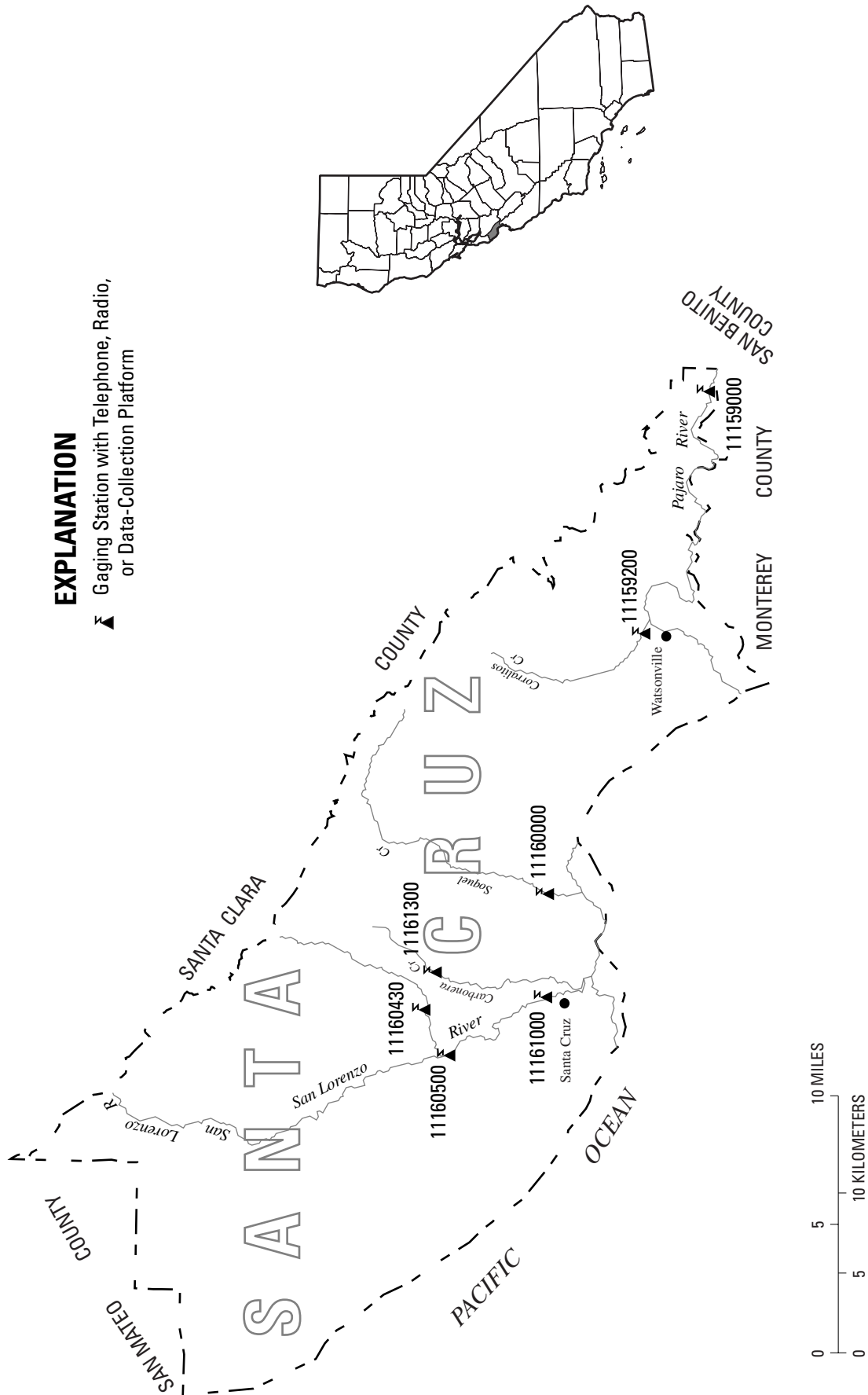


Figure 15. Location of discharge stations in Santa Cruz County.

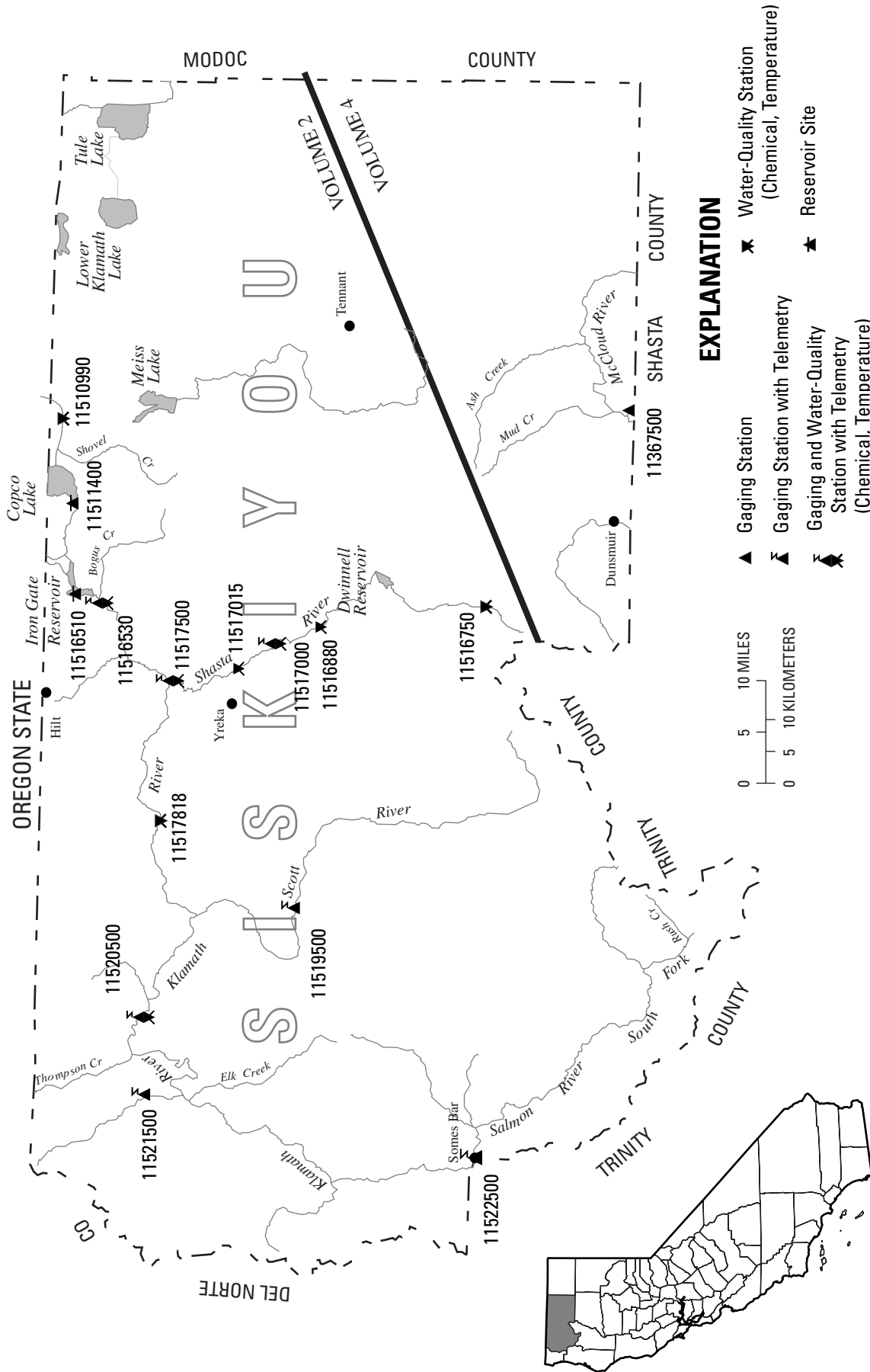
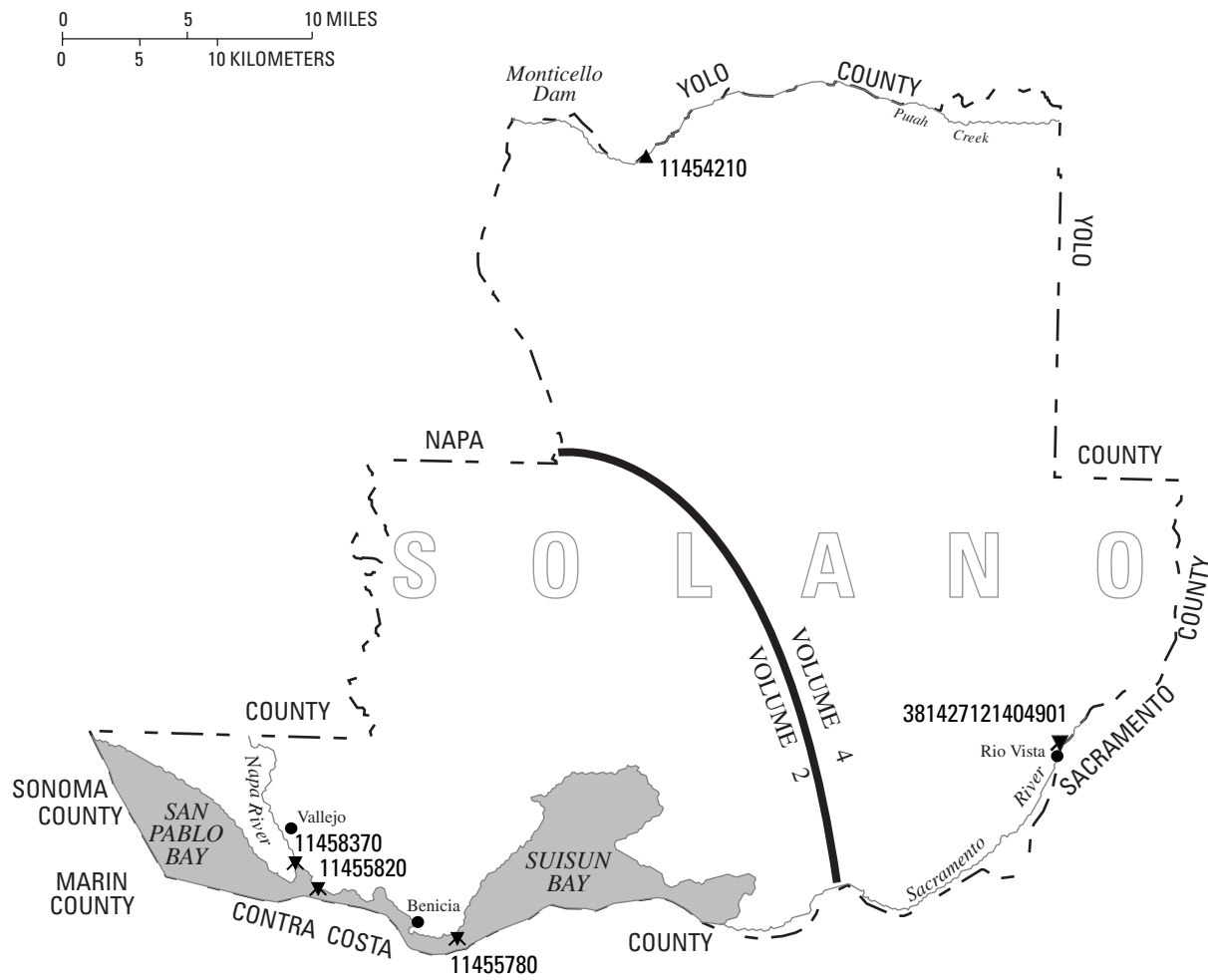


Figure 16. Location of discharge and water-quality stations in Siskiyou County.
(NOTE: Records for station 11367500 published in volume 4.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

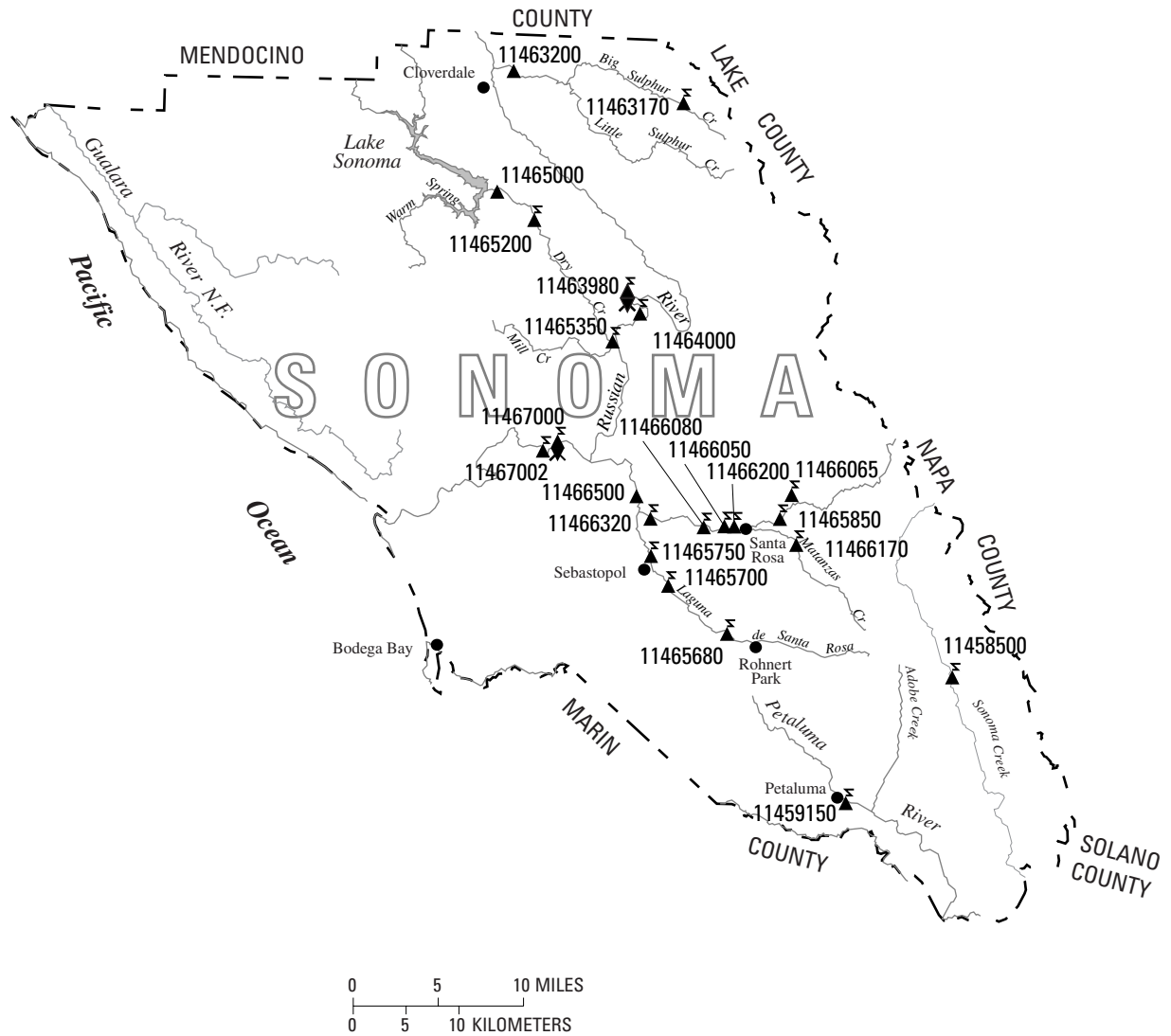


EXPLANATION

- ▲ Gaging Station
- ▼ Water-Quality Station (Chemical)
- ✱ Water-Quality Station (Chemical, Temperature)

Figure 17. Location of discharge and water-quality stations in Solano County.
(NOTE: Records for station 11454210 published in volume 4.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



EXPLANATION

- ▲ Gaging Station
- ▲ Gaging Station with Telemetry
- ◆ Gaging and Water-Quality Station with Telemetry (Temperature)

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

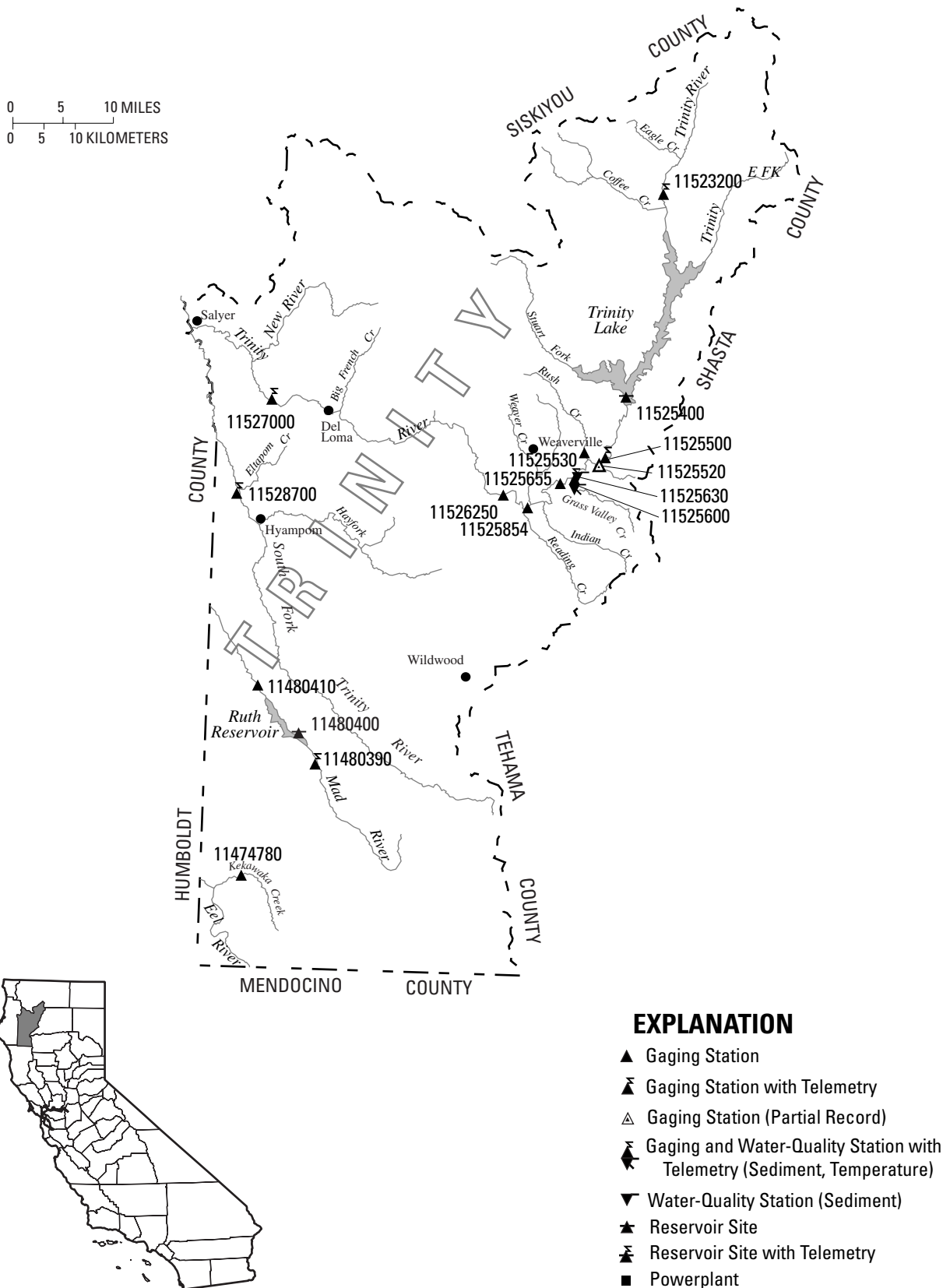


Figure 19. Location of discharge and water-quality stations in Trinity County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
e	Estimated value.
>	Actual value is known to be greater than value shown.
<	Actual value is known to be less than value shown.
A	Value is an average.
D	Biological organism count equal to or greater than 15 percent (dominant).
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
ND	Not detected.
S	Most probable value.
SS	Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) program protocol.
U	Material specifically analyzed for, but not detected.
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.
*	Instantaneous discharge at the time of cross-sectional measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
†	Sample collected using an automatic sampler.

Dissolved Trace-Element Concentrations

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

Data Precision

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

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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 mi².

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 NGVD of 1929, 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 ft³/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 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 11.21 ft, Mar. 5, 2001; minimum daily discharge, 0.30 ft³/s, Aug. 1, 1977.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1745	243	8.08	Mar. 15	1015	339	8.48
Dec. 16	1245	196	7.89				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.5	1.7	13	e2.8	e6.1	4.3	2.9	2.6	2.4	e1.5	1.2
2	1.7	1.4	1.7	11	e2.8	6.4	4.7	4.1	2.5	2.2	e1.5	1.1
3	1.6	1.3	1.7	9.4	e2.8	6.5	4.6	17	2.7	2.1	e1.5	1.2
4	1.6	1.3	1.7	8.3	e2.8	6.3	4.8	14	2.6	2.0	e1.4	1.3
5	1.5	1.4	1.7	7.7	e2.8	5.9	4.1	10	2.6	1.8	e1.4	1.2
6	1.4	1.4	1.7	7.2	e2.8	5.3	3.8	8.4	2.6	1.8	e1.4	1.1
7	1.4	3.2	1.7	6.6	e2.8	5.1	3.5	7.5	2.6	1.8	e1.4	1.2
8	1.4	73	1.7	6.3	e2.8	5.0	3.0	6.7	2.7	1.7	1.4	1.2
9	1.6	32	1.7	5.8	e2.8	5.0	2.8	5.9	2.7	1.6	1.3	1.1
10	1.7	13	1.7	6.0	e2.8	4.8	2.7	5.5	2.9	1.6	1.3	1.1
11	1.7	8.0	1.7	5.1	e4.1	4.6	2.8	5.7	2.9	1.5	1.2	1.1
12	1.7	6.0	1.7	4.6	5.6	4.5	2.9	5.6	2.8	1.5	1.3	1.1
13	1.6	4.7	1.7	4.5	11	4.5	16	5.5	2.7	1.5	1.3	1.1
14	1.6	3.7	1.8	4.6	8.3	4.5	12	5.1	2.5	1.4	1.3	1.2
15	1.7	3.1	2.1	4.4	6.6	118	9.0	4.3	2.7	1.4	1.2	1.2
16	1.7	2.7	40	4.2	6.9	43	7.0	4.4	2.6	1.4	1.2	1.2
17	1.6	2.3	14	4.0	6.0	26	6.5	4.5	2.5	1.3	1.2	1.1
18	1.7	e1.8	7.2	3.9	5.8	20	6.0	4.3	2.5	1.4	1.3	1.1
19	1.6	e1.7	9.1	3.6	5.6	16	5.2	4.3	2.6	1.7	1.3	1.0
20	1.6	e1.7	29	3.8	5.3	13	4.2	4.0	2.6	1.7	1.4	1.1
21	1.7	e1.7	17	3.6	4.8	11	4.3	3.8	2.6	1.5	1.5	1.0
22	1.7	e1.7	15	3.4	4.7	10	3.8	3.6	2.7	1.4	1.4	1.0
23	1.7	e1.7	11	3.3	4.7	9.7	3.3	4.0	3.2	e1.4	1.3	1.1
24	1.7	e1.7	8.7	3.3	5.0	8.6	4.9	4.0	3.1	e1.3	1.2	1.2
25	1.7	e1.7	7.3	3.3	5.7	7.1	5.3	3.9	2.8	e1.4	1.2	1.2
26	1.6	1.8	6.1	3.5	5.2	6.3	4.4	3.7	2.5	e1.3	1.3	1.2
27	1.6	1.8	5.2	4.0	6.7	5.9	3.5	3.4	2.6	e1.3	1.2	1.2
28	1.5	1.7	8.1	3.7	5.6	5.3	4.1	3.0	2.5	e1.4	1.2	1.2
29	1.5	1.7	19	3.5	---	4.8	3.0	3.0	2.4	e1.3	1.2	1.2
30	1.5	1.7	14	e2.9	---	4.8	3.0	3.2	2.3	e1.4	1.2	1.2
31	1.5	---	14	e2.9	---	4.4	---	3.4	---	e1.5	1.2	---
TOTAL	49.9	182.4	250.7	161.4	135.6	388.4	149.5	168.7	79.6	49.0	40.7	34.40
MEAN	1.61	6.08	8.09	5.21	4.84	12.5	4.98	5.44	2.65	1.58	1.31	1.15
MAX	1.8	73	40	13	11	118	16	17	3.2	2.4	1.5	1.3
MIN	1.4	1.3	1.7	2.9	2.8	4.4	2.7	2.9	2.3	1.3	1.2	1.0
AC-FT	99	362	497	320	269	770	297	335	158	97	81	68

e Estimated.

PACIFIC SLOPE BASINS IN CALIFORNIA

ARROYO GRANDE BASIN

11141280 LOPEZ CREEK NEAR ARROYO GRANDE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.06	4.44	7.29	20.8	30.4	27.4	13.9	7.72	4.97	3.64	3.03	2.81
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	0.72	0.44	0.82
(WY)	1978	1978	1991	1991	1991	1977	1977	1990	1972	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1967 - 2003	
ANNUAL TOTAL	1365.7		1690.30		10.7	
ANNUAL MEAN	3.74		4.63		37.3	
HIGHEST ANNUAL MEAN					1983	
LOWEST ANNUAL MEAN					1.89	
HIGHEST DAILY MEAN	73	Nov 8	118	Mar 15	1360	Jan 25 1969
LOWEST DAILY MEAN	1.2	Aug 10	1.0	Sep 19	0.30	Aug 1 1977
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 9	1.1	Sep 17	0.34	Jul 28 1977
MAXIMUM PEAK FLOW			339	Mar 15	2830	Jan 25 1969
MAXIMUM PEAK STAGE			8.48	Mar 15	11.21	Mar 5 2001
INSTANTANEOUS LOW FLOW			0.76	Sep 12		
ANNUAL RUNOFF (AC-FT)	2710		3350		7740	
10 PERCENT EXCEEDS	6.2		8.3		18	
50 PERCENT EXCEEDS	2.4		2.7		3.9	
90 PERCENT EXCEEDS	1.5		1.2		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 mi².

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 NGVD of 1929, from topographic map. Prior to Oct. 1, 1951, nonrecording gage at site 0.9 mi downstream at different datum.

REMARKS.—Records good except for estimated daily discharges and flows during summer season, which are fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,700 ft³/s, Jan. 5, 1978, gage height, 14.30 ft, from rating curve extended above 6,800 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 2.6 ft³/s, Aug. 23, 1977, Sept. 9, Oct. 29, Nov. 5, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1500	1,750	7.91	Jan. 10	0745	1,520	7.65
Dec. 16	0915	3,500	9.47				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	25	421	99	78	66	109	57	34	24	17
2	11	13	25	363	96	76	69	110	56	34	23	17
3	11	13	25	315	93	74	68	142	55	34	22	17
4	12	13	24	273	90	73	71	132	55	33	21	17
5	12	13	24	239	88	71	65	124	55	32	21	17
6	12	13	24	211	86	70	62	119	54	31	22	17
7	12	51	25	190	84	67	60	119	53	31	23	17
8	12	1010	24	172	81	66	58	114	52	30	22	17
9	12	427	27	170	79	65	56	109	51	30	21	16
10	12	155	28	857	78	63	56	105	51	29	21	17
11	12	93	25	538	77	62	56	101	51	29	20	17
12	13	70	24	425	92	61	95	98	50	28	20	16
13	12	58	65	366	119	60	196	95	e50	28	20	16
14	12	49	502	323	94	63	145	92	e49	28	20	16
15	12	43	444	288	87	344	124	90	e48	27	19	16
16	12	40	1250	258	131	194	113	86	e47	27	19	16
17	13	37	571	234	105	153	107	83	e46	26	19	16
18	13	35	343	212	96	131	100	81	e45	26	19	16
19	13	33	334	195	91	117	95	79	e44	26	19	15
20	13	31	406	180	89	107	91	76	43	27	20	15
21	12	30	427	173	85	100	88	74	43	26	19	15
22	13	29	368	159	81	95	89	72	42	25	20	15
23	13	29	300	150	79	90	84	71	41	24	21	15
24	13	28	245	140	88	86	107	69	41	25	20	15
25	13	27	204	131	94	82	104	68	39	24	19	15
26	13	26	196	125	84	79	98	67	38	24	19	15
27	13	26	214	120	86	76	94	64	37	23	18	15
28	13	25	453	115	81	73	144	62	36	22	18	14
29	12	25	606	110	---	71	123	61	35	21	17	14
30	12	25	464	105	---	68	115	60	35	22	17	14
31	12	---	508	102	---	66	---	59	---	23	17	---
TOTAL	381	2479	8200	7660	2533	2881	2799	2791	1399	849	620	475
MEAN	12.3	82.6	265	247	90.5	92.9	93.3	90.0	46.6	27.4	20.0	15.8
MAX	13	1010	1250	857	131	344	196	142	57	34	24	17
MIN	11	12	24	102	77	60	56	59	35	21	17	14
AC-FT	756	4920	16260	15190	5020	5710	5550	5540	2770	1680	1230	942

e Estimated.

BIG SUR RIVER BASIN

11143000 BIG SUR RIVER NEAR BIG SUR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.6	44.9	106	243	282	222	142	67.5	37.1	23.9	17.6	15.4
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL TOTAL	26998		33067			
ANNUAL MEAN	74.0		90.6		101	
HIGHEST ANNUAL MEAN					319	
LOWEST ANNUAL MEAN					10.0	
HIGHEST DAILY MEAN	1250	Dec 16	1250	Dec 16	4150	Mar 10 1995
LOWEST DAILY MEAN	11	Oct 1	11	Oct 1	2.6	Aug 23 1977
ANNUAL SEVEN-DAY MINIMUM	12	Sep 27	12	Oct 1	2.9	Nov 4 1990
MAXIMUM PEAK FLOW			3500	Dec 16	10700	Jan 5 1978
MAXIMUM PEAK STAGE			9.47	Dec 16	14.30	Jan 5 1978
INSTANTANEOUS LOW FLOW					2.6	Aug 23 1977
ANNUAL RUNOFF (AC-FT)	53550		65590		73040	
10 PERCENT EXCEEDS	132		196		227	
50 PERCENT EXCEEDS	32		53		29	
90 PERCENT EXCEEDS	12		13		10	

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 mi².

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 NGVD of 1929 (based on Monterey County benchmark). Prior to June 1981, at site 150 ft upstream at same datum.

REMARKS.—Records fair. Low flow regulated by Los Padres Reservoir 11 mi upstream, usable capacity, 1,480 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 ft³/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 ft³/s, from slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1200	3,520	6.39

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	5.1	18	429	85	72	67	119	55	24	13	8.6
2	4.7	5.0	18	358	81	69	73	122	53	24	13	8.5
3	4.5	4.8	18	306	78	67	72	171	51	22	13	7.8
4	4.4	4.7	18	265	74	66	76	174	50	21	12	8.3
5	4.3	5.3	18	235	70	64	75	162	49	21	12	8.4
6	3.9	6.8	18	213	67	62	66	154	49	20	11	8.3
7	3.5	11	17	194	65	60	62	150	48	20	11	8.3
8	3.0	92	17	178	63	58	58	144	48	20	11	8.4
9	3.4	275	18	167	61	57	55	141	46	19	11	8.1
10	4.1	179	24	502	60	55	54	131	45	19	11	8.6
11	4.3	98	21	431	59	54	56	126	45	19	11	8.1
12	3.8	69	19	323	64	52	69	120	46	20	12	8.7
13	3.2	55	19	271	82	52	309	115	43	21	12	10
14	3.5	46	92	241	77	52	248	109	41	21	13	11
15	4.1	40	522	218	69	305	201	106	40	22	13	e12
16	4.4	35	1240	198	101	234	172	102	37	21	12	e12
17	4.8	32	714	182	98	171	165	97	35	19	12	e11
18	5.1	30	482	171	89	146	148	93	34	17	13	e11
19	4.9	27	494	158	85	130	136	88	34	19	12	e9.8
20	4.8	25	654	148	85	120	129	83	35	23	12	9.0
21	4.9	24	547	144	79	112	123	79	34	19	11	8.4
22	5.4	23	436	132	77	105	124	77	34	17	11	8.1
23	5.6	22	338	125	74	100	117	75	37	16	11	8.2
24	5.5	21	269	120	74	97	120	73	40	15	9.8	8.9
25	5.4	21	224	113	81	90	127	71	39	14	9.6	9.0
26	5.4	20	198	108	75	85	128	68	30	14	9.3	9.1
27	5.5	20	181	104	81	83	120	64	27	13	9.4	9.1
28	5.4	19	259	100	75	79	142	61	26	13	9.3	9.1
29	5.1	19	624	97	---	76	136	58	25	13	8.9	8.8
30	5.0	18	465	93	---	73	129	57	23	13	8.4	7.8
31	5.3	---	506	89	---	69	---	57	---	13	8.7	---
TOTAL	142.0	1252.7	8488	6413	2129	2915	3557	3247	1199	572	346.4	272.4
MEAN	4.58	41.8	274	207	76.0	94.0	119	105	40.0	18.5	11.2	9.08
MAX	5.6	275	1240	502	101	305	309	174	55	24	13	12
MIN	3.0	4.7	17	89	59	52	54	57	23	13	8.4	7.8
AC-FT	282	2480	16840	12720	4220	5780	7060	6440	2380	1130	687	540

e Estimated

CARMEL RIVER BASIN

11143200 CARMEL RIVER AT ROBLES DEL RIO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.31	14.6	63.8	204	327	270	163	58.8	21.3	7.85	3.21	2.78
MAX	23.6	135	480	899	2308	1855	1071	410	130	62.5	31.1	20.0
(WY)	1999	1984	1984	1997	1998	1983	1958	1983	1998	1998	1998	1998
MIN	0.000	0.000	0.000	0.26	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1960	1960	1960	1991	1977	1977	1977	1977	1961	1959	1957	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1957 - 2003	
ANNUAL TOTAL	21097.6		30533.5			
ANNUAL MEAN	57.8		83.7		93.6	
HIGHEST ANNUAL MEAN					442 1983	
LOWEST ANNUAL MEAN					0.050 1977	
HIGHEST DAILY MEAN	1240	Dec 16	1240	Dec 16	9000	Feb 3 1998
LOWEST DAILY MEAN	3.0	Aug 11	3.0	Oct 8	0.00	Aug 1 1957
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 10	3.6	Oct 7	0.00	Aug 1 1957
MAXIMUM PEAK FLOW			3520	Dec 16	16000	Mar 10 1995
MAXIMUM PEAK STAGE			6.39	Dec 16	12.90	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	41850		60560		67830	
10 PERCENT EXCEEDS	96		187		221	
50 PERCENT EXCEEDS	22		48		8.2	
90 PERCENT EXCEEDS	4.1		6.3		0.00	

11143250 CARMEL RIVER NEAR CARMEL, CA

LOCATION.—Lat 36° 32' 21", long 121° 52' 46", in Canada de la Segunda Grant, Monterey County, Hydrologic Unit 18060012, on left bank, 0.6 mi downstream from Potrero Canyon, and about 3 mi east of Carmel.

DRAINAGE AREA.—247 mi².

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. Prior to Nov. 16, 1998, at site 1,650 ft upstream at different datum. Elevation of gage is 40 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair. Low flow regulated by Los Padres Reservoir, usable capacity, 1,480 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 ft³/s, Mar. 10, 1995, gage height, 20.85 ft, at datum then in use; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1515	3,470	11.70

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	449	87	71	63	128	52	9.9	0.00	0.00
2	0.00	0.00	0.00	371	84	68	67	121	50	9.5	0.00	0.00
3	0.00	0.00	0.00	312	81	66	72	159	46	8.9	0.00	0.00
4	0.00	0.00	0.00	266	79	66	74	175	44	8.2	0.00	0.00
5	0.00	0.00	0.00	237	75	63	80	165	42	8.2	0.00	0.00
6	0.00	0.00	0.00	212	73	61	71	157	41	8.5	0.00	0.00
7	0.00	0.00	0.00	190	71	59	66	154	40	8.3	0.00	0.00
8	0.00	0.00	0.00	171	67	56	61	150	41	7.8	0.00	0.00
9	0.00	0.11	0.00	149	65	55	58	147	39	7.3	0.00	0.00
10	0.00	27	0.00	395	64	53	55	138	37	6.8	0.00	0.00
11	0.00	8.7	0.00	434	62	51	55	130	37	6.8	0.00	0.00
12	0.00	0.82	0.00	340	65	50	59	124	38	6.5	0.00	0.00
13	0.00	0.00	0.00	288	77	50	214	119	35	6.9	0.00	0.00
14	0.00	0.00	13	258	78	49	231	114	33	7.5	0.00	0.00
15	0.00	0.00	246	235	73	161	201	109	32	7.4	0.00	0.00
16	0.00	0.00	1250	212	91	221	172	104	29	7.2	0.00	0.00
17	0.00	0.00	924	190	99	169	165	99	27	6.5	0.00	0.00
18	0.00	0.00	567	175	89	144	151	93	25	5.6	0.00	0.00
19	0.00	0.00	512	164	85	128	141	88	24	4.7	0.00	0.00
20	0.00	0.00	741	156	84	118	132	82	24	5.9	0.00	0.00
21	0.00	0.00	592	153	81	110	125	77	24	7.0	0.00	0.00
22	0.00	0.00	489	146	76	103	126	74	23	5.4	0.00	0.00
23	0.00	0.00	391	134	74	97	119	72	23	4.1	0.00	0.00
24	0.00	0.00	319	128	72	94	116	69	26	3.6	0.00	0.00
25	0.00	0.00	270	121	77	87	129	69	24	2.9	0.00	0.00
26	0.00	0.00	236	115	74	83	128	66	19	2.5	0.00	0.00
27	0.00	0.00	214	110	78	79	122	63	15	2.4	0.00	0.00
28	0.00	0.00	273	106	74	75	136	58	13	1.8	0.00	0.00
29	0.00	0.00	666	99	---	70	141	55	12	0.00	0.00	0.00
30	0.00	0.00	502	93	---	67	133	54	11	0.00	0.00	0.00
31	0.00	---	510	90	---	65	---	54	---	0.00	0.00	---
TOTAL	0.00	36.63	8715.00	6499	2155	2689	3463	3267	926	178.10	0.00	0.00
MEAN	0.000	1.22	281	210	77.0	86.7	115	105	30.9	5.75	0.000	0.000
MAX	0.00	27	1250	449	99	221	231	175	52	9.9	0.00	0.00
MIN	0.00	0.00	0.00	90	62	49	55	54	11	0.00	0.00	0.00
AC-FT	0.00	73	17290	12890	4270	5330	6870	6480	1840	353	0.00	0.00

CARMEL RIVER BASIN

11143250 CARMEL RIVER NEAR CARMEL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.30	9.05	66.9	239	377	323	179	71.3	22.4	5.90	1.26	0.66
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1965	1965	1969	1977	1977	1977	1977	1977	1968	1966	1964	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1962 - 2003	
ANNUAL TOTAL	19291.48		27928.73			
ANNUAL MEAN	52.9		76.5		107	
HIGHEST ANNUAL MEAN					508	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	1250	Dec 16	1250	Dec 16	9050	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jun 26	0.00	Oct 1	0.00	Oct 6 1962
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 26	0.00	Oct 1	0.00	Jul 9 1964
MAXIMUM PEAK FLOW			3470		16000	
MAXIMUM PEAK STAGE			11.70		20.85	
ANNUAL RUNOFF (AC-FT)	38260		55400		77240	
10 PERCENT EXCEEDS	101		181		268	
50 PERCENT EXCEEDS	2.9		32		1.2	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 mi².

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 NGVD of 1929. Prior to June 14, 1951, nonrecording gage at same site and datum.

REMARKS.—Records are fair. 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 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 850 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1745	2,620	8.38	Mar. 15	1645	2,780	8.54

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.15	132	12	48	37	17	e0.80	0.00	0.00	0.00
2	0.00	0.00	0.18	90	12	44	34	20	e0.70	0.00	0.00	0.00
3	0.00	0.00	0.16	68	11	42	31	41	e0.60	0.00	0.00	0.00
4	0.00	0.00	0.14	57	11	40	29	105	e0.50	0.00	0.00	0.00
5	0.00	0.00	0.14	50	11	38	27	79	e0.43	0.00	0.00	0.00
6	0.00	0.00	0.15	45	11	36	25	63	0.40	0.00	0.00	0.00
7	0.00	0.00	0.17	41	11	35	22	54	0.37	0.00	0.00	0.00
8	0.00	36	0.15	38	10	35	20	48	e0.28	0.00	0.00	0.00
9	0.00	14	0.14	36	9.7	33	18	42	e0.24	0.00	0.00	0.00
10	0.00	7.0	0.17	35	9.4	32	17	36	e0.22	0.00	0.00	0.00
11	0.00	2.1	0.15	45	11	31	17	32	e0.20	0.00	0.00	0.00
12	0.00	1.4	0.13	39	28	32	17	29	e0.18	0.00	0.00	0.00
13	0.00	1.1	0.23	35	70	31	24	27	e0.15	0.00	0.00	0.00
14	0.00	0.92	7.8	33	83	31	35	25	e0.13	0.00	0.00	0.00
15	0.00	0.78	11	31	65	948	27	23	e0.11	0.00	0.00	0.00
16	0.00	0.68	560	30	61	652	23	22	e0.10	0.00	0.00	0.00
17	0.00	0.54	280	28	67	323	26	19	e0.07	0.00	0.00	0.00
18	0.00	0.46	90	27	58	218	21	16	e0.05	0.00	0.00	0.00
19	0.00	0.39	76	25	54	162	19	12	e0.03	0.00	0.00	0.00
20	0.00	0.34	321	23	51	129	18	9.0	e0.01	0.00	0.00	0.00
21	0.00	0.30	214	22	47	109	17	6.8	e0.01	0.00	0.00	0.00
22	0.00	0.26	242	20	45	95	16	5.1	e0.01	0.00	0.00	0.00
23	0.00	0.23	118	19	43	87	16	4.2	e0.01	0.00	0.00	0.00
24	0.00	0.22	67	18	42	78	16	3.8	e0.01	0.00	0.00	0.00
25	0.00	0.23	48	17	48	70	17	3.5	e0.01	0.00	0.00	0.00
26	0.00	0.19	38	16	49	64	17	3.1	0.00	0.00	0.00	0.00
27	0.00	0.18	32	15	50	59	17	2.0	0.00	0.00	0.00	0.00
28	0.00	0.16	40	14	53	53	17	e1.8	0.00	0.00	0.00	0.00
29	0.00	0.17	316	14	---	47	18	e1.6	0.00	0.00	0.00	0.00
30	0.00	0.15	233	13	---	43	18	e1.3	0.00	0.00	0.00	0.00
31	0.00	---	162	12	---	40	---	e1.1	---	0.00	0.00	---
TOTAL	0.00	67.80	2857.86	1088	1033.1	3685	656	753.3	5.62	0.00	0.00	0.00
MEAN	0.000	2.26	92.2	35.1	36.9	119	21.9	24.3	0.19	0.000	0.000	0.000
MAX	0.00	36	560	132	83	948	37	105	0.80	0.00	0.00	0.00
MIN	0.00	0.00	0.13	12	9.4	31	16	1.1	0.00	0.00	0.00	0.00
AC-FT	0.00	134	5670	2160	2050	7310	1300	1490	11	0.00	0.00	0.00

e Estimated.

SALINAS RIVER BASIN

11147500 SALINAS RIVER AT PASO ROBLES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.36	5.24	51.2	236	403	365	156	26.4	3.33	0.27	0.052	0.84
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1941	1940	1940	1948	1948	1961	1961	1959	1947	1940	1940	1940

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	4309.95		10146.68			
ANNUAL MEAN	11.8		27.8		103	
HIGHEST ANNUAL MEAN					526	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	560	Dec 16	948	Mar 15	19600	Mar 10 1995
LOWEST DAILY MEAN	0.00	May 30	0.00	Oct 1	0.00	Nov 1 1939
ANNUAL SEVEN-DAY MINIMUM	0.00	May 30	0.00	Oct 1	0.00	Nov 1 1939
MAXIMUM PEAK FLOW			2780	Mar 15	28400	Mar 10 1995
MAXIMUM PEAK STAGE			8.54	Mar 15	22.99	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	8550		20130		74330	
10 PERCENT EXCEEDS	15		58		158	
50 PERCENT EXCEEDS	0.14		0.50		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

SALINAS RIVER BASIN

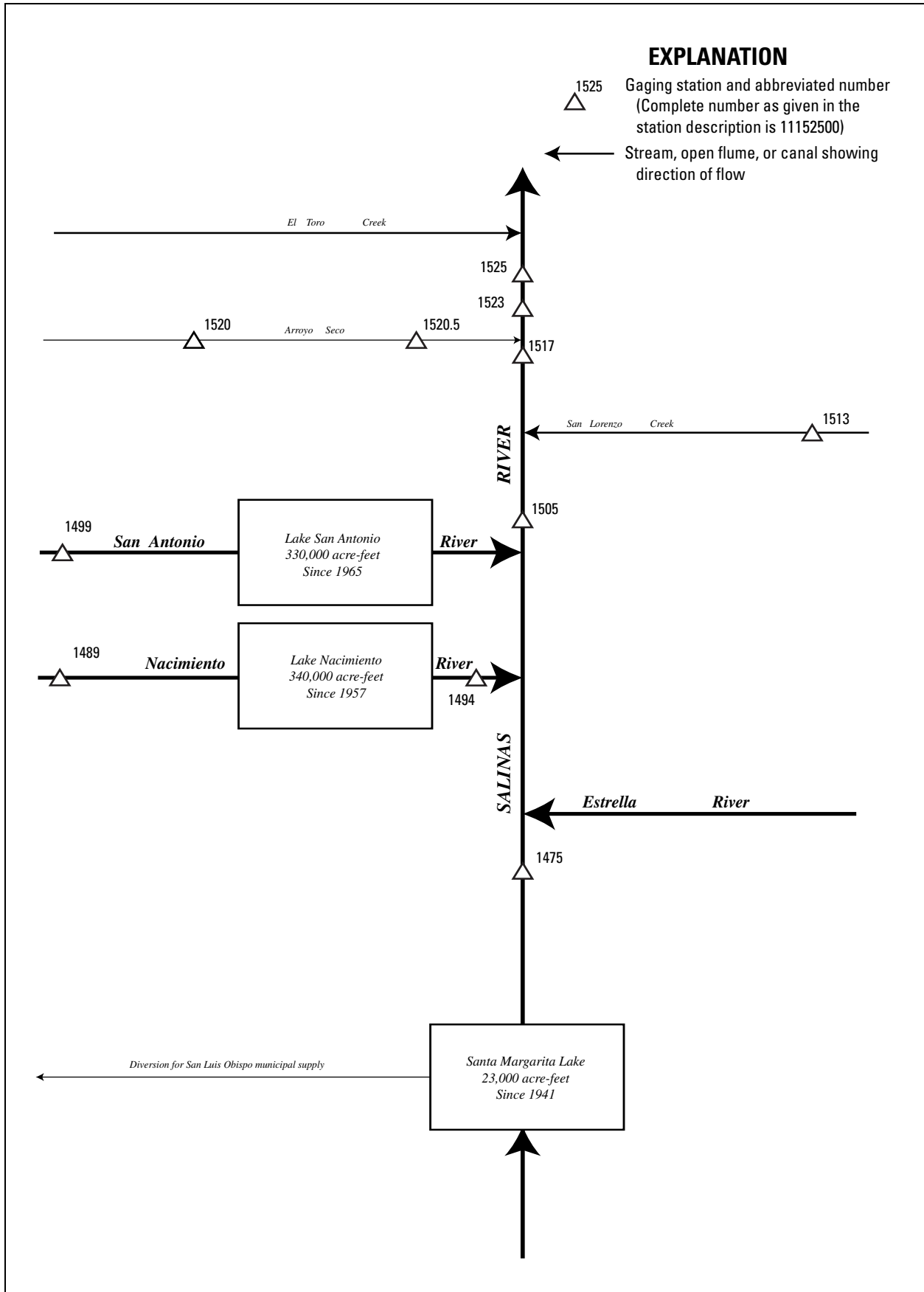


Figure 20. Diversions and storage in Salinas River Basin.

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 mi².

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 NGVD of 1929, from topographic map.

REMARKS.—Records good except estimated daily discharges, which are fair. No storage or diversion upstream from station. See schematic diagram of [Salinas River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 57,600 ft³/s, Jan. 14, 1993, gage height, 32.14 ft, from rating curve extended above 7,900 ft³/s, on basis of slope-area measurement at gage height 32.00 ft, 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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1045	16,300	22.40

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.62	622	107	e180	85	e152	32	3.9	0.00	0.00
2	0.00	0.00	0.54	473	103	e164	86	e240	30	3.6	0.00	0.00
3	0.00	0.00	0.52	381	99	e153	86	e400	28	3.3	0.00	0.00
4	0.00	0.00	0.47	315	96	e150	83	e400	26	2.9	0.00	0.00
5	0.00	0.00	0.42	269	94	e137	83	e250	26	2.6	0.00	0.00
6	0.00	0.00	0.41	239	92	e135	74	e219	25	2.3	0.00	0.00
7	0.00	0.00	0.42	213	89	e127	70	e200	24	2.0	0.00	0.00
8	0.00	2150	0.40	195	87	e121	66	e191	22	1.9	0.00	0.00
9	0.00	1170	0.36	181	84	e115	63	e172	20	1.7	0.00	0.00
10	0.00	218	0.33	1610	81	e111	60	e158	19	1.5	0.00	0.00
11	0.00	91	0.31	762	85	e109	e57	e142	19	1.3	0.00	0.00
12	0.00	47	0.30	481	254	e105	66	e130	20	1.1	0.00	0.00
13	0.00	25	0.35	375	1130	e100	e700	e118	19	1.0	0.00	0.00
14	0.00	13	90	317	440	e102	e315	e104	17	0.88	0.00	0.00
15	0.00	8.4	626	275	e284	e1000	e230	94	16	0.79	0.00	0.00
16	0.00	5.9	5230	246	e321	e757	e190	88	14	0.67	0.00	0.00
17	0.00	4.5	1070	224	e331	e424	e170	82	12	0.58	0.00	0.00
18	0.00	3.5	539	206	e285	e304	e150	76	11	0.47	0.00	0.00
19	0.00	2.8	1050	191	e242	e245	e130	70	9.8	0.39	0.00	0.00
20	0.00	2.3	1620	178	e217	e207	e120	65	9.6	0.37	0.00	0.00
21	0.00	2.0	1580	167	e180	e184	e110	61	9.4	0.22	0.00	0.00
22	0.00	1.7	1010	159	e159	e166	e100	58	9.3	0.08	0.00	0.00
23	0.00	1.4	557	150	e140	e152	e83	54	9.2	0.00	0.00	0.00
24	0.00	1.2	393	143	e170	e143	e150	51	8.8	0.00	0.00	0.00
25	0.00	1.1	304	136	e200	e131	e170	49	8.3	0.00	0.00	0.00
26	0.00	1.0	266	130	e211	e122	e130	48	7.6	0.00	0.00	0.00
27	0.00	0.94	284	126	e207	e116	e120	45	6.6	0.00	0.00	0.00
28	0.00	0.85	783	121	e198	108	e300	41	5.7	0.00	0.00	0.00
29	0.00	0.77	1720	117	---	99	e184	37	5.1	0.00	0.00	0.00
30	0.00	0.69	805	113	---	94	e160	35	4.4	0.00	0.00	0.00
31	0.00	---	809	110	---	90	---	34	---	0.00	0.00	---
TOTAL	0.00	3753.05	18741.45	9225	5986	6151	4391	3864	473.8	33.55	0.00	0.00
MEAN	0.000	125	605	298	214	198	146	125	15.8	1.08	0.000	0.000
MAX	0.00	2150	5230	1610	1130	1000	700	400	32	3.9	0.00	0.00
MIN	0.00	0.00	0.30	110	81	90	57	34	4.4	0.00	0.00	0.00
AC-FT	0.00	7440	37170	18300	11870	12200	8710	7660	940	67	0.00	0.00

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.63	54.4	189	549	726	491	158	47.5	11.2	2.17	0.22	0.047
MAX	4.90	413	911	2440	3545	2048	1142	318	63.3	17.7	3.03	0.77
(WY)	1973	1973	1983	1978	1998	1983	1982	1983	1998	1998	1998	1983
MIN	0.000	0.000	0.000	0.000	3.82	16.0	4.20	1.61	0.11	0.000	0.000	0.000
(WY)	1972	1978	1991	1991	1991	1977	1977	1990	1977	1972	1972	1972

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1971 - 2003	
ANNUAL TOTAL	34066.07		52618.85			
ANNUAL MEAN	93.3		144		183	
HIGHEST ANNUAL MEAN					623	
LOWEST ANNUAL MEAN					5.74	
HIGHEST DAILY MEAN	5230	Dec 16	5230	Dec 16	24400	Mar 10 1995
LOWEST DAILY MEAN	0.00	Jul 4	0.00	Oct 1	0.00	Sep 16 1971
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 4	0.00	Oct 1	0.00	Sep 16 1971
MAXIMUM PEAK FLOW			16300		57600	
MAXIMUM PEAK STAGE			22.40		35.15	
ANNUAL RUNOFF (AC-FT)	67570		104400		132700	
10 PERCENT EXCEEDS	110		308		328	
50 PERCENT EXCEEDS	4.7		22		6.7	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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.—October 1971 to September 1973.

WATER TEMPERATURE: October 1971 to September 1973.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1973.

REMARKS.—Zero bed-load discharge observed for flows less than 247 ft³/s during current year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
JAN					
16...	1200	247	10.0	<.5	<.33
FEB					
14...	1140	426	11.5	4	4.6
MAR					
28...	1220	103	16.0	1	.28
MAY					
14...	1210	98	18.0	2	.53
JUN					
06...	0955	26	22.0	1	.07

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bed sediment, dry svd sve dia percent <.063mm (80164)	Bed sediment, dry svd sve dia percent <.125mm (80165)	Bed sediment, dry svd sve dia percent <.25mm (80166)	Bed sediment, dry svd sve dia percent <.5 mm (80167)
JUL								
09...	1200	1	1.8	28.5	--	--	1	2
09...	1202	1	1.8	28.5	--	--	1	3
09...	1204	1	1.8	28.5	--	--	2	5
09...	1205	1	1.8	28.5	--	--	2	6
09...	1207	1	1.8	28.5	--	--	2	11
09...	1209	1	1.8	28.5	--	--	1	8
09...	1211	1	1.8	28.5	--	--	2	16
09...	1213	1	1.8	28.5	--	--	3	11
09...	1215	1	1.8	28.5	4	10	26	40
09...	1217	1	1.8	28.5	--	4	15	25

Date	Bed sediment, dry svd sve dia percent <1 mm (80168)	Bed sediment, dry svd sve dia percent <2 mm (80169)	Bed sediment, dry svd sve dia percent <4 mm (80170)	Bed sediment, dry svd sve dia percent <8 mm (80171)	Bed sediment, dry svd sve dia percent <16 mm (80172)	Bed sediment, dry svd sve dia percent <32 mm (80173)	Bed sediment, dry svd sve dia percent <64 mm (80174)
JUL							
09...	10	20	27	36	48	68	100
09...	14	28	36	46	63	84	100
09...	16	35	51	64	78	91	100
09...	30	58	76	94	97	100	--
09...	27	40	46	54	66	86	100
09...	25	65	79	82	88	94	100
09...	48	66	72	78	91	100	--
09...	20	22	24	27	37	53	100
09...	44	50	63	81	99	100	--
09...	31	43	65	88	100	--	--

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

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

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in samplng (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)
FEB								
14...	1215	1000	1120	.250	0	1210	1220	30
14...	1230	1000	1120	.250	0	1225	1235	30

Date	Hori- zontal width of verti- cal, feet (04121)	Compstd in x-sec bedload measmt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit cmposit t/d/ft (04122)
FEB								
14...	6.0	2	20	20	3.00	422	11.5	.05
14...	6.0	2	20	20	3.00	422	11.5	.06

Date	Bedload sedi- ment dis- charge, tons/d (80225)	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
FEB									
14...	6.6	1	20	66	88	92	95	100	--
14...	6.6	--	8	44	67	73	78	84	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 mi².

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 NGVD of 1929, surveyed from US Army Corps of Engineers bench mark.

REMARKS.—Records good except estimated daily discharges, which are fair. 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 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	352	e10	e10	e10	21	22	24	286	266	e235	e405	402
2	353	e10	e10	e10	21	22	24	322	266	e235	e405	403
3	352	e10	e10	e10	21	22	25	352	272	235	e405	405
4	352	e10	e10	e10	21	22	25	349	317	235	e403	405
5	352	e10	e10	e10	20	22	24	349	317	235	e403	405
6	352	e10	e10	e16	21	22	25	348	317	235	403	405
7	351	e10	e10	e21	21	22	40	349	316	319	403	405
8	345	e10	e10	21	22	22	148	348	314	397	402	405
9	327	e10	e10	21	22	22	193	348	312	e398	402	405
10	320	e10	e10	22	22	22	178	348	310	e400	402	406
11	233	e10	e10	21	22	22	158	347	308	e402	402	406
12	177	e10	e10	21	23	22	157	333	307	e405	401	407
13	177	e10	e10	21	22	22	159	316	307	e405	401	407
14	161	e10	e10	21	22	22	161	318	296	e407	401	409
15	104	e10	e10	21	23	25	158	323	249	e407	400	409
16	e65	e10	e10	21	23	23	181	323	200	e407	399	372
17	e25	e10	e10	21	23	25	239	323	e230	e409	398	117
18	e25	e10	e10	21	23	26	287	324	e350	e409	398	154
19	e15	e10	e10	21	23	28	288	323	e375	e409	398	152
20	e10	e10	e10	21	23	24	289	323	e400	e409	398	163
21	e10	e10	e10	21	23	26	287	306	e400	e409	398	164
22	e10	e10	e10	21	23	25	288	242	e400	e409	400	163
23	e10	e10	e10	21	23	25	286	e200	e400	e409	400	164
24	e10	e10	e10	21	23	24	286	e200	e400	e409	400	164
25	e10	e10	e10	21	22	24	286	e200	e400	e409	401	81
26	e10	e10	e10	21	22	24	286	e200	e310	e407	401	25
27	e10	e10	e10	21	22	25	286	e255	e275	e407	402	25
28	e10	e10	e10	21	22	24	286	e263	e235	e407	402	25
29	e10	e10	e10	21	---	25	286	e263	e235	e407	402	25
30	e10	e10	e10	21	---	25	286	e263	e235	e407	402	25
31	e10	---	e10	21	---	24	---	266	---	e405	402	---
TOTAL	4558	300	310	592	619	730	5646	9310	9319	11478	12439	7903
MEAN	147	10.0	10.0	19.1	22.1	23.5	188	300	311	370	401	263
MAX	353	10	10	22	23	28	289	352	400	409	405	409
MIN	10	10	10	10	20	22	24	200	200	235	398	25
AC-FT	9040	595	615	1170	1230	1450	11200	18470	18480	22770	24670	15680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

	217	133	120	262	568	271	147	213	300	381	398	345
MEAN	217	133	120	262	568	271	147	213	300	381	398	345
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.16	2.44	0.000	0.000
(WY)	1958	1958	1958	1962	1962	1961	1961	1961	1990	1990	1961	1961

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003	
ANNUAL TOTAL	66564		63204			
ANNUAL MEAN	182		173		278	
HIGHEST ANNUAL MEAN					1038	
LOWEST ANNUAL MEAN					3.43	
HIGHEST DAILY MEAN	426		Jul 13	409	Jul 17	6770
LOWEST DAILY MEAN	10		Oct 20	10	Oct 20	0.00
ANNUAL SEVEN-DAY MINIMUM	10		Oct 20	10	Oct 20	0.00
MAXIMUM PEAK FLOW			409		Jul 17	7340
MAXIMUM PEAK STAGE			3.58		Jul 17	10.92
ANNUAL RUNOFF (AC-FT)	132000		125400		201300	
10 PERCENT EXCEEDS	417		404		498	
50 PERCENT EXCEEDS	182		148		131	
90 PERCENT EXCEEDS	10		10		2.2	

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 mi².

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 NGVD of 1929. Prior to Aug. 28, 1975, at datum 5.00 ft higher.

REMARKS.—Records good. No regulation; some pumping upstream from station. See schematic diagram of [Salinas River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 23,600 ft³/s, Mar. 10, 1995, gage height, 14.25 ft, current datum, from rating curve extended above 8,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1615	8,900	11.54

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	8.4	406	83	71	45	56	28	3.1	0.00	0.00
2	0.00	0.00	8.0	310	79	68	45	55	28	2.7	0.00	0.00
3	0.00	0.00	7.7	251	75	65	45	81	27	2.3	0.00	0.00
4	0.00	0.00	7.6	206	72	63	44	122	27	1.9	0.00	0.00
5	0.00	0.00	7.4	172	68	60	44	98	26	e1.6	0.00	0.00
6	0.00	0.00	7.3	149	64	58	42	82	25	e1.3	0.00	0.00
7	0.00	0.00	7.3	130	60	56	41	74	23	e1.0	0.00	0.00
8	0.00	75	7.2	115	57	55	39	70	22	e0.70	0.00	0.00
9	0.00	650	7.2	104	53	53	38	66	20	e0.20	0.00	0.00
10	0.00	160	7.2	550	50	51	37	62	19	e0.00	0.00	0.00
11	0.00	82	7.2	622	48	50	37	60	18	0.00	0.00	0.00
12	0.00	59	7.3	417	59	49	37	57	17	0.00	0.00	0.00
13	0.00	47	7.6	322	110	48	83	55	16	0.00	0.00	0.00
14	0.00	39	17	264	114	48	118	53	15	0.00	0.00	0.00
15	0.00	32	235	225	98	274	78	51	13	0.00	0.00	0.00
16	0.00	27	1910	202	105	289	63	49	12	0.00	0.00	0.00
17	0.00	22	1020	183	123	146	56	47	11	0.00	0.00	0.00
18	0.00	18	518	167	106	109	54	44	10	0.00	0.00	0.00
19	0.00	16	356	154	97	93	51	42	9.5	0.00	0.00	0.00
20	0.00	15	575	142	90	84	49	39	8.9	0.00	0.00	0.00
21	0.00	13	454	134	84	78	47	38	8.5	0.00	0.00	0.00
22	0.00	12	375	128	79	74	46	37	8.1	0.00	0.00	0.00
23	0.00	11	272	121	76	70	45	36	7.5	0.00	0.00	0.00
24	0.00	11	211	115	75	66	45	35	7.0	0.00	0.00	0.00
25	0.00	10	170	110	88	63	54	35	6.4	0.00	0.00	0.00
26	0.00	9.8	146	106	86	58	55	34	5.7	0.00	0.00	0.00
27	0.00	9.4	179	102	79	55	53	33	5.0	0.00	0.00	0.00
28	0.00	9.2	171	98	76	52	54	32	4.4	0.00	0.00	0.00
29	0.00	8.9	594	94	---	50	64	31	3.8	0.00	0.00	0.00
30	0.00	8.6	452	90	---	48	59	30	3.5	0.00	0.00	0.00
31	0.00	---	438	86	---	47	---	29	---	0.00	0.00	---
TOTAL	0.00	1344.90	8190.4	6275	2254	2451	1568	1633	435.3	14.80	0.00	0.00
MEAN	0.000	44.8	264	202	80.5	79.1	52.3	52.7	14.5	0.48	0.000	0.000
MAX	0.00	650	1910	622	123	289	118	122	28	3.1	0.00	0.00
MIN	0.00	0.00	7.2	86	48	47	37	29	3.5	0.00	0.00	0.00
AC-FT	0.00	2670	16250	12450	4470	4860	3110	3240	863	29	0.00	0.00

e Estimated.

SALINAS RIVER BASIN

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.31	14.1	87.7	296	403	327	122	43.4	13.6	3.28	0.37	0.050
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	0.000	0.000	0.000	0.000	0.000	0.058	0.005	0.000	0.000	0.000	0.000	0.000
(WY)	1966	1967	1977	1977	1977	1977	1977	1977	1972	1966	1966	1966

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	17841.19		24166.40			
ANNUAL MEAN	48.9		66.2		108	
HIGHEST ANNUAL MEAN					455	
LOWEST ANNUAL MEAN					0.005	
HIGHEST DAILY MEAN	1910	Dec 16	1910	Dec 16	14000	Mar 10 1995
LOWEST DAILY MEAN	0.00	Jun 15	0.00	Oct 1	0.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 15	0.00	Oct 1	0.00	Oct 1 1965
MAXIMUM PEAK FLOW			8900		23600	
MAXIMUM PEAK STAGE			11.54		14.25	
ANNUAL RUNOFF (AC-FT)	35390		47930		78120	
10 PERCENT EXCEEDS	82		147		220	
50 PERCENT EXCEEDS	7.6		25		4.5	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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.—October 1965 to September 1973.

SUSPENDED-SEDIMENT DISCHARGE: October 1965 to September 1973.

WATER TEMPERATURE: November 1965 to May 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SEDIMENT CONCENTRATION: Maximum daily mean, 7,420 mg/L, Dec. 6, 1966; minimum daily mean, no flow on many days each year.

SEDIMENT LOAD: Maximum daily, 161,000 tons, Dec. 6, 1966; minimum daily, 0 ton, many days each year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
NOV 21...	1420	13	17.5	1	.04	--
DEC 19...	1235	338	10.0	73	67	25
JUN 06...	1225	25	24.5	2	.14	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in samplng (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Hori- zontal width of verti- cal, feet (04121)
DEC 19...	1255	1000	1150	.250	0	1252	1257	12	12.0
DEC 19...	1302	1000	1150	.250	0	1300	1304	12	12.0
JUN 06...	1242	1000	1150	.250	0	1237	1248	30	2.0
JUN 06...	1257	1000	1150	.250	0	1252	1303	30	2.0

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)
DEC 19...	2	10	10	6.00	338	10.0	5.17	556
DEC 19...	2	10	10	6.00	338	10.0	4.10	556
JUN 06...	2	19	19	1.00	24	24.5	.20	7.8
JUN 06...	2	19	19	1.00	24	24.5	.21	7.8

Date	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
DEC 19...	--	10	43	76	92	97	100	--
DEC 19...	1	24	61	88	95	97	99	100
JUN 06...	1	8	44	77	92	97	100	--
JUN 06...	--	6	35	73	92	96	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 mi².

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 NGVD of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.—Records fair. 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 ft³/s, Mar. 11, 1995, gage height, 23.44 ft, from rating curve extended above 50,000 ft³/s; no flow at times in 1951, 1954–55, 1957.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	28	26	195	57	107	97	330	253	503	540	e600
2	434	28	26	181	57	99	100	325	275	502	526	e600
3	444	27	27	154	58	94	100	e380	282	501	529	598
4	450	26	26	129	56	85	98	e400	314	505	521	549
5	452	27	26	117	54	78	94	e430	338	510	500	545
6	462	26	27	99	53	76	90	e440	341	510	511	539
7	444	28	27	91	52	72	87	e440	346	513	523	528
8	449	35	27	88	49	67	92	e420	351	565	526	511
9	420	29	28	86	44	64	160	e410	352	555	539	514
10	390	25	28	89	44	60	192	402	335	579	556	528
11	371	24	28	82	48	57	179	e390	341	628	569	535
12	244	24	28	91	55	53	170	e375	407	639	578	538
13	229	24	29	87	75	52	181	e350	463	643	579	534
14	216	23	29	78	85	74	e200	e340	496	635	580	529
15	183	24	29	74	111	132	236	e330	483	633	580	527
16	142	24	42	71	114	1070	243	e325	450	628	578	522
17	100	24	49	65	101	673	e245	e320	431	614	568	392
18	68	24	91	60	108	436	e290	e315	405	607	574	e280
19	60	24	79	58	101	302	319	311	429	610	579	e260
20	55	24	107	60	103	252	323	318	439	627	580	231
21	49	23	199	56	122	217	321	320	444	648	577	200
22	45	23	183	55	130	195	323	270	456	636	601	187
23	42	24	206	56	122	181	e325	211	461	592	612	181
24	40	25	154	59	113	169	e325	187	458	592	612	184
25	40	25	115	58	103	148	e325	176	438	575	594	159
26	39	26	91	57	96	139	e325	195	429	580	593	94
27	36	26	76	58	116	128	e325	217	461	562	576	70
28	34	26	72	60	112	115	e325	264	475	579	e600	59
29	34	26	71	58	---	106	e330	273	492	592	e600	56
30	32	27	213	55	---	101	336	271	488	599	e600	48
31	30	---	232	55	---	97	---	255	---	595	e600	---
TOTAL	6434	769	2391	2582	2339	5499	6756	9990	12133	18057	17601	11098
MEAN	208	25.6	77.1	83.3	83.5	177	225	322	404	582	568	370
MAX	462	35	232	195	130	1070	336	440	496	648	612	600
MIN	30	23	26	55	44	52	87	176	253	501	500	48
AC-FT	12760	1530	4740	5120	4640	10910	13400	19820	24070	35820	34910	22010

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
MAXIMUM PEAK FLOW	26800 Jan 15 1952
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

MEAN	261	178	214	697	1473	975	454	320	397	478	510	428
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	0.84	0.37	1.47
(WY)	1962	1962	1991	1991	1991	1990	1990	1961	1990	1990	1990	1990

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1958 - 2003

ANNUAL TOTAL	118973	95649	
ANNUAL MEAN	326	262	527
HIGHEST ANNUAL MEAN			1997 1983
LOWEST ANNUAL MEAN			9.39 1990
HIGHEST DAILY MEAN	709 Aug 28	1070 Mar 16	63900 Mar 11 1995
LOWEST DAILY MEAN	23 Nov 14	23 Nov 14	0.07 Sep 9 1990
ANNUAL SEVEN-DAY MINIMUM	24 Nov 16	24 Nov 16	0.09 Sep 4 1990
MAXIMUM PEAK FLOW		1660 Mar 16	120000 Mar 11 1995
MAXIMUM PEAK STAGE		5.99 Mar 16	23.44 Mar 11 1995
ANNUAL RUNOFF (AC-FT)	236000	189700	381600
10 PERCENT EXCEEDS	618	579	655
50 PERCENT EXCEEDS	347	195	310
90 PERCENT EXCEEDS	28	28	24

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 mi².

PERIOD OF RECORD.—October 1958 to current year.

CHEMICAL DATA: Water year 1977.

REVISED RECORDS.—WDR CA-85-2: 1969–84(M); WDR CA-2002-2: Datum.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 431.48 ft above NGVD of 1929. October 1958 to Apr. 24, 1967, at site 500 ft upstream at datum 5.16 ft higher. Apr. 25, 1967, to May 23, 1972, at site 200 ft upstream at datum 0.16 ft higher. May 23, 1972, to May 21, 1975, at site 200 ft upstream at datum 0.06 ft higher. May 21, 1975, to July 12, 1981, at site 200 ft upstream at same datum.

REMARKS.—Records fair except for flows after mid-April, which are 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 ft³/s, Jan. 25, 1969, gage height, 15.33 ft, in gage well, 16.2 ft, from floodmarks, from rating curve extended above 7,100 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1915	932	5.82	Mar. 15	2015	363	4.72
Dec. 20	0500	890	5.75	May 4	0630	552	5.12

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.28	1.8	1.9	15	4.1	3.6	2.0	1.4	0.12	0.09	0.46	0.12
2	0.28	1.8	1.8	9.2	4.1	3.0	3.5	2.7	0.08	0.08	0.39	0.12
3	0.27	2.0	1.5	6.6	4.2	2.8	3.2	15	0.04	0.07	0.31	0.13
4	0.28	1.8	1.4	5.5	4.3	2.8	3.4	272	0.06	0.06	0.30	0.15
5	0.34	1.8	1.4	5.0	4.4	2.7	3.3	120	0.08	0.06	0.30	0.16
6	0.33	1.9	1.5	4.5	4.5	2.7	3.0	42	0.13	0.08	0.30	0.12
7	0.30	2.9	2.8	4.4	4.6	2.4	2.8	14	0.16	0.10	0.23	0.12
8	0.19	12	2.4	4.4	4.5	2.4	2.4	4.4	0.16	0.10	0.23	0.12
9	0.12	13	1.9	4.3	4.6	2.3	2.1	2.5	0.18	0.11	0.23	0.13
10	0.18	15	2.0	5.6	4.8	2.3	1.9	1.7	0.18	0.12	0.24	0.15
11	0.35	10	1.7	15	5.2	2.3	2.0	1.2	0.21	0.06	0.17	0.15
12	0.48	5.0	1.6	10	6.9	2.2	2.1	0.86	0.23	0.07	0.19	0.14
13	0.62	3.6	3.0	6.4	13	2.1	3.8	0.57	0.23	0.05	0.21	0.10
14	0.66	2.7	5.2	5.2	34	2.3	7.4	0.59	0.20	0.04	0.22	0.12
15	0.74	2.0	6.5	4.7	11	59	21	0.56	0.19	0.05	0.17	0.12
16	0.80	1.7	202	4.4	7.3	108	11	0.45	0.19	0.06	0.17	0.12
17	0.93	1.6	131	4.4	19	37	5.4	0.45	0.16	0.04	0.17	0.13
18	1.1	1.6	25	4.4	9.8	14	4.0	0.34	0.16	0.00	0.19	0.13
19	1.2	1.6	16	4.4	6.0	6.7	3.1	0.23	0.16	0.00	0.16	0.12
20	1.3	1.5	296	4.4	4.8	4.5	2.5	0.14	0.17	0.02	0.16	0.10
21	1.3	1.4	85	4.6	3.8	3.5	2.4	0.11	0.17	0.03	0.18	0.10
22	1.4	1.2	26	4.4	3.2	3.1	2.4	0.09	0.19	0.03	0.19	0.10
23	1.6	1.3	11	4.3	3.2	3.0	2.2	0.09	0.20	0.05	0.16	0.12
24	1.8	1.4	7.6	4.3	3.6	3.1	2.1	0.08	0.24	0.25	0.14	0.13
25	1.9	1.5	6.5	4.2	4.5	2.7	2.5	0.12	0.24	0.37	0.14	0.14
26	2.0	1.5	5.7	4.1	3.8	2.4	2.2	0.12	0.15	0.32	0.15	3.6
27	2.1	1.5	5.4	4.2	5.0	2.2	1.8	0.09	0.08	0.26	0.14	2.3
28	2.0	1.5	5.8	4.2	4.6	2.0	2.0	0.07	0.06	0.33	0.13	1.0
29	1.8	1.5	65	4.1	---	1.7	1.8	0.06	0.06	0.70	0.14	0.68
30	1.8	1.5	33	4.1	---	1.7	1.6	0.09	0.08	0.57	0.15	0.67
31	1.8	---	14	4.1	---	1.6	---	0.13	---	0.51	0.13	---
TOTAL	30.25	99.6	971.6	174.4	192.8	292.1	110.9	482.14	4.56	4.68	6.45	11.39
MEAN	0.98	3.32	31.3	5.63	6.89	9.42	3.70	15.6	0.15	0.15	0.21	0.38
MAX	2.1	15	296	15	34	108	21	272	0.24	0.70	0.46	3.6
MIN	0.12	1.2	1.4	4.1	3.2	1.6	1.6	0.06	0.04	0.00	0.13	0.10
AC-FT	60	198	1930	346	382	579	220	956	9.0	9.3	13	23

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.89	4.10	11.2	40.4	58.7	45.3	16.0	6.38	2.49	1.21	0.80	1.22
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	0.053	0.058	0.073	0.065	0.25	0.59	0.19	0.070	0.040	0.050	0.000	0.030
(WY)	1991	1991	1991	1991	1991	1964	1964	1992	1961	1992	1973	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	1864.58		2380.87			
ANNUAL MEAN	5.11		6.52		15.6	
HIGHEST ANNUAL MEAN					81.4	
LOWEST ANNUAL MEAN					0.66	
HIGHEST DAILY MEAN	296	Dec 20	296	Dec 20	5860	Mar 10 1995
LOWEST DAILY MEAN	0.05	Aug 10	0.00	Jul 18	0.00	Jun 12 1961
ANNUAL SEVEN-DAY MINIMUM	0.06	Aug 9	0.02	Jul 17	0.00	Jun 12 1961
MAXIMUM PEAK FLOW			932	Dec 16	11500	Jan 25 1969
MAXIMUM PEAK STAGE			5.82	Dec 16	15.33	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	3700		4720		11300	
10 PERCENT EXCEEDS	5.7		7.5		20	
50 PERCENT EXCEEDS	1.5		1.6		1.4	
90 PERCENT EXCEEDS	0.11		0.10		0.10	

11151700 SALINAS RIVER AT SOLEDAD, CA

LOCATION.—Lat 36° 24' 40", long 121° 19' 06", on boundary between San Vicente and Los Coches Grants, [Monterey County](#), Hydrologic Unit 18060005, near right bank, on upstream end of pier, on U.S. Highway 101, 0.9 mi south of Soledad, and 1 mi upstream from Arroyo Seco.

DRAINAGE AREA.—3,563 mi².

PERIOD OF RECORD.—October 1968 to September 1978, October 1983 to current year.

CHEMICAL DATA: Water years 1972–75, 1977.

SEDIMENT DATA: Water years 1990, 1992.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 150.61 ft above NGVD of 1929.

REMARKS.—Records good except for November 6 to July 18, which are 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 by Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Several small diversions for irrigation upstream from station. See schematic diagram of [Salinas River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 106,000 ft³/s, Feb. 25, 1969, gage height, 23.31 ft, maximum gage height, 26.49 ft, Mar. 11, 1995; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	e0.20	e5.5	95	68	52	e33	149	e85	161	215	237
2	179	e0.25	e6.8	105	64	54	31	158	e85	e136	210	243
3	157	e0.33	e6.7	97	58	58	e27	184	e84	e134	199	239
4	159	e0.45	e4.9	97	55	59	e26	201	e84	e138	203	231
5	157	e0.60	e3.5	93	50	54	e25	240	e90	e144	195	221
6	160	e0.90	e3.7	86	47	50	e24	284	e92	e151	185	203
7	171	1.3	e3.1	79	44	47	e23	320	e98	e157	175	199
8	166	e1.8	e3.6	79	44	44	e23	357	e102	e162	169	207
9	160	e2.3	e3.9	76	44	39	e22	330	e109	e168	166	208
10	155	2.9	e8.1	77	43	37	e22	286	116	e173	166	198
11	145	3.2	e11	73	42	39	e21	260	119	e175	188	193
12	131	3.0	e6.8	77	42	36	22	261	123	e178	196	e189
13	116	3.4	e6.7	85	55	34	29	246	123	e196	193	e180
14	96	3.4	e1.6	83	48	31	40	231	132	e201	192	e175
15	79	3.2	e3.3	82	47	40	46	209	147	e215	191	e180
16	68	2.9	e10	76	56	45	49	199	e160	e236	189	e195
17	57	2.4	e30	74	61	82	49	194	e156	e235	189	208
18	45	2.4	46	74	63	342	51	187	e145	238	201	197
19	34	2.3	29	73	62	e374	51	184	e125	246	205	148
20	25	2.3	43	76	63	e240	65	180	e118	253	200	113
21	19	2.2	109	74	64	e218	94	168	e124	273	202	e80
22	14	2.1	80	68	63	e183	110	165	e132	275	209	e60
23	9.3	1.9	86	64	64	158	114	152	e140	258	221	e48
24	5.5	2.0	82	64	65	142	122	141	e175	244	249	e37
25	e4.0	2.2	79	65	65	122	132	120	162	227	271	e28
26	e2.7	2.5	73	68	63	98	135	112	e137	218	262	e26
27	e2.0	e2.8	62	66	60	79	138	109	e126	217	241	e19
28	e1.3	e3.2	59	66	54	66	142	97	e114	226	230	e15
29	e0.79	e4.0	61	69	---	53	147	88	e140	221	227	e10
30	e0.60	e4.9	66	69	---	46	154	88	e151	212	228	e5.0
31	e0.39	---	73	69	---	e40	---	87	---	211	233	---
TOTAL	2565.58	67.33	1067.2	2399	1554	2962	1967	5987	3694	6279	6400	4292.0
MEAN	82.8	2.24	34.4	77.4	55.5	95.5	65.6	193	123	203	206	143
MAX	246	4.9	109	105	68	374	154	357	175	275	271	243
MIN	0.39	0.20	1.6	64	42	31	21	87	84	134	166	5.0
AC-FT	5090	134	2120	4760	3080	5880	3900	11880	7330	12450	12690	8510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003			
MEAN	148	123	153	810	1617	1108	276	139	151	167	167	184																										
MAX	488	336	876	6383	11170	8695	1834	661	456	412	327	478																										
(WY)	1970	1970	1984	1997	1998	1995	1969	1969	1969	1998	1969	1969																										
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																										
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990																										

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL TOTAL	50133.11		39234.11			
ANNUAL MEAN	137		107		414	
HIGHEST ANNUAL MEAN					1981	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	287	Aug 26	374e	Mar 19	68300	Feb 25 1969
LOWEST DAILY MEAN	0.20	Nov 1	0.20	Nov 1	0.00	Mar 9 1977
ANNUAL SEVEN-DAY MINIMUM	0.40	Oct 30	0.40	Oct 30	0.00	Mar 9 1977
MAXIMUM PEAK FLOW			409	Mar 19	106000	Feb 25 1969
MAXIMUM PEAK STAGE			9.94	Mar 19	26.49	Mar 11 1995
ANNUAL RUNOFF (AC-FT)	99440		77820		299800	
10 PERCENT EXCEEDS	246		226		468	
50 PERCENT EXCEEDS	132		85		136	
90 PERCENT EXCEEDS	3.4		3.4		0.14	

e Estimated.

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 mi².

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 NGVD of 1929. 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 good. 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 ft³/s, Apr. 3, 1958, gage height, 16.40 ft, datum then in use, from rating curve extended above 12,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1830	5,110	6.56	Dec. 16	1145	12,500	10.79

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	4.2	29	753	124	105	99	158	70	22	7.6	2.3
2	0.00	4.2	29	633	119	101	103	160	65	21	9.2	2.6
3	0.00	4.3	28	546	115	99	105	352	63	20	8.1	2.8
4	0.00	4.2	28	482	111	97	104	341	61	19	6.8	2.8
5	0.00	4.3	27	426	108	94	107	271	61	18	6.0	2.7
6	0.00	4.4	27	384	105	91	95	241	59	17	7.1	2.6
7	0.00	5.4	28	349	102	88	91	223	58	16	8.5	2.4
8	0.00	2100	28	320	99	85	86	214	56	17	8.6	2.1
9	0.00	1280	27	297	96	83	83	199	53	15	7.4	2.1
10	0.00	349	28	991	93	80	79	185	51	15	6.2	2.7
11	0.34	186	29	678	92	78	78	174	51	14	5.2	2.8
12	1.1	127	27	492	110	77	80	165	50	13	4.6	3.1
13	1.4	98	27	414	189	75	522	156	49	12	4.6	3.1
14	1.6	80	288	365	148	75	332	147	47	11	4.5	2.7
15	1.4	68	1150	329	122	712	243	141	45	12	4.5	2.4
16	2.0	59	2980	300	182	404	204	136	43	11	4.0	2.8
17	2.1	53	1340	274	166	283	190	128	40	9.9	3.2	3.1
18	2.7	49	817	252	142	233	173	122	39	9.2	3.3	2.9
19	3.2	45	789	235	131	205	159	117	37	8.6	3.4	2.7
20	3.6	42	1140	218	125	184	149	112	36	9.5	3.3	2.5
21	3.6	40	871	211	117	170	140	107	35	12	3.0	2.3
22	3.6	38	694	197	112	159	136	103	35	10	3.1	1.6
23	3.7	36	559	185	107	150	130	99	33	9.2	3.3	1.5
24	3.9	35	467	175	106	145	134	95	32	8.7	3.2	2.1
25	4.1	34	399	166	139	135	165	92	31	8.4	3.1	2.4
26	4.4	33	362	159	117	127	147	91	29	7.7	3.0	2.8
27	4.6	32	362	152	117	121	136	86	27	6.9	2.8	2.9
28	4.7	31	509	145	111	115	196	82	25	6.5	2.7	3.2
29	4.5	30	1250	139	---	110	192	77	24	6.4	2.4	3.2
30	4.4	29	849	133	---	98	170	75	22	6.1	2.4	3.6
31	4.3	---	896	128	---	102	---	74	---	6.0	2.3	---
TOTAL	65.24	4905.0	16084	10528	3405	4681	4628	4723	1327	378.1	147.4	78.8
MEAN	2.10	164	519	340	122	151	154	152	44.2	12.2	4.75	2.63
MAX	4.7	2100	2980	991	189	712	522	352	70	22	9.2	3.6
MIN	0.00	4.2	27	128	92	75	78	74	22	6.0	2.3	1.5
AC-FT	129	9730	31900	20880	6750	9280	9180	9370	2630	750	292	156

SALINAS RIVER BASIN

11152000 ARROYO SECO NEAR SOLEDAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.47	54.4	169	391	575	447	250	94.5	39.6	14.8	5.91	4.84
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	0.000	0.000	2.87	5.95	8.98	18.5	7.82	4.14	0.66	0.000	0.000	0.000
(WY)	1914	1991	1991	1991	1991	1977	1977	1977	1924	1924	1913	1913

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1902 - 2003	
ANNUAL TOTAL	36578.33		50950.54			
ANNUAL MEAN	100		140		169	
HIGHEST ANNUAL MEAN					709	
LOWEST ANNUAL MEAN					6.97	
HIGHEST DAILY MEAN	2980	Dec 16	2980	Dec 16	16500	Dec 23 1955
LOWEST DAILY MEAN	0.00	Aug 10	0.00	Oct 1	0.00	Aug 27 1904
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 10	0.00	Oct 1	0.00	Aug 27 1904
MAXIMUM PEAK FLOW			12500	Dec 16	28300	Apr 3 1958
MAXIMUM PEAK STAGE			10.79	Dec 16	16.44	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	72550		101100		122500	
10 PERCENT EXCEEDS	162		344		364	
50 PERCENT EXCEEDS	29		59		28	
90 PERCENT EXCEEDS	0.00		2.7		0.10	

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 mi².

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 167.93 ft above NGVD of 1929 (levels by Monterey County).

REMARKS.—Records fair. 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 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	2045	4,560	4.63	Dec. 16	1400	9,660	5.71

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	509	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	373	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	278	0.00	0.00	0.00	54	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	211	0.00	0.00	0.00	167	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	161	0.00	0.00	0.00	99	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	123	0.00	0.00	0.00	71	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	93	0.00	0.00	0.00	57	0.00	0.00	0.00	0.00
8	0.00	1000	0.00	68	0.00	0.00	0.00	49	0.00	0.00	0.00	0.00
9	e0.00	1130	0.00	51	0.00	0.00	0.00	39	0.00	0.00	0.00	0.00
10	e0.00	65	0.00	852	0.00	0.00	0.00	27	0.00	0.00	0.00	0.00
11	e0.00	0.04	0.00	694	0.00	0.00	0.00	19	0.00	0.00	0.00	0.00
12	e0.00	0.00	0.00	381	0.00	0.00	0.00	11	0.00	0.00	0.00	0.00
13	e0.00	0.00	0.00	256	0.00	0.00	83	1.4	0.00	0.00	0.00	0.00
14	e0.00	0.00	0.00	180	0.00	0.00	137	0.00	0.00	0.00	0.00	0.00
15	e0.00	0.00	342	136	0.00	419	42	0.00	0.00	0.00	0.00	0.00
16	e0.00	0.00	2540	105	0.00	245	19	0.00	0.00	0.00	0.00	0.00
17	e0.00	0.00	1350	85	0.00	108	11	0.00	0.00	0.00	0.00	0.00
18	e0.00	0.00	486	67	0.00	62	2.0	0.00	0.00	0.00	0.00	0.00
19	e0.00	0.00	257	56	0.00	42	0.00	0.00	0.00	0.00	0.00	0.00
20	e0.00	0.00	1080	46	0.00	17	0.00	0.00	0.00	0.00	0.00	0.00
21	e0.00	0.00	608	40	0.00	4.2	0.00	0.00	0.00	0.00	0.00	0.00
22	e0.00	0.00	401	31	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
23	e0.00	0.00	249	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	e0.00	0.00	167	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	e0.00	0.00	106	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	64	4.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	62	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	1150	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	635	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	629	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	2195.04	10201.00	4854.19	0.00	897.27	294.00	594.40	0.00	0.00	0.00	0.00
MEAN	0.000	73.2	329	157	0.000	28.9	9.80	19.2	0.000	0.000	0.000	0.000
MAX	0.00	1130	2540	852	0.00	419	137	167	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	4350	20230	9630	0.00	1780	583	1180	0.00	0.00	0.00	0.00

e Estimated.

SALINAS RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.000	10.8	99.3	508	590	428	106	23.7	1.15	0.000	0.000	0.002
MAX	0.000	73.2	392	1975	2806	1944	448	111	8.67	0.000	0.000	0.019
(WY)	1995	2003	1997	1997	1998	1995	1998	1995	1998	1995	1995	1999
MIN	0.000	0.000	0.000	36.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1995	1995	1995	1999	2002	2002	1997	1997	1996	1995	1995	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL TOTAL	14454.51		19035.90			
ANNUAL MEAN	39.6		52.2		145	
HIGHEST ANNUAL MEAN					354	
LOWEST ANNUAL MEAN					15.1	
HIGHEST DAILY MEAN	2540	Dec 16	2540	Dec 16	17000	Mar 10 1995
LOWEST DAILY MEAN	0.00	Jan 16	0.00	Oct 1	0.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 16	0.00	Oct 1	0.00	Oct 1 1994
MAXIMUM PEAK FLOW			9660		31000	
MAXIMUM PEAK STAGE			5.71		9.62	
ANNUAL RUNOFF (AC-FT)	28670		37760		105200	
10 PERCENT EXCEEDS	0.02		88		327	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 mi².

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 NGVD of 1929. 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 fair. 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 ft³/s, estimated, Mar. 11, 1995, gage height, 19.70 ft, from rating curve extended above 18,000 ft³/s; peak flow includes an estimate of 8,800 ft³/s bypassing the gage; no flow at times during most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	0.00	0.00	593	38	32	e21	69	20	39	79	88
2	117	0.00	0.00	497	36	31	e17	e76	19	39	78	93
3	96	0.00	0.00	424	34	31	e14	e87	18	36	72	96
4	79	0.00	0.00	361	33	33	e11	154	17	35	69	92
5	75	0.00	0.00	303	31	30	e9.0	238	16	36	68	88
6	68	0.00	0.00	259	28	26	e7.0	257	16	41	62	80
7	67	0.00	0.00	221	25	e20	e5.0	e249	19	46	55	71
8	67	0.00	0.00	187	22	e17	e3.0	e252	23	51	47	72
9	67	301	0.00	160	e17	e15	e1.0	247	30	50	40	74
10	67	258	0.00	147	e18	e12	e0.00	233	36	52	36	71
11	64	12	0.00	694	e20	e10	0.00	217	38	56	37	64
12	54	0.00	0.00	456	e22	e8.0	0.00	209	41	56	49	58
13	43	0.00	0.00	333	23	e6.0	0.00	196	39	61	52	51
14	25	0.00	0.00	268	24	e4.0	10	184	39	74	50	47
15	9.1	0.00	0.00	223	20	e3.0	35	161	45	87	48	54
16	0.00	0.00	0.00	191	23	285	21	145	57	96	46	64
17	0.00	0.00	1290	169	25	189	13	135	66	98	45	68
18	0.00	0.00	742	150	30	175	7.3	124	66	95	49	67
19	0.00	0.00	428	133	32	248	6.8	120	61	94	56	55
20	0.00	0.00	578	116	32	e212	11	116	50	99	57	26
21	0.00	0.00	656	104	34	171	23	106	44	109	53	8.6
22	0.00	0.00	539	92	35	149	e41	97	44	121	56	0.01
23	0.00	0.00	410	78	38	130	50	89	53	122	59	0.00
24	0.00	0.00	312	67	42	113	55	82	59	115	66	0.00
25	0.00	0.00	242	60	44	97	62	69	56	101	84	0.00
26	0.00	0.00	191	54	38	81	63	58	47	89	99	0.00
27	0.00	0.00	148	50	e37	64	63	50	37	82	94	0.00
28	0.00	0.00	135	47	35	52	e67	42	28	85	85	0.00
29	0.00	0.00	351	45	---	40	72	32	24	89	81	0.00
30	0.00	0.00	694	42	---	30	73	26	30	84	81	0.00
31	0.00	---	527	40	---	24	---	22	---	79	82	---
TOTAL	1015.10	571.00	7243.00	6564	836	2338.0	761.10	4142	1138	2317	1935	1387.61
MEAN	32.7	19.0	234	212	29.9	75.4	25.4	134	37.9	74.7	62.4	46.3
MAX	117	301	1290	694	44	285	73	257	66	122	99	96
MIN	0.00	0.00	0.00	40	17	3.0	0.00	22	16	35	36	0.00
AC-FT	2010	1130	14370	13020	1660	4640	1510	8220	2260	4600	3840	2750

e Estimated.

SALINAS RIVER BASIN

11152300 SALINAS RIVER NEAR CHUALAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	50.1	69.4	272	1045	1991	1587	417	178	71.3	66.1	59.8	75.1
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1990	1981	1990	1990	1989	1977	1989	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1977 - 2003	
ANNUAL TOTAL	30638.10		30247.81			
ANNUAL MEAN	83.9		82.9		482	
HIGHEST ANNUAL MEAN					2796	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	1290	Dec 17	1290	Dec 17	68000	Mar 12 1995
LOWEST DAILY MEAN	0.00	Oct 16	0.00	Oct 16	0.00	Jan 27 1977
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 16	0.00	Oct 16	0.00	Feb 3 1977
MAXIMUM PEAK FLOW			2230		92000	
MAXIMUM PEAK STAGE			7.20		19.70	
ANNUAL RUNOFF (AC-FT)	60770		60000		349400	
10 PERCENT EXCEEDS	114		210		729	
50 PERCENT EXCEEDS	62		47		49	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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.

SPECIFIC CONDUCTANCE: Water years 1977–81.

WATER TEMPERATURE: Water years 1967–69, 1977–81.

BIOLOGICAL DATA: Water years 1977–81.

SEDIMENT DATA: December 1966 to September 1969, January 1977 to May 1995, June 1997 to current year.

PERIOD OF DAILY RECORD.—January 1977 to September 1981.

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 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 degC (00095)	Temperature, deg C (00010)
DEC 17...	1220	1850	190	759	10.0	92	8.3	158	11.5
APR 24...	1130	55	49	761	12.1	115	8.6	591	13.0
JUN 23...	0940	54	35	757	10.5	108	8.4	454	16.5
AUG 21...	1105	55	43	761	9.0	100	8.4	386	20.5

Date	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
DEC 17...	63	15	17.0	5.07	1.69	.3	5.46	15	48
APR 24...	220	76	52.8	22.0	2.08	1	36.8	26	148
JUN 23...	180	49	42.8	18.4	1.76	.8	23.8	22	134
AUG 21...	170	42	39.7	17.0	1.53	.5	16.4	17	127

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)
DEC 17...	58	--	3.14	<.17	12.5	18.1	92	.16	116
APR 24...	171	4	34.6	.21	14.8	94.0	354	.51	372
JUN 23...	159	2	18.7	.2	14.1	62.7	266	.38	279
AUG 21...	151	2	12.1	.2	14.1	46.7	225	.33	239

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

SALINAS RIVER BASIN

11152300 SALINAS RIVER NEAR CHUALAR, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Ammonia	Ammonia	Nitrite	Nitrite	Ortho-	Phos-	Phos-
	+ org-N, water, unfltrd mg/L as N (00625)	water, fltrd, mg/L as N (00608)	+ nitrate water, fltrd, mg/L as N (00631)	water, fltrd, mg/L as N (00613)	phos- phate, water, fltrd, mg/L as P (00671)	phorus, water, fltrd, mg/L (00666)	phorus, water, unfltrd mg/L (00665)
DEC 17...	.90	<.04	.08	<.008	.04	.06	.48
APR 24...	.67	<.04	1.92	e.005	.04	.04	.14
JUN 23...	.43	<.04	.78	<.008	.03	e.03	.12
AUG 21...	.44	<.04	.16	<.008	<.18	.05	.15

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan-	Temper-	Sus-	Sus-	Suspnd.
		taneous dis- charge, cfs (00061)	ature, water, deg C (00010)	sedi- ment concen- tration mg/L (80154)	pended sedi- ment load, tons/d (80155)	ment, sieve diametr percent <.063mm (70331)
DEC 17...	1600	1430	11.5	529	2040	27
APR 24...	1200	55	12.0	96	14	97
JUN 23...	1125	55	19.5	58	8.6	95
AUG 21...	1150	55	20.5	70	10	--

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Baro-	Dis-	Dis-	pH,	Specif.	Loca-
		metric pres- sure, mm Hg (00025)	solved oxygen, mg/L (00300)	solved oxygen, percent of sat- uration (00301)	water, unfltrd field, std units (00400)	tance, wat unf uS/cm 25 degC (00095)	tion in X-sect. looking ature, water, deg C (00010) ft from l bank (00009)
AUG 21...*	1324	761	8.8	104	8.2	387	2.00
21...*	1325	761	9.0	106	8.3	385	8.00
21...*	1326	761	9.0	107	8.3	385	12.0
21...*	1327	761	8.9	105	8.3	387	16.0
21...*	1329	761	9.0	106	8.3	382	20.0
21...*	1330	761	9.0	106	8.3	386	24.0
21...*	1331	761	9.0	106	8.3	385	28.0
21...*	1332	761	8.9	105	8.3	385	32.0
21...*	1333	761	8.8	104	8.3	385	36.0
21...*	1334	761	8.9	105	8.3	385	40.0
21...*	1335	761	9.0	106	8.3	385	44.0
21...*	1336	761	8.9	106	8.3	385	48.0
21...*	1337	761	8.9	105	8.3	385	52.0

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

e Estimated.

* Instantaneous streamflow at the time of cross-sectional measurement: Aug. 21, 55 ft³/s.

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 (68), 0.8 mi upstream from El Toro Creek, 1.6 mi northwest of Spreckels, and 2 mi south of Salinas.

DRAINAGE AREA.—4,156 mi².

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" 1900–1901.

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 NGVD of 1929. 1900–1901, 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 fair. 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 ft³/s, Mar. 12, 1995, gage height, 30.29 ft, from rating extended above 30,000 ft³/s, peak includes estimate of 9,800 ft³/s bypassing gage; no flow at times in 1929–40, many days in 1990–2003.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	0.00	0.00	425	5.7	0.08	0.84	2.2	0.46	0.00	7.3	0.00
2	24	0.00	0.00	442	4.5	0.07	1.4	7.1	0.30	0.00	7.0	0.00
3	25	0.00	0.00	344	3.0	0.08	0.40	14	0.23	0.00	6.9	0.00
4	9.3	0.00	0.00	271	1.8	0.07	0.47	28	0.20	0.00	4.2	0.00
5	1.9	0.00	0.00	217	1.2	0.06	0.11	59	0.17	0.00	1.2	0.01
6	0.26	0.00	0.00	179	0.69	0.06	0.09	105	0.14	0.00	0.17	1.4
7	0.11	0.00	0.00	150	0.32	0.06	0.08	130	0.11	0.00	0.07	1.8
8	0.09	0.24	0.00	124	0.24	0.06	0.07	136	0.09	0.00	0.02	0.08
9	0.07	0.04	0.00	102	0.19	0.05	0.07	142	0.08	0.00	0.00	0.00
10	0.06	0.00	0.00	122	0.15	0.06	0.06	140	0.08	0.00	0.00	0.00
11	0.04	0.00	0.00	218	0.15	0.06	0.06	135	0.07	0.00	0.00	0.00
12	0.02	0.00	0.00	580	0.18	0.06	0.06	129	0.07	0.00	0.00	0.00
13	0.01	0.00	0.00	338	0.13	0.05	0.12	125	0.05	0.00	0.00	0.00
14	0.00	0.00	0.00	245	0.29	0.05	0.06	121	0.03	0.00	0.00	0.00
15	0.00	0.00	0.00	197	0.55	0.22	0.05	114	0.02	0.00	0.00	0.00
16	0.00	0.00	1.0	168	3.7	0.07	0.05	100	0.01	0.00	0.00	0.00
17	0.00	0.00	0.62	144	0.87	27	0.05	90	0.00	0.00	0.00	0.00
18	0.00	0.00	865	123	0.83	52	0.03	82	0.00	0.00	0.00	0.00
19	0.00	0.00	502	105	1.2	89	0.03	74	0.00	0.00	0.00	0.00
20	0.00	0.00	374	88	0.74	130	0.02	71	0.00	0.00	0.00	0.00
21	0.00	0.00	592	77	0.19	115	0.04	66	0.00	0.00	0.00	0.00
22	0.00	0.00	502	63	0.10	91	0.26	58	0.00	3.4	0.00	0.00
23	0.00	0.00	367	52	0.10	76	0.05	51	0.00	10	0.00	0.00
24	0.00	0.00	245	42	0.09	64	0.19	45	0.00	14	0.00	0.00
25	0.00	0.00	176	33	0.09	53	0.06	36	0.00	15	0.00	0.00
26	0.00	0.00	129	26	0.08	42	0.03	24	0.00	13	0.00	0.00
27	0.00	0.00	91	21	0.28	31	0.02	16	0.00	9.9	0.00	0.00
28	0.00	0.00	77	17	0.08	19	0.14	11	0.00	6.9	0.00	0.00
29	0.00	0.00	80	13	---	11	0.02	6.7	0.00	8.1	0.00	0.00
30	0.00	0.00	418	9.9	---	5.2	0.00	2.8	0.00	11	0.00	0.00
31	0.00	---	570	7.6	---	2.4	---	0.94	---	9.7	0.00	---
TOTAL	78.86	0.28	4989.62	4943.5	27.44	808.76	4.93	2121.74	2.11	101.00	26.86	3.29
MEAN	2.54	0.009	161	159	0.98	26.1	0.16	68.4	0.070	3.26	0.87	0.11
MAX	25	0.24	865	580	5.7	130	1.4	142	0.46	15	7.3	1.8
MIN	0.00	0.00	0.00	7.6	0.08	0.05	0.00	0.94	0.00	0.00	0.00	0.00
AC-FT	156	0.6	9900	9810	54	1600	9.8	4210	4.2	200	53	6.5

SALINAS RIVER BASIN

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
MAXIMUM PEAK FLOW	75000 Feb 12 1938
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.2	33.7	214	891	1518	1239	481	123	33.0	20.3	19.1	28.8
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1991	1991	1991	1991	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1942 - 2003

ANNUAL TOTAL	10939.24	13108.39	
ANNUAL MEAN	30.0	35.9	380
HIGHEST ANNUAL MEAN			2997 1983
LOWEST ANNUAL MEAN			0.81 1990
HIGHEST DAILY MEAN	865 Dec 18	865 Dec 18	64800 Feb 26 1969
LOWEST DAILY MEAN	0.00 Apr 22	0.00 Oct 14	0.00 Jan 31 1990
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 15	0.00 Oct 14	0.00 Jan 31 1990
MAXIMUM PEAK FLOW		1310 Dec 18	95000 Mar 12 1995
MAXIMUM PEAK STAGE		6.96 Dec 18	30.29 Mar 12 1995
ANNUAL RUNOFF (AC-FT)	21700	26000	274900
10 PERCENT EXCEEDS	32	121	584
50 PERCENT EXCEEDS	4.7	0.06	3.3
90 PERCENT EXCEEDS	0.00	0.00	0.00

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 mi².

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 NGVD of 1929, from topographic map. Prior to Oct. 9, 1975, on right bank at same datum.

REMARKS.—Records 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 ft³/s, Feb. 3, 1998, gage height, 5.17 ft, from rating curve extended above 260 ft³/s; maximum gage height, 11.13 ft, Apr. 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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	0730	45	2.50

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	e0.27	0.05	0.15	0.22	0.20	0.00	0.00
2	0.00	0.00	0.00	0.00	0.01	e0.25	0.19	0.19	0.26	0.16	0.00	0.00
3	0.00	0.00	0.00	0.00	0.03	e0.24	0.08	0.32	0.25	0.21	0.00	0.00
4	0.00	0.00	0.00	0.00	0.02	e0.23	0.38	0.48	0.22	0.17	0.00	0.00
5	0.00	0.00	0.00	0.00	0.01	0.21	0.15	0.38	0.26	0.21	0.00	0.00
6	0.00	0.00	0.00	0.00	0.01	0.22	0.11	0.49	0.40	0.18	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.58	0.06	0.42	0.42	0.19	0.00	0.00
8	0.00	0.00	0.00	0.00	e0.00	0.81	0.08	0.36	0.23	0.15	0.00	0.00
9	0.00	0.00	0.00	0.00	e0.00	0.52	0.02	0.37	0.26	0.26	0.00	0.00
10	0.00	0.00	0.00	5.2	e0.00	0.89	0.00	0.49	0.44	0.16	0.00	0.00
11	0.00	0.00	0.00	0.00	e0.00	0.63	0.03	0.38	0.35	0.08	0.00	0.00
12	0.00	0.00	0.00	0.00	e0.00	0.92	0.16	0.54	0.25	0.19	0.00	0.00
13	0.00	0.00	0.00	0.00	e0.00	0.85	0.22	0.40	0.31	0.10	0.00	0.00
14	0.00	0.00	0.00	0.00	e0.00	0.83	0.06	0.47	0.25	e0.05	0.00	0.00
15	0.00	0.00	0.00	0.02	e0.00	8.4	0.03	0.63	0.25	0.26	0.00	0.00
16	0.00	0.00	0.77	0.00	e0.80	0.73	0.04	0.75	0.26	0.11	0.00	0.00
17	0.00	0.00	0.00	0.00	e0.08	0.04	0.16	0.61	0.24	e0.07	0.00	0.00
18	0.00	0.00	0.00	0.00	e0.00	0.00	0.08	0.76	0.26	0.06	0.00	0.00
19	0.00	0.00	1.9	0.00	e0.00	0.19	0.08	0.58	0.25	0.17	0.00	0.00
20	0.00	0.00	1.6	0.00	e0.00	0.10	0.12	0.49	0.27	0.10	0.00	0.00
21	0.00	0.00	0.09	0.00	e0.00	0.00	0.09	0.59	0.27	0.10	0.00	0.00
22	0.00	0.00	0.00	0.00	e0.00	0.00	0.14	0.67	0.26	0.05	0.00	0.00
23	0.00	0.00	0.00	0.00	e0.00	0.03	0.03	0.68	0.26	0.03	0.00	0.00
24	0.00	0.00	0.00	0.00	e0.70	0.07	0.21	e0.70	0.28	0.03	0.00	0.00
25	0.00	0.00	0.00	0.00	e0.00	0.00	0.24	0.60	0.23	0.06	0.00	0.00
26	0.00	0.00	0.00	0.00	e0.00	0.00	0.19	0.55	0.19	0.00	0.00	0.00
27	0.00	0.00	0.00	0.08	e0.30	0.00	0.14	0.56	0.25	0.00	0.00	0.00
28	0.00	0.00	0.04	0.03	e0.28	0.01	1.3	0.43	0.26	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.29	0.33	0.12	0.08	0.00	0.00
30	0.00	0.00	0.00	0.01	---	0.04	0.18	0.22	0.12	0.01	0.00	0.00
31	0.00	---	0.00	0.02	---	0.04	---	0.28	---	0.01	0.00	---
TOTAL	0.00	0.00	4.40	5.36	2.24	17.10	4.91	14.87	7.89	3.45	0.00	0.00
MEAN	0.000	0.000	0.14	0.17	0.080	0.55	0.16	0.48	0.26	0.11	0.000	0.000
MAX	0.00	0.00	1.9	5.2	0.80	8.4	1.3	0.76	0.44	0.26	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.12	0.00	0.00	0.00
AC-FT	0.00	0.00	8.7	11	4.4	34	9.7	29	16	6.8	0.00	0.00

e Estimated.

TEMBLADERO SLOUGH BASIN

11152600 GABILAN CREEK NEAR SALINAS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.036	0.55	3.53	10.1	20.2	15.3	8.50	2.62	1.22	0.46	0.17	0.037
MAX	0.50	6.20	55.0	99.5	239	124	58.7	25.2	14.8	8.24	2.85	0.58
(WY)	1984	1983	1997	1997	1998	1983	1974	1998	1998	1998	1983	1983
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1971	1971	1972	1972	1972	1972	1972	1971	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1971 - 2003	
ANNUAL TOTAL	33.70		60.22			
ANNUAL MEAN	0.092		0.16		5.14	
HIGHEST ANNUAL MEAN					35.4	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	8.5	Jan 2	8.4	Mar 15	646	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jan 5	0.00	Oct 1	0.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 5	0.00	Oct 1	0.00	Oct 1 1970
MAXIMUM PEAK FLOW			45	Mar 15	1030	Feb 3 1998
MAXIMUM PEAK STAGE			2.50	Mar 15	11.13	Apr 1 1974
ANNUAL RUNOFF (AC-FT)	67		119		3730	
10 PERCENT EXCEEDS	0.11		0.43		9.7	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11152650 RECLAMATION DITCH NEAR SALINAS, CA

LOCATION.—Lat 36° 42' 18", long 121° 42' 14", in Rincon Del Zanjon Grant, [Monterey County](#), Hydrologic Unit 18060011, on right bank, at upstream side of San Jon road bridge, and 3.4 mi northwest of Salinas.

DRAINAGE AREA.—53.2 mi².

PERIOD OF RECORD.—October 1970 to February 1986, June 2002 to current year. March 1968 to September 1970 in reports of Monterey County Flood Control and Water Conservation District.

GAGE.—Water-stage recorder and crest-stage gage. Concrete control. Datum of gage is 16 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for May through September, which are fair due to lack of measurements during this low flow period. Low flows affected by return flow from irrigated agricultural and urban areas.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 524 ft³/s, Mar. 1, 1983; no flow Dec. 4, 10, 11, 1978.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1730	112	2.89	Feb. 16	0430	140	3.16
Dec. 19	1830	196	3.59	Mar. 15	0745	132	3.09
Dec. 28	1930	114	2.92	Apr. 22	0930	102	2.79
Jan. 10	0945	162	3.34	Apr. 28	0445	107	2.84

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.5	1.1	32	1.1	2.6	6.0	4.1	2.1	1.2	1.3	0.97
2	2.3	1.5	0.92	14	1.2	1.7	17	4.3	1.9	1.4	1.2	1.9
3	1.8	1.1	0.98	9.2	0.85	1.2	9.5	7.7	1.9	1.6	1.1	2.3
4	1.9	2.3	1.8	5.9	0.84	1.3	13	4.1	2.0	1.5	0.54	2.1
5	2.5	1.3	1.5	5.5	0.98	1.2	6.9	2.2	2.0	1.5	0.67	1.5
6	1.7	0.51	1.1	4.3	1.4	1.1	3.4	1.7	2.0	1.4	0.97	1.5
7	1.2	7.1	1.3	3.1	1.3	1.5	1.9	1.9	2.0	1.3	1.1	1.7
8	1.8	78	2.8	2.5	1.1	1.4	1.8	7.0	2.1	1.0	1.4	1.0
9	1.9	67	6.9	4.1	1.1	1.1	1.9	5.6	2.0	1.6	1.3	1.5
10	3.0	23	6.1	115	1.4	1.4	2.6	3.6	1.9	1.4	0.88	1.7
11	3.1	10	2.8	86	2.1	1.3	2.4	2.5	1.8	1.4	0.38	1.5
12	1.8	5.8	1.8	22	5.7	1.4	2.1	1.7	1.8	1.6	0.60	1.5
13	1.7	3.5	20	11	3.2	1.0	8.0	1.5	1.9	1.9	0.96	1.6
14	1.4	2.6	51	10	1.6	0.93	4.1	1.6	1.8	1.3	0.88	1.3
15	1.3	2.3	52	7.8	1.2	78	2.8	1.6	1.9	1.1	0.86	1.4
16	1.7	2.0	93	5.1	68	37	2.6	1.9	1.9	1.2	0.89	1.3
17	1.4	2.1	121	2.9	16	12	9.1	1.9	2.0	1.7	1.2	1.1
18	1.5	1.7	89	2.1	5.2	4.6	4.5	1.9	2.1	1.4	0.61	1.4
19	1.6	1.4	81	1.8	5.2	3.2	2.8	1.7	2.5	1.3	0.76	2.0
20	1.7	2.2	151	1.7	3.7	1.9	2.1	1.6	2.3	1.3	0.81	2.2
21	1.2	3.0	91	15	2.6	1.4	3.6	1.6	2.6	1.0	0.85	1.4
22	1.6	4.0	34	4.0	2.2	1.3	42	1.7	2.4	0.90	1.5	0.94
23	2.3	3.8	15	2.5	1.5	1.4	13	1.5	2.2	1.1	1.2	1.7
24	1.5	3.5	10	1.8	1.3	1.3	21	1.5	1.9	1.8	0.84	2.1
25	1.5	2.0	8.2	1.5	1.3	1.7	12	1.5	1.9	1.5	0.43	1.6
26	1.3	2.2	6.1	1.3	1.1	1.8	5.5	1.7	1.8	1.3	0.89	1.9
27	1.1	3.2	7.2	1.2	21	1.6	3.1	1.8	1.6	1.1	0.87	1.9
28	0.70	1.9	35	1.1	5.8	2.5	45	1.8	1.8	0.74	0.95	1.3
29	0.95	1.2	76	1.0	---	3.7	14	2.0	1.8	0.70	0.89	0.79
30	1.3	1.0	37	0.97	---	6.7	6.9	2.2	1.4	0.87	1.1	1.2
31	1.6	---	50	1.1	---	7.8	---	2.2	---	0.97	0.99	---
TOTAL	51.95	242.71	1056.60	377.47	159.97	187.03	270.6	79.6	59.3	40.08	28.92	46.30
MEAN	1.68	8.09	34.1	12.2	5.71	6.03	9.02	2.57	1.98	1.29	0.93	1.54
MAX	3.1	78	151	115	68	78	45	7.7	2.6	1.9	1.5	2.3
MIN	0.70	0.51	0.92	0.97	0.84	0.93	1.8	1.5	1.4	0.70	0.38	0.79
AC-FT	103	481	2100	749	317	371	537	158	118	79	57	92

TEMBLADERO SLOUGH BASIN

11152650 RECLAMATION DITCH NEAR SALINAS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.66	15.3	17.6	30.1	36.4	39.8	25.0	9.85	7.38	6.95	7.51	6.65
MAX	11.2	36.8	63.8	100	214	337	118	39.6	16.9	17.0	20.4	13.4
(WY)	1974	1984	1983	1983	1983	1983	1974	1983	1983	1975	1973	1973
MIN	1.68	3.73	3.09	2.50	1.84	1.70	4.65	2.57	1.14	1.28	0.93	1.54
(WY)	2003	1981	1976	1976	1977	1972	1977	2003	2002	2002	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1971 - 2003

ANNUAL TOTAL	2600.53		
ANNUAL MEAN	7.12		17.7
HIGHEST ANNUAL MEAN			75.4
LOWEST ANNUAL MEAN			4.81
HIGHEST DAILY MEAN	151	Dec 20	524
LOWEST DAILY MEAN	0.38	Aug 11	0.00
ANNUAL SEVEN-DAY MINIMUM	0.78	Aug 10	0.15
MAXIMUM PEAK FLOW	196	Dec 19	196
MAXIMUM PEAK STAGE	3.59	Dec 19	3.59
ANNUAL RUNOFF (AC-FT)	5160		12790
10 PERCENT EXCEEDS	12		33
50 PERCENT EXCEEDS	1.8		6.4
90 PERCENT EXCEEDS	0.98		1.8

11153650 LLAGAS CREEK NEAR GILROY, CA

LOCATION.—Lat. 36°59'15", long. 121°31'34", in Las Animas Grant, Santa Clara County, Hydrologic Unit 18060002, on right bank 0.3 mi downstream from Miller Slough, 2.0 mi upstream from Pajaro confluence and 2.4 mi southeast of Gilroy.

DRAINAGE AREA.—84.2 mi².

PERIOD OF RECORD.—Nov. 23, 2002, to Sept. 30, 2003 (low flow records only).

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 160 ft above NGVD 1929, from topographic map.

REMARKS.—Records good. No records computed above 200 ft³/s. Low flows regulated by Chesbro Reservoir, capacity, 8,090 acre-ft. Some diversions upstream from station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	3.4	112	6.7	7.7	11	8.5	6.1	3.9	2.3	0.31
2	---	---	3.7	98	6.7	7.7	11	13	6.0	3.9	4.4	0.28
3	---	---	3.9	96	6.7	7.8	10	12	5.9	3.7	2.2	0.33
4	---	---	3.8	94	6.8	7.8	14	10	6.0	3.6	2.1	0.33
5	---	---	2.9	92	6.8	7.6	11	8.8	6.0	3.5	1.9	0.34
6	---	---	2.4	91	6.8	7.6	9.8	8.8	6.0	3.5	1.8	0.35
7	---	---	2.0	54	6.7	7.7	9.3	8.8	6.0	3.5	1.6	0.31
8	---	---	1.7	22	6.7	7.6	8.9	8.7	5.9	3.4	1.4	0.34
9	---	---	1.9	15	6.7	7.5	8.6	8.5	5.9	3.4	1.3	0.33
10	---	---	1.2	60	6.8	7.5	8.2	8.4	5.7	3.3	1.1	0.37
11	---	---	1.1	54	6.9	7.5	8.1	8.5	5.7	3.1	1.0	0.37
12	---	---	1.1	50	7.3	7.4	12	8.5	5.6	3.1	0.93	0.35
13	---	---	5.6	32	6.9	7.4	14	8.3	5.5	3.1	0.80	0.38
14	---	---	21	18	6.9	7.6	9.1	8.1	5.4	3.0	0.69	0.36
15	---	---	22	13	6.9	37	8.5	7.9	5.4	2.9	0.59	0.38
16	---	---	---	11	10	13	8.6	7.9	5.4	2.7	0.56	0.40
17	---	---	155	11	7.1	8.7	8.9	8.0	5.2	2.6	0.51	0.40
18	---	---	26	10	7.1	8.3	8.6	7.9	5.1	2.4	0.45	0.42
19	---	---	131	10	7.1	9.2	8.5	7.9	5.0	2.3	0.38	0.52
20	---	---	---	10	7.1	9.7	8.5	7.8	4.9	2.2	0.29	0.52
21	---	---	---	10	7.1	10	8.7	7.8	4.8	2.2	0.28	0.48
22	---	---	49	9.0	7.2	10	8.7	7.6	4.7	2.2	0.31	0.50
23	---	0.45	11	7.3	7.3	11	8.4	7.5	4.7	2.1	0.28	0.60
24	---	0.46	5.9	7.0	9.7	11	9.0	7.4	4.6	2.0	0.30	0.70
25	---	0.54	7.7	6.9	19	11	8.7	7.3	4.5	1.9	0.32	0.80
26	---	1.5	15	6.8	7.9	11	8.5	7.1	4.3	2.0	0.59	0.74
27	---	2.4	14	6.8	12	11	8.4	7.0	4.2	2.1	0.35	0.64
28	---	2.4	35	6.7	7.8	10	10	7.0	4.1	2.2	0.31	0.58
29	---	2.8	153	6.7	---	10	8.7	6.8	4.0	2.3	0.33	0.58
30	---	3.1	39	6.7	---	10	8.4	6.6	3.9	2.3	0.31	0.61
31	---	---	---	6.7	---	10	---	6.3	---	2.3	0.30	---
TOTAL	---	---	---	1033.6	218.7	307.3	284.1	254.7	156.5	86.7	29.98	13.62
MEAN	---	---	---	33.3	7.81	9.91	9.47	8.22	5.22	2.80	0.97	0.45
MAX	---	---	---	112	19	37	14	13	6.1	3.9	4.4	0.80
MIN	---	---	---	6.7	6.7	7.4	8.1	6.3	3.9	1.9	0.28	0.28
AC-FT	---	---	---	2050	434	610	564	505	310	172	59	27

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 mi².

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 NGVD of 1929, from topographic map.

REMARKS.—Records fair except for estimated daily discharges and flows above 10 ft³/s, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,100 ft³/s, Mar. 10, 1995, gage height, 6.75 ft, from rating curve extended above 18 ft³/s, on basis of slope-area measurements at gage heights of 4.44 ft and 6.75 ft; no flow Aug. 13, 2002.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0830	82	2.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.07	0.09	e0.84	4.3	1.4	1.2	2.1	e1.4	1.5	0.65	0.54	0.21
2	0.07	0.12	0.70	3.8	1.4	1.1	2.0	e2.1	1.4	0.64	0.50	0.20
3	0.07	0.12	0.64	3.6	1.3	1.1	1.8	14	1.4	0.61	0.43	0.20
4	0.06	0.12	0.59	3.4	1.3	1.0	2.0	5.1	1.8	0.57	0.40	0.19
5	0.06	0.14	0.57	3.4	1.4	1.1	1.8	2.3	2.1	0.53	0.35	0.18
6	0.05	0.22	0.58	3.2	1.3	0.93	1.7	1.8	2.2	0.53	0.37	0.17
7	0.05	2.0	0.67	2.9	1.3	1.3	1.7	1.9	2.1	0.52	0.36	0.18
8	0.05	13	0.59	2.8	1.6	1.5	1.6	1.7	2.1	0.50	0.32	0.22
9	0.05	6.3	0.61	2.7	1.7	1.5	1.5	1.5	2.1	0.50	0.31	0.24
10	0.04	2.2	0.62	4.5	1.2	1.3	1.2	1.5	1.9	0.47	0.29	0.25
11	0.05	1.4	0.50	3.1	1.4	1.3	0.95	1.5	1.5	0.46	0.27	0.24
12	0.06	0.99	0.45	2.7	1.9	1.3	1.1	1.9	1.3	0.45	0.27	0.21
13	0.06	0.80	0.57	2.8	5.0	1.2	4.1	2.0	1.2	0.45	0.26	0.20
14	0.05	0.75	2.5	2.7	1.1	1.2	e2.2	1.9	1.2	0.45	0.24	0.19
15	0.06	0.64	2.6	2.6	0.80	14	e2.4	2.0	1.1	0.44	0.29	0.19
16	0.08	0.61	17	2.5	1.5	4.2	e2.0	2.4	1.1	0.42	0.28	0.19
17	0.10	0.62	3.7	2.3	1.2	3.2	e2.2	2.2	1.1	0.39	0.27	0.20
18	0.09	0.60	2.3	2.3	1.6	2.6	e2.1	2.0	1.1	0.38	0.27	0.20
19	0.08	0.53	6.5	2.2	1.5	2.2	e1.8	1.6	1.1	0.43	0.26	0.19
20	0.08	0.52	8.0	2.1	1.3	2.1	e1.9	1.6	1.1	0.40	0.26	0.19
21	0.09	0.52	4.6	1.9	1.2	2.0	e1.8	1.6	1.1	0.39	0.29	0.18
22	0.10	0.58	3.7	1.9	1.0	1.9	e1.7	1.8	1.0	0.38	0.33	0.17
23	0.10	e0.64	3.1	1.8	1.0	2.1	e1.5	1.9	1.0	0.36	0.31	0.17
24	0.12	e0.54	2.7	1.8	1.6	2.1	e1.4	1.9	0.98	0.36	0.28	0.17
25	0.14	e0.72	2.4	1.7	1.4	2.1	e1.3	1.9	0.89	0.33	0.26	0.19
26	0.16	e0.64	2.3	1.7	0.90	2.0	e1.6	1.9	0.82	0.31	0.27	0.19
27	0.15	e0.62	2.2	1.8	1.5	2.0	e1.3	1.8	0.77	0.30	0.23	0.19
28	0.13	e0.56	4.7	1.8	1.2	1.9	e1.5	1.6	0.72	0.28	0.22	0.18
29	0.10	e0.66	5.5	1.5	---	1.7	e1.4	1.6	0.68	0.26	0.22	0.19
30	0.07	e0.88	4.5	1.4	---	1.7	e1.5	1.6	0.67	0.28	0.22	0.20
31	0.07	---	5.5	1.4	---	1.9	---	1.6	---	0.37	0.21	---
TOTAL	2.51	38.13	91.73	78.6	41.00	66.73	53.15	71.6	39.03	13.41	9.38	5.87
MEAN	0.081	1.27	2.96	2.54	1.46	2.15	1.77	2.31	1.30	0.43	0.30	0.20
MAX	0.16	13	17	4.5	5.0	14	4.1	14	2.2	0.65	0.54	0.25
MIN	0.04	0.09	0.45	1.4	0.80	0.93	0.95	1.4	0.67	0.26	0.21	0.17
AC-FT	5.0	76	182	156	81	132	105	142	77	27	19	12

e Estimated.

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.87	1.11	2.14	5.96	10.4	12.5	7.18	5.36	3.57	1.80	1.07	0.84
MAX	2.36	1.63	5.90	24.6	46.7	49.4	20.9	21.6	14.5	6.84	3.86	2.91
(WY)	1999	2002	1997	1995	1998	1995	1998	1998	1998	1998	1998	1998
MIN	0.081	0.36	0.43	1.25	1.46	1.43	1.22	0.85	0.37	0.064	0.021	0.026
(WY)	2003	1995	1995	1994	2003	2002	2002	2002	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL TOTAL	410.12		511.14			
ANNUAL MEAN	1.12		1.40		4.36	
HIGHEST ANNUAL MEAN					12.7	
LOWEST ANNUAL MEAN					1.06	
HIGHEST DAILY MEAN	17	Dec 16	17	Dec 16	464	Mar 10 1995
LOWEST DAILY MEAN	0.00	Aug 13	0.04	Oct 10	0.00	Aug 13 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 13	0.05	Oct 5	0.00	Aug 13 2002
MAXIMUM PEAK FLOW			82		1100	
MAXIMUM PEAK STAGE			2.43		6.75	
ANNUAL RUNOFF (AC-FT)	813		1010		3160	
10 PERCENT EXCEEDS	2.8		2.6		11	
50 PERCENT EXCEEDS	0.64		1.1		1.5	
90 PERCENT EXCEEDS	0.03		0.17		0.35	

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.—October 1993 to September 1996.

WATER TEMPERATURE: October 1993 to September 1996.

REMARKS.—Zero bed-load discharge observed for flows less than 2.0 ft³/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 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hardness, wat fltrd field, mg/L as CaCO3 (00904)
JAN 29...	1200	1.5	6.1	701	11.3	111	9.1	1030	10.5	630	23
MAR 15...	1200	19	1600	688	9.6	105	9.1	611	14.5	350	--
APR 09...	1210	2.4	8.3	696	9.6	113	8.9	1010	18.5	670	29
MAY 22...	1200	2.0	6.0	695	8.0	109	8.8	1000	26.0	640	18
Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat fltrd inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat fltrd titr., field, mg/L (00453)	Carbonate, wat fltrd titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
JAN 29...	1.92	152	1.19	.2	11.0	4	610	668	37	19.1	<.17
MAR 15...	3.49	82.8	.90	.1	5.39	3	356	392	20	9.18	<.17
APR 09...	2.11	162	1.16	.2	9.92	3	644	719	33	18.7	<.17
MAY 22...	2.31	155	1.26	.2	10.1	3	626	679	41	19.2	<.2
Date	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue sum of constituents, mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC, wat fltrd, mg/L (70300)	Aluminum, water, fltrd, ug/L (01106)	Barium, water, fltrd, ug/L (01005)	Cobalt, water, fltrd, ug/L (01035)	Iron, water, fltrd, ug/L (01046)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
JAN 29...	2.47	5.3	559	.82	602	<20	61.5	<8	<10	18	<1.6
MAR 15...	6.09	4.9	326	.40	293	<20	33.3	<8	<10	10	2.7
APR 09...	2.96	5.5	589	.85	623	<20	67.6	<8	<10	17	1.8
MAY 22...	3.03	5.0	570	.76	559	<20	75.2	<8	<10	19	<1.6

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

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Molyb- denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selen- ium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Stront- ium, water, fltrd, ug/L (01080)	Vanad- ium, water, fltrd, ug/L (01085)	Mercury bed sed <62.5um dry svd lab, total, ug/g (34912)
JAN 29...	e.02	e.02	<30	e2.4	<3	<.3	32.6	<8	.34
MAR 15...	e.01	2.75	<30	4.4	<3	<.3	37.9	<8	.33
APR 09...	.02	e.02	<30	2.6	<3	<.5	36.4	<8	.29
MAY 22...	.14	.03	<30	2.0	<3	<.5	36.9	<8	.32

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
JAN 29...	1230	1.5	10.5	12	.05	--
MAR 07...	1215	2.0	15.0	105	.57	--
MAR 15...	1330	15	15.5	3850	156	66
APR 09...	1245	2.0	21.5	18	.10	--
MAY 22...	1105	2.0	22.0	16	.09	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sam- pling points, count (00063)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bed sedi- ment, dry svd sve dia percent <.063mm (80164)	Bed sedi- ment, dry svd sve dia percent <.125mm (80165)	Bed sedi- ment, dry svd sve dia percent <.25mm (80166)
JUL 21...	1210	1	.57	29.0	2	9	21
21...	1214	1	.57	29.0	--	1	5
21...	1216	1	.57	29.0	--	--	3
21...	1218	1	.57	29.0	--	1	4
21...	1220	1	.57	29.0	--	1	4
21...	1222	1	.57	29.0	--	2	6
21...	1224	1	.57	29.0	2	6	14

Date	Bed sedi- ment, dry svd sve dia percent <.5 mm (80167)	Bed sedi- ment, dry svd sve dia percent <1 mm (80168)	Bed sedi- ment, dry svd sve dia percent <2 mm (80169)	Bed sedi- ment, dry svd sve dia percent <4 mm (80170)	Bed sedi- ment, dry svd sve dia percent <8 mm (80171)	Bed sedi- ment, dry svd sve dia percent <16 mm (80172)	Bed sedi- ment, dry svd sve dia percent <32 mm (80173)
JUL 21...	34	62	94	99	100	--	--
21...	21	44	67	87	97	100	--
21...	13	28	68	95	99	100	--
21...	13	31	54	81	97	100	--
21...	11	22	38	71	93	100	--
21...	22	51	74	88	97	100	--
21...	35	67	85	92	95	99	100

e Estimated.

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

PAJARO RIVER BASIN

11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in samplng (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Hori- zontal width of verti- cal, feet (04121)
MAR									
07...	1230	1000	1150	.250	0	1220	1240	30	.4
07...	1250	1000	1150	.250	0	1245	1255	30	.4
15...	1400	1000	1150	.250	0	1355	1405	15	.6
15...	1420	1000	1150	.250	0	1415	1425	15	.6
APR									
09...	1230	1000	1150	.250	0	1225	1230	20	.4
09...	1240	1000	1150	.250	0	1235	1240	20	.4

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit cmposit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)	Bedload sedi- ment, sieve diametr percent <.063mm (80226)
MAR									
07...	2	23	23	.20	2.4	15.0	.20	1.9	--
07...	2	23	23	.20	2.4	15.0	.21	1.9	--
15...	2	20	20	.30	16	15.5	.48	4.4	1
15...	2	20	20	.30	16	15.5	.26	4.4	1
APR									
09...	2	11	11	.20	2.2	21.5	.55	2.2	--
09...	2	11	11	.20	2.2	21.5	.44	2.2	--

Date	Bedload sedi- ment, sieve diametr percent <.125mm (80227)	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)
MAR								
07...	--	1	5	43	87	100	--	--
07...	--	1	5	37	83	99	100	--
15...	4	13	32	55	75	89	100	--
15...	5	15	37	60	78	88	95	100
APR								
09...	--	1	16	49	83	97	100	--
09...	--	1	18	53	84	97	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 mi².

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 NGVD of 1929. 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 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 ft³/s, Mar. 10, 1995, gage height, 14.55 ft, from floodmarks, from rating curve extended above 2,100 ft³/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 ft³/s, based on 1941 peak and rating extrapolation.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 17	unknown	125	6.77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	5.2	5.0	37	7.0	e7.2	5.2	6.0	e2.2	1.7	1.2	e0.80
2	9.3	5.0	5.0	29	7.0	e8.5	6.1	6.0	e2.2	19	1.2	e0.76
3	8.8	4.9	5.0	27	e6.5	e6.2	6.0	12	e2.2	e24	1.2	e0.71
4	8.1	4.4	5.0	24	e6.5	e7.0	6.0	19	e2.2	e26	1.1	e0.77
5	7.2	4.2	5.0	24	6.2	e6.8	5.7	8.2	e2.1	e27	1.1	e0.60
6	6.5	4.0	5.0	23	6.2	e6.4	5.5	5.5	e2.0	e29	1.1	0.62
7	6.0	5.7	5.0	23	6.6	e5.0	5.4	5.1	e2.0	e34	1.1	0.63
8	5.6	e23	4.8	21	6.7	4.8	5.3	5.0	e2.0	e31	1.0	0.65
9	5.2	e27	4.8	22	6.6	4.7	5.2	4.7	e1.9	e28	1.0	e0.70
10	5.1	e19	4.7	e27	6.2	4.6	5.3	4.3	e1.8	e27	0.97	e0.70
11	5.0	e16	4.5	e34	6.1	4.5	5.3	4.1	e1.8	e28	0.92	e0.70
12	4.9	e14	4.7	e20	6.8	4.3	5.3	3.8	e1.8	e26	0.92	e0.72
13	4.6	e12	4.9	e16	11	4.2	7.0	3.2	1.6	e16	0.92	e0.74
14	4.4	e10	6.1	e16	8.8	4.1	7.6	3.6	1.6	5.8	0.92	e0.78
15	4.4	e9.1	11	e13	6.9	e28	6.9	e4.0	1.5	4.4	0.90	e0.85
16	4.5	e8.2	e60	e12	9.6	e18	6.6	e3.8	1.4	3.9	0.82	e0.88
17	10	e7.6	e110	e12	8.5	e14	6.6	e4.0	e1.3	e3.2	0.82	e0.89
18	12	e7.0	52	e14	7.3	e10	6.1	e3.9	e1.3	e2.1	0.81	e0.89
19	16	e6.5	41	e13	7.1	e9.0	5.9	e3.7	e1.2	e2.3	0.79	e0.95
20	20	e6.2	105	e12	6.6	e8.0	5.9	e3.6	e1.2	e1.8	0.80	e0.90
21	21	e5.8	e55	e10	6.2	e6.4	5.9	3.4	e1.2	e1.7	0.84	e0.89
22	21	e5.4	e33	e9.0	6.1	6.3	5.9	3.1	e1.2	e1.7	0.88	e0.87
23	18	5.3	e20	e8.4	5.9	6.2	5.8	3.1	e1.1	e1.6	0.89	e0.86
24	12	5.3	e16	e8.0	e6.4	6.2	6.0	3.0	e1.1	1.5	0.83	e0.87
25	9.7	5.4	e15	8.4	e7.2	6.1	6.0	3.1	e1.1	1.5	0.75	0.86
26	8.7	5.3	e15	7.7	e5.9	6.0	6.1	2.9	1.1	1.4	e0.84	0.90
27	7.6	5.5	e15	7.6	e8.0	5.8	5.9	2.8	1.1	1.3	e0.82	0.90
28	6.8	5.3	e33	7.5	e8.4	5.8	5.9	e2.8	1.1	1.2	0.70	0.85
29	6.3	5.3	e65	7.5	---	5.7	5.9	e2.7	1.3	1.2	0.73	0.85
30	5.8	5.1	e36	7.4	---	5.6	5.9	e2.5	1.6	1.2	0.75	0.84
31	5.5	---	e41	7.2	---	5.3	---	e2.4	---	1.2	0.74	---
TOTAL	280.0	252.7	792.5	507.7	198.3	230.7	178.2	145.3	47.2	355.7	28.36	23.93
MEAN	9.03	8.42	25.6	16.4	7.08	7.44	5.94	4.69	1.57	11.5	0.91	0.80
MAX	21	27	110	37	11	28	7.6	19	2.2	34	1.2	0.95
MIN	4.4	4.0	4.5	7.2	5.9	4.1	5.2	2.4	1.1	1.2	0.70	0.60
AC-FT	555	501	1570	1010	393	458	353	288	94	706	56	47

e Estimated.

PAJARO RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.68	5.98	15.5	32.5	70.1	77.1	42.3	21.7	19.6	14.7	14.0	11.2
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	0.013	0.069	0.095	0.081	0.11	0.23	0.21	0.15	0.078	0.019	0.000	0.000
(WY)	1962	1990	1991	1990	1991	1977	1990	1961	1989	1961	1961	1961

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	3853.8		3040.59			
ANNUAL MEAN	10.6		8.33		27.4	
HIGHEST ANNUAL MEAN					126	
LOWEST ANNUAL MEAN					0.15	
HIGHEST DAILY MEAN	110	Dec 17	110	Dec 17	5000	Mar 10 1995
LOWEST DAILY MEAN	1.1	Aug 16	0.60	Sep 5	0.00	Sep 19 1947
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 31	0.66	Sep 5	0.00	Sep 19 1947
MAXIMUM PEAK FLOW			125		9660	
MAXIMUM PEAK STAGE			6.77		14.55	
ANNUAL RUNOFF (AC-FT)	7640		6030		19840	
10 PERCENT EXCEEDS	26		21		56	
50 PERCENT EXCEEDS	5.2		5.4		4.2	
90 PERCENT EXCEEDS	1.8		0.88		0.20	

11157500 TRES PINOS CREEK NEAR TRES PINOS, CA

LOCATION.—Lat 36° 45' 53", long 121° 17' 45", in NW 1/4 NE 1/4 sec.34, T.13 S., R.6 E., 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 mi².

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 and crest-stage gage. Datum of gage is 515 ft above NGVD of 1929, from topographic map. Water years 1939–83, located 1.5 mi upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are 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 ground-water recharge and irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 27,200 ft³/s, Feb. 3, 1998, gage height, 16.00 ft, from floodmarks, from rating curve extended above 9,000 ft³/s, on basis of slope-area measurement of peak flow; no flow at times in several years.

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

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 450 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 20	0145	680	3.99

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	58	1.2	0.90	0.67	0.62	0.15	0.00	0.00	0.00
2	0.00	0.00	0.00	21	1.2	0.88	0.73	0.66	0.10	0.00	0.00	0.00
3	0.00	0.00	0.00	9.3	1.1	0.88	0.66	0.75	0.05	0.00	0.00	0.00
4	0.00	0.00	0.00	4.0	0.98	0.86	0.78	0.72	0.07	0.00	0.00	0.00
5	0.00	0.00	0.00	2.8	1.0	0.85	0.69	0.64	0.04	0.00	0.00	0.00
6	0.00	0.00	0.00	1.9	1.00	0.84	0.70	0.54	0.01	0.00	0.00	0.00
7	0.00	0.00	0.00	1.7	0.99	0.84	0.64	0.49	0.01	0.00	0.00	0.00
8	0.00	0.00	0.00	1.5	1.0	0.81	0.59	0.48	0.04	0.00	0.00	0.00
9	0.00	0.00	0.00	1.4	1.0	0.81	0.61	0.49	0.06	0.00	0.00	0.00
10	0.00	0.00	0.00	3.3	1.0	0.80	e0.63	0.45	0.01	0.00	0.00	0.00
11	0.00	0.00	0.00	31	0.99	0.78	e0.64	0.44	0.16	0.00	0.00	0.00
12	0.00	0.00	0.00	11	1.1	e0.78	e0.65	0.41	0.03	0.00	0.00	0.00
13	0.00	0.00	0.00	6.0	1.1	e0.77	e0.67	0.40	0.04	0.00	0.00	0.00
14	0.00	0.00	0.00	e4.3	0.94	e0.77	e0.71	0.45	0.09	0.00	0.00	0.00
15	0.00	0.00	0.00	e3.3	0.91	e1.0	e0.69	0.43	0.11	0.00	0.00	0.00
16	0.00	0.00	23	2.6	1.1	e0.93	e0.68	0.41	0.09	0.00	0.00	0.00
17	0.00	0.00	62	2.2	0.99	e0.89	e0.67	0.35	0.06	0.00	0.00	0.00
18	0.00	0.00	45	2.4	0.98	e0.84	e0.67	0.29	0.11	0.00	0.00	0.00
19	0.00	0.00	16	2.1	1.0	e0.81	e0.67	0.23	0.10	0.00	0.00	0.00
20	0.00	0.00	239	1.7	0.97	e0.79	e0.68	0.14	0.06	0.00	0.00	0.00
21	0.00	0.00	78	1.6	0.97	0.75	e0.69	0.17	0.10	0.00	0.00	0.00
22	0.00	0.00	12	1.6	0.99	0.77	e0.69	0.19	0.17	0.00	0.00	0.00
23	0.00	0.00	2.6	1.6	1.0	0.78	e0.68	0.14	0.24	0.00	0.00	0.00
24	0.00	0.00	1.3	1.5	1.0	0.70	e0.67	0.19	0.17	0.00	0.00	0.00
25	0.00	0.00	1.1	1.5	1.1	0.70	e0.66	0.20	0.06	0.00	0.00	0.00
26	0.00	0.00	0.91	1.5	0.97	0.68	0.65	0.20	0.01	0.00	0.00	0.00
27	0.00	0.00	0.86	1.3	1.2	0.68	0.63	0.18	0.00	0.00	0.00	0.00
28	0.00	0.00	1.1	1.2	0.95	0.68	0.67	0.19	0.00	0.00	0.00	0.00
29	0.00	0.00	87	1.2	---	0.65	0.69	0.21	0.00	0.00	0.00	0.00
30	0.00	0.00	52	1.2	---	0.62	0.65	0.17	0.00	0.00	0.00	0.00
31	0.00	---	78	1.2	---	0.59	---	0.15	---	0.00	0.00	---
TOTAL	0.00	0.00	699.87	186.9	28.73	24.43	20.11	11.38	2.14	0.00	0.00	0.00
MEAN	0.000	0.000	22.6	6.03	1.03	0.79	0.67	0.37	0.071	0.000	0.000	0.000
MAX	0.00	0.00	239	58	1.2	1.0	0.78	0.75	0.24	0.00	0.00	0.00
MIN	0.00	0.00	0.00	1.2	0.91	0.59	0.59	0.14	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	1390	371	57	48	40	23	4.2	0.00	0.00	0.00

e Estimated.

PAJARO RIVER BASIN

11157500 TRES PINOS CREEK NEAR TRES PINOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.78	4.03	15.4	37.9	63.3	38.8	24.4	6.82	5.05	4.62	4.28	3.48
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	0.000	0.000	0.64	1.06	0.88	0.52	0.18	0.22	0.071	0.000	0.000	0.000
(WY)	2003	2003	1978	1961	1961	1948	1964	1964	2003	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	924.83		973.56			
ANNUAL MEAN	2.53		2.67		17.3	
HIGHEST ANNUAL MEAN					98.9 1998	
LOWEST ANNUAL MEAN					0.69 1964	
HIGHEST DAILY MEAN	239	Dec 20	239	Dec 20	9000	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jun 19	0.00	Oct 1	0.00	Aug 30 1952
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 19	0.00	Oct 1	0.00	Jun 19 2002
MAXIMUM PEAK FLOW			680	Dec 20	27200	Feb 3 1998
MAXIMUM PEAK STAGE			3.99	Dec 20	16.00	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	1830		1930		12540	
10 PERCENT EXCEEDS	1.5		1.4		18	
50 PERCENT EXCEEDS	0.07		0.06		2.8	
90 PERCENT EXCEEDS	0.00		0.00		0.40	

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 mi².

PERIOD OF RECORD.—October 1970 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair. Gage datum lowered by 3.00 ft on Oct. 1, 1999, to account for channel scour. Low flows regulated by Hernandez Reservoir 73 mi upstream, capacity, 18,500 acre-ft. Some diversions upstream from station for irrigation, and interbasin 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 ft³/s, Feb. 3, 1998, gage height, 13.48 ft, at datum then in use, from rating curve extended above 3,200 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 20	1315	216	5.23

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	37	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	4.5	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	2.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	1.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.41	0.00	1.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	2.5	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	1.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	11	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	2.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.72	0.83	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.59	0.00	6.5	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	20	0.38	2.5	1.1	0.03	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	23	0.37	0.06	0.00	0.13	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	52	0.36	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	46	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	72	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	65	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	43	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	21	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	15	0.21	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	13	0.15	1.2	0.00	0.02	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	11	0.15	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	8.9	0.14	2.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	15	0.12	0.28	0.00	0.13	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	43	0.09	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	45	0.08	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	38	0.06	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	2.91	531.62	128.25	7.45	7.61	0.97	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.097	17.1	4.14	0.27	0.25	0.032	0.000	0.000	0.000	0.000	0.000
MAX	0.00	2.5	72	37	2.7	6.5	0.44	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	5.8	1050	254	15	15	1.9	0.00	0.00	0.00	0.00	0.00

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.73	6.28	18.7	68.6	163	138	40.1	15.9	7.18	4.99	4.81	4.53
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1973	1975	1977	1977	1977	1977	1977	1976	1972	1972	1972	1972

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1971 - 2003	
ANNUAL TOTAL	673.55		678.81			
ANNUAL MEAN	1.85		1.86		38.9	
HIGHEST ANNUAL MEAN					287 1998	
LOWEST ANNUAL MEAN					0.000 1977	
HIGHEST DAILY MEAN	72	Dec 20	72	Dec 20	19800	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jan 7	0.00	Oct 1	0.00	Feb 1 1971
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 7	0.00	Oct 1	0.00	Oct 11 1971
MAXIMUM PEAK FLOW			216 Dec 20		34500 Feb 3 1998	
MAXIMUM PEAK STAGE			5.23 Dec 20		13.48 Feb 3 1998	
ANNUAL RUNOFF (AC-FT)	1340		1350		28150	
10 PERCENT EXCEEDS	2.4		0.76		35	
50 PERCENT EXCEEDS	0.00		0.00		1.0	
90 PERCENT EXCEEDS	0.00		0.00		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 mi².

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 NGVD of 1929. 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. 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 ft³/s, Feb. 3, 1998, gage height, 33.73 ft, from rating curve extended above 8,300 ft³/s, on basis of slope-conveyance study; no flow at times in July and August 1948.

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

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 17	0145	2,510	13.69	Jan. 1	0015	1,470	12.22
Dec. 21	2045	1,750	12.99				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	5.2	18	1250	86	87	67	78	23	12	8.9	8.7
2	3.2	5.2	18	877	83	85	69	76	22	e11	10	8.1
3	2.7	4.8	18	669	84	83	69	87	e21	e11	15	7.8
4	2.9	5.7	18	533	89	82	76	92	e20	e10	12	8.2
5	2.9	5.4	19	439	86	79	89	87	e20	e10	9.8	9.5
6	2.9	5.3	19	375	77	77	75	81	22	e10	9.5	9.8
7	2.7	7.5	18	314	75	74	72	80	22	e10	9.7	9.9
8	3.3	34	18	258	74	73	71	77	e19	e10	9.6	9.5
9	3.7	243	19	227	71	71	68	73	e19	e9.3	9.5	9.8
10	4.5	90	20	325	69	70	66	68	e19	e9.1	9.2	10
11	4.4	36	20	392	69	e69	64	64	22	e8.8	8.6	10
12	4.1	23	20	383	71	e69	65	61	e18	8.3	8.4	9.7
13	3.7	19	21	349	72	e69	92	57	e18	9.0	8.7	9.1
14	3.6	17	94	298	69	68	99	54	e18	9.0	8.1	8.8
15	3.7	15	428	268	67	109	83	52	e17	8.8	8.0	9.1
16	4.4	15	858	241	80	130	77	50	e17	8.7	8.2	8.3
17	4.2	14	1340	231	76	109	78	48	18	9.4	8.5	7.9
18	3.7	14	615	218	70	101	80	46	17	9.4	8.1	7.9
19	3.9	14	537	207	70	98	78	43	17	9.8	7.9	7.0
20	4.0	14	993	202	70	95	75	41	16	9.9	8.3	7.2
21	3.9	14	1610	199	67	91	74	38	15	9.2	8.6	7.9
22	4.4	15	1210	193	67	88	73	35	15	9.3	8.7	6.8
23	4.8	15	756	186	66	86	71	e33	14	10	8.5	6.8
24	4.3	15	571	144	67	84	72	e32	14	10	8.1	6.7
25	4.4	15	447	117	94	81	76	e30	14	11	8.0	6.9
26	5.0	15	361	107	89	78	76	e28	13	11	8.0	6.9
27	4.8	16	306	99	92	76	75	e26	12	11	8.5	7.0
28	4.8	16	281	100	91	74	83	25	13	9.9	9.2	7.2
29	4.5	17	567	96	---	69	88	25	13	8.8	9.3	7.1
30	4.9	17	715	91	---	68	81	24	12	8.1	9.4	6.2
31	4.8	---	907	89	---	67	---	24	---	9.4	8.9	---
TOTAL	122.1	742.1	12842	9477	2141	2560	2282	1635	520	301.2	281.2	245.8
MEAN	3.94	24.7	414	306	76.5	82.6	76.1	52.7	17.3	9.72	9.07	8.19
MAX	5.0	243	1610	1250	94	130	99	92	23	12	15	10
MIN	2.7	4.8	18	89	66	67	64	24	12	8.1	7.9	6.2
AC-FT	242	1470	25470	18800	4250	5080	4530	3240	1030	597	558	488

e Estimated.

PAJARO RIVER BASIN

11159000 PAJARO RIVER AT CHITTENDEN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.54	31.6	150	431	630	462	247	53.3	16.8	8.28	6.44	6.54
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	0.10	0.27	0.60	1.22	1.28	1.50	0.97	0.75	0.66	0.37	0.37	0.24
(WY)	1962	1993	1962	1991	1991	1977	1977	1977	1977	1961	1948	1961

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	29439.4		33149.4			
ANNUAL MEAN	80.7		90.8		168	
HIGHEST ANNUAL MEAN					905 1983	
LOWEST ANNUAL MEAN					1.06 1977	
HIGHEST DAILY MEAN	1610	Dec 21	1610	Dec 21	21700	Dec 24 1955
LOWEST DAILY MEAN	2.7	Oct 3	2.7	Oct 3	0.00	Jul 11 1948
ANNUAL SEVEN-DAY MINIMUM	2.9	Oct 1	2.9	Oct 1	0.00	Aug 16 1948
MAXIMUM PEAK FLOW			2510	Dec 17	25100	Feb 3 1998
MAXIMUM PEAK STAGE			13.69	Dec 17	33.73	Feb 3 1998
INSTANTANEOUS LOW FLOW					0.00	Jul 11 1948
ANNUAL RUNOFF (AC-FT)	58390		65750		121900	
10 PERCENT EXCEEDS	120		211		260	
50 PERCENT EXCEEDS	19		20		12	
90 PERCENT EXCEEDS	4.5		5.6		1.3	

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 mi².

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 NGVD of 1929.

REMARKS.—Records fair except those less than 1 ft³/s, which are poor. No regulation. Watsonville Water Works can divert up to 8.0 ft³/s upstream from station for municipal supply, domestic use, and irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,610 ft³/s, Jan. 4, 1982, gage height, 16.66 ft, from rating curve extended above 1,400 ft³/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 ft³/s, based on contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 600 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0830	1,390	8.40	Dec. 21	0530	769	6.84

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.02	0.04	57	6.2	3.3	1.9	9.9	0.22	0.28	0.17	0.00
2	0.30	0.00	0.04	47	5.6	3.0	2.8	11	0.21	0.22	0.11	0.00
3	0.43	0.00	0.03	38	5.4	2.5	2.7	26	0.28	0.23	0.05	0.00
4	0.26	0.00	0.02	32	5.0	2.5	6.5	29	0.28	0.22	0.04	0.00
5	0.00	0.00	0.03	28	4.8	2.4	4.0	20	0.33	0.21	0.02	0.00
6	0.00	0.00	0.03	24	4.8	2.0	2.8	17	0.39	0.26	0.00	0.00
7	0.00	5.6	0.03	22	4.6	1.9	2.4	14	0.25	0.28	0.00	0.00
8	0.00	146	0.02	19	4.0	1.7	1.9	12	0.26	0.20	0.00	0.00
9	0.01	59	0.18	22	4.0	1.5	1.4	10	0.27	0.16	0.00	0.00
10	0.00	18	0.19	67	4.0	1.5	1.1	9.5	0.30	0.16	0.00	0.00
11	0.00	6.8	0.13	45	3.8	1.4	0.89	8.4	0.35	0.15	0.00	0.00
12	0.00	2.1	0.10	33	5.2	1.3	3.5	7.9	0.36	0.23	0.00	0.00
13	0.00	0.82	165	28	5.1	1.5	22	7.1	0.28	0.13	0.00	0.00
14	0.00	0.31	568	24	3.6	2.3	13	6.6	0.29	0.07	0.00	0.00
15	0.00	0.16	286	21	3.3	38	8.5	6.2	0.28	0.13	0.00	0.00
16	0.00	0.11	400	19	11	19	6.9	5.6	0.28	0.11	0.00	0.00
17	0.00	0.08	99	17	5.7	14	7.1	4.8	0.34	0.05	0.00	0.00
18	0.00	0.06	51	15	4.4	10	8.0	4.6	0.32	0.01	0.00	0.00
19	0.00	0.04	73	14	4.1	8.2	6.1	4.0	0.34	0.08	0.00	0.00
20	0.00	0.04	174	13	3.8	7.4	4.9	3.6	0.32	0.09	0.00	0.00
21	0.00	0.05	314	12	3.3	6.4	4.4	2.6	0.24	0.20	0.00	0.00
22	0.00	0.06	94	11	2.7	5.6	4.1	2.4	0.16	0.11	0.00	0.00
23	0.00	0.05	58	12	2.5	5.0	3.6	2.3	0.18	0.05	0.00	0.00
24	0.00	0.05	43	10	3.0	4.8	9.3	1.7	0.18	0.07	0.00	0.00
25	0.00	0.06	35	9.1	7.5	4.1	7.7	1.7	0.22	0.07	0.00	0.00
26	0.00	0.04	31	8.5	3.5	3.6	7.2	1.1	0.26	0.15	0.00	0.00
27	0.00	0.03	28	7.9	6.4	3.4	5.9	0.63	0.23	0.07	0.00	0.00
28	0.00	0.04	90	7.6	3.7	2.9	24	0.33	0.25	0.05	0.00	0.00
29	0.00	0.02	107	7.5	---	2.2	16	0.25	0.24	0.08	0.00	0.00
30	0.00	0.02	61	6.6	---	1.9	12	0.26	0.22	0.16	0.00	0.00
31	0.00	---	80	6.6	---	2.0	---	0.28	---	0.21	0.00	---
TOTAL	1.00	239.56	2757.84	683.8	131.0	167.3	202.59	230.75	8.13	4.49	0.39	0.00
MEAN	0.032	7.99	89.0	22.1	4.68	5.40	6.75	7.44	0.27	0.14	0.013	0.000
MAX	0.43	146	568	67	11	38	24	29	0.39	0.28	0.17	0.00
MIN	0.00	0.00	0.02	6.6	2.5	1.3	0.89	0.25	0.16	0.01	0.00	0.00
AC-FT	2.0	475	5470	1360	260	332	402	458	16	8.9	0.8	0.00

PAJARO RIVER BASIN

11159200 CORRALITOS CREEK AT FREEDOM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.78	5.04	18.7	50.4	59.7	36.7	21.3	5.24	1.10	0.41	0.18	0.57
MAX	17.4	37.3	208	248	263	209	166	39.1	9.10	4.77	1.15	20.8
(WY)	1963	1984	1997	1997	1998	1983	1958	1983	1983	1983	1983	1959
MIN	0.000	0.000	0.000	0.000	0.003	0.076	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1962	1981	1991	1991	1991	1988	1977	1977	1962	1961	1961	1961

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1957 - 2003	
ANNUAL TOTAL	5350.48		4426.85			
ANNUAL MEAN	14.7		12.1		16.5	
HIGHEST ANNUAL MEAN					56.4 1983	
LOWEST ANNUAL MEAN					0.17 1977	
HIGHEST DAILY MEAN	568	Dec 14	568	Dec 14	2290	Jan 4 1982
LOWEST DAILY MEAN	0.00	Jul 24	0.00	Oct 1	0.00	Jun 12 1957
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 10	0.00	Oct 10	0.00	Jun 12 1957
MAXIMUM PEAK FLOW			1390		5610 Jan 4 1982	
MAXIMUM PEAK STAGE			8.40		16.66 Jan 4 1982	
ANNUAL RUNOFF (AC-FT)	10610		8780		11920	
10 PERCENT EXCEEDS	28		23		34	
50 PERCENT EXCEEDS	0.42		0.32		0.40	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 mi².

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 NGVD of 1929.

REMARKS.—Records good except for flows below 5 ft³/s, which are fair. No regulation; many diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,800 ft³/s, Dec. 23, 1955, gage height, 22.33 ft, from rating curve extended above 2,900 ft³/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 ft³/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 ft³/s, gage height, about 15.33 ft, from rating curve extended above 2,900 ft³/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 ft³/s, or maximum:

Date	Discharge Time	Gage height (ft ³ /s)	(ft)
Dec. 16	0730	6,870	15.63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.5	4.6	156	28	20	17	43	15	8.0	4.3	2.3
2	1.9	2.2	4.7	119	27	19	20	56	14	7.9	4.3	2.4
3	1.9	2.0	4.9	97	26	18	19	107	14	7.8	4.0	2.3
4	2.0	1.9	4.8	82	25	18	25	97	14	7.6	3.9	2.3
5	2.1	2.0	4.9	72	24	17	20	67	14	7.3	3.9	2.3
6	2.1	2.4	4.8	65	23	17	18	55	15	7.2	3.6	2.1
7	2.0	18	4.7	57	23	16	17	50	16	7.2	3.5	2.1
8	2.0	181	4.6	52	22	16	16	46	16	7.1	3.3	2.0
9	2.2	58	5.9	59	21	16	15	43	15	6.7	3.1	2.0
10	2.3	20	5.3	233	21	15	15	39	16	6.3	3.0	2.0
11	2.5	13	4.9	137	21	15	15	36	16	6.0	2.9	1.8
12	2.3	8.6	4.9	99	24	15	33	34	16	5.9	2.9	1.6
13	2.3	7.0	408	83	24	14	174	34	15	5.7	2.9	1.5
14	2.4	6.3	937	74	22	20	67	33	14	5.3	2.8	1.7
15	2.5	5.6	300	66	21	153	44	31	13	5.3	2.9	1.8
16	2.4	5.3	1270	60	58	65	37	29	13	5.3	2.8	1.8
17	2.5	5.2	241	55	30	47	34	28	12	5.1	3.0	1.7
18	2.4	5.2	118	51	25	36	31	26	12	5.0	3.1	1.6
19	2.4	5.1	187	48	24	31	27	24	12	4.9	3.0	1.5
20	2.6	5.1	501	45	22	28	25	23	12	4.9	3.0	1.5
21	2.7	5.1	320	44	21	26	24	22	11	4.8	3.0	1.6
22	2.9	5.0	147	44	20	24	24	21	11	4.7	3.1	1.5
23	2.9	5.1	102	42	20	24	22	20	11	4.7	3.0	1.6
24	2.7	5.2	80	40	22	23	50	20	11	4.6	2.9	1.9
25	2.6	5.1	66	38	26	21	40	20	10	4.5	2.7	1.8
26	2.6	4.9	63	36	20	20	37	19	9.1	4.4	2.7	1.8
27	2.6	4.9	77	34	24	20	31	18	8.5	4.4	2.5	1.9
28	2.5	4.7	317	33	20	18	102	17	8.4	4.3	2.4	1.9
29	2.4	4.4	303	31	---	18	65	17	8.2	4.3	2.3	1.9
30	2.5	4.5	155	29	---	17	50	16	8.1	4.1	2.3	1.8
31	2.4	---	277	29	---	17	---	16	---	4.1	2.4	---
TOTAL	73.8	405.3	5928.0	2110	684	824	1114	1107	380.3	175.4	95.5	56.0
MEAN	2.38	13.5	191	68.1	24.4	26.6	37.1	35.7	12.7	5.66	3.08	1.87
MAX	2.9	181	1270	233	58	153	174	107	16	8.0	4.3	2.4
MIN	1.9	1.9	4.6	29	20	14	15	16	8.1	4.1	2.3	1.5
AC-FT	146	804	11760	4190	1360	1630	2210	2200	754	348	189	111

SOQUEL CREEK BASIN

11160000 SOQUEL CREEK AT SOQUEL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.24	16.1	61.2	121	127	94.4	53.4	20.4	9.65	5.42	3.39	3.24
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	0.65	1.36	2.74	2.57	3.96	3.97	2.81	2.26	0.91	0.26	0.17	0.058
(WY)	1989	1991	1991	1991	1977	1988	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL TOTAL	12229.1		12953.3			
ANNUAL MEAN	33.5		35.5		43.1	
HIGHEST ANNUAL MEAN					169	1983
LOWEST ANNUAL MEAN					2.89	1977
HIGHEST DAILY MEAN	1270	Dec 16	1270	Dec 16	8800	Dec 23 1955
LOWEST DAILY MEAN	1.7	Sep 25	1.5	Sep 13	0.00	Jul 30 1977
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 5	1.6	Sep 17	0.00	Aug 15 1992
MAXIMUM PEAK FLOW			6870	Dec 16	15800	Dec 23 1955
MAXIMUM PEAK STAGE			15.63	Dec 16	22.33	Dec 23 1955
INSTANTANEOUS LOW FLOW					0.00	Jul 30 1977
ANNUAL RUNOFF (AC-FT)	24260		25690		31210	
10 PERCENT EXCEEDS	55		66		85	
50 PERCENT EXCEEDS	7.9		14		7.9	
90 PERCENT EXCEEDS	2.3		2.2		1.6	

11160430 BEAN CREEK NEAR SCOTTS VALLEY, CA

LOCATION.—Lat 37° 03' 19", long 122° 02' 25", in San Augustine 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 mi².

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 NGVD of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,870 ft³/s, Dec. 16, 2002, gage height, 11.28 ft, from rating curve extended above 310 ft³/s, on basis of slope-area measurement at gage height 9.29 ft; minimum daily, 0.94 ft³/s, Jan. 31, 1992.

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

Date	Discharge Time	Gage height (ft ³ /s)	(ft)
Dec. 16	0615	1,870	11.28

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.1	2.5	49	6.4	5.3	4.8	e12	3.9	3.0	2.1	1.9
2	1.8	2.1	2.5	38	6.1	5.1	5.3	e21	3.9	3.0	2.1	1.9
3	1.9	2.1	2.5	e32	6.0	5.1	4.8	e22	3.9	3.0	2.1	1.9
4	1.9	2.0	2.4	e26	6.1	5.0	6.0	e14	3.9	2.9	2.1	1.9
5	1.8	2.0	2.4	e22	5.9	4.9	4.7	e12	3.9	2.9	2.1	1.9
6	1.8	1.9	2.5	e20	5.8	4.8	4.5	e11	3.8	2.8	2.0	1.9
7	1.8	9.0	2.5	e17	5.7	4.7	4.6	9.2	3.7	2.6	2.1	1.8
8	1.8	28	2.5	e14	5.6	4.7	4.3	8.4	3.7	2.6	2.1	1.9
9	1.9	5.8	2.5	e32	5.4	4.6	4.3	7.7	3.7	2.5	2.1	1.9
10	1.9	4.7	2.6	43	5.4	4.6	4.2	7.3	3.9	2.5	2.0	1.9
11	1.9	3.3	2.4	32	5.3	4.6	4.3	6.9	3.8	2.5	2.0	1.9
12	2.0	2.9	2.4	29	6.2	4.5	12	6.5	3.7	2.5	2.0	1.9
13	2.0	2.7	84	25	7.3	4.5	42	6.1	3.6	2.5	2.0	1.9
14	2.1	2.6	155	22	5.2	7.6	e22	5.9	3.6	2.4	2.0	2.0
15	2.1	2.5	60	e21	5.5	34	e15	5.6	3.5	2.5	1.9	2.1
16	2.1	2.5	415	19	16	19	e11	5.4	3.5	2.4	1.9	2.0
17	2.1	2.4	e62	e17	6.7	13	e10	5.2	3.4	2.4	1.9	2.0
18	2.1	2.4	e37	e14	5.9	10	e8.0	5.0	3.5	2.3	1.9	2.0
19	2.1	2.4	e46	e12	5.8	8.8	e8.0	4.8	3.6	2.3	2.0	2.0
20	2.2	2.4	e83	e10	5.6	8.1	e7.0	4.7	3.6	2.3	2.0	1.9
21	2.2	2.6	e67	e10	5.4	7.6	e7.0	4.6	3.5	2.3	2.0	1.9
22	2.2	2.6	e38	e9.0	5.3	7.3	e6.0	4.5	3.5	2.3	2.1	1.9
23	2.3	2.5	e29	e9.0	5.2	7.0	e6.0	4.5	3.5	2.3	1.9	2.0
24	2.2	2.5	e24	9.0	7.2	6.5	e27	4.4	3.4	2.3	1.9	2.0
25	2.3	2.5	e24	e8.0	7.1	6.2	e15	4.3	3.3	2.2	2.0	2.0
26	2.3	2.6	27	e8.0	5.4	6.0	12	4.2	3.2	2.1	2.0	2.0
27	2.1	2.6	31	e8.0	6.5	5.7	12	4.1	3.1	2.1	2.0	2.0
28	2.1	2.6	69	e8.0	5.4	5.2	e20	4.0	3.1	2.1	2.0	2.0
29	2.1	2.6	70	e8.0	---	5.0	e18	4.1	3.1	2.1	2.0	1.9
30	2.1	2.5	46	e7.0	---	4.8	e14	4.0	3.1	2.1	1.9	2.0
31	2.1	---	71	e6.0	---	4.8	---	3.9	---	2.1	1.9	---
TOTAL	63.2	111.4	1467.7	584.0	175.4	229.0	323.8	227.3	106.9	75.9	62.1	58.3
MEAN	2.04	3.71	47.3	18.8	6.26	7.39	10.8	7.33	3.56	2.45	2.00	1.94
MAX	2.3	28	415	49	16	34	42	22	3.9	3.0	2.1	2.1
MIN	1.8	1.9	2.4	6.0	5.2	4.5	4.2	3.9	3.1	2.1	1.9	1.8
AC-FT	125	221	2910	1160	348	454	642	451	212	151	123	116

e Estimated.

SAN LORENZO RIVER BASIN

11160430 BEAN CREEK NEAR SCOTTS VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.44	3.59	14.6	35.0	39.2	21.8	8.11	5.20	3.32	2.46	2.15	2.06
MAX	3.79	5.89	72.5	99.7	167	71.8	21.7	12.2	9.41	4.89	3.31	2.63
(WY)	2001	1998	1997	1995	1998	1995	1998	1998	1998	1998	1998	1998
MIN	1.95	1.96	2.16	2.11	2.42	3.81	2.62	2.33	1.79	1.71	1.84	1.73
(WY)	2000	1993	1991	1991	1991	1994	1990	1989	1994	1991	1989	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1989 - 2003	
ANNUAL TOTAL	3522.2		3485.0			
ANNUAL MEAN	9.65		9.55		11.8	
HIGHEST ANNUAL MEAN					26.0	
LOWEST ANNUAL MEAN					3.00	
HIGHEST DAILY MEAN	415	Dec 16	415	Dec 16	900	Dec 10 1996
LOWEST DAILY MEAN	1.7	Sep 2	1.8	Oct 2	0.94	Jan 31 1992
ANNUAL SEVEN-DAY MINIMUM	1.8	Aug 30	1.8	Oct 2	1.00	Jan 21 1992
MAXIMUM PEAK FLOW			1870		1870	
MAXIMUM PEAK STAGE			11.28		11.28	
ANNUAL RUNOFF (AC-FT)	6990		6910		8560	
10 PERCENT EXCEEDS	16		21		24	
50 PERCENT EXCEEDS	2.6		3.7		2.8	
90 PERCENT EXCEEDS	1.9		1.9		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 mi².

PERIOD OF RECORD.—October 1936 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

CHEMICAL DATA: Water years 1906–07, 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 NGVD of 1929. 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 ft³/s, Dec. 23, 1955, gage height, 22.55 ft, site and datum then in use, from rating curve extended above 11,000 ft³/s, on basis of slope-area measurement of peak flow, maximum gage height, 28.85 ft, Jan. 5, 1982; minimum daily discharge, 5.6 ft³/s, July 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,800 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0700	13,200	17.64

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	21	479	90	77	63	169	57	32	24	20
2	16	14	21	367	89	71	70	175	55	32	24	19
3	15	14	21	301	84	69	67	218	53	31	23	19
4	15	14	21	259	81	68	83	189	54	31	23	19
5	15	14	21	230	79	66	68	164	54	30	23	19
6	15	14	21	207	76	64	63	151	54	29	22	18
7	15	84	21	186	74	62	61	145	52	30	22	18
8	14	400	21	171	72	60	59	139	50	30	22	18
9	15	125	24	214	71	58	57	131	50	30	22	18
10	15	47	27	380	70	57	55	122	51	29	21	18
11	15	35	24	270	69	55	54	116	51	28	21	18
12	15	28	23	226	77	54	312	110	50	28	21	18
13	15	25	879	203	104	53	949	105	48	27	21	17
14	15	22	1630	186	81	73	351	101	47	27	21	17
15	15	22	661	171	75	330	224	98	46	27	20	17
16	18	21	3320	156	276	175	182	94	44	26	20	17
17	15	21	748	146	125	129	162	91	43	26	20	17
18	15	21	404	138	100	110	143	87	42	25	20	17
19	15	21	543	129	92	101	128	83	42	25	21	16
20	17	20	946	123	86	113	118	79	41	25	21	16
21	15	21	602	124	80	93	114	75	40	25	21	16
22	16	21	381	127	77	88	117	73	40	25	21	15
23	16	21	289	123	75	86	106	71	39	24	20	16
24	16	21	240	115	78	82	265	70	39	24	20	16
25	16	21	211	109	93	78	205	68	38	24	20	16
26	15	21	220	105	77	75	183	66	36	24	19	16
27	15	21	274	101	88	74	156	64	35	24	19	17
28	15	20	760	97	81	71	260	61	33	23	19	16
29	15	21	927	93	---	67	215	60	33	23	19	16
30	14	21	495	90	---	65	189	59	32	23	19	16
31	14	---	771	88	---	63	---	59	---	23	20	---
TOTAL	473	1185	14567	5714	2520	2687	5079	3293	1349	830	649	516
MEAN	15.3	39.5	470	184	90.0	86.7	169	106	45.0	26.8	20.9	17.2
MAX	18	400	3320	479	276	330	949	218	57	32	24	20
MIN	14	14	21	88	69	53	54	59	32	23	19	15
AC-FT	938	2350	28890	11330	5000	5330	10070	6530	2680	1650	1290	1020

SAN LORENZO RIVER BASIN

11160500 SAN LORENZO RIVER AT BIG TREES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.0	53.2	156	318	407	295	173	73.5	41.7	27.1	20.3	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL TOTAL	36727		38862			
ANNUAL MEAN	101		106		133	
HIGHEST ANNUAL MEAN					391	
LOWEST ANNUAL MEAN					13.2	
HIGHEST DAILY MEAN	3320	Dec 16	3320	Dec 16	17000	Dec 23 1955
LOWEST DAILY MEAN	14	Sep 24	14	Oct 8	5.6	Jul 27 1977
ANNUAL SEVEN-DAY MINIMUM	14	Oct 30	14	Oct 30	5.8	Jul 26 1977
MAXIMUM PEAK FLOW			13200	Dec 16	30400	Dec 23 1955
MAXIMUM PEAK STAGE			17.64	Dec 16	28.85	Jan 5 1982
INSTANTANEOUS LOW FLOW					5.6	Jul 27 1977
ANNUAL RUNOFF (AC-FT)	72850		77080		96000	
10 PERCENT EXCEEDS	181		216		276	
50 PERCENT EXCEEDS	31		50		34	
90 PERCENT EXCEEDS	16		16		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 mi².

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 NGVD of 1929 (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 except for estimated daily discharges, which are poor. 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 ft³/s, Dec. 23, 1955, gage height, 23.10 ft, site and datum then in use, from rating curve extended above 4,500 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	e0830	e13,600	unknown	Apr. 13	1100	1,980	10.30

e Estimated.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	8.5	15	530	89	82	54	171	51	24	15	9.7
2	6.5	8.5	15	390	89	77	65	178	48	24	14	9.5
3	6.3	8.5	15	308	84	74	61	228	46	23	14	9.4
4	6.4	8.4	15	261	79	72	76	202	47	23	14	10
5	6.2	8.4	14	221	79	67	63	170	48	22	13	8.7
6	6.1	8.7	16	192	76	65	56	156	46	21	13	8.8
7	5.9	44	16	179	73	62	53	147	45	22	13	8.6
8	5.9	500	16	165	72	60	49	143	43	22	13	8.3
9	5.8	211	17	192	71	58	46	137	42	21	12	8.3
10	6.2	63	21	432	71	e56	45	126	44	21	12	8.9
11	6.3	35	19	292	76	e54	41	118	44	20	12	8.5
12	6.3	23	19	235	83	e52	266	112	44	19	12	8.4
13	6.2	19	911	206	113	e51	1130	107	40	19	12	7.7
14	6.2	17	e1750	189	86	72	426	102	38	19	12	7.5
15	6.3	17	857	172	73	320	257	96	36	19	11	7.7
16	7.0	17	e3700	163	283	186	193	92	35	18	11	8.2
17	7.9	16	831	152	144	133	167	89	34	18	11	7.7
18	7.1	15	431	140	112	107	148	86	34	17	11	7.2
19	7.1	16	540	131	e97	97	133	81	35	17	11	7.1
20	8.1	15	1120	123	e91	107	122	77	34	16	11	6.8
21	7.4	15	684	123	e85	90	116	70	35	18	11	6.7
22	7.6	14	395	131	e82	85	119	68	34	19	11	6.4
23	8.4	15	271	129	e78	82	109	66	34	18	11	6.8
24	7.6	15	213	120	e84	78	269	64	32	18	10	7.0
25	7.7	15	185	112	e98	e75	221	63	32	17	10	7.1
26	7.5	15	190	107	e82	e72	197	61	28	15	9.9	7.2
27	7.5	15	245	105	93	e67	163	60	26	15	9.3	7.4
28	7.3	15	690	99	85	e64	261	57	25	15	9.3	7.6
29	7.3	14	1110	94	---	e61	225	54	25	15	9.3	7.5
30	7.3	15	538	89	---	e58	196	53	25	14	9.6	7.2
31	8.9	---	846	89	---	e55	---	52	---	14	9.8	---
TOTAL	215.0	1207.0	15705	5871	2628	2639	5327	3286	1130	583	357.2	237.9
MEAN	6.94	40.2	507	189	93.9	85.1	178	106	37.7	18.8	11.5	7.93
MAX	8.9	500	3700	530	283	320	1130	228	51	24	15	10
MIN	5.8	8.4	14	89	71	51	41	52	25	14	9.3	6.4
AC-FT	426	2390	31150	11650	5210	5230	10570	6520	2240	1160	709	472

e Estimated.

SAN LORENZO RIVER BASIN

11161000 SAN LORENZO RIVER AT SANTA CRUZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.8	31.1	180	333	441	236	144	71.7	36.1	19.6	11.8	10.9
MAX	38.5	86.1	1366	1391	2652	999	1017	212	137	67.2	39.9	40.4
(WY)	2001	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	0.27	0.17
(WY)	1989	1991	1991	1991	1991	1988	1990	1988	1988	1988	1960	1960

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1953 - 2003	
ANNUAL TOTAL	38095.1		39186.1			
ANNUAL MEAN	104		107		126	
HIGHEST ANNUAL MEAN					384	
LOWEST ANNUAL MEAN					21.5	
HIGHEST DAILY MEAN	3700	Dec 16	3700	Dec 16	17400	Dec 23 1955
LOWEST DAILY MEAN	5.7	Sep 25	5.8	Oct 9	0.00	Sep 3 1955
ANNUAL SEVEN-DAY MINIMUM	6.0	Sep 21	6.1	Oct 5	0.00	Sep 20 1960
MAXIMUM PEAK FLOW			e13600	Dec 16	30400	Dec 23 1955
MAXIMUM PEAK STAGE			unknown	Dec.16	23.10	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	75560		77730		91190	
10 PERCENT EXCEEDS	187		216		260	
50 PERCENT EXCEEDS	23		44		27	
90 PERCENT EXCEEDS	6.5		7.5		3.7	

e Estimated.

11161300 CARBONERA CREEK AT SCOTTS VALLEY, CA

LOCATION.—Lat 37° 03' 02", long 122° 00' 45", in San Augustine 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 mi².

PERIOD OF RECORD.—February 1985 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 550 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair except for flows below 1 ft³/s, which are poor. 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 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0530	1,410	11.63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.11	0.14	0.41	13	1.3	1.4	0.99	4.8	0.63	0.20	0.19	0.14
2	0.06	0.13	0.41	9.3	1.2	1.2	2.6	11	0.59	0.30	0.13	0.14
3	0.01	0.13	0.26	7.3	1.1	1.2	1.0	11	0.63	0.28	0.15	0.15
4	0.01	0.11	0.26	5.9	1.1	1.1	3.2	6.5	0.71	0.37	0.12	0.18
5	0.01	0.15	0.27	5.1	1.0	1.0	1.0	4.8	0.70	0.43	0.11	0.18
6	0.01	0.11	0.27	4.5	0.99	0.97	0.88	3.9	0.68	0.42	0.13	0.05
7	0.01	15	0.27	4.1	0.93	0.95	0.88	3.2	0.58	0.18	0.12	0.00
8	0.01	44	0.27	3.5	0.86	0.81	0.77	3.1	0.58	0.16	0.12	0.00
9	0.02	3.5	0.97	21	0.81	0.77	0.72	2.5	0.60	0.18	0.05	0.17
10	e0.01	5.1	0.89	35	0.84	0.82	0.88	2.1	1.3	0.13	0.01	0.16
11	e0.01	0.78	0.31	12	0.80	0.73	0.66	1.8	0.91	0.13	0.02	0.04
12	0.02	0.52	0.30	8.4	3.3	0.72	9.8	1.7	0.76	0.11	0.03	0.02
13	0.12	0.42	185	6.4	4.3	0.80	28	1.6	0.67	0.10	0.09	0.00
14	0.10	0.37	147	5.3	0.81	9.6	6.8	1.6	0.57	0.10	0.09	0.00
15	0.15	0.33	34	4.4	2.8	26	4.5	1.3	0.63	0.13	0.07	0.12
16	0.06	0.31	232	3.7	15	11	3.9	1.3	0.61	0.15	0.00	0.18
17	0.04	0.50	28	3.3	2.4	5.8	3.4	1.1	0.64	0.12	0.28	0.03
18	0.05	0.68	13	2.9	1.8	4.5	2.8	1.0	0.68	0.12	0.30	0.00
19	0.05	0.22	27	2.6	1.9	3.7	2.2	0.95	0.80	0.10	0.12	0.14
20	0.07	0.22	60	2.4	1.4	3.2	1.9	0.91	0.95	0.11	0.16	0.00
21	0.08	0.23	24	3.0	1.2	2.6	2.0	0.87	0.93	0.10	0.16	0.00
22	0.12	0.24	13	3.0	1.1	2.3	2.1	0.88	0.94	0.17	0.17	0.00
23	0.10	0.25	8.9	2.4	1.1	2.2	1.6	0.87	0.92	0.23	0.10	0.00
24	0.08	0.26	6.9	2.1	5.2	1.8	18	0.90	1.3	0.16	0.05	0.03
25	0.09	0.31	5.8	2.0	4.7	1.7	7.6	0.89	1.1	0.21	0.03	0.19
26	0.09	0.31	10	1.9	2.0	1.5	4.5	0.80	0.21	0.12	0.06	0.22
27	0.10	0.32	17	1.8	3.8	1.3	6.1	0.72	0.18	0.12	0.14	0.24
28	0.08	0.35	45	1.7	1.6	1.2	12	0.71	0.23	0.11	0.13	0.21
29	0.12	0.39	29	1.6	---	1.2	8.8	0.69	0.23	0.12	0.11	0.28
30	0.10	0.34	14	1.5	---	1.0	5.7	0.71	0.22	0.15	0.12	0.12
31	0.14	---	39	1.4	---	0.98	---	0.68	---	0.15	0.11	---
TOTAL	2.03	75.72	943.49	182.5	65.34	94.05	145.28	74.88	20.48	5.46	3.47	2.99
MEAN	0.065	2.52	30.4	5.89	2.33	3.03	4.84	2.42	0.68	0.18	0.11	0.10
MAX	0.15	44	232	35	15	26	28	11	1.3	0.43	0.30	0.28
MIN	0.01	0.11	0.26	1.4	0.80	0.72	0.66	0.68	0.18	0.10	0.00	0.00
AC-FT	4.0	150	1870	362	130	187	288	149	41	11	6.9	5.9

e Estimated.

SAN LORENZO RIVER BASIN

11161300 CARBONERA CREEK AT SCOTTS VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.71	2.66	8.43	14.5	19.3	10.1	2.45	1.46	0.42	0.20	0.22	0.22
MAX	3.01	6.24	38.3	41.0	68.1	32.0	7.42	5.63	1.95	0.59	0.91	0.68
(WY)	1990	1997	1997	1995	1998	1986	1998	1998	1998	1998	1989	1989
MIN	0.039	0.002	0.51	0.35	0.95	0.25	0.41	0.099	0.002	0.005	0.000	0.000
(WY)	1987	1987	1987	1991	1988	1988	1987	1987	1987	1990	1985	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1985 - 2003	
ANNUAL TOTAL	1663.81		1615.69			
ANNUAL MEAN	4.56		4.43		5.01	
HIGHEST ANNUAL MEAN					10.5 1998	
LOWEST ANNUAL MEAN					1.33 1990	
HIGHEST DAILY MEAN	232	Dec 16	232	Dec 16	464	Jan 24 2000
LOWEST DAILY MEAN	0.01	Oct 3	0.00	Aug 16	0.00	Jun 28 1985
ANNUAL SEVEN-DAY MINIMUM	0.01	Oct 3	0.01	Oct 3	0.00	Jun 28 1985
MAXIMUM PEAK FLOW			1410	Dec 16	1620	Dec 10 1996
MAXIMUM PEAK STAGE			11.63	Dec 16	11.89	Dec 10 1996
ANNUAL RUNOFF (AC-FT)	3300		3200		3630	
10 PERCENT EXCEEDS	6.2		7.9		8.9	
50 PERCENT EXCEEDS	0.47		0.71		0.46	
90 PERCENT EXCEEDS	0.09		0.06		0.00	

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 mi².

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 NGVD of 1929.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,600 ft³/s, Feb. 3, 1998, gage height, 22.47 ft, from rating curve extended above 2,700 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0815	5,600	15.34	Apr. 13	1045	768	5.66
Dec. 19	1845	1,190	6.88				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.8	2.5	179	21	e19	11	82	16	8.3	5.5	3.2
2	1.8	1.8	2.7	129	20	e18	12	73	16	8.1	5.5	3.0
3	1.7	1.9	2.7	99	19	e17	13	89	15	8.0	5.4	2.9
4	1.6	1.8	2.6	80	19	16	16	94	14	7.8	5.5	2.9
5	1.5	1.8	2.6	68	19	15	14	77	14	7.6	5.0	2.8
6	1.6	1.8	2.7	59	18	13	11	66	14	7.6	4.3	2.9
7	1.6	4.0	3.0	51	e17	13	9.7	60	14	7.7	4.3	2.9
8	1.7	39	3.1	45	e16	12	8.8	56	13	7.9	4.2	3.0
9	1.7	32	3.2	43	e15	11	8.2	51	13	7.8	4.3	3.1
10	1.6	11	4.0	64	e14	11	7.6	46	13	7.4	4.1	3.2
11	1.5	6.4	4.3	56	e14	10	7.1	42	13	7.2	4.1	3.4
12	1.5	4.6	3.6	e43	15	9.7	79	39	13	7.6	4.0	3.1
13	1.7	3.5	58	e41	23	9.3	451	36	13	7.6	4.0	2.8
14	1.7	3.4	514	e38	19	13	199	34	13	7.4	4.0	2.6
15	1.8	3.2	291	e35	17	95	132	32	12	7.2	3.9	2.5
16	1.8	3.0	e1380	e33	e85	53	94	30	12	7.1	3.8	2.5
17	1.7	2.9	e345	e31	e40	38	79	29	11	7.0	3.8	2.5
18	1.9	2.7	e173	e29	e29	31	65	27	11	6.9	3.8	2.5
19	1.9	2.7	e364	e28	e24	28	55	26	11	6.5	3.8	2.4
20	1.9	2.6	e448	e27	e22	26	48	25	11	6.5	3.8	2.4
21	1.9	2.6	274	e26	e20	24	45	24	11	6.5	3.8	2.3
22	2.0	2.6	160	e24	e19	22	49	22	11	6.2	3.6	2.3
23	2.0	2.5	105	e23	e19	21	42	21	11	6.1	3.5	2.3
24	2.0	2.6	74	e23	e18	20	78	21	10	5.9	3.3	2.2
25	2.1	2.7	63	e22	e26	18	96	21	10	5.8	3.3	2.3
26	2.1	2.6	48	e22	e22	18	108	20	9.9	5.8	3.2	2.4
27	2.1	2.5	45	e22	e23	17	83	19	9.3	5.8	3.0	2.5
28	2.0	2.5	199	22	e21	15	141	18	8.8	5.7	3.0	2.5
29	2.1	2.5	381	22	---	13	119	18	8.6	5.6	3.1	2.6
30	1.9	2.5	202	21	---	12	98	17	8.4	5.5	3.3	2.6
31	1.8	---	267	21	---	11	---	17	---	5.5	3.2	---
TOTAL	56.1	157.5	5428.0	1426	634	649.0	2179.4	1232	360.0	213.6	123.4	80.6
MEAN	1.81	5.25	175	46.0	22.6	20.9	72.6	39.7	12.0	6.89	3.98	2.69
MAX	2.1	39	1380	179	85	95	451	94	16	8.3	5.5	3.4
MIN	1.5	1.8	2.5	21	14	9.3	7.1	17	8.4	5.5	3.0	2.2
AC-FT	111	312	10770	2830	1260	1290	4320	2440	714	424	245	160

e Estimated.

PESCADERO CREEK BASIN

11162500 PESCADERO CREEK NEAR PESCADERO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.40	12.9	58.2	119	135	93.1	54.3	19.3	9.11	5.22	3.55	2.77
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	0.38	1.61	2.30	2.75	2.92	4.25	1.93	2.00	0.78	0.20	0.012	0.083
(WY)	1962	1992	1977	1991	1977	1988	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL TOTAL	11278.5		12539.6			
ANNUAL MEAN	30.9		34.4		42.7	
HIGHEST ANNUAL MEAN					164 1983	
LOWEST ANNUAL MEAN					1.72 1977	
HIGHEST DAILY MEAN	1380	Dec 16	1380	Dec 16	5560	Dec 23 1955
LOWEST DAILY MEAN	1.5	Oct 5	1.5	Oct 5	0.00	Sep 9 1961
ANNUAL SEVEN-DAY MINIMUM	1.6	Oct 5	1.6	Oct 5	0.00	Aug 17 1977
MAXIMUM PEAK FLOW			5600 Dec 16		10600 Feb 3 1998	
MAXIMUM PEAK STAGE			15.34 Dec 16		22.47 Feb 3 1998	
ANNUAL RUNOFF (AC-FT)	22370		24870		30940	
10 PERCENT EXCEEDS	50		77		89	
50 PERCENT EXCEEDS	6.6		11		7.2	
90 PERCENT EXCEEDS	1.8		2.1		1.5	

11162570 SAN GREGORIO CREEK AT SAN GREGORIO, CA

LOCATION.—Lat 37° 19'33", long 122° 23'08", in San Gregorio Grant, [San Mateo County](#), Hydrologic Unit 18050006, on right bank at downstream side of bridge on Old Coast Highway, 0.1 mi south of town of San Gregorio, and 1.4 mi upstream from mouth.

DRAINAGE AREA.—50.9 mi².

PERIOD OF RECORD.—October 1969 to September 1994, May 2001 to current year.

SEDIMENT DATA: Water years 1986, 1990–1993.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 11.40 ft above NGVD of 1929.

REMARKS.—Records good. No regulation or known diversion upstream from station. Low flow affected by domestic irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,910 ft³/s, Jan. 4, 1982, gage height, 21.28 ft, from rating curve extended above 560 ft³/s, on basis of contracted-opening measurement of peak flow; no flow for many days in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1955, reached a stage of 15.6 ft, from floodmarks, discharge, 3,620 ft³/s, based on contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0800	3,010	12.14	Dec. 31	0445	1,410	8.46
Dec. 19	1715	1,920	9.77				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.2	1.5	159	14	22	13	59	13	5.8	2.8	2.4
2	1.2	1.1	1.6	101	13	21	16	59	12	5.5	3.1	2.1
3	0.97	1.1	1.7	74	13	20	17	119	12	5.0	3.1	2.0
4	0.46	1.0	1.6	57	12	19	24	83	12	4.5	2.8	1.8
5	0.70	1.1	1.7	47	12	18	18	62	11	4.3	2.7	1.7
6	1.0	1.1	1.7	40	12	17	15	53	10	4.7	2.6	1.6
7	0.87	2.5	2.0	34	11	16	14	47	9.9	5.3	2.3	1.9
8	0.76	48	2.2	30	11	15	14	45	9.9	5.3	1.9	1.8
9	0.80	23	2.6	30	11	15	13	40	9.9	5.1	2.0	2.1
10	0.63	6.4	4.1	58	11	14	12	35	9.9	4.8	2.4	2.4
11	0.77	4.7	4.5	38	10	14	12	32	9.9	4.6	2.3	2.0
12	1.1	3.3	3.3	32	12	14	121	29	11	4.6	2.4	1.2
13	1.3	2.6	56	28	16	13	400	27	11	4.6	2.4	1.6
14	1.3	2.2	251	26	14	15	132	26	11	4.4	2.1	1.7
15	1.3	2.0	174	24	15	99	80	25	10	4.1	1.8	1.6
16	1.3	1.8	816	23	181	43	57	24	9.5	3.4	1.8	1.6
17	1.2	1.6	195	21	46	34	49	22	9.0	3.2	2.2	1.5
18	1.3	1.6	118	20	32	27	41	21	9.2	3.2	2.3	1.1
19	1.4	1.6	514	19	28	25	35	20	9.3	3.0	2.2	1.0
20	1.5	1.4	378	18	24	24	31	18	9.0	3.5	2.6	1.4
21	1.6	1.3	212	20	21	22	31	17	8.5	3.2	2.5	1.5
22	1.7	1.5	113	19	20	20	45	17	8.8	2.9	2.3	1.4
23	1.7	1.6	72	19	19	20	32	16	8.1	3.4	1.8	1.3
24	1.7	1.6	52	18	19	19	71	17	7.6	3.1	1.9	1.4
25	1.9	1.6	41	18	40	17	61	17	6.9	3.1	1.9	1.5
26	1.4	1.4	35	17	28	17	57	17	5.9	2.8	2.1	1.5
27	1.1	1.4	33	16	29	16	47	15	4.9	2.7	2.0	1.6
28	1.2	1.4	235	16	24	15	135	14	5.1	3.0	1.8	1.9
29	1.5	1.4	294	15	---	14	112	13	5.8	3.0	2.3	1.9
30	1.1	1.5	138	14	---	13	74	14	5.5	2.9	2.0	1.8
31	1.1	---	506	14	---	13	---	14	---	2.9	2.1	---
TOTAL	37.16	124.0	4261.5	1065	698	671	1779	1017	275.6	121.9	70.5	50.3
MEAN	1.20	4.13	137	34.4	24.9	21.6	59.3	32.8	9.19	3.93	2.27	1.68
MAX	1.9	48	816	159	181	99	400	119	13	5.8	3.1	2.4
MIN	0.46	1.0	1.5	14	10	13	12	13	4.9	2.7	1.8	1.0
AC-FT	74	246	8450	2110	1380	1330	3530	2020	547	242	140	100

SAN GREGORIO CREEK BASIN

11162570 SAN GREGORIO CREEK AT SAN GREGORIO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.97	24.1	56.8	90.8	101	85.0	39.8	12.8	5.89	2.94	1.56	1.23
MAX	11.6	162	297	345	379	432	259	68.5	20.5	11.7	6.68	4.46
(WY)	1984	1973	1984	1982	1986	1983	1982	1983	1982	1974	1982	1983
MIN	0.000	0.71	1.70	1.17	2.21	2.98	1.05	1.42	0.35	0.019	0.000	0.000
(WY)	1978	1977	1977	1991	1977	1977	1977	1977	1981	1988	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1970 - 2003	
ANNUAL TOTAL	10311.86		10170.96			
ANNUAL MEAN	28.3		27.9		35.1	
HIGHEST ANNUAL MEAN					111 1983	
LOWEST ANNUAL MEAN					1.16 1977	
HIGHEST DAILY MEAN	816	Dec 16	816	Dec 16	4120	Jan 4 1982
LOWEST DAILY MEAN	0.33	Sep 13	0.46	Oct 4	0.00	Aug 11 1972
ANNUAL SEVEN-DAY MINIMUM	0.60	Sep 8	0.75	Oct 4	0.00	Aug 11 1972
MAXIMUM PEAK FLOW			3010 Dec 16		7910 Jan 4 1982	
MAXIMUM PEAK STAGE			12.14 Dec 16		21.28 Jan 4 1982	
INSTANTANEOUS LOW FLOW					0.00 Sep 16 1992	
ANNUAL RUNOFF (AC-FT)	20450		20170		25440	
10 PERCENT EXCEEDS	51		57		67	
50 PERCENT EXCEEDS	5.4		9.9		4.8	
90 PERCENT EXCEEDS	1.0		1.4		0.23	

11162618 PILARCITOS LAKE NEAR HILLSBOROUGH, CA

LOCATION.—Lat 37° 32' 57", long 122° 25' 21", in SE 1/4 SE 1/4 sec.28, T.4 S., R.5 W., San Mateo County, Hydrologic Unit 18050006, on dam, west side of spillway, and 2.0 mi southwest of Hillsborough.

DRAINAGE AREA.—3.91 mi².

PERIOD OF RECORD.—October 1999 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

REMARKS.—Reservoir is formed by earthfill dam; storage began 1866. Capacity is 3,100 acre-ft, spillway at crest is 700.0 ft. Stores water from Hetch-Hetchy Aqueduct for municipal use.

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	690.93	690.84	689.41	689.28	687.96	687.85	696.72	696.68	691.67	691.56	694.57	694.48
2	690.95	690.80	689.31	689.16	687.92	687.83	696.71	696.33	691.73	691.62	694.48	694.39
3	690.83	690.81	689.20	689.09	687.89	687.78	696.33	695.75	691.77	691.67	694.39	694.29
4	690.83	690.81	689.11	689.00	687.85	687.75	695.77	695.17	691.84	691.74	694.30	694.18
5	690.85	690.82	689.02	688.91	687.81	687.72	695.17	694.51	691.90	691.77	694.18	694.04
6	690.86	690.84	688.92	688.82	687.79	687.71	694.54	693.88	691.96	691.84	694.04	693.91
7	690.87	690.85	688.96	688.83	687.78	687.68	693.88	693.21	692.01	691.88	693.91	693.77
8	690.89	690.87	689.19	688.93	687.77	687.67	693.22	692.56	692.08	691.93	693.78	693.64
9	690.91	690.89	689.16	689.08	687.83	687.65	692.57	692.04	692.12	691.99	693.64	693.50
10	690.93	690.91	689.10	689.00	687.85	687.74	692.04	691.56	692.18	692.05	693.50	693.38
11	690.94	690.92	689.05	688.96	687.84	687.74	691.57	691.08	692.24	692.12	693.38	693.23
12	690.95	690.94	688.98	688.89	687.83	687.72	691.08	690.58	692.33	692.17	693.23	693.09
13	690.97	690.95	688.92	688.84	689.22	687.75	690.61	690.08	692.50	692.26	693.09	692.93
14	690.98	690.95	688.86	688.75	690.39	689.18	690.11	689.90	692.57	692.42	692.96	692.83
15	690.99	690.97	688.79	688.70	690.79	690.36	690.07	689.94	692.73	692.49	692.90	692.82
16	691.02	690.99	688.74	688.63	693.23	690.65	690.17	690.04	693.19	692.70	692.82	692.77
17	691.02	690.96	688.68	688.56	693.77	693.23	690.27	690.14	693.46	693.15	692.77	692.66
18	690.96	690.83	688.64	688.52	693.98	693.76	690.35	690.25	693.64	693.38	692.68	692.57
19	690.83	690.71	688.57	688.51	694.73	693.98	690.43	690.33	693.84	693.58	692.57	692.48
20	690.71	690.59	688.52	688.42	695.51	694.73	690.51	690.40	693.96	693.77	692.49	692.37
21	690.59	690.47	688.47	688.36	695.98	695.51	690.65	690.46	694.09	693.91	692.38	692.26
22	690.47	690.35	688.41	688.28	696.20	695.98	690.77	690.62	694.20	693.98	692.26	692.14
23	690.35	690.23	688.36	688.25	696.29	696.20	690.87	690.74	694.30	694.12	692.15	692.06
24	690.24	690.13	688.32	688.18	696.31	696.24	690.98	690.85	694.48	694.22	692.06	691.93
25	690.13	690.01	688.26	688.13	696.24	696.13	691.06	690.97	694.62	694.45	691.95	691.89
26	690.03	689.91	688.21	688.08	696.13	695.72	691.19	691.01	694.70	694.61	692.05	691.95
27	689.92	689.80	688.16	687.97	695.72	695.38	691.30	691.13	694.69	694.63	692.12	692.03
28	689.81	689.69	688.11	687.97	695.91	695.32	691.38	691.23	694.64	694.56	692.19	692.11
29	689.70	689.58	688.06	687.91	696.40	695.88	691.45	691.33	---	---	692.25	692.17
30	689.60	689.49	688.02	687.87	696.50	696.38	691.53	691.40	---	---	692.29	692.23
31	689.51	689.38	---	---	696.71	696.46	691.61	691.48	---	---	692.24	692.15
MONTH	691.02	689.38	689.41	687.87	696.71	687.65	696.72	689.90	694.70	691.56	694.57	691.89

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.5 W., 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 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 500 ft above NGVD of 1929, 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 PERIOD OF RECORD.—Maximum discharge, 279 ft³/s, Feb. 7, 1999, gage height, 7.46 ft, from rating curve extended above 90 ft³/s; no flow Oct. 13, 14, 2001.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.13	0.18	0.06	e9.0	e0.35	e0.53	0.35	0.79	0.41	0.40	0.47	0.30
2	0.12	0.16	0.06	e8.6	e0.32	0.53	0.40	0.82	0.41	0.39	0.48	0.30
3	0.12	0.12	e0.12	8.3	0.27	0.52	0.43	1.0	0.41	0.36	0.52	0.33
4	0.12	0.13	e0.10	8.3	0.26	0.49	0.51	0.91	0.39	0.36	0.53	0.31
5	0.10	0.12	e0.09	7.2	0.24	0.47	0.46	0.90	0.41	0.38	0.46	0.27
6	0.10	0.08	e0.08	6.3	0.22	0.45	0.46	0.90	0.47	0.37	0.46	0.25
7	0.09	0.59	0.03	5.6	0.20	0.44	0.47	0.87	0.43	0.36	0.38	0.19
8	0.09	1.5	0.03	4.9	0.20	0.45	0.45	0.86	0.37	0.32	0.33	0.15
9	0.09	0.26	0.08	4.8	0.21	0.45	0.43	0.83	0.38	0.31	0.34	0.17
10	0.09	0.24	0.15	4.1	0.21	0.44	0.44	0.80	0.39	0.31	0.29	0.19
11	0.10	0.19	0.08	3.3	0.21	0.44	0.43	0.79	0.42	0.36	0.25	0.18
12	0.08	0.15	0.06	2.6	0.24	0.43	1.1	0.78	0.41	0.32	0.22	0.18
13	0.08	0.14	12	2.2	e0.31	0.41	2.4	0.77	0.41	0.29	0.22	0.14
14	0.08	0.11	7.6	1.4	e0.25	0.41	1.6	0.76	0.41	0.32	0.23	0.12
15	0.08	0.08	2.2	0.87	e0.25	0.57	1.3	0.76	0.42	0.34	0.24	0.15
16	0.08	0.06	29	0.71	e0.79	e0.69	1.2	0.76	0.45	0.37	0.27	0.15
17	0.08	0.06	2.4	0.62	e0.48	e0.63	1.2	0.80	0.45	0.40	0.27	0.15
18	0.10	0.06	0.57	0.61	0.41	e0.58	1.0	0.78	0.45	0.36	0.27	0.12
19	0.10	0.06	11	0.54	e0.39	0.42	0.95	0.74	0.42	0.33	0.27	0.10
20	0.09	0.07	13	0.55	0.39	0.41	0.90	0.71	0.37	0.34	0.23	0.12
21	0.09	0.06	7.2	0.60	e0.35	0.38	0.86	0.69	0.37	0.34	0.19	0.09
22	0.10	0.05	2.5	0.58	e0.37	0.38	0.82	0.70	0.37	0.34	0.19	e0.08
23	0.09	0.05	1.1	0.62	e0.37	0.41	0.78	0.68	0.38	0.36	0.15	e0.09
24	0.11	0.05	2.3	e0.62	e0.34	0.37	0.85	0.66	0.37	0.56	0.16	e0.11
25	0.12	0.05	3.3	0.45	e0.38	0.37	0.94	0.61	0.35	0.54	0.17	e0.14
26	0.12	0.06	16	0.43	e0.58	e0.54	0.83	0.52	0.33	0.43	0.19	e0.16
27	0.11	0.06	18	0.40	e0.73	e0.51	0.82	0.45	0.32	0.40	0.21	e0.16
28	0.14	0.04	18	0.37	e0.53	0.34	0.94	0.46	0.32	0.40	0.23	e0.16
29	0.16	0.04	22	0.35	---	e0.48	0.86	0.52	0.34	0.40	0.24	e0.16
30	0.16	0.05	17	0.34	---	e0.44	0.82	0.59	0.39	0.42	0.27	e0.16
31	0.18	---	e14	e0.37	---	0.35	---	0.49	---	0.47	0.29	---
TOTAL	3.30	4.87	200.11	85.63	9.85	14.33	25.00	22.70	11.82	11.65	9.02	5.18
MEAN	0.11	0.16	6.46	2.76	0.35	0.46	0.83	0.73	0.39	0.38	0.29	0.17
MAX	0.18	1.5	29	9.0	0.79	0.69	2.4	1.0	0.47	0.56	0.53	0.33
MIN	0.08	0.04	0.03	0.34	0.20	0.34	0.35	0.45	0.32	0.29	0.15	0.08
AC-FT	6.5	9.7	397	170	20	28	50	45	23	23	18	10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	1998	1999	2000	1998	1999	2000	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
MEAN	0.15	0.27	1.53	7.67	17.7	2.61	0.74	0.43	0.28	0.26	0.20	0.15					
MAX	0.32	0.72	6.46	28.2	60.4	6.99	1.45	0.73	0.46	0.38	0.29	0.22					
(WY)	1999	1999	2003	1998	1998	2000	1999	2003	1998	1998	2003	1998					
MIN	0.026	0.10	0.074	0.44	0.35	0.46	0.22	0.12	0.062	0.055	0.054	0.056					
(WY)	2002	2000	2000	2001	2003	2003	2001	2001	2001	2001	2001	2001					

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR WATER YEARS 1998 - 2003
ANNUAL TOTAL	684.74	403.46	
ANNUAL MEAN	1.88	1.11	2.58
HIGHEST ANNUAL MEAN			7.63 1998
LOWEST ANNUAL MEAN			0.31 2001
HIGHEST DAILY MEAN	55 Jan 2	29 Dec 16	102 Feb 7 1998
LOWEST DAILY MEAN	0.03 Dec 7	0.03 Dec 7	0.00 Oct 13 2001
ANNUAL SEVEN-DAY MINIMUM	0.05 Nov 23	0.05 Nov 23	0.01 Oct 9 2001
MAXIMUM PEAK FLOW		107 Dec 16	279 Feb 7 1999
MAXIMUM PEAK STAGE		7.23 Dec 16	7.46 Feb 7 1999
ANNUAL RUNOFF (AC-FT)	1360	800	1870
10 PERCENT EXCEEDS	2.4	1.2	1.8
50 PERCENT EXCEEDS	0.26	0.38	0.29
90 PERCENT EXCEEDS	0.09	0.09	0.06

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 mi².

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 NGVD of 1929. Prior to Nov. 17, 1983, at site 800 ft downstream at different datum.

REMARKS.—Records fair. 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 ft³/s, Jan. 4, 1982, gage height, 13.08 ft, site and datum then in use, from rating curve extended above 1,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	e0800	824	10.04	Feb. 24	2100	272	6.32
Dec. 19	1730	773	9.75	Apr. 13	0915	211	5.77
Dec. 28	1745	269	6.29	Apr. 28	0015	230	5.94
Feb. 16	0145	240	6.03				

e Estimated.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.42	0.50	1.9	53	7.3	19	7.9	26	7.7	2.7	1.4	1.5
2	0.09	0.44	e1.7	43	7.0	17	9.1	32	7.2	2.8	1.7	1.1
3	0.25	0.44	e1.7	36	6.6	16	8.2	64	6.7	3.0	2.2	1.2
4	0.26	0.64	e1.5	30	6.5	15	14	36	6.1	3.1	2.0	1.0
5	0.35	0.71	e1.6	27	6.3	14	9.0	30	6.5	3.4	1.5	0.59
6	0.23	0.55	e1.6	24	6.3	13	8.6	26	6.6	3.9	1.5	0.91
7	0.31	7.2	e1.8	22	6.0	12	8.0	24	6.0	3.9	1.8	1.0
8	0.26	18	e1.8	20	5.6	11	7.5	23	6.3	2.8	1.4	1.1
9	0.20	5.7	e1.9	28	5.4	11	6.4	19	6.2	2.4	1.5	0.91
10	0.46	4.3	e2.1	26	5.1	10	6.1	17	6.1	2.5	1.3	1.1
11	0.56	3.4	e2.2	19	5.4	10	6.0	16	6.6	2.6	1.3	0.71
12	0.41	3.0	e2.0	16	7.0	9.8	26	15	7.1	2.6	1.2	0.45
13	0.56	2.8	e15	14	9.3	9.5	84	14	6.8	2.9	0.83	0.53
14	0.64	2.5	e140	13	6.6	11	33	13	6.3	2.8	0.91	0.74
15	0.68	2.3	e120	11	12	32	22	13	5.8	2.1	0.65	0.85
16	0.45	2.4	e400	9.9	88	25	18	12	5.2	2.1	0.97	0.76
17	0.49	2.5	e120	9.5	28	19	15	12	5.1	2.1	1.3	0.71
18	0.57	2.4	e80	9.1	20	15	13	11	5.5	1.8	1.4	0.63
19	0.56	2.3	e320	8.7	18	14	11	10	5.6	1.9	1.6	0.46
20	0.72	2.1	e120	8.9	15	13	11	9.1	5.1	2.6	1.7	0.48
21	0.76	2.1	e80	10	14	12	11	8.8	5.0	1.8	1.1	0.74
22	0.69	2.2	e60	9.7	13	12	13	8.8	5.3	1.5	1.0	0.79
23	0.80	2.2	e35	12	13	13	10	8.9	5.1	1.6	0.80	0.88
24	0.73	2.4	23	9.9	61	11	20	9.7	4.6	1.9	0.84	0.94
25	0.71	2.4	20	9.2	66	11	46	10	3.8	1.9	0.69	1.1
26	0.57	2.0	20	8.9	34	11	31	9.2	3.2	1.9	0.66	1.1
27	0.75	1.8	27	8.6	35	10	30	8.0	3.0	1.8	0.76	1.1
28	0.76	1.8	92	8.0	23	9.1	79	7.5	2.8	1.8	0.90	1.2
29	0.80	1.8	91	7.4	---	8.4	42	7.5	3.2	1.7	1.3	1.1
30	0.68	1.7	55	7.1	---	8.4	31	8.0	3.1	1.3	1.4	0.97
31	0.56	---	94	7.1	---	8.1	---	8.2	---	1.4	1.4	---
TOTAL	16.28	84.58	1933.8	526.0	530.4	410.3	636.8	516.7	163.6	72.6	39.01	26.65
MEAN	0.53	2.82	62.4	17.0	18.9	13.2	21.2	16.7	5.45	2.34	1.26	0.89
MAX	0.80	18	400	53	88	32	84	64	7.7	3.9	2.2	1.5
MIN	0.09	0.44	1.5	7.1	5.1	8.1	6.0	7.5	2.8	1.3	0.65	0.45
AC-FT	32	168	3840	1040	1050	814	1260	1020	325	144	77	53

e Estimated.

11162630 PILARCITOS CREEK AT HALF MOON BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.19	5.44	17.5	46.5	52.5	37.9	18.7	6.44	2.59	1.12	0.70	0.43
MAX	4.44	32.5	92.1	164	329	278	127	37.2	15.8	5.35	2.41	1.89
(WY)	1983	1983	1971	1982	1998	1983	1982	1983	1998	1998	1999	1999
MIN	0.000	0.000	0.59	0.48	0.66	1.44	0.073	0.009	0.000	0.000	0.000	0.000
(WY)	1967	1991	1991	1991	1977	1988	1977	1977	1972	1966	1966	1966

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	4752.75		4956.72			
ANNUAL MEAN	13.0		13.6		15.7	
HIGHEST ANNUAL MEAN					73.9 1983	
LOWEST ANNUAL MEAN					0.51 1977	
HIGHEST DAILY MEAN	400	Dec 16	400	Dec 16	2150	Jan 4 1982
LOWEST DAILY MEAN	0.09	Sep 25	0.09	Oct 2	0.00	Jul 1 1966
ANNUAL SEVEN-DAY MINIMUM	0.25	Oct 2	0.25	Oct 2	0.00	Jul 1 1966
MAXIMUM PEAK FLOW			824	Dec 16	4750	Jan 4 1982
MAXIMUM PEAK STAGE			10.04	Dec 16	13.08	Jan 4 1982
ANNUAL RUNOFF (AC-FT)	9430		9830		11410	
10 PERCENT EXCEEDS	23		29		32	
50 PERCENT EXCEEDS	2.7		5.8		2.2	
90 PERCENT EXCEEDS	0.50		0.69		0.00	

11162750 CRYSTAL SPRINGS RESERVOIR AT DAM, NEAR SAN MATEO, CA

LOCATION.—Lat 37° 31' 47", long 122° 21' 43", in Pulgas Grant, [San Mateo County](#), Hydrologic Unit 18050004, at north end of Crystal Springs Reservoir Dam, 0.6 mi upstream of Polhemus Creek, and 0.2 mi west of Hillsborough City boundary.

DRAINAGE AREA.—Indeterminate.

PERIOD OF RECORD.—October 1998 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

REMARKS.—Lake is formed by gravity type, interlocking concrete blocks. Storage began in 1888. Dam was raised in 1890 and 1911. Capacity is 58,500 acre-ft, spillway at crest is 283.9 ft, capacity can be increased by addition of 4 ft flash boards up to 8 ft. Stores water from Hetch-Hetchy Aqueduct for municipal use.

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	270.05	269.96	265.86	265.70	263.44	263.43	272.75	272.51	276.85	276.73	279.42	279.39
2	270.13	270.04	265.70	265.53	263.43	263.43	272.93	272.74	276.87	276.84	279.53	279.42
3	270.12	270.07	265.53	265.36	263.43	263.42	273.12	272.93	276.95	276.86	279.55	279.53
4	270.07	270.01	265.36	265.20	263.43	263.42	273.34	273.12	276.96	276.94	279.56	279.55
5	270.02	269.95	265.20	265.03	263.43	263.42	273.52	273.34	277.02	276.95	279.65	279.56
6	269.95	269.89	265.03	264.86	263.45	263.42	273.77	273.52	277.09	277.01	279.64	279.63
7	269.89	269.83	264.93	264.73	263.45	263.44	273.88	273.76	277.10	277.08	279.65	279.63
8	269.83	269.73	265.13	264.89	263.46	263.45	274.05	273.88	277.20	277.10	279.67	279.65
9	269.73	269.56	265.04	264.88	263.54	263.46	274.33	274.05	277.20	277.19	279.72	279.67
10	269.56	269.37	264.88	264.75	263.60	263.53	274.48	274.33	277.28	277.20	279.72	279.67
11	269.37	269.17	264.75	264.58	263.62	263.59	274.69	274.48	277.28	277.27	279.74	279.68
12	269.17	268.97	264.58	264.41	263.64	263.62	274.91	274.69	277.42	277.28	279.70	279.61
13	268.97	268.78	264.41	264.22	264.38	263.62	275.07	274.91	277.46	277.42	279.75	279.63
14	268.78	268.58	264.22	264.02	264.85	264.35	275.21	275.07	277.61	277.46	279.91	279.71
15	268.58	268.38	264.03	263.82	265.16	264.84	275.32	275.20	277.73	277.60	280.09	279.86
16	268.38	268.17	263.83	263.60	266.67	265.03	275.40	275.32	278.08	277.73	280.27	280.09
17	268.17	267.97	263.60	263.38	267.12	266.65	275.51	275.40	278.18	278.08	280.48	280.27
18	267.97	267.78	263.39	263.19	267.31	267.12	275.60	275.51	278.33	278.18	280.61	280.43
19	267.78	267.60	263.19	263.10	268.13	267.31	275.65	275.60	278.42	278.32	280.82	280.60
20	267.60	267.41	263.21	263.13	268.82	268.13	275.75	275.65	278.57	278.42	281.01	280.81
21	267.42	267.23	263.27	263.20	269.20	268.82	275.83	275.74	278.61	278.57	281.17	281.00
22	267.23	267.08	263.32	263.26	269.47	269.20	275.93	275.83	278.77	278.61	281.33	281.17
23	267.08	266.95	263.36	263.31	269.64	269.47	276.04	275.92	278.81	278.77	281.54	281.33
24	266.95	266.83	263.40	263.36	269.86	269.64	276.17	276.04	279.02	278.81	281.73	281.54
25	266.83	266.70	263.42	263.39	270.12	269.86	276.23	276.16	279.10	279.01	281.91	281.72
26	266.70	266.57	263.44	263.42	270.40	270.11	276.31	276.23	279.25	279.10	282.08	281.90
27	266.57	266.44	263.44	263.43	270.65	270.39	276.43	276.30	279.29	279.25	282.20	282.06
28	266.44	266.31	263.45	263.43	271.28	270.65	276.52	276.43	279.40	279.28	282.29	282.19
29	266.31	266.17	263.44	263.43	271.80	271.25	276.58	276.51	---	---	282.36	282.27
30	266.17	266.03	263.44	263.43	272.16	271.80	276.67	276.57	---	---	282.46	282.36
31	266.03	265.86	---	---	272.52	272.04	276.74	276.67	---	---	282.54	282.46
MONTH	270.13	265.86	265.86	263.10	272.52	263.42	276.74	272.51	279.40	276.73	282.54	279.39

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

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	38400	36700	39300	37300	37000	36500	---	---	43600	42400	44700	43800
2	38100	36700	39400	37400	37100	36500	---	---	43400	42500	44600	43800
3	38300	36800	39300	37700	37200	36500	---	---	43500	42400	44700	43800
4	38300	36900	39400	37600	37300	36400	---	---	43500	42500	44700	43800
5	38200	36600	39400	37400	37200	36500	---	---	43600	42700	44600	43900
6	38100	36500	39400	37300	37300	36500	---	---	43600	42600	44700	43900
7	37900	36500	---	---	37300	36500	---	---	44000	42700	44600	43900
8	38100	36400	38500	37200	37200	36400	---	---	43900	42900	---	---
9	38000	36200	38200	37400	37600	36600	---	---	43800	43000	---	---
10	37900	36200	38100	37300	38100	36700	42900	40900	43900	42900	---	---
11	38300	36300	38000	37100	38400	36900	43400	40900	43900	43000	---	---
12	39100	37000	37900	37000	38600	37000	43300	40900	43900	43000	44700	44000
13	39200	37300	37800	36900	38600	37000	43500	41000	44000	43000	44800	44100
14	39200	37000	37600	36900	38700	37100	43300	41200	43900	43000	44700	44100
15	39400	36800	37600	36900	38800	37100	43300	41300	43900	43000	44800	43900
16	39500	37300	37500	36800	38800	37000	43500	41300	44000	43200	44700	43900
17	39600	37200	---	---	38700	37000	43500	41500	44100	43300	44600	43900
18	39400	36600	37200	36600	39000	37100	43600	41900	44200	43400	44700	44100
19	39300	36700	37100	36600	38800	37200	43800	42100	44200	43400	44700	44000
20	39300	36600	37100	36500	38900	37200	43700	42300	44400	43700	44700	44000
21	39500	36700	37000	36500	39100	37400	43600	42300	44400	43800	44900	44100
22	39200	36800	37000	36500	---	---	43600	42200	44400	43700	45000	44000
23	39000	36400	36900	36400	---	---	43600	42300	44500	43900	44900	44100
24	39400	37200	36900	36600	---	---	43300	42200	44500	43800	44800	44000
25	39600	37200	36900	36600	---	---	43400	42100	44700	43800	44800	44000
26	39600	37600	36900	36600	---	---	43500	42200	44600	43700	44900	44000
27	39500	37500	36900	36500	---	---	43400	42200	44500	43700	45000	43900
28	39600	38200	36900	36500	---	---	43500	42200	44500	43700	44900	43800
29	39500	38000	37000	36500	---	---	---	---	44700	43900	44900	43900
30	39400	37500	37100	36600	---	---	43600	42300	44600	43900	44900	43900
31	---	---	37000	36600	---	---	43500	42400	44600	43900	---	---
MONTH	39600	36200	---	---	---	---	---	---	44700	42400	---	---

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

 SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (LOWER PROBE)

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN												
	OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH						
1	47800	46500	47800	46400	46700	45100	39300	38300	34500	33500	36300	33900															
2	47900	46600	47800	46500	46600	44800	39100	38200	34400	33500	36200	33900															
3	47900	46700	47800	46500	46300	44500	38800	38000	34400	33700	36300	34100															
4	47800	46500	47800	46300	46200	44200	38700	37600	34300	33700	36300	34100															
5	47900	46500	47800	46300	45900	44400	38500	37600	34300	33800	---	---															
6	---	---	47800	46400	45700	44300	38300	37500	34200	33800	36200	34800															
7	47800	46200	47700	46800	45700	44400	---	---	34300	33800	36300	34900															
8	47900	46900	47600	46300	45600	44500	---	---	34300	33600	36300	34800															
9	47900	46700	47200	45600	45700	44800	---	---	34300	33800	36400	34800															
10	47800	47000	47100	45800	45600	44700	---	---	34400	33900	36500	34800															
11	47800	46800	47000	45300	45500	44600	---	---	34400	33900	36400	34800															
12	47900	46400	47000	45300	45400	44800	---	---	34500	33700	36800	34600															
13	47900	46600	46800	45600	45400	44900	---	---	35100	33600	37400	34700															
14	47900	46500	46700	45400	45300	44500	---	---	34900	33000	38300	36200															
15	47600	46600	46700	45700	44700	44100	---	---	35300	33300	38300	36300															
16	47700	46800	46700	45500	44600	43200	---	---	35700	33200	38200	36100															
17	47700	46900	46900	45300	44100	42200	---	---	35500	33200	38000	35600															
18	47900	46700	46900	45300	43900	41500	---	---	35700	33500	37800	35600															
19	47700	46700	46900	45300	43900	42400	---	---	35400	33100	38100	36000															
20	47600	46600	46900	45200	43700	42200	---	---	35100	33400	38200	36200															
21	47600	46600	46800	45400	43400	41600	---	---	35200	33500	38200	36000															
22	47600	46200	46800	45200	43000	40700	---	---	35500	33600	38300	36200															
23	47600	46600	46800	45200	42800	40900	---	---	35700	33700	38200	36300															
24	47600	46500	46700	45200	42300	40600	---	---	36100	33700	38300	36300															
25	47700	46500	46600	45300	41900	40600	---	---	36400	33800	38300	36400															
26	47600	46200	46700	45200	41500	40800	---	---	36300	33600	38700	36500															
27	47500	46500	46600	45300	41100	40300	---	---	36500	34000	38700	36300															
28	47600	46400	46500	45300	40800	39300	---	---	36300	34000	38300	36400															
29	47500	46400	46600	45200	40200	39100	34700	33900	---	---	38500	36700															
30	47700	46300	46700	45400	40000	38900	34600	33800	---	---	38500	36900															
31	47700	46600	---	---	39500	38400	34500	33700	---	---	38500	37200															
MONTH	---	---	47800	45200	46700	38400	---	---	36500	33000	---	---															
DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN												
	APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER						
1	38500	36900	40100	38300	37200	36400	---	---	43600	42400	44600	43700															
2	38600	37100	40100	38400	37200	36600	---	---	43500	42400	44500	43500															
3	38500	37200	40100	38700	37500	36700	---	---	43500	42400	44400	43500															
4	38500	37300	40000	38100	37800	36600	---	---	43500	42600	44400	43500															
5	38400	37000	39900	37800	37400	36500	---	---	43500	42600	44500	43500															
6	38400	36700	39500	37600	37400	36400	---	---	43700	42500	44700	43700															
7	38300	36500	---	---	37500	36500	---	---	44000	42600	44700	43500															
8	38300	36700	39000	37900	37400	36500	---	---	44200	42700	---	---															
9	38300	36700	38600	37900	37700	36500	---	---	44200	42900	---	---															
10	38800	36700	38300	37600	38000	36700	43200	40800	44300	42800	---	---															
11	39300	36700	38200	37600	38300	36700	43700	40900	44400	42900	---	---															
12	39500	38000	38100	37400	38500	36700	43700	40900	44300	43000	44700	43900															
13	39800	37900	38000	37400	38700	36900	43600	41000	44200	43000	44600	44000															
14	39500	37800	37900	37100	38700	37000	43600	41100	44000	42900	44700	43800															
15	39600	37600	37800	37200	38800	37000	43600	41200	44000	42900	44700	43800															
16	39700	37900	37700	37000	39000	36800	43600	41300	44100	43300	44600	43700															
17	39700	37600	---	---	38700	36700	43600	41700	44100	43300	44700	43900															
18	39700	37000	37400	36900	38900	37100	43700	42000	44100	43300	44700	43900															
19	39700	37000	37400	36900	39100	37200	43800	42300	44200	43300	44700	44000															
20	39700	37000	37300	36800	39400	37300	43600	42500	44400	43300	44800	43900															
21	39900	37200	37200	36600	39400	37600	43700	42500	44300	43600	44900	43800															
22	39700	37200	37100	36500	---	---	43700	42300	44400	43700	44900	44000															
23	39700	37100	37100	36700	---	---	43700	42200	44500	43700	44800	43900															
24	39900	38000	37100	36700	---	---	43600	42200	44500	43700	44800	43900															
25	40200	38400	37000	36600	---	---	43600	42100	44600	43700	44800	43900															
26	40100	38700	37000	36600	---	---	43600	42200	44600	43600	44900	43900															
27	40100	38600	37000	36600	---	---	43700	42200	44600	43600	44900	43600															
28	40200	38900	37000	36500	---	---	43600	42100	44500	43600	44800	43800															
29	40200	38900	37100	36400	---	---	---	---	44700	43700	44900	43800															
30	40100	38600	37100	36500	---	---	43900	42200	44500	43600	45000	43900															
31	---	---	37200	36500	---	---	43600	42300	44500	43700	---	---															
MONTH	40200	36500	---	---	---	---	---	---	44700	42400	---	---															

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

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER PROBE)

DAY	MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1	20.1	19.3	16.5	16.0	14.5	14.5	11.0	11.0	14.0	13.0	14.0	13.0
2	19.9	18.8	16.5	15.5	14.5	14.5	11.5	11.0	14.0	13.0	14.0	13.0
3	19.2	18.4	16.5	15.5	15.0	14.5	11.5	11.0	13.5	13.0	14.0	13.0
4	19.1	18.6	16.0	15.5	14.5	14.5	11.5	11.0	13.5	13.0	14.0	13.0
5	19.4	18.6	16.0	15.5	14.5	14.0	11.5	11.0	13.5	13.0	---	---
6	---	---	16.0	15.5	14.5	14.0	11.5	11.0	13.0	13.0	14.0	13.5
7	19.9	18.9	16.0	15.5	14.5	14.0	---	---	13.0	12.5	14.0	13.5
8	20.1	19.2	16.0	15.5	14.0	14.0	---	---	13.0	12.5	14.0	13.5
9	20.2	19.4	16.0	15.5	14.0	14.0	---	---	13.0	12.5	14.0	13.5
10	20.0	19.4	16.0	15.5	14.0	13.5	---	---	13.0	12.5	14.5	13.5
11	19.7	19.1	16.5	15.5	14.5	13.5	---	---	12.5	12.5	14.5	14.0
12	19.7	19.1	16.0	15.5	14.0	13.5	---	---	12.5	12.5	15.0	14.5
13	19.6	19.0	16.0	15.5	14.0	13.5	---	---	13.0	12.5	15.5	14.5
14	19.5	18.9	16.0	15.5	14.0	13.5	---	---	13.0	12.5	15.0	14.5
15	19.3	18.6	16.5	15.5	14.0	13.5	---	---	13.0	12.5	15.5	14.0
16	19.1	18.4	16.0	15.5	13.5	13.5	---	---	13.0	12.5	15.0	14.5
17	18.8	18.2	16.0	15.5	13.5	13.0	---	---	13.0	12.5	15.0	14.0
18	18.6	17.9	16.0	15.5	13.5	12.5	---	---	13.0	12.5	15.0	14.0
19	18.4	17.8	16.0	15.5	13.0	12.0	---	---	13.0	12.5	15.0	14.0
20	18.4	17.7	16.0	15.5	12.5	11.5	---	---	13.0	12.5	15.0	14.0
21	18.3	17.7	16.0	15.5	12.0	11.5	---	---	13.0	12.5	15.0	14.0
22	18.0	17.5	15.5	15.5	12.0	11.5	---	---	13.5	12.5	15.0	14.5
23	17.8	17.3	15.5	15.0	12.0	11.0	---	---	13.5	13.0	15.0	14.5
24	17.6	17.0	15.5	15.0	11.5	11.0	---	---	13.5	13.0	15.0	14.5
25	17.3	16.9	15.5	15.0	---	---	---	---	13.5	13.0	15.5	15.0
26	17.1	16.8	15.5	15.0	11.5	11.0	---	---	13.5	13.0	15.5	15.0
27	17.0	16.6	15.0	15.0	11.5	11.0	---	---	13.5	13.0	15.5	15.0
28	17.0	16.6	15.0	14.5	11.5	11.5	---	---	13.5	13.0	15.5	15.0
29	16.9	16.5	15.0	14.5	11.5	11.0	13.5	13.0	---	---	16.0	15.5
30	16.8	16.3	15.0	14.5	11.5	11.0	13.5	13.0	---	---	17.0	15.5
31	16.6	16.1	---	---	11.0	11.0	14.0	13.0	---	---	17.0	15.5
MONTH	---	---	16.5	14.5	---	---	---	---	14.0	12.5	---	---
1	16.5	16.0	16.5	15.0	20.0	19.0	---	---	22.0	21.0	21.5	21.0
2	16.0	15.5	16.0	15.5	20.5	19.5	---	---	22.0	21.5	22.0	21.0
3	16.0	15.5	16.0	15.5	20.5	19.0	---	---	22.0	21.5	22.0	21.5
4	15.5	15.5	16.0	15.5	21.0	19.5	---	---	22.5	21.5	22.0	21.0
5	15.5	15.0	16.0	15.5	21.0	20.0	---	---	22.5	22.0	22.0	21.0
6	15.0	15.0	16.0	15.5	21.0	20.0	---	---	22.5	22.0	22.0	21.0
7	15.5	14.5	---	---	21.0	20.0	---	---	22.5	21.5	21.5	21.0
8	16.0	15.0	16.0	15.5	20.5	20.0	---	---	22.5	21.5	---	---
9	16.0	15.0	15.5	15.5	20.5	19.5	---	---	22.0	21.5	---	---
10	16.0	15.5	16.0	15.0	20.5	19.0	21.0	19.0	22.0	21.0	---	---
11	16.5	15.5	16.5	15.5	20.5	18.5	21.0	19.0	22.0	21.0	---	---
12	16.5	15.0	17.0	15.5	20.0	18.0	21.0	19.0	21.5	21.0	21.5	20.5
13	15.5	14.5	17.0	16.0	19.5	18.0	21.0	19.0	21.5	21.0	22.0	21.0
14	15.5	14.5	17.0	16.0	19.0	18.0	21.0	19.0	21.5	21.0	22.0	21.0
15	15.0	14.5	17.5	16.0	19.0	18.0	21.5	19.5	21.5	21.0	22.0	21.5
16	15.0	14.5	17.5	16.0	19.5	18.0	21.5	19.5	21.5	21.0	22.0	21.0
17	15.0	14.5	17.5	16.0	19.5	18.0	21.5	19.5	21.5	21.0	21.5	21.0
18	15.0	14.5	17.5	16.0	19.5	18.0	21.5	20.0	21.5	21.0	21.5	21.0
19	15.0	14.5	18.0	16.5	19.5	18.5	21.5	20.5	21.5	21.0	21.5	20.5
20	15.0	15.0	18.5	17.0	19.0	18.5	22.0	20.5	22.0	21.0	21.5	21.0
21	15.0	15.0	18.5	17.5	19.0	18.0	22.0	21.0	22.0	21.5	21.5	20.5
22	15.0	15.0	19.0	17.5	---	---	22.0	21.5	22.0	21.5	22.0	21.0
23	15.5	15.0	19.0	18.0	---	---	22.5	21.5	22.5	21.5	22.0	21.0
24	15.5	15.0	19.5	18.5	---	---	22.5	21.5	22.5	21.5	22.0	21.0
25	15.0	15.0	19.5	18.5	---	---	22.5	21.5	23.0	21.5	22.0	21.0
26	15.5	14.5	19.5	18.5	---	---	23.0	21.5	23.0	22.0	21.5	20.5
27	16.0	15.0	20.0	18.5	---	---	23.0	22.0	23.0	22.0	21.0	20.5
28	15.5	15.0	20.5	18.5	---	---	23.0	21.5	22.5	21.5	21.0	20.0
29	15.5	15.0	20.5	18.5	---	---	---	---	22.0	21.5	20.5	20.0
30	16.0	15.0	21.0	18.5	---	---	22.5	21.5	22.0	21.5	20.5	19.5
31	---	---	20.5	19.0	---	---	22.0	21.0	21.5	21.0	---	---
MONTH	16.5	14.5	---	---	---	---	---	---	23.0	21.0	---	---

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

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	19.0	16.5	15.5	15.0	14.5	11.5	11.0	14.0	13.0	13.5	13.0
2	20.0	18.5	16.5	15.5	15.0	14.5	11.5	11.0	14.0	13.5	14.0	13.0
3	19.5	18.0	16.5	15.5	14.5	14.0	11.5	11.0	14.0	13.0	14.0	13.0
4	19.0	18.5	16.0	15.5	14.5	14.0	11.5	11.0	13.5	13.0	14.0	13.0
5	19.5	18.5	16.0	15.5	14.5	14.0	11.5	11.0	13.5	13.0	---	---
6	---	---	16.0	15.5	14.5	14.0	12.0	11.5	13.5	12.5	14.0	13.5
7	20.0	19.0	16.0	15.5	14.5	14.0	---	---	13.0	12.5	14.0	13.0
8	20.0	19.0	16.0	15.5	14.0	14.0	---	---	13.0	12.5	14.0	13.5
9	20.0	19.5	16.0	15.5	14.0	14.0	---	---	13.0	12.5	14.0	13.5
10	20.0	19.5	16.0	15.5	14.0	14.0	---	---	13.0	12.5	14.5	13.5
11	19.5	19.0	16.0	15.5	14.0	14.0	---	---	13.0	12.5	15.0	14.0
12	19.5	19.0	16.0	15.5	14.0	14.0	---	---	13.0	12.5	15.0	14.0
13	19.5	18.5	16.0	15.5	14.0	14.0	---	---	13.0	12.5	15.0	14.5
14	19.5	18.5	16.0	15.5	14.0	14.0	---	---	13.0	12.5	---	---
15	19.5	18.5	16.0	15.5	14.0	13.5	---	---	13.0	12.5	---	---
16	19.0	18.0	16.0	15.5	13.5	13.5	---	---	13.0	12.5	15.0	14.0
17	19.0	18.0	16.0	15.5	13.5	13.5	---	---	13.0	12.5	15.0	14.0
18	18.5	17.5	16.0	15.5	13.5	13.0	---	---	13.0	12.5	15.0	14.0
19	18.5	17.5	16.0	15.5	13.0	12.5	---	---	13.0	12.5	14.5	14.0
20	18.5	17.5	16.0	15.5	12.5	12.0	---	---	13.0	12.5	15.0	14.0
21	18.5	17.5	16.0	15.5	12.0	12.0	---	---	13.0	12.5	---	---
22	18.0	17.5	15.5	15.5	12.0	12.0	---	---	13.5	13.0	---	---
23	18.0	17.0	15.5	15.0	---	---	---	---	13.5	13.0	---	---
24	17.5	17.0	15.5	15.0	11.5	11.5	---	---	13.5	13.0	---	---
25	17.5	16.5	15.5	15.0	---	---	---	---	13.5	13.0	---	---
26	17.0	16.5	15.5	15.0	11.5	11.0	---	---	13.5	13.0	15.5	15.0
27	17.0	16.5	15.0	14.5	11.5	11.0	---	---	13.5	13.0	15.5	15.0
28	17.0	16.5	15.0	14.5	11.5	11.5	---	---	13.5	13.0	15.5	15.0
29	17.0	16.5	15.0	14.5	11.5	11.5	13.5	13.0	---	---	---	---
30	17.0	16.0	15.0	14.5	11.5	11.0	14.0	13.0	---	---	---	---
31	16.5	16.0	---	---	11.5	11.0	14.0	13.0	---	---	---	---
MONTH	---	---	16.5	14.5	---	---	---	---	14.0	12.5	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	16.0	15.0	20.5	19.0	---	---	22.0	21.0	21.5	21.0
2	---	---	16.0	15.0	20.5	19.5	---	---	22.5	21.5	22.0	21.0
3	---	---	16.0	15.5	20.5	19.5	---	---	22.0	22.0	22.0	21.0
4	---	---	---	---	21.0	19.0	---	---	22.5	22.0	22.0	21.0
5	---	---	---	---	21.0	19.5	---	---	22.5	22.0	22.0	21.0
6	---	---	16.0	16.0	21.0	19.5	---	---	22.5	22.0	22.0	21.0
7	---	---	---	---	21.0	20.0	---	---	22.5	21.5	21.5	20.5
8	---	---	16.0	15.5	20.5	20.0	---	---	22.5	21.5	---	---
9	---	---	15.5	15.5	20.5	19.5	---	---	22.5	21.5	---	---
10	---	---	16.0	15.5	20.5	19.0	21.0	19.0	22.0	21.0	---	---
11	---	---	16.0	15.5	20.5	18.5	21.0	19.0	22.0	21.0	---	---
12	---	---	16.5	16.0	20.5	18.0	21.0	19.0	21.5	21.0	21.0	20.5
13	---	---	17.0	16.0	19.5	17.5	21.5	19.0	21.5	21.0	21.5	20.5
14	---	---	17.5	16.5	19.5	17.5	21.5	19.0	21.5	21.0	22.0	21.0
15	---	---	17.5	16.5	19.5	17.5	21.5	19.5	21.5	21.0	22.0	21.0
16	15.0	14.5	17.5	16.5	19.5	17.5	21.5	19.5	21.5	21.0	22.0	21.0
17	15.5	14.5	17.5	16.5	20.0	18.5	21.5	19.5	21.5	21.0	21.5	20.5
18	15.0	14.5	17.5	16.5	19.5	18.0	21.5	20.0	22.0	21.0	21.5	20.5
19	---	---	17.5	17.0	19.5	18.5	21.5	20.5	21.5	21.5	21.5	20.5
20	---	---	18.0	17.5	19.5	18.0	21.5	20.5	22.0	21.0	21.5	20.5
21	---	---	18.5	18.0	19.0	18.0	22.0	21.0	22.0	21.0	21.5	20.5
22	---	---	19.0	18.0	---	---	22.0	21.5	22.0	21.5	22.0	20.5
23	---	---	19.0	18.5	---	---	22.0	21.5	22.5	21.5	22.0	21.0
24	---	---	19.5	18.5	---	---	22.5	21.5	22.5	21.5	22.0	21.0
25	---	---	19.5	18.5	---	---	23.0	22.0	23.0	21.5	22.0	20.5
26	---	---	19.5	18.5	---	---	23.0	22.0	23.0	21.5	21.5	20.5
27	15.5	15.0	20.0	18.5	---	---	23.0	22.0	23.0	22.0	21.0	20.0
28	15.5	15.0	20.0	18.5	---	---	23.0	21.5	22.5	21.5	20.5	19.5
29	15.5	15.0	20.5	18.5	---	---	---	---	22.0	21.0	20.5	19.5
30	15.5	15.0	21.0	18.5	---	---	22.5	21.0	22.0	21.0	20.0	19.5
31	---	---	20.5	18.5	---	---	22.5	21.0	21.5	21.0	---	---
MONTH	---	---	---	---	---	---	---	---	23.0	21.0	---	---

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 mi².

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 NGVD of 1929. 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. 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 ft³/s, Feb. 3, 1998, maximum gage height, 13.60 ft, Dec. 22, 1955; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 700 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0630	3,730	8.73	Dec. 28	1845	795	3.99
Dec. 19	1645	1,350	4.89				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.25	0.39	1.2	60	7.9	10	4.3	23	4.2	1.0	0.67	0.39
2	0.24	0.39	1.2	37	7.7	9.1	5.6	24	4.1	1.1	0.61	0.39
3	0.19	0.42	1.2	25	6.2	9.9	7.1	38	3.4	1.0	0.55	0.39
4	0.21	0.41	1.2	22	6.8	10	17	31	3.3	1.0	0.54	0.39
5	0.28	0.39	1.2	21	6.9	9.3	8.6	23	3.3	1.0	0.55	0.39
6	0.22	0.40	1.3	18	6.7	7.9	6.0	19	3.3	1.0	0.66	0.39
7	0.18	4.3	1.6	15	6.6	7.2	6.0	17	3.3	1.0	0.66	0.39
8	0.16	88	1.6	14	6.6	6.9	6.1	15	3.1	1.0	0.66	0.39
9	0.20	9.4	2.2	14	6.4	6.7	5.6	15	3.2	1.0	0.63	0.34
10	0.26	4.0	2.8	39	5.9	6.6	5.2	12	3.1	0.94	0.58	0.36
11	0.28	3.1	1.8	24	6.1	7.1	5.1	12	3.1	0.96	0.61	0.35
12	0.24	2.0	1.7	19	8.9	7.2	69	11	3.0	0.95	0.60	0.33
13	0.24	1.7	144	17	9.3	7.6	253	9.6	3.0	0.94	0.58	0.33
14	0.25	1.6	362	15	8.1	8.7	56	8.4	2.9	0.92	0.63	0.32
15	0.23	1.4	176	12	8.8	57	31	8.2	2.8	0.94	0.60	0.33
16	0.26	1.4	1060	12	84	23	24	7.7	2.7	0.84	0.51	0.31
17	0.33	1.4	141	11	22	16	21	7.3	2.3	0.83	0.51	0.30
18	0.33	1.3	48	10	14	11	18	7.2	2.3	0.76	0.51	0.21
19	0.33	1.3	379	11	12	8.4	15	6.7	2.1	0.66	0.51	0.26
20	0.35	1.3	352	11	10	7.8	13	6.4	2.0	0.65	0.69	0.26
21	0.39	1.3	119	13	9.2	7.5	13	6.2	1.9	0.58	0.66	0.28
22	0.39	1.3	47	12	8.4	6.9	12	5.3	1.9	0.62	0.61	0.24
23	0.43	1.3	29	11	7.9	6.9	12	5.6	1.8	0.65	0.58	0.26
24	0.45	1.3	21	11	13	7.1	21	6.3	1.6	0.60	0.51	0.28
25	0.45	1.3	17	10	41	5.8	23	6.1	1.2	0.51	0.51	0.28
26	0.45	1.3	15	10	17	5.5	24	6.2	1.0	0.56	0.41	0.28
27	0.45	1.2	13	9.3	16	5.3	18	6.0	0.92	0.54	0.44	0.29
28	0.45	1.2	235	9.2	12	5.6	56	5.5	0.68	0.63	0.44	0.37
29	0.43	1.2	276	8.3	---	4.7	43	4.9	0.67	0.66	0.40	0.39
30	0.39	1.3	61	8.0	---	4.5	29	4.6	0.70	0.65	0.41	0.73
31	0.39	---	249	8.0	---	5.4	---	4.6	---	0.60	0.42	---
TOTAL	9.70	137.30	3763.0	516.8	375.4	302.6	827.6	362.8	72.87	25.09	17.25	10.22
MEAN	0.31	4.58	121	16.7	13.4	9.76	27.6	11.7	2.43	0.81	0.56	0.34
MAX	0.45	88	1060	60	84	57	253	38	4.2	1.1	0.69	0.73
MIN	0.16	0.39	1.2	8.0	5.9	4.5	4.3	4.6	0.67	0.51	0.40	0.21
AC-FT	19	272	7460	1030	745	600	1640	720	145	50	34	20

SAN FRANCISQUITO CREEK BASIN

11164500 SAN FRANCISQUITO CREEK AT STANFORD UNIVERSITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.94	5.84	25.8	61.7	78.9	52.1	25.0	3.90	1.18	0.49	0.27	0.31
MAX	28.2	92.0	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	6542.35		6420.63			
ANNUAL MEAN	17.9		17.6		21.1	
HIGHEST ANNUAL MEAN					83.4 1983	
LOWEST ANNUAL MEAN					0.000 1931	
HIGHEST DAILY MEAN	1060	Dec 16	1060	Dec 16	2650	Dec 23 1955
LOWEST DAILY MEAN	0.16	Oct 8	0.16	Oct 8	0.00	Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	0.21	Oct 3	0.21	Oct 3	0.00	Oct 1 1930
MAXIMUM PEAK FLOW			3730	Dec 16	7200	Feb 3 1998
MAXIMUM PEAK STAGE			8.73	Dec 16	13.60	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	12980		12740		15270	
10 PERCENT EXCEEDS	26		23		35	
50 PERCENT EXCEEDS	1.7		3.1		0.50	
90 PERCENT EXCEEDS	0.34		0.35		0.00	

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 mi².

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 NGVD of 1929. 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 except for estimated daily discharges, which are fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,560 ft³/s, Feb. 2, 1998, gage height, 10.00 ft, from rating curve extended above 300 ft³/s, on basis of step-backwater computation; no flow at times.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0845	299	4.67	Dec. 28	1630	247	4.48
Dec. 16	0515	859	6.36	Feb. 24	1800	271	4.54
Dec. 19	1500	938	6.57				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.17	0.30	0.43	14	1.5	e1.0	0.48	1.8	0.63	0.48	0.40	0.35
2	0.13	0.30	0.38	7.9	1.4	e0.90	3.0	4.1	0.65	0.57	0.40	0.33
3	0.16	0.29	0.43	4.9	1.4	e0.83	0.70	7.2	0.59	0.59	0.46	0.30
4	0.18	0.32	0.41	3.7	e1.3	e1.3	7.6	2.0	0.60	0.51	0.52	0.36
5	0.13	0.29	0.41	3.1	e1.2	0.79	0.51	1.7	0.59	0.57	0.38	0.33
6	0.14	0.29	0.73	2.8	1.2	0.67	0.44	1.8	0.61	0.54	0.31	0.33
7	0.16	20	0.56	2.6	1.4	0.64	0.41	1.9	0.59	0.48	0.31	0.35
8	0.16	65	0.43	2.4	1.3	0.63	0.38	3.0	0.61	0.46	0.31	0.38
9	0.25	2.5	0.83	e5.4	1.3	0.65	0.42	1.8	0.62	0.43	0.30	0.26
10	0.26	2.3	0.56	e8.6	1.3	0.69	0.41	1.9	0.57	0.41	0.31	0.32
11	0.27	0.57	0.47	3.1	1.3	0.87	0.40	2.0	0.59	0.47	0.31	0.27
12	0.30	0.47	0.51	2.5	7.8	0.76	38	2.0	0.59	0.47	0.31	0.29
13	0.29	0.49	47	e2.4	e1.9	0.79	46	2.0	0.58	0.44	0.22	0.29
14	0.30	0.52	84	e2.3	e1.5	5.6	5.5	1.9	0.58	0.35	0.14	0.33
15	0.24	0.47	34	e2.1	e2.0	22	1.4	1.7	0.57	0.29	0.20	0.33
16	0.26	0.45	200	e2.0	e19	4.0	3.5	1.6	0.58	0.30	0.23	0.28
17	0.23	0.45	38	e1.9	e2.4	0.77	2.1	1.4	0.57	0.39	0.23	0.27
18	0.26	0.43	12	e1.8	e1.6	0.57	0.82	1.3	0.55	0.34	0.25	0.25
19	0.22	0.47	163	1.8	e1.5	0.67	0.65	0.99	0.59	0.39	0.45	0.28
20	0.24	0.42	96	1.8	e1.4	0.54	0.57	0.90	0.58	0.37	0.38	0.27
21	0.16	0.46	25	2.0	e1.2	0.49	1.4	0.85	0.57	0.32	0.35	0.29
22	0.28	0.43	10	1.8	e1.2	0.52	2.7	0.79	0.57	0.35	0.33	0.30
23	0.30	0.44	5.0	2.6	e1.2	1.5	0.66	0.81	0.48	0.32	0.31	0.28
24	0.29	0.43	3.3	e1.7	e40	0.47	7.1	0.77	0.40	0.37	0.32	0.27
25	0.31	0.43	2.7	e1.6	e34	0.41	4.3	0.77	0.40	0.38	0.28	0.30
26	0.27	0.40	2.4	e1.6	e4.3	0.44	3.1	0.76	0.41	0.36	0.27	0.37
27	0.27	0.42	2.2	e1.7	e4.0	0.44	1.8	0.68	0.37	0.42	0.29	0.35
28	0.29	0.40	65	e1.6	e1.3	0.42	18	0.68	0.38	0.38	0.31	0.38
29	0.30	0.43	54	e1.5	---	0.39	3.2	0.69	0.45	0.30	0.31	0.42
30	0.34	0.39	e14	e1.5	---	0.41	2.1	0.69	0.44	0.34	0.34	0.37
31	0.31	---	e39	e1.5	---	0.42	---	0.70	---	0.37	0.35	---
TOTAL	7.47	100.56	902.75	96.2	140.9	50.58	157.65	51.18	16.31	12.76	9.88	9.50
MEAN	0.24	3.35	29.1	3.10	5.03	1.63	5.25	1.65	0.54	0.41	0.32	0.32
MAX	0.34	65	200	14	40	22	46	7.2	0.65	0.59	0.52	0.42
MIN	0.13	0.29	0.38	1.5	1.2	0.39	0.38	0.68	0.37	0.29	0.14	0.25
AC-FT	15	199	1790	191	279	100	313	102	32	25	20	19

e Estimated.

MATADERO CREEK BASIN

11166000 MATADERO CREEK AT PALO ALTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.48	1.73	4.09	8.41	9.23	5.42	2.24	0.67	0.33	0.20	0.17	0.18
MAX	3.64	9.83	29.1	32.3	77.7	37.8	25.2	4.54	2.86	1.42	0.70	0.66
(WY)	2001	1973	2003	1983	1998	1983	1958	1998	2000	2000	1983	1983
MIN	0.000	0.000	0.000	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1953	1953	1954	1954	1964	1959	1954	1953	1953	1953	1953	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1953 - 2003	
ANNUAL TOTAL	1355.14		1555.74			
ANNUAL MEAN	3.71		4.26		2.76	
HIGHEST ANNUAL MEAN					10.9	1983
LOWEST ANNUAL MEAN					0.062	1954
HIGHEST DAILY MEAN	200	Dec 16	200	Dec 16	437	Feb 3 1998
LOWEST DAILY MEAN	0.11	Sep 2	0.13	Oct 2	0.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	0.15	Sep 16	0.15	Oct 2	0.00	Oct 1 1952
MAXIMUM PEAK FLOW			938	Dec 19	2560	Feb 2 1998
MAXIMUM PEAK STAGE			6.57	Dec 19	10.00	Feb 2 1998
ANNUAL RUNOFF (AC-FT)	2690		3090		2000	
10 PERCENT EXCEEDS	2.9		4.3		3.6	
50 PERCENT EXCEEDS	0.49		0.56		0.19	
90 PERCENT EXCEEDS	0.20		0.28		0.00	

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, 1 block below Santa Clara Avenue, and 100 ft downstream from Los Gatos Creek.

DRAINAGE AREA.—146 mi².

PERIOD OF RECORD.—October 1929 to April 30, 2003 (discontinued). 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 NGVD of 1929.

REMARKS.—Records good. Flow regulated by Lexington Reservoir 12 mi upstream and by Calero, Almaden, and Guadalupe Reservoirs, and Lake Elsmar (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 ft³/s, Mar. 10, 1995, gage height, 17.4 ft, from rating curve extended above 2,500 ft³/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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	2.1	4.1	356	23	23	16	---	---	---	---	---
2	3.6	1.7	6.0	280	22	21	24	---	---	---	---	---
3	3.8	2.1	6.9	132	28	20	25	---	---	---	---	---
4	7.5	2.9	4.3	100	37	21	92	---	---	---	---	---
5	5.3	2.7	3.6	65	31	18	22	---	---	---	---	---
6	7.3	2.9	3.2	59	30	18	16	---	---	---	---	---
7	4.3	472	3.3	52	28	17	16	---	---	---	---	---
8	3.8	905	3.3	34	24	17	16	---	---	---	---	---
9	2.7	127	5.0	92	24	16	18	---	---	---	---	---
10	3.1	48	3.6	241	24	16	23	---	---	---	---	---
11	2.9	28	2.8	53	24	15	20	---	---	---	---	---
12	2.6	22	2.3	41	99	17	335	---	---	---	---	---
13	2.4	8.1	209	36	35	16	778	---	---	---	---	---
14	2.9	8.0	977	37	28	38	106	---	---	---	---	---
15	2.8	10	438	33	28	617	56	---	---	---	---	---
16	2.9	11	1760	37	211	79	105	---	---	---	---	---
17	3.2	10	630	33	30	47	55	---	---	---	---	---
18	4.6	10	223	42	25	36	34	---	---	---	---	---
19	4.1	5.4	1130	36	31	32	17	---	---	---	---	---
20	4.5	6.2	923	32	25	31	14	---	---	---	---	---
21	5.5	5.0	394	28	21	26	34	---	---	---	---	---
22	5.4	4.4	189	27	20	23	32	---	---	---	---	---
23	4.2	3.7	139	29	22	32	12	---	---	---	---	---
24	4.1	3.0	116	26	53	23	91	---	---	---	---	---
25	4.4	3.2	101	28	225	21	50	---	---	---	---	---
26	3.9	7.3	85	25	27	21	31	---	---	---	---	---
27	3.1	8.6	52	26	145	19	15	---	---	---	---	---
28	2.6	4.1	649	28	27	19	165	---	---	---	---	---
29	2.5	4.2	445	26	---	17	50	---	---	---	---	---
30	2.2	3.6	330	31	---	17	21	---	---	---	---	---
31	2.2	---	729	28	---	17	---	---	---	---	---	---
TOTAL	120.0	1732.2	9567.4	2093	1347	1350	2289	---	---	---	---	---
MEAN	3.87	57.7	309	67.5	48.1	43.5	76.3	---	---	---	---	---
MAX	7.5	905	1760	356	225	617	778	---	---	---	---	---
MIN	2.2	1.7	2.3	25	20	15	12	---	---	---	---	---
AC-FT	238	3440	18980	4150	2670	2680	4540	---	---	---	---	---

GUADALUPE RIVER BASIN

11169000 GUADALUPE RIVER AT SAN JOSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.76	16.9	43.9	102	161	134	64.7	11.7	4.49	3.66	3.40	3.57
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1930	1930	1930	1931	1930	1931	1930	1930	1930	1930	1930	1930

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1930 - 2003	
ANNUAL TOTAL	14704.8					
ANNUAL MEAN	40.3				45.6	
HIGHEST ANNUAL MEAN					270	1983
LOWEST ANNUAL MEAN					0.000	1931
HIGHEST DAILY MEAN	1760	Dec 16	1760	Dec 16	7870	Mar 10 1995
LOWEST DAILY MEAN	1.7	Nov 2	1.7	Nov 2	0.00	Oct 1 1929
ANNUAL SEVEN-DAY MINIMUM	2.2	Oct 28	2.2	Oct 28	0.00	Oct 1 1929
MAXIMUM PEAK FLOW			6050	Dec 16	11000	Mar 10 1995
MAXIMUM PEAK STAGE			10.27	Dec 16	17.40	Mar 10 1995
ANNUAL RUNOFF (AC-FT)	29170				33060	
10 PERCENT EXCEEDS	36				56	
50 PERCENT EXCEEDS	5.2				0.86	
90 PERCENT EXCEEDS	2.9				0.00	

11169025 GUADALUPE RIVER ABOVE HIGHWAY 101, AT SAN JOSE, CA

LOCATION.—Lat 37° 22' 55", long 121° 55' 55", Santa Clara County, Hydrologic Unit 18050003, on left bank, approximately 200 ft upstream from Highway 101, and 50 ft downstream of access bridge to San Jose Airport rental car area.

DRAINAGE AREA.—160 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 23, 2002, to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 16.29 ft above NAVD of 1988, from topographic map.

REMARKS.—Records fair. 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 upstream diversions by the San Jose Water Works for urban use. In addition, an off-stream holding basin located approximately 150 ft downstream collects runoff from part of San Jose Airport and periodically releases water into the stream causing the gage to be in backwater for a few minutes each day at low flows.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,070 ft³/s, Dec. 16, 2002, gage height, 14.64 ft, from rating curve extended above 1,770 ft³/s on basis of slope-conveyance computation; minimum daily, 17 ft³/s, several days in October and November 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	19	284	36	36	29	36	34	25	24	23
2	19	17	21	234	35	35	38	101	35	26	24	25
3	19	17	22	125	38	34	38	209	33	26	24	25
4	22	18	22	102	45	34	108	65	32	25	24	24
5	20	18	19	74	41	33	34	41	32	25	24	23
6	23	18	19	69	40	33	29	38	32	25	23	23
7	20	446	18	63	38	32	29	37	33	25	23	24
8	20	1020	19	50	35	32	30	39	33	25	23	24
9	19	117	22	97	35	31	30	38	34	29	23	23
10	18	54	20	227	35	31	34	35	33	30	23	24
11	17	39	18	63	36	31	33	34	34	27	23	24
12	17	34	17	51	97	32	316	35	34	25	23	24
13	17	25	154	47	46	32	767	35	32	24	23	24
14	18	23	1140	47	39	39	98	36	31	24	23	23
15	18	25	483	44	38	e560	63	40	31	24	23	23
16	18	25	1890	47	197	82	91	37	31	26	23	25
17	18	24	520	43	41	54	85	36	30	24	24	25
18	21	24	156	51	36	44	54	34	32	24	24	25
19	20	21	1140	46	42	42	42	33	31	25	24	25
20	21	21	864	44	36	41	40	36	30	25	27	25
21	21	20	332	42	33	37	54	31	29	25	24	25
22	21	20	160	39	32	34	55	35	29	23	23	25
23	20	19	122	40	32	42	38	41	30	23	23	26
24	20	19	104	39	48	35	92	49	30	23	24	26
25	20	18	92	40	237	32	65	40	30	24	24	25
26	20	21	84	38	41	32	53	36	29	24	24	26
27	19	23	60	38	134	31	40	39	28	24	23	25
28	18	19	553	39	41	31	169	45	29	25	23	28
29	18	20	386	38	---	30	63	39	29	24	24	26
30	17	19	265	41	---	29	47	36	28	24	23	26
31	17	---	581	40	---	30	---	34	---	25	23	---
TOTAL	595	2201	9322	2242	1584	1651	2664	1420	938	773	730	739
MEAN	19.2	73.4	301	72.3	56.6	53.3	88.8	45.8	31.3	24.9	23.5	24.6
MAX	23	1020	1890	284	237	560	767	209	35	30	27	28
MIN	17	17	17	38	32	29	29	31	28	23	23	23
AC-FT	1180	4370	18490	4450	3140	3270	5280	2820	1860	1530	1450	1470

e Estimated.

GUADALUPE RIVER BASIN

11169000 GUADALUPE RIVER AT SAN JOSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.2	73.4	301	72.3	56.6	53.3	88.8	45.8	27.0	22.9	22.5	22.8
MAX	19.2	73.4	301	72.3	56.6	53.3	88.8	45.8	31.3	24.9	23.5	24.6
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	19.2	73.4	301	72.3	56.6	53.3	88.8	45.8	22.8	20.8	21.5	20.9
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2002	2002	2002	2002

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 2002 - 2003

ANNUAL TOTAL	24859		
ANNUAL MEAN	68.1		68.1
HIGHEST ANNUAL MEAN			68.1 2003
LOWEST ANNUAL MEAN			68.1 2003
HIGHEST DAILY MEAN	1890	Dec 16	1890 Dec 16 2002
LOWEST DAILY MEAN	17	Oct 11	17 Oct 11 2002
ANNUAL SEVEN-DAY MINIMUM	17	Oct 28	17 Oct 28 2002
MAXIMUM PEAK FLOW	6070	Dec 16	6070 Dec 16 2002
MAXIMUM PEAK STAGE	14.64	Dec 16	14.64 Dec 16 2002
ANNUAL RUNOFF (AC-FT)	49310		49340
10 PERCENT EXCEEDS	97		97
50 PERCENT EXCEEDS	31		31
90 PERCENT EXCEEDS	20		20

11169025 GUADALUPE RIVER ABOVE HIGHWAY 101, AT SAN JOSE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—November 2002 to May 31, 2003 (storm season only).

WATER TEMPERATURE: November 2002 to September 30, 2003.

SEDIMENT DATA: November 2002 to May 31, 2003.

PERIOD OF DAILY RECORD.—November 2002 to May 31, 2003.

SUSPENDED-SEDIMENT DISCHARGE: November 2002 to May 31, 2003.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SEDIMENT CONCENTRATION: Maximum daily mean, 436 mg/L, Dec. 16, 2002; minimum daily mean, 5 mg/L, Jan. 13, 2003.

SEDIMENT LOAD: Maximum daily, 3,610 tons, Dec. 16, 2002; minimum daily, 0.40 ton, Dec. 6, 2002.

EXTREMES FOR CURRENT YEAR.—

SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 436 mg/L, Dec. 16; minimum daily mean, 5 mg/L, Jan. 13.

SEDIMENT LOAD (storm season only): Maximum daily, 3,610 tons, Dec. 16; minimum daily, 0.40 ton, Dec. 6.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	16.0	11.5	15.0	14.0	---	18.0	---	19.0	---	---
2	---	---	---	12.0	---	---	14.5	17.0	---	---	---	20.5
3	---	---	15.0	12.0	16.0	14.0	---	16.5	---	---	---	---
4	---	---	---	13.0	---	---	14.5	---	---	---	---	---
5	---	---	16.0	14.0	14.5	15.0	15.0	15.0	---	---	---	---
6	---	16.5	---	13.5	14.5	---	---	---	20.5	---	---	---
7	---	14.0	15.5	---	14.0	14.5	15.0	19.0	---	---	---	---
8	---	17.0	---	---	---	---	---	---	---	---	20.0	---
9	---	16.0	14.5	13.5	14.5	16.0	16.0	16.0	---	---	---	---
10	---	---	---	14.0	---	---	---	---	---	---	---	---
11	---	---	16.0	---	10.5	16.0	---	18.0	---	---	---	---
12	---	---	15.5	15.0	13.0	---	15.5	---	---	---	---	---
13	---	17.5	14.5	---	14.0	16.5	12.5	---	---	---	---	---
14	---	---	14.0	16.0	---	---	---	---	---	---	---	---
15	---	17.5	13.0	---	14.0	15.5	16.0	17.0	---	---	---	---
16	---	---	13.5	14.0	---	15.0	---	---	---	---	---	---
17	---	17.0	12.0	---	15.5	14.0	14.5	18.0	---	---	---	---
18	---	---	11.5	15.0	---	---	---	---	---	---	---	---
19	---	17.5	10.0	---	12.5	15.5	16.5	22.0	---	---	---	---
20	---	---	11.0	12.0	---	---	---	---	---	---	---	---
21	---	17.0	11.5	---	15.5	16.0	15.0	---	---	---	---	---
22	---	---	11.5	15.0	---	---	---	---	---	---	---	---
23	---	16.0	11.5	---	16.0	18.0	19.5	19.5	---	---	---	---
24	---	---	11.0	17.0	15.5	---	---	---	---	---	---	---
25	---	16.5	---	---	13.5	15.0	16.0	---	---	---	---	---
26	---	---	12.0	15.0	---	---	---	21.5	---	---	---	---
27	---	16.0	14.0	---	13.5	16.5	15.5	---	---	---	---	---
28	---	---	12.5	15.5	---	---	14.5	---	---	---	---	---
29	---	15.5	11.5	---	---	16.0	18.0	18.0	---	---	---	---
30	---	---	11.0	14.0	---	---	---	---	---	---	---	18.5
31	---	---	12.0	---	---	19.0	---	---	---	---	---	---

11169025 GUADALUPE RIVER ABOVE HIGHWAY 101, AT SAN JOSE, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter percent <.063mm (70331)	Suspnd. sediment, sieve diameter percent <.125mm (70332)	Suspnd. sediment, sieve diameter percent <.25mm (70333)	Suspnd. sediment, sieve diameter percent <.5 mm (70334)	Suspnd. sediment, sieve diameter percent <1 mm (70335)
NOV										
06...	1200	18	16.5	12	.58	--	--	--	--	--
07...	1040	147	14.0	406	161	98	99	100	--	--
08...	1320	1440	17.0	289	1120	90	96	99	99	100
13...	1035	25	17.5	14	.95	91	--	--	--	--
DEC										
12...	1200	17	15.5	10	.46	--	--	--	--	--
15...	1200	245	13.0	70	46	96	--	--	--	--
JAN										
09...	0945	48	13.5	8	1.0	--	--	--	--	--
FEB										
06...	1330	39	14.5	15	1.6	--	--	--	--	--
MAR										
15...	1010	e918	15.5	109	e270	--	--	--	--	--
27...	0945	31	16.5	8	.67	--	--	--	--	--
APR										
29...	1415	53	18.0	11	1.6	--	--	--	--	--
JUN										
06...	1135	34	20.5	20	1.8	--	--	--	--	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY) WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	NOVEMBER			DECEMBER			JANUARY		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	17	10	0.47	19	9	0.47	284	38	29
2	17	10	0.46	21	10	0.53	234	29	18
3	17	10	0.48	22	10	0.61	125	24	8.3
4	18	11	0.52	22	10	0.60	102	17	4.8
5	18	11	0.52	19	8	0.43	74	14	2.8
6	18	11	0.52	19	8	0.40	69	14	2.6
7	446	304	958	18	8	0.41	63	13	2.2
8	1020	248	888	19	10	0.52	50	11	1.5
9	117	43	16	22	20	1.4	97	31	18
10	54	26	4.0	20	16	0.86	227	61	44
11	39	17	1.8	18	10	0.48	63	18	3.2
12	34	12	1.1	17	10	0.47	51	6	0.78
13	25	12	0.81	154	82	83	47	5	0.59
14	23	13	0.79	1140	198	1430	47	10	1.3
15	25	16	1.0	483	101	219	44	18	2.2
16	25	15	1.0	1890	436	3610	47	14	1.7
17	24	14	0.89	520	159	228	43	12	1.4
18	24	11	0.72	156	106	46	51	10	1.4
19	21	9	0.48	1140	265	1590	46	10	1.3
20	21	9	0.53	864	188	485	44	11	1.3
21	20	11	0.58	332	60	56	42	12	1.3
22	20	10	0.51	160	39	17	39	13	1.3
23	19	9	0.45	122	29	9.7	40	12	1.3
24	19	11	0.56	104	22	6.2	39	13	1.4
25	18	14	0.66	92	20	4.9	40	15	1.6
26	21	13	0.75	84	18	4.1	38	16	1.6
27	23	12	0.74	60	17	2.8	38	14	1.4
28	19	10	0.52	553	118	365	39	15	1.6
29	20	8	0.44	386	63	78	38	22	2.3
30	19	9	0.44	265	39	28	41	21	2.3
31	---	---	---	581	89	175	40	19	2.0
TOTAL	2201	---	1883.74	9322	---	8444.88	2242	---	164.47

e Estimated.

11169025 GUADALUPE RIVER ABOVE HIGHWAY 101, AT SAN JOSE, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY) WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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)
	FEBRUARY			MARCH			APRIL		
1	36	18	1.7	36	12	1.2	29	12	0.93
2	35	16	1.5	35	15	1.4	38	20	2.2
3	38	15	1.5	34	18	1.6	38	20	2.1
4	45	16	1.9	34	19	1.8	108	48	20
5	41	17	1.9	33	20	1.8	34	13	1.2
6	40	16	1.7	33	22	2.0	29	16	1.3
7	38	19	1.9	32	26	2.3	29	19	1.5
8	35	17	1.6	32	20	1.7	30	16	1.3
9	35	14	1.3	31	10	0.85	30	14	1.2
10	35	18	1.7	31	8	0.71	34	15	1.4
11	36	23	2.2	31	9	0.73	33	16	1.4
12	97	69	24	32	12	1.0	316	80	153
13	46	26	3.3	32	15	1.3	767	132	345
14	39	25	2.6	39	19	2.4	98	46	13
15	38	23	2.4	e560	102	e232	63	14	2.5
16	197	80	77	82	19	4.3	91	18	12
17	41	15	1.7	54	12	1.7	85	28	9.4
18	36	12	1.2	44	10	1.2	54	16	2.3
19	42	15	1.7	42	9	1.1	42	12	1.4
20	36	13	1.3	41	9	0.99	40	12	1.3
21	33	14	1.2	37	9	0.87	54	21	3.5
22	32	15	1.3	34	10	0.91	55	22	3.3
23	32	15	1.3	42	9	1.0	38	13	1.3
24	48	25	6.5	35	7	0.63	92	59	20
25	237	49	46	32	6	0.56	65	63	11
26	41	19	2.1	32	7	0.62	53	29	4.3
27	134	39	18	31	9	0.76	40	8	0.90
28	41	18	2.0	31	11	0.90	169	76	45
29	---	---	---	30	10	0.78	63	22	4.4
30	---	---	---	29	9	0.71	47	33	4.3
31	---	---	---	30	9	0.71	---	---	---
TOTAL	1584	---	212.5	1651	---	270.53	2664	---	672.43
MAY									
1	36	26	2.6						
2	101	46	22						
3	209	60	44						
4	65	40	7.4						
5	41	35	3.9						
6	38	35	3.6						
7	37	35	3.6						
8	39	38	4.0						
9	38	41	4.2						
10	35	52	5.0						
11	34	65	6.0						
12	35	64	6.0						
13	35	62	5.9						
14	36	59	5.7						
15	40	57	6.1						
16	37	58	5.9						
17	36	62	6.1						
18	34	67	6.3						
19	33	73	6.6						
20	36	77	7.5						
21	31	81	6.8						
22	35	84	8.0						
23	41	88	9.7						
24	49	91	12						
25	40	82	8.7						
26	36	70	6.8						
27	39	60	6.4						
28	45	56	6.8						
29	39	55	5.8						
30	36	49	4.7						
31	34	42	3.8						
TOTAL	1420	---	241.9						
PERIOD	21,084		11,890.45						

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1933 to current year. Prior to October 1951, published as "Campbell Creek at Saratoga."

CHEMICAL DATA: Water year 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 NGVD of 1929, 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 ft³/s, Dec. 22, 1955, from rating curve extended above 510 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0900	131	3.59	Dec. 28	1600	218	3.97
Dec. 16	0530	1,180	6.17	Mar. 15	0500	137	3.62
Dec. 19	1500	313	4.28	Apr. 13	0715	273	4.16

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.68	0.63	0.68	44	1.9	4.7	1.2	11	2.1	1.3	0.42	1.2
2	0.55	0.67	0.64	33	1.5	3.3	1.5	8.9	1.6	0.87	0.41	1.2
3	0.54	0.65	0.65	24	1.2	3.3	3.2	11	1.4	0.50	0.36	1.2
4	0.54	0.57	0.67	15	1.1	3.6	4.7	10	1.4	0.64	0.39	1.3
5	0.53	0.52	0.65	13	2.7	1.7	3.8	7.9	1.3	0.56	0.34	1.1
6	0.47	0.57	0.69	14	3.8	0.97	1.3	4.7	1.3	0.59	0.31	1.1
7	0.49	13	0.87	16	2.7	1.0	2.5	4.1	1.2	0.63	0.54	1.1
8	0.54	41	0.82	13	2.4	1.1	1.4	3.7	1.2	0.69	0.88	1.1
9	0.53	8.1	1.7	17	2.5	1.0	1.5	3.2	1.2	0.46	0.38	1.0
10	0.57	3.9	1.5	26	2.8	1.1	1.7	3.0	1.1	0.67	0.44	1.1
11	0.61	3.2	1.2	15	2.3	1.2	2.5	3.5	1.2	0.53	0.45	1.0
12	0.59	2.7	1.2	13	2.8	1.1	39	3.0	1.0	0.53	0.36	0.95
13	0.51	2.1	39	12	3.9	1.0	119	3.0	0.97	0.54	0.31	0.96
14	0.50	1.9	126	12	3.6	3.3	44	2.1	0.88	0.47	0.27	1.1
15	0.54	1.7	76	8.9	3.0	60	33	2.2	0.97	0.38	0.34	1.1
16	0.64	1.6	300	9.0	19	19	20	2.0	0.90	0.37	0.28	1.2
17	0.68	1.6	67	9.4	5.6	12	11	2.9	0.75	0.38	0.32	1.1
18	0.77	0.99	31	6.0	7.6	9.9	6.2	2.6	0.94	0.36	0.45	1.1
19	0.76	0.73	68	7.8	6.9	9.0	6.9	2.7	1.0	0.50	0.40	1.1
20	0.71	0.70	102	5.2	6.0	4.9	5.1	1.4	1.0	0.33	0.41	1.0
21	0.77	0.68	58	5.2	6.3	3.7	4.4	1.8	1.1	0.31	0.42	0.98
22	0.76	0.83	e34	5.0	7.3	3.5	1.9	1.7	1.5	0.31	0.56	0.92
23	0.78	0.77	19	4.5	8.6	4.0	2.0	1.4	0.78	0.29	0.98	1.0
24	0.80	0.74	13	4.1	11	3.4	10	1.3	0.60	0.29	0.54	1.0
25	0.77	0.99	10	3.8	19	2.1	13	1.3	0.46	0.44	0.38	1.0
26	0.75	0.88	8.0	3.5	8.5	2.0	6.8	1.3	0.59	0.51	0.38	1.1
27	0.72	0.67	7.6	3.2	8.9	1.7	10	2.3	0.59	0.44	0.41	1.1
28	0.74	0.63	e64	2.8	5.8	1.4	27	1.9	0.51	0.37	0.38	1.1
29	0.65	0.70	73	2.5	---	1.3	14	1.8	0.51	0.34	0.38	1.1
30	0.65	0.64	40	2.0	---	1.2	11	1.9	0.67	0.32	0.68	1.1
31	0.63	---	72	4.7	---	1.2	---	1.7	---	0.33	1.2	---
TOTAL	19.77	94.36	1218.87	354.6	158.7	168.67	409.6	111.3	30.72	15.25	14.37	32.41
MEAN	0.64	3.15	39.3	11.4	5.67	5.44	13.7	3.59	1.02	0.49	0.46	1.08
MAX	0.80	41	300	44	19	60	119	11	2.1	1.3	1.2	1.3
MIN	0.47	0.52	0.64	2.0	1.1	0.97	1.2	1.3	0.46	0.29	0.27	0.92
AC-FT	39	187	2420	703	315	335	812	221	61	30	29	64

e Estimated.

11169500 SARATOGA CREEK AT SARATOGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.92	2.76	9.42	22.2	30.6	22.6	13.2	3.79	1.36	0.59	0.40	0.42
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	0.000	0.037	0.25	0.31	0.086	0.32	0.24	0.065	0.000	0.000	0.000	0.000
(WY)	1950	1949	1957	1976	1964	1972	1972	1959	1950	1947	1934	1934

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1934 - 2003	
ANNUAL TOTAL	1972.29		2628.62			
ANNUAL MEAN	5.40		7.20		8.99	
HIGHEST ANNUAL MEAN					32.5	1983
LOWEST ANNUAL MEAN					0.54	1977
HIGHEST DAILY MEAN	300	Dec 16	300	Dec 16	1260	Feb 27 1940
LOWEST DAILY MEAN	0.47	Sep 4	0.27	Aug 14	0.00	Oct 1 1933
ANNUAL SEVEN-DAY MINIMUM	0.52	Oct 3	0.33	Aug 11	0.00	Oct 1 1933
MAXIMUM PEAK FLOW			1180	Dec 16	2730	Dec 22 1955
MAXIMUM PEAK STAGE			6.17	Dec 16	7.80	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	3910		5210		6520	
10 PERCENT EXCEEDS	5.2		13		20	
50 PERCENT EXCEEDS	1.2		1.2		0.93	
90 PERCENT EXCEEDS	0.63		0.44		0.00	

11172175 COYOTE CREEK ABOVE HIGHWAY 237, AT MILPITAS, CA

LOCATION.—Lat 37° 25' 20", long 121° 55' 35", in Rincon de los Esteras Grant, Santa Clara County, Hydrologic Unit 18050003, on right bank, 500 ft upstream from Highway 237 bridge, 1 mi west of Interstate Highway 880, and 2.3 mi upstream from lower Penitencia Creek.

DRAINAGE AREA.—319 mi².

PERIOD OF RECORD.—January 1999 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 10 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except June 8 to Aug. 29, which are poor due to variable low flow channel modifications. Flow regulated by Leroy Andersen Reservoir, usable capacity, 89,073 acre-ft, and Coyote Reservoir, usable capacity, 22,925 acre-ft, with water diverted for percolation in spreading basins adjacent to Coyote Creek.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,550 ft³/s, Jan. 24, 2000, gage height, 13.10 ft, from rating curve extended above 330 ft³/s, on basis of step-backwater computations; maximum gage height, 13.11 ft, Dec. 16, 2002; minimum daily, 7.9 ft³/s, May 11, 12, 2003.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	15	94	16	28	19	17	12	13	15	19
2	9.6	9.2	15	79	16	26	44	61	12	12	12	13
3	11	12	17	59	16	26	46	157	13	12	20	14
4	10	13	13	44	15	22	114	90	13	11	13	14
5	9.5	9.8	13	32	16	21	34	42	12	12	14	13
6	11	10	13	32	16	19	22	27	12	14	14	18
7	13	121	13	30	18	21	20	19	12	14	13	18
8	11	681	13	27	18	21	17	14	14	14	13	17
9	11	120	18	58	18	20	18	13	16	14	12	12
10	11	56	16	192	18	22	19	9.3	16	15	12	14
11	10	41	13	52	20	22	20	7.9	14	14	11	15
12	10	23	12	39	80	22	78	7.9	14	14	11	14
13	10	21	71	32	44	25	383	10	14	16	11	14
14	11	19	346	29	22	33	72	15	13	14	12	13
15	11	17	364	27	27	263	40	16	15	13	13	13
16	11	16	736	25	167	70	31	15	14	14	10	14
17	11	16	451	24	36	50	118	15	14	14	10	22
18	9.8	15	209	23	25	34	27	15	13	15	11	14
19	12	15	486	22	43	30	21	14	13	15	12	17
20	13	15	812	23	27	32	18	14	14	14	11	16
21	12	15	367	29	26	25	44	15	14	16	10	21
22	11	13	175	22	25	23	70	15	14	15	11	16
23	11	13	112	21	22	42	21	16	14	15	13	16
24	10	13	83	21	31	28	75	14	14	15	18	17
25	11	12	61	21	219	21	45	15	15	14	14	13
26	12	13	43	21	38	21	32	13	14	14	10	14
27	12	14	46	19	110	20	24	12	14	14	17	15
28	12	15	193	17	35	18	172	13	14	15	11	17
29	13	15	251	17	---	20	58	15	16	14	14	15
30	10	15	90	16	---	19	38	14	14	12	14	20
31	11	---	243	16	---	19	---	13	---	14	22	---
TOTAL	341.9	1380.0	5310	1163	1164	1063	1740	734.1	413	432	404	468
MEAN	11.0	46.0	171	37.5	41.6	34.3	58.0	23.7	13.8	13.9	13.0	15.6
MAX	13	681	812	192	219	263	383	157	16	16	22	22
MIN	9.5	9.2	12	16	15	18	17	7.9	12	11	10	12
AC-FT	678	2740	10530	2310	2310	2110	3450	1460	819	857	801	928

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2000	2000	2000	1999	2003	2000	2001	2001	2001
MEAN	22.5	35.7	71.8	65.0	101	80.4	40.0	21.4	16.9	15.3	14.6	16.6
MAX	43.0	46.0	171	112	207	205	59.4	23.7	21.3	18.0	17.2	20.4
(WY)	2001	2003	2003	2000	2000	2000	1999	2003	2000	2001	2001	2001
MIN	11.0	25.9	17.7	37.5	28.8	34.3	20.0	18.5	13.5	11.1	11.2	12.7
(WY)	2003	2001	2000	2003	2002	2003	2002	1999	2002	2002	2002	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	13092.4		14613.0			
ANNUAL MEAN	35.9		40.0		41.2	
HIGHEST ANNUAL MEAN					58.9	
LOWEST ANNUAL MEAN					28.3	
HIGHEST DAILY MEAN	812	Dec 20	812	Dec 20	1240	Feb 23 2000
LOWEST DAILY MEAN	8.7	Jul 31	7.9	May 11	7.9	May 11 2003
ANNUAL SEVEN-DAY MINIMUM	9.8	Jul 26	11	Oct 12	9.8	Jul 26 2002
MAXIMUM PEAK FLOW			1490	Dec 16	2550	Jan 24 2000
MAXIMUM PEAK STAGE			13.11	Dec 16	13.11	Dec 16 2002
ANNUAL RUNOFF (AC-FT)	25970		28980		29860	
10 PERCENT EXCEEDS	51		70		64	
50 PERCENT EXCEEDS	16		16		19	
90 PERCENT EXCEEDS	11		11		12	

ALAMEDA CREEK BASIN

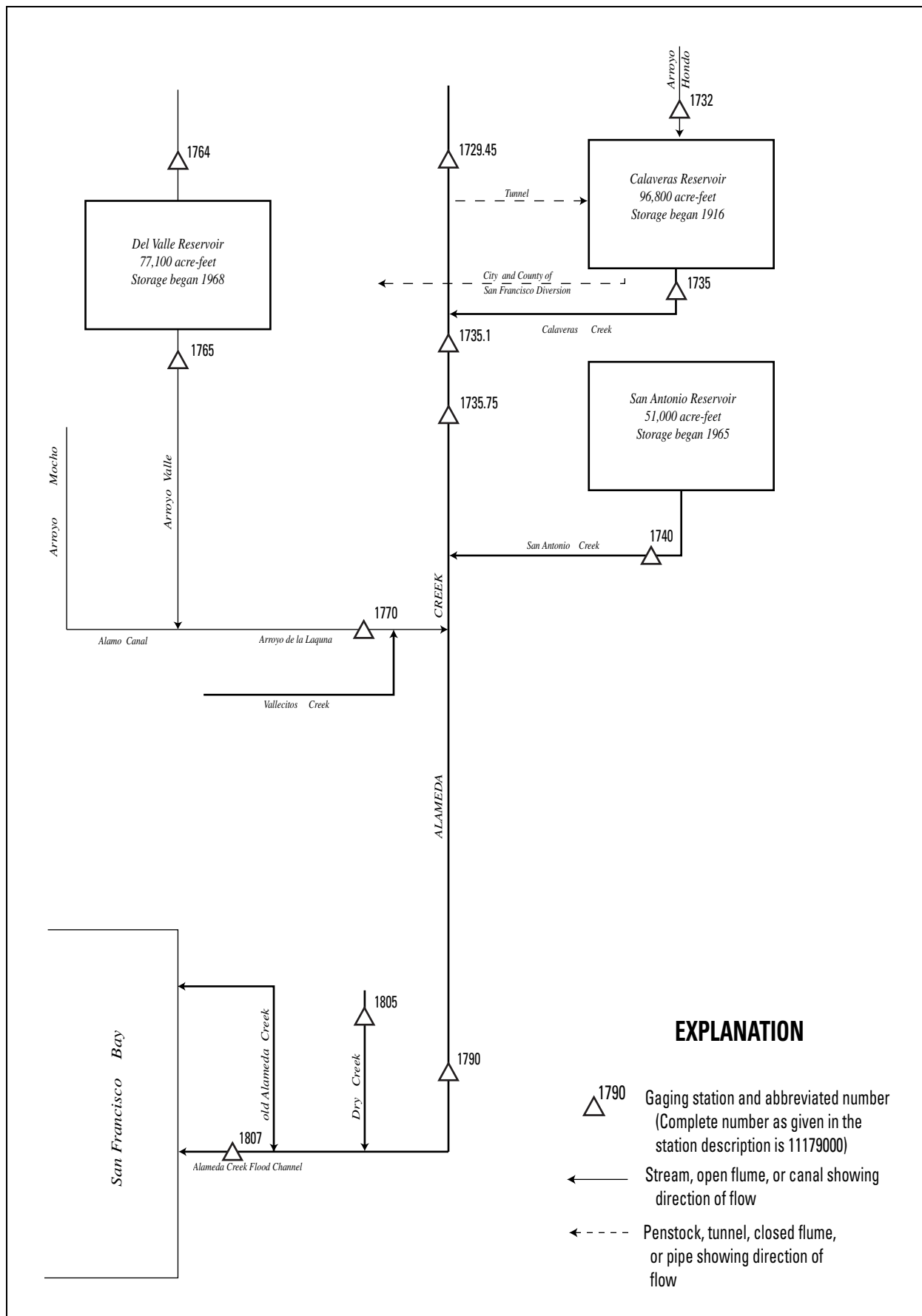


Figure 21. Diversions and storage in Alameda Creek Basin.

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 mi².

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 930 ft above NGVD of 1929, from topographic map.

REMARKS.—Records poor. No regulation or diversion upstream from gage. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,390 ft³/s, Jan. 9, 1995, gage height, 7.96 ft, from rating curve extended above 100 ft³/s, on basis of flow over dam computation; no flow several days in 1994 and 2001–03 water years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0715	2,680	7.22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.05	0.62	125	6.3	9.7	6.7	54	6.3	1.6	0.24	0.17
2	0.00	0.05	0.65	75	6.2	9.0	7.4	52	5.7	1.4	0.23	0.14
3	0.00	0.05	0.64	51	5.9	8.5	7.9	208	6.0	1.3	0.25	0.14
4	0.00	0.05	0.63	37	5.8	8.4	10	133	5.9	1.2	0.26	0.14
5	0.00	0.07	0.64	29	5.9	8.2	11	84	5.9	1.1	0.26	0.15
6	0.00	0.09	0.66	22	6.1	8.1	9.1	64	5.5	1.1	0.27	0.16
7	0.00	0.13	0.64	20	6.1	7.9	8.4	45	5.4	1.1	0.29	0.16
8	0.00	84	0.63	19	6.1	7.8	8.2	29	5.3	1.0	0.28	0.16
9	0.00	54	0.82	18	6.0	7.7	8.1	22	5.1	0.93	0.26	0.17
10	0.00	3.9	0.85	34	6.0	7.7	8.1	18	5.0	0.87	0.26	0.18
11	0.00	1.2	0.83	28	6.0	7.7	8.0	15	4.6	0.80	0.26	0.16
12	0.00	0.53	0.88	19	6.3	7.7	12	14	4.6	0.76	0.25	0.11
13	0.00	0.30	1.7	17	7.4	7.7	123	12	4.6	0.73	0.22	0.07
14	0.00	0.30	206	15	7.3	7.9	73	11	4.5	0.70	0.22	0.08
15	0.00	0.40	204	14	6.8	45	56	11	4.1	0.62	0.26	0.10
16	0.01	0.29	584	13	11	19	35	10	3.9	0.59	0.21	0.10
17	0.03	0.30	267	12	10	16	31	10	3.8	0.54	0.21	0.06
18	0.04	0.31	74	12	8.2	12	25	9.1	3.6	0.46	0.21	0.03
19	0.04	0.28	161	11	7.9	11	22	8.6	3.4	0.45	0.21	0.01
20	0.02	0.28	443	10	7.7	10	19	8.4	3.4	0.46	0.21	0.01
21	0.02	0.25	265	9.9	7.2	10	20	8.2	3.2	0.39	0.30	0.00
22	0.05	0.26	94	9.8	7.0	9.7	30	8.2	3.0	0.35	0.45	0.00
23	0.05	0.26	38	9.2	7.0	9.5	25	8.0	2.9	0.31	0.37	0.00
24	0.05	0.27	19	8.9	7.2	9.1	33	8.1	2.7	0.29	0.24	0.00
25	0.05	0.33	12	8.8	11	8.5	43	7.7	2.5	0.29	0.19	0.00
26	0.05	0.54	9.3	8.4	11	8.0	68	7.0	2.3	0.28	0.19	0.00
27	0.05	0.60	7.7	7.9	12	7.7	46	6.7	2.1	0.22	0.19	0.00
28	0.05	0.58	101	7.6	11	7.2	142	6.8	1.9	0.21	0.19	0.02
29	0.05	0.61	250	7.1	---	7.0	83	7.1	1.8	0.20	0.19	0.04
30	0.05	0.67	84	6.9	---	6.7	64	7.8	1.7	0.21	0.19	0.04
31	0.05	---	237	7.0	---	6.7	---	7.7	---	0.21	0.19	---
TOTAL	0.66	150.95	3066.19	672.5	212.4	317.1	1042.9	901.4	120.7	20.67	7.55	2.40
MEAN	0.021	5.03	98.9	21.7	7.59	10.2	34.8	29.1	4.02	0.67	0.24	0.080
MAX	0.05	84	584	125	12	45	142	208	6.3	1.6	0.45	0.18
MIN	0.00	0.05	0.62	6.9	5.8	6.7	6.7	6.7	1.7	0.20	0.19	0.00
AC-FT	1.3	299	6080	1330	421	629	2070	1790	239	41	15	4.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	0.23	3.94	34.3	103	103	63.0	23.4	11.8	3.88	1.24	0.49	0.30
MAX	0.83	22.7	125	237	306	211	55.2	29.1	9.79	3.76	1.81	1.22
(WY)	1999	1997	1997	1997	1998	1995	1998	2003	1995	1998	1998	1998
MIN	0.009	0.17	0.58	6.33	7.59	10.2	5.58	2.68	0.61	0.15	0.082	0.021
(WY)	1995	1996	2001	2001	2003	2003	1997	2001	2001	2001	2001	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1995 - 2003

ANNUAL TOTAL	5190.15	6515.42	
ANNUAL MEAN	14.2	17.9	28.7
HIGHEST ANNUAL MEAN			49.8
LOWEST ANNUAL MEAN			8.62
HIGHEST DAILY MEAN	584	Dec 16	584
LOWEST DAILY MEAN	0.00	Sep 3	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 20	0.00
MAXIMUM PEAK FLOW			2680
MAXIMUM PEAK STAGE			7.22
INSTANTANEOUS LOW FLOW			7.96
ANNUAL RUNOFF (AC-FT)	10290	12920	20810
10 PERCENT EXCEEDS	18	37	62
50 PERCENT EXCEEDS	1.5	4.6	2.5
90 PERCENT EXCEEDS	0.01	0.05	0.13

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, and 3.5 mi northeast of city limits of San Jose.

DRAINAGE AREA.—77.1 mi².

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 NGVD of 1929.

REMARKS.—Records good except for estimated daily discharges and flows below 1 ft³/s, which are poor. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,340 ft³/s, Feb. 3, 1998, gage height, 15.85 ft; minimum daily, 0.11 ft³/s, July 28–30, 1972.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 800 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0945	5,160	13.69	Dec. 28	2245	1,000	8.09
Dec. 19	2115	1,820	9.49				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.33	0.35	2.1	215	15	26	12	75	12	3.7	1.1	1.1
2	0.32	0.41	2.2	137	15	22	14	66	11	3.7	1.1	1.0
3	0.34	0.47	2.2	97	14	19	18	295	10	3.6	1.1	0.99
4	0.35	0.53	2.2	75	13	18	21	228	9.8	3.5	0.95	1.0
5	0.29	0.54	2.3	62	13	17	30	154	9.6	3.4	0.98	0.99
6	0.26	0.59	2.4	53	13	15	22	115	9.3	3.2	1.1	0.96
7	0.26	1.3	2.4	46	12	14	18	90	9.1	3.1	1.2	0.96
8	0.27	130	2.4	42	12	13	15	74	8.8	3.0	1.3	0.92
9	0.30	147	2.5	39	12	12	14	66	8.5	2.9	1.3	0.90
10	0.35	36	2.6	77	12	12	13	55	8.0	2.8	1.3	0.93
11	0.35	21	2.7	102	12	12	13	49	7.8	2.6	1.3	0.85
12	0.33	e12	2.7	59	12	11	16	43	8.0	2.6	1.3	0.81
13	0.28	e7.0	3.7	50	17	11	189	39	8.0	2.4	1.2	0.80
14	0.28	e5.0	78	42	19	11	144	35	7.5	2.2	1.2	0.78
15	0.30	e4.0	320	38	15	88	90	33	7.0	2.1	1.3	0.84
16	0.33	e3.2	1280	35	23	76	64	30	6.5	2.0	1.1	0.86
17	0.33	e2.7	646	33	31	54	54	28	e6.3	1.9	1.0	0.97
18	0.30	e2.5	274	31	21	40	46	24	e5.8	1.8	0.97	0.93
19	0.27	e2.2	407	29	18	32	39	23	e5.6	1.7	0.96	0.91
20	0.27	e2.1	876	27	17	28	33	22	e5.4	1.8	0.94	0.90
21	0.27	e2.1	573	26	15	25	32	20	e5.3	1.6	1.0	0.94
22	0.29	2.0	255	24	13	22	47	19	e5.1	1.5	0.98	0.93
23	0.30	2.0	131	23	13	21	46	18	e5.0	1.5	0.93	0.96
24	0.26	2.0	84	22	13	21	42	17	e4.8	1.4	0.87	0.96
25	0.27	2.1	61	21	23	19	50	16	e4.7	1.4	0.81	0.97
26	0.28	2.2	49	25	37	18	61	16	e4.5	1.3	0.82	0.96
27	0.29	2.2	43	20	31	17	53	15	e4.4	1.1	0.88	0.98
28	0.28	2.2	142	18	32	15	141	14	e4.2	1.1	1.0	0.97
29	0.29	2.1	608	17	---	15	137	13	e4.1	1.0	1.1	0.95
30	0.28	2.1	241	16	---	13	98	13	e3.8	1.0	1.1	0.91
31	0.29	---	339	15	---	12	---	12	---	1.1	1.1	---
TOTAL	9.21	399.89	6439.4	1516	493	729	1572	1717	209.9	68.0	33.29	27.93
MEAN	0.30	13.3	208	48.9	17.6	23.5	52.4	55.4	7.00	2.19	1.07	0.93
MAX	0.35	147	1280	215	37	88	189	295	12	3.7	1.3	1.1
MIN	0.26	0.35	2.1	15	12	11	12	12	3.8	1.0	0.81	0.78
AC-FT	18	793	12770	3010	978	1450	3120	3410	416	135	66	55

e Estimated.

ALAMEDA CREEK BASIN

11173200 ARROYO HONDO NEAR SAN JOSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.60	12.5	56.8	170	203	131	49.3	17.4	6.95	2.90	1.46	1.16
MAX	4.74	69.4	312	595	888	523	178	55.4	27.0	12.7	6.09	3.98
(WY)	1999	1973	1997	1997	1998	1995	1974	2003	1998	1998	1998	1998
MIN	0.24	0.67	1.42	3.35	2.98	5.58	2.93	1.67	0.74	0.33	0.18	0.25
(WY)	1978	1978	1977	1976	1977	1977	1977	1976	1976	1977	1972	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL TOTAL	11822.79		13214.62			
ANNUAL MEAN	32.4		36.2		53.8	
HIGHEST ANNUAL MEAN					132 1998	
LOWEST ANNUAL MEAN					2.12 1977	
HIGHEST DAILY MEAN	1280	Dec 16	1280	Dec 16	3580	Jan 10 1995
LOWEST DAILY MEAN	0.21	Sep 25	0.26	Oct 6	0.11	Jul 28 1972
ANNUAL SEVEN-DAY MINIMUM	0.25	Sep 20	0.28	Oct 19	0.13	Jul 27 1972
MAXIMUM PEAK FLOW			5160	Dec 16	7340	Feb 3 1998
MAXIMUM PEAK STAGE			13.69	Dec 16	15.85	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	23450		26210		38970	
10 PERCENT EXCEEDS	60		75		111	
50 PERCENT EXCEEDS	4.0		8.5		4.7	
90 PERCENT EXCEEDS	0.30		0.57		0.68	

11173500 CALAVERAS CREEK NEAR SUNOL, CA

LOCATION.—Lat 37° 29' 52", long 121° 49' 00", in NE 1/4 SW 1/4 sec.13, T.5 S., R.1 E., [Alameda County](#), Hydrologic Unit 18050004, 1000 ft downstream from Calaveras Dam, and 7.3 mi southeast of Sunol.

DRAINAGE AREA.—98.7 mi².

PERIOD OF RECORD.—April 1898 to September 1908 and June 15, 1910, to June 30, 1930 (records furnished by Spring Valley Water Company). May 23, 2002 to current year. Monthly flows for water years 1898–1930 published in WSP 1315-B. Water years 1920–24, daily and monthly discharges published in WSP 591. Water years 1925–29, daily flows published in WSP 611, 631, 651, 671, 721. Station reestablished May 23, 2002, by U.S. Geological Survey.

GAGE.—Water-stage recorder, concrete control and bank-operated cableway. Elevation of gage is 550 ft above NGVD of 1929, from topographic map. Prior to 1913 at site 400 ft upstream at different datum. 1913–30 at site 500 ft upstream at different datum.

REMARKS.—Records poor. Flow regulated by Calaveras Reservoir beginning in 1916, usable capacity, 96,800 acre-ft. Dam completed in 1925. Dead storage, 3,200 acre-ft. 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](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum mean daily discharge prior to start of regulation: 6,980 ft³/s, Nov. 21, 1900. Maximum mean daily discharge after dam completion in 1925: 122 ft³/s, May 11, 1926. No flow many days most years since construction of Calaveras Dam was begun in 1916. No instantaneous maximum or minimum flow data are available prior to May 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.07	0.08	0.08	0.00	0.08	0.59	0.02	0.07	0.11	0.04	0.01	0.05
2	0.04	0.04	0.08	0.01	0.08	0.23	0.10	0.12	0.09	0.03	0.00	0.04
3	0.02	0.05	0.08	0.05	0.08	0.16	0.07	0.23	0.07	0.04	0.00	0.02
4	0.03	0.00	0.06	0.07	0.08	0.16	0.13	0.16	0.08	0.02	0.00	0.05
5	0.02	0.04	0.00	0.05	0.08	0.16	0.05	0.14	0.11	0.01	0.00	0.02
6	0.09	0.05	0.00	0.02	0.09	0.14	0.02	0.12	0.11	0.00	0.00	0.01
7	0.05	0.25	0.00	0.02	0.11	0.11	0.01	0.16	0.12	0.01	0.01	0.01
8	0.00	0.40	0.01	0.04	0.13	0.11	0.01	0.14	0.13	0.03	0.03	0.00
9	0.00	0.32	0.06	0.11	0.15	0.11	0.00	0.12	0.15	0.02	0.02	0.00
10	0.02	0.37	0.08	0.13	0.16	0.10	0.00	0.16	0.16	0.00	0.00	0.06
11	0.14	0.31	0.10	0.08	0.16	0.08	0.00	0.19	0.26	0.02	0.00	0.00
12	0.09	0.29	0.08	0.08	0.20	0.08	0.10	0.13	0.31	0.03	0.00	0.00
13	0.05	0.29	0.06	0.05	0.16	0.09	0.91	0.07	0.22	0.01	0.00	0.00
14	0.03	0.30	0.16	0.08	0.17	0.13	0.17	0.00	0.14	0.01	0.00	0.00
15	0.12	0.25	0.07	0.04	0.17	0.22	0.08	0.01	0.11	0.01	0.00	0.00
16	0.29	0.23	0.66	0.00	0.26	0.16	0.08	0.00	0.10	0.00	0.00	0.03
17	0.36	0.23	0.30	0.00	0.12	0.15	0.08	0.00	0.09	0.00	0.00	0.02
18	0.37	0.24	0.13	0.00	0.11	0.15	0.08	0.00	0.16	0.00	0.00	0.00
19	0.27	0.23	0.90	0.00	0.14	0.16	0.07	0.00	0.21	0.00	0.00	0.00
20	0.29	0.24	0.66	0.00	0.11	0.15	0.05	0.00	0.23	0.00	0.00	0.00
21	0.24	0.22	0.17	0.01	0.15	0.13	0.08	0.00	0.23	0.00	0.07	0.00
22	0.27	0.21	0.16	0.00	0.12	0.11	0.08	0.01	0.24	0.00	0.29	0.00
23	0.26	0.17	0.16	0.05	0.12	0.11	0.06	0.00	0.22	0.00	0.14	0.00
24	0.34	0.21	0.15	0.08	0.17	0.08	0.10	0.00	0.25	0.00	0.02	0.06
25	0.30	0.13	0.11	0.08	0.28	0.09	0.11	0.02	0.20	0.00	0.00	0.12
26	0.19	0.09	0.06	0.04	0.16	0.08	0.11	0.02	0.14	0.00	0.06	0.16
27	0.18	0.15	0.08	0.00	0.21	0.08	0.08	0.02	0.14	0.00	0.06	0.16
28	0.17	0.11	0.39	0.00	0.36	0.07	0.16	0.02	0.12	0.00	0.03	0.21
29	0.22	0.08	0.13	0.00	---	0.08	0.08	0.06	0.08	0.00	0.03	0.22
30	0.13	0.10	0.00	0.00	---	0.08	0.05	0.19	0.05	0.00	0.03	0.19
31	0.10	---	0.40	0.00	---	0.04	---	0.17	---	0.00	0.06	---
TOTAL	4.75	5.68	5.38	1.09	4.21	4.19	2.94	2.33	4.63	0.28	0.86	1.43
MEAN	0.15	0.19	0.17	0.035	0.15	0.14	0.098	0.075	0.15	0.009	0.028	0.048
MAX	0.37	0.40	0.90	0.13	0.36	0.59	0.91	0.23	0.31	0.04	0.29	0.22
MIN	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.05	0.00	0.00	0.00
AC-FT	9.4	11	11	2.2	8.4	8.3	5.8	4.6	9.2	0.6	1.7	2.8

ALAMEDA CREEK BASIN

11173500 CALAVERAS CREEK NEAR SUNOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1916

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.769	29.11	43.23	252.5	195.4	218.2	64.94	39.31	14.53	6.543	3.951	2.916
MAX	8.61	317	167	777	717	799	208	175	34.3	16.0	20.0	17.9
MIN	0.000	0.000	0.25	7.73	8.50	14.6	4.75	4.14	2.29	0.000	0.000	0.000

SUMMARY STATISTICS

WATER YEARS 1898 - 1916

ANNUAL MEAN	72.92
HIGHEST ANNUAL MEAN	149 1907
LOWEST ANNUAL MEAN	13.1 1913
HIGHEST DAILY MEAN	6980 Nov 21 1900
LOWEST DAILY MEAN	0.00 Jun 29 1914
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 29 1914
ANNUAL RUNOFF (AC-FT)	52830
10 PERCENT EXCEEDS	152
50 PERCENT EXCEEDS	10
90 PERCENT EXCEEDS	1.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2003, BY WATER YEAR (WY)

MEAN	33.3	28.7	27.2	17.0	8.55	8.80	16.7	53.9	39.6	35.7	32.0	31.7
MAX	62.8	62.3	54.0	35.9	22.1	22.0	26.8	94.0	97.1	84.3	64.9	64.0
(WY)	1927	1928	1927	1927	1929	1929	1929	1927	1927	1927	1926	1926
MIN	0.15	0.19	0.17	0.035	0.14	0.000	0.098	0.075	0.000	0.009	0.028	0.048
(WY)	2003	2003	2003	2003	1925	1925	2003	2003	1929	2003	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1925 - 2003

ANNUAL TOTAL	37.77	
ANNUAL MEAN	0.10	30.4
HIGHEST ANNUAL MEAN		53.3 1927
LOWEST ANNUAL MEAN		0.10 2003
HIGHEST DAILY MEAN	0.91 Apr 13	122 May 11 1926
LOWEST DAILY MEAN	0.00 Oct 8	0.00 Oct 7 1924
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 16	0.00 Dec 23 1924
MAXIMUM PEAK FLOW	5.1 Dec 19	5.1 Dec 19 2002
MAXIMUM PEAK STAGE	3.98 Dec 19	3.98 Dec 19 2002
ANNUAL RUNOFF (AC-FT)	75	22030
10 PERCENT EXCEEDS	0.24	65
50 PERCENT EXCEEDS	0.08	24
90 PERCENT EXCEEDS	0.00	0.00

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 mi².

PERIOD OF RECORD.—October 1995 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 430 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good above 3 ft³/s and poor below. No records computed above 200 ft³/s. Flow regulated by Calaveras Reservoir, usable capacity, 96,800 acre-ft, 1.1 mi upstream from gage and by diversion dam on Alameda Creek, 2.9 mi upstream. Dead storage, 3,200 acre-ft. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.10	0.09	0.82	131	8.2	2.3	0.75	47	4.5	0.95	0.30	0.11
2	0.09	0.09	0.81	81	7.7	2.4	0.82	42	4.1	0.89	0.29	0.10
3	0.09	0.08	0.80	60	6.9	2.1	1.3	---	3.8	0.85	0.29	0.10
4	0.08	0.10	0.78	47	6.7	1.9	1.6	114	3.7	0.84	0.27	0.11
5	0.07	0.12	0.76	39	5.9	1.8	1.3	79	3.7	0.81	0.27	0.12
6	0.07	0.12	0.74	32	5.8	1.8	1.2	59	3.6	0.83	0.28	0.11
7	0.07	0.43	0.76	27	5.7	1.7	1.1	48	3.5	0.81	0.27	0.12
8	0.06	55	0.76	24	5.6	1.7	1.1	40	3.4	0.79	0.23	0.13
9	0.07	56	0.79	24	5.4	1.4	1.2	34	3.3	0.77	0.22	0.13
10	0.07	4.4	0.73	36	5.5	1.3	1.4	28	3.0	0.74	0.21	0.12
11	0.07	1.5	0.74	34	5.3	1.2	1.5	25	2.9	0.74	0.20	0.11
12	0.06	1.3	0.72	26	5.9	1.1	2.6	22	2.9	0.72	0.18	0.10
13	0.06	1.2	1.1	22	5.6	1.1	39	20	2.8	0.70	0.17	0.09
14	0.06	1.2	73	20	1.9	1.2	9.6	18	2.7	0.65	0.17	0.10
15	0.06	1.1	43	16	1.5	1.6	5.7	17	2.6	0.63	0.16	0.11
16	0.06	1.1	---	15	1.9	1.3	4.3	15	2.5	0.61	0.16	0.11
17	0.07	1.1	114	14	2.0	1.1	3.8	14	2.4	0.59	0.17	0.11
18	0.08	1.1	40	13	2.1	1.1	3.2	13	2.3	0.56	0.17	0.11
19	0.08	1.0	---	12	1.9	1.1	2.9	11	2.2	0.55	0.17	0.11
20	0.08	1.0	---	12	2.0	1.1	2.7	11	2.2	0.52	0.17	0.11
21	0.08	1.1	---	12	1.7	1.1	2.4	9.9	2.1	0.47	0.17	0.10
22	0.08	0.99	116	11	1.8	1.1	2.2	9.5	2.1	0.46	0.16	0.12
23	0.09	1.0	72	11	2.2	1.1	2.2	8.7	2.0	0.43	0.14	0.12
24	0.09	1.00	54	9.4	2.3	1.1	2.6	8.3	1.9	0.42	0.14	0.13
25	0.08	0.99	39	8.9	2.7	0.98	3.0	8.1	1.8	0.39	0.14	0.15
26	0.09	1.0	33	8.9	2.1	0.98	3.9	7.4	1.7	0.38	0.16	0.14
27	0.08	0.98	27	8.6	2.1	1.1	3.3	6.5	1.7	0.36	0.15	0.14
28	0.08	0.90	132	7.9	2.1	1.3	47	5.8	1.5	0.34	0.15	0.15
29	0.08	0.87	---	6.7	---	0.94	85	5.3	1.1	0.31	0.14	0.17
30	0.08	0.84	115	6.3	---	0.74	62	5.2	1.0	0.30	0.13	0.16
31	0.09	---	---	8.4	---	0.73	---	5.0	---	0.30	0.11	---
TOTAL	2.37	137.70	---	784.1	110.5	41.47	300.67	---	79.0	18.71	5.94	3.59
MEAN	0.076	4.59	---	25.3	3.95	1.34	10.0	---	2.63	0.60	0.19	0.12
MAX	0.10	56	---	131	8.2	2.4	85	---	4.5	0.95	0.30	0.17
MIN	0.06	0.08	---	6.3	1.5	0.73	0.75	---	1.0	0.30	0.11	0.09
AC-FT	4.7	273	---	1560	219	82	596	---	157	37	12	7.1

11173575 ALAMEDA CREEK BELOW WELCH CREEK, NEAR SUNOL, CA

LOCATION.—Lat 37° 32' 26", long 121° 51' 19", in Valle de San Jose Grant in unsurveyed section, T.4 S., R.1 E., [Alameda County](#), Hydrologic Unit 18050004, on left bank, 0.3 mi downstream from Welch Creek, 4.0 mi southeast of Sunol, at bridge to entrance at city of San Francisco Water Department Filtration Plant.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.—145 mi².

PERIOD OF RECORD.—October 1999 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 300 ft above NGVD of 1929, from levels.

REMARKS.—Records good except those below 1 ft³/s, which are poor. Flow regulated by Calaveras Reservoir, usable capacity, 96,800 acre-ft, 3.7 mi upstream from gage and by diversion dam on Alameda Creek, 5.5 mi upstream. Dead storage, 3,200 acre-ft. 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](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,750 ft³/s, Dec. 16, 2002, gage height, 19.07 ft, from rating curve extended above 664 ft³/s; minimum daily, no flow many days August and September 2002, and Oct. 29 to Nov. 4, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.11	0.00	0.35	138	8.1	3.1	2.0	46	8.2	1.8	0.31	0.05
2	0.09	0.00	0.31	85	7.7	3.1	2.5	41	7.7	1.6	0.26	0.04
3	0.10	0.00	0.41	62	7.4	3.1	2.4	178	6.7	1.5	0.31	0.05
4	0.09	0.00	0.44	49	7.2	2.9	3.3	119	6.0	1.4	0.25	0.05
5	0.09	0.04	0.31	40	6.9	2.8	2.2	80	6.1	1.4	0.23	0.05
6	0.07	0.14	0.36	33	6.7	2.7	2.0	60	5.5	1.5	0.22	0.06
7	0.07	0.68	0.37	26	6.5	2.7	1.9	49	5.5	1.5	0.25	0.15
8	0.07	65	0.34	22	6.3	2.8	1.8	42	5.6	1.4	0.22	0.21
9	0.08	83	0.53	21	6.2	2.8	1.7	37	5.6	1.2	0.21	0.27
10	0.11	4.0	0.65	32	6.0	2.8	1.7	34	5.4	1.1	0.18	0.20
11	0.12	0.73	0.50	35	6.1	2.7	1.7	32	5.5	1.1	0.12	0.19
12	0.08	0.41	0.62	24	6.7	2.6	4.9	30	5.6	1.1	0.10	0.13
13	0.06	0.35	1.9	24	7.1	2.5	51	28	5.7	0.98	0.09	0.09
14	0.04	0.37	50	26	3.5	2.6	15	26	5.7	0.95	0.09	0.10
15	0.07	0.48	83	19	2.8	6.7	7.9	24	5.6	0.82	0.10	0.13
16	0.10	0.57	868	15	4.7	3.3	5.9	22	5.2	0.69	0.07	0.15
17	0.11	0.62	117	14	3.0	2.7	5.3	21	4.7	0.64	0.05	0.15
18	0.10	0.65	29	13	2.8	2.5	4.6	19	4.7	0.53	0.06	0.15
19	0.09	0.62	283	12	3.0	2.5	4.2	17	4.7	0.49	0.11	0.15
20	0.07	0.59	639	11	2.8	2.4	4.2	17	4.7	0.45	0.20	0.15
21	0.05	0.62	335	11	2.7	2.3	4.8	16	4.6	0.40	0.30	0.18
22	0.06	0.55	125	11	2.6	2.3	4.9	14	4.5	0.41	0.52	0.20
23	0.07	0.49	72	11	2.5	2.4	4.3	14	4.4	0.40	0.48	0.21
24	0.07	0.55	51	10	2.8	2.3	5.1	13	4.2	0.41	0.44	0.18
25	0.07	0.47	39	9.8	6.8	2.2	5.1	12	3.8	0.36	0.30	0.14
26	0.07	0.44	33	9.5	3.3	2.2	5.6	11	3.2	0.35	0.23	0.12
27	0.04	0.54	28	9.4	3.9	2.1	5.3	10	2.6	0.33	0.21	0.12
28	0.01	0.40	121	8.9	3.1	2.1	37	9.4	2.3	0.32	0.17	0.16
29	0.00	0.38	327	8.6	---	2.0	77	8.8	2.1	0.29	0.14	0.21
30	0.00	0.38	119	8.3	---	2.0	58	8.4	1.9	0.25	0.12	0.33
31	0.00	---	312	8.1	---	2.0	---	9.0	---	0.27	0.09	---
TOTAL	2.16	163.07	3638.09	806.6	139.2	83.2	333.3	1047.6	148.0	25.94	6.43	4.37
MEAN	0.070	5.44	117	26.0	4.97	2.68	11.1	33.8	4.93	0.84	0.21	0.15
MAX	0.12	83	868	138	8.1	6.7	77	178	8.2	1.8	0.52	0.33
MIN	0.00	0.00	0.31	8.1	2.5	2.0	1.7	8.4	1.9	0.25	0.05	0.04
AC-FT	4.3	323	7220	1600	276	165	661	2080	294	51	13	8.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	4.65	2.04	57.9	81.9	59.1	81.4	8.89	11.8	2.78	0.90	0.30	0.23
MAX	17.2	5.44	117	282	183	287	13.3	33.8	4.93	1.66	0.63	0.62
(WY)	2002	2003	2003	2002	2000	2000	2000	2003	2003	2000	2000	2000
MIN	0.070	0.83	1.13	2.93	4.97	2.68	3.46	1.70	0.95	0.41	0.095	0.017
(WY)	2003	2000	2001	2001	2003	2003	2001	2001	2001	2001	2002	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2000 - 2003

ANNUAL TOTAL	14882.70	6397.96		
ANNUAL MEAN	40.8	17.5	26.0	
HIGHEST ANNUAL MEAN			42.7	2000
LOWEST ANNUAL MEAN			2.30	2001
HIGHEST DAILY MEAN	868	Dec 16	868	Dec 16
LOWEST DAILY MEAN	0.00	Aug 12	0.00	Oct 29
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 5	0.00	Oct 29
MAXIMUM PEAK FLOW			5750	Dec 16
MAXIMUM PEAK STAGE			19.07	Dec 16
ANNUAL RUNOFF (AC-FT)	29520	12690	18830	
10 PERCENT EXCEEDS	130	34	32	
50 PERCENT EXCEEDS	2.3	2.3	1.8	
90 PERCENT EXCEEDS	0.00	0.09	0.15	

11173575 ALAMEDA CREEK BELOW WELCH CREEK, NEAR SUNOL, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1999 to June 5, 2003 (storm season only) (discontinued).

WATER TEMPERATURE: October 1999 to June 5, 2003 (discontinued).

SEDIMENT DATA: October 1999 to June 5, 2003 (discontinued).

PERIOD OF DAILY RECORD.—October 1999 to May 30, 2003 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: October 1999 to May 30, 2003 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.—

SEDIMENT CONCENTRATION: Maximum daily mean, 1,500 mg/L, April 13, 2003; minimum daily mean, 0 mg/L, Feb. 5–7, 2001, Oct. 14, Nov. 7, 8, 2002, several days October 2002.

SEDIMENT LOAD: Maximum daily, 5,750 tons, Dec. 16, 2002; minimum daily, 0 ton, many days.

EXTREMES FOR CURRENT YEAR.—

SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 1,500 mg/L, April 13; minimum daily mean, 0 mg/L, several days in October.

SEDIMENT LOAD (storm season only): Maximum daily, 5,750 tons, Dec. 16; minimum daily, 0 ton, many days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10.0	9.0	11.5	---	---	---	---	---	---	---
2	---	---	---	---	---	---	12.0	14.5	---	---	---	---
3	---	---	---	---	---	14.0	11.0	14.5	---	---	---	---
4	---	---	---	---	9.0	---	11.0	---	---	---	---	---
5	---	14.5	---	---	---	---	---	---	23.0	---	---	---
6	---	---	10.5	---	9.0	15.0	---	---	---	---	---	---
7	---	---	---	9.5	---	---	---	15.5	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	15.0	11.0	---	---	---	16.5	---	---	---	---	---
10	---	---	---	10.0	---	17.0	---	11.0	---	---	---	---
11	---	14.0	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	11.0	18.0	13.0	---	---	---	---	---
13	---	---	12.0	10.5	---	---	10.5	---	---	---	---	---
14	---	---	12.0	---	---	---	---	17.5	---	---	---	---
15	---	14.0	---	---	13.0	14.0	---	---	---	---	---	---
16	---	---	---	10.5	12.5	13.0	---	---	---	---	---	---
17	---	---	10.0	---	---	---	---	15.0	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	13.5	---	13.0	---	---	---	---	---
20	---	---	---	---	---	14.0	---	---	---	---	---	---
21	---	---	9.5	9.0	---	---	13.5	---	---	---	---	---
22	---	---	---	---	---	---	---	23.0	---	---	---	---
23	---	---	---	---	12.0	15.5	---	---	---	---	---	---
24	---	13.0	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	12.5	---	---	---	---	---	---	---
26	---	---	9.5	---	---	---	12.0	17.5	---	---	---	---
27	---	---	---	---	12.0	15.0	---	---	---	---	---	---
28	---	10.5	11.0	---	---	---	13.5	---	---	---	---	---
29	---	---	9.5	---	---	---	---	23.0	---	---	---	---
30	---	---	---	---	---	16.0	---	---	---	---	---	---
31	---	---	---	---	---	---	---	18.0	---	---	---	---

ALAMEDA CREEK BASIN

11173575 ALAMEDA CREEK BELOW WELCH CREEK, NEAR SUNOL, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter percent <.063mm (70331)	Suspnd. sediment, sieve diameter percent <.125mm (70332)	Suspnd. sediment, sieve diameter percent <.25mm (70333)	Suspnd. sediment, sieve diameter percent <.5 mm (70334)
NOV									
05...	1330	<.04	14.5	1	<.01	--	--	--	--
DEC									
13...	1040	1.1	12.0	1	<.01	--	--	--	--
17...	1040	108	10.0	188	55	97	98	99	100
JAN									
07...	1510	25	10.0	<.5	<.03	--	--	--	--
FEB									
04...	1320	7.2	9.0	1	.02	--	--	--	--
MAR									
27...	1340	2.1	15.0	2	.01	--	--	--	--
APR									
28...	1255	13	13.5	83	2.9	--	--	--	--
MAY									
03...	1150	145	14.5	152	60	90	--	--	--
JUN									
05...	1315	5.9	23.0	2	.03	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sampling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Starting time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for load sample, seconds (04120)	Horizontal width of vertical, feet (04121)
DEC									
17...	1055	1000	1150	.250	0	1049	1100	30	2.0
17...	1115	1000	1150	.250	0	1108	1119	30	2.0
MAY									
03...	1200	1000	1150	.250	0	1150	1210	60	2.0

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verticals in composite sample, number (04119)	Number of sampling points, count (00063)	Location in X-sect. looking downstrm ft from bank (00009)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bedload sediment discharge, average unit cmposit t/d/ft (04122)	Bedload sediment discharge, tons/d (80225)	Bedload sediment, sieve diameter percent <.063mm (80226)
DEC									
17...	2	17	17	1.00	131	10.0	.13	6.0	--
17...	2	17	17	1.00	163	10.0	.22	6.0	--
MAY									
03...	1	15	15	1.00	144	14.5	.01	.42	1

Date	Bedload sediment, sieve diameter percent <.125mm (80227)	Bedload sediment, sieve diameter percent <.25mm (80228)	Bedload sediment, sieve diameter percent <.5 mm (80229)	Bedload sediment, sieve diameter percent <1 mm (80230)	Bedload sediment, sieve diameter percent <2 mm (80231)	Bedload sediment, sieve diameter percent <4 mm (80232)	Bedload sediment, sieve diameter percent <8 mm (80233)	Bedload sediment, sieve diameter percent <16 mm (80234)	Bedload sediment, sieve diameter percent <32 mm (80235)
DEC									
17...	--	1	15	41	60	72	84	97	100
17...	--	2	15	31	50	63	76	95	100
MAY									
03...	2	6	24	49	80	100	--	--	--

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

11173575 ALAMEDA CREEK BELOW WELCH CREEK, NEAR SUNOL, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY) WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	0.11	0	0.00	0.00	1	0.00	0.35	4	0.00
2	0.09	0	0.00	0.00	1	0.00	0.31	4	0.00
3	0.10	0	0.00	0.00	1	0.00	0.41	4	0.00
4	0.09	0	0.00	0.00	1	0.00	0.44	3	0.00
5	0.09	0	0.00	0.04	1	0.00	0.31	3	0.00
6	0.07	0	0.00	0.14	1	0.00	0.36	4	0.00
7	0.07	0	0.00	0.68	1	0.00	0.37	6	0.00
8	0.07	0	0.00	65	93	57	0.34	6	0.00
9	0.08	0	0.00	83	60	30	0.53	12	0.02
10	0.11	0	0.00	4.0	2	0.02	0.65	18	0.03
11	0.12	0	0.00	0.73	2	0.00	0.50	12	0.02
12	0.08	0	0.00	0.41	2	0.00	0.62	6	0.01
13	0.06	0	0.00	0.35	2	0.00	1.9	11	0.12
14	0.04	0	0.00	0.37	1	0.00	50	123	133
15	0.07	0	0.00	0.48	1	0.00	83	112	145
16	0.10	0	0.00	0.57	1	0.00	868	784	5750
17	0.11	0	0.00	0.62	2	0.00	117	167	58
18	0.10	0	0.00	0.65	2	0.00	29	57	5.9
19	0.09	1	0.00	0.62	2	0.00	283	262	456
20	0.07	1	0.00	0.59	3	0.00	639	524	945
21	0.05	1	0.00	0.62	3	0.00	335	144	149
22	0.06	1	0.00	0.55	3	0.00	125	61	21
23	0.07	1	0.00	0.49	4	0.00	72	36	7.1
24	0.07	1	0.00	0.55	4	0.00	51	19	2.6
25	0.07	1	0.00	0.47	3	0.00	39	9	1.0
26	0.07	1	0.00	0.44	3	0.00	33	3	0.26
27	0.04	1	0.00	0.54	2	0.00	28	3	0.23
28	0.01	1	0.00	0.40	2	0.00	121	131	160
29	0.00	1	0.00	0.38	3	0.00	327	174	182
30	0.00	1	0.00	0.38	3	0.00	119	27	8.9
31	0.00	1	0.00	---	---	---	312	248	282
TOTAL	2.16	---	0.00	163.07	---	87.02	3638.09	---	8307.19
	JANUARY			FEBRUARY			MARCH		
1	138	34	14	8.1	1	0.02	3.1	9	0.08
2	85	11	2.6	7.7	1	0.02	3.1	7	0.06
3	62	5	0.90	7.4	1	0.02	3.1	5	0.04
4	49	4	0.48	7.2	1	0.02	2.9	4	0.03
5	40	3	0.30	6.9	1	0.02	2.8	4	0.03
6	33	2	0.17	6.7	1	0.02	2.7	4	0.03
7	26	1	0.09	6.5	2	0.03	2.7	4	0.03
8	22	3	0.15	6.3	3	0.05	2.8	3	0.02
9	21	4	0.25	6.2	4	0.07	2.8	3	0.02
10	32	13	1.3	6.0	5	0.09	2.8	2	0.02
11	35	14	1.4	6.1	7	0.11	2.7	2	0.01
12	24	5	0.33	6.7	8	0.14	2.6	1	0.00
13	24	4	0.27	7.1	6	0.12	2.5	1	0.00
14	26	4	0.30	3.5	4	0.03	2.6	2	0.01
15	19	2	0.09	2.8	4	0.03	6.7	197	5.8
16	15	1	0.04	4.7	24	0.30	3.3	13	0.12
17	14	1	0.04	3.0	21	0.17	2.7	5	0.04
18	13	1	0.03	2.8	15	0.11	2.5	5	0.03
19	12	1	0.03	3.0	8	0.07	2.5	4	0.03
20	11	1	0.03	2.8	6	0.05	2.4	4	0.03
21	11	1	0.03	2.7	6	0.04	2.3	4	0.02
22	11	1	0.03	2.6	5	0.03	2.3	3	0.02
23	11	1	0.03	2.5	4	0.03	2.4	3	0.02
24	10	1	0.03	2.8	7	0.06	2.3	3	0.02
25	9.8	1	0.03	6.8	73	1.5	2.2	3	0.02
26	9.5	1	0.03	3.3	23	0.21	2.2	2	0.01
27	9.4	1	0.03	3.9	17	0.19	2.1	2	0.01
28	8.9	1	0.02	3.1	12	0.10	2.1	3	0.01
29	8.6	1	0.02	---	---	---	2.0	3	0.02
30	8.3	1	0.02	---	---	---	2.0	4	0.02
31	8.1	1	0.02	---	---	---	2.0	4	0.02
TOTAL	806.6	---	23.09	139.2	---	3.65	83.2	---	6.62

ALAMEDA CREEK BASIN

11173575 ALAMEDA CREEK BELOW WELCH CREEK, NEAR SUNOL, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY) WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	APRIL			MAY		
1	2.0	5	0.03	46	35	4.5
2	2.5	5	0.03	41	9	0.95
3	2.4	6	0.03	178	226	135
4	3.3	54	0.62	119	89	31
5	2.2	2	0.01	80	40	8.8
6	2.0	4	0.02	60	17	2.8
7	1.9	4	0.02	49	7	0.91
8	1.8	3	0.02	42	4	0.47
9	1.7	3	0.01	37	3	0.30
10	1.7	3	0.01	34	2	0.19
11	1.7	2	0.01	32	2	0.17
12	4.9	70	1.9	30	2	0.16
13	51	1500	312	28	2	0.15
14	15	359	15	26	2	0.14
15	7.9	105	2.3	24	2	0.13
16	5.9	40	0.64	22	2	0.12
17	5.3	17	0.24	21	2	0.11
18	4.6	6	0.07	19	2	0.10
19	4.2	6	0.07	17	2	0.09
20	4.2	24	0.27	17	2	0.09
21	4.8	41	0.54	16	2	0.09
22	4.9	37	0.48	14	2	0.08
23	4.3	28	0.33	14	2	0.07
24	5.1	20	0.27	13	2	0.07
25	5.1	12	0.16	12	2	0.06
26	5.6	5	0.07	11	2	0.06
27	5.3	4	0.06	10	2	0.05
28	37	281	47	9.4	1	0.03
29	77	262	56	8.8	1	0.03
30	58	116	19	8.4	1	0.03
31	---	---	---	9.0	2	0.05
TOTAL	333.3	---	457.21	1047.6	---	186.80
PERIOD	6213.22		9071.58			

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER	SUSPENDED	BEDLOAD	TOTAL
	DISCHARGE	SEDIMENT	DISCHARGE	SEDIMENT
	CFS-DAYS	DISCHARGE	TONS	DISCHARGE
		TONS		TONS
OCTOBER 2002	2.16	0.00	0	0
NOVEMBER	163.07	87.02	1	88
DECEMBER	3638.09	8307.19	220	8527
JANUARY 2003	806.60	23.09	0	23
FEBRUARY	139.20	3.65	0	4
MARCH	83.20	6.62	0	7
APRIL	333.30	457.21	0	457
MAY	1047.60	186.80	1	188
TOTAL	6213.22	9071.58	222	9294

11174000 SAN ANTONIO CREEK NEAR SUNOL, CA

LOCATION.—Lat 37° 34' 39", long 121° 51' 24", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank, 0.4 mi upstream from Calaveras Road Bridge, 0.85 mi upstream from mouth, and 2 mi southeast of town of Sunol.

DRAINAGE AREA.—37.0 mi².

PERIOD OF RECORD.—January 1912 to September 1930 (records furnished by Spring Valley Water Company), February 1960 to September 1965, October 1999 to current year. Monthly discharge only for some periods, published in WSP 1315-B (published as "La Costa Creek near Sunol").

SEDIMENT DATA: Water years 2000–01.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 271.56 ft above NGVD of 1929 (levels by City of San Francisco). Prior to Feb. 8, 1960, at site 0.65 mi upstream at different datum.

REMARKS.—Records good. Flows regulated by Lake San Antonio located 0.6 mi upstream of gage beginning in October 1964. Reservoir filling completion date was February 1965. Flows can be released for emergency flood conditions, but purpose of the reservoir is for water supply. Total storage capacity is 50,500 acre-ft.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge prior to regulation for years with available instantaneous maxima (1921–30 and 1960–63), 1,970 ft³/s, Jan. 31, 1963, gage height, 7.16 ft. Maximum discharge for period after regulation, 425 ft³/s, Feb. 3, 2003, gage height, 4.95 ft; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 23, 1955, 5,180 ft³/s (by slope-area measurement of peak flow).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.04	0.07	1.1	0.25	0.25	0.16	0.13	0.09	0.05	0.00	0.02
2	0.00	0.04	0.07	0.74	0.24	0.24	0.19	0.13	0.08	0.04	0.00	0.01
3	0.00	0.04	0.07	0.62	6.9	0.23	0.17	0.79	0.08	0.04	0.00	0.00
4	0.00	0.04	0.07	0.52	0.34	0.23	0.21	0.32	0.09	0.05	0.00	0.00
5	0.00	0.05	0.07	0.47	0.26	0.23	0.13	0.24	0.10	0.05	0.00	0.01
6	0.00	0.04	0.07	0.39	0.25	0.23	0.13	0.21	0.08	0.05	0.00	0.02
7	0.00	0.08	0.07	0.32	0.23	0.22	0.13	0.17	0.07	0.06	0.00	0.03
8	0.00	0.30	0.06	0.28	0.23	0.21	0.14	0.15	0.08	0.08	0.00	0.03
9	0.00	0.17	0.08	0.32	0.21	0.21	0.15	0.14	0.09	0.09	0.00	0.04
10	0.00	0.15	0.08	0.36	0.21	0.21	0.16	0.13	0.09	0.06	0.00	6.2
11	0.00	0.14	0.07	0.31	0.21	0.21	0.17	0.13	0.08	0.04	0.00	0.16
12	0.00	0.11	0.07	0.28	0.22	0.21	1.2	0.13	0.10	0.04	0.00	0.11
13	0.00	0.10	0.12	0.26	0.21	16	4.3	0.13	0.11	0.04	0.00	0.09
14	0.00	0.10	0.23	0.25	0.21	0.27	0.73	0.13	0.11	0.03	0.00	0.07
15	0.00	0.09	0.21	0.23	0.21	0.87	0.44	0.13	0.12	0.03	0.00	0.07
16	0.00	0.10	4.4	0.23	0.38	0.35	0.31	0.14	0.12	0.03	0.00	0.06
17	0.00	0.09	0.94	0.21	0.26	0.26	0.28	0.12	0.11	0.03	0.00	0.06
18	0.00	0.07	0.53	0.21	0.24	0.22	0.22	0.12	0.12	0.02	0.00	0.05
19	0.01	0.07	7.3	0.21	0.23	0.21	0.20	0.10	0.13	0.02	0.00	0.05
20	0.02	0.07	5.4	0.20	0.23	0.59	0.17	0.10	0.14	0.01	0.00	0.04
21	0.02	0.08	1.9	0.24	0.21	0.62	0.18	0.10	0.14	0.01	0.01	0.03
22	0.03	0.09	0.84	0.23	0.21	0.23	0.17	0.10	0.10	0.00	0.02	0.02
23	0.03	0.09	0.59	0.21	0.21	0.23	0.15	0.10	0.10	0.00	0.03	0.01
24	0.04	0.07	0.49	0.21	0.26	0.20	0.17	0.12	0.09	0.00	0.03	0.01
25	0.04	0.08	0.43	0.15	0.39	0.20	0.15	0.13	0.08	0.00	0.02	0.03
26	0.04	0.07	0.39	0.15	0.28	0.19	0.15	0.12	0.07	0.00	0.01	0.04
27	0.04	0.07	0.37	0.15	0.31	0.17	0.13	0.11	0.06	0.00	0.00	0.04
28	0.04	0.07	3.8	0.15	0.27	0.17	0.22	0.12	0.04	0.00	0.00	0.05
29	0.04	0.07	6.2	0.14	---	0.17	0.17	0.12	0.04	0.00	0.01	0.05
30	0.04	0.08	1.0	1.8	---	0.16	0.13	0.12	0.05	0.00	0.02	0.05
31	0.04	---	5.1	0.28	---	0.15	---	0.09	---	0.00	0.02	---
TOTAL	0.43	2.66	41.09	11.22	13.66	23.94	11.21	4.87	2.76	0.87	0.17	7.45
MEAN	0.014	0.089	1.33	0.36	0.49	0.77	0.37	0.16	0.092	0.028	0.005	0.25
MAX	0.04	0.30	7.3	1.8	6.9	16	4.3	0.79	0.14	0.09	0.03	6.2
MIN	0.00	0.04	0.06	0.14	0.21	0.15	0.13	0.09	0.04	0.00	0.00	0.00
AC-FT	0.9	5.3	82	22	27	47	22	9.7	5.5	1.7	0.3	15

ALAMEDA CREEK BASIN

11174000 SAN ANTONIO CREEK NEAR SUNOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.14	.55	7.60	29.5	45.9	22.9	10.1	4.31	.91	.10	.043	.17
MAX	2.00	5.11	37.7	258	205	74.4	48.6	42.8	5.11	.90	.47	2.84
(WY)	1963	1927	1923	1916	1915	1919	1963	1915	1915	1915	1915	1918
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1913	1915	1924	1924	1924	1924	1924	1924	1918	1914	1913	1912

SUMMARY STATISTICS

WATER YEARS 1912 - 1963

ANNUAL MEAN	10.3	
HIGHEST ANNUAL MEAN	36.0	1916
LOWEST ANNUAL MEAN	.000	1924
HIGHEST DAILY MEAN	1460	Jan 3 1916
LOWEST DAILY MEAN	.00	Jul 26 1912
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 3 1912
MAXIMUM PEAK FLOW	1970	Jan 31 1963
MAXIMUM PEAK STAGE	7.16	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	7510	
10 PERCENT EXCEEDS	17	
50 PERCENT EXCEEDS	.30	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
MEAN	0.029	0.074	0.53	0.75	0.63	0.45	0.20	0.12	0.059	0.010	0.003	0.069
MAX	0.053	0.10	1.33	2.14	1.61	0.77	0.37	0.16	0.092	0.028	0.005	0.25
(WY)	2002	2002	2003	2001	2000	2003	2003	2003	2003	2003	2001	2003
MIN	0.007	0.025	0.027	0.17	0.16	0.16	0.11	0.060	0.000	0.000	0.000	0.000
(WY)	2000	2000	2000	2000	2002	2002	2002	2001	2001	2001	2000	2000

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2000 - 2003

ANNUAL TOTAL	71.58	120.33	
ANNUAL MEAN	0.20	0.33	0.24
HIGHEST ANNUAL MEAN			0.33 2003
LOWEST ANNUAL MEAN			0.15 2002
HIGHEST DAILY MEAN	7.3 Dec 19	16 Mar 13	61 Jan 16 2001
LOWEST DAILY MEAN	0.00 Jul 4	0.00 Oct 1	0.00 Oct 1 1999
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 4	0.00 Oct 1	0.00 Oct 1 1999
MAXIMUM PEAK FLOW		425 Feb 3	425 Feb 3 2003
MAXIMUM PEAK STAGE		4.95 Feb 3	4.95 Feb 3 2003
ANNUAL RUNOFF (AC-FT)	142	239	175
10 PERCENT EXCEEDS	0.20	0.36	0.25
50 PERCENT EXCEEDS	0.08	0.10	0.08
90 PERCENT EXCEEDS	0.00	0.00	0.00

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 mi².

PERIOD OF RECORD.—October 1963 to current year. Prior to October 1974, published as "above Lang Canyon, near Livermore."
SEDIMENT DATA: Water years 1963, 1965, 1974–76, 1978, and 1979.

GAGE.—Water-stage recorder. Concrete control since June 19, 1975. Elevation of gage is 750 ft above NGVD of 1929, 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 ft³/s, which are poor. No regulation or diversion upstream from station. See schematic diagram of Alameda Creek Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,790 ft³/s, Feb. 17, 1986, gage height, 7.36 ft, from rating curve extended above 1,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage-height (ft)
Dec. 16	0715	3,590	4.27	Dec. 19	2345	1,330	2.83

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.14	215	10	13	6.9	23	4.7	0.03	0.00	0.00
2	0.00	0.00	0.19	135	9.5	11	7.6	22	4.5	0.00	0.00	0.00
3	0.00	0.00	0.31	93	8.8	9.7	8.5	96	4.2	0.00	0.00	0.00
4	0.00	0.00	0.34	70	8.5	9.3	12	91	4.1	0.00	0.00	0.00
5	0.00	0.00	0.39	55	8.2	8.6	12	56	4.0	0.00	0.00	0.00
6	0.00	0.00	0.36	45	8.0	7.9	9.7	40	4.0	0.00	0.00	0.00
7	0.00	0.00	0.25	37	7.8	7.6	8.6	32	3.9	0.00	0.00	0.00
8	0.00	18	0.25	33	7.6	7.3	8.0	27	3.8	0.00	0.00	0.00
9	0.00	52	0.28	31	7.3	6.9	7.6	23	3.6	0.00	0.00	0.00
10	0.00	8.6	0.34	41	7.3	6.8	7.3	19	3.4	0.00	0.00	0.00
11	0.00	3.9	0.39	64	7.4	6.8	7.1	17	3.1	0.00	0.00	0.00
12	0.00	2.5	0.42	48	8.4	6.7	8.7	15	3.0	0.00	0.00	0.00
13	0.00	1.5	1.4	37	12	6.6	45	13	3.1	0.00	0.00	0.00
14	0.00	0.99	73	33	11	6.7	47	11	3.0	0.00	0.00	0.00
15	0.00	0.83	214	29	9.7	32	36	10	2.6	0.00	0.00	0.00
16	0.00	0.64	1580	26	15	44	26	9.2	2.3	0.00	0.00	0.00
17	0.00	0.55	572	23	14	33	25	8.7	2.0	0.00	0.00	0.00
18	0.00	0.59	273	21	11	25	20	7.9	1.8	0.00	0.00	0.00
19	0.00	0.55	316	20	9.9	19	17	7.3	1.6	0.00	0.00	0.00
20	0.00	0.46	1000	18	9.2	16	15	6.8	1.5	0.00	0.00	0.00
21	0.00	0.24	529	17	8.5	14	14	6.5	1.3	0.00	0.00	0.00
22	0.00	0.20	248	17	7.8	12	18	6.2	1.2	0.00	0.00	0.00
23	0.00	0.20	136	16	7.6	12	17	5.8	1.0	0.00	0.00	0.00
24	0.00	0.23	85	15	7.7	12	19	5.5	0.88	0.00	0.00	0.00
25	0.00	0.18	60	14	12	11	25	5.2	0.72	0.00	0.00	0.00
26	0.00	0.14	46	13	14	10	37	5.3	0.56	0.00	0.00	0.00
27	0.00	0.12	37	13	16	8.6	29	5.1	0.40	0.00	0.00	0.00
28	0.00	0.15	63	12	15	7.9	44	5.0	0.25	0.00	0.00	0.00
29	0.00	0.17	310	11	---	7.5	36	4.9	0.12	0.00	0.00	0.00
30	0.00	0.15	188	11	---	7.0	29	4.8	0.05	0.00	0.00	0.00
31	0.00	---	284	10	---	6.9	---	4.8	---	0.00	0.00	---
TOTAL	0.00	92.89	6019.06	1223	279.2	392.8	603.0	594.0	70.68	0.03	0.00	0.00
MEAN	0.000	3.10	194	39.5	9.97	12.7	20.1	19.2	2.36	0.001	0.000	0.000
MAX	0.00	52	1580	215	16	44	47	96	4.7	0.03	0.00	0.00
MIN	0.00	0.00	0.14	10	7.3	6.6	6.9	4.8	0.05	0.00	0.00	0.00
AC-FT	0.00	184	11940	2430	554	779	1200	1180	140	0.06	0.00	0.00

ALAMEDA CREEK BASIN

11176400 ARROYO VALLE BELOW LANG CANYON, NEAR LIVERMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.22	6.65	35.9	113	149	98.4	37.1	9.44	2.84	0.70	0.17	0.099
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	0.000	0.000	0.000	0.000	0.24	0.82	0.14	0.001	0.000	0.000	0.000	0.000
(WY)	1965	1977	1990	1991	1991	1977	1977	1977	1976	1964	1964	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	8208.59		9274.66			
ANNUAL MEAN	22.5		25.4		37.2	
HIGHEST ANNUAL MEAN					174 1983	
LOWEST ANNUAL MEAN					0.24 1977	
HIGHEST DAILY MEAN	1580	Dec 16	1580	Dec 16	4920	Feb 3 1998
LOWEST DAILY MEAN	0.00	Jun 8	0.00	Oct 1	0.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 8	0.00	Oct 1	0.00	Oct 1 1963
MAXIMUM PEAK FLOW			3590 Dec 16		8790 Feb 17 1986	
MAXIMUM PEAK STAGE			4.27 Dec 16		7.36 Feb 17 1986	
ANNUAL RUNOFF (AC-FT)	16280		18400		26980	
10 PERCENT EXCEEDS	20		37		55	
50 PERCENT EXCEEDS	0.59		3.4		1.4	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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 mi².

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.

SEDIMENT DATA: Water years 1966 and 1967.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 510.44 ft above NGVD of 1929. 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 good, except for discharges below 3.0 ft³/s, which are poor. 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 above or below the gage 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 ft³/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 ft³/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 ft³/s, on basis of contracted-opening and slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	0.49	0.83	262	0.40	0.46	7.4	0.31	11	8.9	9.4	8.4
2	9.5	0.44	0.83	259	0.40	0.46	6.4	0.37	9.5	8.9	9.5	8.3
3	9.5	4.3	0.83	256	0.40	0.46	7.1	0.83	8.6	9.0	9.5	8.6
4	9.5	12	0.83	256	0.40	0.49	6.9	0.53	8.6	9.5	9.4	8.9
5	9.5	12	0.83	106	0.35	0.51	6.1	0.44	8.6	9.5	9.3	8.9
6	9.5	9.9	0.83	2.0	0.35	0.46	6.0	0.40	8.7	9.8	9.2	8.9
7	9.5	7.2	0.83	1.6	0.35	0.48	6.0	0.39	8.9	9.7	9.2	8.9
8	9.5	8.7	0.83	1.5	0.35	0.57	6.0	0.37	8.9	9.6	9.2	9.0
9	9.5	7.3	0.83	1.6	0.35	0.52	5.9	0.35	8.9	9.5	9.3	9.0
10	9.5	7.2	0.83	0.83	0.35	0.59	5.9	0.35	9.0	9.2	9.3	9.0
11	9.6	6.9	0.83	0.73	1.1	0.66	6.0	0.34	9.5	8.9	9.4	8.8
12	9.7	6.8	0.88	0.66	2.5	0.60	8.4	0.31	9.5	8.9	9.4	8.8
13	9.6	6.8	0.93	0.61	2.8	0.60	8.7	0.31	9.5	8.9	9.4	8.8
14	9.7	6.8	1.5	0.56	3.1	0.66	8.2	0.31	9.8	9.3	9.4	8.7
15	9.6	6.9	1.0	0.52	3.2	0.93	8.2	0.32	9.8	11	9.4	8.4
16	8.9	7.1	4.9	0.52	3.4	0.54	8.2	0.31	9.7	11	9.4	8.0
17	9.5	6.8	1.9	0.52	3.1	0.47	8.2	0.31	9.6	11	9.5	4.6
18	9.8	4.8	1.2	0.52	3.3	0.45	8.0	0.31	9.8	11	9.5	5.5
19	9.9	0.88	3.6	0.52	3.0	0.40	7.9	0.30	9.8	11	9.5	9.1
20	10	0.83	2.3	0.70	3.3	0.40	8.0	0.30	9.8	11	8.9	9.2
21	10	0.83	1.5	0.56	4.1	0.40	8.1	0.27	9.8	11	8.3	9.2
22	9.9	0.83	1.1	0.46	4.1	0.43	8.6	0.27	9.8	11	8.3	9.2
23	10	0.83	1.0	0.46	4.2	0.46	8.6	0.27	10	11	8.3	8.7
24	9.9	0.83	0.94	0.46	4.5	0.46	9.0	0.29	12	10	8.3	8.1
25	10	0.83	0.92	0.46	4.5	0.46	4.7	0.31	13	9.9	8.3	8.1
26	10	0.84	0.92	0.46	3.3	0.40	0.53	0.30	9.6	9.5	8.4	8.2
27	10	0.83	0.92	0.46	0.64	0.35	0.45	2.3	8.8	9.5	8.4	8.2
28	9.8	0.83	1.5	0.46	0.49	2.1	0.43	7.5	8.8	9.5	8.4	8.2
29	9.7	0.83	1.5	0.46	---	5.3	0.37	8.4	8.8	9.5	8.4	8.2
30	6.1	0.83	1.1	0.46	---	5.3	0.35	11	8.9	9.5	8.4	8.1
31	0.64	---	152	0.45	---	5.7	---	11	---	9.5	8.4	---
TOTAL	287.44	132.45	190.74	1157.54	58.33	32.07	184.63	49.37	287.0	305.5	279.0	252.0
MEAN	9.27	4.42	6.15	37.3	2.08	1.03	6.15	1.59	9.57	9.85	9.00	8.40
MAX	10	12	152	262	4.5	5.7	9.0	11	13	11	9.5	9.2
MIN	0.64	0.44	0.83	0.45	0.35	0.35	0.35	0.27	8.6	8.9	8.3	4.6
AC-FT	570	263	378	2300	116	64	366	98	569	606	553	500

ALAMEDA CREEK BASIN

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
MAXIMUM PEAK FLOW	12200 Apr 2 1958
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

	8.09	7.37	7.84	45.4	102	63.2	18.6	5.31	7.96	11.7	11.0	9.31
MEAN	8.09	7.37	7.84	45.4	102	63.2	18.6	5.31	7.96	11.7	11.0	9.31
MAX	43.2	39.4	37.6	544	928	653	334	30.8	51.7	46.0	54.3	48.1
(WY)	1971	1981	2002	1997	1998	1983	1982	1970	1980	1980	1981	1981
MIN	0.17	0.19	0.33	0.35	0.30	0.36	0.22	0.078	0.032	0.000	0.043	0.14
(WY)	1987	2000	2001	1990	1991	1994	1990	2001	2001	2001	1999	1999

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1970 - 2003

ANNUAL TOTAL	2222.53	3216.07	
ANNUAL MEAN	6.09	8.81	24.4
HIGHEST ANNUAL MEAN			131 1983
LOWEST ANNUAL MEAN			0.39 1999
HIGHEST DAILY MEAN	380 Jan 1	262 Jan 1	2370 Mar 3 1983
LOWEST DAILY MEAN	0.20 Feb 1	0.27 May 21	0.00 Jun 25 1983
ANNUAL SEVEN-DAY MINIMUM	0.25 Feb 5	0.29 May 18	0.00 Jun 22 2001
MAXIMUM PEAK FLOW		270 Dec 31	2980 Feb 4 1998
MAXIMUM PEAK STAGE		4.93 Dec 31	9.17 Feb 4 1998
ANNUAL RUNOFF (AC-FT)	4410	6380	17660
10 PERCENT EXCEEDS	9.9	9.8	32
50 PERCENT EXCEEDS	1.0	6.9	1.1
90 PERCENT EXCEEDS	0.31	0.40	0.21

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—January 1912 to September 1930, October 1969 to September 1983, October 1987 to September 2003 (discontinued). 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 NGVD of 1929. 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 fair except for estimated daily discharges, which are 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 ft³/s, Jan. 5, 1982, gage height, 22.61 ft, present datum; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.7	7.4	441	17	40	10	27	14	12	13	13
2	10	9.0	7.5	358	16	37	41	182	13	13	13	12
3	11	8.7	8.2	326	15	36	24	480	14	12	14	10
4	9.4	9.3	7.5	310	15	36	171	81	15	12	12	11
5	9.4	13	7.4	287	14	e36	34	46	15	11	13	10
6	8.9	13	9.2	110	15	e35	22	37	16	12	13	10
7	8.3	233	7.3	51	14	e35	18	32	16	12	12	11
8	7.8	1460	6.9	53	14	e34	16	31	17	12	12	13
9	8.0	238	17	138	16	e34	15	28	17	12	12	10
10	8.8	119	24	201	14	e33	15	23	16	12	13	10
11	9.2	77	11	75	18	e33	14	21	16	12	12	11
12	9.8	35	7.9	50	86	e33	e318	20	15	12	12	9.8
13	9.5	22	373	53	71	33	e682	21	e16	13	13	10
14	9.4	18	698	35	23	53	e102	20	e16	11	12	9.8
15	9.6	15	324	31	20	407	53	19	e15	12	12	11
16	9.3	13	2880	28	381	137	35	19	e15	11	11	9.4
17	9.9	11	820	26	69	55	28	18	e14	11	12	9.3
18	9.6	11	247	24	52	30	24	18	15	12	11	9.8
19	9.3	11	812	23	51	25	22	17	14	11	11	9.1
20	9.9	11	996	22	46	24	20	16	14	13	12	8.9
21	10	11	526	49	43	21	64	15	13	12	13	9.5
22	11	10	165	31	42	20	33	15	15	12	16	11
23	9.7	9.7	79	29	42	34	21	15	14	14	15	9.6
24	10	9.2	51	30	44	24	49	14	13	13	13	9.7
25	10	8.5	40	22	53	18	74	15	13	13	12	10
26	11	8.6	35	21	47	18	82	15	12	13	13	10
27	10	7.9	31	20	117	17	26	14	13	14	13	12
28	10	7.6	393	20	47	16	191	14	12	13	11	12
29	10	7.3	641	19	---	13	54	13	13	11	10	12
30	9.8	8.1	197	18	---	11	33	13	12	12	11	11
31	10	---	799	17	---	11	---	13	---	12	11	---
TOTAL	299.6	2424.6	10228.3	2918	1402	1389	2291	1312	433	377	383	314.9
MEAN	9.66	80.8	330	94.1	50.1	44.8	76.4	42.3	14.4	12.2	12.4	10.5
MAX	11	1460	2880	441	381	407	682	480	17	14	16	13
MIN	7.8	7.3	6.9	17	14	11	10	13	12	11	10	8.9
AC-FT	594	4810	20290	5790	2780	2760	4540	2600	859	748	760	625

e Estimated.

ALAMEDA CREEK BASIN

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 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.0	38.4	69.4	189	257	181	68.7	28.2	19.1	18.7	17.2	16.3
MAX	42.3	92.3	330	991	2138	1510	517	116	59.9	40.6	43.5	41.1
(WY)	1971	1983	2003	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1970 - 2003

ANNUAL TOTAL	19838.6	23772.4	
ANNUAL MEAN	54.4	65.1	76.1
HIGHEST ANNUAL MEAN			339 1983
LOWEST ANNUAL MEAN			11.6 1977
HIGHEST DAILY MEAN	2880 Dec 16	2880 Dec 16	5560 Feb 3 1998
LOWEST DAILY MEAN	6.2 Jul 6	6.9 Dec 8	0.33 Jul 11 1990
ANNUAL SEVEN-DAY MINIMUM	6.5 Jul 3	7.6 Nov 29	1.1 Jul 6 1992
MAXIMUM PEAK FLOW		7090 Dec 16	11400 Jan 5 1982
MAXIMUM PEAK STAGE		17.45 Dec 16	22.61 Jan 5 1982
ANNUAL RUNOFF (AC-FT)	39350	47150	55100
10 PERCENT EXCEEDS	63	105	102
50 PERCENT EXCEEDS	12	15	20
90 PERCENT EXCEEDS	7.8	9.6	5.3

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter percent <.063mm (70331)	Suspnd. sediment, sieve diameter percent <.125mm (70332)	Suspnd. sediment, sieve diameter percent <.25mm (70333)	Suspnd. sediment, sieve diameter percent <.5 mm (70334)	Suspnd. sediment, sieve diameter percent <1 mm (70335)
OCT										
03...	1550	9.9	19.5	45	1.2	49	--	--	--	--
29...	1740	9.8	15.5	34	.90	61	--	--	--	--
NOV										
07...	0815	159	13.5	506	217	88	--	--	--	--
09...	1230	175	15.0	277	131	95	--	--	--	--
12...	1255	27	15.0	35	2.6	96	--	--	--	--
16...	0945	14	12.5	22	.83	92	--	--	--	--
DEC										
14...	1115	173	13.5	242	113	96	--	--	--	--
14...	1230	185	13.5	189	94	93	97	100	--	--
29...	1130	747	9.5	1190	2400	95	--	--	--	--
JAN										
01...	1630	414	10.0	205	229	93	--	--	--	--
10...	1000	152	10.5	150	62	91	--	--	--	--
21...	0930	50	11.0	52	7.0	52	--	--	--	--
FEB										
05...	1245	15	12.0	6	.24	48	--	--	--	--
16...	1145	309	13.0	614	512	76	--	--	--	--
27...	1000	116	13.0	129	40	96	--	--	--	--
MAR										
14...	1615	34	17.5	16	1.5	64	--	--	--	--
15...	1245	351	15.5	286	271	80	86	94	100	--
16...	0930	73	14.5	136	27	98	--	--	--	--
23...	1545	42	17.5	30	3.4	89	--	--	--	--
APR										
04...	0830	333	11.0	494	444	74	--	--	--	--
12...	1645	1350	13.5	1300	4740	54	--	--	--	--
21...	1330	178	13.5	614	295	90	--	--	--	--
29...	1550	46	15.0	32	4.0	95	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bed sediment, dry svd percent <.063mm (80164)	Bed sediment, dry svd percent <.125mm (80165)	Bed sediment, dry svd percent <.25mm (80166)	Bed sediment, dry svd percent <.5 mm (80167)
OCT								
03...	1615	1	11	19.5	13	23	30	37
03...	1620	1	11	19.5	1	2	12	44
03...	1625	1	10	19.5	--	1	2	6
03...	1630	1	9.8	19.5	1	2	8	13
03...	1635	1	9.8	19.5	6	17	41	57
APR								
29...	1700	1	46	15.0	4	13	48	73
29...	1705	1	46	15.0	--	--	1	5
29...	1710	1	45	15.0	--	--	2	9
29...	1715	1	45	15.0	--	--	1	3
29...	1720	1	45	15.0	10	32	61	74

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bed sedi- ment, dry svd sve dia percent (80168)	Bed sedi- ment, dry svd sve dia percent (80169)	Bed sedi- ment, dry svd sve dia percent (80170)	Bed sedi- ment, dry svd sve dia percent (80171)	Bed sedi- ment, dry svd sve dia percent (80172)	Bed sedi- ment, dry svd sve dia percent (80173)	Bed sedi- ment, dry svd sve dia percent (80174)
OCT							
03...	44	57	77	97	100	--	--
03...	57	70	82	90	96	100	--
03...	11	17	26	42	71	100	--
03...	14	17	26	49	84	100	--
03...	62	68	77	90	96	100	--
APR							
29...	78	82	88	100	--	--	--
29...	11	21	44	72	94	100	--
29...	16	23	31	38	53	85	100
29...	6	11	23	41	70	100	--
29...	77	82	88	92	92	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampler type, code (84164)	Bag mesh size, sampler mm (30333)	Tether line used in samplg (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed load sample, seconds (04120)
DEC								
14...	1242	1000	1120	.25	0	1238	1247	30
14...	1255	1000	1120	.25	0	1250	1300	30
MAR								
15...	1358	1000	1120	.25	0	1348	1407	30
15...	1424	1000	1120	.25	0	1415	1433	30

Date	Hori- zontal width of verti- cal, feet (04121)	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit composit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)
DEC									
14...	3.0	2	13	13	3.0	136	13.5	.74	32
14...	3.0	2	13	13	3.0	136	13.5	.89	32
MAR									
15...	4.0	2	17	17	4.0	285	15.5	1.28	59
15...	4.0	2	17	17	4.0	275	15.5	.55	59

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
DEC								
14...	1	16	31	52	77	93	99	100
14...	1	17	34	55	79	94	100	--
MAR								
15...	1	16	36	70	90	96	100	--
15...	2	33	50	62	74	87	97	100

ALAMEDA CREEK BASIN

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	11	35	1.0	9.7	29	0.76	7.4	14	0.28
2	10	38	1.1	9.0	32	0.79	7.5	13	0.26
3	11	40	1.1	8.7	35	0.83	8.2	12	0.26
4	9.4	30	0.77	9.3	34	0.85	7.5	11	0.21
5	9.4	29	0.74	13	32	1.1	7.4	9	0.19
6	8.9	28	0.68	13	30	1.0	9.2	9	0.21
7	8.3	27	0.61	233	921	2510	7.3	9	0.18
8	7.8	30	0.64	1460	3980	23900	6.9	10	0.18
9	8.0	35	0.75	238	563	509	17	58	5.9
10	8.8	34	0.81	119	313	148	24	67	5.5
11	9.2	32	0.79	77	171	38	11	22	0.72
12	9.8	30	0.79	35	50	5.2	7.9	17	0.36
13	9.5	28	0.71	22	29	1.8	373	951	2600
14	9.4	29	0.75	18	26	1.3	698	1860	6360
15	9.6	32	0.83	15	24	0.94	324	506	711
16	9.3	35	0.89	13	23	0.78	2880	11200	132000
17	9.9	38	1.0	11	23	0.70	820	969	2440
18	9.6	39	1.0	11	23	0.67	247	222	154
19	9.3	39	0.98	11	23	0.69	812	4720	25500
20	9.9	40	1.1	11	21	0.60	996	3000	8270
21	10	40	1.1	11	19	0.54	526	910	1640
22	11	41	1.2	10	17	0.45	165	137	66
23	9.7	41	1.1	9.7	14	0.37	79	73	16
24	10	42	1.2	9.2	12	0.31	51	51	7.0
25	10	42	1.2	8.5	13	0.30	40	47	5.1
26	11	43	1.2	8.6	14	0.32	35	42	4.0
27	10	40	1.1	7.9	15	0.32	31	29	2.4
28	10	38	1.0	7.6	16	0.32	393	2460	7320
29	10	35	0.95	7.3	15	0.30	641	1420	2780
30	9.8	31	0.82	8.1	15	0.32	197	328	194
31	10	29	0.81	---	---	---	799	693	2010
TOTAL	299.6	---	28.72	2424.6	---	27126.56	10228.3	---	192093.75
	JANUARY			FEBRUARY			MARCH		
1	441	237	285	17	15	0.69	40	18	1.9
2	358	168	163	16	11	0.47	37	15	1.5
3	326	134	118	15	8	0.35	36	12	1.2
4	310	118	99	15	6	0.24	36	10	0.95
5	287	103	81	14	6	0.24	e36	e10	e0.93
6	110	44	14	15	5	0.20	e35	e10	e0.94
7	51	25	3.5	14	6	0.23	e35	e9	e0.85
8	53	19	2.8	14	6	0.21	e34	e9	e0.83
9	138	157	185	16	5	0.23	e34	e8	e0.73
10	201	192	121	14	5	0.19	e33	e8	e0.74
11	75	59	12	18	7	0.37	e33	e8	e0.71
12	50	26	3.5	86	184	71	e33	e11	e1.0
13	53	43	7.1	71	120	27	33	13	1.2
14	35	22	2.1	23	19	1.2	53	28	9.4
15	31	22	1.8	20	10	0.56	407	474	935
16	28	22	1.6	381	590	849	137	201	82
17	26	20	1.4	69	88	18	55	74	13
18	24	20	1.4	52	39	5.4	30	22	1.8
19	23	21	1.3	51	21	2.9	25	16	1.1
20	22	21	1.3	46	16	2.0	24	11	0.73
21	49	46	7.2	43	17	2.0	21	11	0.65
22	31	33	2.8	42	17	2.0	20	12	0.64
23	29	26	2.3	42	16	1.9	34	32	3.6
24	30	28	2.3	44	17	2.0	24	22	1.5
25	22	20	1.2	53	17	2.4	18	12	0.61
26	21	19	1.0	47	13	1.7	18	11	0.53
27	20	18	1.0	117	133	62	17	11	0.51
28	20	18	0.99	47	21	2.6	16	11	0.47
29	19	18	0.92	---	---	---	13	11	0.39
30	18	18	0.84	---	---	---	11	9	0.28
31	17	17	0.79	---	---	---	11	10	0.29
TOTAL	2918	---	1127.14	1402	---	1057.08	1389	---	1065.98

e Estimated.

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
APRIL						
1	10	11	0.30	27	25	1.8
2	41	168	30	182	429	781
3	24	22	1.6	480	845	1690
4	171	368	365	81	100	23
5	34	32	3.0	46	58	7.3
6	22	27	1.6	37	47	4.8
7	18	24	1.2	32	41	3.6
8	16	21	0.89	31	59	5.1
9	15	18	0.71	28	31	2.4
10	15	17	0.68	23	13	0.84
11	14	18	0.68	21	14	0.77
12	e318	e298	e724	20	15	0.82
13	e682	e642	e1580	21	16	0.91
14	e102	e87	e26	20	18	0.94
15	53	52	7.5	19	16	0.84
16	35	39	3.7	19	14	0.71
17	28	34	2.6	18	12	0.60
18	24	31	2.0	18	12	0.57
19	22	28	1.7	17	12	0.54
20	20	27	1.5	16	11	0.49
21	64	187	59	15	11	0.46
22	33	61	6.5	15	10	0.42
23	21	18	1.0	15	8	0.35
24	49	153	32	14	9	0.35
25	74	303	108	15	9	0.37
26	82	172	50	15	9	0.36
27	26	34	2.5	14	9	0.32
28	191	428	444	14	9	0.35
29	54	60	9.6	13	10	0.37
30	33	29	2.6	13	12	0.42
31	---	---	---	13	11	0.37
TOTAL	2291	---	3469.86	1312	---	2531.17
PERIOD				22264.50		228500.26

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER	SUSPENDED	BEDLOAD	TOTAL
	DISCHARGE	SEDIMENT	DISCHARGE	SEDIMENT
	CFS-DAYS	DISCHARGE TONS	TONS	DISCHARGE TONS
OCTOBER 2002	299.60	28.72	0	29
NOVEMBER	2424.60	27126.56	2029	29156
DECEMBER	10228.30	192093.75	9094	201188
JANUARY 2003	2918.00	1127.14	979	2106
FEBRUARY	1402.00	1057.08	309	1366
MARCH	1389.00	1065.98	279	1345
APRIL	2291.00	3469.86	1675	5145
MAY	1312.00	2531.02	922	3453
TOTAL	22264.50	228500.11	15287	243787

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

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 NGVD of 1929. 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 ft³/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 ft³/s, Oct. 7–10, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	10	14	632	34	36	27	90	20	29	24	29
2	36	9.9	15	455	32	32	53	234	20	31	25	30
3	36	11	17	382	42	30	58	928	24	29	27	29
4	37	15	16	345	33	26	236	301	25	30	28	28
5	34	15	13	318	32	26	72	175	27	29	31	29
6	36	15	13	158	30	27	44	135	30	32	33	27
7	37	138	13	91	30	28	37	112	36	32	32	29
8	36	1540	12	80	30	28	34	97	35	30	31	32
9	33	323	13	121	30	27	30	83	34	31	27	30
10	34	143	32	256	30	27	27	73	30	31	28	29
11	34	91	20	122	30	27	27	66	28	40	31	28
12	38	40	15	79	67	27	378	61	25	40	32	26
13	36	31	375	77	91	38	1140	57	26	41	33	24
14	36	26	834	67	40	33	215	51	57	38	32	31
15	35	35	525	58	34	458	99	46	67	36	30	32
16	36	45	4320	50	402	141	71	45	59	35	30	31
17	35	27	1230	47	72	81	62	44	45	33	32	23
18	37	22	281	43	47	44	64	40	44	31	31	22
19	22	18	1230	41	44	38	53	37	40	31	26	45
20	32	17	1840	40	39	36	47	35	40	31	28	47
21	33	17	973	58	36	33	93	31	38	31	29	47
22	35	17	323	50	34	32	77	29	40	33	35	45
23	32	17	173	40	33	43	49	29	39	35	34	36
24	34	15	115	46	35	43	78	30	34	33	32	34
25	36	16	81	39	48	31	109	30	32	32	30	35
26	36	18	67	36	42	30	147	30	30	32	27	36
27	36	15	56	36	106	27	62	28	31	33	31	38
28	35	14	508	35	48	24	266	25	31	33	27	40
29	27	14	1170	34	---	24	162	24	31	33	28	40
30	26	14	348	36	---	22	115	25	29	33	27	39
31	14	---	1270	34	---	23	---	25	---	25	29	---
TOTAL	1042	2728.9	15912	3906	1571	1542	3932	3016	1047	1013	920	991
MEAN	33.6	91.0	513	126	56.1	49.7	131	97.3	34.9	32.7	29.7	33.0
MAX	38	1540	4320	632	402	458	1140	928	67	41	35	47
MIN	14	9.9	12	34	30	22	27	24	20	25	24	22
AC-FT	2070	5410	31560	7750	3120	3060	7800	5980	2080	2010	1820	1970

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
MAXIMUM PEAK FLOW	29000 Dec 23 1955
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

MEAN	30.5	58.9	123	302	475	353	135	60.1	44.2	39.4	38.6	32.7
MAX	78.6	247	513	1975	3715	2725	1163	318	154	62.9	65.9	62.1
(WY)	1992	1984	2003	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	13.6	10.4	15.8	2.51
(WY)	1979	1996	1979	1985	1977	1977	1991	1971	2001	2001	1995	1984

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1970 - 2003

ANNUAL TOTAL	40433.9	37620.9	
ANNUAL MEAN	111	103	139
HIGHEST ANNUAL MEAN			621 1983
LOWEST ANNUAL MEAN			31.5 1977
HIGHEST DAILY MEAN	4320 Dec 16	4320 Dec 16	9770 Feb 3 1998
LOWEST DAILY MEAN	9.9 Nov 2	9.9 Nov 2	0.63 Oct 7 1984
ANNUAL SEVEN-DAY MINIMUM	13 Oct 31	13 Oct 31	0.66 Oct 4 1984
MAXIMUM PEAK FLOW		10400 Dec 16	17900 Feb 3 1998
MAXIMUM PEAK STAGE		11.40 Dec 16	14.83 Feb 3 1998
ANNUAL RUNOFF (AC-FT)	80200	74620	100900
10 PERCENT EXCEEDS	249	151	191
50 PERCENT EXCEEDS	36	34	41
90 PERCENT EXCEEDS	19	23	17

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, falldia percent <.002mm (70337)	Suspnd. sediment, falldia percent <.004mm (70338)	Suspnd. sediment, falldia percent <.008mm (70339)
OCT								
02...	1445	36	18.5	5	.49	--	--	--
NOV								
08...	1715	1270	16.0	1790	6140	51	61	72
09...	1020	310	15.0	272	228	--	--	--
11...	1510	69	15.5	39	7.3	--	--	--
14...	1445	26	15.0	12	.84	--	--	--
DEC								
14...	1145	227	13.0	279	171	--	--	--
14...	1200	214	14.0	257	148	--	--	--
20...	1300	1720	8.5	1040	4830	--	--	--
JAN								
01...	1515	582	10.0	186	292	--	--	--
10...	1120	190	10.5	129	66	--	--	--
FEB								
05...	1630	30	10.5	4	.32	--	--	--
16...	0945	554	12.5	521	779	--	--	--
MAR								
15...	1000	1160	15.5	1080	3380	--	--	--
16...	1045	70	13.5	54	10	--	--	--
APR								
04...	0900	786	11.5	648	1380	--	--	--
12...	1830	1680	13.0	1660	7530	--	--	--
13...	0930	2200	12.0	2000	11900	20	24	31
30...	1245	116	14.0	16	5.0	--	--	--
MAY								
05...	0925	180	14.5	518	252	--	--	--
30...	1730	29	21.5	1	.08	--	--	--

Date	Suspnd. sediment, falldia percent <.016mm (70340)	Suspnd. sediment, falldia percent <.031mm (70341)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspnd. sediment, sieve diametr percent <.125mm (70332)	Suspnd. sediment, sieve diametr percent <.25mm (70333)	Suspnd. sediment, sieve diametr percent <.5 mm (70334)	Suspnd. sediment, sieve diametr percent <1 mm (70335)
OCT							
02...	--	--	79	--	--	--	--
NOV							
08...	84	93	98	100	--	--	--
09...	--	--	98	--	--	--	--
11...	--	--	96	--	--	--	--
14...	--	--	82	--	--	--	--
DEC							
14...	--	--	99	--	--	--	--
14...	--	--	100	--	--	--	--
20...	--	--	83	91	98	100	--
JAN							
01...	--	--	92	--	--	--	--
10...	--	--	96	--	--	--	--
FEB							
05...	--	--	72	--	--	--	--
16...	--	--	92	--	--	--	--
MAR							
15...	--	--	86	--	--	--	--
16...	--	--	99	100	--	--	--
APR							
04...	--	--	93	--	--	--	--
12...	--	--	69	--	--	--	--
13...	39	49	62	73	87	99	100
30...	--	--	94	--	--	--	--
MAY							
05...	--	--	90	--	--	--	--
30...	--	--	64	--	--	--	--

ALAMEDA CREEK BASIN

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sam-pling points, count (00063)	Instan-taneous dis-charge, cfs (00061)	Temper-ature, water, deg C (00010)	Bed sedi-ment, dry svd sve dia percent <.063mm (80164)	Bed sedi-ment, dry svd sve dia percent <.125mm (80165)	Bed sedi-ment, dry svd sve dia percent <.25mm (80166)	Bed sedi-ment, dry svd sve dia percent <.5 mm (80167)
OCT								
02...	1540	1	36	18.5	3	6	9	12
02...	1545	1	36	18.5	<1	1	2	6
02...	1550	1	36	18.5	1	2	4	8
02...	1555	1	36	18.5	1	2	7	9
02...	1600	1	36	18.5	1	2	6	9
MAR								
16...	1000	1	72	13.5	<1	<1	2	9
16...	1005	1	72	13.5	<1	<1	2	15
16...	1010	1	72	13.5	<1	<1	2	14
16...	1015	1	72	13.5	--	<1	2	16
16...	1020	1	72	13.5	<1	1	6	15
MAY								
30...	1750	1	29	21.5	11	24	36	45
30...	1755	1	29	21.5	<1	<1	1	9
30...	1800	1	29	21.5	<1	1	2	9
30...	1805	1	29	21.5	<1	1	3	16
30...	1810	1	28	21.5	12	33	54	63

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bed sedi-ment, dry svd sve dia percent <1 mm (80168)	Bed sedi-ment, dry svd sve dia percent <2 mm (80169)	Bed sedi-ment, dry svd sve dia percent <4 mm (80170)	Bed sedi-ment, dry svd sve dia percent <8 mm (80171)	Bed sedi-ment, dry svd sve dia percent <16 mm (80172)	Bed sedi-ment, dry svd sve dia percent <32 mm (80173)	Bed sedi-ment, dry svd sve dia percent <64 mm (80174)
OCT							
02...	16	27	47	72	96	100	--
02...	16	29	40	50	73	100	--
02...	18	32	46	63	82	100	--
02...	13	25	41	60	78	89	100
02...	11	27	72	97	100	--	--
MAR							
16...	16	25	40	64	90	100	--
16...	24	34	46	58	79	100	--
16...	25	34	50	81	96	100	--
16...	28	39	58	76	94	100	--
16...	16	19	37	69	96	100	--
MAY							
30...	53	64	83	100	--	--	--
30...	17	25	35	48	72	100	--
30...	19	31	44	58	85	100	--
30...	29	36	45	61	89	100	--
30...	71	82	95	100	--	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam-pling method, code (82398)	Sam-pler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Hori-zontal width of vertical, feet (04121)
NOV									
08...	1615	1000	1100	.25	0	1545	1645	30	4.0
DEC									
20...	1350	1000	1100	.25	0	1340	1400	20	5.0
20...	1420	1000	1100	.25	0	1410	1430	20	5.0

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

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge unit cmposit t/d/ft (04122)	Bedload sedi- ment average dis- charge, tons/d (80225)	Bedload sedi- ment, sieve diametr percent <.063mm (80226)
NOV 08...	1	22	22	7.0	1590	16.0	5.41	454	<1
DEC 20...	2	17	17	15.0	1590	8.5	2.19	184	<1
20...	2	17	17	15.0	1560	8.5	2.14	184	<1

Date	Bedload sedi- ment, sieve diametr percent <.125mm (80227)	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
NOV 08...	<1	<1	1	3	17	40	60	85	100
DEC 20...	<1	1	11	21	40	69	86	97	100
20...	<1	1	14	30	50	66	81	94	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	38	4	0.41	10	5	0.13	14	3	0.12
2	36	5	0.45	9.9	7	0.20	15	3	0.11
3	36	3	0.34	11	10	0.28	17	3	0.12
4	37	3	0.30	15	9	0.35	16	2	0.10
5	34	3	0.27	15	8	0.31	13	2	0.08
6	36	3	0.29	15	7	0.28	13	2	0.07
7	37	3	0.30	138	285	844	13	2	0.07
8	36	3	0.33	1540	5440	47400	12	2	0.06
9	33	4	0.34	323	327	402	13	3	0.14
10	34	4	0.38	143	101	49	32	8	0.79
11	34	4	0.40	91	59	16	20	4	0.24
12	38	5	0.47	40	31	3.4	15	3	0.12
13	36	5	0.47	31	22	1.8	375	549	2100
14	36	5	0.47	26	14	1.0	834	2440	11300
15	35	4	0.37	35	17	1.7	525	1330	3490
16	36	3	0.28	45	14	1.7	4320	15200	331000
17	35	2	0.21	27	11	0.78	1230	645	2490
18	37	2	0.25	22	8	0.45	281	82	73
19	22	3	0.17	18	5	0.23	1230	933	8150
20	32	3	0.29	17	4	0.19	1840	1200	6060
21	33	4	0.34	17	4	0.20	973	527	1660
22	35	4	0.40	17	5	0.21	323	110	103
23	32	5	0.41	17	5	0.23	173	52	25
24	34	5	0.48	15	5	0.21	115	28	9.1
25	36	6	0.55	16	5	0.23	81	14	3.2
26	36	6	0.56	18	6	0.27	67	10	1.8
27	36	5	0.49	15	6	0.23	56	8	1.2
28	35	4	0.39	14	6	0.22	508	388	1710
29	27	3	0.24	14	5	0.19	1170	828	2950
30	26	3	0.23	14	4	0.15	348	146	151
31	14	4	0.14	---	---	---	1270	824	3580
TOTAL	1042	---	11.02	2728.9	---	48725.94	15912	---	374859.32

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

ALAMEDA CREEK BASIN

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	632	240	424	34	8	0.74	36	9	0.91
2	455	154	190	32	8	0.66	32	8	0.65
3	382	128	133	42	9	1.3	30	6	0.50
4	345	115	107	33	4	0.36	26	5	0.36
5	318	99	85	32	4	0.33	26	4	0.28
6	158	40	18	30	3	0.26	27	3	0.23
7	91	18	4.4	30	3	0.23	28	3	0.21
8	80	14	3.0	30	3	0.22	28	3	0.19
9	121	46	56	30	3	0.20	27	2	0.17
10	256	203	171	30	2	0.19	27	2	0.15
11	122	73	25	30	2	0.18	27	3	0.21
12	79	42	9.2	67	4	1.3	27	4	0.28
13	77	21	4.4	91	9	2.3	38	9	1.5
14	67	11	2.1	40	5	0.54	33	6	0.56
15	58	10	1.5	34	2	0.22	458	415	1220
16	50	8	1.1	402	461	1250	141	82	35
17	47	7	0.93	72	18	3.8	81	26	6.8
18	43	6	0.75	47	9	1.1	44	9	1.0
19	41	6	0.62	44	8	0.97	38	7	0.72
20	40	5	0.52	39	11	1.2	36	5	0.49
21	58	7	1.2	36	11	1.0	33	2	0.19
22	50	5	0.69	34	10	0.89	32	2	0.17
23	40	4	0.46	33	10	0.92	43	4	0.51
24	46	4	0.49	35	16	1.5	43	4	0.44
25	39	4	0.38	48	25	3.2	31	3	0.22
26	36	3	0.31	42	31	3.5	30	2	0.16
27	36	3	0.29	106	91	40	27	2	0.12
28	35	3	0.29	48	14	1.9	24	1	0.07
29	34	3	0.27	---	---	---	24	1	0.06
30	36	7	0.73	---	---	---	22	1	0.06
31	34	9	0.82	---	---	---	23	2	0.11
TOTAL	3906	---	1243.45	1571	---	1319.01	1542	---	1272.32
	APRIL			MAY					
1	27	2	0.14	90	11	2.6			
2	53	24	5.3	234	53	164			
3	58	27	4.7	928	495	1450			
4	236	136	177	301	119	106			
5	72	12	2.6	175	38	18			
6	44	5	0.63	135	19	7.0			
7	37	4	0.39	112	12	3.7			
8	34	4	0.33	97	9	2.3			
9	30	3	0.26	83	7	1.7			
10	27	3	0.20	73	6	1.2			
11	27	2	0.17	66	6	1.1			
12	378	345	1210	61	6	1.1			
13	1140	879	3440	57	7	1.0			
14	215	56	39	51	7	0.94			
15	99	20	5.6	46	6	0.76			
16	71	13	2.5	45	5	0.62			
17	62	9	1.4	44	4	0.49			
18	64	7	1.3	40	4	0.44			
19	53	9	1.3	37	4	0.40			
20	47	15	1.9	35	4	0.38			
21	93	64	28	31	4	0.34			
22	77	43	9.9	29	4	0.32			
23	49	21	2.8	29	4	0.31			
24	78	51	15	30	4	0.32			
25	109	94	51	30	4	0.33			
26	147	133	60	30	4	0.32			
27	62	37	6.3	28	4	0.30			
28	266	260	381	25	4	0.27			
29	162	56	27	24	4	0.26			
30	115	17	5.4	25	2	0.13			
31	---	---	---	25	3	0.20			
TOTAL	3932	---	5481.12	3016	---	1766.83			
PERIOD				33649.90		434679.01			

11179000 ALAMEDA CREEK NEAR NILES, CA—Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 2002	1042.00	11.02	0	11
NOVEMBER	2728.90	48725.94	794	49520
DECEMBER	15912.00	374859.32	2988	377847
JANUARY 2003	3906.00	1243.45	52	1295
FEBRUARY	1571.00	1319.01	74	1393
MARCH	1542.00	1272.32	105	1377
APRIL	3932.00	5481.12	328	5809
MAY	3016.00	1766.83	231	1998
TOTAL	33649.90	434679.01	4572	439250

ALAMEDA CREEK BASIN

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 mi².

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 NGVD of 1929. 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 ft³/s, Jan. 9, 1995, gage height, 5.32 ft, from rating curve extended above 600 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0700	148	2.85	Dec. 19	1630	221	3.11

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	11	0.06	0.43	0.00	2.7	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	6.5	0.05	0.28	0.08	3.3	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	4.5	0.03	0.22	0.13	18	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	3.2	0.02	0.17	1.9	6.7	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	2.6	0.00	0.11	0.71	5.2	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	2.0	0.00	0.08	0.25	3.6	0.00	0.00	0.00	0.00
7	0.00	0.16	0.00	1.5	0.00	0.05	0.13	2.9	0.00	0.00	0.00	0.00
8	0.00	1.1	0.00	1.3	0.01	0.03	0.05	2.3	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	1.6	0.03	0.01	0.02	2.0	0.00	0.00	0.00	0.00
10	0.00	0.06	0.00	5.9	0.00	0.01	0.01	1.6	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	2.7	0.00	0.00	0.01	1.3	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	2.1	0.14	0.01	2.4	1.1	0.00	0.00	0.00	0.00
13	0.00	0.00	0.41	1.7	0.34	0.01	27	0.90	0.00	0.00	0.00	0.00
14	0.00	0.00	0.27	1.4	0.17	0.00	8.0	0.76	0.00	0.00	0.00	0.00
15	0.00	0.00	0.08	1.2	0.16	7.5	3.7	0.70	0.00	0.00	0.00	0.00
16	0.00	0.00	29	0.90	4.2	2.1	2.5	0.63	0.00	0.00	0.00	0.00
17	0.00	0.00	17	0.74	1.0	1.3	2.0	0.59	0.00	0.00	0.00	0.00
18	0.00	0.00	5.9	0.64	0.56	0.75	1.5	0.52	0.00	0.00	0.00	0.00
19	0.00	0.00	35	0.57	0.48	0.59	1.1	0.45	0.00	0.00	0.00	0.00
20	0.00	0.00	27	0.51	0.45	0.52	0.88	0.40	0.00	0.00	0.00	0.00
21	0.00	0.00	17	0.49	0.27	0.42	2.3	0.35	0.00	0.00	0.00	0.00
22	0.00	0.00	7.2	0.46	0.22	0.35	2.1	0.28	0.00	0.00	0.00	0.00
23	0.00	0.00	4.2	0.40	0.19	0.48	1.2	0.20	0.00	0.00	0.00	0.00
24	0.00	0.00	2.7	0.35	0.22	0.36	2.3	0.21	0.00	0.00	0.00	0.00
25	0.00	0.00	2.0	0.27	0.69	0.20	2.3	0.32	0.00	0.00	0.00	0.00
26	0.00	0.00	1.7	0.22	0.50	0.22	2.4	0.31	0.00	0.00	0.00	0.00
27	0.00	0.00	1.2	0.20	1.4	0.29	1.6	0.18	0.00	0.00	0.00	0.00
28	0.00	0.00	6.1	0.17	0.68	0.12	17	0.04	0.00	0.00	0.00	0.00
29	0.00	0.00	16	0.13	---	0.03	5.8	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	6.6	0.09	---	0.02	3.9	0.00	0.00	0.00	0.00	0.00
31	0.00	---	25	0.08	---	0.01	---	0.00	---	0.00	0.00	---
TOTAL	0.00	1.32	204.36	55.42	11.87	16.67	93.27	57.54	0.00	0.00	0.00	0.00
MEAN	0.000	0.044	6.59	1.79	0.42	0.54	3.11	1.86	0.000	0.000	0.000	0.000
MAX	0.00	1.1	35	11	4.2	7.5	27	18	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	2.6	405	110	24	33	185	114	0.00	0.00	0.00	0.00

11180500 DRY CREEK AT UNION CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.14	0.52	2.47	8.09	10.1	6.61	2.89	0.65	0.17	0.034	0.012	0.003
MAX	6.31	11.3	21.0	33.8	70.1	58.2	20.1	6.45	2.87	0.82	0.51	0.10
(WY)	1963	1984	1974	1997	1998	1983	1982	1983	1983	1983	1983	1983
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1917	1917	1918	1918	1918	1972	1917	1917	1917	1917	1917	1917

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1917 - 2003	
ANNUAL TOTAL	443.88		440.45			
ANNUAL MEAN	1.22		1.21		2.61	
HIGHEST ANNUAL MEAN					13.0	
LOWEST ANNUAL MEAN					0.002	
HIGHEST DAILY MEAN	35	Dec 19	35	Dec 19	453	Feb 3 1998
LOWEST DAILY MEAN	0.00	Apr 23	0.00	Oct 1	0.00	Oct 1 1916
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 23	0.00	Oct 1	0.00	Oct 1 1916
MAXIMUM PEAK FLOW			221		1680	
MAXIMUM PEAK STAGE			3.11		5.32	
ANNUAL RUNOFF (AC-FT)	880		874		1890	
10 PERCENT EXCEEDS	2.2		2.4		4.6	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11180700 ALAMEDA CREEK FLOOD CHANNEL AT UNION CITY, CA

LOCATION.—Lat 37° 35'09", 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.

DRAINAGE AREA.—639 mi².

PERIOD OF RECORD.—October 1958 to current year. Published as "Patterson Creek at Union City" 1958–2001.

GAGE.—Water-stage recorder. Datum of gage is 4.13 ft above NGVD of 1929. Prior to Oct. 26, 1966, at site 0.2 mi downstream at same datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. 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 ft³/s, Feb. 3, 1998, gage height, 20.43 ft; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.67	0.74	0.20	569	3.6	2.0	2.1	24	4.8	2.6	e16	0.80
2	0.56	0.63	0.23	343	2.0	1.9	2.4	37	5.8	2.2	e5.5	0.79
3	0.50	0.56	0.24	220	1.9	2.1	2.0	1340	4.5	1.6	e6.0	0.80
4	0.50	0.48	0.25	154	2.1	2.2	90	329	26	1.3	e6.0	0.78
5	0.52	0.41	0.29	181	2.0	2.2	148	62	61	1.1	2.5	0.75
6	0.49	0.35	0.34	92	2.0	2.4	5.0	25	57	1.1	1.6	0.75
7	0.52	4.1	0.33	53	1.9	2.5	1.4	23	12	0.99	1.4	0.77
8	0.52	2330	0.29	5.6	1.9	2.3	1.1	23	7.9	3.9	1.4	0.76
9	0.58	701	0.42	14	1.7	2.2	1.1	99	9.3	3.5	1.5	0.79
10	0.67	169	1.2	108	1.7	2.5	1.1	115	8.6	e1.2	1.3	0.80
11	0.62	155	2.6	21	2.0	2.6	1.1	89	12	e0.80	1.2	0.76
12	0.67	12	0.42	17	5.5	2.5	275	22	12	e0.70	1.1	0.70
13	0.75	1.7	144	9.2	6.0	2.6	1490	37	33	e3.0	1.1	0.68
14	0.99	0.61	1120	8.3	3.6	2.8	245	46	143	e7.0	1.0	0.65
15	1.2	0.42	648	12	2.5	388	14	46	49	e2.2	1.0	0.65
16	1.2	0.37	5780	8.6	372	105	4.6	38	17	0.51	1.0	0.63
17	1.2	0.34	1190	5.0	89	87	2.7	36	6.6	0.33	1.0	0.59
18	0.73	0.33	141	4.1	16	17	2.0	18	3.4	0.24	1.0	0.52
19	0.35	0.34	925	2.8	8.1	14	1.6	9.2	2.2	0.20	1.0	0.50
20	0.44	0.38	1910	3.8	5.7	10	1.4	5.5	2.3	0.15	1.0	0.49
21	0.50	e0.38	1100	34	3.3	5.8	19	5.1	4.6	0.11	1.0	0.48
22	0.53	e0.35	316	12	3.5	3.5	10	10	38	0.09	0.98	0.48
23	0.53	e0.30	38	8.5	3.6	5.3	2.1	12	31	0.08	0.91	0.48
24	e0.60	e0.25	30	4.3	3.3	4.0	11	11	12	4.7	0.91	0.50
25	0.76	e0.20	26	2.4	10	3.1	4.4	11	5.8	2.9	0.91	0.52
26	e0.75	0.16	11	2.2	2.4	3.3	3.1	8.3	3.4	1.2	0.85	0.52
27	e0.72	0.14	6.2	2.2	13	2.8	1.8	5.6	2.6	3.8	0.80	0.52
28	e0.70	0.20	246	3.3	2.5	2.2	303	5.3	3.5	10	0.80	0.52
29	0.65	0.17	1340	5.8	---	2.3	104	5.5	3.9	3.3	0.80	0.52
30	0.69	0.17	317	9.5	---	2.1	4.2	9.4	3.2	5.7	0.80	0.52
31	0.77	---	1250	10	---	2.2	---	7.9	---	e47	0.80	---
TOTAL	20.88	3381.08	16545.01	1925.6	572.8	690.4	2754.2	2514.8	585.4	113.50	63.16	19.02
MEAN	0.67	113	534	62.1	20.5	22.3	91.8	81.1	19.5	3.66	2.04	0.63
MAX	1.2	2330	5780	569	372	388	1490	1340	143	47	16	0.80
MIN	0.35	0.14	0.20	2.2	1.7	1.9	1.1	5.1	2.2	0.08	0.80	0.48
AC-FT	41	6710	32820	3820	1140	1370	5460	4990	1160	225	125	38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

MEAN	6.24	42.6	101	264	388	256	108	28.6	9.46	2.12	0.65	1.18
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1959	1959	1959	1959	1961	1960	1959	1959	1959	1959	1959	1959

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	30846.27		29185.85			
ANNUAL MEAN	84.5		80.0		99.1	
HIGHEST ANNUAL MEAN					703	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	5780	Dec 16	5780	Dec 16	14400	Feb 3 1998
LOWEST DAILY MEAN	0.14	Nov 27	0.08	Jul 23	0.00	Oct 1 1958
ANNUAL SEVEN-DAY MINIMUM	0.18	Nov 25	0.17	Jul 17	0.00	Oct 1 1958
MAXIMUM PEAK FLOW			13300		25800	
MAXIMUM PEAK STAGE			16.60		20.43	
ANNUAL RUNOFF (AC-FT)	61180		57890		71800	
10 PERCENT EXCEEDS	156		104		144	
50 PERCENT EXCEEDS	2.1		2.5		0.10	
90 PERCENT EXCEEDS	0.50		0.43		0.00	

e Estimated.

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, and 3.6 mi northeast of Hayward.

DRAINAGE AREA.—9.08 mi².

PERIOD OF RECORD.—October 1997 to September 2003 (discontinued).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 310 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 2002, at datum 1.00 ft higher.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,940 ft³/s, Feb. 3, 1998, gage height, 10.67 ft, from rating curve extended above 300 ft³/s; no flow many days during water years 2000–2003.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0630	280	5.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.07	16	1.5	1.6	0.86	5.6	1.1	0.28	0.12	0.05
2	0.00	0.00	0.08	12	1.4	1.5	0.71	6.4	1.0	0.26	0.10	0.03
3	0.00	0.00	0.08	9.4	1.4	1.6	1.0	16	0.97	0.25	0.12	0.04
4	0.00	0.00	0.10	7.6	1.3	1.6	2.6	10	0.97	0.22	0.09	0.04
5	0.00	0.00	0.10	6.5	1.3	1.5	1.4	8.7	0.93	0.23	0.09	0.05
6	0.00	0.00	0.11	5.4	1.2	1.5	1.2	7.7	0.89	0.25	0.08	0.04
7	0.00	0.02	0.11	4.1	1.2	1.5	1.2	6.8	0.90	0.26	0.09	0.06
8	0.00	5.0	0.08	3.3	1.2	1.3	1.1	6.3	0.90	0.27	0.09	0.06
9	0.00	0.09	0.11	4.7	1.1	1.1	1.0	5.4	0.84	0.24	0.09	0.07
10	0.00	0.09	0.15	6.7	1.1	1.2	1.00	4.7	0.77	0.21	0.08	0.08
11	0.00	0.05	0.07	3.8	1.1	1.2	0.96	4.2	0.78	0.22	0.07	0.05
12	0.00	0.04	0.07	3.0	1.4	1.1	3.6	3.8	0.83	0.20	0.07	0.04
13	0.00	0.03	2.5	2.8	1.4	1.0	22	3.4	0.79	0.18	0.06	0.02
14	0.00	0.03	2.7	2.6	1.2	1.1	12	3.2	0.70	0.18	0.07	0.01
15	0.00	0.02	0.31	2.4	1.4	7.7	7.0	2.9	0.67	0.19	0.09	0.04
16	0.00	0.02	54	2.2	5.8	2.9	5.4	2.7	0.61	0.17	0.08	0.06
17	0.00	0.03	24	1.9	2.0	2.1	4.5	2.5	0.58	0.16	0.06	0.05
18	0.00	0.03	12	1.8	1.7	1.8	3.7	2.3	0.59	0.15	0.06	0.06
19	0.00	0.03	41	1.6	1.7	2.2	3.2	2.1	0.59	0.15	0.09	0.02
20	0.00	0.03	28	1.5	1.6	2.3	2.8	1.9	0.53	0.13	0.08	0.01
21	0.00	0.03	21	1.7	1.4	1.8	3.4	1.8	0.53	0.13	0.05	0.00
22	0.00	0.04	12	1.5	1.4	1.8	3.1	1.7	0.49	0.13	0.06	0.00
23	0.00	0.05	8.1	1.5	1.4	1.8	2.5	1.7	0.49	0.12	0.04	0.00
24	0.00	0.05	5.7	1.4	1.7	1.7	3.8	1.6	0.45	0.14	0.04	0.00
25	0.00	0.05	3.3	1.4	2.2	1.4	4.4	1.6	0.37	0.12	0.03	0.00
26	0.00	0.04	2.9	1.4	1.6	1.5	4.0	1.5	0.33	0.11	0.02	0.05
27	0.00	0.05	2.5	1.5	2.4	1.4	3.5	1.4	0.30	0.11	0.03	0.05
28	0.00	0.06	13	1.5	1.7	1.3	15	1.3	0.27	0.08	0.05	0.08
29	0.00	0.07	19	1.5	---	1.2	8.6	1.3	0.27	0.09	0.07	0.08
30	0.00	0.07	12	1.5	---	1.2	6.8	1.3	0.25	0.10	0.05	0.06
31	0.00	---	26	1.5	---	1.2	---	1.2	---	0.10	0.05	---
TOTAL	0.00	6.02	291.14	115.7	45.8	54.1	132.33	123.0	19.69	5.43	2.17	1.20
MEAN	0.000	0.20	9.39	3.73	1.64	1.75	4.41	3.97	0.66	0.18	0.070	0.040
MAX	0.00	5.0	54	16	5.8	7.7	22	16	1.1	0.28	0.12	0.08
MIN	0.00	0.00	0.07	1.4	1.1	1.0	0.71	1.2	0.25	0.08	0.02	0.00
AC-FT	0.00	12	577	229	91	107	262	244	39	11	4.3	2.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	0.12	0.29	2.60	8.31	23.0	7.80	4.22	1.87	0.67	0.29	0.12	0.085
MAX	0.24	0.57	9.39	30.8	72.1	18.1	10.0	3.97	1.70	0.76	0.37	0.27
(WY)	2000	1998	2003	1998	1998	2000	1998	2003	1998	1998	1998	1998
MIN	0.000	0.11	0.18	0.32	1.64	1.75	1.18	0.56	0.18	0.052	0.005	0.000
(WY)	2002	2002	2001	2001	2003	2003	2002	2002	2001	2002	2001	2002

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1998 - 2003

ANNUAL TOTAL	661.38	796.58	
ANNUAL MEAN	1.81	2.18	
HIGHEST ANNUAL MEAN			4.00
LOWEST ANNUAL MEAN			10.7
HIGHEST DAILY MEAN	54	Dec 16	410
LOWEST DAILY MEAN	0.00	Jul 28	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 9	0.00
MAXIMUM PEAK FLOW			280
MAXIMUM PEAK STAGE			5.18
ANNUAL RUNOFF (AC-FT)	1310	1580	2900
10 PERCENT EXCEEDS	3.7	5.4	7.9
50 PERCENT EXCEEDS	0.24	0.71	0.45
90 PERCENT EXCEEDS	0.00	0.00	0.00

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1980 to September 1994, October 1997 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 260 ft above NGVD of 1929, from topographic map. October 1980 to September 1994 at site 250 ft downstream at same datum.

REMARKS.—Records poor. Some regulation of low flow by ponds upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,890 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0815	1,090	8.32	Dec. 31	0330	491	6.02
Dec. 16	0530	1,650	10.08	Feb. 16	0030	282	5.00
Dec. 19	1645	1,360	9.21	Apr. 13	0745	411	5.65
Dec. 28	1830	454	5.85	Apr. 28	0130	300	5.10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.09	0.12	0.37	21	3.9	3.3	1.8	8.6	2.4	1.1	0.48	e0.38
2	0.09	0.12	0.38	17	3.3	3.1	2.5	16	2.2	1.0	0.47	e0.37
3	0.09	0.13	0.38	14	3.2	3.2	1.8	50	2.2	1.0	0.47	0.36
4	0.10	0.12	0.40	12	3.2	3.1	12	15	2.1	0.94	0.44	0.36
5	0.10	0.13	0.40	9.4	3.1	2.8	2.1	13	2.2	0.97	0.43	0.35
6	0.10	0.13	0.40	7.3	3.1	2.7	2.0	11	2.0	0.98	0.41	0.33
7	0.10	6.4	0.40	8.0	3.2	2.7	2.0	8.8	2.1	1.1	0.43	0.34
8	0.10	106	0.40	7.9	3.0	2.6	1.9	8.2	2.1	0.98	0.41	0.37
9	0.10	0.84	0.50	15	2.7	2.4	1.8	6.5	2.0	0.92	0.41	0.36
10	0.11	1.5	3.0	15	2.5	2.4	1.8	5.3	1.9	0.90	0.40	0.37
11	0.11	0.42	0.52	8.9	2.3	2.3	1.7	4.7	1.8	0.92	0.39	0.36
12	0.11	0.41	0.43	6.7	4.4	2.3	28	4.0	1.9	0.86	0.38	0.33
13	0.10	0.40	64	5.9	2.4	2.2	110	3.6	1.8	0.83	0.38	0.31
14	0.11	0.39	38	5.3	1.6	3.0	14	4.6	1.7	0.76	0.37	0.31
15	0.11	0.37	0.71	4.9	4.6	32	9.2	4.5	1.6	0.75	0.38	0.33
16	0.12	0.35	447	4.3	44	6.8	7.0	3.5	1.5	0.75	0.33	0.32
17	0.12	0.35	81	4.2	4.9	3.3	5.6	2.9	1.5	0.71	0.33	0.34
18	0.12	0.34	6.3	3.3	3.9	2.8	5.0	2.7	1.5	0.61	0.33	0.31
19	0.12	0.34	265	3.2	4.5	2.9	4.2	2.7	1.6	0.61	0.52	0.31
20	0.12	0.34	197	5.9	3.5	2.7	3.6	2.4	1.6	0.57	0.37	0.31
21	0.13	0.33	111	7.7	3.3	2.6	6.5	2.5	1.6	0.56	0.36	0.29
22	0.12	0.35	13	3.9	3.4	2.5	4.8	2.6	1.5	0.56	0.37	0.31
23	0.13	0.37	5.5	4.1	3.5	3.8	3.4	2.6	1.5	0.53	0.33	0.30
24	0.13	0.37	6.4	3.8	3.5	2.4	7.8	2.7	1.5	0.49	0.32	0.34
25	0.12	0.38	4.8	4.3	4.8	2.2	10	2.8	1.3	0.49	0.31	0.36
26	0.13	0.36	4.3	9.9	4.3	3.5	10	2.7	1.2	0.47	0.30	0.37
27	0.13	0.36	4.0	7.7	8.5	2.3	7.5	2.5	1.1	0.46	0.31	0.36
28	0.12	0.37	115	4.5	3.6	2.1	60	2.4	1.1	0.46	0.34	0.37
29	0.13	0.37	92	2.8	---	2.0	13	2.5	1.1	0.44	0.33	0.38
30	0.13	0.38	14	2.7	---	1.9	11	2.5	1.1	0.46	e0.41	0.36
31	0.13	---	131	3.5	---	1.9	---	2.5	---	0.49	e0.40	---
TOTAL	3.52	122.84	1607.59	234.1	142.2	115.8	352.0	206.3	50.7	22.67	11.91	10.26
MEAN	0.11	4.09	51.9	7.55	5.08	3.74	11.7	6.65	1.69	0.73	0.38	0.34
MAX	0.13	106	447	21	44	32	110	50	2.4	1.1	0.52	0.38
MIN	0.09	0.12	0.37	2.7	1.6	1.9	1.7	2.4	1.1	0.44	0.30	0.29
AC-FT	7.0	244	3190	464	282	230	698	409	101	45	24	20

e Estimated.

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.82	3.04	8.83	15.5	32.3	16.4	7.20	3.07	1.43	0.57	0.28	0.23
MAX	2.20	16.6	51.9	79.3	194	90.7	42.3	13.0	4.44	2.05	0.78	0.53
(WY)	1992	1984	2003	1993	1998	1983	1982	1983	1998	1983	1998	1986
MIN	0.072	0.12	0.65	0.16	0.65	0.47	0.70	0.19	0.14	0.023	0.001	0.000
(WY)	1989	1993	1990	1991	1989	1990	1990	1991	1990	1989	1988	1988

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1981 - 2003	
ANNUAL TOTAL	2636.20		2879.89			
ANNUAL MEAN	7.22		7.89		7.33	
HIGHEST ANNUAL MEAN					25.8	
LOWEST ANNUAL MEAN					0.70	
HIGHEST DAILY MEAN	447	Dec 16	447	Dec 16	1270	Feb 3 1998
LOWEST DAILY MEAN	0.09	Sep 24	0.09	Oct 1	0.00	Aug 28 1981
ANNUAL SEVEN-DAY MINIMUM	0.10	Oct 1	0.10	Oct 1	0.00	Sep 6 1981
MAXIMUM PEAK FLOW			1650		3890	
MAXIMUM PEAK STAGE			10.08		15.48	
ANNUAL RUNOFF (AC-FT)	5230		5710		5310	
10 PERCENT EXCEEDS	8.2		9.6		13	
50 PERCENT EXCEEDS	1.4		1.8		0.87	
90 PERCENT EXCEEDS	0.13		0.13		0.05	

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, fall dia dst wat percent <.002mm (70337)	Suspended sediment, fall dia dst wat percent <.004mm (70338)
NOV							
08...	1415	4.7	15.5	4540	58	--	--
DEC							
13...	1230	24	13.0	92	6.0	--	--
15...	1630	1.3	12.5	246	.86	--	--
16...	1330	232	13.5	2040	1280	--	--
17...	1615	60	11.0	344	56	--	--
21...	1600	46	11.0	265	33	--	--
JAN							
01...	1515	23	10.0	88	5.5	--	--
10...	1430	12	12.0	464	15	--	--
17...	1200	2.9	9.5	32	.25	--	--
FEB							
07...	1200	3.1	8.0	21	.18	--	--
25...	1430	4.0	12.5	112	1.2	--	--
MAR							
15...	1515	9.0	14.5	425	10	--	--
26...	1400	2.7	14.0	36	.26	--	--
APR							
04...	1345	5.5	11.5	460	6.8	--	--
13...	1215	122	11.5	1310	432	50	59
25...	1815	14	12.5	573	22	--	--
28...	1645	13	12.5	256	9.0	--	--
28...	1730	15	12.5	254	10	--	--
29...	1215	13	11.5	158	5.5	--	--
MAY							
03...	1730	18	14.0	243	12	--	--
30...	1330	3.1	14.5	14	.12	--	--

Date	Suspended sediment, fall dia dst wat percent <.008mm (70339)	Suspended sediment, fall dia dst wat percent <.016mm (70340)	Suspended sediment, fall dia dst wat percent <.031mm (70341)	Suspended sediment, sieve diametr percent <.063mm (70331)	Suspended sediment, sieve diametr percent <.125mm (70332)	Suspended sediment, sieve diametr percent <.25mm (70333)	Suspended sediment, sieve diametr percent <.5 mm (70334)
NOV							
08...	--	--	--	99	--	--	--
DEC							
13...	--	--	--	96	--	--	--
15...	--	--	--	98	--	--	--
16...	--	--	--	87	94	99	100
17...	--	--	--	86	--	--	--
21...	--	--	--	88	--	--	--
JAN							
01...	--	--	--	88	--	--	--
10...	--	--	--	98	--	--	--
17...	--	--	--	63	--	--	--
FEB							
07...	--	--	--	30	--	--	--
25...	--	--	--	76	86	100	--
MAR							
15...	--	--	--	99	99	100	--
26...	--	--	--	96	--	--	--
APR							
04...	--	--	--	100	--	--	--
13...	69	82	89	95	98	100	--
25...	--	--	--	99	--	--	--
28...	--	--	--	98	--	--	--
28...	--	--	--	97	--	--	--
29...	--	--	--	98	--	--	--
MAY							
03...	--	--	--	94	--	--	--
30...	--	--	--	34	--	--	--

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Temperature, water, deg C (00010)	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Bed sediment, dry svd sve dia <.063mm (80164)	Bed sediment, dry svd sve dia <.125mm (80165)	Bed sediment, dry svd sve dia <.25mm (80166)	Bed sediment, dry svd sve dia <.5 mm (80167)
FEB								
25...	1450	12.5	1	4.0	16	52	88	96
25...	1455	12.5	1	4.0	10	20	28	33
25...	1500	12.5	1	4.0	6	18	41	61
25...	1505	12.5	1	4.0	10	36	73	91
25...	1510	12.5	1	4.0	12	37	70	84
APR								
29...	1300	11.5	1	16	18	54	83	89
29...	1305	11.5	1	17	8	14	19	22
29...	1310	11.5	1	17	<1	1	3	10
29...	1315	11.5	1	18	5	14	37	61
29...	1320	11.5	1	17	8	28	73	93

Date	Bed sediment, dry svd sve dia <1 mm (80168)	Bed sediment, dry svd sve dia <2 mm (80169)	Bed sediment, dry svd sve dia <4 mm (80170)	Bed sediment, dry svd sve dia <8 mm (80171)	Bed sediment, dry svd sve dia <16 mm (80172)	Bed sediment, dry svd sve dia <32 mm (80173)	Bed sediment, dry svd sve dia <64 mm (80174)	Bed sediment, dry svd sve dia <128 mm (80175)
FEB								
25...	97	99	100	--	--	--	--	--
25...	40	53	76	99	100	--	--	--
25...	68	72	78	86	95	100	--	--
25...	95	97	100	--	--	--	--	--
25...	88	91	96	100	--	--	--	--
APR								
29...	92	95	98	99	100	--	--	--
29...	26	32	41	51	55	55	55	100
29...	17	23	31	40	56	86	100	--
29...	69	75	80	87	99	100	--	--
29...	96	98	99	100	--	--	--	--

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sampling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)
DEC										
16...	1445	1000	1120	.25	0	1440	1450	20	315	13.5
16...	1500	1000	1120	.25	0	1455	1500	20	285	13.5
Date	Bedload sediment discharge average unit t/d/ft (04122)	Bedload sediment discharge, tons/d (80225)	Bedload sediment, sieve diameter percent <.063mm (80226)	Bedload sediment, sieve diameter percent <.125mm (80227)	Bedload sediment, sieve diameter percent <.25mm (80228)	Bedload sediment, sieve diameter percent <.5 mm (80229)	Horizontal width of vertical samples in bedload measmnt, feet (04121)	Compstd samples in x-sec bedload number (04118)	Vertical calcs in composite sample, number (04119)	
DEC										
16...	1.52	33	<1	1	5	24	2.0	1	11	
16...	1.07	24	<1	1	6	39	2.0	1	11	

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

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Number of sampling points, count (00063)	Location in X-sect. looking downstrm ft from bank (00009)	Bedload sediment, sieve diametr <32 mm percent (80235)	Bedload sediment, sieve diametr <64 mm percent (80236)	Bedload sediment, sieve diametr <1 mm percent (80230)	Bedload sediment, sieve diametr <2 mm percent (80231)	Bedload sediment, sieve diametr <4 mm percent (80232)	Bedload sediment, sieve diametr <8 mm percent (80233)	Bedload sediment, sieve diametr <16 mm percent (80234)
DEC 16...	11	2.5	66	100	30	36	43	49	55
16...	11	2.5	100	--	54	65	75	85	96

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0.09	16	0.00	0.12	12	0.00	0.37	12	0.01
2	0.09	15	0.00	0.12	12	0.00	0.38	12	0.01
3	0.09	16	0.00	0.13	12	0.00	0.38	11	0.01
4	0.10	19	0.00	0.12	9	0.00	0.40	9	0.01
5	0.10	18	0.01	0.13	9	0.00	0.40	8	0.01
6	0.10	20	0.01	0.13	9	0.00	0.40	8	0.01
7	0.10	18	0.00	6.4	691	105	0.40	10	0.01
8	0.10	19	0.01	106	11600	20800	0.40	11	0.01
9	0.10	21	0.01	0.84	315	0.88	0.50	22	0.05
10	0.11	22	0.01	1.5	561	8.0	3.0	214	13
11	0.11	23	0.01	0.42	131	0.16	0.52	21	0.03
12	0.11	22	0.01	0.41	40	0.05	0.43	18	0.02
13	0.10	19	0.01	0.40	24	0.03	64	513	147
14	0.11	23	0.01	0.39	21	0.02	38	362	266
15	0.11	33	0.01	0.37	23	0.02	0.71	90	1.6
16	0.12	26	0.01	0.35	28	0.03	447	18200	51800
17	0.12	25	0.01	0.35	27	0.02	81	487	158
18	0.12	25	0.01	0.34	23	0.02	6.3	32	0.75
19	0.12	16	0.01	0.34	21	0.02	265	3680	7710
20	0.12	13	0.00	0.34	19	0.02	197	3390	1910
21	0.13	12	0.00	0.33	17	0.02	111	1150	624
22	0.12	10	0.00	0.35	19	0.02	13	70	3.7
23	0.13	14	0.00	0.37	24	0.02	5.5	29	0.94
24	0.13	30	0.01	0.37	24	0.02	6.4	18	0.31
25	0.12	29	0.01	0.38	23	0.02	4.8	12	0.15
26	0.13	30	0.01	0.36	20	0.02	4.3	11	0.13
27	0.13	23	0.01	0.36	14	0.01	4.0	13	0.14
28	0.12	18	0.01	0.37	13	0.01	115	770	643
29	0.13	15	0.01	0.37	12	0.01	92	624	244
30	0.13	13	0.00	0.38	12	0.01	14	109	4.2
31	0.13	12	0.00	---	---	---	131	858	566
TOTAL	3.52	---	0.20	122.84	---	20914.43	1607.59	---	64093.10

SAN LORENZO CREEK BASIN

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	21	78	4.4	3.9	23	0.24	3.3	14	0.12
2	17	46	2.0	3.3	20	0.18	3.1	12	0.10
3	14	41	1.6	3.2	19	0.16	3.2	12	0.10
4	12	34	1.1	3.2	19	0.16	3.1	11	0.09
5	9.4	32	0.81	3.1	19	0.16	2.8	10	0.07
6	7.3	26	0.52	3.1	19	0.16	2.7	9	0.07
7	8.0	29	0.62	3.2	21	0.18	2.7	8	0.06
8	7.9	27	0.57	3.0	19	0.15	2.6	8	0.06
9	15	52	3.7	2.7	19	0.13	2.4	8	0.05
10	15	285	13	2.5	17	0.12	2.4	9	0.06
11	8.9	176	4.4	2.3	14	0.09	2.3	9	0.06
12	6.7	146	2.9	4.4	27	0.49	2.3	10	0.06
13	5.9	115	1.9	2.4	14	0.10	2.2	9	0.05
14	5.3	104	1.5	1.6	9	0.04	3.0	12	0.14
15	4.9	97	1.3	4.6	31	4.7	32	561	104
16	4.3	81	0.95	44	197	93	6.8	216	6.1
17	4.2	57	0.67	4.9	12	0.16	3.3	24	0.21
18	3.3	24	0.21	3.9	10	0.11	2.8	21	0.16
19	3.2	22	0.19	4.5	11	0.16	2.9	22	0.18
20	5.9	37	1.4	3.5	9	0.09	2.7	17	0.12
21	7.7	147	4.1	3.3	9	0.08	2.6	15	0.10
22	3.9	57	0.61	3.4	9	0.08	2.5	14	0.10
23	4.1	36	0.40	3.5	9	0.09	3.8	21	0.28
24	3.8	28	0.29	3.5	11	0.10	2.4	13	0.08
25	4.3	31	0.45	4.8	123	1.7	2.2	12	0.07
26	9.9	59	2.4	4.3	121	2.7	3.5	33	0.43
27	7.7	32	0.87	8.5	85	6.8	2.3	13	0.08
28	4.5	30	0.49	3.6	15	0.15	2.1	12	0.07
29	2.8	22	0.16	---	---	---	2.0	11	0.06
30	2.7	24	0.17	---	---	---	1.9	11	0.06
31	3.5	27	0.26	---	---	---	1.9	10	0.05
TOTAL	234.1	---	53.94	142.2	---	112.28	115.8	---	113.24
	APRIL			MAY					
1	1.8	10	0.05	8.6	22	0.51			
2	2.5	14	0.12	16	158	21			
3	1.8	9	0.04	50	658	221			
4	12	795	81	15	176	7.1			
5	2.1	21	0.12	13	68	2.4			
6	2.0	19	0.11	11	26	0.74			
7	2.0	17	0.09	8.8	20	0.48			
8	1.9	17	0.08	8.2	21	0.47			
9	1.8	12	0.06	6.5	18	0.31			
10	1.8	10	0.05	5.3	15	0.21			
11	1.7	9	0.04	4.7	13	0.16			
12	28	1660	449	4.0	12	0.13			
13	110	1580	867	3.6	11	0.11			
14	14	147	5.5	4.6	15	0.18			
15	9.2	94	2.4	4.5	15	0.18			
16	7.0	72	1.4	3.5	18	0.18			
17	5.6	56	0.85	2.9	15	0.12			
18	5.0	53	0.72	2.7	12	0.09			
19	4.2	44	0.50	2.7	12	0.09			
20	3.6	36	0.35	2.4	9	0.06			
21	6.5	70	1.8	2.5	9	0.06			
22	4.8	9	0.12	2.6	10	0.07			
23	3.4	6	0.06	2.6	10	0.07			
24	7.8	172	6.2	2.7	10	0.07			
25	10	322	14	2.8	10	0.08			
26	10	372	14	2.7	10	0.07			
27	7.5	294	19	2.5	10	0.07			
28	60	1720	900	2.4	11	0.07			
29	13	138	5.1	2.5	12	0.08			
30	11	30	0.89	2.5	14	0.09			
31	---	---	---	2.5	14	0.09			
TOTAL	352.0	---	2370.65	206.3	---	256.34			
PERIOD				2784.35		87914.18			

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 2002	3.52	0.20	0	0
NOVEMBER	122.84	20914.43	11	20925
DECEMBER	1607.59	64093.10	129	64222
JANUARY 2003	234.10	53.94	0	54
FEBRUARY	142.20	112.28	2	114
MARCH	115.80	113.24	1	114
APRIL	352.00	2370.65	12	2383
MAY	206.30	256.34	2	258
TOTAL	2784.35	87914.18	157	88070

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 on the upstream side of Crow Canyon Road bridge, 0.4 mi east of Canyon High School, 0.8 mi upstream of confluence of Cull Creek, and 2.3 mi northeast of Castro Valley.

DRAINAGE AREA.—10.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 270 ft above NGVD of 1929, 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, 1,990 ft³/s, Feb. 3, 1998, gage height, 13.07 ft, from rating curve extended above 700 ft³/s; minimum daily, 0.01 ft³/s, Oct. 13–15, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 350 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0815	392	6.94	Dec. 19	1615	850	9.07
Dec. 16	0445	1,700	12.21	Dec. 31	0300	368	6.77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.07	0.03	0.61	25	e4.0	3.3	2.2	5.1	e1.6	0.77	0.17	0.05
2	0.19	0.04	0.81	e16	e3.8	3.2	2.7	10	e1.5	0.75	0.15	0.05
3	0.13	0.04	0.78	e8.7	e3.6	3.3	2.2	28	e1.3	0.65	0.16	0.05
4	0.07	0.05	0.81	e8.2	e3.5	3.2	6.6	7.4	e1.4	0.61	0.15	0.06
5	0.05	0.05	0.87	e7.0	e3.4	3.1	2.3	5.1	e1.3	0.59	0.13	0.07
6	0.07	0.07	0.90	e7.2	e3.2	3.1	2.1	4.3	1.2	0.60	0.12	0.07
7	0.09	3.1	0.78	e6.0	e3.0	3.0	2.0	4.1	1.3	0.73	0.12	0.07
8	0.04	34	0.71	e5.8	2.9	2.9	1.9	3.8	1.3	0.75	0.10	0.07
9	0.05	1.1	0.94	e9.8	2.9	2.9	1.8	3.2	1.3	0.65	0.09	0.08
10	0.05	0.97	1.5	e9.5	2.9	2.9	1.8	3.0	1.3	0.63	0.08	0.09
11	0.05	0.40	0.65	e7.6	2.9	2.9	1.8	2.8	1.2	0.74	0.08	0.09
12	0.08	0.18	0.47	e5.5	4.8	2.9	13	2.7	1.3	0.60	0.07	0.09
13	0.01	0.16	24	e4.8	4.2	2.9	57	2.6	1.3	0.59	0.06	0.09
14	0.01	0.14	39	e4.2	2.9	3.4	6.4	2.6	1.2	0.56	0.06	0.10
15	0.01	0.15	11	e5.6	4.4	12	4.0	2.6	1.1	0.53	0.06	0.11
16	0.02	0.17	308	e6.0	21	4.8	3.4	2.6	1.1	0.51	0.05	0.11
17	0.02	0.18	38	e5.6	4.7	3.1	3.2	2.5	1.1	0.50	0.05	0.11
18	0.02	0.15	14	e5.2	4.1	2.8	3.0	2.3	1.1	0.40	0.08	0.11
19	0.02	0.16	128	e4.9	4.3	2.7	2.8	2.2	1.1	0.36	0.39	0.11
20	0.03	0.19	117	e4.2	3.8	2.6	2.6	2.2	1.0	0.31	0.05	0.13
21	0.02	0.22	61	e5.1	3.6	2.6	3.0	2.2	1.0	0.27	0.05	0.12
22	0.02	0.26	19	e4.5	3.6	2.7	2.7	2.1	1.0	0.27	0.05	0.11
23	0.02	0.38	17	e4.4	3.6	3.3	2.5	2.1	1.0	0.25	0.04	0.14
24	0.02	0.42	16	e4.4	3.6	2.5	4.2	2.1	1.00	0.22	0.04	0.16
25	0.02	0.45	19	e4.3	3.7	2.4	8.3	2.2	0.85	0.21	0.04	0.18
26	0.03	0.39	12	e4.6	4.0	3.1	9.9	2.0	0.79	0.21	0.04	0.19
27	0.03	0.37	12	e4.3	5.1	2.4	5.0	1.8	0.71	0.21	0.04	0.20
28	0.03	0.41	72	e4.2	3.4	2.3	47	1.7	0.70	0.16	0.04	0.19
29	0.03	0.47	61	e4.2	---	2.2	7.9	e1.7	0.69	0.16	0.04	0.18
30	0.03	0.51	15	e4.1	---	2.2	5.7	e1.7	0.76	0.16	0.04	0.19
31	0.03	---	87	e4.0	---	2.2	---	e1.7	---	0.17	0.05	---
TOTAL	1.36	45.21	1079.83	204.9	120.9	98.9	219.0	120.4	33.50	14.12	2.69	3.37
MEAN	0.044	1.51	34.8	6.61	4.32	3.19	7.30	3.88	1.12	0.46	0.087	0.11
MAX	0.19	34	308	25	21	12	57	28	1.6	0.77	0.39	0.20
MIN	0.01	0.03	0.47	4.0	2.9	2.2	1.8	1.7	0.69	0.16	0.04	0.05
AC-FT	2.7	90	2140	406	240	196	434	239	66	28	5.3	6.7

e Estimated.

SAN LORENZO CREEK BASIN

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11180900 CROW CREEK NEAR HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.40	1.22	9.21	14.1	39.0	11.1	6.75	2.99	1.30	0.63	0.36	0.31
MAX	0.96	1.69	34.8	50.4	122	21.8	16.0	6.16	3.28	1.58	0.77	0.61
(WY)	2001	1999	2003	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	0.044	0.86	0.80	1.81	3.73	2.72	1.18	0.47	0.13	0.089	0.083	0.082
(WY)	2003	2002	2000	2001	2001	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL TOTAL	2003.53		1944.18			
ANNUAL MEAN	5.49		5.33		7.09	
HIGHEST ANNUAL MEAN					18.2	
LOWEST ANNUAL MEAN					1.11	
HIGHEST DAILY MEAN	308	Dec 16	308	Dec 16	465	Feb 3 1998
LOWEST DAILY MEAN	0.01	Oct 13	0.01	Oct 13	0.01	Oct 13 2002
ANNUAL SEVEN-DAY MINIMUM	0.02	Oct 13	0.02	Oct 13	0.02	Oct 13 2002
MAXIMUM PEAK FLOW			1700		1990	
MAXIMUM PEAK STAGE			12.21		13.07	
ANNUAL RUNOFF (AC-FT)	3970		3860		5130	
10 PERCENT EXCEEDS	9.9		7.7		12	
50 PERCENT EXCEEDS	0.81		1.3		1.1	
90 PERCENT EXCEEDS	0.10		0.05		0.11	

11180900 CROW CREEK NEAR HAYWARD, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter percent <.063mm (70331)	Suspnd. sediment, sieve diameter percent <.125mm (70332)
DEC							
13...	1545	28	13.0	428	32	87	--
17	1530	22	10.5	779	46	97	--
19...	1520	538	7.5	15400	22400	72	--
20...	1425	342	9.0	19800	18300	74	--
21...	1500	58	10.5	801	125	96	--
22...	1445	17	8.5	212	9.7	98	--
28...	1445	40	11.0	2060	222	76	--
29...	1415	31	10.0	885	74	90	--
31...	1415	69	10.5	2380	443	88	--
JAN							
01...	1430	25	9.5	341	23	94	--
21...	1300	4.3	10.5	487	5.7	100	--
FEB							
07...	1445	2.9	8.0	26	.20	26	--
MAR							
15...	1300	7.1	14.0	764	15	99	100
15...	1315	6.6	14.0	826	15	98	--
16...	1515	6.2	12.0	213	3.6	99	--
22...	1430	2.8	13.5	224	1.7	92	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter percent <.063mm (70331)	Suspnd. sediment, sieve diameter percent <.125mm (70332)	Suspnd. sediment, sieve diameter percent <.25mm (70333)
APR								
04...	1245	5.0	10.5	740	10	99	--	--
12...	1600	42	11.5	2070	235	85	--	--
13...	1145	84	11.0	2710	615	66	--	--
25...	1745	19	11.5	3470	178	98	--	--
26...	1700	5.0	12.5	200	2.7	98	--	--
28...	1430	14	12.5	294	11	97	99	100
28...	1440	14	12.5	336	13	96	--	--
28...	1500	14	12.5	326	12	94	--	--
MAY								
03...	1630	23	14.0	848	53	95	--	--
29...	1400	1.6	17.0	26	.11	42	--	--

SAN LORENZO CREEK BASIN

11180900 CROW CREEK NEAR HAYWARD, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Temperature, water, deg C (00010)	Number of sam- pling points, count (00063)	Instan- taneous dis- charge, cfs (00061)	Bed sedi- ment, dry svd sve dia percent <.063mm (80164)	Bed sedi- ment, dry svd sve dia percent <.125mm (80165)	Bed sedi- ment, dry svd sve dia percent <.25mm (80166)	Bed sedi- ment, dry svd sve dia percent <.5 mm (80167)
OCT								
04...	1235	13.0	1	.09	7	35	84	96
04...	1240	13.0	1	.09	7	24	62	84
04...	1245	13.0	1	.09	1	2	8	26
04...	1250	13.0	1	.09	1	3	8	12
04...	1255	13.0	1	.09	10	29	58	68
APR								
28...	1501	12.5	1	14	4	20	60	95
28...	1505	12.5	1	14	8	20	41	59
28...	1510	12.5	1	14	<1	1	5	10
28...	1515	12.5	1	14	<1	2	5	7
28...	1520	12.5	1	14	10	39	93	100

Date	Bed sedi- ment, dry svd sve dia percent <1 mm (80168)	Bed sedi- ment, dry svd sve dia percent <2 mm (80169)	Bed sedi- ment, dry svd sve dia percent <4 mm (80170)	Bed sedi- ment, dry svd sve dia percent <8 mm (80171)	Bed sedi- ment, dry svd sve dia percent <16 mm (80172)	Bed sedi- ment, dry svd sve dia percent <32 mm (80173)	Bed sedi- ment, dry svd sve dia percent <64 mm (80174)
OCT							
04...	98	99	100	--	--	--	--
04...	92	96	98	99	100	--	--
04...	41	55	69	81	96	100	--
04...	16	30	52	78	95	100	--
04...	75	83	92	99	100	--	--
APR							
28...	100	--	--	--	--	--	--
28...	68	79	91	100	--	--	--
28...	16	23	33	48	70	100	--
28...	8	11	18	29	41	82	100
28...	--	--	--	--	--	--	--

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

11180900 CROW CREEK NEAR HAYWARD, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	0.07	15	0.00	0.03	13	9.7	0.61	8	0.01
2	0.19	15	0.01	0.04	19	0.00	0.81	8	0.02
3	0.13	15	0.01	0.04	23	0.00	0.78	8	0.02
4	0.07	15	0.00	0.05	19	0.00	0.81	8	0.02
5	0.05	14	0.00	0.05	12	0.00	0.87	8	0.02
6	0.07	14	0.00	0.07	6	0.00	0.90	7	0.02
7	0.09	13	0.00	3.1	106	6.8	0.78	7	0.01
8	0.04	13	0.00	34	10700	3700	0.71	6	0.01
9	0.05	12	0.00	1.1	339	1.3	0.94	19	0.07
10	0.05	12	0.00	0.97	103	0.70	1.5	63	1.0
11	0.05	11	0.00	0.40	55	0.06	0.65	38	0.07
12	0.08	9	0.00	0.18	40	0.02	0.47	58	0.07
13	0.01	8	0.00	0.16	26	0.01	24	417	60
14	0.01	6	0.00	0.14	13	0.00	39	519	105
15	0.01	4	0.00	0.15	15	0.01	11	155	5.1
16	0.02	4	0.00	0.17	18	0.01	308	6090	14700
17	0.02	5	0.00	0.18	22	0.01	38	1030	121
18	0.02	12	0.00	0.15	24	0.01	14	732	36
19	0.02	19	0.00	0.16	26	0.01	128	3440	4290
20	0.03	16	0.00	0.19	29	0.01	117	4020	1930
21	0.02	11	0.00	0.22	30	0.02	61	1770	393
22	0.02	6	0.00	0.26	22	0.02	19	299	17
23	0.02	10	0.00	0.38	14	0.01	17	170	7.6
24	0.02	13	0.00	0.42	14	0.02	16	162	7.1
25	0.02	16	0.00	0.45	16	0.02	19	300	17
26	0.03	16	0.00	0.39	17	0.02	12	204	9.0
27	0.03	16	0.00	0.37	15	0.02	12	41	1.7
28	0.03	16	0.00	0.41	12	0.01	72	2400	1260
29	0.03	15	0.00	0.47	9	0.01	61	2300	704
30	0.03	15	0.00	0.51	8	0.01	15	383	18
31	0.03	12	0.00	---	---	---	87	3170	1330
TOTAL	1.36	---	0.02	45.21	---	3718.81	1079.83	---	25012.84
	JANUARY			FEBRUARY			MARCH		
1	25	524	41	e4.0	e51	e0.55	3.3	34	0.30
2	e16	e230	e9.9	e3.8	e50	e0.52	3.2	31	0.27
3	e8.7	e216	e7.2	e3.6	e50	e0.50	3.3	29	0.25
4	e8.2	e200	e4.6	e3.5	e46	e0.45	3.2	26	0.23
5	e7.0	e170	e3.5	e3.4	e40	e0.37	3.1	24	0.20
6	e7.2	e122	e2.3	e3.2	e33	e0.30	3.1	21	0.18
7	e6.0	e61	e1.1	e3.0	e23	e0.19	3.0	19	0.15
8	e5.8	e43	e0.68	2.9	18	0.14	2.9	16	0.13
9	e9.8	e197	e4.2	2.9	20	0.16	2.9	16	0.12
10	e9.5	e277	e7.2	2.9	23	0.17	2.9	16	0.12
11	e7.6	e158	e3.7	2.9	25	0.19	2.9	16	0.12
12	e5.5	e93	e1.7	4.8	36	0.58	2.9	16	0.12
13	e4.8	e91	e1.3	4.2	23	0.26	2.9	17	0.13
14	e4.2	e95	e1.2	2.9	18	0.14	3.4	21	0.21
15	e5.6	e237	e3.1	4.4	25	0.86	12	960	55
16	e6.0	e306	e4.8	21	122	14	4.8	250	3.3
17	e5.6	e134	e2.1	4.7	41	0.52	3.1	55	0.46
18	e5.2	e28	e0.40	4.1	31	0.34	2.8	39	0.29
19	e4.9	e40	e0.55	4.3	26	0.32	2.7	78	0.60
20	e4.2	e52	e0.64	3.8	22	0.23	2.6	232	1.7
21	e5.1	e174	e2.2	3.6	21	0.20	2.6	227	1.6
22	e4.5	e162	e2.1	3.6	19	0.19	2.7	211	1.5
23	e4.4	e48	e0.58	3.6	20	0.20	3.3	76	0.70
24	e4.4	e73	e0.87	3.6	21	0.21	2.5	36	0.24
25	e4.3	e65	e0.76	3.7	22	0.22	2.4	38	0.24
26	e4.6	e66	e0.80	4.0	30	0.52	3.1	37	0.32
27	e4.3	e55	e0.66	5.1	81	1.2	2.4	24	0.15
28	e4.2	e37	e0.42	3.4	43	0.40	2.3	20	0.12
29	e4.2	e48	e0.54	---	---	---	2.2	19	0.11
30	e4.1	e55	e0.62	---	---	---	2.2	19	0.11
31	e4.0	e55	e0.60	---	---	---	2.2	18	0.11
TOTAL	204.9	---	111.32	120.9	---	23.93	98.9	---	69.08

e Estimated.

SAN LORENZO CREEK BASIN

11180900 CROW CREEK NEAR HAYWARD, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY		
1	2.2	18	0.10			
2	2.7	17	0.13	10	69	3.5
3	2.2	17	0.10	28	1230	143
4	6.6	869	28	7.4	296	6.3
5	2.3	83	0.52	5.1	137	1.9
6	2.1	58	0.33	4.3	101	1.2
7	2.0	38	0.20	4.1	66	0.73
8	1.9	31	0.16	3.8	31	0.33
9	1.8	28	0.14	3.2	21	0.18
10	1.8	25	0.12	3.0	22	0.18
11	1.8	22	0.11	2.8	25	0.19
12	13	730	55	2.7	27	0.20
13	57	2940	1110	2.6	26	0.18
14	6.4	176	3.2	2.6	23	0.16
15	4.0	121	1.3	2.6	21	0.14
16	3.4	103	0.96	2.6	21	0.15
17	3.2	85	0.75	2.5	22	0.15
18	3.0	68	0.54	2.3	23	0.14
19	2.8	50	0.38	2.2	29	0.18
20	2.6	32	0.23	2.2	36	0.21
21	3.0	16	0.12	2.2	42	0.24
22	2.7	20	0.15	2.1	36	0.21
23	2.5	71	0.48	2.1	28	0.16
24	4.2	129	1.5	2.1	31	0.18
25	8.3	1180	55	2.2	36	0.21
26	9.9	863	59	2.0	41	0.22
27	5.0	194	7.3	1.8	37	0.18
28	47	1820	699	1.7	32	0.15
29	7.9	243	5.3	e1.7	e26	e0.12
30	5.7	149	2.3	e1.7	e33	e0.15
31	---	---	---	e1.7	e40	e0.18
TOTAL	219.0	---	2032.42	120.4	---	161.81
PERIOD	1890.50		31130.23			

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER	SUSPENDED	BEDLOAD	TOTAL
	DISCHARGE	SEDIMENT	DISCHARGE	SEDIMENT
	CFS-DAYS	TONS	TONS	TONS
OCTOBER 2002	1.36	.02	0	0
NOVEMBER	45.21	3718.81	44	3763
DECEMBER	1079.83	25012.84	908	25921
JANUARY 2003	204.90	111.32	7	119
FEBRUARY	120.90	23.93	13	37
MARCH	98.90	69.08	3	72
APRIL	219.00	2032.42	108	2141
MAY	120.40	161.81	17	179
TOTAL	1890.50	31130.23	1100	32230

e Estimated.

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 mi².

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 NGVD of 1929, from topographic map.

REMARKS.—Records fair. No storage or diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,690 ft³/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 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0445	842	5.92	Dec. 19	1615	200	2.89

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	e0.10	12	1.6	1.1	0.76	2.6	0.68	0.08	0.01	0.00
2	0.00	e0.00	e0.15	9.0	1.5	1.0	0.89	3.1	0.59	0.07	0.01	0.00
3	0.00	e0.00	e0.13	7.2	1.4	1.0	0.81	19	0.54	0.06	0.01	0.00
4	0.00	e0.00	e0.20	5.8	1.4	1.1	2.6	6.8	0.54	0.05	0.01	0.00
5	0.00	e0.00	e0.25	5.0	1.3	0.98	1.1	4.6	0.55	0.05	0.01	0.00
6	0.00	e0.00	e0.35	4.2	1.3	0.94	0.93	3.7	0.49	0.06	0.01	0.00
7	0.00	e2.2	e0.30	3.9	1.3	0.92	0.90	3.2	0.49	0.06	0.01	0.00
8	0.00	e25	e0.25	3.6	1.2	0.91	0.86	2.8	0.51	0.06	0.01	0.00
9	0.00	e0.77	e0.40	5.9	1.2	0.88	0.83	2.5	0.50	0.04	0.01	0.00
10	0.00	e0.68	e0.80	6.1	1.2	0.89	0.79	2.3	0.43	0.04	0.01	0.00
11	0.00	e0.28	e0.40	4.0	1.2	0.89	0.77	2.1	0.40	0.03	0.01	0.00
12	0.00	e0.10	e0.30	3.5	1.5	0.86	4.1	2.0	0.42	0.03	0.01	0.00
13	0.00	e0.00	e16	3.5	1.4	0.84	18	1.9	0.40	0.03	0.01	0.00
14	0.00	e0.00	30	3.2	1.2	0.99	4.1	1.8	0.36	0.02	0.01	0.00
15	0.00	e0.00	8.6	2.9	1.3	3.6	2.6	1.7	0.29	0.02	0.01	0.00
16	0.00	e0.00	101	2.8	6.6	1.8	2.1	1.7	0.27	0.02	0.01	0.00
17	0.00	e0.00	19	2.6	1.7	1.1	1.9	1.6	0.26	0.01	0.00	0.00
18	0.00	e0.00	5.9	2.5	1.5	0.98	1.6	1.5	0.27	0.01	0.00	0.00
19	0.00	e0.00	32	2.4	1.5	0.93	1.5	1.4	0.24	0.01	0.00	0.00
20	0.00	e0.00	33	2.4	1.3	0.93	1.4	1.3	0.21	0.01	0.00	0.00
21	0.00	e0.00	20	3.0	1.3	0.87	1.5	1.2	0.20	0.01	0.00	0.00
22	0.00	e0.00	9.0	2.5	1.2	0.85	1.4	1.1	0.20	0.01	0.00	0.00
23	0.00	e0.00	5.6	2.3	1.2	1.1	1.2	0.99	0.19	0.01	0.00	0.00
24	0.00	e0.00	4.2	2.4	1.2	0.86	2.0	1.0	0.15	0.01	0.00	0.00
25	0.00	e0.00	3.5	2.0	1.2	0.85	3.5	1.0	0.12	0.01	0.00	0.00
26	0.00	e0.00	3.2	2.0	1.1	1.1	3.3	0.93	0.11	0.01	0.00	0.00
27	0.00	e0.00	3.0	1.9	1.8	0.89	1.9	0.85	0.09	0.01	0.00	0.00
28	0.00	e0.00	21	1.8	1.1	0.81	11	0.79	0.08	0.01	0.00	0.00
29	0.00	e0.00	25	1.7	---	0.77	5.2	0.77	0.07	0.01	0.00	0.00
30	0.00	e0.00	9.5	1.7	---	0.78	3.2	0.79	0.08	0.01	0.00	0.00
31	0.00	---	27	1.7	---	0.78	---	0.76	---	0.01	0.00	---
TOTAL	0.00	29.03	380.13	115.5	42.7	32.30	82.74	77.78	9.73	0.87	0.16	0.00
MEAN	0.000	0.97	12.3	3.73	1.52	1.04	2.76	2.51	0.32	0.028	0.005	0.000
MAX	0.00	25	101	12	6.6	3.6	18	19	0.68	0.08	0.01	0.00
MIN	0.00	0.00	0.10	1.7	1.1	0.77	0.76	0.76	0.07	0.01	0.00	0.00
AC-FT	0.00	58	754	229	85	64	164	154	19	1.7	0.3	0.00

e Estimated.

SAN LORENZO CREEK BASIN

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.039	0.72	3.18	9.24	13.1	8.57	2.86	0.91	0.28	0.078	0.018	0.007
MAX	0.45	6.00	14.0	43.7	58.9	54.3	16.8	3.56	1.27	0.50	0.13	0.079
(WY)	1983	1984	1984	1997	1998	1983	1982	1983	1998	1998	1998	1983
MIN	0.000	0.000	0.001	0.000	0.045	0.13	0.055	0.016	0.007	0.000	0.000	0.000
(WY)	1979	1987	1990	1991	1991	1988	1990	1988	1988	1981	1979	1979

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1979 - 2003	
ANNUAL TOTAL	869.02		770.94			
ANNUAL MEAN	2.38		2.11		3.20	
HIGHEST ANNUAL MEAN					10.3 1983	
LOWEST ANNUAL MEAN					0.054 1990	
HIGHEST DAILY MEAN	101	Dec 16	101	Dec 16	445	Feb 15 1982
LOWEST DAILY MEAN	0.00	Aug 11	0.00	Oct 1	0.00	Oct 1 1978
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 15	0.00	Oct 1	0.00	Oct 1 1978
MAXIMUM PEAK FLOW			842 Dec 16		1690 Jan 5 1982	
MAXIMUM PEAK STAGE			5.92 Dec 16		8.71 Jan 5 1982	
ANNUAL RUNOFF (AC-FT)	1720		1530		2320	
10 PERCENT EXCEEDS	4.8		3.8		5.9	
50 PERCENT EXCEEDS	0.28		0.49		0.12	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
NOV						
08...	1600	e2.9	14.5	1380	e11	99
DEC						
14...	1630	11	12.5	1040	31	98
17...	1445	17	10.5	872	40	98
19...	1545	130	7.5	21200	7430	56
21...	1415	16	11.0	431	19	92
22...	1400	8.4	8.5	130	3.0	93
23...	1445	5.4	8.0	69	1.0	79
29...	1345	19	10.5	686	35	85
30...	1445	9.2	10.5	630	16	96
31...	1345	30	10.5	2640	214	92
JAN						
06...	1230	4.3	10.5	40	.46	79
10...	1315	7.1	11.5	372	7.1	95
11...	1530	3.8	11.5	46	.47	76
21...	1215	4.0	10.5	262	2.8	98
27...	1515	1.9	13.0	47	.24	70
FEB						
26...	1610	1.1	10.0	10	.03	56
MAR						
15...	1100	4.0	13.5	982	11	100
15...	1415	2.4	14.0	964	6.2	99
16...	1430	3.3	12.0	237	2.1	98

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)	Suspended sediment, sieve diameter percent <.125mm (70332)	Suspended sediment, sieve diameter percent <.25mm (70333)
APR								
04...	1315	2.6	11.0	801	5.6	100	--	--
12...	1630	15	11.0	2370	96	95	--	--
13...	1115	27	10.5	2790	203	84	--	--
25...	1700	11	11.0	1040	30	96	--	--
28...	1100	8.8	11.0	609	14	98	99	100
28...	1430	6.2	11.0	314	5.3	98	--	--
MAY								
03...	1530	29	14.0	5170	404	88	--	--
30...	1130	.84	13.5	14	.03	48	--	--

e Estimated.

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bed sediment, dry svd sve dia percent <.063mm (80164)	Bed sediment, dry svd sve dia percent <.125mm (80165)	Bed sediment, dry svd sve dia percent <.25mm (80166)	Bed sediment, dry svd sve dia percent <.5 mm (80167)
OCT								
04...	1050	1	.00	--	5	17	42	63
04...	1055	1	.00	--	4	13	31	46
04...	1100	1	.00	--	1	2	5	12
04...	1105	1	.00	--	1	3	8	19
04...	1110	1	.00	--	5	14	34	50
APR								
28...	1200	1	7.8	11.0	8	18	28	35
28...	1205	1	7.7	11.0	15	41	79	94
28...	1210	1	7.5	11.0	<1	1	4	13
28...	1215	1	7.4	11.0	6	22	46	55
28...	1220	1	7.4	11.0	8	21	39	49

Date	Bed sediment, dry svd sve dia percent <1 mm (80168)	Bed sediment, dry svd sve dia percent <2 mm (80169)	Bed sediment, dry svd sve dia percent <4 mm (80170)	Bed sediment, dry svd sve dia percent <8 mm (80171)	Bed sediment, dry svd sve dia percent <16 mm (80172)	Bed sediment, dry svd sve dia percent <32 mm (80173)	Bed sediment, dry svd sve dia percent <64 mm (80174)
OCT							
04...	74	81	87	92	94	100	--
04...	53	59	70	84	100	--	--
04...	20	28	40	56	74	100	--
04...	33	48	63	78	86	100	--
04...	57	64	75	84	94	100	--
APR							
28...	42	54	72	92	100	--	--
28...	96	97	98	99	99	100	--
28...	22	32	40	48	58	74	100
28...	58	60	63	65	67	71	100
28...	57	69	88	100	--	--	--

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

SAN LORENZO CREEK BASIN

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	0.00	0	0.00	0.00	0	0.00	e0.10	e15	e0.00
2	0.00	0	0.00	e0.00	e0	e0.00	e0.15	e30	e0.00
3	0.00	0	0.00	e0.00	e0	e0.00	e0.13	e20	e0.00
4	0.00	0	0.00	e0.00	e0	e0.00	e0.20	e12	e0.00
5	0.00	0	0.00	e0.00	e0	e0.00	e0.25	e24	e0.01
6	0.00	0	0.00	e0.00	e0	e0.00	e0.35	e47	e0.04
7	0.00	0	0.00	e2.2	e371	e1.10	e0.30	e51	e0.04
8	0.00	0	0.00	e25	e832	e31	e0.25	e42	e0.03
9	0.00	0	0.00	e0.77	e260	e1.20	e0.40	e50	e0.04
10	0.00	0	0.00	e0.68	e88	e0.17	e0.80	e56	e0.09
11	0.00	0	0.00	e0.28	e51	e0.07	e0.40	e43	e0.07
12	0.00	0	0.00	e0.10	e26	e0.01	e0.30	e34	e0.03
13	0.00	0	0.00	e0.00	e0	e0.00	e16	4850	772
14	0.00	0	0.00	e0.00	e0	e0.00	30	2660	308
15	0.00	0	0.00	e0.00	e0	e0.00	8.6	340	14
16	0.00	0	0.00	e0.00	e0	e0.00	101	6560	6790
17	0.00	0	0.00	e0.00	e0	e0.00	19	912	53
18	0.00	0	0.00	e0.00	e0	e0.00	5.9	219	3.8
19	0.00	0	0.00	e0.00	e0	e0.00	32	4560	1340
20	0.00	0	0.00	e0.00	e0	e0.00	33	4920	555
21	0.00	0	0.00	e0.00	e0	e0.00	20	687	48
22	0.00	0	0.00	e0.00	e0	e0.00	9.0	154	3.9
23	0.00	0	0.00	e0.00	e0	e0.00	5.6	74	1.1
24	0.00	0	0.00	e0.00	e0	e0.00	4.2	36	0.41
25	0.00	0	0.00	e0.00	e0	e0.00	3.5	22	0.21
26	0.00	0	0.00	e0.00	e0	e0.00	3.2	16	0.14
27	0.00	0	0.00	e0.00	e0	e0.00	3.0	13	0.11
28	0.00	0	0.00	e0.00	e0	e0.00	21	1910	299
29	0.00	0	0.00	e0.00	e0	e0.00	25	1420	149
30	0.00	0	0.00	e0.00	e0	e0.00	9.5	621	16
31	0.00	0	0.00	---	---	---	27	2520	264
TOTAL	0.00	---	0.00	29.03	---	33.55	380.13	---	10618.02
	JANUARY			FEBRUARY			MARCH		
1	12	400	14	1.6	35	0.15	1.1	11	0.03
2	9.0	207	5.1	1.5	35	0.14	1.0	10	0.03
3	7.2	138	2.7	1.4	34	0.13	1.0	10	0.03
4	5.8	83	1.3	1.4	29	0.11	1.1	9	0.03
5	5.0	56	0.76	1.3	26	0.09	0.98	9	0.02
6	4.2	41	0.47	1.3	20	0.07	0.94	9	0.02
7	3.9	35	0.36	1.3	13	0.05	0.92	8	0.02
8	3.6	32	0.31	1.2	12	0.04	0.91	8	0.02
9	5.9	311	11	1.2	12	0.04	0.88	8	0.02
10	6.1	350	6.3	1.2	12	0.04	0.89	8	0.02
11	4.0	52	0.58	1.2	11	0.04	0.89	9	0.02
12	3.5	42	0.40	1.5	17	0.07	0.86	9	0.02
13	3.5	40	0.38	1.4	14	0.05	0.84	10	0.02
14	3.2	33	0.29	1.2	10	0.03	0.99	14	0.04
15	2.9	33	0.26	1.3	11	0.04	3.6	779	12
16	2.8	33	0.25	6.6	114	4.3	1.8	348	1.8
17	2.6	31	0.22	1.7	19	0.09	1.1	47	0.15
18	2.5	22	0.15	1.5	16	0.06	0.98	35	0.09
19	2.4	31	0.20	1.5	19	0.08	0.93	26	0.06
20	2.4	50	0.33	1.3	17	0.06	0.93	21	0.05
21	3.0	103	0.94	1.3	16	0.05	0.87	16	0.04
22	2.5	38	0.25	1.2	17	0.06	0.85	13	0.03
23	2.3	21	0.14	1.2	16	0.05	1.1	19	0.06
24	2.4	66	0.44	1.2	14	0.04	0.86	14	0.03
25	2.0	51	0.28	1.2	16	0.05	0.85	13	0.03
26	2.0	48	0.25	1.1	12	0.04	1.1	20	0.06
27	1.9	47	0.24	1.8	20	0.12	0.89	15	0.04
28	1.8	44	0.21	1.1	12	0.04	0.81	11	0.02
29	1.7	35	0.16	---	---	---	0.77	7	0.01
30	1.7	36	0.16	---	---	---	0.78	6	0.01
31	1.7	36	0.16	---	---	---	0.78	5	0.01
TOTAL	115.5	---	48.59	42.7	---	6.13	32.30	---	14.83

e Estimated.

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY		
1	0.76	5	0.01	2.6	23	0.16
2	0.89	5	0.01	3.1	41	0.46
3	0.81	5	0.01	19	2270	229
4	2.6	750	9.3	6.8	421	8.9
5	1.1	98	0.30	4.6	78	0.99
6	0.93	7	0.02	3.7	47	0.47
7	0.90	6	0.02	3.2	29	0.25
8	0.86	7	0.02	2.8	20	0.15
9	0.83	8	0.02	2.5	13	0.09
10	0.79	9	0.02	2.3	11	0.07
11	0.77	10	0.02	2.1	11	0.06
12	4.1	410	11	2.0	10	0.05
13	18	2010	210	1.9	11	0.05
14	4.1	161	1.9	1.8	12	0.06
15	2.6	75	0.53	1.7	13	0.06
16	2.1	59	0.33	1.7	11	0.05
17	1.9	49	0.25	1.6	9	0.04
18	1.6	35	0.15	1.5	8	0.03
19	1.5	23	0.09	1.4	8	0.03
20	1.4	15	0.06	1.3	9	0.03
21	1.5	11	0.04	1.2	10	0.03
22	1.4	9	0.03	1.1	9	0.03
23	1.2	7	0.02	0.99	7	0.02
24	2.0	101	0.70	1.0	9	0.02
25	3.5	278	4.6	1.0	9	0.03
26	3.3	253	2.7	0.93	8	0.02
27	1.9	123	0.73	0.85	9	0.02
28	11	904	51	0.79	10	0.02
29	5.2	257	4.2	0.77	11	0.02
30	3.2	51	0.45	0.79	13	0.03
31	---	---	---	0.76	14	0.03
TOTAL	82.74	---	298.53	77.78	---	241.27
PERIOD				734.15		11260.92

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER	SUSPENDED	BEDLOAD	TOTAL
	DISCHARGE CFS-DAYS	SEDIMENT DISCHARGE TONS	DISCHARGE TONS	SEDIMENT DISCHARGE TONS
OCTOBER 2002	0.00	0.00	0	0
NOVEMBER	29.03	33.55	22	56
DECEMBER	380.13	10618.02	413	11031
JANUARY 2003	115.50	48.59	6	55
FEBRUARY	42.70	6.13	2	8
MARCH	32.30	14.83	0	15
APRIL	82.74	298.53	23	322
MAY	77.78	241.27	16	257
TOTAL	734.15	11260.92	482	11744

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 mi².

PERIOD OF RECORD.—October 1939 to September 1940, October 1946 to Apr. 28, 1983, October 1997 to current year. 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 NGVD of 1929. January to September 1940, nonrecording gage on bridge 0.1 mi upstream at present datum.

REMARKS.—Records good except for estimated daily discharges, which are 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 ft³/s, Feb. 3, 1998, gage height, 21.85 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 550 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0900	879	8.78	Dec. 19	1715	1,320	10.22
Dec. 16	0600	3,380	14.93				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.31	1.2	2.4	51	9.7	e8.1	6.1	16	5.3	2.0	0.87	0.43
2	0.30	1.1	2.6	38	9.3	e7.6	9.7	26	5.9	1.9	0.84	0.42
3	0.34	1.2	2.8	31	9.0	e8.4	6.8	76	5.6	1.6	0.80	0.42
4	0.39	1.4	3.0	27	8.8	7.7	24	30	5.6	1.6	0.74	0.44
5	0.24	2.1	3.0	24	8.4	7.4	8.6	22	5.5	1.5	0.72	0.44
6	0.25	2.3	3.3	21	8.4	7.1	7.8	19	3.5	1.7	0.74	0.44
7	0.27	15	3.5	19	8.2	7.0	7.7	17	4.1	1.9	0.70	0.46
8	0.30	120	3.6	18	e7.8	6.9	7.3	17	3.6	1.8	0.72	0.52
9	0.29	5.2	4.6	29	e7.6	6.7	7.0	15	4.1	1.6	0.66	0.56
10	0.42	4.5	6.6	32	e7.4	6.8	6.9	14	4.1	1.7	0.68	0.62
11	0.54	1.8	1.3	21	7.4	e6.6	e6.7	12	3.8	1.5	0.69	0.49
12	0.60	1.2	0.93	19	13	e6.7	e47	11	4.2	1.5	0.65	0.43
13	0.61	1.0	64	19	12	e6.7	e98	10	3.1	1.4	0.56	0.37
14	0.61	0.96	81	17	8.0	e11	e19	12	2.0	1.3	0.57	0.36
15	0.58	0.78	24	16	9.7	37	e14	11	1.9	1.3	0.58	0.42
16	0.63	0.74	587	15	52	e16	e12	11	1.8	1.2	0.55	0.43
17	0.73	0.76	97	14	12	e8.6	11	e11	1.6	1.2	0.51	0.44
18	0.80	0.81	31	13	10	e7.6	10	e10	2.2	1.1	0.69	0.43
19	0.86	0.79	220	13	11	8.4	9.4	e9.2	2.3	0.99	1.0	0.45
20	0.85	0.88	170	13	9.2	9.6	8.5	e8.6	2.5	1.1	0.62	0.38
21	0.88	0.84	108	21	8.6	8.3	11	e8.3	2.5	1.1	0.51	0.40
22	0.95	0.96	43	14	8.6	8.2	9.5	e8.0	e2.7	1.0	0.54	0.41
23	1.1	1.0	29	13	8.4	12	8.1	7.8	e2.6	0.94	0.52	0.42
24	1.1	1.1	22	12	10	7.3	16	8.0	e2.6	0.92	0.46	0.46
25	1.0	1.2	19	12	e14	6.4	23	8.1	2.4	e0.87	0.41	0.49
26	0.93	2.0	18	11	e8.6	9.7	24	e6.9	2.2	e0.83	0.35	0.52
27	0.96	2.0	16	11	17	7.1	13	6.1	2.0	e0.79	0.35	0.53
28	0.85	2.2	101	11	e8.9	6.6	81	5.7	1.9	e0.77	0.35	0.54
29	0.93	2.2	112	10	---	6.3	24	5.2	1.8	0.72	0.44	0.53
30	1.1	2.3	41	10	---	6.2	18	5.5	1.9	0.76	0.45	0.49
31	1.2	---	125	9.8	---	6.3	---	5.7	---	0.77	0.45	---
TOTAL	20.92	179.52	1945.63	584.8	313.0	276.3	555.1	433.1	95.3	39.36	18.72	13.74
MEAN	0.67	5.98	62.8	18.9	11.2	8.91	18.5	14.0	3.18	1.27	0.60	0.46
MAX	1.2	120	587	51	52	37	98	76	5.9	2.0	1.0	0.62
MIN	0.24	0.74	0.93	9.8	7.4	6.2	6.1	5.2	1.6	0.72	0.35	0.36
AC-FT	41	356	3860	1160	621	548	1100	859	189	78	37	27

e Estimated.

11181000 SAN LORENZO CREEK AT HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.53	3.63	21.4	51.9	53.2	36.4	24.0	5.85	2.33	1.05	0.71	0.63
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	0.000	0.000	0.13	0.39	0.73	0.84	0.29	0.12	0.043	0.000	0.000	0.000
(WY)	1947	1949	1949	1949	1948	1972	1977	1976	1977	1961	1947	1947

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	4221.64		4475.49			
ANNUAL MEAN	11.6		12.3		15.9	
HIGHEST ANNUAL MEAN					56.4 1982	
LOWEST ANNUAL MEAN					0.63 1977	
HIGHEST DAILY MEAN	587	Dec 16	587	Dec 16	2600	Oct 13 1962
LOWEST DAILY MEAN	0.22	Sep 21	0.24	Oct 5	0.00	Sep 19 1940
ANNUAL SEVEN-DAY MINIMUM	0.23	Sep 20	0.30	Oct 3	0.00	Oct 1 1946
MAXIMUM PEAK FLOW			3380	Dec 16	8140	Feb 3 1998
MAXIMUM PEAK STAGE			14.93	Dec 16	21.85	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	8370		8880		11530	
10 PERCENT EXCEEDS	19		22		30	
50 PERCENT EXCEEDS	2.7		4.1		1.6	
90 PERCENT EXCEEDS	0.34		0.46		0.00	

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 mi².

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 NGVD of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,550 ft³/s, Feb. 2, 1998, gage height, 9.12 ft, from rating curve extended above 61 ft³/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 575 ft³/s (revised), or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0820	1,440	8.81	Dec. 19	1510	810	6.61
Dec. 4	1525	939	7.10	Mar. 15	0420	578	5.61
Dec. 16	0455	910	6.99	Apr. 13	0555	714	6.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.32	0.33	0.47	4.5	0.83	1.1	0.67	1.7	0.68	0.59	0.53	0.40
2	0.32	0.34	0.47	3.1	0.81	1.0	4.8	13	0.71	0.55	0.52	0.41
3	0.31	0.33	0.47	2.3	0.80	0.99	1.1	26	0.67	0.58	0.53	0.42
4	0.34	0.34	0.44	1.9	0.76	0.96	17	4.5	0.65	0.57	0.52	0.40
5	0.32	0.34	0.45	1.7	0.73	0.87	1.0	2.4	0.68	0.58	0.60	0.39
6	0.32	0.35	0.45	1.6	0.74	1.9	0.89	2.1	0.64	0.59	0.50	0.39
7	0.33	27	0.45	1.6	0.77	0.82	0.79	1.7	0.64	0.59	0.51	0.40
8	0.34	121	0.45	1.9	0.72	0.81	0.98	4.1	0.61	0.57	0.50	0.42
9	0.34	1.7	1.6	22	0.69	0.76	1.0	1.4	0.61	0.60	0.50	0.44
10	0.38	3.8	8.9	7.1	0.72	0.76	0.73	1.3	0.60	0.57	0.49	0.44
11	0.36	0.77	0.52	2.3	0.71	0.78	0.69	1.2	0.61	0.62	0.52	0.45
12	0.36	0.64	0.44	3.4	6.2	0.76	39	1.2	0.60	0.52	0.51	0.44
13	0.35	0.61	96	2.0	1.6	0.72	66	1.1	0.94	0.50	0.52	0.46
14	0.41	0.56	56	1.5	0.81	2.9	4.0	1.0	0.59	0.52	0.50	0.48
15	0.33	0.52	16	1.3	14	31	2.2	0.97	0.58	0.50	0.52	0.48
16	0.34	0.52	138	1.2	28	8.3	1.7	0.94	0.60	0.49	0.51	0.46
17	0.36	0.49	35	1.1	1.6	1.5	1.7	0.91	0.59	0.47	0.51	0.47
18	0.36	0.54	5.8	1.1	1.3	1.1	2.0	0.99	0.61	0.47	0.53	0.43
19	0.37	0.52	90	1.0	3.4	1.8	1.2	0.85	0.58	0.46	0.52	0.43
20	0.37	0.47	55	1.0	1.1	1.6	1.1	0.88	0.59	0.45	0.50	0.43
21	0.37	0.47	21	8.9	1.0	0.94	3.8	0.80	0.56	0.70	0.44	0.44
22	0.37	0.48	5.2	1.9	0.99	0.93	1.9	0.76	0.58	0.72	0.46	0.45
23	0.37	0.47	3.2	1.6	0.98	7.1	1.1	0.78	0.56	0.58	0.46	0.45
24	0.37	0.46	2.3	1.2	9.0	1.1	13	0.78	0.56	0.47	0.44	0.43
25	0.37	0.46	1.8	1.1	2.2	0.83	19	0.79	0.58	0.48	0.47	0.44
26	0.36	0.48	1.9	1.0	7.6	3.0	15	0.73	0.58	0.48	0.49	0.46
27	0.37	0.48	2.1	0.98	6.6	0.87	22	0.74	0.79	0.49	0.49	0.44
28	0.41	0.49	52	0.94	1.2	0.75	20	0.74	0.58	0.50	1.5	0.45
29	0.36	0.51	18	0.87	---	0.75	3.6	0.73	0.56	0.52	0.41	0.46
30	0.35	0.47	4.3	0.96	---	0.70	2.4	0.68	0.55	0.54	0.39	0.47
31	0.34	---	28	0.89	---	0.70	---	0.69	---	0.51	0.39	---
TOTAL	10.97	165.94	646.71	83.94	95.86	78.10	250.35	76.46	18.68	16.78	16.28	13.13
MEAN	0.35	5.53	20.9	2.71	3.42	2.52	8.35	2.47	0.62	0.54	0.53	0.44
MAX	0.41	121	138	22	28	31	66	26	0.94	0.72	1.5	0.48
MIN	0.31	0.33	0.44	0.87	0.69	0.70	0.67	0.68	0.55	0.45	0.39	0.39
AC-FT	22	329	1280	166	190	155	497	152	37	33	32	26

11181008 CASTRO VALLEY CREEK AT HAYWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.55	4.67	5.89	9.54	10.5	7.10	2.89	1.21	0.58	0.40	0.39	0.49
MAX	4.97	19.0	20.9	29.3	45.6	34.6	12.3	3.23	1.55	1.15	1.50	1.62
(WY)	1976	1974	2003	1998	1998	1983	1974	1990	1995	1974	1983	1983
MIN	0.15	0.24	0.24	0.39	1.06	0.60	0.20	0.30	0.28	0.17	0.14	0.12
(WY)	1978	1996	1990	1991	1977	1988	1977	1992	1980	1991	1980	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1972 - 2003	
ANNUAL TOTAL	1368.61		1473.20			
ANNUAL MEAN	3.75		4.04		3.93	
HIGHEST ANNUAL MEAN					9.14 1998	
LOWEST ANNUAL MEAN					1.51 1972	
HIGHEST DAILY MEAN	138	Dec 16	138	Dec 16	322	Jan 4 1982
LOWEST DAILY MEAN	0.31	Oct 3	0.31	Oct 3	0.00	Oct 11 1977
ANNUAL SEVEN-DAY MINIMUM	0.32	Oct 1	0.32	Oct 1	0.00	Oct 11 1977
MAXIMUM PEAK FLOW			1440	Nov 8	1550	Feb 2 1998
MAXIMUM PEAK STAGE			8.81	Nov 8	9.12	Feb 2 1998
ANNUAL RUNOFF (AC-FT)	2710		2920		2850	
10 PERCENT EXCEEDS	4.3		6.0		6.9	
50 PERCENT EXCEEDS	0.56		0.68		0.50	
90 PERCENT EXCEEDS	0.35		0.39		0.19	

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 Avenue Bridge in San Lorenzo, and 1.6 mi upstream from mouth.

DRAINAGE AREA.—44.6 mi².

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 NGVD of 1929 (levels by Alameda County Flood Control and Water Conservation District).

REMARKS.—Records poor. Flow partly regulated since October 1962 by Cull Creek Reservoir, capacity, 310 acre-ft, and since January 1965 by Don Castro Reservoir, capacity, 380 acre-ft, 7 mi upstream. A few very small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,300 ft³/s, Feb. 3, 1998, gage height, 14.27 ft, from rating curve extended above 1,200 ft³/s; minimum daily, 0.01 ft³/s, several days in June and July 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0830	2,440	6.93	Apr. 13	0615	1,900	6.45
Dec. 16	0615	3,970	8.29	Apr. 28	0000	1,620	6.19
Dec. 19	1745	1,740	6.30				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.7	1.8	67	e16	16	e11	121	5.3	3.9	e2.0	1.7
2	1.2	1.6	1.8	44	e15	16	26	216	5.0	3.8	e1.8	1.8
3	1.2	1.6	1.9	30	e14	17	19	513	4.3	3.1	e1.7	1.7
4	1.4	1.7	1.8	26	e13	17	79	130	4.1	3.1	e1.6	1.6
5	1.1	2.1	1.7	24	e13	17	22	44	4.2	3.1	e1.5	1.7
6	1.1	3.1	1.8	22	e12	18	21	33	4.5	3.4	1.5	2.5
7	1.2	209	1.8	20	11	17	21	33	5.2	3.9	1.7	2.0
8	1.3	393	1.7	20	9.9	17	21	43	5.3	3.9	1.6	1.7
9	1.4	14	8.9	67	9.8	16	21	33	5.6	3.9	1.5	1.6
10	1.4	13	29	44	9.8	16	20	34	5.1	3.7	1.6	1.7
11	1.4	5.1	5.7	22	9.7	17	20	35	4.9	2.5	1.7	1.6
12	1.4	2.6	3.6	21	20	17	187	35	6.4	2.5	1.9	1.5
13	1.4	2.6	282	20	18	17	426	34	7.7	2.3	1.9	1.6
14	1.4	2.3	240	18	13	18	62	32	4.6	2.5	1.7	1.7
15	1.4	1.8	65	18	22	121	36	33	4.3	2.3	1.5	1.5
16	1.5	1.5	925	18	152	30	30	32	4.5	2.5	1.5	1.5
17	1.5	1.4	200	17	19	17	29	30	4.4	2.5	1.6	1.4
18	1.5	1.5	33	17	17	14	29	27	5.1	2.7	1.7	1.3
19	1.6	1.7	386	16	19	13	28	24	5.9	e2.3	2.7	1.1
20	1.6	1.6	326	16	15	14	28	19	6.5	e2.3	2.9	1.1
21	1.7	1.4	160	34	14	10	43	16	7.1	e2.4	2.2	1.1
22	1.7	1.6	54	18	14	10	34	e13	7.4	e2.3	2.3	1.0
23	1.8	1.6	28	18	15	22	30	e11	6.2	e2.2	2.5	1.1
24	1.9	1.7	23	17	27	11	87	e11	5.1	e2.1	2.3	1.1
25	2.0	1.6	20	17	20	9.2	122	e11	4.0	e2.0	2.2	1.2
26	1.9	1.7	19	17	19	16	133	e8.5	3.7	e1.9	2.2	1.3
27	2.0	1.6	18	17	39	13	105	e7.3	3.9	e1.8	2.3	1.4
28	1.9	1.7	198	16	17	12	354	e6.9	3.3	e1.7	3.6	1.4
29	1.8	1.7	219	16	---	e11	115	e6.3	3.2	e1.6	1.8	1.4
30	1.8	1.8	51	16	---	e11	104	6.5	3.3	e1.6	1.6	1.4
31	1.8	---	217	15	---	e11	---	6.5	---	e1.7	1.6	---
TOTAL	47.7	679.3	3525.5	748	593.2	581.2	2263	1605.0	150.1	81.5	60.2	44.7
MEAN	1.54	22.6	114	24.1	21.2	18.7	75.4	51.8	5.00	2.63	1.94	1.49
MAX	2.0	393	925	67	152	121	426	513	7.7	3.9	3.6	2.5
MIN	1.1	1.4	1.7	15	9.7	9.2	11	6.3	3.2	1.6	1.5	1.0
AC-FT	95	1350	6990	1480	1180	1150	4490	3180	298	162	119	89

e Estimated.

11181040 SAN LORENZO CREEK AT SAN LORENZO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.44	10.2	27.6	68.4	68.6	42.7	24.1	10.9	4.24	2.00	1.61	1.79
MAX	30.2	38.1	114	259	390	154	108	51.8	17.0	5.99	3.25	4.58
(WY)	1992	1974	2003	1997	1998	1995	1974	2003	1993	1998	1969	1975
MIN	0.23	1.49	1.41	1.14	2.15	1.83	2.07	0.85	0.066	0.64	0.11	0.35
(WY)	1978	1991	1990	1991	1977	1972	1976	1972	1977	1990	1977	1988

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	7955.85		10379.4			
ANNUAL MEAN	21.8		28.4		22.1	
HIGHEST ANNUAL MEAN					65.6 1998	
LOWEST ANNUAL MEAN					2.38 1977	
HIGHEST DAILY MEAN	925	Dec 16	925	Dec 16	2400	Jan 21 1970
LOWEST DAILY MEAN	0.66	Jul 14	1.0	Sep 22	0.01	Jun 12 1977
ANNUAL SEVEN-DAY MINIMUM	0.98	Jul 10	1.1	Sep 19	0.01	Jun 10 1977
MAXIMUM PEAK FLOW			3970 Dec 16		10300 Feb 3 1998	
MAXIMUM PEAK STAGE			8.29 Dec 16		14.27 Feb 3 1998	
ANNUAL RUNOFF (AC-FT)	15780		20590		16000	
10 PERCENT EXCEEDS	33		44		45	
50 PERCENT EXCEEDS	6.0		5.9		3.0	
90 PERCENT EXCEEDS	1.4		1.5		0.65	

380519122262901 SAN PABLO BAY AT PETALUMA RIVER CHANNEL MARKER 9, CA

LOCATION.—Lat 38° 05' 19", long 122° 26' 29", unsurveyed, sec.20 T.3 N., R.5 W., [Marin County](#), Hydrologic Unit 18050001, at Coast Guard channel marker 9.

PERIOD OF RECORD.—November 1998 to current year.

SPECIFIC CONDUCTANCE: November 1998 to current year.

WATER TEMPERATURE: November 1998 to current year.

PERIOD OF DAILY RECORD.—November 1998 to current year.

SPECIFIC CONDUCTANCE: November 1998 to current year.

WATER TEMPERATURE: November 1998 to current year.

INSTRUMENTATION.—Water-quality monitor since November 1998.

REMARKS.—Interruptions in record were due to malfunction of the sensing and (or) recording instrument and biological interference within the conductivity cell. The probe is set at 4 ft below the water surface at Mean Lower Low Water (MLLW). MLLW is about 6 ft. Daily maximums and minimums sometimes differ from tidal cycle (24.8 hours) maximums and minimums. The conductivity record is rated good except for the following periods of heavy fouling: April 20–30, and May 13–16, rated poor. The temperature record is rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 43,200 microsiemens, Aug. 31, 2001; minimum recorded, 667 microsiemens, Feb. 17, 1999.

WATER TEMPERATURE: Maximum recorded, 26.5°C, May 23, 2000, May 31, 2001; minimum recorded, 3.5°C, Dec. 23, 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 41,400 microsiemens, Oct. 5, 9; minimum recorded, 3,420 microsiemens, Dec. 31.

WATER TEMPERATURE: Maximum recorded, 25.5°C, May 21, June 27, 28, July 18; minimum recorded, 8.0°C, Dec. 24–26.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	16200	3870	17900	9200	22400	16700
2	---	---	---	---	---	---	15400	4600	19000	9630	22100	16500
3	---	---	---	---	---	---	15200	5210	17700	10100	23100	17600
4	---	---	---	---	---	---	14200	5680	17500	11000	23000	18500
5	41400	38900	---	---	37200	35100	13600	6400	17300	12400	23300	18300
6	41200	38500	---	---	37100	35300	12900	7600	17500	13200	23400	19200
7	41300	38100	---	---	37000	35600	12700	8850	18300	14100	25400	19100
8	---	---	---	---	36800	35800	12400	9670	18600	14500	25500	19100
9	41400	37700	---	---	37000	35900	---	---	21400	14400	26100	19800
10	---	---	---	---	37000	35900	---	---	23500	15100	26100	19600
11	---	---	---	---	---	---	---	---	22600	15000	26000	21500
12	---	---	---	---	---	---	---	---	27300	14700	27400	19600
13	---	---	---	---	---	---	---	---	25800	13500	28800	22500
14	---	---	---	---	---	---	15600	4240	31200	12500	31500	22700
15	41000	37800	---	---	---	---	---	---	28400	14000	31100	19100
16	---	---	---	---	---	---	19700	6040	27600	9560	30500	19200
17	---	---	---	---	---	---	21200	6580	27900	9150	30300	19100
18	---	---	---	---	---	---	---	---	26600	11100	31400	20300
19	---	---	---	---	---	---	20100	8130	26700	11900	30600	21300
20	---	---	---	---	---	---	19400	9460	26500	14500	29500	20800
21	---	---	---	---	25300	5080	17300	10200	26000	15700	29500	20300
22	---	---	---	---	22800	7580	16900	10300	24900	16300	28300	20300
23	---	---	---	---	21600	9560	15100	10300	23800	17300	27500	20400
24	---	---	---	---	---	---	---	---	24300	19300	26100	20200
25	40600	38100	---	---	18000	10000	---	---	23500	17700	25600	20700
26	---	---	---	---	18700	12800	---	---	23000	17000	26100	21600
27	---	---	---	---	17500	12300	15300	9110	24100	16900	27000	20900
28	---	---	---	---	18300	13800	18600	8640	22900	16800	27600	21500
29	---	---	---	---	18500	5280	17400	8510	---	---	27500	22100
30	---	---	---	---	18000	5700	17300	8730	---	---	26800	21700
31	---	---	---	---	18900	3420	17500	9140	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	31200	9150	---	---

SAN FRANCISCO BAY

380519122262901 SAN PABLO BAY AT PETALUMA RIVER CHANNEL MARKER 9, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

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.

DRAINAGE AREA.—Indeterminate.

PERIOD OF RECORD.—October 1989 to current year.

SPECIFIC CONDUCTANCE: October 1989 to current year.

WATER TEMPERATURE: October 1989 to current year.

PERIOD OF DAILY RECORD.—October 1989 to current year.

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. Upper specific conductance record is rated excellent except for the following periods of fouling and calibration drift: Oct. 23 to Nov. 11, Nov. 25–30, May 18 to June 11, which are rated good; Dec. 1–4, Sept. 2–17, which are rated poor. Lower specific conductance record is rated excellent. Upper and lower temperature records are rated excellent.

EXTREMES FOR PERIOD OF DAILY 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, 47,200 microsiemens, Sep. 30; minimum recorded, 11,100 microsiemens, May 10.

(Lower probe) Maximum recorded, 48,800 microsiemens, Oct. 9; minimum recorded, 14,700 microsiemens, Jan. 2.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 22.0° C, Sept. 12, 13, 22; minimum recorded, 10.0° C, Dec. 19, 23–26.

(Lower probe) Maximum recorded, 21.5° C, several days in August and September; minimum recorded, 10.0° C, Dec. 23, 25, Jan. 2.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	46300	38700	45600	38100	---	---	---	---	40600	24300
2	46300	40600	46100	39800	45800	38400	---	---	---	---	40500	24500
3	---	---	46800	39100	45900	38200	---	---	---	---	40700	25100
4	---	---	47000	38700	45100	37500	---	---	---	---	40000	24000
5	---	---	46900	38800	46200	37600	---	---	---	---	40100	24800
6	---	---	46700	38900	46400	37500	---	---	35100	20000	40500	23700
7	---	---	46900	39700	46100	37700	---	---	36800	18900	40400	26600
8	---	---	46900	38800	46200	37600	---	---	38500	20300	38900	24500
9	---	---	45600	37900	45500	37200	---	---	38000	21500	39500	26800
10	---	---	44900	37600	45200	37000	---	---	41400	24700	39900	24200
11	---	---	44500	36200	44700	36900	---	---	42300	25000	41400	24300
12	---	---	---	---	45500	35300	---	---	40200	25500	41500	25300
13	---	---	45500	35300	45200	37100	---	---	41100	26400	42200	29700
14	---	---	45300	35600	44900	35000	---	---	41800	26000	42200	28800
15	---	---	45200	36100	43900	34100	---	---	42200	29400	42100	29600
16	---	---	45000	36500	43700	34800	---	---	41700	27800	43200	30000
17	---	---	45400	36800	40600	30800	---	---	41600	26400	42600	31200
18	---	---	45200	36700	40500	27800	---	---	41200	26000	42200	29300
19	---	---	45400	36800	43400	27000	---	---	40600	27100	41800	26700
20	---	---	45600	36000	40900	25500	---	---	40100	22700	41800	26600
21	---	---	45700	35900	39100	22400	---	---	40500	21300	42200	26400
22	---	---	45600	37500	37800	21600	---	---	40900	23300	42600	26400
23	46200	40400	45900	37800	38200	19000	---	---	41700	22800	42400	26300
24	46200	40400	45700	37700	37700	17500	---	---	42600	25000	40600	26300
25	47100	40100	45700	37600	38500	17800	---	---	39200	25400	40900	24500
26	46600	40000	45700	37500	38600	17200	---	---	39000	25400	40900	23900
27	46800	40000	45700	38000	39300	18200	---	---	39500	25000	40900	25400
28	46700	39800	45600	37900	39800	19900	---	---	40700	23900	42400	27500
29	46300	39400	45200	37700	---	---	---	---	---	---	41800	27000
30	46000	39300	45300	39000	---	---	---	---	---	---	41700	28900
31	46200	39200	---	---	---	---	---	---	---	---	42000	28900
MONTH	---	---	---	---	---	---	---	---	---	---	43200	23700

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	42300	30400	40400	20200	40900	25800	43100	33200	---	---	46700	36400
2	42400	29600	38300	19400	41100	26100	44600	32800	---	---	46700	36700
3	---	---	38100	21600	41400	25200	43500	33100	---	---	46500	36700
4	---	---	36600	18900	42100	28000	44100	33200	---	---	46200	37200
5	---	---	36400	15000	41300	28300	44000	33200	---	---	45700	38100
6	---	---	37600	11900	40400	26800	44200	34000	---	---	45600	37400
7	---	---	37200	13200	39300	23200	44800	31400	---	---	45300	37400
8	---	---	37900	12800	40900	23600	44800	33700	---	---	45100	37600
9	---	---	37400	11600	41700	23000	45100	33200	---	---	44400	37800
10	---	---	35100	11100	41700	26700	---	---	---	---	45400	37700
11	---	---	36500	12600	43200	29900	---	---	---	---	45000	37100
12	---	---	35700	16600	44000	30000	---	---	---	---	44600	37100
13	---	---	36700	18700	43800	30200	---	---	---	---	44500	36600
14	---	---	36700	21100	43500	29300	---	---	---	---	44900	37000
15	---	---	37600	20600	44000	28300	---	---	---	---	45400	39200
16	---	---	37800	19000	43900	28200	---	---	---	---	44600	39100
17	---	---	37000	18700	43800	28600	---	---	---	---	44200	38300
18	---	---	38700	17400	42900	28700	---	---	---	---	45100	36900
19	---	---	36700	18600	42700	27500	---	---	---	---	45500	35300
20	---	---	36300	19600	42400	25800	---	---	---	---	45500	37000
21	---	---	36000	18500	42100	26300	---	---	---	---	46400	37000
22	---	---	38500	16000	42800	26700	---	---	---	---	46000	38100
23	---	---	38400	17500	43600	28700	---	---	---	---	46600	38300
24	---	---	38800	18600	42700	30000	---	---	---	---	46500	39200
25	---	---	39000	21300	42800	29800	---	---	---	---	46200	39600
26	---	---	38600	20600	43300	31200	---	---	---	---	46500	39100
27	---	---	39600	21900	44100	31400	---	---	---	---	46600	39300
28	---	---	39800	23900	43800	32500	---	---	46300	35500	46500	39500
29	---	---	39600	24800	43500	32200	---	---	45800	35700	46900	39300
30	---	---	39800	26800	---	---	---	---	46100	35800	47200	39300
31	---	---	39000	25300	---	---	---	---	46300	36900	---	---
MONTH	---	---	40400	11100	---	---	---	---	---	---	47200	35300

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

 SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	45500	37200	39800	17400	39400	20100	40600	24200
2	---	---	---	---	45900	37600	40200	14700	38900	19500	39900	24400
3	---	---	---	---	46100	37200	---	---	39200	18500	40300	24900
4	48200	40100	---	---	45600	37600	---	---	39600	19300	39900	23900
5	48100	40800	---	---	46200	37700	---	---	39100	22600	39700	25600
6	48100	41600	---	---	46400	37400	---	---	39500	21700	39900	25200
7	48300	41100	---	---	46200	37700	---	---	41700	20800	40300	26700
8	48600	41000	---	---	46200	37800	---	---	42000	24900	41100	27600
9	48800	40900	---	---	45800	37200	---	---	42200	23500	41500	28500
10	48600	41100	---	---	45200	37200	---	---	42800	25600	42500	25300
11	48400	42800	---	---	44900	36900	---	---	43700	26200	42500	25600
12	48200	41200	---	---	45400	36200	---	---	43000	27500	42700	29300
13	48100	40300	45800	36900	45200	38100	---	---	42300	27700	42100	29600
14	47800	40100	45400	36900	45000	36000	---	---	41900	28900	41400	28600
15	47800	40500	45300	36400	44400	34300	---	---	41600	29000	41600	29700
16	47700	41900	45300	37000	44000	35400	---	---	41100	27500	42600	29600
17	47800	41700	45500	37000	44400	31100	---	---	41300	26200	42300	31000
18	47800	42900	45300	36800	43500	28100	---	---	40600	25600	41500	29600
19	47900	40900	45600	37000	43700	27500	---	---	40000	27600	41400	26500
20	47900	40900	45600	36200	41200	25900	---	---	39300	24600	41300	27500
21	48200	40800	45800	36500	42000	22800	---	---	39900	22600	41700	26400
22	48200	41600	45800	37500	42400	23400	---	---	41000	23800	42000	26300
23	48000	42400	46000	37700	41500	20600	---	---	41600	23300	42200	26100
24	---	---	45500	37300	40300	19100	---	---	42300	25100	42500	25100
25	---	---	45500	37300	40200	20400	---	---	42200	24800	41200	24400
26	---	---	45400	37200	39500	19200	---	---	41200	25400	41300	23800
27	---	---	45000	37100	39700	20000	---	---	40800	25200	42700	27400
28	---	---	45100	37000	40700	20400	---	---	40300	23800	42300	28000
29	---	---	45100	37100	41300	22700	---	---	---	---	42200	24800
30	---	---	45400	38400	40200	20600	---	---	---	---	42100	29600
31	---	---	---	---	40500	20400	39700	19300	---	---	41900	29400
MONTH	---	---	---	---	46400	19100	---	---	43700	18500	42700	23800
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	42100	32300	---	---	42900	26200	---	---	45800	34000	47000	37000
2	42700	31500	---	---	43400	26900	---	---	45300	33300	47300	37300
3	42600	31800	---	---	44000	26300	---	---	45100	33000	47100	37200
4	43000	29800	---	---	43900	28200	---	---	45000	34800	46700	38000
5	43000	31300	---	---	42500	28500	---	---	45200	33600	47100	38000
6	43400	29800	---	---	42300	28100	---	---	45100	34700	47200	38100
7	42000	29100	---	---	42800	27300	---	---	44900	35400	47000	39100
8	44000	27900	---	---	43300	27800	---	---	44700	34400	46800	38200
9	43300	30300	---	---	43400	29000	---	---	45000	34000	47100	38300
10	43700	31800	---	---	43500	27200	---	---	45200	32600	46900	37900
11	43300	30800	---	---	---	---	46400	34800	45400	33800	46700	37600
12	43100	29400	---	---	---	---	46200	34200	45500	33700	46500	37400
13	42100	31100	---	---	---	---	46100	34200	45000	33000	46900	38000
14	42400	32200	---	---	---	---	45600	34500	45300	33600	46600	37800
15	42600	32200	---	---	---	---	46000	34100	44900	34400	46400	38200
16	43100	32100	---	---	---	---	45600	34200	45100	32800	46200	39200
17	43100	30900	---	---	---	---	45500	34000	45200	34200	46900	38200
18	42900	31700	---	---	---	---	44800	33800	45300	34100	47100	37600
19	43100	28700	---	---	---	---	45200	34600	45500	34600	47300	36000
20	43400	28500	---	---	---	---	45400	35300	45700	36100	46600	38000
21	43700	29200	---	---	---	---	45400	35300	46100	35200	47200	38100
22	43700	27700	---	---	---	---	45300	33100	46200	36600	47000	38600
23	43600	24000	41900	19600	---	---	45000	35000	46000	36700	47100	38700
24	41700	22500	42300	20500	---	---	45800	35600	46200	36000	47100	39700
25	41400	23100	42800	22700	---	---	45900	35700	46100	35900	47300	40700
26	41400	24400	42800	23500	---	---	45900	36100	46100	35000	47100	40300
27	41300	23300	41600	26400	---	---	45800	34800	46700	34800	47400	39800
28	41300	24400	41600	24400	---	---	46100	34400	47200	36100	47100	40100
29	41000	23900	42700	25800	---	---	46100	35100	46500	36300	47600	39900
30	---	---	42000	27700	---	---	46500	34700	46600	36300	47900	39700
31	---	---	42200	26500	---	---	46000	34800	46700	37800	---	---
MONTH	---	---	---	---	---	---	---	---	47200	32600	47900	36000

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(UPPER PROBE)

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

11181360 SAN PABLO STRAIT AT POINT SAN PABLO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(LOWER PROBE)

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

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 mi².

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 NGVD of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,600 ft³/s, Oct. 13, 1962, gage height, 16.98 ft, from rating curve extended above 200 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0500	1,210	10.65	Dec. 31	0230	333	4.55
Dec. 19	1600	451	5.25				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.03	0.02	0.14	13	3.4	1.7	0.99	2.6	1.1	0.50	0.13	0.03
2	0.02	0.02	0.14	10	3.3	1.7	1.4	7.0	1.1	0.47	0.11	0.01
3	0.02	0.02	0.15	8.6	3.1	1.6	1.1	23	0.99	0.46	0.14	0.01
4	0.02	0.03	0.18	7.4	3.1	1.6	4.8	6.8	1.0	0.44	0.13	0.01
5	0.02	0.03	0.18	6.6	3.1	1.6	1.4	4.8	1.0	0.41	0.13	0.01
6	0.02	0.03	0.17	5.8	3.1	1.6	1.2	4.2	1.0	0.45	0.13	0.02
7	0.02	0.57	0.18	5.5	3.1	1.6	1.1	3.8	1.1	0.50	0.10	0.03
8	0.02	10	0.18	5.1	2.9	1.5	0.99	3.4	1.1	0.48	0.10	0.06
9	0.02	0.76	0.25	6.7	2.9	1.3	0.99	2.8	1.1	0.41	0.08	0.09
10	0.02	0.45	0.35	7.8	2.9	1.3	0.99	2.7	1.0	0.37	0.07	0.14
11	0.02	0.34	0.26	5.6	2.8	1.3	0.99	2.6	1.1	0.37	0.07	0.09
12	0.02	0.24	0.21	5.1	4.0	1.3	7.5	2.4	0.99	0.38	0.08	0.03
13	0.02	0.20	16	4.9	3.9	1.3	27	2.3	0.96	0.37	0.08	0.02
14	0.02	0.17	27	4.7	2.9	1.5	4.2	2.2	0.91	0.36	0.06	0.02
15	0.02	0.15	5.8	4.7	3.1	6.5	2.0	2.1	0.82	0.33	0.07	0.02
16	0.02	0.14	195	4.7	12	3.2	1.5	1.9	0.78	0.32	0.06	0.03
17	0.02	0.13	16	4.7	2.9	2.0	1.4	1.8	0.74	0.30	0.04	0.02
18	0.02	0.14	5.8	4.5	2.4	1.6	1.2	1.6	0.75	0.27	0.04	0.02
19	0.03	0.14	65	4.4	2.3	1.4	1.1	1.5	0.75	0.24	0.05	0.02
20	0.02	0.14	33	4.3	2.3	1.3	1.1	1.5	0.73	0.24	0.07	0.02
21	0.03	0.14	19	4.8	2.0	1.3	1.1	1.4	0.71	0.22	0.08	0.02
22	0.03	0.15	8.4	4.3	1.8	1.2	1.1	1.4	0.67	0.21	0.12	0.01
23	0.03	0.15	5.8	4.2	1.8	1.6	0.99	1.4	0.66	0.23	0.10	0.01
24	0.03	0.14	5.0	4.0	1.8	1.2	2.0	1.4	0.65	0.21	0.08	0.02
25	0.03	0.15	4.5	3.5	1.8	1.1	5.1	1.4	0.55	0.20	0.05	0.01
26	0.02	0.12	4.2	3.5	1.7	1.2	3.0	1.4	0.53	0.20	0.03	0.02
27	0.02	0.11	4.0	3.4	2.7	1.1	1.6	1.2	0.50	0.20	0.03	0.02
28	0.02	0.12	21	3.4	1.8	1.0	16	1.2	0.47	0.18	0.03	0.01
29	0.02	0.14	34	3.4	---	0.99	8.1	1.1	0.48	0.19	0.06	0.01
30	0.02	0.14	9.3	3.4	---	0.99	3.2	1.2	0.47	0.19	0.05	0.01
31	0.02	---	55	3.2	---	1.00	---	1.2	---	0.15	0.04	---
TOTAL	0.69	15.08	536.19	165.2	84.9	49.58	105.14	95.3	24.71	9.85	2.41	0.84
MEAN	0.022	0.50	17.3	5.33	3.03	1.60	3.50	3.07	0.82	0.32	0.078	0.028
MAX	0.03	10	195	13	12	6.5	27	23	1.1	0.50	0.14	0.14
MIN	0.02	0.02	0.14	3.2	1.7	0.99	0.99	1.1	0.47	0.15	0.03	0.01
AC-FT	1.4	30	1060	328	168	98	209	189	49	20	4.8	1.7

11182500 SAN RAMON CREEK AT SAN RAMON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.46	0.61	3.57	9.03	10.5	7.63	4.65	1.42	0.55	0.22	0.089	0.058
MAX	17.0	5.49	27.2	42.3	67.2	60.6	44.9	4.92	1.99	0.83	0.42	0.33
(WY)	1963	1984	1956	1997	1998	1983	1958	1967	1967	1958	1998	1982
MIN	0.000	0.000	0.001	0.002	0.039	0.17	0.016	0.000	0.000	0.000	0.000	0.000
(WY)	1953	1956	1977	1991	1991	1977	1977	1977	1976	1955	1954	1954

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1953 - 2003	
ANNUAL TOTAL	1024.79		1089.89			
ANNUAL MEAN	2.81		2.99		3.20	
HIGHEST ANNUAL MEAN					12.4	1983
LOWEST ANNUAL MEAN					0.029	1977
HIGHEST DAILY MEAN	195	Dec 16	195	Dec 16	411	Oct 13 1962
LOWEST DAILY MEAN	0.02	Aug 10	0.01	Sep 2	0.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	0.02	Oct 2	0.01	Sep 22	0.00	Oct 1 1952
MAXIMUM PEAK FLOW			1210		1600	Oct 13 1962
MAXIMUM PEAK STAGE			10.65		16.98	Oct 13 1962
ANNUAL RUNOFF (AC-FT)	2030		2160		2320	
10 PERCENT EXCEEDS	4.8		5.1		6.5	
50 PERCENT EXCEEDS	0.60		0.99		0.30	
90 PERCENT EXCEEDS	0.02		0.02		0.00	

11455780 SUISUN BAY AT BENICIA BRIDGE, NEAR BENICIA, CA

LOCATION.—Lat 38° 02' 42", long 122° 07' 32", unsurveyed, T.3 N., R.3 W., Solano County, Hydrologic Unit 18050001, at north side of bridge pier 7, directly under Benicia Bridge.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: May 2001 to current year.

WATER TEMPERATURE: May 2001 to current year.

INSTRUMENTATION.—Water-quality monitor since May 2001.

REMARKS.—Interruptions in record were due to malfunction of sensing and (or) recording instruments. Upper probes are set about 6 ft below water surface at Mean Lower Low Water (MLLW). Lower probes are set about 55 ft below MLLW. MLLW is about 80 ft at the site but about 60 ft immediately adjacent, which is why the lower probes are set about 25 ft above the bottom. The upper conductivity record is rated excellent except for the following periods of calibration drift and fouling; December 3 to April 29 and July 2–23, which are rated good. The lower conductivity record is rated excellent except for the following periods of calibration drift and fouling; April 2 to May 20, rated poor, and July 2–23, rated good. Upper and lower temperature records are rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 37,300 microsiemens, Nov. 7, 2002; minimum recorded, 202 microsiemens, Jan. 22, 23, 2003.

(Lower probe) Maximum recorded, 38,000 microsiemens, Nov. 7, 2002; minimum recorded, 198 microsiemens, May 8, 2003.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.5°C, June 16, 18, July 2, 3, 2001; minimum recorded, 9.0°C, Dec. 27, 30, 2002, Jan. 3, 2003.

(Lower probe) Maximum recorded, 23.0°C, July 18, 2003; minimum recorded, 8.5°C, Feb. 2, 2002.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 37,300 microsiemens, Nov. 7; minimum recorded, 202 microsiemens, Jan. 22, 23.

(Lower probe) Maximum recorded, 38,000 microsiemens, Nov. 7; minimum recorded, 198 microsiemens, May 8.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.0°C, Aug. 24; minimum recorded, 9.0°C, Dec. 27, 30, Jan. 3.

(Lower probe) Maximum recorded, 23.0°C, July 18; minimum recorded, 11.0°C, several days in February.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER PROBE)

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	31900	19500	31900	19600	---	---	---	---	13700	270	13400	873
2	31700	19100	32300	20000	---	---	---	---	9810	230	14500	840
3	33100	19100	33700	19800	---	---	9820	311	7710	232	16500	1040
4	34100	19500	---	---	---	---	7890	278	7880	232	15400	1350
5	32700	19200	---	---	---	---	6400	267	10200	235	14500	2390
6	32400	19200	36100	20300	---	---	5970	254	12400	281	15600	3060
7	33000	18800	37300	20500	---	---	6460	220	15600	999	17300	3060
8	34700	19600	36600	20700	---	---	10600	226	19800	2840	17100	3030
9	35800	19700	---	---	32000	20000	16100	311	22300	4530	17300	3700
10	35900	21000	31000	19400	30500	19500	21000	1320	25400	5890	20100	3800
11	34100	21500	---	---	30300	19000	18000	2680	28200	9240	---	---
12	33500	19700	26800	14800	30300	18200	20300	4890	28400	12100	26300	7400
13	33500	19800	29000	15400	31600	18100	22100	5790	27000	12500	25900	10200
14	---	---	29500	16200	---	---	18800	5060	25200	10400	26800	9830
15	---	---	30000	16500	---	---	16600	2970	23900	8500	27500	10400
16	33700	21400	31400	17600	---	---	15800	1140	22400	6270	24700	9880
17	33200	21600	31200	17100	---	---	13900	447	19700	4680	20500	7290
18	---	---	32100	17300	---	---	11700	294	16800	3120	15900	4970
19	---	---	32300	17600	24300	9240	10400	234	13300	2470	14000	4130
20	---	---	32800	17600	19700	6090	9090	226	10800	1440	14200	3140
21	33200	20500	32800	17900	15200	3290	7960	212	11200	1160	14600	2390
22	---	---	34300	19600	11900	1700	7590	202	15300	1030	16800	2140
23	---	---	33600	19300	---	---	7590	202	15200	1150	15800	1790
24	35300	20800	---	---	---	---	9720	205	18300	1920	17200	1730
25	34600	20700	31200	19100	---	---	10000	215	18600	1920	17800	1410
26	34400	21000	32100	18300	---	---	14900	235	17200	1640	17800	2260
27	35000	22000	31000	18400	15900	1480	15300	290	16300	987	16200	1850
28	34300	21000	31200	18100	19100	2420	15600	263	14800	861	18600	2270
29	---	---	32200	19000	---	---	12200	230	---	---	19900	2970
30	32600	20300	32800	19800	15300	1410	12000	237	---	---	19800	4170
31	32600	19900	---	---	---	---	12300	243	---	---	21300	5620
MONTH	---	---	---	---	---	---	---	---	28400	230	---	---

11455780 SUISUN BAY AT BENICIA BRIDGE, NEAR BENICIA, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	33400	20900	---	---	---	---	18100	335	19300	1090
2	---	---	32900	21500	35200	20800	---	---	14100	290	18600	1330
3	---	---	34300	21400	---	---	---	---	14900	293	18300	2040
4	---	---	35900	21300	---	---	---	---	15700	282	19100	2460
5	---	---	36100	20500	---	---	---	---	16500	306	18100	4060
6	---	---	36800	21100	---	---	---	---	19700	444	19100	5460
7	---	---	38000	22100	---	---	---	---	23200	8550	20800	6420
8	---	---	37200	22600	---	---	---	---	30300	9220	23200	5810
9	---	---	35400	21400	---	---	---	---	33400	10900	26200	6960
10	---	---	---	---	---	---	---	---	34100	12000	29900	8100
11	---	---	31800	18000	---	---	---	---	34400	12800	31700	9940
12	---	---	31800	16300	---	---	---	---	31800	13600	31900	8660
13	---	---	30700	16700	---	---	---	---	31400	13500	30000	10900
14	---	---	31300	17700	---	---	---	---	27800	11500	28800	10800
15	---	---	31500	19000	---	---	---	---	26000	9560	28000	11300
16	---	---	32500	21200	---	---	---	---	23800	7540	25000	10200
17	---	---	31900	19400	---	---	---	---	21500	5880	21300	7920
18	---	---	32500	18900	---	---	---	---	18500	4260	16700	5400
19	---	---	33100	18200	---	---	---	---	15300	2750	15300	4300
20	---	---	33800	18600	---	---	---	---	12100	2020	15500	3390
21	---	---	35200	19500	---	---	---	---	13600	1440	16000	2650
22	---	---	35700	20700	---	---	---	---	18500	1200	18100	2370
23	---	---	35800	20000	---	---	---	---	21300	1490	20800	2420
24	36000	21500	35400	19700	---	---	---	---	26200	2550	23400	1890
25	37400	22000	---	---	---	---	---	---	26900	2400	24100	1910
26	37500	22200	34900	19500	---	---	---	---	23800	1950	25700	2490
27	---	---	34400	19200	---	---	---	---	22300	1290	20900	2300
28	36900	21300	32400	19700	---	---	---	---	20500	1040	23700	3290
29	36300	21000	33100	22100	---	---	---	---	---	---	24700	4310
30	35500	21200	33400	21800	---	---	18400	325	---	---	23000	5550
31	34200	20600	---	---	---	---	18000	347	---	---	23700	9900
MONTH	---	---	---	---	---	---	---	---	34400	282	31900	1090
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23400	11400	17100	589	24100	3280	31700	12800	29100	10600	32200	17400
2	23100	9650	20400	522	25400	3320	31800	12700	28500	10100	32400	17200
3	21700	6810	22800	465	27600	3710	31600	13000	27400	10300	33400	18100
4	23600	7140	19100	349	24800	4670	30700	12300	29100	12800	34100	17700
5	22900	5760	15600	204	25100	3330	30000	12900	28700	12500	33900	17200
6	22400	5360	20600	206	24400	2700	28500	14000	30200	10900	33400	16700
7	27200	4820	21700	201	23900	2600	28700	15300	30900	11600	33300	16200
8	30700	5740	18300	198	24700	4120	29200	15900	---	---	33000	16000
9	31800	6960	12300	214	24000	8320	30300	15300	30600	11100	32100	15900
10	32800	9060	23200	214	23800	8560	31100	14700	30600	10800	31500	15600
11	29600	9450	19400	230	---	---	31400	14300	29200	10200	30800	15100
12	31400	10900	16200	238	24600	5960	32000	14800	29700	10300	30000	16300
13	27700	12200	16500	377	25200	5600	32300	14400	30000	10600	31400	18300
14	25000	11400	17000	469	26000	5550	32000	14100	28900	10900	32700	20100
15	23900	9940	16400	458	26500	5390	32100	14000	28400	11600	33200	21300
16	22300	8510	15200	384	27200	5960	31500	13600	27600	12500	33600	20900
17	22300	6980	16500	372	27600	5940	31000	13000	29700	15700	34000	19600
18	21700	5860	17300	364	27000	6020	30000	12100	31400	19800	35800	16900
19	21300	4940	19700	351	26300	5900	29200	14800	32100	19300	36200	17700
20	22200	4230	22600	248	24900	5600	29500	15500	33800	19300	35100	18700
21	22700	4280	23500	204	23200	7160	32000	21200	32900	18100	35500	19200
22	20800	2870	22000	292	26900	10900	32500	20800	32600	15600	35400	19000
23	23700	3080	19600	833	28500	14000	---	---	34300	14900	35500	21500
24	22700	2890	20500	3620	30000	12800	31600	16300	34100	15200	34900	21500
25	19900	3470	21700	4870	30300	10300	31800	16100	33800	14800	34200	20800
26	17400	3700	24900	4860	31100	10700	31900	15500	33700	16200	33200	21200
27	16500	4210	24800	3830	31700	12700	32300	14100	32300	15400	33800	21300
28	17500	2800	26200	2710	32500	14100	32200	14100	---	---	34400	20900
29	15100	1840	25500	5060	32100	14200	32200	13700	30800	14400	35400	20900
30	14800	938	23500	4230	31900	13400	31200	13400	29800	16000	35900	20500
31	---	---	23400	3350	---	---	30900	12000	30800	16300	---	---
MONTH	32800	938	26200	198	---	---	---	---	---	---	36200	15100

11455780 SUISUN BAY AT BENICIA BRIDGE, NEAR BENICIA, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	15.5	15.0	13.5	13.0	---	---	12.0	11.5	13.0	12.5
2	---	---	15.5	15.0	13.0	13.0	---	---	12.0	11.5	13.0	12.5
3	---	---	15.5	15.0	---	---	---	---	12.0	11.5	13.0	12.5
4	---	---	15.5	15.0	---	---	---	---	12.0	11.5	13.0	12.5
5	---	---	15.5	15.0	---	---	---	---	12.0	11.0	13.0	12.5
6	---	---	15.0	15.0	---	---	---	---	12.0	11.0	13.0	12.5
7	---	---	15.0	15.0	---	---	---	---	12.0	11.0	13.0	12.5
8	---	---	15.0	15.0	---	---	---	---	12.5	11.0	13.5	12.5
9	---	---	15.0	15.0	---	---	---	---	12.5	11.0	13.5	13.0
10	---	---	15.0	15.0	---	---	---	---	12.5	11.0	13.5	13.0
11	---	---	15.0	15.0	---	---	---	---	12.5	11.5	14.0	13.5
12	---	---	15.0	15.0	---	---	---	---	12.0	11.0	14.5	13.5
13	---	---	15.5	15.0	---	---	---	---	12.0	11.5	15.0	14.0
14	---	---	15.5	15.0	---	---	---	---	12.0	11.5	15.0	14.0
15	---	---	15.0	15.0	---	---	---	---	12.0	11.5	15.0	14.5
16	---	---	15.0	15.0	---	---	---	---	12.0	11.5	15.0	14.5
17	---	---	15.0	14.5	---	---	---	---	12.0	11.5	15.0	14.5
18	---	---	15.0	14.5	---	---	---	---	12.0	11.0	15.0	14.0
19	---	---	15.0	14.5	---	---	---	---	12.0	11.0	14.5	14.0
20	---	---	14.5	14.0	---	---	---	---	11.5	11.0	14.5	14.0
21	---	---	14.5	14.5	---	---	---	---	12.0	11.0	14.5	14.0
22	---	---	14.5	14.0	---	---	---	---	12.0	11.5	15.0	14.5
23	---	---	14.5	14.0	---	---	---	---	12.5	11.5	15.0	14.5
24	16.5	15.5	14.0	14.0	---	---	---	---	12.5	12.0	15.5	15.0
25	16.0	15.5	14.0	13.5	---	---	---	---	12.5	12.5	15.5	15.0
26	16.0	16.0	14.0	13.5	---	---	---	---	12.5	12.0	16.0	15.0
27	16.0	15.5	13.5	13.0	---	---	---	---	12.5	12.0	16.0	15.0
28	16.0	15.5	13.5	13.0	---	---	---	---	13.0	12.0	16.0	15.0
29	16.0	15.5	13.5	13.0	---	---	---	---	---	---	16.0	15.0
30	16.0	15.5	13.5	13.0	---	---	12.0	11.5	---	---	16.5	15.0
31	16.0	15.5	---	---	---	---	12.0	11.5	---	---	16.5	15.5
MONTH	---	---	15.5	13.0	---	---	---	---	13.0	11.0	16.5	12.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	15.5	15.5	15.0	20.0	18.5	21.0	20.0	21.0	20.5	21.0	20.5
2	15.5	15.0	16.0	15.0	20.5	18.5	21.0	20.5	21.0	20.5	21.0	20.5
3	15.5	14.5	16.0	15.0	21.0	18.5	21.0	20.0	21.0	20.5	21.0	20.5
4	15.0	14.5	16.0	15.5	20.0	19.0	21.0	20.5	21.0	20.5	21.0	20.5
5	15.0	14.0	15.5	15.0	20.0	19.0	21.0	20.5	21.0	20.5	20.5	20.5
6	15.0	14.0	16.0	15.0	20.0	19.0	21.0	20.5	21.0	21.0	20.5	20.0
7	15.0	14.0	15.5	15.0	19.5	18.5	21.0	20.0	21.0	20.5	20.5	20.0
8	15.5	14.0	16.0	15.0	19.5	18.5	20.5	20.0	21.0	20.5	20.5	20.0
9	15.5	14.0	16.0	15.0	19.0	18.0	20.5	20.0	21.0	20.5	20.5	19.5
10	15.5	14.0	16.0	15.0	19.0	18.0	20.5	20.0	21.0	21.0	20.5	19.5
11	16.0	14.5	16.5	15.5	---	---	20.5	20.0	21.5	20.5	20.5	20.0
12	15.0	14.5	17.0	15.5	18.5	17.5	20.5	20.0	21.5	21.0	21.0	20.5
13	15.0	14.5	17.5	16.0	18.0	17.5	21.0	20.0	21.5	21.0	21.5	21.0
14	15.5	14.5	17.5	16.5	18.5	17.5	21.5	20.5	21.5	21.0	21.5	21.0
15	15.0	14.5	17.0	16.5	18.5	18.0	22.0	20.5	21.5	21.0	21.5	21.0
16	15.0	14.5	17.0	16.5	19.5	18.5	22.0	21.0	21.5	21.0	21.0	20.5
17	15.0	14.5	17.0	16.5	19.5	18.5	22.5	21.0	21.5	21.0	21.0	20.5
18	15.0	14.5	17.5	16.5	19.5	19.0	23.0	21.0	21.5	21.0	21.0	20.0
19	15.5	15.0	18.5	17.0	19.5	19.0	22.5	21.5	21.5	21.0	21.0	20.0
20	15.5	15.0	19.0	17.0	19.5	19.0	22.5	21.0	21.0	20.5	21.0	20.0
21	15.5	15.0	20.0	17.0	19.5	19.0	22.0	20.5	21.0	20.5	21.0	20.5
22	15.5	15.0	20.0	17.5	19.5	18.5	22.0	20.5	21.0	20.5	21.5	20.5
23	15.5	15.0	20.5	17.5	19.0	18.5	---	---	21.0	20.5	21.5	21.0
24	15.5	15.0	19.5	17.5	19.0	18.0	21.5	20.5	21.0	20.5	21.0	20.5
25	15.5	15.0	19.0	17.5	20.0	18.5	21.5	20.5	21.5	21.0	21.0	20.0
26	15.5	15.0	19.5	17.0	20.5	18.5	21.0	20.5	22.0	21.5	20.5	19.5
27	15.5	15.0	19.0	17.0	21.0	19.0	21.0	20.5	22.0	21.5	20.5	19.5
28	15.5	15.0	19.5	17.0	21.0	19.5	21.0	20.5	---	---	20.0	19.5
29	15.5	15.0	20.0	17.5	21.0	20.0	21.0	20.5	21.5	21.0	20.0	19.5
30	15.5	15.0	19.5	18.0	21.0	20.0	20.5	20.0	21.5	20.5	20.0	19.0
31	---	---	19.5	18.5	---	---	20.5	20.0	21.0	20.5	---	---
MONTH	16.0	14.0	20.5	15.0	---	---	---	---	---	---	21.5	19.0

11455820 CARQUINEZ STRAIT AT CARQUINEZ BRIDGE, NEAR CROCKETT, CA

LOCATION.—Lat 38° 03' 68", long 122° 13' 53", unsurveyed, T.3 N., R.3 W., Solano County, Hydrologic Unit 18050001, at north side of center bridge pier, directly under Carquinez Bridge.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1998 to current year.

WATER TEMPERATURE: October 1998 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1998.

REMARKS.—Interruptions in record were due to malfunction of sensing and (or) recording instruments. Upper probe is set about 30 ft below water surface relative to Mean Lower Low Water (MLLW). Lower probe is set about 72 ft below water surface relative to MLLW. MLLW is about 78 ft deep. The upper conductivity record is rated excellent except for the following periods of fouling and calibration drift: January 29 to February 19, and April 25–29, which are rated good. All sensors were raised 7.5 ft on September 18 by persons unknown. The lower conductivity record is rated excellent except for the following periods of fouling and calibration drift: April 25–29 which are rated fair, May 20 to June 10, June 25 to July 1, and July 7 to August 17, which are rated good. Upper and lower temperature records are rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 42,100 microsiemens, Sept. 9, 10, 1999, and Aug. 17, 2001; minimum recorded, 170 microsiemens, Mar. 11, 2000.

(Lower probe) Maximum recorded, 43,200 microsiemens, Sept. 11, 2001; minimum recorded, 166 microsiemens, Mar. 11, 2000.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 22.0°C, several days in July and August, 2003; minimum recorded, 7.5°C, several days in December 1998 and January 1999.

(Lower probe) Maximum recorded, 22.0°C, Aug. 13–16, 2003; minimum recorded, 9.0°C, Jan. 21, 25, 2001, several days in January and February 2002.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 41,300 microsiemens, Oct. 26; minimum recorded, 438 microsiemens, Jan. 5.

(Lower probe) Maximum recorded, 40,100 microsiemens, Sept. 17; minimum recorded, 569 microsiemens, May 5.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 22.0°C, several days in July and August; minimum recorded, 9.0°C, Jan. 2–4.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER SENSOR)

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	38700	27800	38800	27200	---	---	25800	2200	27600	6810
2	---	---	39000	28100	39000	27700	24000	701	22900	1270	27100	7430
3	39400	26100	39600	28200	39200	26800	21800	568	23400	1260	26400	8360
4	39800	27200	40100	28600	39200	26100	22300	485	23000	3330	28200	10000
5	39100	27100	40200	27500	39100	26400	21200	438	25200	4080	28000	11300
6	39000	27400	40400	27800	39600	26700	---	---	25700	6320	26600	12200
7	39400	27100	40700	29300	39200	26400	---	---	28700	9950	27300	13600
8	40300	27600	39900	29700	38000	26100	24400	2990	31300	15600	27700	12300
9	40800	29200	38300	28200	38500	24900	27200	4570	33900	11400	29100	12800
10	40600	29100	36700	24700	36600	25300	29300	9610	35200	14200	32700	15300
11	40600	29400	35300	22800	35700	24700	29400	11500	36500	17600	34600	18400
12	40800	27100	---	---	36400	22700	31200	13800	34800	18500	33800	14400
13	---	---	35700	20900	37200	25800	29000	12400	34200	18100	32800	19000
14	38400	26700	36400	22400	35700	29600	27200	10800	32500	16400	31000	17900
15	38800	28800	36100	24200	33900	25600	27500	8250	30900	14500	31100	18200
16	---	---	37200	26000	34000	25400	27000	5590	30200	11700	31500	16300
17	38400	29600	36900	25800	30100	19100	26400	3480	29200	10200	28000	13400
18	38200	29600	37600	25400	30800	14700	25300	1970	27000	8520	26200	10700
19	---	---	37900	25000	31300	13200	23600	1200	24400	7540	25500	9490
20	39000	29400	38000	25100	28800	9700	24800	948	21800	5060	26200	7950
21	39600	29400	38900	25400	26600	6560	22500	691	23900	5170	26500	7030
22	---	---	39300	27800	25100	4590	20100	687	26800	5700	28900	7290
23	---	---	39400	25400	26800	3660	18700	1760	29400	8540	29000	7300
24	40600	28800	38900	25000	24700	3310	19900	2960	30200	8200	29700	7780
25	41100	28600	37900	24200	22900	3100	24100	3410	28800	8210	28700	7320
26	41300	27900	37700	24300	26800	4640	24900	5420	28500	7490	29000	8740
27	40700	28700	36600	24000	27200	6730	26800	5880	29400	6630	27500	8540
28	40300	27100	36800	23800	27400	9930	27000	3920	28000	6190	28700	9540
29	40400	27200	37300	26500	24800	8900	---	---	---	---	31200	10500
30	40200	27100	38400	27500	25900	5420	25900	1760	---	---	30800	12300
31	---	---	---	---	22000	2760	25300	1940	---	---	30800	15900
MONTH	---	---	---	---	39600	2760	---	---	36500	1260	34600	6810

11455820 CARQUINEZ STRAIT AT CARQUINEZ BRIDGE, NEAR CROCKETT, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (UPPER SENSOR)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	30300	17000	24300	4150	29100	8130	---	---	36100	16900	38200	25700
2	28800	17200	23500	4790	29400	8190	36100	18200	34700	18200	38700	25000
3	29800	13800	26800	4850	30300	9730	35500	19200	34900	17600	39300	25500
4	30700	15200	21900	1790	31300	10600	35000	18200	35100	19300	39600	24600
5	28400	12500	21900	501	29000	9640	33500	19300	---	---	39100	23900
6	28700	12200	25300	736	28100	8430	34700	18300	36700	19200	38400	23100
7	30800	11000	24200	1380	30600	8170	35700	21000	36700	18400	37800	23700
8	33800	11100	19700	1290	32300	10600	36600	21600	---	---	38600	23600
9	34600	14100	21000	1760	32000	14500	37400	21800	37000	17700	38100	24000
10	35300	14700	26100	2780	31900	15800	37200	21200	37200	17900	37800	23100
11	33300	15000	23500	3650	32700	15000	37300	20900	36500	17400	37400	22900
12	34000	20000	24400	4240	33100	14000	37800	20800	36500	17800	37100	23400
13	33300	20800	26100	5650	33300	12800	38000	20800	35300	21400	37500	25300
14	32100	18300	24900	5740	33300	11900	37700	19800	35100	18900	38000	27300
15	31300	17400	24400	3630	33100	11400	37700	20000	34800	20000	38300	27700
16	31500	15700	24300	1870	33900	11800	37000	20000	34900	18900	38400	27800
17	31600	13800	24700	1790	32700	12500	36100	19000	34800	21400	38900	26600
18	30700	11100	25000	1360	31500	13100	33700	19100	35800	25700	---	---
19	30200	9480	25300	1300	29200	11400	34500	19800	35700	25800	---	---
20	31200	9710	25200	1480	29200	12300	35200	19300	37100	26000	---	---
21	29800	10100	24900	3090	30700	11300	36000	25000	37400	24000	---	---
22	27500	7930	24800	4530	32700	15500	37300	25300	38200	22800	---	---
23	27800	7340	26300	4130	33100	20000	---	---	38400	21400	---	---
24	26200	8270	26300	10500	32400	19600	37200	22700	38400	21300	---	---
25	24600	7360	25400	9730	33500	18300	37200	23500	38700	21200	---	---
26	25100	8080	27000	11200	35400	18100	36900	21600	38600	22500	---	---
27	26900	9020	27900	10300	36700	18600	37200	19400	38000	22300	---	---
28	---	---	29700	11000	36600	20000	38200	19800	37300	23100	---	---
29	---	---	30700	11900	36600	20100	38200	19900	---	---	---	---
30	24500	5360	29200	11000	36100	19700	37900	20000	36500	24500	---	---
31	---	---	29000	9270	---	---	36400	17800	37300	25300	---	---
MONTH	---	---	30700	501	36700	8130	---	---	---	---	---	---

11455820 CARQUINEZ STRAIT AT CARQUINEZ BRIDGE, NEAR CROCKETT, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(UPPER SENSOR)

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

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 mi².

PERIOD OF RECORD.—October 1929 to September 1932, October 1939 to June 30, 1995, June 2000 to current year. Stage only July 1, 1995, to May 2000. 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 NGVD of 1929. 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.—Records good. 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 ft³/s, Feb. 17, 1986, gage height, 18.52 ft, from rating curve extended above 11,000 ft³/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 4,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0415	10,200	16.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.53	0.01	2.8	884	120	61	57	278	29	9.9	2.1	0.97
2	0.39	0.00	2.9	605	105	57	55	238	28	9.1	2.6	0.83
3	0.35	0.00	3.2	442	97	56	49	681	25	8.6	2.2	0.83
4	0.35	0.01	3.3	333	90	58	67	437	25	8.1	1.9	0.96
5	0.34	0.03	3.5	262	84	52	51	305	25	7.2	1.6	0.94
6	0.32	0.04	3.2	206	80	50	49	237	24	7.2	1.5	0.96
7	0.29	2.5	3.3	159	76	48	49	197	24	7.5	1.3	0.94
8	0.25	46	3.4	132	69	43	48	161	23	7.0	1.3	0.71
9	0.21	15	5.1	149	66	41	48	135	23	6.4	1.8	0.59
10	0.19	7.2	9.6	418	63	40	47	115	22	6.1	2.0	0.54
11	0.17	5.4	5.9	493	61	39	44	99	22	5.4	1.8	0.55
12	0.13	3.8	4.7	404	66	39	202	91	22	4.9	1.6	0.56
13	0.09	3.5	1040	967	104	38	307	82	21	4.5	1.5	0.48
14	0.06	3.2	3140	664	78	93	224	75	20	4.8	1.4	0.39
15	0.06	2.8	1510	487	76	991	140	69	19	5.0	1.5	0.37
16	0.06	2.5	4670	364	565	415	113	64	19	4.6	1.4	0.23
17	0.05	2.5	909	285	285	264	99	60	18	4.4	1.6	0.25
18	0.04	2.3	448	232	191	181	86	57	17	4.1	1.5	0.40
19	0.03	2.3	715	193	154	141	77	54	17	3.4	1.4	0.48
20	0.00	2.1	1480	165	130	141	71	51	16	3.2	1.4	0.50
21	0.00	2.1	1660	175	109	113	71	48	15	3.6	1.4	0.37
22	0.00	2.2	771	310	99	101	68	46	14	3.3	2.4	0.42
23	0.00	2.4	484	727	94	103	63	43	14	3.2	1.9	0.42
24	0.00	2.5	350	462	86	94	154	41	14	3.0	1.5	0.35
25	0.00	2.7	275	343	78	84	200	40	13	3.0	1.1	0.33
26	0.00	3.1	302	278	71	80	186	38	11	2.8	1.0	0.33
27	0.00	2.7	885	237	67	76	139	36	10	2.9	1.1	0.40
28	0.00	2.7	1600	199	64	69	358	34	9.5	2.8	0.97	0.22
29	0.00	2.9	1680	168	---	63	539	33	9.5	1.8	0.91	0.21
30	0.00	2.7	897	147	---	61	395	33	9.7	2.2	0.90	0.22
31	0.01	---	1700	132	---	60	---	31	---	2.2	1.0	---
TOTAL	3.92	127.19	24566.9	11022	3228	3752	4056	3909	558.7	152.2	47.58	15.75
MEAN	0.13	4.24	792	356	115	121	135	126	18.6	4.91	1.53	0.53
MAX	0.53	46	4670	967	565	991	539	681	29	9.9	2.6	0.97
MIN	0.00	0.00	2.8	132	61	38	44	31	9.5	1.8	0.90	0.21
AC-FT	7.8	252	48730	21860	6400	7440	8050	7750	1110	302	94	31

11456000 NAPA RIVER NEAR ST. HELENA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.95	33.9	183	300	288	195	87.2	23.6	7.44	2.50	1.25	0.98
MAX	179	415	1088	1338	1798	1144	584	126	27.3	7.66	4.43	6.44
(WY)	1963	1974	1956	1970	1986	1983	1982	2003	1967	1941	1941	1982
MIN	0.000	0.10	0.24	2.17	4.34	4.16	1.81	0.89	0.081	0.000	0.000	0.000
(WY)	1978	1932	1940	1991	1977	1998	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1930 - 2003	
ANNUAL TOTAL	41793.72		51439.24			
ANNUAL MEAN	115		141		91.3	
HIGHEST ANNUAL MEAN					270	
LOWEST ANNUAL MEAN					1.90	
HIGHEST DAILY MEAN	4670	Dec 16	4670	Dec 16	13700	Feb 17 1986
LOWEST DAILY MEAN	0.00	Oct 20	0.00	Oct 20	0.00	Sep 23 1947
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 20	0.00	Oct 20	0.00	Sep 23 1947
MAXIMUM PEAK FLOW			10200	Dec 16	16900	Feb 17 1986
MAXIMUM PEAK STAGE			16.47	Dec 16	18.52	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	82900		102000		66160	
10 PERCENT EXCEEDS	166		353		178	
50 PERCENT EXCEEDS	5.1		22		7.0	
90 PERCENT EXCEEDS	0.24		0.31		0.40	

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, 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 mi².

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. WRD CA-01-2, 2000(M).

GAGE.—Water-stage recorder. Datum of gage is 24.74 ft above NGVD of 1929.

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 ft³/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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	1.4	1810	329	171	123	512	66	13	2.6	0.57
2	0.00	0.00	1.4	1180	307	161	116	438	61	13	2.7	0.46
3	0.00	0.00	1.6	894	285	154	98	1310	56	12	4.2	0.51
4	0.00	0.00	1.7	725	264	162	125	966	53	12	4.0	0.55
5	0.00	0.00	1.8	619	255	135	112	642	52	12	3.3	0.50
6	0.00	0.00	1.9	539	239	125	98	506	48	12	1.5	0.21
7	0.00	12	2.1	474	226	119	96	427	47	12	3.2	0.12
8	0.00	51	2.1	425	208	112	92	365	46	11	2.7	0.23
9	0.00	29	2.2	408	196	107	87	315	43	11	2.3	0.23
10	0.00	13	3.9	678	184	100	85	276	40	9.5	1.4	0.26
11	0.00	7.9	9.2	907	177	96	81	249	39	8.5	0.82	0.16
12	0.00	4.9	7.3	679	176	93	242	230	38	7.9	0.88	0.16
13	0.00	3.7	820	1200	261	92	602	214	36	7.3	0.92	0.04
14	0.00	2.3	6120	955	237	164	524	195	33	5.8	2.1	0.00
15	0.00	1.6	3820	776	209	1620	354	192	32	5.4	1.9	0.00
16	0.00	1.3	12200	649	901	815	277	172	30	5.3	0.92	0.00
17	0.00	1.2	2340	548	631	535	240	160	29	5.2	0.63	0.00
18	0.00	0.93	1030	481	469	395	207	147	27	6.5	0.72	0.00
19	0.00	0.84	1360	436	397	319	184	139	26	6.8	1.6	0.00
20	0.00	0.84	2600	405	348	304	169	132	24	7.0	2.5	0.00
21	0.00	0.84	3110	396	304	260	160	122	24	5.9	3.8	0.00
22	0.00	0.84	1470	442	277	233	154	116	24	6.2	3.0	0.00
23	0.00	0.93	978	949	259	224	136	110	21	5.0	1.1	0.00
24	0.00	0.93	745	744	242	210	213	105	20	4.5	0.77	0.00
25	0.00	0.93	602	601	226	192	292	103	19	4.1	0.70	0.00
26	0.00	0.93	542	519	211	180	363	101	17	3.7	0.82	0.00
27	0.00	1.2	974	466	195	173	268	96	15	3.6	1.0	0.00
28	0.00	1.4	2440	429	182	158	428	82	13	4.5	1.1	0.00
29	0.00	1.4	3730	396	---	143	872	78	13	3.3	0.65	0.00
30	0.00	1.4	1740	370	---	134	694	73	13	2.8	0.54	0.00
31	0.00	---	3340	349	---	129	---	71	---	4.1	0.58	---
TOTAL	0.00	141.31	49997.6	20449	8195	7815	7492	8644	1005	230.9	54.95	4.00
MEAN	0.000	4.71	1613	660	293	252	250	279	33.5	7.45	1.77	0.13
MAX	0.00	51	12200	1810	901	1620	872	1310	66	13	4.2	0.57
MIN	0.00	0.00	1.4	349	176	92	81	71	13	2.8	0.54	0.00
AC-FT	0.00	280	99170	40560	16250	15500	14860	17150	1990	458	109	7.9

11458000 NAPA RIVER NEAR NAPA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.1	74.7	307	702	713	475	181	54.9	17.5	5.52	2.57	2.09
MAX	338	616	1613	3083	4089	2598	1341	279	100	23.9	9.43	10.7
(WY)	1963	1974	2003	1995	1986	1983	1982	2003	1998	1998	1983	1982
MIN	0.000	1.10	0.73	2.17	0.42	2.60	0.20	0.000	0.000	0.000	0.000	0.000
(WY)	1961	1991	1977	1991	1977	1977	1977	1977	1977	1961	1960	1960

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1960 - 2003	
ANNUAL TOTAL	89538.37		104028.76			
ANNUAL MEAN	245		285		210	
HIGHEST ANNUAL MEAN					585	
LOWEST ANNUAL MEAN					0.72	
HIGHEST DAILY MEAN	12200	Dec 16	12200	Dec 16	26200	Feb 17 1986
LOWEST DAILY MEAN	0.00	Aug 2	0.00	Oct 1	0.00	Jul 14 1960
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 2	0.00	Oct 1	0.00	Jul 14 1960
MAXIMUM PEAK FLOW			19100		37100	
MAXIMUM PEAK STAGE			26.44		30.50	
ANNUAL RUNOFF (AC-FT)	177600		206300		152200	
10 PERCENT EXCEEDS	398		661		438	
50 PERCENT EXCEEDS	12		38		14	
90 PERCENT EXCEEDS	0.00		0.00		0.39	

11458370 NAPA RIVER AT MARE ISLAND CAUSEWAY, NEAR VALLEJO, CA

LOCATION.—Lat 38° 06' 40", long 122° 16' 25", in T.3 N., R.4 W., Solano County, Hydrologic Unit 18050002, at east side of Napa River main channel, and underneath Mare Island Causeway Bridge.

PERIOD OF DAILY RECORD.—October 1998 to current year.

SPECIFIC CONDUCTANCE: October 1998 to current year.

WATER TEMPERATURE: October 1998 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1998.

REMARKS.—Upper probes are set about 5 ft below water surface at Mean Lower Low Water (MLLW). Lower probes are set about 27 ft below water surface at MLLW. MLLW is about 30 ft. Daily maximums and minimums sometimes differ from tidal-cycle (24.8 hours) maximums and minimums. The upper conductivity record is rated excellent except for Dec. 14 to June 8, which is rated fair; June 9 to Aug. 17, Sept. 27–30, which is rated good. The lower conductivity record is rated excellent except for Oct. 7–29, which is rated good; Dec. 14 to June 8, which is rated fair; June 9 to Aug. 17, which is rated good. The upper temperature record is rated excellent except for Oct. 7–29, which is rated fair. The lower temperature record is rated excellent except for Oct. 29 to Nov. 12, which is rated good; and Nov. 13 to Dec. 10, which is rated fair.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 39,000 microsiemens, Jan. 8, 2001; minimum recorded, 72 microsiemens, Mar. 4, 5, 1999.

(Lower probe) Maximum recorded, 44,600 microsiemens, Jan. 11, 1999; minimum recorded, 81 microsiemens, Mar. 4, 1999.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.5° C, June 27, Aug. 25, 2003; minimum recorded, 6.5° C, Jan. 11, 1999.

(Lower probe) Maximum recorded, 23.0° C, July 4, 2001, July 18, Aug. 26, Sept. 13, 2003; minimum recorded, 6.5° C, Dec. 24, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: (Upper probe) Maximum recorded, 38,000 microsiemens, Nov. 7; minimum recorded, 295 microsiemens, Jan. 6.

(Lower probe) Maximum recorded, 39,200 microsiemens, Oct. 25, Nov. 7; minimum recorded, 524 microsiemens, Jan. 6.

WATER TEMPERATURE: (Upper probe) Maximum recorded, 23.5° C, June 27, Aug. 25; minimum recorded, 9.0° C, Dec. 25, 26, Jan. 3.

(Lower probe) Maximum recorded, 23.0° C, July 18, Aug. 26, Sept. 13; minimum recorded, 9.0° C, Dec. 25, 26, Jan. 3.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	32700	29900	33200	29100	18200	1720	21100	4470	19800	9170
2	32800	27800	32600	30100	34700	29300	17900	1440	14900	4670	17500	9510
3	33500	28000	33900	30900	35500	28900	18400	772	15500	3380	17900	10100
4	33000	28900	35400	30700	35500	28600	18700	558	---	---	19600	11300
5	32400	29200	36100	30800	35700	28000	15400	388	13800	6430	18100	12000
6	31800	29200	37100	29600	35900	28300	10400	295	16200	8040	19500	12500
7	33500	29200	38000	29700	35000	28700	11100	2180	19300	9520	19700	13000
8	35000	29900	36900	30900	33500	28000	13800	4080	24300	11600	21700	13900
9	36600	30300	34400	30000	33700	27300	16800	5730	25800	12900	21900	14000
10	36400	31700	31600	26600	---	---	23200	7640	26800	14200	22400	14300
11	35500	32300	30700	24900	31500	27600	24500	8690	31800	16100	25400	15100
12	35500	29200	30200	23900	31700	27200	24300	9920	33300	17800	28100	16100
13	35900	29200	29300	24700	34900	28500	26700	10800	31400	18200	26700	18100
14	34800	29600	29600	26000	33200	22600	25500	11400	26200	18200	27400	18000
15	35100	30800	31000	27000	31600	9660	23500	10600	24700	16500	27400	15900
16	34900	31900	31500	28000	31800	2100	22600	8230	22600	14600	24600	14700
17	34500	32100	30800	27200	26600	4140	23600	6260	20700	13700	21500	14400
18	34300	31600	31300	26900	22700	8520	23500	5940	17900	12400	17100	13000
19	33100	30800	32500	26600	25200	10000	19400	4110	16100	10900	15000	12800
20	33100	31300	32400	26300	23400	5350	19200	2930	13500	8910	14500	10600
21	33900	31200	33900	26400	20000	3750	16000	2780	13800	7790	15800	9600
22	35100	31100	35100	26800	15900	5360	14400	2870	18400	9180	19500	9900
23	35500	32900	35300	28800	19400	5280	11000	4600	21200	10700	21100	10600
24	35400	31300	34300	27300	17900	5320	14500	4980	24000	11100	21700	11000
25	36300	30600	33100	26300	15500	6080	16600	7480	24200	11000	---	---
26	37900	30300	33400	26600	18900	6730	18600	8400	23400	10700	21700	11600
27	36800	31300	33000	26800	21400	7620	22100	8580	22400	9350	18500	11300
28	36900	30000	31900	27200	23800	8940	22500	6310	19600	9180	19200	11800
29	36200	30400	32400	28600	18900	4340	21800	4840	---	---	22500	13300
30	34500	29800	32200	28800	18100	4920	20800	4280	---	---	20700	14100
31	33800	29800	---	---	18700	2680	20400	4090	---	---	21300	14700
MONTH	---	---	38000	23900	---	---	26700	295	---	---	---	---

11458370 NAPA RIVER AT MARE ISLAND CAUSEWAY, NEAR VALLEJO, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 (UPPER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21600	15600	16300	7440	24600	11000	30900	20800	29300	19800	30100	25900
2	22100	16400	20100	7760	25700	10900	30700	20400	25700	20500	30700	26000
3	20400	16400	21000	7680	26700	12200	30500	20600	26700	20400	32100	26200
4	22000	16400	16800	4370	23000	12800	28900	20600	28100	21900	33900	25900
5	20900	14900	11600	1760	22800	11800	27300	21400	29500	21300	33000	25300
6	19300	14400	9050	2670	21000	11700	27200	21400	30300	21200	---	---
7	22000	14200	11600	3220	20400	11700	27700	21600	31000	20500	31500	24400
8	22500	15100	10800	2690	23600	13800	---	---	31000	20200	31500	25000
9	23900	16000	7760	3220	23100	14600	29200	22100	30300	19500	30600	25300
10	25200	16800	13800	4560	22200	15100	29300	22300	29500	19500	30900	24900
11	26700	17200	15800	6740	23700	15600	29200	21600	29500	19500	30000	24800
12	28400	18200	17800	7320	24200	15800	29900	21700	29000	20000	28500	25500
13	25800	17900	18900	8000	24700	15300	29900	21700	28700	20200	30900	26700
14	24000	17900	16300	8330	25800	14600	30200	20600	27700	21300	31500	26900
15	23100	18300	16300	6430	25800	14100	29500	21200	26500	21800	31900	27100
16	22300	18200	15700	3980	27700	14200	29500	20900	---	---	31500	27400
17	23300	16200	16600	3300	27700	15100	29500	20500	28800	22600	32100	27800
18	22400	14100	19500	2640	25600	15000	26100	20900	29700	23500	34100	26400
19	23700	12400	21200	3200	24000	15000	26000	21600	---	---	35300	26100
20	24500	12400	22800	4530	21500	15900	28600	21800	31300	24100	35500	26400
21	25700	13100	21100	6040	23000	15200	29300	22600	31100	24500	34500	27100
22	22900	11100	16100	7280	24600	16500	30400	23000	32500	24600	34300	27200
23	22500	11400	16400	8100	25800	16900	29400	24100	34800	23600	33900	28300
24	21500	12700	18500	8780	28600	17500	30900	24400	33700	23200	33700	28500
25	20700	14100	19900	10400	31100	18200	31300	24700	33500	22800	33300	28700
26	19500	12900	19800	10900	31800	18900	30900	23500	33000	24300	31700	29000
27	22100	14000	23500	11300	30800	19700	31200	21400	31000	24200	31800	29200
28	19700	14100	25800	12200	30700	20400	31000	22200	30400	24800	32400	29400
29	19700	11700	22100	13400	30700	20700	31600	21800	30100	23900	34100	29900
30	15500	8410	21500	13600	30800	21100	29800	21700	29100	25400	34600	29900
31	---	---	23600	11900	---	---	31100	20500	28900	25700	---	---
MONTH	28400	8410	25800	1760	31800	10900	---	---	---	---	---	---

11458370 NAPA RIVER AT MARE ISLAND CAUSEWAY, NEAR VALLEJO, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(LOWER PROBE)

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	32700	30200	33800	28900	19700	2130	23200	5150	23300	10500
2	35000	29100	32800	30400	35100	29100	22100	1650	18700	5340	22300	10500
3	35200	28700	34100	31000	36100	28900	22200	978	22200	4360	20900	11200
4	34200	29300	35800	30900	36500	28400	21900	796	---	---	22400	11700
5	34200	29800	36300	30900	37300	27800	22000	529	20500	7580	20700	12000
6	33000	29800	37700	29700	37600	28100	22900	524	21200	9070	21900	12500
7	34100	29800	39200	30000	37000	28600	21400	2710	26200	13300	23400	13900
8	36100	30500	37300	30700	34600	27800	21100	5320	33200	18200	25600	14800
9	37500	30800	35900	30100	34700	27500	24900	11500	34600	19700	28000	15900
10	38000	32100	34100	27500	---	---	32500	16100	35700	20000	31800	17900
11	37500	32500	30700	26500	31400	28300	30400	16900	36300	21700	33400	20400
12	38200	31300	31100	25900	33300	28200	32100	16800	34400	20400	34000	20100
13	37000	30900	31500	26900	36700	28400	31300	16400	34300	19100	30700	19200
14	35600	30900	31900	27000	33900	25300	27300	14500	30100	18700	29500	18400
15	35600	31600	32700	27400	31300	21100	26000	11500	28800	17100	29400	17000
16	35200	32000	32400	27700	32300	4030	26400	9480	26400	15800	26100	15400
17	34700	32400	31100	28000	27400	13700	25800	8220	24100	14500	22500	14500
18	34600	32200	32400	27400	25300	12900	26500	7020	21500	13000	17800	13800
19	33200	31500	33900	27400	30100	12400	25400	5390	18300	11500	16700	13100
20	33300	31900	34800	26900	27100	7850	24100	4510	14000	10200	16300	11600
21	34800	31900	36800	26900	25200	6200	24000	4050	17200	9080	18500	10500
22	35700	31700	36700	27400	24500	6080	21400	4020	22400	10600	20700	11100
23	35600	32700	36400	28400	26800	5520	13700	5560	25800	11500	23200	11400
24	36900	32400	36500	28300	27200	5960	16300	6460	30000	12100	27700	12400
25	39200	31800	36300	27400	25100	6580	21100	8530	30600	12700	---	---
26	39000	31900	36700	27900	23200	6970	24700	9650	28300	12000	29600	12800
27	38700	32200	33900	27900	22900	9710	26400	9330	27700	10700	23500	13500
28	38300	32200	31600	28100	24200	10200	25000	7380	25200	10200	28800	13500
29	37200	31200	32500	28400	20800	6120	24500	5870	---	---	27700	14400
30	35600	30900	32900	28500	21700	5620	23200	5170	---	---	25400	15000
31	34000	30400	---	---	21400	3280	23700	5170	---	---	25800	15800
MONTH	---	---	39200	25900	---	---	32500	524	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	24700	16900	19300	7630	25700	11300	32200	20800	30600	20500	32500	25500
2	24000	17600	20800	7910	26500	11400	31800	20500	28300	21300	32900	25900
3	22600	17400	22200	7980	28700	12900	30300	20800	28600	21500	34200	25500
4	25500	17300	18600	4620	23600	13200	31000	20600	30200	22200	35500	25900
5	24200	17000	13100	1800	24100	12300	28400	21300	30300	22900	35400	26100
6	23100	16800	12400	2670	22000	12200	27500	21400	32100	21900	---	---
7	30400	16600	15500	3670	21600	12300	28400	21400	32500	21400	30700	24800
8	32800	18000	13000	2930	24000	14100	---	---	32300	20700	32900	24800
9	33100	20200	9540	3400	23900	14600	30400	21900	31700	20100	32900	25400
10	35200	20000	16900	4850	22400	15200	31600	22100	32300	20000	31700	24800
11	32300	20900	16800	6810	24800	15600	31900	22400	32300	20000	31600	24900
12	34600	19200	19200	7370	24200	15800	32100	22400	31800	20300	30100	25600
13	28200	18800	19700	8020	25100	15400	32600	22500	31700	20800	31000	26400
14	25700	18400	19100	8310	25800	14600	33200	21200	30000	22000	32600	26600
15	24100	18200	18600	6560	27300	14200	32400	21900	28500	22700	32300	27000
16	22400	18000	17600	4100	29300	14400	32700	21600	---	---	33000	27300
17	23600	16200	18100	3480	29700	15100	31800	21200	31100	23100	34800	27600
18	22600	14100	20400	2720	28400	15200	28900	21600	32400	23700	37200	27600
19	25000	12400	22100	3430	24600	15300	27800	22300	---	---	37900	27500
20	25500	12600	24700	4810	23100	15900	29800	22900	34800	23900	36700	27600
21	27400	13300	24800	6350	23600	16000	33100	23200	32600	24200	36200	27800
22	24700	11400	18800	7340	27100	16400	34800	23400	34000	24500	35900	27500
23	25100	11500	17800	8190	28700	16900	30200	23900	35400	24300	35100	28000
24	25200	12900	20400	8970	29800	17400	31800	24300	35400	24100	34100	28300
25	21700	14300	20700	10600	31900	18200	32800	24400	35500	23600	33400	28700
26	20400	13200	23300	10900	32700	18800	33700	23800	35500	24300	32400	29100
27	22600	13900	24900	11400	33500	19600	33700	22100	33200	24100	32700	29300
28	20700	14000	25900	12300	32600	20200	33700	22600	32200	24700	33000	29500
29	20000	12000	24500	13300	31300	20500	33600	22300	31400	24000	34600	29600
30	15900	8390	24500	13600	31100	20900	32600	21800	30000	25200	36200	29900
31	---	---	23700	12100	---	---	32400	20800	29500	25300	---	---
MONTH	35200	8390	25900	1800	33500	11300	---	---	---	---	---	---

11458370 NAPA RIVER AT MARE ISLAND CAUSEWAY, NEAR VALLEJO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

(UPPER PROBE)

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	15.5	15.0	13.5	12.5	11.0	9.5	13.5	11.5	14.0	12.5
2	18.5	18.0	15.5	15.0	13.5	12.5	10.5	9.5	13.0	12.0	14.0	12.5
3	18.5	17.5	15.5	14.5	13.5	12.5	10.5	9.0	12.5	11.5	13.5	12.5
4	19.0	18.0	15.5	15.0	13.5	12.5	10.5	9.5	---	---	14.0	12.5
5	19.5	18.5	15.5	15.0	13.5	12.5	11.0	9.5	12.0	11.5	13.5	12.5
6	20.0	18.5	15.5	15.0	13.0	12.5	10.5	9.5	12.0	11.5	14.0	13.0
7	20.5	19.0	15.5	15.0	13.5	12.5	10.5	9.5	12.0	11.0	13.5	13.0
8	20.5	19.0	15.5	15.0	13.0	12.0	10.5	9.5	12.0	10.5	14.0	13.0
9	20.0	19.0	15.5	15.0	13.0	12.0	10.5	10.0	12.0	10.5	14.0	13.0
10	20.0	19.0	15.5	15.0	---	---	10.5	10.0	12.0	11.0	14.5	13.5
11	19.0	18.5	15.5	15.0	---	---	11.0	10.5	12.0	11.0	15.0	13.5
12	19.0	18.5	16.0	15.5	---	---	11.0	10.5	12.0	11.5	15.5	13.5
13	19.0	18.5	16.0	15.5	12.5	12.0	12.0	11.0	12.0	11.5	15.5	14.0
14	19.0	18.5	16.0	15.5	12.5	12.5	12.5	11.0	12.0	11.5	15.5	14.0
15	18.5	18.0	15.5	15.0	13.0	12.5	13.0	11.0	12.5	11.5	16.0	14.0
16	18.0	17.5	15.5	15.0	13.0	12.5	12.5	11.0	13.0	11.5	16.0	14.5
17	18.0	17.0	15.5	15.0	13.0	12.0	12.5	11.0	12.5	11.5	15.5	14.5
18	17.5	17.0	15.5	15.0	12.5	12.0	12.0	11.0	12.5	11.5	15.5	14.5
19	18.0	17.0	15.0	14.5	12.0	10.5	11.5	10.5	12.5	11.5	15.5	14.5
20	18.0	17.0	15.0	14.5	11.5	10.0	11.0	10.5	12.5	11.5	15.5	14.5
21	18.0	17.0	15.0	14.5	11.5	10.0	11.0	10.5	13.0	11.5	15.5	14.0
22	17.5	16.5	15.0	14.5	11.0	10.0	11.0	10.5	13.0	11.5	15.0	14.5
23	17.0	16.0	14.5	14.0	11.0	10.0	11.0	10.5	13.5	12.0	15.5	14.5
24	16.5	15.5	14.5	14.0	10.5	9.5	11.5	10.5	13.0	12.0	16.0	14.5
25	16.5	16.0	14.5	13.5	10.5	9.0	12.0	11.0	13.5	12.0	---	---
26	16.5	15.5	14.0	13.5	10.5	9.0	12.5	11.0	13.5	12.5	16.5	15.0
27	16.0	15.5	14.0	13.0	10.5	9.5	13.0	11.5	13.5	12.0	16.5	14.5
28	16.0	15.5	14.0	13.0	11.0	10.0	13.5	11.5	13.5	12.5	16.0	15.0
29	16.5	15.5	13.5	13.0	11.0	10.0	13.5	11.5	---	---	17.0	14.5
30	16.0	15.5	13.5	13.0	10.5	9.5	13.5	11.5	---	---	17.5	15.0
31	16.0	15.5	---	---	11.0	9.5	13.0	11.5	---	---	18.0	15.5
MONTH	---	---	16.0	13.0	---	---	13.5	9.0	---	---	---	---
DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.5	15.5	16.5	15.0	20.5	18.0	21.5	20.0	21.0	20.0	21.0	20.0
2	15.5	15.0	16.0	15.0	21.0	18.5	21.0	20.0	21.0	20.0	21.0	20.0
3	15.5	14.5	16.5	15.0	21.0	18.5	21.5	20.0	21.0	20.0	21.0	20.0
4	15.0	14.0	16.5	15.5	20.0	19.0	22.0	20.0	21.5	20.0	21.0	20.0
5	15.0	13.5	16.0	15.0	20.0	19.0	21.5	20.0	21.5	20.5	---	---
6	15.0	13.5	16.0	15.5	19.5	18.5	21.0	20.0	22.0	20.5	---	---
7	15.5	13.5	16.5	15.0	19.0	18.5	20.5	19.5	22.0	20.5	20.5	20.0
8	16.5	14.5	16.0	15.0	19.0	18.0	---	---	22.0	20.5	21.0	19.5
9	16.0	14.5	16.0	15.0	18.5	18.0	21.5	19.5	22.0	20.5	20.5	19.5
10	16.0	14.5	17.0	15.0	19.0	18.0	21.5	19.5	22.0	20.5	21.0	19.5
11	16.5	14.5	17.5	15.0	18.0	17.5	21.5	19.5	21.5	20.5	21.5	20.0
12	15.5	14.5	18.0	15.5	18.5	17.5	21.5	19.5	22.0	20.5	22.5	20.0
13	15.0	14.5	18.5	16.0	19.5	17.5	22.0	20.0	22.5	21.0	23.0	20.5
14	15.5	14.5	18.5	16.0	19.0	17.5	22.5	20.0	22.0	20.5	22.5	21.0
15	15.0	14.0	18.5	16.0	19.5	17.5	22.0	20.0	22.0	20.5	22.5	20.5
16	15.0	14.5	18.0	16.5	19.5	18.0	22.0	20.5	---	---	21.5	20.0
17	15.5	14.5	18.5	16.5	19.5	18.0	22.5	20.5	---	---	21.0	20.0
18	15.5	14.5	18.0	16.5	19.5	18.0	23.0	21.0	---	---	21.0	20.0
19	16.0	14.5	18.5	16.5	19.5	18.5	22.5	21.0	---	---	21.0	20.0
20	15.5	15.0	19.5	17.0	19.5	18.5	22.5	21.0	21.5	20.5	22.0	20.0
21	15.5	14.5	20.0	17.0	20.0	18.5	22.5	21.0	21.0	20.5	22.5	20.5
22	15.5	14.5	20.5	17.5	20.0	18.5	22.5	20.5	21.5	20.5	22.5	20.5
23	15.5	14.5	20.5	18.0	20.0	18.5	21.5	20.5	22.5	20.5	22.5	20.5
24	15.5	14.5	20.0	18.0	20.5	18.5	22.0	20.5	23.0	20.5	21.5	20.5
25	15.0	14.5	19.5	17.5	21.5	18.0	21.5	20.0	23.5	21.0	20.5	20.0
26	15.5	14.0	19.5	17.5	23.0	18.5	22.0	20.0	23.0	21.0	20.5	19.5
27	16.0	14.5	20.5	17.0	23.5	19.5	21.5	20.5	22.0	21.0	20.0	19.5
28	15.5	15.0	21.0	17.0	22.5	20.0	21.5	20.0	21.5	21.0	20.0	19.0
29	15.5	14.5	20.5	18.0	22.5	20.0	21.0	20.0	21.5	20.5	20.0	19.0
30	16.5	14.5	21.0	18.0	22.0	20.0	20.5	20.0	21.0	20.0	20.0	19.0
31	---	---	20.0	18.0	---	---	20.5	20.0	21.0	20.0	---	---
MONTH	16.5	13.5	21.0	15.0	23.5	17.5	---	---	---	---	---	---

11458370 NAPA RIVER AT MARE ISLAND CAUSEWAY, NEAR VALLEJO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(LOWER PROBE)

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

11458500 SONOMA CREEK AT AGUA CALIENTE, CA

LOCATION.—Lat 38° 19'24", long 122° 29'36", in Agua Caliente Grant, [Sonoma County](#), Hydrologic Unit 18050002, on right bank, 5 ft upstream from bridge, and 0.4 mi west of Agua Caliente.

DRAINAGE AREA.—58.4 mi².

PERIOD OF RECORD.—Water years 1955 to 1981, October 2001 to current year. Prior to October 1966, published as "at Boyes Hot Springs."

GAGE.—Water-stage recorder. Datum of gage is 94.28 ft above NGVD of 1929. Prior to July 24, 1967, at site 0.8 mi downstream at different datum. July 24, 1967, to Oct. 9, 1968, at site 130 ft upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation; some diversion above station for irrigation of about 2,000 acres.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,880 ft³/s, Dec. 22, 1955, gage height, 17.10 ft, site and datum then in use, from rating curve extended above 4,100 ft³/s, on basis of slope-area measurement of maximum flow, maximum gage height, 28.05 ft, Dec. 16, 2002; no flow at times.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0315	7,440	28.05	Dec. 31	0200	2,950	17.97
Dec. 19	1545	2,520	17.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.62	1.1	3.1	353	52	30	21	91	15	4.9	1.8	1.0
2	0.52	1.1	3.2	220	47	28	21	85	14	4.6	1.7	0.89
3	0.43	1.1	3.3	155	44	28	19	319	14	4.4	1.8	0.93
4	0.41	1.1	3.3	133	41	29	36	166	14	4.0	1.8	0.99
5	0.37	1.2	3.3	111	38	26	25	116	14	3.8	1.7	0.97
6	0.36	1.3	3.3	91	36	25	21	96	14	3.7	1.7	0.97
7	0.33	29	3.4	79	34	25	20	82	14	3.7	1.8	0.96
8	0.32	35	3.3	70	33	24	18	71	13	3.5	1.7	0.89
9	0.31	13	4.0	98	31	23	18	62	13	3.3	1.6	0.89
10	0.40	6.6	9.0	e240	31	22	18	53	13	3.0	1.5	0.88
11	0.60	4.4	5.8	e300	30	21	17	48	14	2.8	1.4	0.86
12	0.65	3.6	4.2	e270	33	21	181	45	13	2.7	1.3	0.82
13	0.68	3.5	1640	e500	48	21	255	41	12	2.5	1.3	0.75
14	0.75	3.6	2040	e250	35	37	123	38	11	2.4	1.3	0.64
15	0.84	3.1	1100	154	56	357	73	35	11	2.3	1.3	0.56
16	0.84	3.0	2710	119	303	102	55	33	10	2.2	1.3	0.74
17	0.94	3.1	623	100	93	69	51	31	9.6	2.0	1.2	0.85
18	1.1	3.0	268	89	68	51	43	28	9.2	1.8	1.2	0.89
19	1.2	3.0	704	80	62	46	37	26	8.8	1.9	1.3	e0.82
20	1.1	3.0	989	71	54	49	35	24	8.1	1.8	1.3	0.77
21	1.2	3.0	791	84	48	40	34	24	7.8	1.8	1.3	0.77
22	1.2	3.1	337	149	44	37	33	23	7.5	1.8	1.3	0.72
23	1.2	3.0	228	251	41	38	30	22	7.1	1.8	1.4	0.86
24	1.3	3.1	170	153	39	33	76	21	6.6	2.0	1.3	0.92
25	1.4	3.0	131	117	37	29	68	21	6.0	1.8	1.1	0.88
26	1.4	2.9	129	100	34	29	54	20	5.5	1.8	1.0	0.95
27	1.3	2.9	339	90	33	27	53	19	5.1	1.7	1.1	1.0
28	1.2	3.1	895	78	31	25	200	18	4.8	1.6	1.2	1.1
29	1.2	3.1	685	68	---	24	196	17	4.7	1.7	1.1	0.98
30	1.1	3.1	346	61	---	22	119	17	4.9	1.8	1.1	0.91
31	1.1	---	980	57	---	22	---	16	---	1.7	1.1	---
TOTAL	26.37	154.1	15154.2	4691	1476	1360	1950	1708	304.7	80.8	43.0	26.16
MEAN	0.85	5.14	489	151	52.7	43.9	65.0	55.1	10.2	2.61	1.39	0.87
MAX	1.4	35	2710	500	303	357	255	319	15	4.9	1.8	1.1
MIN	0.31	1.1	3.1	57	30	21	17	16	4.7	1.6	1.0	0.56
AC-FT	52	306	30060	9300	2930	2700	3870	3390	604	160	85	52

e Estimated.

SONOMA CREEK BASIN

11458500 SONOMA CREEK AT AGUA CALIENTE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.88	27.1	139	254	215	115	64.1	13.9	4.57	1.71	0.93	0.78
MAX	130	233	737	791	766	388	418	55.1	19.2	6.29	3.15	4.04
(WY)	1963	1974	1956	1970	1958	1975	1958	2003	1967	1967	1967	1959
MIN	0.000	0.22	0.96	2.46	2.21	5.17	0.76	0.84	0.071	0.000	0.000	0.000
(WY)	1962	1960	1960	1977	1977	1977	1977	1977	1977	1959	1955	1961

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1955 - 2003	
ANNUAL TOTAL	29015.33		26974.33			
ANNUAL MEAN	79.5		73.9		70.0	
HIGHEST ANNUAL MEAN					157 1956	
LOWEST ANNUAL MEAN					1.38 1977	
HIGHEST DAILY MEAN	2710	Dec 16	2710	Dec 16	6190	Jan 21 1967
LOWEST DAILY MEAN	0.05	Sep 23	0.31	Oct 9	0.00	Jul 6 1955
ANNUAL SEVEN-DAY MINIMUM	0.07	Sep 20	0.36	Oct 4	0.00	Jul 25 1955
MAXIMUM PEAK FLOW			7440	Dec 16	8880	Dec 22 1955
MAXIMUM PEAK STAGE			28.05	Dec 16	28.05	Dec 16 2002
ANNUAL RUNOFF (AC-FT)	57550		53500		50720	
10 PERCENT EXCEEDS	132		151		139	
50 PERCENT EXCEEDS	4.4		13		4.6	
90 PERCENT EXCEEDS	0.58		0.93		0.31	

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 mi².

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 NGVD of 1929. Prior to Aug. 23, 1967, at site 0.6 mi upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. 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 ft³/s, Jan. 4, 1982, gage height, 14.52 ft, from contracted opening and slope-area measurements of 3,800 ft³/s, at gage site, and slope-conveyance computations of 1,200 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.11	e0.15	e0.31	31	13	8.3	1.6	3.3	1.3	1.2	0.64	0.19
2	0.08	e0.16	e0.32	24	10	7.4	2.1	19	1.2	1.1	0.57	0.17
3	0.16	e0.16	e0.33	19	9.1	7.1	2.1	39	1.2	1.1	0.52	0.17
4	0.15	e0.17	e0.33	16	7.9	6.5	5.5	13	1.5	1.1	0.54	0.32
5	0.09	e0.16	e0.33	14	7.5	6.0	1.7	10	1.5	1.0	0.71	0.25
6	0.09	e0.38	e0.34	15	7.2	5.9	1.5	8.8	1.5	1.1	0.60	0.13
7	0.08	e2.9	e0.34	16	6.7	6.3	1.4	7.5	1.6	1.2	0.32	0.12
8	0.09	e3.5	e0.43	15	6.3	6.4	1.4	7.4	1.5	1.1	0.22	0.13
9	0.07	e1.2	e0.54	25	5.9	5.8	1.2	6.4	1.5	1.1	0.26	0.10
10	0.09	e0.66	e1.4	47	5.9	6.4	1.2	5.7	1.5	1.0	0.26	0.12
11	0.12	e0.44	e1.2	42	5.6	5.1	1.2	5.1	1.5	1.1	0.21	0.11
12	0.11	e0.36	e1.1	37	8.1	3.1	31	4.6	1.5	1.1	0.23	0.11
13	0.09	e0.35	64	37	20	2.7	19	4.1	2.0	1.0	0.25	0.09
14	0.08	e0.36	87	33	12	18	6.9	3.9	1.5	1.1	0.25	0.07
15	0.11	e0.31	68	30	36	39	4.9	3.7	1.3	0.87	0.28	0.08
16	0.10	e0.30	406	27	104	21	4.1	3.2	1.3	1.3	0.22	0.09
17	0.11	e0.31	53	24	49	16	3.8	2.8	1.2	0.93	0.21	0.10
18	0.12	e0.30	29	22	39	10	3.4	2.4	1.2	0.65	0.22	0.09
19	0.12	e0.30	126	20	33	7.7	3.0	2.2	1.2	0.63	0.22	0.08
20	0.13	e0.30	103	17	28	6.8	2.4	2.1	1.2	0.63	0.23	0.07
21	0.13	e0.30	56	20	24	5.1	2.4	2.0	1.2	0.64	0.20	0.07
22	0.13	e0.31	31	23	21	4.0	2.3	2.4	1.1	0.63	0.19	0.06
23	0.14	e0.30	22	31	19	4.0	2.2	2.0	1.1	0.68	0.18	0.04
24	0.15	e0.31	17	27	16	3.3	4.6	1.8	1.1	0.58	0.19	0.05
25	e0.16	e0.30	13	25	13	2.8	5.9	1.8	1.1	0.57	0.18	0.06
26	e0.16	e0.29	19	23	11	2.8	4.2	1.7	1.1	0.58	0.18	0.08
27	e0.15	e0.29	21	22	14	2.5	4.6	1.5	1.1	0.53	0.18	0.09
28	e0.16	e0.31	99	20	10	2.1	8.2	1.4	1.0	0.56	0.19	0.10
29	e0.16	e0.31	84	18	---	1.8	5.7	1.3	1.0	0.56	0.21	0.10
30	e0.15	e0.31	38	16	---	1.5	3.9	1.4	1.1	0.58	0.21	0.09
31	e0.15	---	70	14	---	1.5	---	1.4	---	0.65	0.21	---
TOTAL	3.74	15.80	1412.97	750	542.2	226.9	143.4	172.9	39.1	26.87	9.08	3.33
MEAN	0.12	0.53	45.6	24.2	19.4	7.32	4.78	5.58	1.30	0.87	0.29	0.11
MAX	0.16	3.5	406	47	104	39	31	39	2.0	1.3	0.71	0.32
MIN	0.07	0.15	0.31	14	5.6	1.5	1.2	1.3	1.0	0.53	0.18	0.04
AC-FT	7.4	31	2800	1490	1080	450	284	343	78	53	18	6.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2003, BY WATER YEAR (WY)

MEAN	0.70	3.14	15.8	47.1	47.1	25.6	8.94	1.54	0.77	0.65	0.40	0.29
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	0.000	0.000	0.000	0.26	0.35	0.84	0.17	0.016	0.000	0.000	0.000	0.000
(WY)	1947	1948	1950	1948	1948	1976	1977	1961	1951	1947	1947	1947

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1947 - 2003	
ANNUAL TOTAL	3852.18		3346.29			
ANNUAL MEAN	10.6		9.17		12.5	
HIGHEST ANNUAL MEAN					47.9	
LOWEST ANNUAL MEAN					0.40	
HIGHEST DAILY MEAN	406	Dec 16	406	Dec 16	2850	Jan 4 1982
LOWEST DAILY MEAN	0.07	Oct 9	0.04	Sep 23	0.00	Oct 1 1946
ANNUAL SEVEN-DAY MINIMUM	0.09	Oct 5	0.06	Sep 19	0.00	Oct 1 1946
MAXIMUM PEAK FLOW			1740		5000	Jan 4 1982
MAXIMUM PEAK STAGE			10.11		14.52	Jan 4 1982
INSTANTANEOUS LOW FLOW					0.00	Oct 1 1946
ANNUAL RUNOFF (AC-FT)	7640		6640		9070	
10 PERCENT EXCEEDS	21		24		22	
50 PERCENT EXCEEDS	0.60		1.3		0.63	
90 PERCENT EXCEEDS	0.13		0.12		0.00	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—December 1982 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 102.89 ft above NGVD of 1929.

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 ft³/s, Feb. 3, 1998, gage height, 10.00 ft; minimum daily, 3.8 ft³/s, Oct. 16–18, 1986.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	8.7	39	112	52	28	18	57	12	8.4	8.4	8.7
2	9.0	8.7	39	74	46	27	18	60	12	8.4	8.3	8.6
3	9.0	8.7	30	53	40	29	18	203	12	8.4	8.4	8.7
4	8.9	8.6	21	41	34	29	23	200	12	8.3	8.4	8.7
5	8.6	8.7	20	34	31	28	17	166	12	8.3	8.3	8.7
6	8.6	8.6	20	30	30	27	16	129	12	8.3	8.3	8.7
7	8.5	15	20	28	28	27	17	102	12	8.4	8.2	8.6
8	8.6	21	20	27	27	26	17	79	12	8.3	8.2	8.5
9	8.7	14	22	32	29	26	16	62	12	8.2	8.2	8.7
10	8.7	10	23	124	29	26	16	47	12	8.2	8.1	8.7
11	8.7	10	21	144	28	26	16	38	12	8.1	8.1	8.6
12	8.7	9.7	21	96	29	25	79	31	12	8.0	8.1	8.5
13	8.6	9.7	671	86	33	25	112	26	12	8.0	8.1	8.3
14	8.4	9.6	503	69	26	86	69	22	12	8.1	8.0	8.4
15	8.4	9.5	211	55	45	154	47	19	12	8.0	8.0	8.5
16	8.4	9.5	745	55	309	72	38	17	11	7.9	8.6	8.7
17	8.5	9.4	158	71	204	60	35	17	9.9	8.2	8.7	8.6
18	8.5	9.4	76	76	152	61	32	16	8.9	8.5	8.4	8.6
19	8.6	9.5	215	69	115	51	29	15	8.4	8.5	8.4	8.6
20	8.5	9.4	217	58	90	48	25	15	8.3	8.4	8.4	8.6
21	8.6	9.3	129	69	71	40	24	15	8.2	8.3	8.1	8.5
22	8.7	9.6	73	156	59	36	23	14	8.2	8.3	8.0	8.4
23	8.6	9.7	48	420	50	36	22	14	8.1	8.3	8.7	8.5
24	8.6	9.6	35	360	43	32	52	14	8.0	8.4	8.6	8.5
25	8.5	9.6	28	245	39	28	44	14	8.2	8.5	8.6	8.6
26	8.6	9.5	79	177	34	26	46	14	8.4	8.4	8.6	8.6
27	8.6	26	277	133	36	23	48	13	8.2	8.3	8.7	8.7
28	8.6	39	378	104	31	21	86	13	8.2	8.3	8.7	8.7
29	8.6	39	277	86	---	20	81	13	8.3	8.3	8.7	8.7
30	8.7	40	124	71	---	20	69	13	8.4	8.3	8.6	8.7
31	8.7	---	228	61	---	19	---	13	---	8.3	8.7	---
TOTAL	267.7	409.0	4768	3216	1740	1182	1153	1471	308.7	256.6	259.6	257.9
MEAN	8.64	13.6	154	104	62.1	38.1	38.4	47.5	10.3	8.28	8.37	8.60
MAX	9.0	40	745	420	309	154	112	203	12	8.5	8.7	8.7
MIN	8.4	8.6	20	27	26	19	16	13	8.0	7.9	8.0	8.3
AC-FT	531	811	9460	6380	3450	2340	2290	2920	612	509	515	512

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2003, BY WATER YEAR (WY)

MEAN	8.38	24.2	61.0	122	166	105	29.2	19.5	9.78	7.14	6.62	6.55
MAX	13.4	66.3	201	568	796	503	96.6	66.9	26.6	8.69	8.75	8.90
(WY)	1990	1985	1997	1995	1998	1983	1999	1995	1998	1995	2002	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1983 - 2003

ANNUAL TOTAL	15421.4	15289.5	
ANNUAL MEAN	42.3	41.9	43.6
HIGHEST ANNUAL MEAN			112
LOWEST ANNUAL MEAN			14.7
HIGHEST DAILY MEAN	929	Jan 2	745
LOWEST DAILY MEAN	7.7	Jul 10	7.9
ANNUAL SEVEN-DAY MINIMUM	7.8	Jul 5	8.0
MAXIMUM PEAK FLOW			2620
MAXIMUM PEAK STAGE			7.69
ANNUAL RUNOFF (AC-FT)	30590	30330	31610
10 PERCENT EXCEEDS	89	88	74
50 PERCENT EXCEEDS	12	14	12
90 PERCENT EXCEEDS	8.5	8.3	5.4

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1974 to current year.

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 NGVD of 1929, 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 ft³/s, Jan. 4, 1982, gage height, 26.96 ft, from rating curve extended above 7,500 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.01 ft³/s, Sept. 26, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	9.0	44	480	96	61	32	119	16	9.6	8.9	8.9
2	8.5	9.0	44	326	86	55	34	124	16	9.5	8.7	8.9
3	8.5	9.0	38	214	76	54	34	451	15	9.4	8.8	9.0
4	8.6	9.1	24	157	66	52	47	455	15	9.3	8.7	9.0
5	8.5	9.1	22	125	61	50	37	351	15	9.3	8.6	8.9
6	8.5	9.2	22	104	55	47	32	251	15	9.4	8.4	8.9
7	8.4	14	22	87	51	46	30	191	e15	9.4	8.4	8.9
8	8.4	33	22	77	46	44	28	146	15	9.4	8.4	8.8
9	8.5	22	24	81	48	43	27	118	15	9.1	8.3	9.0
10	8.7	13	27	358	46	42	26	95	e15	9.0	8.2	9.1
11	8.7	12	24	449	46	41	25	79	15	8.9	8.2	8.8
12	8.6	11	23	334	49	40	164	66	e15	8.8	8.2	8.6
13	8.6	11	556	303	85	40	360	56	e15	8.7	8.1	8.5
14	8.6	11	1140	230	67	159	243	49	e15	8.6	8.1	8.4
15	8.8	10	372	180	72	534	149	43	e14	8.6	8.1	8.6
16	8.8	10	1440	153	755	356	109	40	e14	8.4	8.1	8.7
17	8.9	10	629	151	459	203	91	36	e13	8.3	8.1	8.7
18	8.9	10	388	144	325	156	77	32	11	8.9	8.2	8.6
19	9.0	10	892	130	229	125	67	30	10	9.0	8.3	8.7
20	9.0	10	1040	111	177	117	57	26	10	8.8	8.2	8.7
21	9.0	10	621	122	141	96	53	21	9.9	8.6	8.1	8.6
22	9.0	10	374	227	118	83	52	20	9.7	8.6	8.1	8.4
23	9.0	11	219	612	102	79	47	19	9.7	8.6	8.7	8.4
24	9.0	11	146	543	91	70	102	19	9.7	8.6	8.9	8.7
25	8.9	10	108	414	81	61	113	19	9.5	8.7	8.8	8.9
26	8.9	10	196	316	71	60	117	18	10	8.8	8.8	9.0
27	8.9	19	771	234	86	54	97	18	9.8	8.7	8.9	9.1
28	8.9	43	1580	185	71	48	172	17	9.5	8.6	9.2	9.2
29	8.8	43	1410	153	---	42	169	17	9.8	8.5	9.2	9.1
30	9.0	44	564	128	---	39	144	17	9.6	8.6	9.0	9.1
31	9.0	---	762	114	---	36	---	17	---	8.8	9.0	---
TOTAL	271.6	452.4	13544	7242	3656	2933	2735	2960	381.2	275.5	263.7	264.2
MEAN	8.76	15.1	437	234	131	94.6	91.2	95.5	12.7	8.89	8.51	8.81
MAX	9.0	44	1580	612	755	534	360	455	16	9.6	9.2	9.2
MIN	8.4	9.0	22	77	46	36	25	17	9.5	8.3	8.1	8.4
AC-FT	539	897	26860	14360	7250	5820	5420	5870	756	546	523	524

e Estimated.

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.70	35.9	118	285	352	214	64.1	22.6	8.97	6.36	5.61	5.37
MAX	19.2	177	542	1427	1916	1109	531	95.5	32.4	10.3	9.36	9.25
(WY)	1984	1983	1984	1995	1998	1983	1982	2003	1998	1998	1999	1999
MIN	0.19	1.35	1.51	2.37	3.52	7.40	1.59	0.67	0.45	1.77	1.47	1.12
(WY)	1977	1977	1977	1976	1977	1977	1977	1977	1977	1976	1976	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1975 - 2003	
ANNUAL TOTAL	30781.7		34978.6			
ANNUAL MEAN	84.3		95.8		92.6	
HIGHEST ANNUAL MEAN					269	
LOWEST ANNUAL MEAN					2.54	
HIGHEST DAILY MEAN	1580	Dec 28	1580	Dec 28	10700	Jan 4 1982
LOWEST DAILY MEAN	8.2	Sep 19	8.1	Aug 13	0.01	Sep 26 1977
ANNUAL SEVEN-DAY MINIMUM	8.2	Sep 19	8.1	Aug 11	0.02	Oct 14 1977
MAXIMUM PEAK FLOW			3610		22100	
MAXIMUM PEAK STAGE			13.30		26.96	
ANNUAL RUNOFF (AC-FT)	61060		69380		67070	
10 PERCENT EXCEEDS	180		238		161	
50 PERCENT EXCEEDS	13		18		11	
90 PERCENT EXCEEDS	8.6		8.6		2.7	

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—August 1977, October 1989 to August 1990, November 1998 to September 2001.

CHEMICAL DATA: August 1977, November 1998 to September 2001.

WATER TEMPERATURE: October 1989 to September 1990.

SEDIMENT DATA: October 1989 to August 1990, November 1998 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)
NOV									
23...	0950	22	770	9.7	84	7.8	176	9.5	76
JAN									
27...	1100	47	768	10.2	91	7.7	231	10.5	93
MAR									
29...	1100	34	--	--	--	7.7	218	11.5	86
MAY									
31...	1150	15	762	9.0	90	7.8	220	15.5	97
JUL									
27...	1300	8.6	763	9.4	99	7.6	211	18.0	87
SEP									
28...	1200	8.3	764	8.1	80	7.8	189	15.0	78

Date	Noncarb hard-ness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)
NOV									
23...	10	13.0	10.5	.87	.4	7.36	17	66.0	9.25
JAN									
27...	--	15.7	13.1	1.02	.4	9.85	18	--	12.7
MAR									
29...	--	15.1	11.7	1.01	.4	8.76	18	86.0	9.94
MAY									
31...	2	17.2	13.2	.83	.4	9.21	17	95.0	10.0
JUL									
27...	--	15.2	11.9	1.52	.4	8.21	17	88.0	9.14
SEP									
28...	--	13.5	10.8	1.01	.4	7.92	18	80.0	7.68

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV									
23...	<.1	14.9	5.4	101	.14	103	e.08	.10	<.02
JAN									
27...	<.1	15.8	7.2	--	--	144	.15	.21	<.02
MAR									
29...	<.1	12.5	5.7	117	.17	127	.13	.15	<.02
MAY									
31...	<.1	13.8	6.2	128	.19	137	e.09	.14	.03
JUL									
27...	<.1	14.4	4.6	118	.17	123	e.08	.18	<.02
SEP									
28...	<.1	14.3	4.4	108	.15	108	e.09	.12	<.02

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

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
NOV 23...	.11	<.010	<.01	.014	.019	--	--	29	25.5
JAN 27...	.86	<.010	.02	.024	.036	--	--	22	20.4
MAR 29...	.09	<.010	.01	.015	.021	--	--	11	16.6
MAY 31...	.08	<.010	.02	.016	.018	<.2	2.0	31	24.3
JUL 27...	<.05	<.010	.11	.127	.130	--	--	36	27.4
SEP 28...	<.05	<.010	.02	.022	.030	<.2	1.8	47	28.3

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan-taneous dis-charge, cfs (00061)	Temper-ature, water, deg C (00010)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment load, tons/d (80155)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)
NOV 23...	SS 0950	22	9.5	2	.12	77
JAN 27...	SS 1100	47	10.5	5	.63	98
MAR 29...	SS 1100	34	11.5	5	.46	96
MAY 31...	SS 1150	15	15.5	4	.16	100
JUL 27...	SS 1300	8.6	18.0	4	.09	73
SEP 28...	SS 1200	8.3	15.0	1	.02	50

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

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

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 mi².

PERIOD OF RECORD.—October 1983 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 140 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are 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 ft³/s, Feb. 2, 1998, gage height, 14.21 ft, from rating curve extended above 1,100 ft³/s, on basis of comparison with discontinued downstream station "Walker Creek near Tomales"; minimum daily, 0.73 ft³/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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.2	5.9	212	32	20	15	28	6.4	6.4	5.4	4.9
2	4.6	5.3	5.9	129	27	18	15	37	6.3	6.3	5.5	4.7
3	4.8	5.3	6.1	91	23	17	14	180	6.4	6.3	5.5	4.8
4	4.7	5.3	6.1	69	20	17	17	123	6.4	6.3	5.2	4.9
5	4.7	5.3	6.1	56	18	16	14	87	6.3	6.3	5.2	5.1
6	4.7	5.3	6.1	45	17	16	13	69	6.3	6.4	5.2	4.9
7	4.7	10	6.1	36	16	15	12	57	6.5	6.4	5.2	5.0
8	4.8	9.3	6.1	31	13	15	11	47	6.7	6.3	5.1	5.0
9	4.9	6.6	7.3	33	13	15	8.9	39	6.7	6.3	5.1	5.0
10	5.0	6.1	7.2	101	14	14	8.7	32	6.6	6.3	5.1	4.8
11	4.9	5.8	6.2	117	14	15	8.7	27	6.6	6.1	5.1	4.8
12	4.9	6.0	6.1	97	14	14	24	23	6.6	6.0	5.2	4.6
13	4.9	5.9	113	103	18	15	29	19	6.6	5.9	5.1	4.4
14	4.9	5.7	260	91	15	19	23	16	6.5	5.9	5.2	4.4
15	5.0	5.7	116	77	23	79	19	13	6.3	5.8	5.1	4.4
16	5.2	5.8	597	64	160	65	17	11	6.4	5.8	4.9	4.2
17	5.3	6.8	113	55	99	47	16	9.9	6.5	5.8	4.9	4.7
18	5.3	5.6	110	47	68	35	15	8.9	6.5	5.8	4.9	5.1
19	5.3	5.6	483	41	58	32	13	8.6	6.5	5.8	5.0	5.1
20	5.3	5.8	552	35	48	34	12	8.0	6.4	5.7	4.9	5.1
21	5.2	e5.8	334	44	41	28	12	7.7	6.5	5.7	5.3	5.1
22	5.3	e5.8	195	91	36	24	11	7.5	6.6	5.8	5.7	5.0
23	5.3	e5.9	134	170	32	24	11	7.2	6.6	e5.5	5.5	5.1
24	5.3	e5.9	103	124	29	21	21	7.6	6.5	5.3	5.5	e5.2
25	5.2	e6.0	83	97	26	19	19	7.5	6.5	5.3	5.5	5.3
26	5.2	e5.9	103	80	22	21	21	7.1	6.6	5.2	5.5	5.3
27	5.2	5.9	223	70	30	19	20	6.8	6.6	5.2	5.4	5.2
28	5.2	5.9	553	59	24	18	31	6.6	6.6	5.2	5.5	5.2
29	5.2	5.8	562	49	---	18	39	6.8	6.5	5.3	5.3	5.2
30	5.3	5.8	245	42	---	16	34	7.0	6.4	5.4	5.1	5.2
31	5.2	---	477	37	---	15	---	6.7	---	5.4	5.1	---
TOTAL	156.1	181.1	5431.2	2393	950	741	524.3	921.9	194.9	181.2	162.2	147.7
MEAN	5.04	6.04	175	77.2	33.9	23.9	17.5	29.7	6.50	5.85	5.23	4.92
MAX	5.3	10	597	212	160	79	39	180	6.7	6.4	5.7	5.3
MIN	4.6	5.2	5.9	31	13	14	8.7	6.6	6.3	5.2	4.9	4.2
AC-FT	310	359	10770	4750	1880	1470	1040	1830	387	359	322	293

e Estimated.

11460750 WALKER CREEK NEAR MARSHALL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.88	10.4	50.9	111	140	60.3	14.9	8.39	5.42	4.90	4.71	4.74
MAX	6.27	46.3	247	572	775	374	45.6	29.7	8.13	5.93	5.84	5.80
(WY)	1990	1984	1984	1995	1998	1995	1999	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1984 - 2003	
ANNUAL TOTAL	13085.5		11984.6			
ANNUAL MEAN	35.9		32.8		34.5	
HIGHEST ANNUAL MEAN					98.3 1998	
LOWEST ANNUAL MEAN					7.41 1991	
HIGHEST DAILY MEAN	945	Jan 2	597	Dec 16	4940	Feb 17 1986
LOWEST DAILY MEAN	4.5	Sep 28	4.2	Sep 16	0.73	Nov 26 1991
ANNUAL SEVEN-DAY MINIMUM	4.6	Sep 26	4.5	Sep 11	0.78	Nov 23 1991
MAXIMUM PEAK FLOW			2190 Dec 16		10500 Feb 2 1998	
MAXIMUM PEAK STAGE			7.48 Dec 16		14.21 Feb 2 1998	
ANNUAL RUNOFF (AC-FT)	25960		23770		25000	
10 PERCENT EXCEEDS	63		81		48	
50 PERCENT EXCEEDS	5.9		6.6		5.9	
90 PERCENT EXCEEDS	4.8		5.0		4.3	

RUSSIAN RIVER BASIN

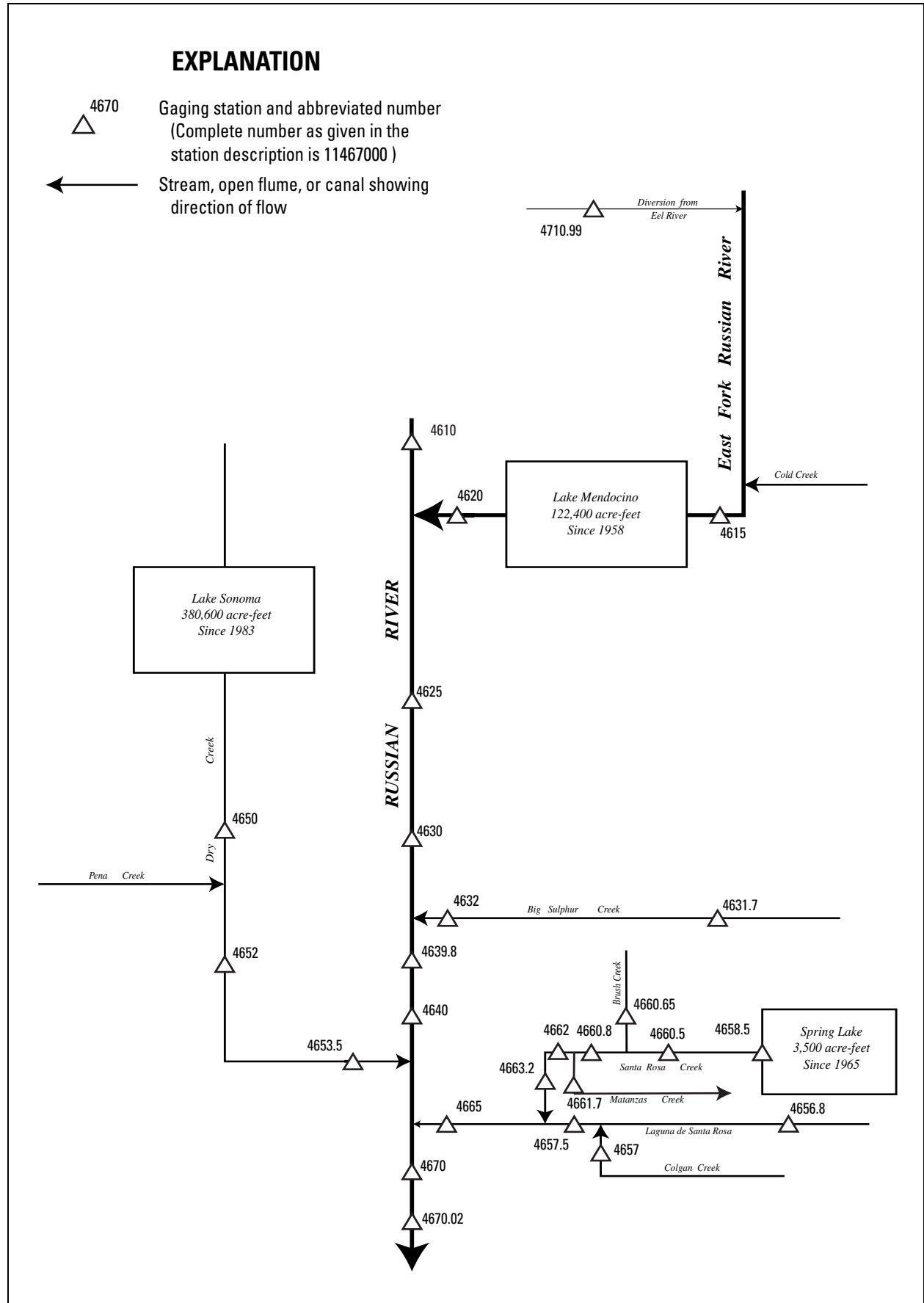


Figure 22. Diversions and storage in Russian River Basin.

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 mi².

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 NGVD of 1929. 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 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	10,100	16.46	Mar. 15	0445	4,340	11.61
Dec. 20	2400	4,160	11.00	Apr. 29	1230	4,060	11.32
Dec. 31	0145	6,280	13.46				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.01	1.6	e3.3	1360	102	72	107	1090	31	10	1.9	0.19
2	0.01	1.8	e3.2	771	85	68	126	791	27	9.4	1.6	0.32
3	0.04	2.0	e3.1	521	73	64	121	651	24	9.1	2.4	0.36
4	0.00	2.3	e3.0	387	64	65	432	539	21	9.9	4.0	0.60
5	0.08	2.4	e3.1	300	56	59	222	446	21	7.5	0.94	0.65
6	0.08	2.5	e3.1	233	49	54	172	379	19	6.8	1.2	0.83
7	0.08	8.2	e3.1	178	43	52	150	336	20	7.7	1.2	1.1
8	0.02	15	e3.1	147	38	49	126	294	19	7.7	0.85	1.0
9	0.00	14	e3.1	143	34	46	108	254	17	7.5	1.1	1.3
10	0.02	28	6.4	297	31	48	95	215	17	4.4	0.50	1.6
11	0.07	19	5.4	403	30	46	87	188	14	3.9	1.1	1.7
12	0.38	11	4.3	1380	29	44	884	166	16	5.6	0.78	1.1
13	0.59	10	1180	2560	e120	56	1610	146	14	4.8	0.65	0.76
14	0.35	8.1	3310	1560	66	435	835	129	14	6.3	0.82	0.63
15	0.13	6.4	1490	857	147	2240	527	115	13	6.4	1.2	0.57
16	0.18	4.8	4010	576	1050	841	530	105	9.3	6.4	1.1	0.54
17	0.66	4.1	1150	424	398	502	492	95	10	4.5	1.2	0.60
18	0.83	4.0	575	319	244	337	357	86	8.8	3.5	0.72	0.40
19	0.86	3.6	1200	249	259	272	281	79	8.8	2.5	0.62	0.85
20	0.94	3.6	3120	201	211	269	234	71	9.1	2.3	0.74	1.2
21	1.1	3.5	2740	205	166	204	227	63	9.2	2.1	0.67	1.0
22	0.59	3.3	901	434	143	188	249	57	8.9	2.7	0.52	1.2
23	0.72	3.2	479	578	126	313	239	52	8.2	2.0	0.84	1.2
24	0.89	3.2	302	343	114	214	1460	51	7.1	1.8	0.89	1.3
25	0.98	3.3	205	383	103	171	1140	48	5.5	4.0	0.62	1.9
26	1.1	3.3	323	289	92	334	947	45	4.0	4.4	0.51	1.3
27	1.2	3.2	1870	241	85	258	759	42	3.2	3.0	0.36	1.5
28	1.5	3.2	3060	197	77	204	1590	39	4.0	2.4	0.32	1.4
29	1.3	3.2	2100	162	---	167	3710	38	6.4	2.2	0.03	1.5
30	1.3	3.2	1850	136	---	140	1990	35	13	1.3	0.24	1.8
31	1.6	---	3980	117	---	121	---	34	---	1.8	0.23	---
TOTAL	17.61	185.0	33889.2	15951	4035	7933	19807	6679	402.5	153.9	29.85	30.40
MEAN	0.57	6.17	1093	515	144	256	660	215	13.4	4.96	0.96	1.01
MAX	1.6	28	4010	2560	1050	2240	3710	1090	31	10	4.0	1.9
MIN	0.00	1.6	3.0	117	29	44	87	34	3.2	1.3	0.03	0.19
AC-FT	35	367	67220	31640	8000	15740	39290	13250	798	305	59	60

e Estimated.

RUSSIAN RIVER BASIN

11461000 RUSSIAN RIVER NEAR UKIAH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.06	110	354	560	500	352	160	45.4	11.4	2.37	0.62	0.61
MAX	147	682	1663	1986	1975	1436	770	215	57.4	10.8	3.75	2.70
(WY)	1963	1974	1965	1995	1958	1983	1963	2003	1993	1983	1998	1983
MIN	0.000	0.15	1.77	3.82	14.3	20.0	4.33	3.15	0.22	0.000	0.000	0.000
(WY)	1953	1953	1960	1991	1977	1988	1977	1977	1977	1977	1977	1970

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1912 - 2003	
ANNUAL TOTAL	60649.75		89113.46			
ANNUAL MEAN	166		244		174	
HIGHEST ANNUAL MEAN					420	
LOWEST ANNUAL MEAN					5.76	
HIGHEST DAILY MEAN	4010	Dec 16	4010	Dec 16	13300	Dec 22 1964
LOWEST DAILY MEAN	0.00	Aug 7	0.00	Oct 4	0.00	Oct 1 1911
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 7	0.04	Oct 4	0.00	Oct 1 1911
MAXIMUM PEAK FLOW			10100	Dec 16	18900	Dec 21 1955
MAXIMUM PEAK STAGE			16.46	Dec 16	20.87	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	120300		176800		126200	
10 PERCENT EXCEEDS	302		607		421	
50 PERCENT EXCEEDS	8.4		16		13	
90 PERCENT EXCEEDS	0.00		0.64		0.13	

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 mi².

PERIOD OF RECORD.—October 1941 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

SEDIMENT DATA: Water years 1965–68.

GAGE.—Water-stage recorder. Datum of gage is 787.87 ft above NGVD of 1929. 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 discharge, which is fair. Flow greatly affected by diversion from Eel River through Potter Valley Powerplant Intake and Tailrace (stations 11471000 and 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 ft³/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 ft³/s, July 23, 1990.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	6,880	18.79	Jan. 12	1900	3,750	14.31
Dec. 21	0100	3,780	14.36	Mar. 15	0500	5,340	16.71
Dec. 31	0200	6,290	18.02				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	82	97	812	88	387	338	924	272	112	92	114
2	75	85	94	651	138	388	347	757	209	107	99	105
3	76	83	72	520	159	362	285	675	192	100	100	97
4	79	90	55	447	319	338	524	609	190	102	112	109
5	83	89	49	402	323	332	347	549	207	105	112	100
6	91	87	47	372	322	312	366	510	232	104	110	108
7	90	107	44	351	324	231	364	483	210	107	109	120
8	70	138	46	335	326	228	361	475	181	105	104	122
9	69	138	46	354	321	224	352	464	198	107	111	147
10	72	222	55	456	319	222	370	449	151	107	119	218
11	55	157	48	438	317	314	381	434	111	108	122	260
12	62	119	49	1290	308	321	1160	420	119	110	116	239
13	64	120	826	2200	410	321	1230	405	120	113	119	258
14	88	119	3050	1190	405	533	777	396	125	117	116	248
15	62	99	1280	739	547	2120	610	335	127	122	107	250
16	61	100	2680	576	1380	722	634	382	135	115	104	242
17	63	98	658	343	634	490	662	374	138	113	102	246
18	77	95	483	171	528	424	544	374	143	105	103	264
19	79	86	1240	140	530	413	499	366	133	100	105	270
20	84	106	2870	124	491	426	473	362	120	107	102	258
21	83	113	2240	134	461	391	518	357	106	110	99	262
22	85	107	711	360	441	389	506	348	107	115	106	269
23	85	102	476	375	429	426	500	339	111	110	107	272
24	88	105	383	199	419	371	1250	340	111	121	100	241
25	87	104	343	216	409	355	767	341	114	108	102	179
26	76	106	382	166	374	453	645	336	107	101	104	189
27	84	102	1410	147	399	374	544	326	105	104	114	224
28	88	105	1620	126	397	362	1240	315	112	111	114	248
29	91	101	1170	109	---	353	2490	e295	119	103	113	255
30	84	102	1450	100	---	344	1460	275	115	91	122	254
31	81	---	2850	93	---	339	---	292	---	100	112	---
TOTAL	2399	3267	26824	13936	11518	13265	20544	13307	4420	3340	3357	6168
MEAN	77.4	109	865	450	411	428	685	429	147	108	108	206
MAX	91	222	3050	2200	1380	2120	2490	924	272	122	122	272
MIN	55	82	44	93	88	222	285	275	105	91	92	97
AC-FT	4760	6480	53210	27640	22850	26310	40750	26390	8770	6620	6660	12230

e Estimated.

RUSSIAN RIVER BASIN

11461500 EAST FORK RUSSIAN RIVER NEAR CALPELLA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	222	284	477	627	620	516	346	231	159	134	135	184
MAX	352	738	1476	1720	1815	1611	847	429	363	275	276	298
(WY)	1963	1982	1965	1970	1998	1983	1982	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL	91396		122345			
ANNUAL MEAN	250		335		327	
HIGHEST ANNUAL MEAN					586	
LOWEST ANNUAL MEAN					76.8	
HIGHEST DAILY MEAN	3050	Dec 14	3050	Dec 14	12500	Dec 22 1964
LOWEST DAILY MEAN	41	Jul 26	44	Dec 7	1.7	Jul 23 1990
ANNUAL SEVEN-DAY MINIMUM	47	Jul 26	48	Dec 5	3.2	Jul 11 1977
MAXIMUM PEAK FLOW			6880		18700	
MAXIMUM PEAK STAGE			18.79		22.89	
ANNUAL RUNOFF (AC-FT)	181300		242700		236600	
10 PERCENT EXCEEDS	483		638		553	
50 PERCENT EXCEEDS	89		198		246	
90 PERCENT EXCEEDS	50		85		76	

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 mi².

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 NGVD of 1929. 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. 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 ft³/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 ft³/s, Dec. 21, 1955, gage height, 16.86 ft, site and datum then in use, from rating curve extended above 6,300 ft³/s, on basis of maximum flow at station upstream which was defined to 8,600 ft³/s; no flow Aug. 13–15, 1913. Maximum discharge since regulation (1959), 7,350 ft³/s, Jan. 24, 1970, gage height, 10.84 ft; minimum daily, 0.02 ft³/s, Apr. 17, 1973.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	140	80	835	93	376	157	1750	385	245	274	287
2	208	145	76	993	94	377	157	1960	330	245	275	264
3	205	143	73	806	91	310	157	1660	293	245	275	233
4	219	145	67	662	93	172	156	1660	229	246	275	232
5	235	145	65	670	94	120	155	995	181	252	276	232
6	265	144	69	568	94	122	157	527	181	262	276	233
7	266	136	68	461	95	123	159	499	182	258	276	235
8	296	128	68	430	95	124	159	502	181	259	276	235
9	325	127	64	432	95	127	159	501	182	259	276	233
10	331	124	62	432	96	128	158	501	182	254	277	234
11	331	99	62	431	95	128	351	503	209	268	277	236
12	292	94	63	434	94	129	504	442	234	283	279	237
13	267	101	40	640	94	130	901	402	246	282	279	237
14	269	101	5.8	1440	94	132	1860	409	256	282	278	238
15	255	101	6.1	1450	94	135	1600	419	255	280	279	252
16	244	101	5.8	1180	95	137	804	419	251	278	279	261
17	244	101	5.8	944	96	138	751	419	264	274	274	210
18	241	110	5.5	637	585	139	754	418	280	275	275	263
19	221	127	5.6	164	966	140	755	334	277	275	276	261
20	217	127	5.5	17	1500	142	748	282	278	276	276	261
21	208	127	5.7	17	1710	144	661	282	278	273	276	261
22	193	113	5.7	50	1140	145	594	283	279	272	275	259
23	192	105	5.8	70	558	146	596	282	277	272	275	259
24	191	105	5.9	132	461	146	598	283	263	273	276	259
25	195	105	6.1	171	416	146	592	283	235	272	262	258
26	174	105	6.2	171	366	150	904	283	218	272	259	256
27	159	91	6.2	400	369	151	1110	285	218	273	269	257
28	159	80	6.5	828	370	152	1100	284	219	274	288	257
29	160	80	6.7	412	---	152	1130	281	216	274	288	257
30	159	80	6.8	58	---	153	1140	353	233	274	287	254
31	148	---	191	93	---	155	---	390	---	274	287	---
TOTAL	7098	3430	1149.7	16028	10043	4969	19027	17891	7312	8301	8570	7451
MEAN	229	114	37.1	517	359	160	634	577	244	268	276	248
MAX	331	145	191	1450	1710	377	1860	1960	385	283	288	287
MIN	148	80	5.5	17	91	120	155	281	181	245	259	210
AC-FT	14080	6800	2280	31790	19920	9860	37740	35490	14500	16470	17000	14780

RUSSIAN RIVER BASIN

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
MAXIMUM PEAK FLOW	13300 Dec 21 1955
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

MEAN	226	236	352	612	604	422	313	230	220	249	259	244
MAX	419	635	1175	1905	1934	1780	1026	577	361	336	388	416
(WY)	1994	1984	1965	1970	1986	1983	1982	2003	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1960 - 2003

ANNUAL TOTAL	85688.7	111269.7	
ANNUAL MEAN	235	305	329
HIGHEST ANNUAL MEAN			598 1983
LOWEST ANNUAL MEAN			103 1977
HIGHEST DAILY MEAN	1460 Feb 21	1960 May 2	6620 Jan 25 1970
LOWEST DAILY MEAN	5.5 Dec 18	5.5 Dec 18	0.02 Apr 17 1973
ANNUAL SEVEN-DAY MINIMUM	5.7 Dec 16	5.7 Dec 16	0.14 Jan 2 1971
MAXIMUM PEAK FLOW		2430 Apr 14	7350 Jan 24 1970
MAXIMUM PEAK STAGE		4.98 Apr 14	10.84 Jan 24 1970
ANNUAL RUNOFF (AC-FT)	170000	220700	238500
10 PERCENT EXCEEDS	321	597	516
50 PERCENT EXCEEDS	226	252	230
90 PERCENT EXCEEDS	71	80	66

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 mi².

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 NGVD of 1929. 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, 122,400 acre-ft, 15.2 mi upstream. See schematic diagram of [Russian River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 45,000 ft³/s, Dec. 22, 1955, gage height, 27.00 ft; minimum daily, 9.1 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	130	114	4610	539	579	407	4140	405	204	198	247
2	181	137	113	3190	512	567	415	3810	381	203	202	233
3	171	138	109	2380	491	537	411	3050	330	197	208	194
4	188	138	108	1750	472	445	656	2680	296	200	214	195
5	182	140	107	1520	452	364	528	2050	218	195	208	193
6	210	140	112	1290	436	344	471	1240	202	214	199	198
7	220	159	112	1040	419	336	445	1090	196	221	212	203
8	216	212	112	913	400	327	416	986	193	219	207	200
9	241	171	112	885	384	314	396	910	191	205	209	207
10	255	204	116	925	371	308	379	848	189	188	222	211
11	257	177	114	1130	362	301	432	803	191	188	220	211
12	246	138	114	2140	355	296	1760	747	216	195	224	210
13	216	145	1380	5890	426	302	3510	680	218	212	217	210
14	218	139	10200	4850	452	800	3120	651	221	228	223	205
15	216	135	4530	3760	433	5440	2770	625	234	220	219	217
16	205	135	10900	2770	2000	1750	1540	606	234	219	221	233
17	201	135	2810	2060	875	1080	1460	588	228	221	221	190
18	197	132	1480	1670	897	806	1210	571	255	222	226	215
19	197	150	3110	1080	1360	706	1090	528	263	209	226	214
20	188	151	7040	804	1800	693	1000	459	257	209	222	216
21	182	152	7800	727	2310	613	930	440	258	219	222	224
22	162	148	2660	899	1750	568	899	421	269	221	223	222
23	160	137	1470	1220	917	633	825	405	269	212	225	219
24	158	135	1060	882	753	568	3020	399	261	205	232	216
25	160	135	871	894	708	520	2570	395	236	203	226	213
26	164	135	871	820	630	609	2570	391	194	200	213	219
27	149	132	2800	868	610	581	2330	381	186	213	212	223
28	147	116	6840	1150	591	528	4560	373	179	208	238	225
29	145	114	6160	1050	---	487	8520	362	177	207	234	228
30	146	114	3630	569	---	453	6180	377	184	197	235	227
31	145	---	10100	563	---	426	---	411	---	206	244	---
TOTAL	5921	4324	87055	54299	21705	22281	54820	31417	7131	6460	6802	6418
MEAN	191	144	2808	1752	775	719	1827	1013	238	208	219	214
MAX	257	212	10900	5890	2310	5440	8520	4140	405	228	244	247
MIN	145	114	107	563	355	296	379	362	177	188	198	190
AC-FT	11740	8580	172700	107700	43050	44190	108700	62320	14140	12810	13490	12730

RUSSIAN RIVER BASIN

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	229	415	1162	1818	1786	1248	710	334	216	198	207	208
MAX	555	1656	4849	5856	6799	5361	2572	1013	490	326	369	383
(WY)	1958	1984	1965	1970	1958	1983	1982	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	234068		308633			
ANNUAL MEAN	641		846		706	
HIGHEST ANNUAL MEAN					1587	
LOWEST ANNUAL MEAN					94.0	
HIGHEST DAILY MEAN	10900	Dec 16	10900	Dec 16	33800	Dec 22 1955
LOWEST DAILY MEAN	107	Dec 5	107	Dec 5	9.1	Apr 20 1977
ANNUAL SEVEN-DAY MINIMUM	110	Dec 3	110	Dec 3	13	Apr 15 1977
MAXIMUM PEAK FLOW			16500		45000	
MAXIMUM PEAK STAGE			16.92		27.00	
ANNUAL RUNOFF (AC-FT)	464300		612200		511700	
10 PERCENT EXCEEDS	1020		2210		1560	
50 PERCENT EXCEEDS	209		255		252	
90 PERCENT EXCEEDS	146		147		138	

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1951 to March 1979, October 1989 to April 1996, January 2002 to current year.

CHEMICAL DATA: Water years 1951–66.

DISSOLVED OXYGEN: January 2002 to current year.

pH: January 2002 to current year.

SPECIFIC CONDUCTANCE: January 2002 to current year.

WATER TEMPERATURE: Water years 1965–79, January 2002 to current year.

SEDIMENT DATA: Water years 1990–96.

TURBIDITY: January 2002 to current year.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: January 2002 to current year.

pH: January 2002 to current year.

SPECIFIC CONDUCTANCE: January 2002 to current year.

WATER TEMPERATURE: September 1965 to March 1979, January 2002 to current year.

TURBIDITY: January 2002 to current year.

INSTRUMENTATION.—Water-quality monitor since January 2002. Electronic data logger with 15 minute interval.

REMARKS.—Dissolved oxygen records are rated excellent except for Nov. 8–13, Jan. 19–21, Mar. 19–24, July 10–18, Aug. 19–21, Sept. 2, 3, 16–18, which are rated good; Oct. 1, 2, Nov. 16, 17, June 9–12, Aug. 22–25, Sept. 4, 5, 19–24, which are rated fair; Nov. 18–26, June 13–17, Aug. 26–29, Sept. 6–9, 25, which are rated poor. pH records are rated excellent except for Oct. 1, 2, Nov. 20–26, Dec. 18–24, which are rated good. Specific conductance records are rated excellent except for June 10–17, July 11–18, Aug. 25–29, which are rated good, and Oct. 1–16, which are rated poor. Temperature records are rated excellent. Turbidity records are rated excellent except for Feb. 23, Mar. 8, 9, 18, May 11, 12, which are rated good; Feb. 24, Mar. 10, 11, 19, May 13, 14, which are rated fair; and Feb. 25 to Mar. 4, Mar. 12, 13, 20–24, and May 15–19, which are rated poor. Interruption in record due to data exceeded maximum allowable limits.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 16.3 mg/L, May 18, 2002; minimum recorded, 7.5 mg/L, Sept. 10, 11, 2002.

pH: Maximum recorded, 8.7 standard units, May 18, 2002; minimum recorded, 7.1 standard units, July 9, 2002.

SPECIFIC CONDUCTANCE: Maximum recorded, 251 microsiemens, Nov. 11, 2002; minimum recorded, 67 microsiemens, Dec. 16, 2002.

WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 5, 6, 1977; minimum recorded, 5.0°C, Feb. 2, Dec. 16, 1972, Jan. 31 to Feb. 2, 1975, Dec. 30, 31, 1978.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during 2003 water year; minimum recorded 0.7 NTU, Sept. 29, 2002, Sept. 29, 30, 2003.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 13.6 mg/L, Nov. 5; minimum recorded, 7.6 mg/L, Sept. 23, 24.

pH: Maximum recorded, 8.2 standard units, Oct. 1–15, Sept. 6; minimum recorded, 7.2 standard units, several days in January.

SPECIFIC CONDUCTANCE: Maximum recorded, 251 microsiemens, Nov. 11; minimum recorded, 67 microsiemens, Dec. 16.

WATER TEMPERATURE: Maximum recorded, 20.6°C, Oct. 6; minimum recorded, 7.6°C, Dec. 19.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during wateryear; minimum recorded 0.7 NTU, Sept. 29, 30.

> Actual value is known to be greater than value shown.

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	8.1	12.7	9.9	12.6	9.6	11.8	11.5	10.8	10.4	11.5	10.8
2	11.1	8.2	13.1	10.1	12.4	9.5	11.6	11.4	11.5	10.8	11.5	10.7
3	11.2	8.1	13.3	10.2	12.9	9.7	11.5	11.0	11.6	11.2	11.5	10.3
4	11.1	8.0	13.4	10.1	12.5	9.5	11.2	11.1	11.6	11.2	11.6	9.7
5	11.2	7.9	13.6	10.1	12.8	9.3	11.2	11.0	11.8	11.3	11.1	9.7
6	11.3	7.9	13.2	10.1	12.4	9.6	11.5	10.8	11.8	11.3	11.4	9.9
7	11.4	7.8	10.3	8.8	12.7	9.7	11.4	11.0	11.9	11.4	11.7	9.9
8	11.6	7.8	9.0	8.2	13.0	9.8	11.4	11.0	12.0	11.5	12.0	9.9
9	11.4	7.9	10.2	8.7	11.7	9.6	11.3	11.1	12.1	11.5	12.5	10.0
10	11.3	7.9	10.6	9.3	12.2	9.2	11.4	11.1	12.0	11.3	12.2	9.9
11	11.4	8.1	11.0	9.4	12.5	9.3	11.7	11.4	12.0	11.2	12.6	9.7
12	12.2	8.2	10.6	9.7	12.4	9.6	11.8	11.3	11.8	11.2	12.8	9.7
13	12.1	8.2	11.1	9.7	10.2	9.3	11.8	11.6	11.5	11.0	11.9	9.6
14	11.8	8.3	12.0	9.8	10.6	10.2	12.1	11.7	11.7	10.8	10.9	10.1
15	11.9	8.2	11.9	9.9	10.9	10.6	12.3	11.9	11.6	10.8	11.1	10.5
16	11.1	8.1	11.8	9.7	10.9	10.4	12.3	11.8	12.3	11.4	11.1	10.6
17	11.0	8.2	11.6	9.4	10.6	10.5	12.1	11.7	12.2	11.6	11.4	10.7
18	11.2	8.5	11.9	9.5	10.8	10.5	12.1	11.1	12.1	11.6	11.4	10.6
19	11.1	8.4	12.3	9.7	12.3	10.5	11.6	10.6	11.7	11.5	11.3	10.6
20	11.2	8.3	12.0	9.4	12.3	11.8	10.9	10.6	11.9	11.6	11.2	10.4
21	11.2	8.4	11.8	9.2	11.8	11.2	10.9	10.5	12.0	11.7	11.2	10.2
22	11.3	8.5	12.1	9.1	11.5	11.0	11.1	10.5	11.8	10.9	11.0	10.2
23	11.5	8.6	11.8	8.6	11.3	10.9	11.4	10.9	11.3	10.5	11.1	10.3
24	11.0	8.5	12.0	9.0	11.0	10.6	11.2	10.9	10.9	10.5	11.3	9.9
25	11.2	8.5	12.1	9.0	10.7	10.6	11.2	10.8	11.1	10.4	10.9	9.9
26	11.4	8.7	11.7	9.2	10.8	10.6	10.9	10.7	11.1	10.5	10.8	9.8
27	11.7	8.9	11.9	9.3	11.6	10.8	11.4	10.7	11.4	10.8	11.1	9.8
28	11.9	9.0	12.0	9.3	11.7	11.2	12.0	11.4	11.5	10.8	11.2	9.8
29	12.5	9.3	12.2	9.5	11.7	11.3	12.2	10.6	---	---	11.2	9.6
30	12.6	9.4	12.6	9.6	11.8	11.3	10.7	10.6	---	---	11.2	9.4
31	12.9	9.8	---	---	11.9	11.6	10.8	10.4	---	---	11.3	9.3
MONTH	12.9	7.8	13.6	8.2	13.0	9.2	12.3	10.4	12.3	10.4	12.8	9.3
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.4	9.2	10.8	10.4	11.8	9.5	10.6	8.6	---	---	10.7	8.8
2	11.7	9.4	10.8	10.5	11.9	9.2	10.7	8.7	---	---	10.6	8.7
3	12.1	9.9	10.6	10.3	12.4	9.1	10.6	8.7	---	---	10.6	8.4
4	11.0	10.0	10.8	10.4	---	---	10.3	8.7	---	---	10.3	8.3
5	11.8	10.2	10.9	---	---	---	10.3	8.5	10.8	---	10.4	8.3
6	11.5	10.1	---	10.6	---	---	10.2	8.5	10.6	8.8	10.2	8.4
7	11.4	9.4	10.8	10.1	---	---	10.2	8.4	10.7	8.6	10.2	8.3
8	10.8	9.1	10.7	10.2	---	---	10.3	8.6	10.7	8.6	10.1	8.4
9	10.9	9.0	10.9	10.3	---	---	10.3	8.4	10.6	8.5	10.3	8.3
10	10.7	8.9	10.8	10.0	12.6	8.0	10.2	8.2	10.7	8.5	9.9	8.5
11	10.6	9.2	10.6	9.9	12.9	8.4	10.3	8.3	10.6	8.6	9.9	8.3
12	10.4	9.6	10.5	9.6	12.8	8.6	10.2	8.3	10.6	8.5	9.7	8.2
13	10.7	10.3	10.3	9.5	12.5	8.7	10.3	8.4	10.6	8.5	9.7	8.1
14	---	---	10.2	9.5	12.3	8.7	10.2	8.3	10.4	8.5	9.7	8.0
15	---	---	10.3	9.5	12.1	8.6	10.2	8.2	10.5	8.3	9.7	8.1
16	10.4	10.2	10.6	9.8	11.8	8.3	10.2	8.2	10.6	8.5	9.7	8.2
17	10.4	9.8	10.8	9.8	11.3	8.2	10.2	8.2	10.6	8.4	9.6	8.2
18	10.4	9.8	10.9	9.8	11.4	8.3	10.0	8.1	10.6	8.4	9.6	8.1
19	10.4	9.7	10.8	9.3	11.3	8.4	10.0	8.0	10.7	8.5	9.4	8.0
20	10.3	9.7	10.6	9.3	11.3	8.6	10.1	8.0	10.7	8.6	9.3	7.8
21	10.3	9.8	10.7	9.2	11.3	8.5	10.0	8.0	10.8	8.5	9.2	7.8
22	10.6	10.0	10.7	9.1	11.2	8.6	10.1	8.0	10.9	8.6	9.2	7.7
23	10.5	10.0	10.8	9.0	11.2	8.6	10.0	8.0	10.8	8.9	9.2	7.6
24	11.0	10.3	11.0	9.0	11.1	8.6	10.0	8.0	10.8	8.7	9.2	7.6
25	11.0	10.5	11.1	9.3	10.9	8.5	9.9	8.4	10.8	8.6	9.3	7.7
26	11.2	10.6	11.4	9.5	10.7	8.3	10.2	8.3	10.6	8.5	9.3	7.8
27	11.0	10.6	11.4	9.4	10.5	8.2	10.2	8.0	10.7	8.5	9.3	7.7
28	11.0	10.6	11.4	9.2	10.4	8.2	10.1	8.0	10.8	8.7	9.3	7.8
29	11.1	10.9	11.5	9.2	10.5	8.3	10.2	8.0	---	8.8	9.4	7.8
30	11.1	10.3	11.7	9.4	10.5	8.4	10.2	8.0	11.0	8.9	9.5	7.9
31	---	---	11.8	9.6	---	---	---	8.3	10.8	8.8	---	---
MONTH	---	---	---	---	---	---	---	8.0	---	---	10.7	7.6

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.2	7.6	8.0	7.7	8.0	7.7	7.4	7.4	7.4	7.3	7.5	7.4
2	8.2	7.7	8.0	7.7	8.0	7.7	7.4	7.4	7.4	7.3	7.5	7.4
3	8.2	7.7	8.1	7.7	8.1	7.7	7.4	7.2	7.4	7.4	7.5	7.4
4	8.2	7.8	8.0	7.7	8.0	7.6	7.3	7.2	7.4	7.4	7.5	7.4
5	8.2	7.8	8.0	7.7	8.1	7.6	7.3	7.2	7.4	7.4	7.5	7.4
6	8.2	7.8	8.0	7.7	8.1	7.6	7.3	7.2	7.4	7.4	7.6	7.4
7	8.2	7.8	7.7	7.5	8.0	7.7	7.3	7.3	7.4	7.4	7.6	7.5
8	8.2	7.8	7.5	7.4	8.1	7.7	7.3	7.3	7.4	7.4	7.6	7.5
9	8.2	7.8	7.6	7.4	7.8	7.6	7.3	7.3	7.4	7.4	7.7	7.5
10	8.2	7.8	7.6	7.4	7.9	7.5	7.4	7.3	7.4	7.4	7.7	7.4
11	8.2	7.8	7.7	7.5	7.9	7.5	7.5	7.3	7.4	7.4	7.8	7.5
12	8.2	7.8	7.6	7.5	8.0	7.5	7.5	7.3	7.4	7.4	7.8	7.4
13	8.2	7.8	7.6	7.4	7.7	7.4	7.5	7.4	7.5	7.4	7.7	7.5
14	8.2	7.8	7.6	7.5	7.6	7.4	7.5	7.5	7.5	7.4	7.7	7.5
15	8.2	7.8	7.8	7.5	7.5	7.4	7.5	7.4	7.5	7.4	7.7	7.5
16	8.0	7.7	7.8	7.6	7.6	7.3	7.5	7.3	7.6	7.5	7.6	7.6
17	8.0	7.6	7.8	7.6	7.5	7.3	7.4	7.3	7.6	7.5	7.6	7.5
18	8.0	7.6	7.8	7.6	7.5	7.4	7.4	7.2	7.6	7.4	7.5	7.5
19	8.0	7.6	7.8	7.6	7.6	7.4	7.3	7.2	7.7	7.6	7.5	7.4
20	8.0	7.6	7.9	7.7	7.6	7.5	7.2	7.2	7.7	7.6	7.5	7.4
21	8.0	7.6	7.9	7.7	7.6	7.5	7.3	7.2	7.7	7.6	7.5	7.4
22	8.0	7.6	8.0	7.6	7.6	7.5	7.5	7.3	7.7	7.5	7.5	7.4
23	7.9	7.6	7.9	7.6	7.5	7.5	7.6	7.4	7.5	7.4	7.6	7.5
24	8.0	7.6	8.0	7.6	7.5	7.5	7.4	7.4	7.4	7.4	7.6	7.5
25	8.0	7.6	8.0	7.7	7.5	7.5	7.4	7.4	7.5	7.4	7.6	7.6
26	7.9	7.6	7.9	7.7	7.6	7.5	7.4	7.4	7.4	7.4	7.8	7.6
27	7.9	7.6	8.0	7.7	7.7	7.5	7.5	7.4	7.4	7.4	7.7	7.6
28	7.9	7.6	8.0	7.7	7.6	7.5	7.6	7.4	7.5	7.4	7.6	7.5
29	8.1	7.7	8.0	7.7	7.5	7.4	7.5	7.3	---	---	7.6	7.5
30	8.1	7.7	8.1	7.7	7.5	7.4	7.3	7.3	---	---	7.7	7.5
31	8.1	7.7	---	---	7.6	7.4	7.4	7.3	---	---	7.7	7.5
MONTH	8.2	7.6	8.1	7.4	8.1	7.3	7.6	7.2	7.7	7.3	7.8	7.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.8	7.5	7.7	7.5	7.7	7.5	7.7	7.5	---	---	7.9	7.6
2	7.7	7.6	7.6	7.6	7.8	7.5	7.7	7.5	---	---	7.9	7.6
3	7.8	7.6	7.6	7.5	7.7	7.5	7.8	7.5	---	---	---	7.5
4	7.7	7.5	7.6	7.5	7.8	7.4	7.8	7.6	---	---	8.1	7.5
5	7.6	7.5	7.6	7.4	7.8	7.5	7.8	7.6	---	7.5	8.1	7.6
6	7.6	7.5	7.4	7.4	7.9	7.5	7.8	7.6	8.0	7.6	8.2	7.6
7	7.6	7.5	7.4	7.4	8.0	7.5	7.8	7.5	8.0	7.6	8.0	7.6
8	7.7	7.5	7.5	7.4	8.0	7.5	7.8	7.6	8.0	7.6	8.1	7.6
9	7.7	7.5	7.5	7.4	8.1	7.6	7.8	7.5	8.0	7.6	7.9	7.6
10	7.7	7.5	7.5	7.4	8.1	7.5	7.8	7.5	8.0	7.6	7.9	7.7
11	7.7	7.5	7.5	7.4	8.1	7.5	7.8	7.5	8.0	7.6	7.9	7.6
12	7.7	7.6	7.5	7.4	8.1	7.5	7.8	7.6	7.9	7.6	7.9	7.6
13	7.7	7.7	7.5	7.4	8.0	7.5	7.8	7.6	8.0	7.6	7.8	7.6
14	---	---	7.5	7.4	8.0	7.5	7.8	7.6	8.0	7.6	7.9	7.6
15	---	---	7.5	7.4	8.0	7.5	7.8	7.6	8.0	7.7	7.9	7.6
16	7.6	7.6	7.5	7.4	8.0	7.5	7.8	7.6	8.0	7.7	7.9	7.6
17	7.6	7.6	7.5	7.4	7.9	7.5	7.8	7.6	8.0	7.7	7.8	7.6
18	7.6	7.6	7.5	7.5	8.0	7.5	7.8	7.6	7.9	7.6	7.9	7.6
19	7.6	7.5	7.6	7.4	7.9	7.5	7.9	7.6	7.9	7.6	7.8	7.6
20	7.6	7.5	7.6	7.5	7.9	7.5	7.9	7.6	7.9	7.6	7.8	7.6
21	7.6	7.5	7.6	7.5	7.9	7.5	7.9	7.6	7.9	7.6	7.8	7.6
22	7.6	7.6	7.6	7.5	7.9	7.5	7.9	7.6	7.9	7.6	7.8	7.6
23	7.6	7.6	7.7	7.5	7.9	7.5	7.9	7.6	7.9	7.6	7.8	7.6
24	7.8	7.6	7.7	7.5	7.8	7.5	7.8	7.6	7.9	7.6	7.9	7.7
25	7.8	7.7	7.7	7.5	7.8	7.5	7.8	7.5	7.9	7.6	7.9	7.7
26	7.8	7.7	7.7	7.5	7.7	7.5	7.9	7.5	7.8	7.5	7.9	7.7
27	7.7	7.7	7.7	7.5	7.7	7.5	7.9	7.5	7.8	7.5	7.9	7.7
28	7.8	7.7	7.7	7.5	7.7	7.5	7.9	7.5	7.8	7.5	7.9	7.7
29	7.7	7.6	7.7	7.5	7.7	7.5	7.9	7.5	---	7.5	7.9	7.7
30	7.7	7.6	7.7	7.5	7.7	7.5	7.9	7.6	7.9	7.6	7.9	7.7
31	---	---	7.7	7.5	---	---	---	7.6	7.9	7.6	---	---
MONTH	---	---	7.7	7.4	8.1	7.4	---	7.5	---	---	---	7.5

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	207	205	216	211	239	238	136	106	213	211	189	187
2	208	202	215	212	238	237	158	136	213	212	188	187
3	206	202	214	212	240	238	173	158	217	213	201	187
4	206	201	215	213	240	238	177	170	216	214	216	198
5	212	206	215	214	241	238	177	169	215	214	221	216
6	212	207	216	214	240	237	182	170	216	215	216	214
7	208	203	215	203	238	236	183	177	216	215	215	213
8	205	203	213	183	238	235	184	182	216	215	214	213
9	203	201	237	197	237	234	184	182	216	215	214	213
10	202	200	237	208	236	232	185	176	220	215	215	212
11	201	198	251	212	239	232	176	153	223	218	217	213
12	200	196	250	245	240	233	173	90	219	217	214	213
13	200	198	245	234	233	90	110	90	218	206	214	208
14	199	196	243	240	90	70	131	109	210	204	208	152
15	198	195	240	239	127	77	144	131	213	194	160	80
16	199	196	240	238	115	67	157	144	194	112	147	125
17	202	199	241	238	153	115	162	157	175	144	169	147
18	202	201	238	237	184	153	185	161	183	157	183	169
19	204	201	237	232	194	109	212	185	159	156	189	182
20	205	203	232	230	121	81	223	212	159	151	190	183
21	205	203	233	231	112	80	222	214	154	151	197	190
22	207	205	232	229	153	112	214	168	171	153	200	197
23	208	206	235	232	182	153	172	143	185	171	199	186
24	208	206	235	234	198	182	183	172	192	184	200	188
25	208	206	235	234	211	198	181	176	190	183	202	198
26	209	206	235	231	211	195	186	179	190	189	202	176
27	211	209	232	230	195	84	189	168	190	188	190	176
28	211	210	239	231	103	73	171	158	189	188	195	190
29	212	210	239	238	117	76	220	159	---	---	199	195
30	211	210	239	237	131	89	227	212	---	---	203	199
31	212	210	---	---	106	68	212	210	---	---	206	203
MONTH	212	195	251	183	241	67	227	90	223	112	221	80
	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER						
1	207	205	157	140	200	198	193	189	---	---	185	183
2	207	202	164	157	207	197	191	188	---	---	185	183
3	203	201	169	163	207	202	191	189	---	---	192	185
4	203	164	170	168	212	201	192	190	---	---	191	189
5	190	170	189	168	217	212	192	191	---	---	190	189
6	195	190	192	189	217	214	192	188	185	181	190	189
7	199	194	194	190	216	214	190	187	182	179	190	189
8	202	199	194	192	215	212	189	186	182	180	190	189
9	204	201	195	193	214	212	189	186	183	181	190	188
10	206	204	198	195	214	211	189	186	183	179	191	189
11	206	179	198	197	213	208	187	185	182	180	191	190
12	180	120	206	197	208	200	185	181	183	181	191	190
13	133	111	205	203	202	199	184	181	183	180	192	191
14	---	---	204	203	199	197	181	179	184	182	192	192
15	---	---	204	199	199	195	181	180	185	184	192	191
16	165	161	201	199	197	194	182	180	186	184	191	190
17	167	158	201	199	198	194	182	179	186	184	210	190
18	173	167	200	198	195	192	181	180	186	184	211	191
19	177	173	211	198	194	192	183	181	186	183	192	192
20	179	176	211	209	194	191	184	183	186	184	193	192
21	186	176	210	209	194	192	183	182	186	184	193	192
22	185	179	210	208	194	191	184	182	185	184	193	192
23	185	183	210	208	194	192	185	183	185	184	193	192
24	184	112	210	208	194	191	185	184	186	184	193	192
25	148	122	209	208	197	194	186	184	186	184	193	190
26	151	126	210	208	201	197	186	185	186	185	191	190
27	159	151	210	208	199	197	186	185	187	185	191	190
28	151	124	210	208	199	197	186	185	186	182	191	190
29	124	102	210	208	199	194	187	185	---	---	191	190
30	140	107	210	198	196	193	187	184	185	183	191	190
31	---	---	200	198	---	---	---	---	185	183	---	---
MONTH	---	---	211	140	217	191	---	---	---	---	211	183

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	19.8	17.8	15.0	13.2	12.0	10.3	10.2	9.5	13.2	12.0	11.6	9.6				
2	19.4	17.2	14.6	12.7	12.2	10.6	10.3	9.8	12.0	10.2	11.8	9.7				
3	19.4	17.2	14.9	12.9	11.8	10.1	11.0	10.0	11.0	9.7	11.8	10.3				
4	20.2	18.0	14.8	12.9	12.8	11.2	11.3	10.6	11.0	9.7	11.9	10.0				
5	20.4	18.2	14.7	12.9	12.4	11.0	11.5	10.8	10.6	9.2	12.4	10.3				
6	20.6	18.4	14.3	13.1	11.9	10.5	10.8	10.0	10.4	9.1	12.4	10.4				
7	20.5	18.3	15.1	13.9	11.9	10.2	10.6	9.5	10.4	9.0	12.8	10.7				
8	20.3	18.1	15.2	14.6	11.7	10.1	10.7	9.5	10.2	8.8	12.8	10.6				
9	20.0	18.0	14.8	14.1	12.2	11.0	10.6	10.2	10.5	8.9	12.6	10.9				
10	20.0	18.6	14.9	13.9	13.3	12.1	11.2	10.5	10.7	9.2	14.0	12.1				
11	19.3	17.1	14.7	13.6	12.5	11.4	10.8	10.3	10.8	9.7	14.0	12.5				
12	19.2	17.0	14.1	13.5	12.3	11.4	11.2	10.8	10.7	10.0	14.6	12.7				
13	18.8	16.9	14.9	13.6	12.6	11.8	11.8	10.9	11.8	10.7	13.5	12.4				
14	18.8	16.7	14.2	12.9	12.8	11.8	11.6	10.8	12.4	11.1	12.6	11.5				
15	18.4	16.8	13.8	12.4	11.8	11.1	10.9	10.3	12.1	11.0	12.7	11.3				
16	18.6	17.2	13.7	12.1	11.8	11.5	10.3	9.6	11.0	9.5	12.7	10.9				
17	18.2	17.0	14.3	12.8	11.5	10.7	10.5	9.3	10.4	9.0	12.1	10.0				
18	17.7	16.1	13.6	12.3	10.7	10.1	11.0	9.6	10.3	9.0	12.2	10.2				
19	18.3	16.5	13.2	11.8	10.3	7.6	11.6	9.9	10.6	9.5	12.0	10.4				
20	18.1	16.6	13.7	12.2	9.6	7.8	11.6	11.0	10.6	9.1	12.8	11.0				
21	17.7	16.0	14.0	12.7	10.9	9.6	12.3	11.2	10.8	9.4	13.5	11.1				
22	17.4	15.8	13.6	12.5	10.3	9.0	12.3	12.1	11.0	9.5	13.5	12.2				
23	17.0	15.9	14.3	13.0	9.8	8.8	12.1	11.5	11.6	9.6	13.4	11.8				
24	16.9	16.2	13.7	12.5	10.4	9.4	12.0	11.6	11.3	10.6	13.1	11.3				
25	17.8	16.6	13.5	12.0	10.4	10.0	12.7	11.6	11.7	10.1	13.0	11.3				
26	16.8	15.3	13.0	11.4	10.9	10.4	13.0	12.3	11.3	10.0	14.0	12.5				
27	16.5	14.9	12.8	11.2	11.3	10.7	13.0	11.4	11.1	9.3	13.5	11.5				
28	16.5	14.7	12.8	11.0	11.4	9.6	11.4	10.4	11.3	9.4	13.5	11.2				
29	16.1	14.5	12.3	10.3	10.4	9.6	11.7	9.7	---	---	14.2	12.1				
30	15.8	14.1	11.9	10.0	10.3	9.8	13.0	11.7	---	---	14.7	12.5				
31	15.0	13.3	---	---	10.4	9.4	13.2	12.2	---	---	15.1	12.8				
MONTH	20.6	13.3	15.2	10.0	13.3	7.6	13.2	9.3	13.2	8.8	15.1	9.6				
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	14.7	13.1	13.4	11.2	17.2	13.8	17.8	14.8	---	---	19.2	16.4				
2	13.5	11.8	12.9	12.0	17.5	14.0	17.4	14.2	---	---	19.4	16.7				
3	11.9	10.7	13.6	12.1	18.3	14.8	17.6	14.4	---	---	19.3	17.2				
4	11.8	10.5	13.3	12.0	17.9	14.6	17.9	14.6	---	---	19.8	17.4				
5	12.2	10.3	14.0	11.7	18.6	15.6	18.0	14.8	---	---	19.2	17.1				
6	12.2	11.1	13.5	11.8	18.3	15.7	18.0	14.8	17.8	14.9	18.9	17.1				
7	13.4	10.8	14.4	11.8	18.5	15.8	17.8	14.7	17.9	14.9	17.9	16.5				
8	14.5	11.9	13.8	12.2	18.8	15.9	17.8	14.3	17.9	14.8	18.8	16.5				
9	14.5	12.3	13.8	11.4	18.7	16.0	18.1	14.8	18.2	15.4	17.8	16.4				
10	14.1	12.9	14.4	11.8	18.1	15.8	18.4	15.1	17.9	15.0	19.1	16.6				
11	13.7	12.4	14.9	12.3	18.3	15.7	18.3	15.1	17.9	14.9	19.5	17.1				
12	12.6	11.4	15.7	12.7	17.5	14.6	18.2	15.0	17.9	14.8	20.0	17.6				
13	11.7	10.5	16.2	13.3	17.5	14.4	18.2	15.1	18.0	14.9	19.9	17.5				
14	---	---	16.4	13.8	17.5	14.2	18.1	14.8	17.8	15.2	19.8	17.4				
15	---	10.5	15.8	13.5	17.8	14.4	18.3	15.1	18.2	15.2	19.5	17.4				
16	11.7	11.0	15.5	12.8	18.3	14.8	18.2	14.9	18.4	15.2	18.8	16.3				
17	13.2	11.2	15.5	12.6	18.3	15.3	18.3	14.9	18.7	15.6	19.4	16.6				
18	13.3	11.0	15.6	12.5	17.7	14.7	18.4	15.0	18.8	15.7	19.3	16.6				
19	13.7	11.1	16.1	12.9	17.4	14.4	18.5	15.4	18.2	16.0	19.6	17.2				
20	13.2	11.5	16.8	13.7	17.3	13.9	18.3	15.5	18.8	15.9	20.2	17.8				
21	12.7	11.7	17.2	14.1	17.4	14.1	18.7	15.7	18.5	16.2	20.3	17.8				
22	12.4	10.7	17.7	14.7	17.3	14.1	18.5	15.5	18.1	16.0	20.3	17.8				
23	12.4	11.2	18.1	15.0	16.9	13.9	18.3	15.7	18.6	15.8	20.2	17.9				
24	12.2	10.4	17.4	14.8	17.4	13.8	17.5	15.5	18.9	16.2	20.3	18.5				
25	11.9	10.2	16.3	14.4	17.9	14.6	16.4	14.9	19.1	16.1	19.9	18.0				
26	12.0	10.0	16.8	13.8	18.5	15.5	18.4	15.1	19.2	16.4	20.2	18.3				
27	11.9	10.4	17.4	14.0	18.9	16.0	18.4	15.4	19.0	16.3	20.1	18.4				
28	11.7	10.8	17.3	14.4	18.7	15.9	18.6	15.6	18.7	16.1	20.1	18.2				
29	11.4	10.6	16.9	14.9	18.4	15.6	18.6	15.6	---	---	20.1	18.1				
30	13.3	10.7	17.3	14.6	18.3	15.5	17.7	15.6	18.9	16.0	19.7	17.6				
31	---	---	17.0	13.7	---	---	---	---	19.3	16.6	---	---				
MONTH	---	---	18.1	11.2	18.9	13.8	---	---	---	---	20.3	16.3				

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

TURBIDITY, WATER, UNFILTERED, NTU, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.6	0.9	5.8	1.1	5.3	2.2	290	120	20	15	15	9.9
2	6.2	1.5	6.8	2.2	5.0	2.2	140	99	20	15	14	9.8
3	4.7	1.9	6.2	2.0	4.5	2.3	110	81	19	15	15	9.8
4	6.0	2.1	7.0	2.4	4.6	2.2	87	74	19	15	12	7.7
5	5.6	1.9	7.9	2.7	4.2	1.9	83	63	22	15	13	6.5
6	7.2	2.4	8.0	2.5	3.8	2.0	80	59	18	14	9.6	6.6
7	7.0	2.6	9.2	3.1	4.4	2.0	72	55	20	14	8.9	6.6
8	7.4	2.5	51	8.2	4.2	1.8	68	43	18	14	9.5	6.4
9	8.0	3.3	32	4.6	4.4	1.3	65	47	19	14	10	6.4
10	7.5	3.0	27	4.6	3.4	1.2	73	44	18	14	9.7	6.1
11	7.7	3.0	27	7.0	3.9	1.5	280	46	17	11	8.7	6.0
12	7.8	2.8	14	6.2	3.5	1.2	>1000	43	16	9.5	8.0	6.5
13	6.9	2.7	21	9.1	>1000	2.1	900	190	28	11	19	6.4
14	6.8	2.7	18	9.5	>1000	540	270	110	54	13	420	19
15	7.9	2.6	17	7.1	>1000	170	120	78	160	8.7	>1000	120
16	7.3	2.8	14	5.8	>1000	280	81	64	720	76	120	45
17	5.8	2.3	14	5.2	400	120	70	50	85	24	47	24
18	5.6	2.0	10	4.3	120	64	59	39	53	17	27	15
19	6.0	2.2	7.9	5.0	>1000	49	44	27	46	34	19	12
20	6.2	2.0	9.3	4.1	960	260	28	16	90	30	19	13
21	6.6	1.9	8.8	4.1	870	170	21	13	57	39	15	10
22	4.9	1.7	8.7	3.6	230	73	160	17	42	29	14	9.4
23	5.9	1.9	6.1	2.9	80	40	220	35	30	20	21	10
24	4.8	1.7	5.3	2.7	46	27	42	23	22	16	15	9.7
25	5.6	1.5	5.9	2.5	33	24	40	26	20	13	14	8.4
26	5.3	2.0	5.6	2.2	48	23	31	22	16	13	45	9.5
27	5.6	1.9	5.0	2.2	800	41	47	21	16	12	41	10
28	5.0	1.5	5.2	2.1	980	170	65	36	18	11	14	8.5
29	5.3	1.5	4.2	2.2	720	140	56	20	---	---	12	7.6
30	4.5	1.2	4.9	2.1	>1000	98	21	11	---	---	13	7.1
31	4.6	1.5	---	---	>1000	---	22	15	---	---	11	7.0
MONTH	8.0	0.9	---	---	>1000	---	>1000	11	720	8.7	>1000	6.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12	6.5	170	71	12	8.0	9.0	5.8	---	---	33	2.5
2	11	6.9	78	56	11	7.0	10	5.5	---	---	9.4	1.4
3	11	7.2	68	47	12	7.8	9.7	5.7	---	---	6.9	1.3
4	170	8.2	54	43	12	8.4	11	6.5	---	---	6.9	1.2
5	44	11	56	40	12	7.4	12	6.5	---	3.7	5.9	1.3
6	14	8.8	43	30	11	7.0	12	6.4	7.4	3.4	6.7	1.3
7	14	8.6	34	26	11	6.7	13	6.1	7.9	3.5	6.7	1.3
8	14	8.3	31	22	10	6.8	12	6.0	8.0	3.7	7.2	1.3
9	12	8.5	29	22	9.6	4.7	12	5.9	8.8	3.5	5.5	1.5
10	12	8.1	27	19	9.1	5.3	11	5.2	8.9	3.1	4.8	1.6
11	21	8.9	25	18	10	5.1	11	5.3	7.1	3.3	4.8	1.6
12	620	17	24	16	11	5.6	11	5.2	8.0	3.2	4.6	1.6
13	530	110	22	15	12	5.1	11	5.3	7.5	3.2	5.0	1.8
14	---	---	21	14	12	5.2	11	5.5	7.2	2.8	5.4	2.0
15	110	42	20	13	11	5.9	12	5.1	5.7	2.6	6.6	2.1
16	56	31	18	12	12	5.4	9.7	5.4	6.0	2.6	5.4	2.1
17	56	29	18	12	10	6.0	10	4.9	7.3	2.8	7.0	2.0
18	30	22	17	12	10	6.5	10	5.5	6.8	2.6	7.1	2.4
19	26	20	23	11	10	6.3	11	6.2	6.2	2.2	5.5	2.4
20	26	18	17	9.4	9.9	6.0	11	5.7	6.8	2.4	5.5	2.3
21	22	16	15	9.7	9.8	5.5	11	5.9	5.8	2.2	5.3	2.2
22	25	17	15	8.6	10	5.4	11	5.4	5.6	2.2	5.1	2.0
23	21	14	13	8.3	9.0	5.2	9.3	5.0	5.3	2.3	4.6	1.8
24	>1000	17	13	8.6	8.6	5.4	10	5.1	5.8	2.4	4.3	1.6
25	300	66	14	8.3	7.9	4.9	9.5	5.0	7.4	2.2	4.5	1.3
26	180	60	13	7.8	8.5	4.9	10	4.7	6.6	2.0	4.2	1.0
27	130	37	13	8.1	9.4	5.1	8.5	4.4	4.8	2.5	4.4	1.0
28	400	110	14	7.7	10	4.9	9.1	4.6	6.9	2.1	4.2	1.0
29	630	250	13	7.7	10	5.0	9.7	4.5	11	1.6	4.4	0.7
30	480	120	14	8.2	11	5.2	8.8	4.6	5.9	1.5	4.2	0.7
31	---	---	14	7.9	---	---	---	---	7.8	1.4	---	---
MONTH	>1000	---	170	7.7	12	4.7	---	---	---	---	33	0.7

> Actual value is known to be greater than value shown.

11462500 RUSSIAN RIVER NEAR HOPLAND, CA—Continued

CROSS SECTION ANALYSES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Tur- bidity, water, unfltrd field, NTU (61028)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat un- f uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
MAY 2003									
21...*	1557	2.04	11	10.6	110	7.4	211	16.9	6.00
21...*	1601	3.27	14	10.2	106	7.4	211	16.9	18.0
21...*	1602	2.96	14	10.2	105	7.3	211	16.9	30.0
21...*	1603	2.59	14	10.2	105	7.4	211	16.9	42.0
21...*	1604	2.49	12	10.2	105	7.4	210	16.9	54.0
21...*	1605	2.69	14	10.2	105	7.4	211	16.9	66.0
21...*	1606	2.44	14	10.2	105	7.4	211	16.9	78.0
21...*	1607	2.45	11	10.2	105	7.4	211	16.9	90.0
21...*	1608	2.56	12	10.2	105	7.4	211	16.9	102
21...*	1609	2.31	11	10.2	105	7.4	211	16.9	114

* Instantaneous discharge at time of cross-sectional measurement: 338 ft³/s.

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 mi².

PERIOD OF RECORD.—July 1951 to current year.

WATER TEMPERATURE: Water years 1964–68, 1994–96.

SEDIMENT DATA: Water years 1964–68, 1994–96.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 350 ft above NGVD of 1929, from topographic map. Prior to July 30, 1970, at site 0.2 mi upstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. 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 ft³/s, Dec. 22, 1964, gage height, 31.60 ft, site and datum then in use; minimum daily, 12 ft³/s, Apr. 22, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	133	128	5780	728	720	539	4670	478	217	216	238
2	181	137	127	3750	674	697	544	4290	469	218	212	231
3	165	139	124	2850	626	672	523	3700	402	207	219	199
4	172	140	122	2170	587	569	879	3180	383	209	223	198
5	170	141	120	1880	552	444	769	2720	315	205	225	194
6	181	142	123	1630	521	402	645	1860	293	218	207	194
7	208	165	125	1350	491	385	596	1640	283	229	224	193
8	198	223	125	1170	465	370	548	1480	278	230	220	196
9	221	211	126	1130	441	360	512	1370	271	228	214	197
10	237	236	130	1210	423	354	488	1260	269	207	223	203
11	251	231	130	1430	409	348	491	1170	263	201	227	202
12	254	169	130	2470	402	342	2340	1090	282	207	226	202
13	222	169	1600	7270	539	355	4210	979	280	212	214	204
14	216	160	12700	5280	573	1270	3590	917	285	225	221	201
15	211	156	8310	e4280	616	7480	3320	869	286	221	214	205
16	199	152	15400	e3420	2740	3000	2240	831	287	220	220	221
17	192	151	4190	e2700	1400	1960	2170	799	272	222	219	218
18	184	149	2060	e2140	1080	1450	1820	769	285	214	224	197
19	187	156	3280	e1820	1550	1200	1630	734	278	207	e210	209
20	190	167	8850	e1180	1750	1150	1490	636	279	217	e212	212
21	191	169	9870	e1010	2280	982	1400	597	273	227	223	222
22	174	169	3780	1720	2000	884	1350	568	279	223	222	223
23	164	156	2130	2140	1220	929	1230	539	280	213	223	208
24	163	152	1460	1440	976	850	3590	521	276	215	225	205
25	161	151	1110	1340	912	765	3630	505	257	215	225	212
26	168	149	1170	1210	815	803	3590	493	225	208	213	207
27	155	149	4100	1130	778	825	3110	473	206	212	210	209
28	150	138	7720	1340	742	736	5550	456	207	208	226	212
29	145	129	8600	1410	---	671	9320	442	205	202	228	226
30	144	129	4920	819	---	613	7410	437	209	203	214	223
31	144	---	12400	775	---	574	---	484	---	212	224	---
TOTAL	5798	4818	115160	69244	26290	32160	69524	40479	8655	6652	6803	6261
MEAN	187	161	3715	2234	939	1037	2317	1306	288	215	219	209
MAX	254	236	15400	7270	2740	7480	9320	4670	478	230	228	238
MIN	144	129	120	775	402	342	488	437	205	201	207	193
AC-FT	11500	9560	228400	137300	52150	63790	137900	80290	17170	13190	13490	12420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

MEAN	243	558	1593	2672	2557	1772	915	404	243	212	219	215
MAX	659	2636	6398	8324	9790	7015	3708	1306	840	336	359	385
(WY)	1963	1984	1965	1995	1998	1983	1982	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL TOTAL	288873		391844			
ANNUAL MEAN	791		1074		961	
HIGHEST ANNUAL MEAN					2144	
LOWEST ANNUAL MEAN					99.2	
HIGHEST DAILY MEAN	15400	Dec 16	15400	Dec 16	42800	Dec 22 1964
LOWEST DAILY MEAN	120	Dec 5	120	Dec 5	12	Apr 22 1977
ANNUAL SEVEN-DAY MINIMUM	124	Dec 3	124	Dec 3	16	Apr 16 1977
MAXIMUM PEAK FLOW			24000		55200	
MAXIMUM PEAK STAGE			18.33		31.60	
ANNUAL RUNOFF (AC-FT)	573000		777200		695900	
10 PERCENT EXCEEDS	1250		2780		2270	
50 PERCENT EXCEEDS	215		280		267	
90 PERCENT EXCEEDS	158		158		156	

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1980 to current year.

REVISED RECORDS.—WDR CA-98-2: 1995-96(P).

GAGE.—Water-stage recorder. Elevation of gage is 1,430 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. Diversion for industrial use 150 ft upstream from station when flows are above 10 ft³/s. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,010 ft³/s, Jan. 1, 1997, gage height, 9.78 ft, from rating curve extended above 1,200 ft³/s, on basis of culvert computation of peak flow; minimum daily, 0.08 ft³/s, Aug. 31, 1983.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0215	6,880	9.40	Mar. 15	0400	2,110	7.09
Dec. 27	2230	1,450	6.53				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.82	0.78	2.2	181	19	12	18	142	14	4.6	e2.8	e1.2
2	0.82	0.76	2.2	104	18	12	17	120	13	4.5	e2.9	e1.2
3	0.75	0.78	2.2	68	17	15	17	133	13	4.4	e2.6	e1.1
4	0.72	0.84	2.1	49	16	13	29	100	12	4.3	e2.4	e1.1
5	0.77	0.86	2.1	36	13	12	17	81	12	4.2	e2.2	e1.1
6	0.81	0.88	2.0	28	11	12	17	67	12	4.1	e2.0	1.1
7	0.78	45	2.0	21	11	12	17	55	11	4.1	e1.8	1.1
8	0.71	94	2.0	18	11	12	17	47	11	3.9	e1.7	1.1
9	0.61	26	3.7	27	11	12	17	38	10	3.8	e1.6	1.3
10	0.63	39	5.6	139	11	12	17	31	9.9	3.7	e1.5	1.3
11	0.63	16	4.1	98	11	12	16	29	9.7	3.8	e1.4	1.2
12	0.60	10	3.4	170	16	13	130	27	9.3	3.5	e1.7	1.1
13	0.61	7.2	1030	320	30	43	263	29	8.9	3.3	e1.8	1.0
14	0.67	5.3	1780	161	14	291	136	29	8.5	3.2	e1.6	0.99
15	0.69	4.7	1170	99	48	759	81	26	8.2	3.1	e1.5	1.0
16	0.71	4.0	1770	68	131	165	58	23	7.8	3.0	1.5	1.0
17	0.73	3.8	347	48	46	88	44	22	7.5	3.2	1.5	0.99
18	0.74	3.5	146	35	32	59	33	20	7.2	3.2	1.5	0.97
19	0.77	3.2	126	27	26	47	25	19	7.1	2.9	1.5	0.94
20	0.78	3.2	514	22	21	41	21	19	6.9	2.8	1.4	0.91
21	0.74	3.1	387	30	18	29	20	17	6.7	2.9	1.4	0.90
22	0.68	3.1	180	191	17	22	17	17	6.5	3.0	e1.7	0.88
23	0.69	3.0	120	176	16	21	18	17	6.3	e2.6	e2.0	0.87
24	0.75	2.9	84	92	15	18	176	17	6.0	e3.0	e2.0	0.88
25	0.88	2.7	65	68	14	17	140	17	5.7	e3.4	e1.6	0.89
26	0.87	2.3	138	54	13	19	117	17	5.5	e3.2	e1.6	0.91
27	0.83	2.2	843	45	13	22	112	17	5.3	e2.9	e1.5	0.89
28	0.82	2.3	746	36	13	18	268	17	5.0	e2.6	e1.5	0.89
29	0.78	2.3	425	28	---	19	449	17	4.5	e2.4	e1.4	0.89
30	0.75	2.2	256	22	---	18	247	16	4.7	e2.5	e1.4	0.87
31	0.78	---	477	20	---	18	---	15	---	e2.7	e1.3	---
TOTAL	22.92	295.90	10637.6	2481	632	1863	2554	1241	255.2	104.8	54.3	30.57
MEAN	0.74	9.86	343	80.0	22.6	60.1	85.1	40.0	8.51	3.38	1.75	1.02
MAX	0.88	94	1780	320	131	759	449	142	14	4.6	2.9	1.3
MIN	0.60	0.76	2.0	18	11	12	16	15	4.5	2.4	1.3	0.87
AC-FT	45	587	21100	4920	1250	3700	5070	2460	506	208	108	61

e Estimated.

RUSSIAN RIVER BASIN

11463170 BIG SULPHUR CREEK AT GEYSERS RESORT, NEAR CLOVERDALE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.98	24.7	87.3	113	123	94.8	32.5	19.2	6.19	2.80	1.44	1.26
MAX	20.9	146	343	639	571	358	162	81.6	18.0	7.34	2.99	2.90
(WY)	1990	1984	2003	1995	1986	1995	1982	1990	1998	1998	1998	1985
MIN	0.74	1.22	1.81	2.52	7.34	8.57	8.44	4.79	2.54	0.86	0.70	0.65
(WY)	1989	1981	1991	1991	1989	1988	1990	1986	2001	1984	1988	1988

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1981 - 2003	
ANNUAL TOTAL	16281.98		20172.29			
ANNUAL MEAN	44.6		55.3		42.1	
HIGHEST ANNUAL MEAN					101 1995	
LOWEST ANNUAL MEAN					15.5 1994	
HIGHEST DAILY MEAN	1780	Dec 14	1780	Dec 14	3920	Feb 17 1986
LOWEST DAILY MEAN	0.54	Sep 5	0.60	Oct 12	0.08	Aug 31 1983
ANNUAL SEVEN-DAY MINIMUM	0.58	Sep 5	0.63	Oct 9	0.24	Oct 13 1983
MAXIMUM PEAK FLOW			6880	Dec 16	8010	Jan 1 1997
MAXIMUM PEAK STAGE			9.40	Dec 16	9.78	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	32300		40010		30500	
10 PERCENT EXCEEDS	45		128		90	
50 PERCENT EXCEEDS	4.0		11		6.2	
90 PERCENT EXCEEDS	0.73		0.87		0.99	

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 mi².

PERIOD OF RECORD.—July 1957 to September 1972, October 1989 to current year (since October 1989, low-flow records only).

SEDIMENT DATA: Water years 1967–68.

REVISED RECORDS.—WSP 1929: 1958–60.

GAGE.—Water-stage recorder. Elevation of gage is 350 ft above NGVD of 1929, from topographic map. Prior to September 1972, at site 0.8 mi upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No records computed above 200 ft³/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 ft³/s, Dec. 22, 1964, gage height, 15.08 ft, site and datum then in use, from rating curve extended above 5,700 ft³/s, on basis of slope-area measurement at gage height, 16.8 ft; minimum daily, 0.90 ft³/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 ft³/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	e3.3	e6.7	---	e194	e80	e138	---	e48	e22	9.8	5.1
2	2.0	e3.5	e6.7	---	e186	e82	e134	---	e46	e21	9.7	4.9
3	2.0	e3.6	e6.6	---	e178	e90	e137	---	e44	e21	10	5.2
4	2.0	e3.7	e6.6	---	e170	e88	e185	---	e42	e21	9.6	5.7
5	2.0	e3.9	e6.2	---	144	e81	e142	---	e41	e20	9.7	5.7
6	2.0	e10	e6.0	---	137	e79	e135	---	e40	e19	9.8	5.5
7	1.9	e120	e6.0	---	131	77	e130	---	e39	e18	9.6	5.5
8	1.9	e107	e6.2	---	128	78	e125	e195	e38	e18	9.3	5.4
9	1.9	e81	e7.6	---	124	80	e120	e188	e36	e19	8.6	5.5
10	1.9	e110	e8.6	---	121	81	e115	e184	e36	e18	8.2	6.2
11	1.9	e58	e7.1	---	119	83	e117	e178	e35	e18	8.0	5.9
12	2.0	e42	e100	---	122	85	---	e172	e34	e17	7.7	5.3
13	2.0	e33	---	---	174	95	---	e164	e34	e16	7.6	4.8
14	2.0	e26	---	---	e197	---	---	e156	e34	e15	7.5	4.4
15	2.0	e22	---	---	e135	---	---	e140	e33	e15	7.4	4.3
16	2.0	e19	---	---	---	---	---	e125	e32	e14	7.3	4.4
17	2.0	e17	---	---	---	---	---	e110	e32	e14	7.1	4.5
18	2.1	e15	---	---	---	---	---	e100	e32	e13	7.0	4.7
19	2.2	e13	---	e175	e180	---	---	e95	e31	12	6.9	4.6
20	2.2	e12	---	e150	e140	---	---	e90	e31	11	7.0	4.4
21	2.2	e10	---	---	e130	---	---	e84	e30	11	6.9	4.1
22	2.2	e9.4	---	---	e125	---	---	e80	e29	11	7.0	4.0
23	2.2	e8.7	---	---	e110	---	---	e76	e28	11	7.0	4.0
24	2.4	e7.9	---	---	e98	e192	---	e72	e27	11	6.9	4.3
25	e2.7	e7.5	---	---	e90	e184	---	e68	e26	11	6.3	4.5
26	e2.9	e7.4	---	---	e87	e176	---	e64	e25	12	6.0	4.7
27	e2.8	e7.3	---	---	e83	e168	---	e62	e24	11	5.7	4.7
28	e2.8	e7.2	---	---	e81	e160	---	e59	e24	10	5.7	4.5
29	e2.7	e7.0	---	---	---	e154	---	e57	e23	9.6	5.8	4.4
30	e2.9	e6.8	---	---	---	e148	---	e53	e22	9.4	5.7	4.4
31	e3.1	---	---	---	---	e142	---	e50	---	9.6	5.4	---
TOTAL	68.9	782.2	---	---	---	---	---	---	996	458.6	236.2	145.6
MEAN	2.22	26.1	---	---	---	---	---	---	33.2	14.8	7.62	4.85
MAX	3.1	120	---	---	---	---	---	---	48	22	10	6.2
MIN	1.9	3.3	---	---	---	---	---	---	22	9.4	5.4	4.0
AC-FT	137	1550	---	---	---	---	---	---	1980	910	469	289

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1988 to current year (low-flow records 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 NGVD of 1929, from topographic map.

REMARKS.—Records good. No records computed above 400 ft³/s. See schematic diagram of [Russian River Basin](#).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	110	132	---	---	---	---	---	---	269	225	217
2	165	104	130	---	---	---	---	---	---	270	224	220
3	150	106	128	---	---	---	---	---	---	265	226	212
4	134	108	124	---	---	---	---	---	---	255	230	199
5	136	111	121	---	---	---	---	---	---	255	231	194
6	133	114	120	---	---	---	---	---	---	253	229	191
7	146	182	121	---	---	---	---	---	---	264	221	190
8	159	372	121	---	---	---	---	---	---	269	229	189
9	157	---	130	---	---	---	---	---	396	266	226	185
10	176	359	139	---	---	---	---	---	388	258	222	184
11	192	385	143	---	---	---	---	---	383	245	224	183
12	204	299	141	---	---	---	---	---	378	239	220	179
13	208	241	255	---	---	---	---	---	379	241	221	175
14	193	216	---	---	---	---	---	---	373	242	214	176
15	185	196	---	---	---	---	---	---	369	243	216	178
16	185	183	---	---	---	---	---	---	368	238	212	180
17	176	175	---	---	---	---	---	---	360	237	216	188
18	171	168	---	---	---	---	---	---	352	235	216	182
19	165	162	---	---	---	---	---	---	351	227	214	178
20	167	166	---	---	---	---	---	---	347	225	214	178
21	169	172	---	---	---	---	---	---	342	232	214	180
22	167	173	---	---	---	---	---	---	341	234	215	185
23	151	172	---	---	---	---	---	---	342	231	214	182
24	144	162	---	---	---	---	---	---	336	228	215	177
25	142	158	---	---	---	---	---	---	328	233	216	176
26	133	153	---	---	---	---	---	---	311	231	208	180
27	139	151	---	---	---	---	---	---	285	228	202	181
28	134	150	---	---	---	---	---	---	272	227	202	182
29	127	142	---	---	---	---	---	---	269	218	212	189
30	121	135	---	---	---	---	---	---	269	216	212	190
31	115	---	---	---	---	---	---	---	---	217	210	---
TOTAL	4911	---	---	---	---	---	---	---	---	7491	6750	5600
MEAN	158	---	---	---	---	---	---	---	---	242	218	187
MAX	208	---	---	---	---	---	---	---	---	270	231	220
MIN	115	---	---	---	---	---	---	---	---	216	202	175
AC-FT	9740	---	---	---	---	---	---	---	---	14860	13390	11110

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 2002 to current year.

DISSOLVED OXYGEN: Water years 2002 to current year.

pH: Water years 2002 to current year.

SPECIFIC CONDUCTANCE: Water years 2002 to current year.

WATER TEMPERATURE: Water years 2002 to current year.

TURBIDITY: Water years 2002 to current year.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year.

pH: June 2002 to current year.

SPECIFIC CONDUCTANCE: June 2002 to current year.

WATER TEMPERATURE: June 2002 to current year.

TURBIDITY: June 2002 to current year.

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 15 minute interval.

REMARKS.—Dissolved oxygen records rated excellent except for July 16 to Aug. 15, which are rated good; Oct. 1–4, 18–28, Dec. 11 to Jan. 6, June 17 to July 3, which are rated fair; and Oct. 29 to Nov. 25, Mar. 7–24, Aug. 30 to Sept. 30, which are rated poor. Specific conductance records rated excellent except for Oct. 1–4, Dec. 11–21, which are rated good; and Dec. 22 to Jan. 6, Sept. 23–30, which are rated fair. pH records rated excellent except for Aug. 30 to Sept 10, which are rated good, and Nov. 26 to Dec. 10, which are rated fair. Water temperature records rated excellent. Turbidity records rated excellent except for Feb. 19 to Mar. 6, Mar. 25 to Apr. 7, May 28 to June 2, which are rated good, Jan. 7 to Feb. 4, Mar. 7–24, which are rated fair; and Dec. 11–21, which are rated poor. Interruption in record due to malfunction of recording and (or) sensing equipment.

EXTREME FOR PERIOD OF RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 16.8 mg/L, Aug. 7, 2002; minimum recorded, 6.0 mg/L, Aug. 16, 2002.

pH: Maximum recorded, 9.2 standard units, Sept. 7, 2003; minimum recorded, 7.4 standard units, July 29, 2002, Mar. 1, 4–7, Sept. 5, 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 300 microsiemens, June 7–10, 2003; minimum recorded, 92 microsiemens, Dec. 16, 2002.

WATER TEMPERATURE: Maximum recorded, 28.0°C, July 10, 2002; minimum recorded, 8.5°C, Dec. 20, 2002.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during 2003 water year; minimum recorded, 0.1 NTU, Oct. 29, Nov. 25–26, 2002, Mar. 12–13, 2003.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 14.3 mg/L, Nov. 18; minimum recorded, 6.4 mg/L, Aug. 18, 19, 21.

pH: Maximum recorded, 9.2 standard units, Sept. 7; minimum recorded, 7.4 standard units, Mar. 1, 4–7, Sept. 5.

SPECIFIC CONDUCTANCE: Maximum recorded, 300 microsiemens, June 7–10; minimum recorded, 92 microsiemens, Dec. 16.

WATER TEMPERATURE: Maximum recorded, 27.7°C, July 18; minimum recorded, 8.5°C, Dec. 20.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during water year; minimum recorded, 0.1 NTU, Oct. 29, Nov. 25, 26, Mar. 12, 13.

> Actual value is known to be greater than value shown.

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.9	8.1	12.4	9.8	13.2	10.1	12.7	12.1	---	---	10.7	10.1
2	10.1	8.5	12.5	10.1	13.2	10.1	---	---	---	---	10.7	10.1
3	10.4	8.8	12.9	10.2	13.4	10.2	12.1	11.5	---	---	10.6	10.1
4	10.1	8.5	12.8	10.4	13.5	10.0	11.6	11.2	---	10.1	10.7	10.0
5	10.1	8.4	12.8	10.3	13.6	9.9	11.4	10.9	10.6	10.2	10.9	10.0
6	10.0	8.2	12.9	10.4	13.4	10.0	12.1	---	10.7	10.2	11.0	10.0
7	9.9	8.1	11.2	---	13.7	10.0	---	---	10.8	10.3	10.9	9.6
8	10.0	8.0	---	---	14.0	10.2	---	---	11.0	10.4	11.0	9.5
9	10.2	8.1	---	---	11.9	9.9	---	---	11.1	10.6	11.2	9.4
10	10.2	8.0	11.5	9.9	13.1	9.5	---	---	11.0	10.4	11.2	9.1
11	10.6	8.3	12.2	10.2	13.5	9.4	---	---	10.9	10.4	11.1	8.8
12	10.8	8.5	12.3	10.3	13.5	9.7	---	---	10.8	10.4	11.1	8.6
13	10.9	8.6	13.4	10.3	10.6	9.5	---	---	10.6	10.3	10.5	8.3
14	11.0	8.6	13.3	9.9	10.6	10.3	---	---	10.7	10.2	9.3	8.7
15	11.0	8.6	13.9	9.9	11.0	10.6	---	---	10.5	10.1	9.7	9.2
16	11.3	8.7	14.1	9.9	---	---	---	---	11.1	10.4	9.8	9.4
17	11.4	8.7	14.2	10.0	---	---	---	---	11.1	10.7	10.0	9.6
18	11.7	8.7	14.3	9.9	11.2	10.9	---	---	11.1	10.4	10.2	9.8
19	11.8	8.5	14.2	10.1	12.4	11.0	---	---	10.8	10.4	10.3	9.8
20	11.7	8.3	14.0	9.8	12.5	12.4	---	---	10.9	10.5	10.4	9.8
21	11.5	8.3	13.7	9.5	13.3	12.3	---	---	11.0	10.6	10.5	9.9
22	11.4	8.2	11.9	9.3	12.9	12.3	---	---	10.8	10.4	10.4	10.0
23	11.3	8.3	13.2	9.2	12.5	12.1	---	---	10.6	10.1	10.6	10.1
24	11.6	8.5	12.8	9.0	12.3	11.8	---	---	10.2	10.1	10.7	9.7
25	11.8	8.3	12.6	9.0	11.9	11.8	---	---	10.3	9.9	10.4	9.8
26	11.4	8.4	12.7	9.4	12.0	11.5	---	---	10.4	10.0	10.1	9.6
27	11.6	8.5	12.7	9.5	12.2	11.9	---	---	10.7	10.3	10.5	9.7
28	11.4	8.5	12.9	9.7	12.4	11.8	---	---	10.7	10.2	10.5	9.9
29	11.8	8.9	12.9	9.9	12.8	12.3	---	---	---	---	10.5	9.8
30	11.8	9.0	13.3	10.1	12.4	12.0	---	---	---	---	10.4	9.6
31	12.2	9.5	---	---	12.8	12.1	---	---	---	---	10.3	9.5
MONTH	12.2	8.0	---	---	---	---	---	---	---	---	11.2	8.3

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.4	9.5	10.6	10.1	10.2	8.2	9.3	6.8	11.0	7.0	10.5	7.0
2	10.7	9.8	10.3	10.1	---	---	9.3	7.2	11.0	7.1	10.4	7.0
3	11.3	10.2	10.4	9.9	---	---	9.3	7.2	10.8	7.1	10.4	6.9
4	11.2	10.3	10.3	10.0	---	---	9.3	7.4	10.9	7.1	10.4	7.2
5	11.4	10.6	10.5	9.9	---	---	9.3	7.3	10.9	7.0	10.5	7.5
6	11.4	10.5	10.1	9.8	---	---	9.4	7.2	11.1	7.5	10.8	7.7
7	11.4	---	10.2	9.6	---	---	9.5	7.4	11.0	7.3	11.2	7.9
8	---	---	10.2	9.6	---	---	9.6	7.1	11.1	7.2	11.2	8.0
9	---	---	10.6	9.9	---	---	9.4	7.4	11.0	7.2	11.5	8.2
10	---	---	10.5	9.8	---	---	9.4	7.1	11.0	7.3	10.6	8.5
11	---	---	10.4	9.6	---	---	9.5	7.0	10.9	7.1	---	---
12	---	---	10.2	9.5	---	---	9.5	7.0	10.9	7.2	---	---
13	---	---	10.0	9.4	---	---	9.6	7.1	10.9	7.2	---	---
14	---	---	9.9	9.2	---	---	9.6	7.3	11.0	7.4	---	---
15	---	---	10.0	9.3	---	---	9.3	7.0	10.5	7.2	---	---
16	---	---	10.3	9.5	9.1	---	9.4	6.9	10.1	7.0	---	---
17	---	---	10.6	9.7	9.2	7.2	9.3	6.8	10.0	6.7	---	---
18	---	---	10.8	9.8	9.3	7.4	9.4	6.7	9.7	6.4	---	---
19	---	---	10.7	9.6	9.3	7.6	9.7	6.8	9.8	6.4	---	---
20	---	---	---	9.5	9.7	7.8	9.9	6.6	9.7	6.8	---	---
21	---	10.0	---	---	9.7	8.1	10.0	6.6	9.8	6.4	---	---
22	10.4	9.8	---	---	9.5	7.9	10.1	6.6	---	---	---	---
23	10.5	9.9	---	---	9.5	7.8	10.1	6.7	---	---	---	---
24	10.9	10.4	---	---	9.6	8.0	10.0	6.8	---	---	---	---
25	10.9	10.6	---	---	9.1	7.5	10.2	6.8	---	---	---	---
26	11.1	10.6	---	---	8.9	7.2	10.5	7.4	---	---	---	---
27	10.9	10.5	---	---	8.8	6.7	10.4	7.0	---	---	---	---
28	11.0	10.6	10.4	---	8.9	7.0	10.6	6.7	9.9	---	---	---
29	11.1	10.9	10.2	8.2	9.1	7.2	10.7	6.8	10.1	7.2	---	---
30	11.1	10.5	10.3	8.6	9.1	6.6	10.6	7.0	10.3	6.9	---	---
31	---	---	10.2	8.4	---	---	10.9	7.3	10.3	7.0	---	---
MONTH	---	---	---	---	---	---	10.9	6.6	---	---	---	---

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.5	7.9	8.5	7.9	8.7	8.1	7.9	7.8	8.0	8.0	7.6	7.4
2	8.5	8.1	8.4	7.9	8.8	8.2	7.9	7.8	8.0	8.0	7.5	7.5
3	8.5	8.1	8.5	7.9	8.8	8.2	7.9	7.8	8.0	8.0	7.6	7.5
4	8.5	8.0	8.4	7.9	9.0	8.2	7.8	7.8	8.0	7.9	7.5	7.4
5	8.4	8.0	8.4	7.9	8.9	8.3	7.9	7.8	8.0	7.9	7.4	7.4
6	8.4	8.0	8.4	7.9	8.9	8.3	7.9	7.7	8.0	7.9	7.5	7.4
7	8.4	7.9	---	---	9.0	8.4	7.8	7.7	8.0	8.0	8.0	7.4
8	8.4	7.9	---	---	9.0	8.4	7.8	7.8	8.0	8.0	8.0	7.8
9	8.5	7.9	---	---	8.7	8.4	7.8	7.8	8.0	8.0	8.1	7.8
10	8.4	7.9	8.0	7.7	8.6	8.2	7.8	7.8	8.0	8.0	8.2	7.8
11	8.5	7.9	8.1	7.8	8.6	7.9	7.8	7.8	8.0	8.0	8.2	7.8
12	8.5	7.9	8.1	7.8	8.6	8.0	7.8	7.7	8.0	8.0	8.3	7.8
13	8.5	7.9	8.4	7.8	8.2	7.6	7.8	7.8	8.1	8.0	8.2	7.8
14	8.5	7.9	8.5	7.9	8.0	7.7	7.8	7.8	8.1	8.0	7.9	7.7
15	8.5	7.9	8.6	7.9	7.9	7.7	7.8	7.8	8.1	8.0	7.9	7.6
16	8.5	7.9	8.7	7.9	8.2	7.8	7.8	7.8	8.0	7.9	7.8	7.7
17	8.6	7.9	8.7	7.9	7.9	7.9	7.8	7.8	8.0	7.9	7.8	7.7
18	8.7	8.0	8.7	7.9	7.9	7.9	7.8	7.8	7.9	7.8	7.7	7.7
19	8.7	8.0	8.7	7.9	8.0	7.8	7.8	7.8	8.1	7.9	7.7	7.7
20	8.7	7.9	8.7	7.9	8.0	7.9	7.8	7.8	8.0	8.0	7.8	7.7
21	8.7	7.9	8.7	7.9	8.0	7.9	7.9	7.8	8.0	8.0	7.8	7.7
22	8.6	7.9	8.3	7.9	7.9	7.8	8.0	7.9	8.0	8.0	7.8	7.7
23	8.5	7.9	8.6	7.9	7.9	7.8	8.0	7.9	8.0	7.9	7.8	7.7
24	8.6	7.9	8.6	7.9	7.8	7.8	7.9	7.9	8.0	7.9	7.9	7.7
25	8.7	7.9	8.6	7.9	7.9	7.8	8.0	7.9	8.0	7.9	8.0	7.9
26	8.6	7.9	8.6	7.9	7.9	7.9	8.0	8.0	7.9	7.8	8.0	7.9
27	8.6	7.9	8.6	8.0	8.0	7.9	8.0	8.0	7.9	7.7	8.1	8.0
28	8.6	8.0	8.6	8.0	8.0	7.9	8.1	7.9	7.7	7.6	8.0	8.0
29	8.5	7.9	8.7	8.0	8.0	7.9	8.0	7.9	---	---	8.0	8.0
30	8.5	7.9	8.7	8.1	7.9	7.9	8.0	7.9	---	---	8.1	8.0
31	8.5	7.9	---	---	8.1	7.9	8.0	7.9	---	---	8.0	7.9
MONTH	8.7	7.9	---	---	9.0	7.6	8.1	7.7	8.1	7.6	8.3	7.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.9	7.9	7.9	8.2	7.9	8.2	7.9	9.1	8.0	9.0	8.0
2	8.0	7.9	7.9	7.9	8.3	7.9	8.3	7.9	9.0	8.0	9.0	7.8
3	8.0	7.9	7.9	7.9	8.3	8.0	8.3	7.9	9.0	7.9	9.1	7.7
4	8.0	7.9	7.9	7.9	8.2	8.0	8.4	7.9	9.1	7.9	8.9	7.5
5	8.0	7.9	7.9	7.9	8.1	7.9	8.3	7.9	9.0	8.0	8.9	7.4
6	8.0	7.9	7.9	7.8	8.2	7.9	8.3	7.9	9.0	8.0	9.0	7.8
7	8.0	7.8	7.9	7.9	8.1	7.8	8.3	7.9	9.0	8.0	9.2	7.9
8	8.1	7.9	7.9	7.8	8.2	7.8	8.3	7.9	9.0	8.0	9.1	7.9
9	8.2	8.0	7.9	7.8	8.3	7.8	8.3	7.9	9.0	8.0	9.1	7.6
10	8.2	8.0	7.9	7.9	8.3	7.9	8.3	7.9	9.0	8.0	9.0	7.8
11	8.3	8.1	7.9	7.9	8.3	8.0	8.3	7.8	9.0	8.0	8.9	8.0
12	8.1	8.1	7.9	7.9	8.3	8.0	8.3	7.9	9.0	8.0	8.9	8.0
13	8.1	8.1	7.9	7.9	8.3	8.0	8.3	7.9	9.0	8.0	8.8	7.9
14	8.1	8.0	8.0	7.9	8.3	8.0	8.3	7.9	8.9	7.9	8.8	7.9
15	8.1	8.0	8.1	7.9	8.2	7.9	8.5	7.9	9.0	8.0	8.7	7.9
16	8.0	8.0	8.0	7.9	8.3	7.9	8.5	8.0	8.9	7.9	8.8	7.9
17	8.0	8.0	8.1	7.9	8.3	8.0	8.5	7.9	8.9	7.9	8.8	7.9
18	8.0	8.0	8.1	7.9	8.2	8.0	8.6	7.9	8.8	7.8	8.7	7.9
19	8.0	8.0	8.1	7.9	8.2	8.0	8.6	7.9	8.8	7.8	8.7	7.9
20	8.1	8.0	---	---	8.2	8.0	8.6	7.9	8.8	7.8	8.6	7.8
21	8.1	7.9	---	---	8.2	8.0	8.7	7.9	8.8	7.8	8.6	7.8
22	8.0	7.9	---	---	8.2	8.0	8.7	7.9	8.7	7.8	8.6	7.8
23	8.0	7.9	---	---	8.3	8.0	8.7	7.9	8.8	7.9	8.6	7.8
24	8.0	7.9	---	---	8.2	8.0	8.7	7.9	8.8	7.8	8.6	7.7
25	8.0	7.9	---	---	8.2	7.9	8.7	7.9	8.8	7.8	8.5	7.7
26	8.0	8.0	---	---	8.1	7.9	8.8	7.9	8.7	7.7	8.6	7.7
27	8.0	7.9	---	---	8.2	7.9	8.9	7.9	8.6	7.7	8.6	7.6
28	8.0	8.0	---	---	8.2	7.9	8.9	8.0	8.8	7.7	8.7	7.6
29	8.0	7.9	8.2	7.9	8.2	7.9	9.0	8.0	8.9	8.0	8.8	7.6
30	7.9	7.9	8.2	7.9	8.2	7.9	8.9	8.0	8.9	7.9	8.8	7.5
31	---	---	8.2	7.9	---	---	9.0	8.0	9.0	7.9	---	---
MONTH	8.3	7.8	---	---	8.3	7.8	9.0	7.8	9.1	7.7	9.2	7.4

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	247	244	261	259	291	288	188	138	269	266	246	245
2	249	246	262	260	293	289	206	182	272	269	246	245
3	251	247	263	260	293	289	219	203	274	272	246	243
4	257	248	262	260	294	290	234	217	282	274	252	243
5	259	256	262	260	295	290	242	224	284	282	263	252
6	259	256	262	260	295	291	244	229	287	284	273	263
7	259	255	---	---	296	292	242	233	287	285	286	272
8	255	253	---	---	296	291	249	242	287	287	286	285
9	254	252	---	---	296	288	250	237	287	287	287	286
10	253	250	275	267	292	287	237	176	288	287	288	286
11	251	247	285	274	295	291	208	195	288	287	288	286
12	247	244	284	279	297	288	215	152	288	283	289	287
13	245	243	290	279	288	96	152	118	283	274	289	279
14	248	244	292	289	112	93	153	128	275	267	279	202
15	251	248	293	289	125	95	172	153	269	235	209	148
16	252	250	293	288	169	92	190	172	235	153	192	152
17	253	244	293	288	169	112	207	190	201	154	214	192
18	248	246	293	286	198	162	214	207	220	201	233	214
19	250	248	292	286	218	155	239	214	223	201	243	233
20	251	248	292	286	158	108	259	239	201	199	249	243
21	250	248	290	283	123	103	262	259	201	181	256	248
22	251	248	288	283	178	123	260	164	187	182	261	255
23	255	246	286	280	213	178	182	158	218	187	264	261
24	257	252	286	281	237	213	214	182	233	218	262	253
25	256	253	287	282	264	237	224	214	237	233	262	255
26	257	254	287	284	258	233	231	223	241	235	266	262
27	257	253	288	284	237	147	240	231	246	241	266	252
28	256	253	288	284	157	126	241	228	246	243	260	252
29	258	255	288	284	148	121	228	215	---	---	266	260
30	261	258	289	286	186	146	260	215	---	---	273	265
31	261	260	---	---	171	128	270	260	---	---	274	270
MONTH	261	243	---	---	297	92	270	118	288	153	289	148
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	280	274	177	151	278	273	288	286	256	245	247	240
2	282	278	184	176	273	272	286	283	254	246	247	240
3	281	274	191	178	277	270	283	277	255	247	246	240
4	276	262	199	191	283	276	277	275	254	245	251	243
5	262	240	203	199	288	281	277	275	254	245	253	249
6	261	245	227	203	296	287	277	275	251	244	254	250
7	265	261	232	227	300	296	276	273	254	246	255	249
8	270	265	243	232	300	297	273	269	253	244	254	249
9	274	269	245	242	300	297	270	267	252	245	255	248
10	276	273	249	245	300	296	270	266	253	246	254	247
11	278	275	252	248	298	296	273	268	255	245	252	248
12	278	179	254	251	299	296	274	271	254	245	253	248
13	179	149	260	253	298	293	273	270	253	244	254	249
14	174	148	261	259	294	289	271	268	256	245	254	248
15	180	172	262	260	291	288	268	262	254	241	254	249
16	199	180	262	260	291	286	262	260	250	242	253	248
17	201	198	261	259	289	285	261	260	250	242	252	245
18	212	200	261	259	288	286	261	259	250	242	248	245
19	218	211	264	259	287	283	261	259	249	243	252	246
20	223	218	276	263	284	281	263	259	249	243	254	247
21	223	219	281	276	282	280	262	256	249	242	250	247
22	227	221	282	280	281	279	259	253	248	243	250	243
23	225	223	282	280	280	277	257	253	247	242	245	240
24	225	150	282	280	278	276	258	254	248	242	244	241
25	168	144	281	280	279	276	258	252	248	241	244	239
26	169	155	281	280	282	278	255	251	249	242	242	236
27	182	169	282	280	288	282	256	251	251	243	241	235
28	183	148	283	281	293	288	258	250	253	246	240	233
29	148	130	282	281	292	289	257	249	248	242	241	231
30	151	128	283	280	291	288	258	249	246	241	237	227
31	---	---	282	278	---	---	256	248	248	242	---	---
MONTH	282	128	283	151	300	270	288	248	256	241	255	227

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	MONTH	MONTH	MONTH	MONTH
1	20.0	17.1	15.6	12.5	13.5	11.3	10.8	10.0	14.5	13.2	13.4	10.5				
2	20.0	16.2	15.3	12.1	13.3	11.1	11.0	10.4	13.2	11.4	13.5	10.9				
3	19.9	15.9	14.9	12.1	13.0	10.8	11.6	10.4	12.3	10.5	13.6	11.6				
4	21.0	16.9	15.1	11.8	13.8	11.6	12.4	11.2	11.9	10.2	13.6	11.3				
5	21.6	17.4	15.9	13.0	13.5	11.6	13.0	11.9	11.5	9.8	13.9	11.2				
6	22.3	18.0	14.7	12.9	12.8	11.3	12.5	11.5	11.2	9.4	14.2	11.4				
7	22.4	18.3	---	14.1	13.1	11.0	11.8	10.6	11.1	9.3	14.2	11.4				
8	22.0	18.3	---	---	12.6	10.8	11.4	10.3	10.8	8.8	14.5	11.6				
9	21.2	18.1	---	---	12.5	11.5	11.3	10.8	11.0	8.8	14.5	12.1				
10	20.1	18.6	15.5	14.2	13.9	12.5	11.8	11.1	11.3	9.2	15.8	13.0				
11	20.6	17.6	15.6	14.0	13.2	11.8	12.0	11.5	11.3	10.0	16.2	13.9				
12	19.8	16.6	15.2	14.1	13.0	11.9	12.2	11.9	11.5	10.2	16.4	14.4				
13	19.5	16.3	15.8	14.4	13.2	11.8	12.4	11.9	12.6	11.3	15.8	14.1				
14	19.5	16.3	15.6	13.4	13.3	12.6	12.9	12.4	13.2	11.4	14.1	12.6				
15	18.8	16.7	15.2	13.1	12.6	11.9	12.6	11.5	13.0	12.2	13.3	12.4				
16	18.5	16.4	14.6	13.2	12.5	12.2	11.6	10.8	12.2	10.7	13.9	12.0				
17	18.0	16.2	15.2	12.8	12.2	11.4	11.5	10.1	11.4	9.8	13.4	11.3				
18	18.3	16.0	14.5	12.6	11.4	10.8	11.7	10.7	11.8	9.4	13.5	11.1				
19	18.8	15.9	14.5	12.0	11.1	8.6	11.7	11.0	11.6	10.3	13.2	11.3				
20	19.5	16.4	14.9	12.5	9.5	8.5	11.7	11.3	11.8	9.6	14.5	11.9				
21	18.9	15.9	15.1	13.2	10.9	9.5	12.3	11.5	12.1	10.0	15.1	12.1				
22	17.8	16.3	13.8	13.2	10.7	10.1	12.6	12.2	12.3	10.3	14.8	13.4				
23	16.9	15.6	15.2	13.5	10.6	9.5	13.0	12.4	12.5	10.4	15.6	13.4				
24	16.8	15.3	14.9	13.5	10.8	9.8	13.0	12.3	12.3	11.4	15.7	12.8				
25	18.1	15.6	14.8	12.9	10.9	10.5	13.9	12.8	13.6	11.3	15.2	12.8				
26	17.8	14.8	14.7	12.4	11.3	10.8	14.2	13.4	12.7	11.1	16.5	14.2				
27	17.2	14.2	14.4	12.1	12.0	11.3	14.6	13.9	12.6	10.2	15.6	13.0				
28	17.4	14.0	13.8	11.7	12.1	10.8	13.9	12.5	12.5	10.2	16.1	12.9				
29	17.0	13.9	13.1	10.9	10.8	10.1	12.6	11.2	---	---	16.9	13.6				
30	16.9	14.0	12.6	10.5	10.9	10.5	13.4	11.3	---	---	17.5	14.2				
31	15.8	12.6	---	---	10.8	10.0	14.5	13.1	---	---	17.6	14.9				
MONTH	22.4	12.6	---	---	13.9	8.5	14.6	10.0	14.5	8.8	17.6	10.5				
	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	MONTH	MONTH	MONTH	MONTH	MONTH	MONTH				
1	16.5	14.8	14.4	12.4	22.9	18.7	25.0	21.0	25.5	21.9	24.9	20.7				
2	15.4	13.7	13.9	13.0	23.5	19.4	24.8	20.3	24.9	21.9	24.9	21.0				
3	14.4	12.2	14.9	12.9	23.4	20.1	24.6	20.1	25.2	21.5	24.9	21.8				
4	14.5	12.6	15.3	13.1	21.9	19.0	25.4	20.2	25.8	21.8	24.3	21.3				
5	14.3	11.3	15.3	12.6	21.5	18.8	25.5	20.9	24.0	21.9	23.6	20.7				
6	14.5	12.0	14.6	13.0	20.9	18.7	25.1	20.9	25.0	20.7	23.5	20.0				
7	16.1	12.2	15.6	12.6	22.0	18.9	24.8	20.7	24.9	21.0	22.7	19.6				
8	17.1	13.4	15.4	13.3	22.8	19.3	25.0	20.5	25.4	21.0	23.4	19.6				
9	17.4	14.0	16.1	12.4	21.1	19.1	26.0	20.9	25.7	21.4	21.5	19.8				
10	16.8	14.7	16.6	12.9	19.9	18.5	25.9	21.5	25.8	21.4	23.0	19.1				
11	16.5	13.7	17.1	13.6	20.6	18.0	26.5	21.4	25.0	21.2	24.4	19.8				
12	15.9	12.0	18.1	14.2	22.7	18.6	26.1	22.0	25.2	20.8	25.4	20.7				
13	12.1	11.2	18.9	15.0	23.0	18.7	26.0	21.9	25.5	21.1	25.4	21.2				
14	13.2	10.8	19.4	15.8	23.1	18.8	26.7	21.8	25.5	21.6	24.8	20.8				
15	12.7	11.2	19.2	15.7	23.6	19.2	27.1	22.6	25.0	21.0	23.5	20.9				
16	12.5	11.4	18.6	15.0	24.6	20.2	27.0	22.3	25.3	20.8	23.3	19.8				
17	14.8	11.8	18.2	14.4	24.9	20.8	27.5	22.6	25.7	21.4	22.9	19.2				
18	15.2	12.1	18.6	14.3	23.9	20.6	27.7	22.9	25.4	21.6	23.0	18.8				
19	15.6	12.4	19.6	15.3	23.7	20.0	27.5	23.1	24.0	21.1	23.3	18.9				
20	15.3	13.0	20.4	16.1	22.9	19.1	27.6	23.5	24.9	20.8	24.3	19.8				
21	14.7	12.8	21.5	17.1	23.2	18.9	27.5	23.5	24.4	21.5	24.8	20.6				
22	15.5	11.8	22.1	17.9	23.3	19.2	27.2	22.9	23.2	21.2	24.5	20.7				
23	14.6	12.0	22.7	18.8	22.2	19.1	25.8	22.9	24.5	19.9	23.8	20.5				
24	13.2	11.7	21.8	18.8	23.3	18.4	26.0	22.1	25.6	21.0	22.9	20.4				
25	12.6	11.3	20.5	18.0	24.9	19.9	23.9	21.6	26.0	21.7	22.4	19.6				
26	13.1	10.8	21.4	17.4	25.8	21.0	25.7	20.6	26.0	21.9	22.1	19.4				
27	13.1	11.1	22.4	17.8	26.6	21.8	26.1	21.8	24.9	21.4	21.9	19.4				
28	12.3	11.5	22.7	18.7	26.3	21.8	26.5	22.1	24.0	20.8	22.1	19.3				
29	12.0	11.3	22.1	19.7	25.3	21.3	26.3	22.2	24.5	20.3	22.2	18.7				
30	13.4	11.1	21.5	18.1	24.8	21.0	23.9	22.0	24.3	20.6	21.6	18.3				
31	---	---	22.5	18.4	---	---	24.8	20.7	24.7	20.4	---	---				
MONTH	17.4	10.8	22.7	12.4	26.6	18.0	27.7	20.1	26.0	19.9	25.4	18.3				

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	2.7	0.4	6.2	0.9	>1000	310	32	23	18	11
2	---	---	2.9	0.5	7.8	1.1	400	170	29	19	16	10
3	---	---	1.8	0.7	24	1.2	310	130	24	17	20	8.5
4	---	---	2.7	0.6	4.4	1.6	250	99	29	16	27	8.4
5	---	---	2.8	0.9	3.8	1.5	190	80	21	14	14	7.6
6	---	---	2.7	1.0	5.5	1.6	140	69	22	14	11	7.1
7	---	---	---	---	3.5	1.4	87	63	17	13	14	2.6
8	---	---	---	---	4.3	1.3	74	55	16	12	6.7	1.5
9	---	---	---	---	9.6	1.5	110	47	15	9.9	4.3	1.3
10	---	---	16	6.9	3.8	0.5	430	97	15	9.7	4.4	0.7
11	---	---	18	4.4	2.8	0.6	330	84	13	8.9	6.0	0.5
12	---	---	8.0	1.5	2.2	0.5	770	66	14	8.2	2.2	0.1
13	---	---	---	---	>1000	1.0	>1000	420	34	12	5.0	0.1
14	---	---	2.6	0.4	>1000	---	510	210	42	14	>1000	3.4
15	---	---	1.8	0.3	>1000	---	310	160	180	11	>1000	250
16	---	---	2.5	0.3	>1000	140	220	120	990	180	880	170
17	---	---	2.1	0.3	>1000	220	150	92	400	72	200	82
18	2.2	0.5	2.3	0.3	470	190	110	69	78	36	120	58
19	2.0	0.5	1.6	0.4	>1000	150	99	65	67	34	70	44
20	2.4	0.6	3.2	0.5	>1000	---	74	50	70	49	57	36
21	2.8	0.6	2.9	0.6	>1000	---	56	42	130	48	42	28
22	2.3	0.7	2.4	0.4	670	240	840	43	160	67	40	24
23	2.9	0.7	3.5	0.4	330	130	900	130	85	35	29	22
24	2.4	0.8	2.1	0.4	200	86	160	76	39	26	27	18
25	3.1	0.7	2.7	0.1	160	59	84	53	29	22	22	15
26	3.0	0.6	2.9	0.1	160	43	64	45	27	17	20	13
27	2.8	0.7	1.9	0.2	>1000	120	48	36	20	14	22	14
28	2.2	0.3	2.9	0.4	>1000	520	47	36	19	13	24	11
29	2.1	0.1	2.8	0.5	>1000	440	62	40	---	---	16	9.0
30	1.7	0.2	4.8	0.8	680	230	59	36	---	---	15	8.3
31	2.6	0.4	---	---	>1000	490	40	26	---	---	15	7.6
MONTH	---	---	---	---	>1000	---	>1000	26	>1000	8.2	>1000	0.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12	6.2	580	210	7.0	2.0	7.6	1.5	---	---	---	---
2	9.7	5.6	420	190	5.9	2.5	7.7	1.3	---	---	---	---
3	9.6	5.6	470	150	7.9	2.2	6.9	0.8	---	---	---	---
4	33	6.8	280	110	8.1	3.0	5.1	0.8	---	---	---	---
5	51	31	200	110	9.3	2.8	5.7	0.7	---	---	---	---
6	31	9.5	150	73	8.2	2.5	5.1	0.5	---	---	---	---
7	14	6.8	110	69	6.3	2.3	4.6	0.7	---	---	---	---
8	11	6.3	88	53	8.4	2.5	4.6	0.7	---	---	---	---
9	9.9	6.0	62	44	7.8	2.5	4.1	0.6	---	---	---	---
10	12	5.4	52	36	9.7	2.6	3.8	0.5	---	---	---	---
11	11	5.1	43	32	9.4	2.8	3.9	0.6	---	---	---	---
12	770	6.5	38	27	9.5	3.0	4.6	0.6	---	---	---	---
13	>1000	390	32	23	10	3.7	3.5	0.4	---	---	---	---
14	>1000	130	28	19	9.9	4.3	4.3	0.4	---	---	---	---
15	260	110	25	17	---	---	2.8	0.6	---	---	---	---
16	150	92	21	14	8.2	2.0	3.7	0.7	3.8	0.8	---	---
17	130	69	19	12	6.6	1.6	3.4	0.7	3.1	0.8	---	---
18	97	56	16	9.8	7.0	1.6	3.9	0.6	3.5	0.8	---	---
19	66	45	15	9.0	6.1	1.8	4.4	0.8	---	---	---	---
20	52	36	---	---	6.8	2.0	4.1	0.6	3.6	0.8	---	---
21	44	34	---	---	6.8	2.3	2.9	0.6	3.5	0.8	---	---
22	42	31	---	---	6.6	2.0	2.9	0.5	3.9	1.1	---	---
23	58	32	---	---	8.8	1.9	2.7	0.5	---	---	---	---
24	630	50	---	---	6.7	1.8	3.0	0.5	---	---	---	---
25	640	170	---	---	6.5	1.7	3.1	0.5	---	---	---	---
26	620	130	---	---	9.4	1.9	3.3	0.5	3.8	0.8	---	---
27	250	110	---	---	8.8	2.2	3.3	0.6	3.4	1.0	---	---
28	>1000	100	---	---	8.4	2.2	3.0	0.5	3.9	0.7	---	---
29	>1000	460	9.1	2.3	5.6	1.6	2.5	0.6	---	---	---	---
30	>1000	320	6.2	1.8	7.2	1.6	---	---	---	---	---	---
31	---	---	6.5	2.1	---	---	---	---	---	---	---	---
MONTH	>1000	5.1	---	---	---	---	---	---	---	---	---	---

> Actual value is known to be greater than value shown.

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA—Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Tur- bidity, water, unfltrd field, NTU (61028)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unfl uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL										
22...*	1745	1.73	1.2	754	10.2	129	8.7	254	27.1	7.00
22...*	1746	2.33	1.0	754	10.3	130	8.7	254	27.2	14.0
22...*	1747	2.44	1.4	754	10.3	130	8.7	254	27.2	21.0
22...*	1748	2.54	1.1	754	10.4	130	8.7	254	27.2	28.0
22...*	1749	2.68	1.2	754	10.4	130	8.7	253	27.2	35.0
22...*	1750	2.78	1.1	754	10.3	130	8.7	254	27.2	42.0
22...*	1751	2.59	1.2	754	10.4	130	8.7	254	27.2	49.0
22...*	1752	2.71	1.3	754	10.4	131	8.7	254	27.2	56.0
22...*	1753	2.67	1.1	754	10.4	131	8.7	254	27.2	63.0
22...*	1754	2.56	1.2	754	10.4	131	8.7	254	27.2	70.0
22...*	1755	1.63	1.1	754	10.4	131	8.7	254	27.3	77.0

* Instantaneous discharge at the time of the cross-sectional measurement: July 22, 235 ft³/s.

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 mi².

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

CHEMICAL DATA: Water years 1951–66, 1980.

WATER TEMPERATURE: Water years 1966–2002.

REVISED RECORDS.—WSP 981: 1942. WSP 1929: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 77.01 ft above NGVD of 1929.

REMARKS.—Records good except for estimated daily discharges, which are fair. 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 ft³/s, Jan. 9, 1995, gage height, 26.23 ft, maximum gage height, 30.0 ft, Feb. 28, 1940; minimum daily discharge, 12 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	131	133	11000	1380	1020	870	7320	650	307	229	211
2	e174	123	129	6950	1260	973	832	6270	639	304	227	226
3	e157	122	126	5190	1150	940	818	6370	610	293	224	207
4	e140	123	124	3890	1030	910	960	5060	567	261	233	174
5	145	124	120	3110	931	777	1180	4450	536	251	231	166
6	145	126	117	2580	892	679	932	3380	483	245	232	161
7	148	150	117	2130	859	628	854	2870	454	264	207	171
8	162	218	117	1800	825	589	802	2530	436	273	230	182
9	166	314	123	1700	792	560	754	2280	418	266	224	192
10	175	340	132	3080	760	541	722	2040	399	282	216	191
11	190	350	134	3320	728	526	699	1860	390	331	227	188
12	197	314	136	3590	704	509	1450	1720	381	315	219	183
13	201	246	3200	11700	883	506	5580	1560	381	318	219	179
14	201	212	e22200	9210	971	2230	5220	1430	371	318	204	181
15	197	191	18300	7120	886	12500	4360	1330	360	329	208	183
16	193	181	36400	e5460	4540	6410	3410	1250	359	314	200	187
17	189	172	11700	4420	3020	3920	3070	1180	349	307	206	195
18	184	163	5600	3700	2040	2840	2620	1120	335	304	206	189
19	180	159	5690	2970	2090	2300	2270	1070	334	285	208	179
20	181	159	13300	2320	2270	2150	2050	992	328	273	202	180
21	182	162	17600	2010	2750	1840	1920	926	314	286	205	181
22	181	163	8560	3020	2780	1610	1820	884	309	289	208	187
23	167	163	4840	5790	2160	1540	1680	843	312	280	209	184
24	162	160	3230	3600	1610	1480	4040	802	304	269	209	175
25	161	156	2330	2940	1410	1310	4940	772	291	276	212	174
26	154	148	2470	2630	1270	1210	5330	753	277	273	197	180
27	149	145	6830	2320	1160	1260	4320	726	299	262	180	181
28	152	145	12900	2260	1080	1140	6420	703	307	262	177	182
29	148	140	16600	2390	---	1040	11000	675	303	237	199	189
30	139	136	8400	1860	---	958	11200	656	304	220	206	192
31	136	---	18400	1500	---	916	---	651	---	216	197	---
TOTAL	5231	5436	220058	125560	42231	55812	92123	64473	11800	8710	6551	5550
MEAN	169	181	7099	4050	1508	1800	3071	2080	393	281	211	185
MAX	201	350	36400	11700	4540	12500	11200	7320	650	331	233	226
MIN	136	122	117	1500	704	506	699	651	277	216	177	161
AC-FT	10380	10780	436500	249000	83770	110700	182700	127900	23410	17280	12990	11010

e Estimated.

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	268	762	2500	4076	4049	2770	1450	578	269	187	185	190
MAX	1605	5293	8945	14490	16450	11810	6592	2080	972	300	331	360
(WY)	1958	1974	1956	1995	1998	1983	1982	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	478561		643535			
ANNUAL MEAN	1311		1763		1429	
HIGHEST ANNUAL MEAN					3277	
LOWEST ANNUAL MEAN					101	
HIGHEST DAILY MEAN	36400	Dec 16	36400	Dec 16	69300	Jan 9 1995
LOWEST DAILY MEAN	117	Dec 6	117	Dec 6	12	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	121	Dec 3	121	Dec 3	21	Apr 20 1977
MAXIMUM PEAK FLOW			44700		73000	
MAXIMUM PEAK STAGE			19.66		30.00	
ANNUAL RUNOFF (AC-FT)	949200		1276000		1035000	
10 PERCENT EXCEEDS	2390		4660		3400	
50 PERCENT EXCEEDS	202		381		310	
90 PERCENT EXCEEDS	145		158		141	

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 mi².

PERIOD OF RECORD.—October 1939 to September 1942 (published as "Dry Creek near Healdsburg"), October 1981 to current year.

WATER TEMPERATURE: Water years 1981–94.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 188.21 ft above NGVD of 1929 (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 except for estimated daily discharges, which are fair. 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 ft³/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 ft³/s, Feb. 11, 1998, gage height, 10.38 ft; minimum daily, 6.1 ft³/s, Oct. 21, 22, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1937 reached a stage of 21.8 ft from floodmarks, discharge about 25,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	145	116	2990	164	145	77	1990	86	e90	102	114
2	139	144	116	2970	164	145	77	1590	86	89	102	113
3	140	143	116	2560	164	142	78	1030	86	89	104	113
4	140	143	117	2230	163	143	78	859	85	89	104	113
5	140	143	118	2230	162	142	79	575	85	94	108	113
6	140	142	118	1790	161	147	79	493	85	100	113	112
7	139	143	118	751	160	141	79	442	85	99	113	113
8	140	142	120	267	158	142	79	357	85	99	113	113
9	140	141	119	265	157	141	79	268	84	106	113	112
10	141	139	105	263	156	141	79	269	84	115	113	112
11	139	138	87	262	155	140	78	269	84	115	113	112
12	139	138	88	265	154	140	79	219	90	116	113	112
13	140	136	99	765	154	140	79	154	100	117	113	112
14	139	124	99	1550	153	141	494	159	100	117	114	112
15	139	115	104	1560	154	144	1560	147	101	117	114	112
16	139	113	94	1570	152	140	923	137	101	117	113	112
17	139	112	89	1560	151	850	152	137	101	119	113	112
18	138	113	109	978	577	1600	155	137	e101	119	114	112
19	113	111	135	412	826	1610	155	106	e100	118	113	111
20	98	112	135	414	363	1210	155	87	e100	117	114	110
21	107	112	133	504	148	477	165	91	e100	119	113	110
22	124	113	133	379	147	137	173	88	e99	119	113	110
23	124	114	229	157	147	138	175	88	e99	119	113	109
24	112	114	578	220	146	139	274	87	e99	105	114	80
25	102	113	815	251	145	140	726	87	e98	98	114	79
26	108	115	437	250	144	141	1360	87	e98	98	113	117
27	110	115	145	927	143	141	1600	86	e97	100	114	117
28	110	115	146	1810	146	140	1280	87	e97	100	113	117
29	110	115	1090	1600	---	141	1100	86	e97	101	113	117
30	109	116	2210	483	---	141	1500	86	e94	101	113	116
31	124	---	2680	166	---	115	---	86	---	101	114	---
TOTAL	3961	3779	10798	32399	5614	9394	12967	10384	2807	3303	3466	3317
MEAN	128	126	348	1045	200	303	432	335	93.6	107	112	111
MAX	141	145	2680	2990	826	1610	1600	1990	101	119	114	117
MIN	98	111	87	157	143	115	77	86	84	89	102	79
AC-FT	7860	7500	21420	64260	11140	18630	25720	20600	5570	6550	6870	6580

e Estimated.

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	85.9	145	192	445	522	423	186	107	112	116	113	96.4
MAX	128	524	1501	1986	2583	1494	948	335	276	274	169	129
(WY)	2003	1984	1984	1997	1998	1995	1995	2003	1998	1987	1987	2002
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1984 - 2003	
ANNUAL TOTAL	68668		102189			
ANNUAL MEAN	188		280		211	
HIGHEST ANNUAL MEAN					512	
LOWEST ANNUAL MEAN					46.0	
HIGHEST DAILY MEAN	2680	Dec 31	2990	Jan 1	5300	Feb 11 1998
LOWEST DAILY MEAN	87	Dec 11	77	Apr 1	6.1	Oct 21 1983
ANNUAL SEVEN-DAY MINIMUM	94	Dec 11	78	Apr 1	6.3	Oct 18 1983
MAXIMUM PEAK FLOW			3210		5590	
MAXIMUM PEAK STAGE			8.69		10.38	
ANNUAL RUNOFF (AC-FT)	136200		202700		152600	
10 PERCENT EXCEEDS	185		736		250	
50 PERCENT EXCEEDS	120		118		103	
90 PERCENT EXCEEDS	101		88		48	

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 mi².

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 NGVD of 1929. 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 ft³/s, Jan. 31, 1963, gage height, 20.50 ft, present datum; no flow at times. Maximum discharge since regulation by Lake Sonoma, 7,600 ft³/s, Jan. 8, 1995, gage height, 15.48 ft; minimum daily, 19 ft³/s, Oct. 18–25, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	134	120	e3840	292	197	116	2360	e104	121	105	114
2	123	135	119	e3290	282	188	114	1970	e104	121	105	114
3	123	133	119	e3190	e250	179	112	1320	e104	119	106	115
4	124	132	119	2560	e238	173	119	1090	e104	120	105	115
5	124	135	121	2520	e220	167	112	699	e103	123	107	115
6	124	136	118	2280	e212	168	110	598	e104	128	113	116
7	125	158	116	1330	e199	166	109	518	e104	126	113	116
8	124	154	118	505	e190	161	109	440	e104	125	113	115
9	125	144	119	489	e186	163	108	337	e104	129	113	115
10	129	144	119	536	e180	163	107	328	e104	137	114	116
11	126	141	118	536	e185	162	107	321	e105	131	114	115
12	127	141	118	752	e190	161	154	268	e106	128	114	e115
13	126	139	660	1800	e220	164	230	174	e110	129	114	e115
14	124	122	1350	2790	e200	255	578	171	e111	128	114	e115
15	125	112	1070	2640	290	721	1650	157	e111	127	114	e115
16	126	110	e1950	2560	427	384	1100	144	e110	127	114	e116
17	127	109	462	2490	422	921	244	140	e112	127	115	e116
18	126	112	307	1840	741	1770	222	138	112	126	115	116
19	103	109	474	994	1120	1750	211	118	112	126	114	115
20	87	113	818	965	595	1390	205	e105	117	124	114	116
21	94	112	644	1050	290	623	213	e105	123	124	113	115
22	114	113	420	939	275	215	222	e105	123	124	114	114
23	114	113	485	518	261	201	220	e104	123	124	114	114
24	103	114	979	500	249	192	380	e105	123	114	114	90
25	90	114	1370	513	236	185	866	e105	122	106	113	67
26	96	118	905	490	225	183	1580	e105	122	106	113	114
27	102	120	757	1140	216	178	1890	e105	121	106	114	115
28	101	120	1190	2140	206	175	1700	e105	121	105	114	115
29	102	120	1920	2020	---	174	1620	e104	122	105	113	115
30	103	118	2880	761	---	172	1870	e105	121	105	114	114
31	112	---	e3350	310	---	154	---	e104	---	104	114	---
TOTAL	3573	3775	23415	48288	8597	11855	16378	12548	3366	3745	3486	3378
MEAN	115	126	755	1558	307	382	546	405	112	121	112	113
MAX	129	158	3350	3840	1120	1770	1890	2360	123	137	115	116
MIN	87	109	116	310	180	154	107	104	103	104	105	67
AC-FT	7090	7490	46440	95780	17050	23510	32490	24890	6680	7430	6910	6700

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
MAXIMUM PEAK FLOW	32400	Jan 31 1963
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	93.4	141	215	706	854	636	237	129	130	127	122	103						
MAX	116	459	755	2634	3890	2110	1115	405	379	296	180	137						
(WY)	1997	1987	2003	1997	1998	1995	1995	2003	1998	1987	1987	2002						
MIN	42.2	60.4	88.2	83.0	85.4	86.0	38.5	36.6	91.8	85.6	96.1	44.1						
(WY)	1991	1986	1991	1991	1991	1988	1990	1991	1996	1999	1990	1991						

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1986 - 2003

ANNUAL TOTAL	100321		142404	
ANNUAL MEAN	275		390	281
HIGHEST ANNUAL MEAN				676
LOWEST ANNUAL MEAN				90.5
HIGHEST DAILY MEAN	3540	Jan 6	3840	Jan 1
LOWEST DAILY MEAN	86	Jul 9	67	Sep 25
ANNUAL SEVEN-DAY MINIMUM	88	May 30	100	Oct 24
MAXIMUM PEAK FLOW			4690	Dec 16
MAXIMUM PEAK STAGE			12.22	Dec 16
ANNUAL RUNOFF (AC-FT)	199000		282500	203800
10 PERCENT EXCEEDS	328		1110	462
50 PERCENT EXCEEDS	125		125	113
90 PERCENT EXCEEDS	93		105	84

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, 13.5 mi downstream from Warm Springs Dam, and 1.7 mi south of Healdsburg.

DRAINAGE AREA.—217 mi².

PERIOD OF RECORD.—November 1980 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 50 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good. No records computed above 200 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	101	103	---	---	---	138	---	147	121	97	106
2	105	110	103	---	---	---	126	---	141	122	98	105
3	105	113	103	---	---	---	113	---	136	118	99	107
4	105	114	102	---	---	---	135	---	135	119	96	109
5	105	114	103	---	---	---	126	---	135	117	97	109
6	105	115	103	---	---	---	112	---	133	127	104	109
7	106	---	103	---	---	---	107	---	132	128	106	109
8	104	181	103	---	---	200	103	---	131	124	106	107
9	102	134	115	---	---	197	99	---	127	120	105	107
10	103	135	110	---	---	194	96	---	127	130	105	109
11	102	125	108	---	---	191	94	---	126	131	104	107
12	102	124	108	---	---	190	---	---	123	130	102	103
13	104	125	---	---	---	200	---	---	134	131	102	103
14	106	122	---	---	---	---	---	---	132	130	103	105
15	108	107	---	---	---	---	---	---	129	126	103	110
16	108	104	---	---	---	---	---	---	127	125	103	111
17	107	102	---	---	---	---	---	---	124	123	104	109
18	106	102	---	---	---	---	---	198	123	123	105	106
19	99	102	---	---	---	---	---	182	122	125	106	105
20	70	102	---	---	---	---	---	150	123	123	107	105
21	64	104	---	---	---	---	---	140	133	123	108	103
22	85	105	---	---	---	---	---	198	135	121	108	103
23	91	105	---	---	---	---	---	---	133	122	108	103
24	90	105	---	---	---	---	---	199	129	117	107	103
25	71	104	---	---	---	---	---	192	125	100	106	48
26	69	103	---	---	---	---	---	185	120	98	104	91
27	76	104	---	---	---	---	---	175	117	98	105	105
28	76	103	---	---	---	---	---	166	119	98	107	110
29	76	103	---	---	---	---	---	162	123	96	107	112
30	75	103	---	---	---	195	---	159	123	97	107	111
31	75	---	---	---	---	185	---	152	---	98	108	---
TOTAL	2906	---	---	---	---	---	---	---	3864	3661	3227	3130
MEAN	93.7	---	---	---	---	---	---	---	129	118	104	104
MAX	108	---	---	---	---	---	---	---	147	131	108	112
MIN	64	---	---	---	---	---	---	---	117	96	96	48
AC-FT	5760	---	---	---	---	---	---	---	7660	7260	6400	6210

11465680 LAGUNA DE SANTA ROSA AT STONY POINT ROAD, NEAR COTATI, CA

LOCATION.—Lat 38° 21'08", long 122° 44'35", in Llano de Santa Rosa Grant, Sonoma County, Hydrologic Unit 18010110, on right bank, upstream side of Stony Point Road bridge, 300 ft downstream of unnamed tributary, and 1.5 mi west of Rohnert Park.

DRAINAGE AREA.—40.8 mi².

PERIOD OF RECORD.—November 1998 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,850 ft³/s, Feb. 13, 2000, gage height, 87.29 ft, maximum gage height, 87.53, Dec. 13, 2003; no flow Sept. 27, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,100 ft³/s (revised), or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 13	2315	1,900	87.53	Dec. 31	0415	1,110	85.14
Dec. 19	1615	1,570	86.64				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	0.26	1.4	137	20	10	2.5	44	3.3	e1.2	0.20	0.18
2	0.02	0.26	1.5	82	18	8.4	3.1	43	3.2	e1.1	0.20	0.17
3	0.02	0.26	1.5	59	15	7.2	4.7	426	3.3	e1.1	0.20	0.20
4	0.03	0.26	1.5	46	14	7.0	31	126	3.2	e1.0	0.20	0.28
5	0.03	0.26	1.5	37	12	6.4	21	63	3.0	e1.0	0.18	0.35
6	0.03	0.26	1.5	32	10	5.5	9.1	44	2.9	e0.98	0.18	0.34
7	0.04	30	1.5	26	8.5	4.7	6.1	32	2.6	0.93	0.18	0.30
8	0.04	210	1.6	25	7.3	4.1	5.3	25	2.3	0.95	0.18	0.27
9	0.04	97	9.9	37	6.4	3.6	3.4	20	2.5	0.95	0.17	0.27
10	0.05	16	54	151	6.2	3.0	2.5	16	2.6	0.98	0.16	0.27
11	0.06	6.2	21	124	6.1	2.9	2.2	13	2.6	0.97	0.15	0.27
12	0.07	3.8	6.1	87	9.2	3.0	99	11	2.3	0.90	0.14	0.26
13	0.08	4.0	600	191	42	2.9	146	10	2.0	0.80	0.13	0.24
14	0.08	3.7	1160	131	27	17	84	8.9	1.7	0.74	0.13	0.23
15	0.09	2.9	441	77	16	152	36	8.2	1.7	0.69	0.13	0.23
16	0.10	2.4	1040	54	290	51	21	7.2	1.5	0.65	0.13	0.22
17	0.11	2.0	264	43	65	23	15	6.3	1.3	0.62	0.14	0.23
18	0.12	1.8	105	36	37	12	16	5.3	1.2	0.40	0.14	0.23
19	0.14	1.6	546	31	30	9.6	12	4.5	1.1	0.28	0.15	0.22
20	0.15	1.6	645	27	27	28	8.2	4.5	1.2	0.22	0.16	0.21
21	0.17	1.6	345	49	19	16	6.0	4.6	1.3	0.17	0.16	0.22
22	0.18	1.6	117	123	15	9.8	6.3	4.3	1.3	0.16	0.17	0.21
23	0.19	1.5	70	183	13	12	7.5	4.1	1.3	0.16	0.17	0.20
24	0.20	1.5	47	88	13	11	87	4.1	1.3	0.16	0.17	0.21
25	0.22	1.5	33	59	12	8.1	74	4.1	1.3	0.15	0.16	0.22
26	0.23	1.5	31	46	11	6.0	58	4.2	1.3	0.17	0.15	0.23
27	0.25	1.5	118	39	22	5.4	30	4.0	1.3	0.19	0.14	0.26
28	0.25	1.4	375	33	15	4.3	63	3.7	e1.3	0.20	0.15	0.28
29	0.26	1.4	431	27	---	3.5	150	3.4	e1.2	0.20	0.16	0.32
30	0.27	1.4	120	23	---	2.8	78	3.5	e1.2	0.19	0.16	0.35
31	0.27	---	573	21	---	2.5	---	3.4	---	0.19	0.17	---
TOTAL	3.81	399.46	7164.0	2124	786.7	442.7	1087.9	961.3	58.3	18.40	5.01	7.47
MEAN	0.12	13.3	231	68.5	28.1	14.3	36.3	31.0	1.94	0.59	0.16	0.25
MAX	0.27	210	1160	191	290	152	150	426	3.3	1.2	0.20	0.35
MIN	0.02	0.26	1.4	21	6.1	2.5	2.2	3.4	1.1	0.15	0.13	0.17
AC-FT	7.6	792	14210	4210	1560	878	2160	1910	116	36	9.9	15

e Estimated.

RUSSIAN RIVER BASIN

11465680 LAGUNA DE SANTA ROSA AT STONY POINT ROAD, NEAR COTATI, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.39	18.9	97.2	61.5	122	45.7	19.3	9.35	1.37	0.71	0.43	0.34
MAX	9.46	48.0	232	127	253	75.8	36.3	31.0	1.94	0.77	0.91	0.92
(WY)	2001	2002	2002	2002	2000	2000	2003	2003	2003	1999	1999	1999
MIN	0.12	3.45	2.28	33.3	28.1	14.3	5.29	0.85	0.76	0.59	0.16	0.033
(WY)	2003	2001	2000	2001	2003	2003	2001	2001	2001	2003	2003	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	13557.83		13059.05			
ANNUAL MEAN	37.1		35.8		30.9	
HIGHEST ANNUAL MEAN					40.2	
LOWEST ANNUAL MEAN					14.7	
HIGHEST DAILY MEAN	1610	Jan 2	1160	Dec 14	1940	Feb 13 2000
LOWEST DAILY MEAN	0.00	Sep 27	0.02	Oct 1	0.00	Sep 27 2002
ANNUAL SEVEN-DAY MINIMUM	0.01	Sep 26	0.03	Oct 1	0.01	Sep 26 2002
MAXIMUM PEAK FLOW			1900	Dec 13	2850	Feb 13 2000
MAXIMUM PEAK STAGE			87.53	Dec 13	87.53	Dec 13 4004
ANNUAL RUNOFF (AC-FT)	26890		25900		22420	
10 PERCENT EXCEEDS	58		80		69	
50 PERCENT EXCEEDS	2.8		2.9		1.6	
90 PERCENT EXCEEDS	0.06		0.16		0.20	

11465700 COLGAN CREEK NEAR SEBASTOPOL, CA

LOCATION.—Lat 38° 22'25", long 122° 46'02", in Llano de Santa Rosa Grant, Sonoma County, Hydrologic Unit 18010110, on left bank, downstream side of Llano Road bridge, 0.5 mile upstream of Laguna de Santa Rosa, and 3.5 mi southeast of Sebastopol.

DRAINAGE AREA.—6.78 mi².

PERIOD OF RECORD.—November 1998 to current year.

GAGE.—Water-stage recorder and dopler-velocity system. Datum of gage is NGVD of 1929.

REMARKS.—Records poor. No regulation or diversion upstream of station. High flow periods are effected by backwater from Laguna de Santa Rosa. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 865 ft³/s, Jan. 2, 2002, gage height, 77.24 ft, maximum gage height, 77.42 ft, Dec. 16, 2002; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 290 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 13	2330	566	(a)	Dec. 16	0415	485	77.42
Dec. 14	0015	(a)	76.92	Jan. 31	0300	441	76.72

(a) Backwater from Laguna de Santa Rosa.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.01	23	4.1	1.7	1.1	5.7	0.62	0.22	0.00	0.00
2	0.00	0.00	0.01	6.0	3.0	1.6	1.5	4.1	0.57	0.28	0.00	0.00
3	0.00	0.01	0.01	6.1	2.4	1.5	1.3	57	0.74	0.27	0.00	0.00
4	0.00	0.01	0.01	5.6	2.3	1.8	9.1	27	0.62	0.21	0.00	0.00
5	0.00	0.00	0.01	4.9	2.2	1.3	2.5	13	0.60	0.16	0.00	0.00
6	0.00	0.01	0.01	4.2	1.9	1.2	1.2	9.5	0.58	0.14	0.00	0.00
7	0.00	43	0.01	2.9	1.8	1.1	2.3	6.6	0.57	0.14	0.00	0.00
8	0.00	25	0.01	2.5	1.6	1.1	1.1	4.7	0.59	0.14	0.00	0.00
9	0.00	12	12	11	1.4	0.97	1.1	3.2	0.58	0.13	0.00	0.00
10	0.00	3.4	12	43	1.3	0.97	1.1	1.7	0.56	0.12	0.00	0.00
11	0.01	2.2	1.0	22	1.3	0.98	0.99	1.5	0.59	0.10	0.00	0.00
12	0.00	0.27	0.22	24	2.2	1.0	51	1.5	0.54	0.06	0.00	0.00
13	0.00	2.6	321	43	4.5	0.99	61	1.5	0.53	0.05	0.00	0.00
14	0.01	0.84	454	14	2.7	9.0	22	1.5	0.45	0.02	0.00	0.00
15	0.01	0.25	97	8.8	3.7	51	5.8	1.4	0.51	0.00	0.00	0.00
16	0.01	0.09	256	6.8	77	13	4.5	1.3	0.49	0.00	0.00	0.00
17	0.01	0.05	e90	6.0	6.6	8.3	2.9	1.3	0.45	0.00	0.00	0.00
18	0.01	0.03	e25	5.5	4.9	6.8	4.8	1.3	0.39	0.00	0.00	0.00
19	0.01	0.02	e100	5.2	5.6	6.2	1.3	1.2	0.44	0.00	0.00	0.00
20	0.01	0.01	e96	5.0	5.2	9.3	1.2	1.5	0.60	0.00	0.00	0.00
21	0.00	0.01	e52	15	4.2	6.0	1.2	1.2	0.41	0.00	0.00	0.00
22	0.01	0.03	e14	27	3.0	4.1	1.7	1.1	0.35	0.00	0.00	0.00
23	0.01	0.01	e3.8	33	2.2	4.4	1.1	0.91	0.31	0.00	0.00	0.00
24	0.01	0.02	e1.9	14	2.2	1.8	34	0.83	0.34	0.00	0.00	0.00
25	0.01	0.01	e1.6	8.9	1.9	1.3	31	0.83	0.25	0.00	0.00	0.00
26	0.01	0.01	e1.4	7.4	1.7	1.1	11	0.73	0.32	0.00	0.00	0.00
27	0.01	0.01	e18	6.4	4.6	1.1	4.1	0.67	0.22	0.00	0.00	0.00
28	0.00	0.01	e76	5.4	1.8	1.1	15	0.68	0.29	0.00	0.00	0.00
29	0.00	0.02	86	5.1	---	1.0	37	0.93	0.28	0.00	0.00	0.00
30	0.00	0.01	17	4.7	---	0.96	15	0.98	0.21	0.00	0.00	0.00
31	0.01	---	233	4.6	---	1.0	---	0.78	---	0.00	0.00	---
TOTAL	0.15	89.93	1969.00	381.0	157.3	143.67	328.89	156.14	14.00	2.04	0.00	0.00
MEAN	0.005	3.00	63.5	12.3	5.62	4.63	11.0	5.04	0.47	0.066	0.000	0.000
MAX	0.01	43	454	43	77	51	61	57	0.74	0.28	0.00	0.00
MIN	0.00	0.00	0.01	2.5	1.3	0.96	0.99	0.67	0.21	0.00	0.00	0.00
AC-FT	0.3	178	3910	756	312	285	652	310	28	4.0	0.00	0.00

e Estimated.

RUSSIAN RIVER BASIN

11465700 COLGAN CREEK NEAR SEBASTOPOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.57	7.50	31.0	17.6	30.1	11.8	4.88	1.79	0.27	0.048	0.015	0.001
MAX	1.46	23.0	86.8	48.8	62.7	21.3	11.0	5.04	0.47	0.13	0.044	0.005
(WY)	2001	2002	2002	2002	2000	2000	2003	2003	2003	2000	2000	1999
MIN	0.005	0.81	0.30	7.06	5.62	4.63	1.14	0.25	0.091	0.005	0.000	0.000
(WY)	2003	2001	2000	2001	2003	2003	2002	2001	2001	2001	2001	2000

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	4022.83		3242.12			
ANNUAL MEAN	11.0		8.88		8.89	
HIGHEST ANNUAL MEAN					14.7	
LOWEST ANNUAL MEAN					3.56	
HIGHEST DAILY MEAN	647	Jan 2	454	Dec 14	647	Jan 2 2002
LOWEST DAILY MEAN	0.00	Jun 22	0.00	Oct 1	0.00	Jul 16 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 22	0.00	Oct 1	0.00	Aug 12 1999
MAXIMUM PEAK FLOW			566	Dec 13	865	Jan 2 2002
MAXIMUM PEAK STAGE			77.42	Dec 16	77.42	Dec 16 2002
ANNUAL RUNOFF (AC-FT)	7980		6430		6440	
10 PERCENT EXCEEDS	9.0		14		13	
50 PERCENT EXCEEDS	0.41		0.62		0.28	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11465750 LAGUNA DE SANTA ROSA NEAR SEBASTOPOL, CA

LOCATION.—Lat 38° 25' 32", long 122° 49' 41", in SE 1/4 NW 1/4 sec.26, T.7 N., R.9 W., Sonoma County, Hydrologic Unit 18010110, on right bank, upstream side of Occidental Road bridge, and 1.6 mi north of Sebastopol.

DRAINAGE AREA.—79.6 mi².

PERIOD OF RECORD.—November 1998 to current year.

GAGE.—Water-stage recorder and dopler-velocity system. Datum of gage is NAVD of 1988.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream of station. High-flow periods are affected by backwater. See schematic diagram of Russian River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,140 ft³/s, Feb. 13, 2000, maximum gage height, 66.85 ft, Feb. 14, 2000; minimum daily, no flow Oct. 1–3, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1345	3,000	(a)	Dec. 20	0145	2,330	(a)
Dec. 16	1915	(a)	66.46	Dec. 21	0745	(a)	63.15

(a) Affected by backwater.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	0.51	3.5	770	141	77	54	244	7.1	2.3	0.57	0.05
2	e0.00	0.55	3.5	442	117	63	57	151	6.9	2.2	0.55	0.05
3	e0.00	0.56	3.5	345	93	59	59	237	6.6	2.2	0.52	0.05
4	e0.01	0.57	3.4	295	77	54	54	739	6.3	2.3	0.47	0.05
5	e0.01	0.59	3.3	256	73	52	66	375	6.2	2.4	0.44	0.05
6	e0.01	0.62	3.1	237	69	51	71	254	6.3	2.3	0.42	0.05
7	e0.01	1.3	3.1	211	56	74	51	189	6.4	2.3	0.40	0.05
8	e0.01	19	3.3	189	50	85	46	140	6.4	2.3	0.37	0.05
9	0.01	219	4.1	190	49	84	37	112	6.4	2.1	0.33	0.05
10	0.02	196	11	432	47	91	13	91	6.4	2.1	0.30	0.05
11	0.02	96	93	683	44	92	12	67	6.4	2.0	0.26	0.05
12	0.02	54	88	453	49	96	22	61	6.5	1.8	0.23	0.05
13	0.03	37	131	731	98	103	235	57	6.5	1.6	0.19	0.05
14	0.03	27	1720	553	161	122	267	53	6.3	1.5	0.16	0.05
15	0.04	14	1410	438	125	203	174	42	6.1	1.3	0.13	0.05
16	0.04	12	1600	332	487	395	129	35	5.7	1.2	0.11	0.04
17	0.05	9.9	1370	321	408	259	113	15	5.3	1.1	0.10	0.04
18	0.06	8.1	735	239	220	216	95	13	5.1	1.0	0.09	0.04
19	0.07	6.8	556	216	203	198	83	12	4.8	0.91	0.09	0.04
20	0.08	6.0	1600	196	190	192	68	11	4.5	0.83	0.09	0.04
21	0.09	5.5	1090	203	164	198	61	10	4.1	0.75	0.09	0.04
22	0.11	5.1	636	416	134	171	53	9.8	3.9	0.68	0.08	0.04
23	0.17	4.7	399	725	104	159	52	9.2	3.7	0.63	0.08	0.04
24	0.25	4.4	308	512	96	139	57	8.8	3.6	0.63	0.08	0.04
25	0.33	4.2	250	345	91	108	215	8.5	3.4	0.63	0.08	0.04
26	0.38	4.0	233	267	84	90	238	8.2	3.3	0.64	0.07	0.04
27	0.41	3.8	377	233	76	81	175	7.9	3.1	0.65	0.07	0.04
28	0.44	3.6	577	191	88	70	101	7.7	2.9	0.64	0.06	0.05
29	0.47	3.5	1310	171	---	67	190	7.5	2.6	0.61	0.06	0.05
30	0.50	3.5	620	159	---	56	342	7.3	2.4	0.58	0.05	0.05
31	0.50	---	1070	147	---	53	---	7.2	---	0.57	0.05	---
TOTAL	4.17	751.80	16214.8	10898	3594	3758	3190	2990.1	155.2	42.75	6.59	1.38
MEAN	0.13	25.1	523	352	128	121	106	96.5	5.17	1.38	0.21	0.046
MAX	0.50	219	1720	770	487	395	342	739	7.1	2.4	0.57	0.05
MIN	0.00	0.51	3.1	147	44	51	12	7.2	2.4	0.57	0.05	0.04
AC-FT	8.3	1490	32160	21620	7130	7450	6330	5930	308	85	13	2.7

e Estimated.

RUSSIAN RIVER BASIN

11465750 LAGUNA DE SANTA ROSA NEAR SEBASTOPOL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.22	40.9	220	180	329	132	52.1	26.9	3.48	1.20	0.46	0.32
MAX	5.56	97.1	523	352	630	210	106	96.5	5.38	2.30	1.32	0.98
(WY)	2001	2002	2003	2003	2000	2000	2003	2003	1999	1999	1999	1999
MIN	0.086	14.1	24.7	93.3	73.2	83.3	9.75	2.85	0.86	0.52	0.18	0.046
(WY)	2002	2001	2001	2000	2002	2001	2001	2001	2001	2002	2001	2003

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	28808.11		41606.79			
ANNUAL MEAN	78.9		114		78.3	
HIGHEST ANNUAL MEAN					114	
LOWEST ANNUAL MEAN					38.4	
HIGHEST DAILY MEAN	2030	Jan 2	1720	Dec 14	3710	Feb 14 2000
LOWEST DAILY MEAN	0.00	Oct 1	0.00	Oct 1	0.00	Oct 1 2002
ANNUAL SEVEN-DAY MINIMUM	0.01	Sep 30	0.01	Oct 1	0.01	Sep 30 2002
MAXIMUM PEAK FLOW			3000	Dec 16	5140	Feb 13 2000
MAXIMUM PEAK STAGE			66.46	Dec 16	66.85	Feb 14 2000
ANNUAL RUNOFF (AC-FT)	57140		82530		56700	
10 PERCENT EXCEEDS	129		313		196	
50 PERCENT EXCEEDS	6.0		7.3		8.0	
90 PERCENT EXCEEDS	0.11		0.05		0.08	

11465850 SPRING LAKE AT SANTA ROSA, CA

LOCATION.—Lat 38° 27' 26", long 122° 38' 59", [Sonoma County](#), Hydrologic Unit 18010110, 100 ft northwest of spillway, in Santa Rosa.

DRAINAGE AREA.—32.7 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

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 beginning in 1965. 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](#).

NOTE: There were no days during the 2003 water year when the elevation was above 291.50 ft.

11466050 SANTA ROSA CREEK AT MISSION BOULEVARD, AT SANTA ROSA, CA

LOCATION.—Lat 38° 27' 28", long 122° 40' 16", [Sonoma County](#), Hydrologic Unit 18010110, at upstream side of bridge on Mission Boulevard, in Santa Rosa.

DRAINAGE AREA.—34.4 mi².

PERIOD OF RECORD.—November 1997 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

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 October 1 to April 30. See schematic diagram of [Russian River Basin](#).

ELEVATION ABOVE NGVD 1929, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	216.2	215.6	216.1	215.7	216.0	215.6	217.7	217.6	216.8	216.6	216.7	216.4
2	216.1	215.4	216.1	215.8	216.0	215.7	217.5	217.3	216.6	216.4	216.7	216.4
3	216.2	215.6	216.3	215.7	216.0	215.6	217.3	217.1	216.7	216.3	216.6	216.3
4	216.1	215.5	216.2	215.8	216.0	215.6	217.3	217.0	216.7	216.4	216.6	216.4
5	216.2	215.6	216.2	215.9	216.1	215.6	217.3	216.9	216.7	216.3	216.7	216.4
6	216.4	215.4	216.2	216.0	216.3	215.9	217.2	216.9	216.7	216.4	216.6	216.3
7	216.2	215.4	217.6	216.1	216.1	215.6	217.0	216.7	216.6	216.3	216.6	216.4
8	216.1	215.4	217.0	216.5	216.1	215.8	---	216.8	216.6	216.2	216.6	216.4
9	216.1	215.4	216.5	216.3	---	---	---	---	216.6	216.2	216.5	216.1
10	215.9	215.7	216.4	216.2	216.4	216.0	217.8	217.3	216.5	216.2	216.5	216.1
11	216.1	215.6	216.3	215.9	216.1	215.9	217.6	217.3	216.5	216.2	216.5	216.2
12	216.2	215.5	216.3	216.1	216.2	216.0	218.1	217.2	216.9	216.4	216.5	216.2
13	216.2	215.5	216.4	216.1	222.2	---	218.1	217.6	216.8	216.5	216.5	216.2
14	216.1	215.5	216.2	215.7	221.8	219.9	217.7	217.3	216.7	216.4	217.2	216.6
15	215.9	215.6	216.2	215.8	---	---	217.5	217.1	216.7	216.5	218.8	---
16	216.0	215.7	216.1	215.8	---	219.7	217.3	217.0	217.5	---	217.3	217.0
17	215.9	215.7	216.2	215.7	218.4	---	217.3	217.0	216.9	216.8	217.1	216.8
18	216.0	215.6	216.0	215.7	217.3	217.1	217.2	217.1	217.0	216.6	217.0	216.5
19	216.1	215.7	216.3	215.9	---	---	---	---	216.8	216.7	217.0	216.5
20	216.2	215.7	216.5	215.9	---	---	---	---	216.9	216.6	216.9	216.5
21	216.2	215.6	216.5	216.0	218.5	---	---	---	216.8	216.5	216.8	216.4
22	216.1	215.7	216.2	216.0	217.8	217.4	217.8	216.8	216.8	216.4	216.6	216.4
23	216.1	216.0	216.0	215.7	---	---	217.8	217.0	216.9	216.5	216.7	216.4
24	216.2	216.0	216.0	215.7	---	---	217.2	217.0	216.8	216.7	216.7	216.4
25	216.2	215.7	216.0	215.6	---	---	217.1	216.8	216.8	216.4	216.7	216.2
26	216.2	215.7	216.2	215.6	---	---	217.0	216.9	---	---	216.6	216.2
27	216.2	215.7	216.0	215.6	---	217.4	216.9	216.7	216.6	216.4	216.6	216.2
28	216.1	215.7	216.0	215.6	---	217.4	217.0	216.6	216.6	216.4	216.6	216.0
29	216.3	215.8	215.9	215.6	218.1	---	216.9	216.7	---	---	216.5	216.1
30	216.3	215.8	215.9	215.6	---	---	217.0	216.6	---	---	216.5	216.1
31	216.3	215.6	---	---	218.3	---	216.9	216.6	---	---	216.4	216.1
MONTH	216.4	215.4	217.6	215.6	---	---	---	---	---	---	218.8	---

11466080 SANTA ROSA CREEK AT ALDERBROOK DRIVE, AT SANTA ROSA, CA

LOCATION.—Lat 38° 26' 58", long 122° 41' 50", [Sonoma County](#), Hydrologic Unit 18010110, on upstream side of bridge on Alderbrook Drive, in Santa Rosa.

DRAINAGE AREA.—46 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

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 ABOVE NGVD 1929, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	169.9	169.6	---	---	---	---	---	---	170.5	170.3	170.3	170.2
2	169.8	169.6	---	---	---	---	---	---	170.5	170.2	---	---
3	169.9	169.6	---	---	---	---	---	---	170.5	170.2	---	---
4	169.8	169.6	---	---	---	---	---	---	170.4	170.3	---	---
5	169.9	169.6	---	---	---	---	---	---	170.4	170.2	170.2	170.0
6	169.9	169.6	---	---	---	---	---	---	170.4	170.2	170.2	170.0
7	169.8	169.6	---	---	---	---	---	---	170.3	170.1	170.2	170.0
8	169.8	169.6	---	---	---	---	---	---	170.4	170.1	170.2	170.0
9	169.8	169.7	---	---	---	---	---	---	170.3	170.1	170.2	169.7
10	169.8	169.7	---	---	---	---	---	---	170.4	170.2	170.1	170.0
11	169.8	169.6	---	---	---	---	---	---	170.3	170.2	170.1	170.0
12	169.9	169.6	---	---	---	---	---	---	171.0	170.2	170.1	170.0
13	---	---	---	---	---	---	---	---	170.7	170.4	170.4	170.0
14	---	---	---	---	---	---	---	---	170.4	170.3	172.1	170.3
15	---	---	---	---	---	---	---	---	173.7	170.2	175.8	171.1
16	---	---	---	---	---	---	---	---	174.4	171.0	171.6	170.8
17	169.9	169.8	---	---	---	---	---	---	171.0	170.7	170.8	170.5
18	169.9	169.7	---	---	---	---	---	---	170.7	170.5	170.6	170.3
19	169.9	169.7	---	---	---	---	---	---	170.7	170.5	---	---
20	169.9	169.6	---	---	---	---	---	---	170.6	170.4	---	---
21	169.9	169.7	---	---	---	---	---	---	170.5	170.3	---	---
22	169.9	169.8	---	---	---	---	172.6	170.7	170.5	170.3	---	---
23	169.8	169.8	---	---	---	---	172.4	171.2	170.5	170.3	---	---
24	169.9	169.8	---	---	---	---	171.2	170.9	170.4	170.3	---	---
25	169.9	169.8	---	---	---	---	170.9	170.8	170.4	170.2	---	---
26	---	---	---	---	---	---	170.8	170.7	170.3	170.3	---	---
27	---	---	---	---	---	---	170.7	170.6	170.4	170.2	---	---
28	---	---	---	---	---	---	170.7	170.5	170.3	170.2	170.3	169.9
29	---	---	---	---	---	---	170.6	170.5	---	---	170.2	170.0
30	---	---	---	---	---	---	170.6	170.4	---	---	170.2	170.0
31	---	---	---	---	---	---	170.5	170.4	---	---	170.3	170.0
MONTH	---	---	---	---	---	---	---	---	174.4	170.1	---	---

11466170 MATANZAS CREEK AT SANTA ROSA, CA

LOCATION.—Lat 38° 26' 20", long 122° 42' 05", in Cabeza de Santa Rosa Grant, [Sonoma County](#), Hydrologic Unit 18010110, on downstream side of bridge, on right bank, on Brookwood Avenue, at Santa Rosa.

DRAINAGE AREA.—21.0 mi².

PERIOD OF RECORD.—Nov. 6, 2002, to May 31, 2003.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

REMARKS.—Gage is for local flood warning and is normally operated seasonally from Oct. 1 to Apr. 30. See schematic diagram of [Russian River Basin](#).

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	155.37	155.35	156.42	156.07	155.58	155.55	155.47	155.41
2	---	---	---	---	155.37	155.34	156.07	155.91	155.57	155.50	155.47	155.43
3	---	---	---	---	155.36	155.34	155.91	155.81	155.54	155.50	155.62	155.43
4	---	---	---	---	155.36	155.32	155.82	155.73	155.53	155.49	155.52	155.43
5	---	---	---	---	155.37	155.31	155.76	155.68	155.51	155.44	155.45	155.42
6	---	---	155.30	155.27	155.32	155.30	155.70	155.61	155.52	155.47	155.43	155.41
7	---	---	156.80	155.29	155.32	155.30	155.65	155.59	155.53	155.43	155.43	155.41
8	---	---	156.14	155.49	155.32	155.31	155.61	155.57	155.48	155.44	155.43	155.39
9	---	---	155.65	155.35	155.99	155.31	156.19	155.56	155.47	155.45	155.44	155.41
10	---	---	155.67	155.32	155.68	155.27	156.70	156.08	155.47	155.41	155.43	155.41
11	---	---	155.33	155.28	155.30	155.25	156.30	155.90	155.54	155.38	155.49	155.39
12	---	---	155.57	155.23	155.43	155.24	156.78	155.82	155.85	155.37	155.56	155.40
13	---	---	155.44	155.28	159.19	155.43	156.84	156.10	155.83	155.52	155.81	155.41
14	---	---	155.32	155.26	159.04	157.25	156.31	156.01	155.52	155.45	156.41	155.52
15	---	---	155.35	155.26	158.57	156.28	156.01	155.86	156.52	155.43	157.08	155.89
16	---	---	155.34	155.27	159.98	156.72	155.86	155.77	156.95	155.95	155.91	155.72
17	---	---	155.32	155.25	157.21	156.18	155.79	155.72	155.96	155.74	155.75	155.65
18	---	---	155.37	155.12	156.18	155.88	155.73	155.67	155.75	155.63	155.73	155.53
19	---	---	155.33	155.09	157.68	155.81	155.69	155.64	155.74	155.62	155.89	155.49
20	---	---	155.36	155.11	157.77	156.92	155.66	155.61	155.66	155.55	155.62	155.54
21	---	---	155.34	155.14	157.69	156.27	156.25	155.65	155.58	155.51	155.55	155.49
22	---	---	155.33	155.31	156.27	155.98	156.82	155.86	155.54	155.50	155.56	155.48
23	---	---	155.33	155.31	155.98	155.82	156.93	156.05	155.51	155.48	155.56	155.50
24	---	---	155.33	155.32	155.83	155.72	156.07	155.86	155.50	155.47	155.51	155.43
25	---	---	155.34	155.26	155.77	155.68	155.88	155.78	155.48	155.42	155.46	155.42
26	---	---	155.35	155.27	155.95	155.67	155.80	155.73	155.48	155.43	155.43	155.40
27	---	---	155.36	155.33	156.22	155.84	155.75	155.69	155.47	155.43	155.42	155.39
28	---	---	155.36	155.34	157.25	155.90	155.71	155.64	155.48	155.41	155.41	155.29
29	---	---	155.37	155.34	157.33	156.16	155.66	155.51	---	---	155.39	155.35
30	---	---	155.37	155.35	156.72	156.03	155.69	155.58	---	---	155.37	155.34
31	---	---	---	---	157.71	156.41	155.60	155.55	---	---	155.38	155.31
MONTH	---	---	---	---	159.98	155.24	156.93	155.51	156.95	155.37	157.08	155.29

11466200 SANTA ROSA CREEK AT SANTA ROSA, CA

LOCATION.—Lat 38° 26' 12", long 122° 43' 25", in Cabeza de Santa Rosa Grant, [Sonoma County](#), Hydrologic Unit 18010110, on left bank downstream side of Pierson Street Bridge in Santa Rosa.

DRAINAGE AREA.—53 mi².

PERIOD OF RECORD.—December 1939 to September 1941 and Oct. 1, 2001, to current year (seasonal).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft above NGVD of 1929.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Water is diverted from Santa Rosa Creek into Spring Lake, 5.9 mi upstream, during flood events beginning in 1965. Diversions upstream from station for irrigation of about 5,000 acres. See schematic diagram of [Russian River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,080 ft³/s, Feb. 27, 1940, gage height, 19.2 ft from floodmarks, from rating curve extended above 5,000 ft³/s, site and datum then in use; minimum daily, no flow Dec. 1–7, 1939.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0300	4,280	34.68	Dec. 31	0300	2,340	30.38
Dec. 19	1445	2,510	30.78				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	e2.3	8.9	346	48	e23	20	159	---	---	---	---
2	2.1	e2.3	8.2	221	45	e29	22	181	---	---	---	---
3	2.1	2.2	8.2	157	41	e25	24	604	---	---	---	---
4	2.0	2.7	8.2	114	39	e29	81	237	---	---	---	---
5	2.3	3.5	8.2	85	38	24	e38	152	---	---	---	---
6	2.2	7.8	8.3	64	36	22	e32	100	---	---	---	---
7	2.4	305	8.1	50	37	22	30	80	---	---	---	---
8	2.3	145	7.9	42	38	21	24	66	---	---	---	---
9	2.1	9.8	61	100	41	21	26	58	---	---	---	---
10	2.2	7.8	32	348	47	21	24	44	---	---	---	---
11	2.5	6.7	15	224	31	21	17	41	---	---	---	---
12	2.4	e8.0	13	256	53	22	200	36	---	---	---	---
13	2.4	e25	1500	382	94	23	242	35	---	---	---	---
14	2.4	e8.8	1850	306	43	122	136	31	---	---	---	---
15	3.2	8.3	940	181	103	620	62	32	---	---	---	---
16	2.5	8.2	1890	124	570	e177	47	28	---	---	---	---
17	2.5	8.1	669	e102	223	98	46	22	---	---	---	---
18	2.7	8.3	261	e85	209	64	38	21	---	---	---	---
19	2.7	8.5	835	e71	254	64	31	20	---	---	---	---
20	2.8	8.9	950	e63	135	62	25	20	---	---	---	---
21	2.7	8.7	820	123	143	46	30	19	---	---	---	---
22	2.8	8.7	360	253	131	42	29	17	---	---	---	---
23	e2.8	8.9	232	312	94	46	26	17	---	---	---	---
24	e2.8	9.2	166	153	53	38	249	15	---	---	---	---
25	e2.9	9.1	119	113	58	32	217	15	---	---	---	---
26	e2.8	9.0	122	91	37	29	127	16	---	---	---	---
27	e2.7	9.6	317	82	e30	26	87	16	---	---	---	---
28	e2.6	9.8	728	71	e23	24	397	15	---	---	---	---
29	e2.4	10	601	61	---	21	437	13	---	---	---	---
30	e2.4	11	312	56	---	e20	240	12	---	---	---	---
31	e2.3	---	1000	50	---	e21	---	12	---	---	---	---
TOTAL	77.2	681.2	13859.0	4686	2694	1855	3004	2134	---	---	---	---
MEAN	2.49	22.7	447	151	96.2	59.8	100	68.8	---	---	---	---
MAX	3.2	305	1890	382	570	620	437	604	---	---	---	---
MIN	2.0	2.2	7.9	42	23	20	17	12	---	---	---	---
AC-FT	153	1350	27490	9290	5340	3680	5960	4230	---	---	---	---

e Estimated.

11466320 SANTA ROSA CREEK AT WILLOWSIDE ROAD, NEAR SANTA ROSA, CA

LOCATION.—Lat 38° 26' 43", long 122° 48' 22", in NW 1/4 sec.13, T.7 N., R.9 W., [Sonoma County](#), Hydrologic Unit 18010110, on right bank, upstream side of Willowside Road bridge, 1.6 mi upstream of the confluence of Laguna de Santa Rosa, and 5.4 mi west of Santa Rosa.

DRAINAGE AREA.—77.6 mi².

PERIOD OF RECORD.—December 1998 to current year.

REVISED RECORDS.—WRD CA-01-2: 1999–2000 (P).

GAGE.—Water-stage and recorder. Datum of gage is NGVD of 1929.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Backwater conditions from Laguna de Santa Rosa can occur during periods of heavy rainfall. Diversions upstream from station for irrigation of about 5,000 acres. See schematic diagram of [Russian River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,090 ft³/s, Dec. 16, 2002, gage height, 71.15 ft; minimum daily, 2.2 ft³/s, Sep. 23, 2003.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	6,090	71.15	Mar. 15	0600	3,020	66.19
Dec. 19	1530	4,750	69.49	May 3	0815	2,520	65.99
Dec. 31	0300	4,300	68.98				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	e3.1	8.3	535	120	39	30	129	21	10	6.4	4.7
2	3.3	e3.1	8.4	265	114	37	34	174	20	9.5	6.6	4.4
3	3.2	e3.1	8.3	184	105	36	31	971	21	9.1	7.1	6.5
4	3.3	e3.1	8.3	140	101	44	94	223	21	9.4	7.0	7.9
5	3.2	e3.1	8.1	114	93	35	41	131	20	9.4	6.6	5.4
6	3.3	3.2	7.9	98	65	33	37	102	19	10	6.6	4.8
7	3.3	635	7.9	84	40	32	33	88	19	9.7	6.1	4.9
8	3.1	359	7.9	78	37	32	31	76	18	9.3	5.4	4.6
9	3.1	77	139	161	35	31	29	72	18	9.1	5.2	4.3
10	3.1	42	59	726	33	31	29	60	18	8.6	6.1	4.7
11	3.2	21	17	313	35	31	28	54	18	7.0	4.5	4.1
12	3.3	18	13	445	65	32	292	50	17	8.1	4.0	3.6
13	3.3	29	2630	741	102	33	236	50	16	8.0	3.9	3.5
14	3.4	14	3660	451	53	180	123	45	15	8.0	3.8	3.2
15	3.2	12	2190	253	107	1040	70	46	15	7.3	3.7	3.3
16	3.6	11	3680	201	892	179	58	42	14	6.3	3.7	e4.2
17	3.2	10	1700	175	144	108	55	37	14	6.1	3.9	e4.0
18	3.3	9.9	469	163	90	81	47	35	14	5.9	3.7	e3.0
19	3.5	9.5	1650	153	82	86	43	33	13	5.7	4.9	e2.3
20	3.3	9.9	1840	150	65	76	39	32	13	5.4	4.3	e2.3
21	3.4	9.7	1640	269	56	58	41	30	13	5.1	4.2	e2.3
22	3.2	9.7	497	630	53	53	42	29	13	4.8	3.9	e2.3
23	3.1	9.5	231	643	50	62	37	28	12	4.7	3.9	e2.2
24	3.1	9.3	154	296	48	50	308	28	11	5.7	4.1	e2.2
25	3.1	9.0	119	230	44	45	299	28	10	5.7	3.4	e2.4
26	3.1	8.1	137	205	42	43	122	28	9.3	6.1	3.7	e2.6
27	e3.1	8.3	561	185	46	40	87	26	8.4	6.0	4.1	e3.3
28	e3.1	8.5	1280	168	38	37	508	25	8.7	5.8	4.5	3.8
29	e3.1	8.3	1160	148	---	33	582	26	9.6	5.7	5.0	3.4
30	e3.1	8.4	420	132	---	31	221	23	9.9	6.1	5.2	e3.7
31	e3.1	---	1930	127	---	31	---	22	---	6.9	4.9	---
TOTAL	100.1	1364.8	26241.1	8463	2755	2679	3627	2743	448.9	224.5	150.4	113.9
MEAN	3.23	45.5	846	273	98.4	86.4	121	88.5	15.0	7.24	4.85	3.80
MAX	3.6	635	3680	741	892	1040	582	971	21	10	7.1	7.9
MIN	3.1	3.1	7.9	78	33	31	28	22	8.4	4.7	3.4	2.2
AC-FT	199	2710	52050	16790	5460	5310	7190	5440	890	445	298	226

e Estimated.

11466320 SANTA ROSA CREEK AT WILLOWSIDE ROAD, NEAR SANTA ROSA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.8	70.0	372	198	306	130	61.9	31.1	10.1	5.17	4.34	4.38
MAX	30.3	190	846	355	587	194	121	88.5	15.0	7.24	4.85	6.37
(WY)	2001	2002	2003	2002	1999	2000	2003	2003	2003	2003	2003	2000
MIN	3.23	15.8	13.3	102	70.2	86.4	17.1	8.72	6.63	3.73	4.03	3.56
(WY)	2003	2001	2000	2001	2002	2003	2002	2001	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	44924.7		48910.7			
ANNUAL MEAN	123		134		93.4	
HIGHEST ANNUAL MEAN					134 2003	
LOWEST ANNUAL MEAN					43.2 2001	
HIGHEST DAILY MEAN	3720	Jan 2	3680	Dec 16	3720	Jan 2 2002
LOWEST DAILY MEAN	2.3	Jun 20	2.2	Sep 23	2.2	Sep 23 2003
ANNUAL SEVEN-DAY MINIMUM	3.1	Oct 23	2.3	Sep 19	2.3	Sep 19 2003
MAXIMUM PEAK FLOW			6090	Dec 16	6090	Dec 16 2002
MAXIMUM PEAK STAGE			71.15	Dec 16	71.15	Dec 16 2002
ANNUAL RUNOFF (AC-FT)	89110		97010		67680	
10 PERCENT EXCEEDS	154		258		180	
50 PERCENT EXCEEDS	9.0		20		9.8	
90 PERCENT EXCEEDS	3.3		3.3		3.5	

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 NGVD of 1929 (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, 63.7 ft, Dec. 16.

ELEVATION ABOVE NGVD 1929, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	e57.5	---	---	---	---	---	---	---	---
2	---	---	---	e56.3	---	---	---	---	---	---	---	---
3	---	---	---	e55.6	---	---	---	55.9	---	---	---	---
4	---	---	---	e55.2	---	---	---	55.8	---	---	---	---
5	---	---	---	---	---	---	---	55.2	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	55.4	---	---	---	---	---	---	---	---	---	---
10	---	---	---	e56.4	---	---	---	---	---	---	---	---
11	---	---	---	e56.3	---	---	---	---	---	---	---	---
12	---	---	---	e56.3	---	---	---	---	---	---	---	---
13	---	---	---	e57.2	---	---	---	---	---	---	---	---
14	---	---	e62.3	e56.6	---	---	---	---	---	---	---	---
15	---	---	e61.0	e55.8	---	---	---	---	---	---	---	---
16	---	---	63.7	e55.3	56.0	55.4	---	---	---	---	---	---
17	---	---	e60.7	---	55.3	---	---	---	---	---	---	---
18	---	---	e58.0	---	---	---	---	---	---	---	---	---
19	---	---	e60.2	---	---	---	---	---	---	---	---	---
20	---	---	e59.4	---	---	---	---	---	---	---	---	---
21	---	---	e57.6	---	---	---	---	---	---	---	---	---
22	---	---	e56.3	56.0	---	---	---	---	---	---	---	---
23	---	---	e55.6	56.3	---	---	---	---	---	---	---	---
24	---	---	e55.1	55.6	---	---	---	---	---	---	---	---
25	---	---	---	55.1	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	e56.2	---	---	---	---	---	---	---	---	---
28	---	---	e60.9	---	---	---	55.3	---	---	---	---	---
29	---	---	e58.6	---	---	---	55.5	---	---	---	---	---
30	---	---	e57.2	---	---	---	55.2	---	---	---	---	---
31	---	---	e59.1	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

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 mi².

WATER-DISCHARGE RECORDS

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."

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 NGVD of 1929. 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. 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 ft³/s, Feb. 18, 1986, gage height, 48.56 ft, from rating curve extended above 57,000 ft³/s, maximum gage height, 49.7 ft, Dec. 23, 1955, site and datum then in use, from floodmarks; minimum daily discharge, 0.75 ft³/s, May 6, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	141	211	25000	2120	1410	1130	11100	670	270	234	208
2	161	151	210	14000	1920	1340	1060	8950	635	278	207	202
3	145	154	208	10500	1770	1290	1020	8970	629	268	211	202
4	139	155	205	8130	1650	1260	1120	7850	590	265	230	190
5	145	156	201	6900	1540	1140	1350	6360	570	260	209	190
6	139	160	200	6140	1450	1030	1160	4990	535	264	217	186
7	151	269	200	5100	1350	961	1070	3960	513	266	211	187
8	150	685	201	3670	1280	917	994	3390	498	262	232	233
9	141	609	233	3290	1220	885	934	2900	488	269	227	205
10	137	518	297	5520	1160	862	884	2590	477	260	227	191
11	170	521	382	6790	1100	846	855	2370	471	251	209	191
12	181	469	301	6350	1080	829	1310	2200	474	248	212	181
13	183	417	2590	17800	1370	821	5240	1970	467	248	210	172
14	183	377	25200	16900	1450	2250	6220	1790	457	248	202	168
15	180	340	33100	12500	1360	13900	5470	1670	448	243	217	173
16	193	314	43700	9530	5570	11100	5150	1540	352	238	203	180
17	189	298	38500	7790	4920	5690	3420	1450	462	236	199	181
18	184	282	13100	6570	3230	4960	2880	1360	422	234	207	183
19	179	271	9290	4760	3280	4280	2480	1280	406	227	209	172
20	161	255	18200	3820	3160	3970	2250	1160	402	224	200	174
21	155	248	27000	3420	2950	3080	2100	1050	397	226	200	172
22	160	247	17100	4560	3020	2290	2020	929	397	225	201	171
23	165	248	8800	9110	2600	2070	1890	852	388	237	205	174
24	159	243	6300	6360	2080	1970	3570	833	360	226	203	172
25	149	236	5240	4820	1840	1780	5830	808	350	222	202	151
26	141	229	5130	4010	1700	1640	7160	793	285	220	197	158
27	142	226	9470	3570	1580	1620	6320	713	287	215	187	181
28	148	222	17600	4220	1490	1520	7720	764	283	216	184	185
29	144	221	26200	4600	---	1410	13100	719	274	207	191	189
30	137	214	17600	3480	---	1300	15600	682	277	209	210	191
31	133	---	25600	2370	---	1220	---	669	---	207	204	---
TOTAL	4908	8876	352569	231580	59240	79641	111307	86662	13264	7469	6457	5513
MEAN	158	296	11370	7470	2116	2569	3710	2796	442	241	208	184
MAX	193	685	43700	25000	5570	13900	15600	11100	670	278	234	233
MIN	133	141	200	2370	1080	821	855	669	274	207	184	151
AC-FT	9740	17610	699300	459300	117500	158000	220800	171900	26310	14810	12810	10940

RUSSIAN RIVER BASIN

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	302	1152	4095	6882	6842	4533	2255	756	309	180	169	183
MAX	2515	9425	17410	25220	26940	23290	11700	2798	1418	350	308	344
(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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	748410		967486			
ANNUAL MEAN	2050		2651		2285	
HIGHEST ANNUAL MEAN					5898	
LOWEST ANNUAL MEAN					88.7	
HIGHEST DAILY MEAN	43700	Dec 16	43700	Dec 16	97700	Feb 18 1986
LOWEST DAILY MEAN	118	Aug 10	133	Oct 31	0.75	May 6 1977
ANNUAL SEVEN-DAY MINIMUM	129	Aug 5	141	Oct 26	5.9	Jul 29 1977
MAXIMUM PEAK FLOW			57600		102000	
MAXIMUM PEAK STAGE			36.48		49.70	
ANNUAL RUNOFF (AC-FT)	1484000		1919000		1656000	
10 PERCENT EXCEEDS	3520		6830		5540	
50 PERCENT EXCEEDS	297		488		360	
90 PERCENT EXCEEDS	141		172		140	

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1951 to September 1995, January 2002 to current year.

CHEMICAL DATA: Water years 1951–95. Published as "at Guerneville" in 1961–65.

BIOLOGICAL DATA: Water years 1975–81.

DISSOLVED OXYGEN: Water years 2002 to current year.

pH: January 2002 to September 2002.

SPECIFIC CONDUCTANCE: Water years 1973–81, 2002 to current year.

WATER TEMPERATURE: Water years 1964–81, 2002 to current year.

TURBIDITY: Water years 1967–95, 2002 to current year.

SEDIMENT DATA: Water years 1966–95.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: January 2002 to current year.

pH: January 2002 to current year.

SPECIFIC CONDUCTANCE: October 1973 to September 1981, January 2002 to current year.

WATER TEMPERATURE: January 1964 to September 1981, January 2002 to current year.

TURBIDITY: January 2002 to current year.

SEDIMENT DATA: April 1967 to September 1967, October 1969 to current year.

INSTRUMENTATION.—Water-quality monitor since January 2002. Specific conductance recorder from October 1973 to September 1981, at site 0.7 mi downstream. Temperature recorder from January 1964 to September 1981. Electronic datalogger with 15 minute interval.

REMARKS.—Dissolved oxygen records are rated fair except for Oct. 4–15, Nov. 6–13, 20–25, Dec. 4–10, Feb. 12–19, Mar. 11–21, Sept. 13–23, which are rated poor. pH records are rated excellent except for Feb. 5–19, Mar. 22 to Apr. 9, Apr. 17 to May 8, which are rated good. Specific conductance records are rated excellent except for Feb. 4–19, Mar. 8–21, Apr. 17 to May 8, which are rated fair; and Apr. 16, which is rated poor. Temperature records are rated excellent. Turbidity records are rated good. Interruption in record is due to malfunction of recording and (or) sensing equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 15.1 mg/L, Oct. 5, 2002; minimum recorded, 6.0 mg/L, Sept. 25, 2003.

pH: Maximum recorded, 8.8 standard units, Aug. 28, 2002; minimum recorded, 7.2 standard units, Feb. 22, Dec. 15, 17–19, 2002.

SPECIFIC CONDUCTANCE: Maximum recorded, 605 microsiemens, Feb. 19, 20, 1977; minimum recorded, 57 microsiemens, Nov. 4, 1973.

WATER TEMPERATURES: Maximum recorded, 29.5°C, June 26, 1973; minimum recorded, 4.5°C, Dec. 15, 1967, Jan. 12, 1968.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during 2003 water year; minimum recorded, 0.8 NTU, Oct. 16, 18, Dec. 5, 2002.

SEDIMENT CONCENTRATIONS (water years 1970–82): Maximum daily mean, 2,350 mg/L, Jan. 16, 1974; minimum daily mean, 2 mg/L, Dec. 12, 27, 1978, Nov. 15, 16, 25, 26, 1980.

SEDIMENT DISCHARGE (water years 1970–81): Maximum daily, 316,000 tons, Jan. 16, 1974; minimum daily, 0.03 ton, May 6, 1977.

EXTREMES FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 15.1 mg/L, Oct. 4; minimum recorded, 6.0 mg/L, Sept. 25.

pH: Maximum recorded, 8.7 standard units, several days in July and August; minimum recorded, 7.2 standard units, Dec. 15, 17–19.

SPECIFIC CONDUCTANCE: Maximum recorded, 317 microsiemens, Dec. 10; Minimum recorded, 101 microsiemens, Dec. 16.

WATER TEMPERATURES: Maximum recorded, 26.0°C, July 18; minimum recorded, 8.8°C, Dec. 20.

TURBIDITY: Maximum recorded, >1,000 NTU, several days during water year; minimum recorded, 0.8 NTU, Oct. 16, 18, Dec. 5.

> Actual value is known to be greater than value shown.

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.4	9.7	12.1	10.0	12.5	10.5	10.9	10.3	9.9	9.7	10.8	10.3
2	14.5	9.9	12.4	10.3	12.5	10.6	10.4	10.3	10.4	9.9	10.8	10.2
3	14.6	10.1	12.7	10.4	12.8	10.5	10.4	10.2	10.7	10.3	10.6	10.1
4	15.1	10.6	12.8	10.6	13.1	10.6	10.3	10.2	10.8	10.1	10.7	10.1
5	14.6	9.9	12.7	10.4	13.1	10.7	10.3	10.2	10.4	10.1	10.8	10.1
6	14.2	10.3	12.8	10.6	13.0	10.7	10.4	10.2	10.7	10.2	10.9	10.1
7	15.0	9.9	11.5	9.8	13.2	10.8	10.6	10.2	10.9	10.5	11.0	10.0
8	14.2	8.8	9.8	8.4	13.7	11.0	10.4	10.1	11.1	10.6	11.3	10.2
9	14.7	9.0	10.0	9.0	12.5	11.0	---	---	11.3	10.9	11.7	10.3
10	12.2	8.3	10.2	9.7	11.4	10.0	---	---	11.3	10.9	11.7	10.5
11	13.2	8.9	10.4	9.6	11.2	10.0	---	---	11.1	10.8	11.8	10.4
12	14.6	8.9	10.4	9.8	10.8	10.1	---	---	11.0	10.8	11.9	10.4
13	14.5	8.9	10.2	9.8	10.8	9.5	---	---	10.8	10.4	11.5	10.4
14	13.7	8.9	10.5	10.0	9.8	9.6	10.7	10.3	10.6	10.3	---	---
15	12.5	8.4	10.6	10.2	9.9	9.5	10.6	10.3	10.5	10.2	---	---
16	11.3	9.6	10.4	10.2	10.0	9.7	10.8	10.5	10.8	10.4	---	---
17	11.2	9.7	10.8	10.1	9.8	8.8	10.9	10.6	10.8	10.5	---	---
18	11.9	9.8	10.8	10.1	8.8	8.6	10.9	10.4	10.6	9.9	---	---
19	11.6	9.9	10.9	10.2	10.6	8.7	10.5	10.4	10.7	10.2	---	---
20	11.4	9.5	10.8	10.0	11.4	10.6	10.5	10.3	10.6	10.2	---	---
21	11.3	9.4	10.8	9.9	11.1	10.3	10.4	10.4	10.6	10.2	---	---
22	11.2	9.3	10.5	9.6	10.3	9.7	10.4	10.3	10.5	10.2	10.0	9.8
23	11.2	9.4	10.6	9.7	9.8	9.6	10.4	10.0	10.4	10.0	9.9	9.7
24	11.4	9.6	10.6	9.6	9.8	9.6	10.0	9.6	10.0	9.9	10.0	9.7
25	11.6	9.7	10.8	9.5	10.0	9.8	9.7	9.6	10.1	9.9	10.1	9.7
26	11.2	9.4	10.9	9.5	10.2	10.0	9.7	9.6	10.4	9.9	9.8	9.5
27	11.5	9.5	11.0	9.7	10.4	10.2	10.0	9.6	10.6	10.3	10.1	9.5
28	11.8	9.7	11.4	9.9	10.5	10.3	10.5	10.0	10.8	10.2	10.0	9.6
29	12.3	9.6	11.7	10.1	10.8	10.5	10.9	10.5	---	---	10.0	9.5
30	11.6	9.5	12.2	10.3	10.5	10.2	10.7	10.0	---	---	9.9	9.3
31	11.6	9.8	---	---	11.0	10.3	10.0	9.7	---	---	9.7	9.1
MONTH	15.1	8.3	12.8	8.4	13.7	8.6	---	---	11.3	9.7	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.6	9.0	10.6	10.2	9.8	8.2	---	---	10.0	8.8	9.9	8.7
2	9.9	9.3	10.4	10.2	---	---	---	---	10.0	8.6	10.4	8.7
3	10.3	9.5	10.3	9.8	---	---	---	---	9.8	8.6	10.0	8.4
4	10.2	9.6	10.0	9.7	9.4	8.1	---	---	10.0	8.5	10.0	8.3
5	10.4	9.8	9.9	9.6	9.6	8.3	---	---	9.9	8.7	10.5	8.2
6	10.3	9.6	9.8	9.5	9.6	8.4	---	---	10.2	8.8	10.3	8.5
7	10.3	9.6	9.9	9.5	9.8	8.5	---	---	10.2	9.0	10.9	8.8
8	---	---	---	---	9.7	8.3	---	---	10.5	9.1	10.1	8.9
9	---	---	---	---	9.6	8.1	---	---	10.3	9.0	9.8	8.7
10	9.9	8.8	---	---	9.8	8.6	---	---	10.4	9.2	10.6	8.9
11	9.8	8.7	---	---	10.0	8.8	---	---	10.3	9.1	10.6	9.1
12	9.6	8.9	---	---	9.8	8.7	---	---	10.5	9.1	10.6	8.8
13	---	---	---	---	9.6	8.0	---	---	10.6	9.2	10.3	8.5
14	---	---	---	---	9.7	8.3	---	---	10.3	8.9	10.3	8.5
15	---	---	---	---	9.6	8.2	9.2	7.9	9.8	8.5	10.2	8.3
16	---	---	---	---	9.3	8.0	9.2	8.0	9.7	8.5	10.6	8.3
17	10.6	10.0	---	---	9.1	8.2	9.2	7.9	9.7	8.5	10.8	8.4
18	10.4	9.9	---	---	9.0	7.8	9.4	8.1	9.5	8.4	11.0	8.5
19	10.3	9.8	---	---	9.2	7.9	9.6	8.2	9.5	8.3	11.5	8.5
20	10.2	9.8	9.9	8.9	9.3	8.0	9.7	8.2	9.7	8.4	11.1	8.2
21	10.2	9.8	10.0	8.8	9.3	8.0	10.2	8.1	9.6	8.4	11.0	7.9
22	10.5	10.0	9.9	8.6	9.4	8.1	10.6	8.2	9.6	8.6	10.9	7.6
23	10.6	9.9	9.9	8.8	9.4	7.9	10.5	8.3	9.8	8.6	10.6	7.5
24	10.7	10.4	10.2	8.9	9.5	8.0	10.5	8.6	9.7	8.8	10.7	7.7
25	10.8	10.5	10.4	9.0	9.5	8.1	10.3	8.7	9.5	7.7	10.8	6.0
26	11.0	10.6	10.6	9.1	9.5	7.8	10.8	8.8	9.5	8.4	10.9	7.6
27	10.9	10.5	10.2	9.0	9.3	7.5	10.5	9.2	9.2	8.3	11.2	8.0
28	10.9	10.6	9.9	8.8	9.4	7.5	10.4	9.1	10.0	8.0	11.2	8.4
29	10.9	10.8	9.7	8.3	9.5	7.3	10.3	8.9	10.3	8.2	11.7	8.4
30	11.0	10.5	9.9	8.6	---	---	10.0	8.7	9.8	8.6	11.8	8.8
31	---	---	9.9	8.4	---	---	10.1	8.4	10.0	8.6	---	---
MONTH	---	---	---	---	---	---	---	---	10.6	7.7	11.8	6.0

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
 (National Stream-Quality Accounting Network Station)

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

RUSSIAN RIVER BASIN

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	218	216	238	236	260	258	159	113	271	269	265	262
2	226	218	237	229	260	258	175	159	273	271	266	264
3	223	222	229	226	261	258	188	175	275	273	270	263
4	224	219	227	225	264	260	197	188	278	275	267	264
5	222	219	227	226	263	260	200	197	279	277	273	264
6	224	220	231	226	262	258	203	199	279	277	281	271
7	223	218	294	220	269	259	224	203	279	277	280	272
8	221	217	263	186	262	258	241	224	278	276	277	274
9	226	220	273	215	292	257	243	241	277	275	277	275
10	225	220	273	261	317	245	242	194	276	274	277	275
11	224	220	263	255	249	244	213	188	276	273	277	275
12	224	222	269	259	254	249	223	172	274	270	277	275
13	224	222	272	266	253	130	172	125	275	252	276	269
14	223	220	274	272	130	102	153	127	258	252	269	191
15	224	220	279	273	136	103	169	153	269	257	200	142
16	229	223	280	279	136	101	181	169	257	175	186	146
17	228	224	280	277	165	109	190	181	210	170	215	186
18	228	224	277	276	195	165	207	190	223	210	211	208
19	228	225	276	273	207	161	224	207	215	205	211	209
20	231	228	277	272	164	133	233	224	216	205	213	207
21	238	231	272	271	133	123	239	233	219	205	237	213
22	240	237	271	269	175	127	234	195	211	206	253	237
23	239	236	269	266	207	175	197	177	233	211	259	253
24	236	232	267	265	226	207	234	194	248	232	258	257
25	237	233	266	262	224	219	238	234	257	248	263	257
26	245	237	262	260	227	220	242	238	257	254	267	263
27	247	244	264	261	223	150	247	232	262	256	267	261
28	245	240	261	260	150	127	232	218	264	261	263	256
29	243	234	261	259	132	113	218	211	---	---	264	259
30	240	234	260	259	167	132	245	212	---	---	270	264
31	240	236	---	---	166	113	269	245	---	---	273	270
MONTH	247	216	294	186	317	101	269	113	279	170	281	142
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	279	272	189	169	284	279	277	273	248	241	235	232
2	279	277	196	189	281	275	277	270	248	243	236	232
3	279	276	199	194	278	275	271	269	249	242	235	232
4	281	267	208	195	280	277	269	265	247	239	241	234
5	267	249	220	208	285	279	265	262	247	242	237	235
6	262	249	230	218	288	282	262	260	248	243	236	235
7	270	262	234	230	294	285	260	256	247	240	239	235
8	---	---	240	233	297	291	258	255	244	236	244	232
9	269	273	245	240	295	292	260	255	242	238	247	234
10	274	271	249	245	295	294	255	251	242	236	251	244
11	276	274	252	249	295	292	252	247	244	235	244	240
12	277	216	255	252	295	292	249	246	241	237	241	238
13	230	187	263	255	295	289	248	245	244	238	240	238
14	---	---	267	263	292	285	247	242	243	239	240	237
15	186	201	269	266	289	285	244	241	241	234	239	237
16	205	200	270	268	312	284	248	236	241	236	237	235
17	217	204	270	268	291	278	246	235	241	238	244	235
18	226	217	270	269	286	283	246	244	240	235	237	234
19	232	225	270	265	289	283	247	242	241	238	236	232
20	237	232	274	268	285	280	245	241	248	240	235	231
21	238	236	280	274	282	277	245	242	242	238	235	232
22	241	237	285	280	279	275	245	239	241	238	236	232
23	241	239	287	282	281	273	248	239	240	235	235	231
24	239	200	284	283	283	274	243	237	238	235	242	235
25	200	184	284	282	283	273	243	237	239	234	236	233
26	194	184	285	282	288	273	247	242	241	236	250	236
27	199	187	292	282	289	270	246	241	246	237	250	236
28	202	185	287	280	278	274	247	242	237	234	237	234
29	185	165	288	280	279	275	247	243	237	235	236	234
30	169	159	286	283	279	273	249	245	238	234	237	234
31	---	---	285	283	---	---	246	243	236	234	---	---
MONTH	---	---	292	169	312	270	277	235	249	234	251	231

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.3	15.8	13.4	12.1	11.4	10.4	10.6	10.1	14.2	13.4	12.7	11.4
2	18.0	15.4	12.8	11.4	11.9	10.7	10.8	10.4	13.4	12.0	13.0	11.8
3	17.5	15.0	12.8	11.3	11.8	10.6	11.2	10.5	12.2	11.3	13.2	12.2
4	17.8	15.2	12.8	11.2	11.9	10.7	11.8	11.0	11.8	11.1	13.3	12.0
5	18.4	15.8	13.2	11.9	12.1	11.0	12.3	11.7	11.4	10.6	13.2	11.8
6	19.1	16.5	13.5	12.2	11.8	10.9	12.1	11.4	11.1	10.3	13.7	12.3
7	19.5	17.0	13.5	12.8	11.6	10.8	11.8	10.9	11.1	10.2	13.8	12.1
8	19.6	17.0	14.6	13.5	11.6	10.6	11.3	10.9	10.7	9.6	13.9	12.3
9	19.0	16.9	14.6	14.1	11.3	10.7	11.2	11.1	10.8	9.5	14.0	12.5
10	18.5	17.2	14.5	14.1	11.9	10.8	11.5	10.9	11.1	9.8	14.9	13.1
11	18.3	16.4	14.6	14.1	12.4	11.7	11.9	11.4	11.2	10.4	15.8	14.2
12	18.2	15.7	14.5	14.0	11.9	11.6	12.2	11.9	11.3	10.6	15.7	14.7
13	17.9	15.2	14.8	14.0	13.0	11.8	12.4	12.1	12.3	11.3	15.6	14.4
14	17.6	15.0	14.5	13.5	13.4	13.0	12.8	12.4	12.9	11.9	14.4	13.4
15	17.1	15.3	14.0	13.1	13.1	12.4	12.7	12.0	12.8	12.4	13.8	13.0
16	16.8	15.4	13.4	12.8	12.8	12.5	12.2	11.3	12.4	11.2	13.7	12.5
17	16.1	15.0	13.4	12.4	12.5	12.0	11.6	10.7	11.2	10.4	13.6	12.2
18	16.0	14.5	13.4	12.2	12.0	11.3	11.6	11.0	11.6	10.3	13.1	11.7
19	16.8	14.8	13.0	11.9	11.3	9.2	11.6	11.2	11.6	11.0	12.8	11.8
20	17.2	15.5	13.0	11.6	9.4	8.8	11.5	11.4	11.6	10.2	13.6	12.1
21	17.2	15.3	13.4	12.0	10.6	9.4	11.9	11.4	11.9	10.7	14.4	12.6
22	16.6	15.5	13.2	12.5	10.6	10.0	12.2	11.9	12.2	10.9	14.3	14.0
23	16.0	15.0	13.4	12.7	10.3	9.5	12.8	12.2	12.2	11.1	15.4	13.9
24	15.1	14.4	13.8	13.0	10.5	9.8	12.9	12.5	12.2	12.0	15.1	13.8
25	15.9	14.4	13.4	12.5	10.7	10.3	13.5	12.8	13.1	11.8	15.0	13.8
26	16.1	14.7	13.1	12.0	11.0	10.6	13.9	13.5	12.7	11.4	16.2	14.6
27	15.7	14.2	13.0	11.6	11.9	11.0	14.3	13.5	12.1	10.8	15.5	13.9
28	15.1	13.4	12.4	11.2	12.0	11.2	13.5	12.4	12.1	11.1	15.5	13.7
29	14.9	13.4	11.8	10.7	11.2	10.3	12.5	11.6	---	---	16.2	14.3
30	14.8	13.4	11.3	10.1	10.8	10.5	12.8	11.6	---	---	16.7	14.8
31	14.0	12.7	---	---	10.8	10.3	13.9	12.8	---	---	16.9	15.4
MONTH	19.6	12.7	14.8	10.1	13.4	8.8	14.3	10.1	14.2	9.5	16.9	11.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.6	15.2	14.0	12.5	22.2	19.6	23.4	21.4	23.9	21.3	23.4	20.1
2	15.3	14.0	14.0	13.1	22.7	20.3	23.1	21.0	24.3	21.8	23.8	20.4
3	14.6	12.9	14.6	12.9	22.6	21.2	23.1	20.9	24.2	21.9	23.4	21.2
4	14.5	12.9	14.9	13.5	22.0	20.0	23.5	20.7	24.2	21.5	23.4	21.2
5	13.8	12.5	15.1	13.4	20.7	19.1	23.9	21.2	23.2	21.5	22.7	20.5
6	13.8	12.7	15.1	13.7	20.1	18.9	23.8	21.4	23.6	20.9	22.3	19.8
7	15.4	13.0	15.1	13.2	20.4	18.7	23.0	21.3	23.7	20.8	21.8	19.2
8	---	---	15.2	13.9	20.9	19.3	23.5	20.8	23.9	20.7	21.8	19.0
9	16.5	14.1	15.4	13.5	20.6	18.8	23.9	21.3	24.2	21.1	20.7	19.4
10	16.9	14.8	16.0	13.9	18.9	18.4	24.2	21.8	24.3	21.2	21.6	18.5
11	16.6	15.4	16.5	14.5	18.6	17.5	24.4	21.8	24.7	21.2	22.6	19.1
12	15.5	13.3	17.3	15.2	20.5	18.1	25.1	22.2	24.5	21.1	23.6	19.8
13	13.3	11.8	18.1	16.1	21.2	19.3	25.4	22.4	24.4	21.0	24.0	20.5
14	---	---	18.5	16.7	21.7	19.7	25.4	22.5	24.1	21.4	23.6	20.4
15	12.3	11.3	18.5	17.0	22.2	20.2	25.6	22.7	24.0	20.8	22.6	20.5
16	12.4	11.6	18.2	16.6	23.8	20.9	25.7	22.6	24.4	20.9	22.0	19.5
17	14.2	12.2	17.9	16.0	23.4	21.5	25.6	22.5	24.6	21.0	21.8	18.8
18	14.7	12.8	17.9	15.9	23.1	21.5	26.0	22.7	24.3	21.5	21.6	18.2
19	15.1	13.3	18.8	16.3	22.8	21.1	25.7	22.8	22.9	20.8	21.7	18.1
20	15.0	13.9	19.8	17.3	22.4	20.7	25.6	23.0	23.4	20.5	22.2	18.7
21	14.8	13.7	20.6	18.0	22.1	20.2	25.9	23.1	23.5	21.1	22.9	19.3
22	14.6	12.6	21.1	18.6	22.0	20.1	25.6	22.8	22.3	20.6	23.1	19.6
23	14.5	12.6	21.4	19.6	21.8	20.2	24.8	22.5	23.0	19.7	22.7	19.8
24	13.2	12.2	21.2	19.7	21.6	19.7	23.9	22.0	24.0	20.4	21.9	20.0
25	13.0	11.5	20.5	18.9	23.3	20.7	22.8	21.3	24.7	21.1	21.2	19.4
26	12.7	11.3	20.2	18.0	24.8	21.7	23.8	20.6	24.9	21.6	20.8	19.2
27	12.7	11.5	21.2	18.8	25.0	22.0	24.2	21.0	24.1	21.6	20.6	18.8
28	12.7	11.8	21.7	19.9	25.0	22.8	24.7	21.4	23.2	20.8	20.3	18.7
29	12.1	11.5	21.7	19.8	24.1	22.4	24.7	21.8	23.0	20.0	20.7	17.9
30	13.2	11.3	20.4	18.6	23.4	21.7	23.3	21.0	23.0	20.2	20.6	17.8
31	---	---	21.4	18.9	---	---	23.6	20.7	23.2	20.1	---	---
MONTH	---	---	21.7	12.5	25.0	17.5	26.0	20.6	24.9	19.7	24.0	17.8

RUSSIAN RIVER BASIN

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.0	1.0	3.6	1.1	4.8	0.9	>1000	210	47	24	25	16
2	6.9	1.3	4.3	1.0	5.6	1.0	340	130	45	23	26	15
3	9.5	1.4	6.7	1.1	8.5	1.0	250	120	32	19	22	15
4	8.3	1.5	3.8	1.2	6.6	0.9	250	92	26	17	24	14
5	9.8	1.9	3.1	1.1	4.4	0.8	170	78	28	18	19	12
6	9.8	1.7	5.8	1.2	3.6	0.9	150	81	24	16	18	10
7	9.9	1.6	56	1.8	3.4	0.9	140	84	24	14	16	10
8	9.0	1.5	230	40	2.9	0.9	100	54	36	12	14	9.0
9	6.6	1.3	43	22	4.3	1.1	74	46	17	12	12	8.0
10	7.3	1.7	27	9.4	15	3.0	160	69	26	11	12	6.9
11	8.6	1.5	14	7.0	15	4.2	180	64	14	8.1	12	6.7
12	9.9	1.5	12	5.5	15	4.2	230	50	29	7.1	10	7.1
13	8.5	1.5	14	3.5	610	5.5	730	190	20	8.9	20	7.1
14	9.3	1.7	11	2.4	>1000	560	450	150	24	12	720	14
15	6.6	1.0	8.6	1.8	>1000	420	210	110	36	7.9	>1000	200
16	4.1	0.8	8.4	2.1	>1000	390	150	100	560	34	900	180
17	4.5	1.0	9.0	1.8	>1000	290	120	85	310	61	230	98
18	3.5	0.8	6.9	1.5	400	160	110	69	86	32	150	68
19	3.7	1.0	6.0	1.4	590	160	97	59	90	36	92	54
20	3.6	1.1	4.4	1.3	890	350	72	47	72	44	75	46
21	3.9	1.1	6.5	1.4	>1000	390	66	42	93	42	74	34
22	4.5	1.0	5.6	1.3	820	190	220	47	100	54	45	26
23	3.0	1.0	8.9	1.6	370	140	540	130	71	41	39	22
24	3.6	1.0	8.8	2.0	210	97	210	66	46	28	33	20
25	3.2	1.0	7.8	1.4	240	130	96	46	47	24	26	17
26	4.4	1.0	5.2	1.3	210	95	67	38	37	22	22	15
27	4.6	1.0	6.0	1.1	780	97	100	36	30	19	21	16
28	9.6	1.0	3.4	1.1	940	330	98	60	41	16	24	16
29	6.1	1.1	8.2	1.0	>1000	370	110	70	---	---	19	12
30	4.6	1.1	5.7	1.1	700	140	110	45	---	---	36	10
31	3.0	1.1	---	---	>1000	200	64	30	---	---	23	9.2
MONTH	9.9	0.8	230	1.0	>1000	0.8	>1000	30	560	7.1	>1000	6.7
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14	7.4	400	160	11	5.6	7.9	3.3	10	2.1	7.0	3.5
2	13	6.5	270	140	---	---	8.6	3.3	9.2	2.4	7.5	3.0
3	14	4.9	310	140	---	---	7.5	3.0	7.5	2.2	9.5	3.1
4	18	6.1	240	95	---	---	7.3	3.5	9.1	2.1	9.0	3.2
5	21	10	110	75	---	---	8.4	3.1	7.7	2.1	10	3.2
6	27	8.6	110	63	---	---	7.0	3.5	9.3	1.9	6.1	2.9
7	12	5.1	82	48	---	---	8.6	2.9	8.3	2.3	8.5	2.9
8	---	---	---	---	---	---	6.8	3.1	7.6	2.3	8.5	1.8
9	18	5.4	---	---	---	---	6.4	3.3	8.6	2.3	12	2.3
10	28	5.8	---	---	---	---	5.9	2.9	9.5	2.5	8.1	2.3
11	11	3.9	---	---	---	---	8.1	3.5	8.4	2.5	7.1	2.3
12	160	3.5	---	---	---	---	7.3	3.0	8.0	2.2	5.3	2.1
13	860	91	---	---	---	---	7.2	3.5	6.9	2.1	6.1	2.8
14	---	---	---	---	---	---	6.7	2.0	8.0	2.4	5.8	2.7
15	590	92	---	---	---	---	5.1	1.7	9.1	2.1	8.3	2.9
16	130	73	---	---	---	---	5.4	1.6	9.1	2.2	8.7	2.7
17	100	67	---	---	---	---	4.2	1.4	10	2.4	8.8	2.5
18	93	54	---	---	7.1	4.1	4.1	1.5	9.4	2.1	5.8	2.5
19	70	37	---	---	8.3	4.1	3.9	1.4	7.8	2.4	8.6	2.2
20	64	35	16	10	8.5	4.2	4.5	1.5	6.7	2.4	8.2	2.3
21	45	30	18	9.0	9.1	4.8	5.9	1.0	8.9	2.8	5.5	2.2
22	44	27	18	8.6	8.0	4.8	3.8	1.1	7.8	3.1	5.6	1.9
23	34	24	23	7.4	8.1	4.9	5.2	1.2	9.6	2.9	---	---
24	500	24	11	6.3	9.7	4.6	5.9	1.6	9.2	2.7	---	---
25	480	150	17	6.4	7.5	4.0	5.6	1.5	8.7	2.7	---	---
26	340	150	9.9	5.1	9.7	4.3	7.3	1.7	8.8	2.9	---	---
27	160	84	13	5.7	8.4	4.5	7.8	1.7	6.7	3.5	---	---
28	470	87	19	5.1	8.5	4.0	8.8	2.0	9.2	3.4	---	---
29	720	340	12	5.2	7.3	3.9	8.6	2.0	9.2	3.3	---	---
30	>1000	320	11	5.7	8.8	3.5	7.9	1.9	8.6	3.4	---	---
31	---	---	12	6.3	---	---	5.9	2.2	6.8	3.5	---	---
MONTH	---	---	---	---	---	---	8.8	1.0	10	1.9	---	---

> Actual value is known to be greater than value shown.

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA—Continued
(National Stream-Quality Accounting Network Station)

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Tur- bidity, water, unfltrd field, NTU (61028)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
23...*	1654	2.61	5.1	10.6	127	8.6	240	24.3	5.00
23...*	1655	2.95	3.5	10.6	127	8.6	240	24.2	10.0
23...*	1656	3.00	3.5	10.6	127	8.6	240	24.3	15.0
23...*	1657	2.85	4.0	10.6	126	8.6	240	24.2	20.0
23...*	1658	2.63	3.1	10.6	126	8.6	240	24.3	25.0
23...*	1659	2.55	3.6	10.6	126	8.6	240	24.2	30.0
23...*	1700	2.36	3.7	10.6	126	8.6	240	24.3	35.0
23...*	1701	2.26	3.6	10.6	126	8.6	240	24.2	40.0
23...*	1702	2.13	3.2	10.6	126	8.6	240	24.3	45.0
23...*	1703	1.63	4.0	10.6	126	8.6	240	24.3	50.0
23...*	1704	1.05	4.6	10.6	126	8.6	240	24.3	55.0
23...*	1705	.84	3.5	10.6	126	8.6	240	24.3	60.0

* Instantaneous discharge at the time of cross-sectional measurement: July 23, 246 ft³/s.

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 old Highway 116 bridge, 0.1 mi upstream from Pocket Creek, in Guerneville.

DRAINAGE AREA.—1,353 mi².

PERIOD OF RECORD.—December 1939 to September 1954, published as "at Guerneville" (station 11467000). Oct. 13, 1995, to current year, stage only above 5.61 ft.

GAGE.—Water-stage recorder. Datum of gage is 8.79 ft above NGVD of 1929.

REMARKS.—Interruptions in record when above 5.61 ft were due to malfunction of the sensing and (or) recording instruments. Stage data for the period June 1 to September 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 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.12	---	---	---	---	---	25.15	18.87	7.76	7.48	6.80	6.69
2	---	---	---	---	---	---	18.87	15.40	7.48	7.23	6.70	6.62
3	---	---	---	---	---	---	15.40	13.53	7.24	7.05	6.62	6.55
4	---	---	---	---	---	---	13.53	12.18	7.05	6.88	6.60	6.47
5	---	---	---	---	---	---	12.19	11.51	6.88	6.74	6.48	6.28
6	---	---	---	---	---	---	11.51	10.88	6.74	6.61	6.28	6.13
7	---	---	---	---	---	---	10.88	9.84	6.61	6.49	6.14	6.03
8	---	---	---	---	---	---	9.84	9.00	6.49	6.39	6.03	5.98
9	---	---	---	---	---	---	9.29	8.78	6.40	6.31	6.00	5.94
10	---	---	---	---	---	---	12.02	9.29	6.31	6.22	5.94	5.87
11	---	---	---	---	---	---	12.18	11.21	6.23	6.16	5.88	5.85
12	---	---	---	---	---	---	14.64	10.64	6.19	6.12	5.85	5.82
13	---	---	---	---	13.52	---	20.45	14.64	6.68	6.19	5.94	5.80
14	---	---	---	---	26.04	13.52	20.21	17.13	6.71	6.62	8.85	5.94
15	---	---	---	---	27.87	24.38	17.13	14.88	6.88	6.49	19.83	8.85
16	---	---	---	---	33.52	24.39	14.88	13.07	11.77	6.88	19.34	12.12
17	---	---	---	---	33.39	20.61	13.07	11.99	11.60	9.53	12.12	10.44
18	---	---	---	---	20.61	13.32	11.99	10.89	9.53	8.68	10.64	10.18
19	---	---	---	---	16.14	12.02	10.89	9.76	9.15	8.88	10.18	9.81
20	---	---	---	---	21.46	16.14	9.76	9.12	9.12	8.60	9.85	9.34
21	---	---	---	---	23.53	21.46	9.18	9.00	8.88	8.43	9.34	8.43
22	---	---	---	---	22.67	14.90	12.02	9.18	8.88	8.65	8.45	7.90
23	---	---	---	---	14.90	11.98	14.23	12.02	8.66	7.90	7.91	7.73
24	---	---	---	---	11.98	10.67	12.61	10.78	7.90	7.46	7.75	7.54
25	---	---	---	---	10.69	10.04	10.78	9.92	7.46	7.25	7.55	7.29
26	---	---	---	---	10.73	9.97	9.93	9.37	7.26	7.05	7.30	7.11
27	---	---	---	---	16.30	10.72	9.50	9.07	7.06	6.91	7.21	7.09
28	---	---	---	---	20.56	16.30	9.97	9.50	6.92	6.78	7.13	6.93
29	---	---	---	---	23.60	20.56	10.10	9.95	---	---	6.93	6.78
30	---	---	---	---	22.32	17.01	9.98	8.33	---	---	6.80	6.66
31	---	---	---	---	25.17	17.23	8.33	7.76	---	---	6.67	6.54
MONTH	---	---	---	---	---	---	25.15	7.76	11.77	6.12	19.83	5.80

11467002 RUSSIAN RIVER AT JOHNSONS BEACH, AT GUERNEVILLE, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.55	6.37	16.14	13.70	---	---	---	---	8.36	8.26	8.32	8.29
2	6.39	6.24	13.70	13.03	---	---	---	---	8.35	8.26	8.32	8.28
3	6.27	6.17	13.66	12.88	---	---	---	---	8.31	8.27	8.33	8.28
4	6.55	6.17	13.27	11.97	---	---	---	---	8.36	8.28	8.30	8.26
5	6.83	6.55	11.97	11.09	---	---	---	---	8.32	8.24	8.28	8.26
6	6.64	6.37	11.10	9.95	---	---	---	---	8.31	8.28	8.27	8.24
7	6.37	6.26	9.96	9.45	---	---	---	---	8.31	8.27	8.26	8.24
8	6.26	6.14	9.46	8.99	---	---	---	---	8.36	8.28	8.26	7.99
9	6.14	6.04	8.99	8.61	---	---	---	---	8.36	8.29	8.11	7.89
10	6.05	5.97	8.61	8.31	---	---	---	---	8.37	8.29	8.26	7.88
11	5.98	5.92	8.32	8.07	---	---	---	---	8.31	8.28	8.30	8.25
12	8.11	5.91	8.07	7.91	---	---	---	---	8.31	8.27	8.40	8.23
13	11.48	8.11	7.91	7.57	---	---	---	---	8.31	8.28	8.40	8.36
14	11.80	10.67	7.57	7.42	---	---	---	---	8.29	8.26	8.39	8.36
15	11.01	10.67	7.42	7.24	---	---	---	---	8.37	8.29	8.41	8.37
16	11.04	9.68	7.24	7.07	---	---	8.30	8.25	8.32	8.27	8.42	8.40
17	9.68	9.14	7.07	6.94	---	---	8.38	8.23	8.30	8.25	8.43	8.40
18	9.15	8.54	6.94	6.80	---	---	8.37	8.35	8.32	8.27	8.43	8.41
19	8.55	8.20	6.80	6.67	---	---	8.36	8.33	8.32	8.27	8.42	8.39
20	8.21	7.96	6.67	6.47	---	---	8.35	8.32	8.32	8.26	8.41	8.39
21	7.97	7.81	6.47	6.30	---	---	8.35	8.33	8.28	8.25	8.42	8.39
22	7.84	7.71	6.30	5.91	---	---	8.35	8.33	8.29	8.27	8.42	8.39
23	7.72	7.54	6.11	5.77	---	---	8.38	8.33	8.30	8.28	8.42	8.40
24	11.11	7.54	5.91	5.83	---	---	8.36	8.31	8.30	8.27	8.41	8.38
25	11.47	10.68	5.86	5.81	---	---	8.37	8.31	8.30	8.27	8.40	8.30
26	12.17	11.47	5.82	5.78	---	---	8.37	8.32	8.28	8.25	8.38	8.29
27	11.76	11.25	---	---	---	---	8.33	8.30	8.27	8.23	8.41	8.38
28	13.82	11.25	---	---	---	---	8.31	8.29	8.24	8.22	8.42	8.41
29	17.43	13.82	---	---	---	---	8.30	8.27	8.27	8.23	8.43	7.28
30	17.89	16.14	---	---	---	---	8.31	8.25	8.32	8.27	---	---
31	---	---	---	---	---	---	8.33	8.25	8.30	8.27	---	---
MONTH	17.89	5.91	---	---	---	---	---	---	8.37	8.22	---	---

11467553 NORTH FORK GUALALA RIVER ABOVE SOUTH FORK GUALALA RIVER, NEAR GUALALA, CA

LOCATION.—Lat 38° 47' 05", long 123° 30' 07", in SE 1/4 sec.23, T.1 N., R.15 W., Mendocino County, Hydrologic Unit 18010109, on right bank, 0.6 mi upstream of confluence with Gualala River, 0.8 mi downstream of Little North Fork Gualala River, and 1.9 mi northeast of Gualala.

DRAINAGE AREA.—47.5 mi².

PERIOD OF RECORD.—October 2000 to September 2001, October 1, 2002 to September 30, 2003 (discontinued).

WATER TEMPERATURE: Water year 2001.

GAGE.—Water stage recorder and crest stage gage. Elevation of gage is 30 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation above gage. Some diversion for domestic water supply for the City of Gualala upstream of gage.

COOPERATION.—Records collected by California State Department of Water Resources, under general supervision of the U. S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 23,000 ft³/s, Dec. 16, 2002, gage height, 20.88 ft, from rating curve extended above 1,000 ft³/s; minimum daily, 2.0 ft³/s, Oct. 2, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.2	e4.5	e8.0	1090	146	91	101	590	48	24	8.3	5.6
2	e2.0	e4.5	e8.1	548	134	87	90	381	46	22	8.4	5.9
3	e2.1	e5.0	e8.1	346	126	85	72	272	44	22	8.4	6.5
4	e2.1	e5.0	e8.0	256	119	83	100	207	44	20	8.6	6.7
5	e2.2	e4.9	e8.0	187	113	81	113	163	42	19	9.0	7.8
6	e2.2	e4.6	e8.0	142	107	78	106	141	41	18	8.7	8.3
7	e2.3	e8.2	e8.0	113	104	78	101	124	41	18	9.8	8.8
8	e2.3	e22	e8.0	96	105	75	97	111	40	18	9.1	7.4
9	e2.2	e22	e8.0	89	107	73	95	101	40	16	8.3	9.2
10	e2.3	e26	e14	121	103	73	96	94	39	16	7.8	7.0
11	e2.4	e26	e16	137	100	73	96	88	37	15	7.5	7.7
12	e2.6	e20	12	e380	100	73	594	81	36	15	7.2	7.1
13	e2.7	e16	1270	e2000	133	79	869	76	35	14	7.2	6.2
14	e2.7	e14	3850	e1500	128	224	633	73	34	14	7.2	8.3
15	e2.7	e12	1180	e800	150	2020	456	68	35	14	7.0	5.3
16	e2.8	e11	7900	607	535	600	417	65	34	13	6.7	5.8
17	e2.8	e10	486	429	268	345	390	62	31	13	6.2	5.1
18	e2.8	e9.5	199	327	202	232	315	60	30	12	7.0	5.2
19	e2.9	e9.2	343	259	179	184	261	59	29	15	12	6.0
20	e2.9	e8.9	910	217	155	163	237	56	29	15	13	7.0
21	e2.8	e8.6	1150	208	138	134	185	55	28	15	14	6.9
22	e2.9	e8.2	473	651	128	129	167	54	27	13	13	5.9
23	e3.0	e8.3	243	857	125	158	172	50	28	11	11	5.8
24	e3.2	e8.7	148	539	120	161	724	48	26	11	10	5.6
25	e3.6	e8.6	102	395	112	143	573	47	27	11	10	6.9
26	e3.5	e8.3	246	304	106	149	472	45	25	11	9.7	6.7
27	e3.3	e8.0	1880	255	105	128	460	49	24	12	9.1	7.0
28	e3.2	e8.0	4520	218	96	121	930	53	24	11	10	6.7
29	e3.2	e7.9	2730	190	---	113	1420	52	23	12	10	7.8
30	e3.3	e7.9	1200	172	---	106	1060	52	22	9.9	10	7.7
31	e3.6	---	4340	158	---	104	---	50	---	8.3	6.6	---
TOTAL	84.8	325.8	33284.2	13591	4044	6243	11402	3427	1009	458.2	280.8	203.9
MEAN	2.74	10.9	1074	438	144	201	380	111	33.6	14.8	9.06	6.80
MAX	3.6	26	7900	2000	535	2020	1420	590	48	24	14	9.2
MIN	2.0	4.5	8.0	89	96	73	72	45	22	8.3	6.2	5.1
AC-FT	168	646	66020	26960	8020	12380	22620	6800	2000	909	557	404

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
MEAN	4.10	10.3	544	263	261	196	205	62.2	22.5	11.5	7.07	4.91
MAX	5.46	10.9	1074	438	378	201	380	111	33.6	14.8	9.06	6.80
(WY)	2001	2003	2003	2003	2001	2003	2003	2003	2003	2003	2003	2003
MIN	2.74	9.82	14.3	88.0	144	191	29.6	13.9	11.5	8.29	5.09	3.03
(WY)	2003	2001	2001	2001	2003	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 2001 - 2003

ANNUAL TOTAL	74353.7	
ANNUAL MEAN	204	132
HIGHEST ANNUAL MEAN		204
LOWEST ANNUAL MEAN		61.1
HIGHEST DAILY MEAN	7900	7900
LOWEST DAILY MEAN	2.0	2.0
ANNUAL SEVEN-DAY MINIMUM	2.2	2.2
MAXIMUM PEAK FLOW	23000	23000
MAXIMUM PEAK STAGE	20.88	20.88
ANNUAL RUNOFF (AC-FT)	147500	95940
10 PERCENT EXCEEDS	458	258
50 PERCENT EXCEEDS	35	15
90 PERCENT EXCEEDS	5.0	3.5

e Estimated.

11468000 NAVARRO RIVER NEAR NAVARRO, CA

LOCATION.—Lat 39° 10' 14", long 123° 40' 01", in SE 1/4 sec.7, T.15 N., R.16 W., Mendocino County, Hydrologic Unit 18010108, on left bank, 2.8 mi downstream from North Fork, 5.3 mi upstream from mouth, and 6.7 mi west of Navarro.

DRAINAGE AREA.—303 mi².

PERIOD OF RECORD.—October 1950 to current year.

WATER-DISCHARGE RECORDS

REVISED RECORDS.—WSP 1445: 1954(M). WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 4.79 ft above NGVD of 1929. Prior to Oct. 1, 1998, at site 0.1 mi downstream at datum 2.00 ft lower. Prior to Jan. 9, 1995, at current datum. Prior to Oct. 1, 1969, at site 0.1 mi upstream at datum 0.14 ft lower.

REMARKS.—Records good except for estimated daily discharges, which are fair. Minor diversion upstream from station at discharges above 200 ft³/s for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 64,500 ft³/s, Dec. 22, 1955, gage height, 40.60 ft, site and datum then in use, from rating curve extended above 19,000 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.23 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0930	30,400	31.96	Mar. 15	0915	9,520	20.47
Dec. 21	0430	9,200	20.13	Apr. 29	2300	7,770	18.48
Dec. 31	0745	15,900	25.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	3.2	18	4560	404	260	337	3210	147	48	20	10
2	1.7	3.2	18	2860	370	238	328	2220	137	46	20	10
3	1.8	3.2	18	1950	340	222	316	1760	129	45	19	8.9
4	1.8	3.3	18	1440	315	210	417	1370	121	44	18	9.0
5	1.8	3.3	18	1070	293	196	406	1150	115	44	18	8.8
6	1.7	3.3	18	833	272	183	344	978	111	43	18	9.7
7	1.7	3.8	18	669	253	171	319	876	108	44	17	9.8
8	1.7	64	18	553	234	162	291	784	105	43	17	9.1
9	1.6	164	19	493	218	152	268	705	102	42	16	9.3
10	1.7	140	24	513	205	149	254	622	98	41	15	10
11	1.6	194	26	687	196	147	245	565	95	40	15	10
12	2.4	100	27	1180	189	143	921	517	93	39	15	10
13	2.6	65	269	5630	237	142	2750	475	89	38	15	9.2
14	2.6	52	8030	4220	290	781	2060	437	86	38	14	8.9
15	2.7	41	5180	2750	246	5360	1400	404	83	38	14	8.6
16	2.8	34	15800	1900	1440	2640	1170	372	81	37	13	8.1
17	2.8	29	3910	1410	882	1580	1140	347	78	37	12	7.5
18	2.8	26	2160	1110	666	1100	911	327	76	36	12	7.8
19	2.6	24	2460	903	624	875	758	309	74	34	13	7.8
20	2.5	23	5850	761	599	813	654	290	72	34	12	7.9
21	2.4	22	7740	678	518	680	598	270	70	33	11	8.2
22	2.2	21	3760	756	467	600	682	255	68	32	11	7.9
23	2.3	21	2200	1440	429	614	567	242	66	32	11	7.7
24	2.7	20	1470	968	397	553	2410	229	65	30	10	7.3
25	3.1	20	1030	826	362	496	2470	216	62	30	10	7.2
26	3.1	20	939	727	331	553	2520	205	58	28	11	6.9
27	3.1	19	2680	656	326	553	1860	189	56	27	9.8	6.8
28	3.1	19	8840	589	288	509	3100	177	55	24	9.7	7.1
29	3.1	19	8620	525	---	461	6400	168	51	22	9.0	7.4
30	3.1	19	4110	471	---	e400	5610	160	48	21	8.8	8.2
31	3.2	---	9900	433	---	364	---	157	---	20	9.5	---
TOTAL	74.0	1179.3	95188	43561	11391	21307	41506	19986	2599	1110	423.8	255.1
MEAN	2.39	39.3	3071	1405	407	687	1384	645	86.6	35.8	13.7	8.50
MAX	3.2	194	15800	5630	1440	5360	6400	3210	147	48	20	10
MIN	1.6	3.2	18	433	189	142	245	157	48	20	8.8	6.8
AC-FT	147	2340	188800	86400	22590	42260	82330	39640	5160	2200	841	506

e Estimated.

NAVARRO RIVER BASIN

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.5	259	990	1674	1482	1055	493	146	54.1	21.3	11.3	9.95
MAX	367	2033	4396	6496	5546	4280	2517	645	261	74.0	31.7	32.6
(WY)	1958	1974	1965	1995	1998	1983	1982	2003	1998	1998	1998	1957
MIN	2.39	9.06	18.5	24.0	58.6	69.8	34.2	14.1	4.23	0.62	0.67	1.33
(WY)	2003	1991	1977	1991	1977	1988	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL TOTAL	172203.7		238580.2			
ANNUAL MEAN	472		654		516	
HIGHEST ANNUAL MEAN					1310	
LOWEST ANNUAL MEAN					25.0	
HIGHEST DAILY MEAN	15800	Dec 16	15800	Dec 16	45100	Jan 16 1974
LOWEST DAILY MEAN	1.3	Sep 21	1.6	Oct 9	0.23	Jul 13 1977
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 19	1.7	Oct 5	0.28	Jul 8 1977
MAXIMUM PEAK FLOW			30400	Dec 16	64500	Dec 22 1955
MAXIMUM PEAK STAGE			31.96	Dec 16	40.60	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	341600		473200		373500	
10 PERCENT EXCEEDS	676		1650		1230	
50 PERCENT EXCEEDS	31		100		60	
90 PERCENT EXCEEDS	2.1		3.3		7.5	

NAVARRO RIVER BASIN

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, fall dia, percent <.002mm (70337)	Suspended sediment, fall dia, percent <.004mm (70338)
OCT							
10...	1530	1.7	16.0	4	.02	--	--
NOV							
08...	1530	125	13.0	14	4.7	--	--
11...	1015	221	12.5	14	8.4	--	--
16...	1015	34	12.0	6	.55	--	--
22...	1115	21	11.0	4	.23	--	--
DEC							
04...	1005	18	11.5	2	.10	--	--
13...	1045	42	11.5	2	.23	--	--
14...	1045	7640	13.0	858	17700	33	45
20...	1430	6240	9.5	1490	25000	19	21
21...	1215	8110	11.0	813	17800	--	--
28...	1645	10800	12.0	1230	35900	21	22
JAN							
09...	1345	476	10.0	27	35	--	--
11...	1330	665	11.0	39	70	--	--
14...	1400	4040	12.5	360	3930	--	--
23...	1345	1280	12.0	213	736	--	--
FEB							
16...	1305	1780	10.0	521	2500	--	--
19...	1445	631	10.0	36	61	--	--
MAR							
07...	1215	170	12.5	6	2.8	--	--
14...	1345	1070	11.5	381	1100	--	--
15...	1045	9010	11.0	1940	47100	21	28

Date	Suspended sediment, fall dia, percent <.008mm (70339)	Suspended sediment, fall dia, percent <.016mm (70340)	Suspended sediment, fall dia, percent <.031mm (70341)	Suspended sediment, sieve diameter, percent <.063mm (70331)	Suspended sediment, sieve diameter, percent <.125mm (70332)	Suspended sediment, sieve diameter, percent <.25mm (70333)	Suspended sediment, sieve diameter, percent <.5 mm (70334)
OCT							
10...	--	--	--	86	--	--	--
NOV							
08...	--	--	--	74	--	--	--
11...	--	--	--	90	99	100	--
16...	--	--	--	78	--	--	--
16...	--	--	--	72	--	--	--
DEC							
04...	--	--	--	90	--	--	--
13...	--	--	--	80	--	--	--
14...	55	72	87	95	99	100	--
20...	24	37	53	72	88	97	100
21...	--	--	--	75	89	97	100
28...	26	41	57	73	89	97	100
JAN							
09...	--	--	--	64	70	100	--
11...	--	--	--	87	99	100	--
14...	--	--	--	70	84	96	100
23...	--	--	--	81	92	98	100
FEB							
16...	--	--	--	79	88	96	100
19...	--	--	--	56	74	89	100
MAR							
07...	--	--	--	84	--	--	--
14...	--	--	--	84	91	99	100
15...	36	49	62	75	86	97	100

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Suspnd. sedi- ment, sieve diametr percent <.125mm (70332)	Suspnd. sedi- ment, sieve diametr percent <.25mm (70333)	Suspnd. sedi- ment, sieve diametr percent <.5 mm (70334)	Suspnd. sedi- ment, sieve diametr percent <1 mm (70335)
APR										
13...	1245	3140	9.5	543	4600	68	81	95	100	--
14...	1515	1920	10.0	143	741	58	68	89	100	--
15...	1215	1380	10.0	70	261	84	96	100	--	--
21...	1245	594	12.0	14	22	80	--	--	--	--
24...	1115	3670	10.0	826	8180	65	94	95	100	--
29...	1215	7010	10.0	975	18500	65	76	93	99	100
MAY										
04...	1115	1360	11.5	104	382	58	66	90	100	--
06...	1330	967	11.0	49	128	56	75	95	100	--
18...	1045	330	12.5	5	4.5	92	--	--	--	--
JUN										
06...	1145	112	17.5	2	.60	92	--	--	--	--
06...	1420	111	18.5	2	.60	95	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sam- pling points, count (00063)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bed sedi- ment, dry svd sve dia percent <.063mm (80164)	Bed sedi- ment, dry svd sve dia percent <.125mm (80165)	Bed sedi- ment, dry svd sve dia percent <.25mm (80166)
OCT							
11...	0830	1	1.7	14.0	16	52	90
11...	0835	1	1.7	14.0	16	43	72
11...	0840	1	1.7	14.0	8	26	62
11...	0845	1	1.7	14.0	--	--	--
11...	0850	1	1.7	14.0	--	1	3
11...	0855	1	1.7	14.0	--	--	1
11...	0900	1	1.7	14.0	--	--	1
11...	0905	1	1.7	14.0	7	25	67
11...	0910	1	1.7	14.0	24	53	80
11...	0915	1	1.7	14.0	14	50	89
JUN							
06...	1500	1	110	18.5	14	43	79
06...	1505	1	110	18.5	19	43	59
06...	1510	1	110	18.5	5	24	59
06...	1515	1	110	18.5	--	1	4
06...	1520	1	110	18.5	--	--	2
06...	1525	1	110	18.5	--	--	1
06...	1530	1	110	18.5	--	--	2
06...	1535	1	110	18.5	6	20	67
06...	1540	1	110	18.5	31	65	86
06...	1545	1	110	18.5	27	58	77

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bed sedi- ment, dry svd sve dia percent (80167)	Bed sedi- ment, dry svd sve dia percent (80168)	Bed sedi- ment, dry svd sve dia percent (80169)	Bed sedi- ment, dry svd sve dia percent (80170)	Bed sedi- ment, dry svd sve dia percent (80171)	Bed sedi- ment, dry svd sve dia percent (80172)	Bed sedi- ment, dry svd sve dia percent (80173)
OCT							
11...	98	99	100	--	--	--	--
11...	90	94	97	99	100	--	--
11...	92	94	95	96	97	100	--
11...	1	1	2	9	27	73	100
11...	12	25	35	45	59	75	100
11...	8	16	24	34	48	64	100
11...	8	15	22	34	52	91	100
11...	97	99	100	--	--	--	--
11...	92	95	98	100	--	--	--
11...	97	98	100	--	--	--	--
JUN							
06...	89	93	97	99	100	--	--
06...	66	70	77	89	100	--	--
06...	87	90	90	92	95	100	--
06...	10	12	14	23	38	51	100
06...	7	16	23	29	38	49	100
06...	4	10	25	48	75	100	--
06...	7	12	19	32	50	77	100
06...	98	100	--	--	--	--	--
06...	93	95	97	99	100	--	--
06...	83	88	94	100	--	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sam- pler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)
JAN								
09...	1325	1000	1100	.25	0	1315	1340	10
MAR								
14...	1425	1000	1100	.25	0	1415	1435	15
14...	1450	1000	1100	.25	0	1440	1500	15
APR								
14...	1330	1000	1100	.25	0	1320	1340	10
14...	1355	1000	1100	.25	0	1345	1405	10
MAY								
06...	1205	1000	1100	.25	0	1155	1215	15
06...	1230	1000	1100	.25	0	1220	1240	15

Date	Hori- zontal width of verti- cal, feet (04121)	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrg average unit t/d/ft composit (04122)	Bedload sedi- ment dis- charge, tons/d (80225)
JAN									
09...	4.0	1	21	21	2.0	477	10.0	.31	25
MAR									
14...	5.0	2	20	20	2.0	1020	12.0	.16	15
14...	5.0	2	20	20	2.0	990	12.0	.16	15
APR									
14...	5.0	2	21	21	2.5	2000	10.0	2.04	152
14...	5.0	2	21	21	2.5	1950	10.0	1.01	152
MAY									
06...	5.0	2	20	20	3.0	972	11.0	.19	22
06...	5.0	2	20	20	3.0	976	11.0	.27	22

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bedload sedi- ment, sieve diametr percent (80228)	Bedload sedi- ment, sieve diametr percent (80229)	Bedload sedi- ment, sieve diametr percent (80230)	Bedload sedi- ment, sieve diametr percent (80231)	Bedload sedi- ment, sieve diametr percent (80232)	Bedload sedi- ment, sieve diametr percent (80233)	Bedload sedi- ment, sieve diametr percent (80234)	Bedload sedi- ment, sieve diametr percent (80235)
JAN								
09...	--	5	9	10	10	10	11	100
MAR								
14...	2	48	61	71	82	92	100	--
14...	3	56	67	78	88	100	--	--
APR								
14...	1	36	48	59	72	85	96	100
14...	2	52	66	73	80	88	96	100
MAY								
06...	1	46	73	85	91	97	100	--
06...	1	42	70	82	88	93	100	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE	CONCEN-		DISCHARGE	CONCEN-		DISCHARGE	CONCEN-	
	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)
		(MG/L)			(MG/L)			(MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	1.7	4	0.02	3.2	5	0.05	18	3	0.14
2	1.7	4	0.02	3.2	5	0.05	18	2	0.12
3	1.8	4	0.02	3.2	5	0.04	18	2	0.11
4	1.8	4	0.02	3.3	5	0.04	18	2	0.10
5	1.8	4	0.02	3.3	4	0.04	18	2	0.10
6	1.7	4	0.02	3.3	4	0.04	18	2	0.10
7	1.7	4	0.02	3.8	3	0.03	18	2	0.10
8	1.7	4	0.02	64	11	2.7	18	2	0.10
9	1.6	4	0.02	164	15	6.6	19	2	0.10
10	1.7	3	0.02	140	8	3.2	24	4	0.26
11	1.6	3	0.01	194	15	8.3	26	3	0.24
12	2.4	5	0.03	100	5	1.3	27	2	0.16
13	2.6	8	0.05	65	3	0.60	269	42	190
14	2.6	8	0.05	52	2	0.34	8030	1060	26400
15	2.7	7	0.05	41	3	0.38	5180	767	13400
16	2.8	7	0.05	34	6	0.50	15800	5320	308000
17	2.8	7	0.05	29	5	0.39	3910	453	4950
18	2.8	7	0.05	26	4	0.27	2160	227	1370
19	2.6	6	0.04	24	2	0.14	2460	498	4700
20	2.5	6	0.04	23	2	0.14	5850	1570	28600
21	2.4	6	0.04	22	3	0.18	7740	1430	32200
22	2.2	5	0.03	21	4	0.22	3760	349	3690
23	2.3	5	0.03	21	3	0.18	2200	179	1090
24	2.7	5	0.03	20	3	0.14	1470	108	436
25	3.1	3	0.03	20	2	0.11	1030	47	135
26	3.1	3	0.03	20	2	0.12	939	37	96
27	3.1	3	0.03	19	2	0.13	2680	612	6270
28	3.1	3	0.03	19	3	0.13	8840	2320	67100
29	3.1	3	0.03	19	3	0.14	8620	1770	50800
30	3.1	4	0.03	19	3	0.15	4110	346	3900
31	3.2	6	0.05	---	---	---	9900	2520	80300
TOTAL	74.0	---	0.98	1179.3	---	26.65	95188	---	633628.63

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	4560	686	8840	404	19	20	260	5	3.5
2	2860	287	2270	370	14	14	238	5	2.9
3	1950	159	849	340	12	11	222	4	2.4
4	1440	109	426	315	10	8.3	210	4	2.3
5	1070	88	257	293	9	7.1	196	5	2.5
6	833	72	163	272	8	6.0	183	5	2.6
7	669	54	99	253	7	4.5	171	6	2.7
8	553	36	55	234	5	3.3	162	5	2.3
9	493	28	38	218	4	2.6	152	5	1.9
10	513	24	33	205	5	2.5	149	4	1.6
11	687	40	76	196	4	2.4	147	3	1.4
12	1180	427	4060	189	4	1.9	143	6	2.2
13	5630	1360	20700	237	12	7.9	142	10	4.0
14	4220	534	6400	290	13	10	781	280	745
15	2750	220	1660	246	10	6.4	5360	1310	23200
16	1900	124	646	1440	447	2240	2640	455	3360
17	1410	74	286	882	98	244	1580	179	791
18	1110	50	151	666	39	70	1100	82	247
19	903	34	84	624	33	56	875	47	111
20	761	27	56	599	29	47	813	37	82
21	678	23	43	518	20	28	680	28	52
22	756	41	110	467	12	15	600	24	39
23	1440	283	1180	429	9	11	614	24	39
24	968	114	302	397	8	8.7	553	19	29
25	826	73	163	362	8	7.6	496	15	20
26	727	54	107	331	7	5.8	553	25	37
27	656	45	80	326	6	5.5	553	28	42
28	589	36	57	288	5	3.9	509	22	30
29	525	29	42	---	---	---	461	27	33
30	471	25	32	---	---	---	e400	e21	e23
31	433	21	25	---	---	---	364	18	18
TOTAL	43561	---	49290	11391	---	2850.4	21307	---	28930.3
	APRIL			MAY					
1	337	15	13	3210	212	1880			
2	328	14	12	2220	109	659			
3	316	9	7.9	1760	110	523			
4	417	17	20	1370	101	376			
5	406	16	17	1150	73	227			
6	344	11	10	978	51	136			
7	319	9	8.2	876	36	85			
8	291	8	6.5	784	28	59			
9	268	7	5.4	705	23	43			
10	254	7	4.6	622	19	33			
11	245	6	3.8	565	16	24			
12	921	172	897	517	12	17			
13	2750	589	4410	475	12	15			
14	2060	205	1190	437	12	14			
15	1400	96	365	404	11	12			
16	1170	99	314	372	9	9.0			
17	1140	88	274	347	7	6.5			
18	911	37	93	327	5	4.1			
19	758	24	48	309	4	3.1			
20	654	17	29	290	3	2.7			
21	598	14	23	270	3	2.1			
22	682	32	60	255	3	1.8			
23	567	19	29	242	2	1.5			
24	2410	483	3960	229	2	1.4			
25	2470	445	3050	216	2	1.4			
26	2520	184	1290	205	3	1.4			
27	1860	110	553	189	3	1.4			
28	3100	299	2580	177	3	1.3			
29	6400	787	14200	168	3	1.3			
30	5610	489	7930	160	2	1.1			
31	---	---	---	157	2	0.79			
TOTAL	41506	---	41403.4	19986	---	4143.89			
PERIOD				234192.30		760274.25			

e Estimated.

11468000 NAVARRO RIVER NEAR NAVARRO, CA—Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 2002	74.00	0.98	0	1
NOVEMBER	1179.30	26.65	1	28
DECEMBER	95188.00	633628.63	7065	640694
JANUARY 2003	43561.00	49290.00	3310	52600
FEBRUARY	11391.00	2850.40	98	2948
MARCH	21307.00	28930.30	780	29710
APRIL	41506.00	41403.40	2600	44003
MAY	19986.00	4143.89	732	4876
TOTAL	234192.30	760274.25	14586	774860

11468010 ALBION RIVER NEAR COMPTCHE, CA

LOCATION.—Lat 39° 15' 40", long 123° 37' 00", in SW 1/4 sec.11, T.16 N., R.16 W., Mendocino County, Hydrologic Unit 18010108, on right bank, 2000 ft downstream of Morrison Gulch, and 1.7 mi west of Comptche.

DRAINAGE AREA.—14.4 mi².

PERIOD OF RECORD.—July 1961 to September 1969, January 2001 to September 2001, October 2002 to September 2003 (discontinued).

WATER TEMPERATURE: Water year 2001.

GAGE.—Water-stage recorder. Datum of gage is 145.64 ft above NGVD of 1929.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion above station.

COOPERATION.—Records collected by California State Department of Water Resources, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,390 ft³/s, Jan. 4, 1966, gage height, 9.98 ft, from rating curve extended above 480 ft³/s, on basis of slope-area measurement at gage height 9.50 ft; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.04	e0.18	e0.34	155	12	10	16	120	2.8	e0.55	e0.20	e0.09
2	e0.03	e0.13	e0.34	80	11	9.0	19	77	2.6	e0.54	e0.20	e0.09
3	e0.04	e0.18	e0.34	51	9.7	8.1	15	56	2.5	e0.53	e0.19	e0.07
4	e0.04	e0.18	e0.37	39	8.9	7.2	30	44	2.3	e0.52	e0.18	e0.08
5	e0.04	e0.18	e0.37	30	8.1	6.4	21	34	2.3	e0.52	e0.18	e0.07
6	e0.04	e0.17	e0.37	23	7.3	5.8	20	30	2.2	e0.53	e0.17	e0.09
7	e0.04	e1.1	e0.38	18	6.6	5.2	17	27	2.1	e0.54	e0.17	e0.09
8	e0.04	e8.4	e0.37	15	5.9	4.7	15	25	2.1	e0.54	e0.17	e0.08
9	e0.04	e8.6	e0.43	16	5.3	4.3	13	20	2.1	e0.53	e0.16	e0.08
10	e0.04	e11	1.0	31	5.0	4.3	12	17	2.0	e0.52	e0.14	e0.10
11	e0.05	e11	0.68	37	4.7	4.3	12	14	2.0	e0.50	e0.15	e0.10
12	e0.04	e4.3	0.55	168	4.7	4.5	41	13	1.9	e0.48	e0.14	e0.10
13	e0.04	e3.0	43	414	13	8.0	60	12	1.8	e0.47	e0.14	e0.09
14	e0.04	e1.9	206	278	11	22	66	11	1.7	e0.49	e0.13	e0.08
15	e0.04	e1.2	108	133	15	119	54	9.9	1.6	e0.49	e0.12	e0.08
16	e0.04	e0.96	295	78	56	86	58	8.9	1.6	e0.49	e0.11	e0.07
17	e0.05	e0.82	95	53	43	56	48	7.3	1.4	e0.49	e0.11	e0.06
18	e0.05	e0.69	49	39	33	40	40	7.0	1.4	e0.48	e0.11	e0.07
19	e0.06	e0.56	106	30	38	35	31	6.4	1.5	e0.45	e0.11	e0.07
20	e0.07	e0.46	188	23	29	30	25	5.8	1.3	e0.44	e0.10	e0.07
21	e0.07	e0.46	277	20	25	23	24	5.4	1.3	e0.42	e0.10	e0.07
22	e0.08	e0.44	113	24	22	25	22	5.1	1.3	e0.42	e0.10	e0.07
23	e0.08	e0.41	55	24	19	31	31	4.7	1.2	e0.41	e0.09	e0.07
24	e0.09	e0.39	38	20	17	26	124	4.6	1.1	e0.38	e0.08	e0.07
25	e0.09	e0.41	26	22	15	24	162	4.4	0.92	e0.38	e0.08	e0.07
26	e0.09	e0.40	21	19	13	49	139	4.1	0.77	e0.35	e0.09	e0.06
27	e0.07	e0.38	122	19	14	42	108	3.8	0.67	e0.32	e0.08	e0.06
28	e0.06	e0.37	615	17	11	37	207	3.5	0.58	e0.27	e0.08	e0.07
29	e0.07	e0.36	360	15	---	29	499	3.4	0.53	e0.23	e0.07	e0.07
30	e0.06	e0.34	202	14	---	23	279	3.3	0.55	e0.22	e0.07	e0.08
31	e0.08	---	455	12	---	18	---	3.1	---	e0.20	e0.08	---
TOTAL	1.71	58.97	3379.54	1917	463.2	796.8	2208	590.7	48.12	13.70	3.90	2.32
MEAN	0.055	1.97	109	61.8	16.5	25.7	73.6	19.1	1.60	0.44	0.13	0.077
MAX	0.09	11	615	414	56	119	499	120	2.8	0.55	0.20	0.10
MIN	0.03	0.13	0.34	12	4.7	4.3	12	3.1	0.53	0.20	0.07	0.06
AC-FT	3.4	117	6700	3800	919	1580	4380	1170	95	27	7.7	4.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	2001	2002	2003
MEAN	1.30	8.57	55.3	76.4	43.0	29.5	27.9	4.01	0.68	0.17	0.054	0.030
MAX	10.6	32.0	175	184	102	55.7	84.6	19.1	1.60	0.44	0.13	0.080
(WY)	1963	1964	1965	1969	1969	1967	1963	2003	2003	2003	2003	1968
MIN	0.023	0.44	7.61	20.5	6.64	4.88	2.29	0.61	0.19	0.053	0.000	0.000
(WY)	1967	1968	1964	1962	1964	1965	2001	2001	2001	1968	1964	1963

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1961 - 2003

ANNUAL TOTAL	9483.96		
ANNUAL MEAN	26.0	20.7	
HIGHEST ANNUAL MEAN		34.1	1969
LOWEST ANNUAL MEAN		11.2	1964
HIGHEST DAILY MEAN	615	Dec 28	1360 Jan 4 1966
LOWEST DAILY MEAN	0.03	Oct 2	0.00 Aug 7 1961
ANNUAL SEVEN-DAY MINIMUM	0.04	Oct 1	0.00 Aug 16 1961
MAXIMUM PEAK FLOW	843	Dec 28	2390 Jan 4 1966
MAXIMUM PEAK STAGE	7.30	Dec 28	9.98 Jan 4 1966
ANNUAL RUNOFF (AC-FT)	18810		14970
10 PERCENT EXCEEDS	56		52
50 PERCENT EXCEEDS	2.1		1.6
90 PERCENT EXCEEDS	0.07		0.02

e Estimated.

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 mi².

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 NGVD of 1929.

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 ft³/s, Mar. 29, 1974, gage height, 27.14 ft, from rating curve extended above 4,500 ft³/s, on basis of slope-conveyance study; minimum daily, 0.79 ft³/s, Sept. 8, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,400 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	unknown	6,430	18.40	Jan. 13	2200	2,620	11.66
Dec. 20	unknown	e4,800	unknown	Apr. 29	2215	4,730	15.81
Dec 31	unknown	e6,000	unknown				

e Estimated.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	6.3	9.3	e1500	158	124	208	1570	66	31	14	6.6
2	2.2	5.3	9.3	e860	141	120	190	974	64	30	14	6.7
3	2.5	6.4	9.3	e500	128	112	166	708	63	29	14	7.4
4	2.7	6.4	9.7	e400	123	109	214	565	61	26	14	7.7
5	2.6	6.3	9.8	e360	113	105	199	480	60	27	13	8.1
6	2.7	6.1	9.8	e340	107	100	183	421	59	27	13	10
7	2.7	18	9.8	e290	102	96	170	379	58	28	13	11
8	2.6	53	9.8	e260	97	93	154	336	57	28	12	9.2
9	2.6	53	11	224	93	89	142	330	56	28	12	8.5
10	2.7	59	18	254	87	87	134	243	54	27	12	8.5
11	2.9	60	19	413	87	87	128	214	53	26	11	8.5
12	2.7	37	16	719	85	86	240	190	52	25	11	8.3
13	2.7	31	301	2340	105	90	593	169	51	25	11	8.7
14	2.7	24	2840	2140	116	168	888	152	49	24	10	7.1
15	2.6	18	e2440	1260	138	1160	646	138	49	24	10	6.4
16	2.7	17	e4800	811	717	882	552	125	48	23	9.9	6.1
17	2.8	15	e1900	590	539	585	534	128	46	23	9.7	5.9
18	2.9	14	e1250	445	383	424	445	117	46	22	9.5	5.9
19	3.2	12	e1450	354	371	342	360	101	44	22	9.1	5.7
20	3.7	11	e3600	293	319	336	291	96	42	21	9.0	5.5
21	3.6	11	e1950	254	280	287	255	100	40	20	8.9	5.4
22	3.8	11	e1200	246	249	269	252	89	38	19	8.6	5.4
23	3.9	10	e980	294	222	388	233	93	37	18	8.5	5.2
24	4.1	10	e660	295	198	377	972	84	36	17	8.1	4.9
25	4.2	10	e580	271	181	333	1320	81	35	17	8.0	4.8
26	4.3	10	e1000	260	157	580	1400	79	35	17	7.7	4.8
27	3.7	9.8	e1900	252	145	601	934	75	34	16	7.5	5.2
28	3.4	9.8	e4100	234	133	503	1190	73	32	15	7.3	5.3
29	3.5	9.5	e3750	211	---	409	3360	72	32	15	7.5	5.2
30	3.3	9.3	e2750	188	---	319	3170	70	31	14	7.3	5.3
31	3.9	---	e4800	169	---	243	---	68	---	14	6.8	---
TOTAL	96.3	559.2	42391.8	17027	5574	9504	19523	8320	1428	698	317.4	203.3
MEAN	3.11	18.6	1367	549	199	307	651	268	47.6	22.5	10.2	6.78
MAX	4.3	60	4800	2340	717	1160	3360	1570	66	31	14	11
MIN	2.2	5.3	9.3	169	85	86	128	68	31	14	6.8	4.8
AC-FT	191	1110	84080	33770	11060	18850	38720	16500	2830	1380	630	403

e Estimated.

NOYO RIVER BASIN

11468500 NOYO RIVER NEAR FORT BRAGG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.0	111	419	656	557	441	216	80.0	34.7	14.5	7.94	6.36
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	2.83	5.29	9.25	16.6	18.1	32.4	11.7	9.50	3.88	1.90	1.35	2.16
(WY)	2002	1960	1977	1977	1977	1988	1977	1977	1977	1977	1977	1970

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1952 - 2003	
ANNUAL TOTAL	88930.9		105642.0			
ANNUAL MEAN	244		289		212	
HIGHEST ANNUAL MEAN					484	
LOWEST ANNUAL MEAN					10.9	
HIGHEST DAILY MEAN	4800	Dec 16	4800	Dec 16	20500	Dec 22 1964
LOWEST DAILY MEAN	1.9	Sep 24	2.2	Oct 2	0.79	Sep 8 1977
ANNUAL SEVEN-DAY MINIMUM	2.0	Sep 24	2.5	Oct 1	1.0	Aug 16 1977
MAXIMUM PEAK FLOW			6430	Dec 16	26600	Mar 29 1974
MAXIMUM PEAK STAGE			18.40	Dec 16	27.14	Mar 29 1974
ANNUAL RUNOFF (AC-FT)	176400		209500		153700	
10 PERCENT EXCEEDS	412		712		532	
50 PERCENT EXCEEDS	23		53		33	
90 PERCENT EXCEEDS	2.9		5.2		5.2	

11468900 MATTOLE RIVER NEAR ETTERSBURG, CA

LOCATION.—Lat 40° 08' 22", long 123° 59' 25", in NW 1/4, SE 1/4 sec. 6, T.4 S., R.2 E., [Humboldt County](#), Hydrologic Unit 18010107, 0.04 mi downstream of Bear Creek, and 0.3 mi east of Ettersburg, on left bank, upstream side of Ettersburg Honeydew Road.

DRAINAGE AREA.—58.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 2001 to current year.

REVISED RECORDS.—WDR CA-03-2: (P).

GAGE.—Water stage recorder. Elevation of gage is 578.93 ft above NGVD of 1929.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,100 ft³/s, Dec. 16, 2002, gage height, 24.53 ft; minimum daily, 3.7 ft³/s, Oct. 10, 11, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	unknown	12,100	24.53	Apr. 29	1315	4,200	17.41
Dec. 31	unknown	10,500	23.36				

REVISIONS.—Revised maximum discharges for peak above base discharge of 4,000 ft³/s for water year 2002, and revised daily discharges, in cubic feet per second, for December 2001 to February 2002 are given below. These figures supercede those published in the report for 2002.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 1	1100	5,820	19.19	Jan. 2	0915	6,510	19.88
Dec. 5	2100	9,470	22.52	Jan. 6	1000	8,500	21.7

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

DAILY MEAN VALUES

(REVISED)

DAY	DEC	JAN	FEB
1	3750	2100	448
2	1980	4900	385
3	1380	2380	352
4	967	1380	317
5	5190	1820	293
6	4680	6820	279
7	1780	3720	1060
8	1080	3200	1260
9	780	2080	843
10	594	1320	673
11	476	959	550
12	406	738	468
13	e554	616	405
14	2290	515	350
15	1170	444	309
16	1170	383	285
17	2650	335	272
18	1770	e311	243
19	2260	268	974
20	2330	244	2910
21	1500	521	1570
22	1410	437	1020
23	1360	360	1620
24	1100	318	1450
25	896	351	854
26	759	804	656
27	755	612	530
28	785	516	433
29	893	445	---
30	1010	384	---
31	1590	337	---
TOTAL	49315	39618	20809
MEAN	1591	1278	743
MAX	5190	6820	2910
MIN	406	244	243
AC-FT	97820	78580	41270

e Estimated.

11468900 MATTOLE RIVER NEAR ETTERSBERG, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	5.1	17	e3650	405	238	360	1610	95	29	13	8.1
2	4.2	5.2	17	e2250	359	224	349	1160	91	28	14	7.7
3	4.3	5.3	17	e1840	327	210	352	926	87	26	17	7.8
4	4.3	5.4	26	e1750	301	194	e749	768	84	25	16	8.7
5	4.6	5.5	32	e1690	276	184	e660	641	80	24	17	8.8
6	4.4	5.5	24	e1480	255	175	e530	539	78	23	16	8.6
7	4.2	191	21	e1060	235	169	e460	477	75	22	16	9.1
8	4.1	243	19	e860	220	162	393	438	73	22	15	9.1
9	3.8	143	37	e765	205	162	359	397	69	21	15	9.5
10	3.7	290	217	e900	195	225	337	366	66	20	15	11
11	3.7	117	132	e1310	188	187	322	336	64	19	14	9.4
12	4.1	86	143	e1830	181	189	741	308	62	19	13	8.1
13	4.1	88	e1500	e3250	206	380	1080	279	60	19	13	7.3
14	4.2	58	e5200	e2780	192	800	1110	255	58	18	13	7.2
15	4.1	44	e4100	e1840	521	1960	857	233	54	17	13	6.9
16	4.3	38	e5600	e1390	1770	1340	834	214	52	18	12	6.7
17	4.6	39	e3500	e1010	1080	931	735	198	50	17	12	6.6
18	4.7	32	e2600	739	744	692	625	184	48	16	11	6.4
19	4.9	29	e2250	606	727	624	536	175	47	15	11	6.3
20	5.0	26	e4100	511	647	588	470	163	45	15	10	6.4
21	4.9	24	e4700	541	550	510	429	155	44	15	9.9	6.4
22	4.8	23	e2950	713	478	747	384	147	42	15	10	6.0
23	4.9	22	e1850	871	421	1040	419	139	40	14	11	5.6
24	5.2	21	e1480	916	373	766	920	135	39	14	10	5.6
25	6.1	20	e1260	1480	333	651	1230	130	37	15	9.8	5.6
26	5.7	19	e1340	1060	308	901	1300	123	35	14	9.4	5.7
27	5.7	19	e2820	838	286	777	1050	118	33	13	9.1	5.7
28	5.3	18	e6980	674	258	632	1500	113	31	13	9.1	5.9
29	5.1	18	e5600	568	---	529	3770	109	30	13	9.0	6.0
30	4.8	18	e4630	503	---	454	2610	106	31	12	8.9	6.2
31	5.0	---	e3700	446	---	400	---	100	---	12	8.5	---
TOTAL	143.0	1658.0	66862	40121	12041	17041	25471	11042	1700	563	380.7	218.4
MEAN	4.61	55.3	2157	1294	430	550	849	356	56.7	18.2	12.3	7.28
MAX	6.1	290	6980	3650	1770	1960	3770	1610	95	29	17	11
MIN	3.7	5.1	17	446	181	162	322	100	30	12	8.5	5.6
AC-FT	284	3290	132600	79580	23880	33800	50520	21900	3370	1120	755	433

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	8.16	232	1874	1286	587	474	495	211	43.0	17.0	9.40	5.76
MAX	11.7	409	2157	1294	743	550	849	356	56.7	19.0	12.3	7.28
(WY)	2002	2002	2003	2003	2002	2003	2003	2003	2003	2001	2003	2003
MIN	4.61	55.3	1591	1278	430	399	141	65.8	29.3	14.0	6.93	4.65
(WY)	2003	2003	2002	2002	2003	2002	2002	2002	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL TOTAL	149397.4		177241.1			
ANNUAL MEAN	409		486		438	
HIGHEST ANNUAL MEAN					486	
LOWEST ANNUAL MEAN					391	
HIGHEST DAILY MEAN	6980	Dec 28	6980	Dec 28	6980	Dec 28 2002
LOWEST DAILY MEAN	3.7	Oct 10	3.7	Oct 10	3.7	Oct 10 2002
ANNUAL SEVEN-DAY MINIMUM	4.0	Oct 7	4.0	Oct 7	4.0	Oct 7 2002
MAXIMUM PEAK FLOW			12100		12100	
MAXIMUM PEAK STAGE			24.53		24.53	
ANNUAL RUNOFF (AC-FT)	296300		351600		317500	
10 PERCENT EXCEEDS	992		1340		1240	
50 PERCENT EXCEEDS	41		86		78	
90 PERCENT EXCEEDS	4.7		5.6		5.6	

e Estimated.

11468900 MATTOLE RIVER NEAR ETTERSBERG, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 2001 to current year.

WATER TEMPERATURE: Water year 2001 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: June 2001 to current year.

INSTRUMENTATION.—Water temperature recorded since June 21, 2001.

REMARKS.—Records rated excellent except for Jan. 18–20, which are rated good. Interruptions in record were due to malfunction of the sensing and (or) recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 28.0°C, July 22, 23, 28, 29, 2003; minimum recorded, 4.5°C, Nov. 29, 30, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 28.0°C, July 22, 23, 28, 29; minimum recorded, 4.5°C, Nov. 29, 30.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11468900 MATTOLE RIVER NEAR ETTERSBERG, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.0	10.5	10.0	18.5	13.0	23.0	17.0	26.5	21.5	25.5	19.5
2	10.0	8.5	10.5	10.5	19.5	13.5	23.0	16.5	24.0	21.0	25.5	19.5
3	9.5	7.5	11.0	10.5	21.0	14.5	23.5	16.5	25.5	20.0	22.5	19.5
4	---	---	11.0	10.5	21.0	15.0	23.5	16.5	23.0	20.5	24.5	19.0
5	---	---	12.5	9.5	21.5	15.5	23.5	17.0	23.0	19.0	23.0	19.5
6	---	---	11.0	9.5	21.0	16.0	24.0	17.0	21.5	19.0	21.0	18.5
7	---	---	12.5	9.5	21.0	16.0	21.5	18.0	23.5	18.0	19.0	17.0
8	12.0	9.0	11.5	9.5	21.5	15.5	23.0	17.0	23.5	17.5	20.5	16.0
9	12.5	9.0	12.0	9.0	21.0	15.5	24.5	17.5	23.5	18.5	18.5	16.5
10	11.5	10.0	12.5	9.0	21.0	15.0	25.0	18.5	24.0	18.0	20.5	15.0
11	11.0	9.5	11.5	9.5	20.5	15.0	25.0	18.0	24.0	18.0	22.5	17.0
12	10.5	9.5	14.0	10.0	19.5	14.5	25.0	18.5	23.0	17.5	22.5	18.0
13	10.0	9.5	15.0	10.5	19.5	15.0	25.5	19.5	24.0	17.0	23.0	17.0
14	11.0	9.0	15.5	11.5	19.5	14.0	24.5	18.5	23.5	18.5	22.5	17.0
15	9.5	8.5	15.0	11.5	20.0	14.0	24.5	18.5	24.5	18.5	22.0	17.0
16	10.5	9.0	14.5	10.0	21.0	14.5	24.0	18.0	24.0	18.0	20.0	15.5
17	11.5	9.5	14.0	9.5	21.5	15.5	25.5	17.5	25.0	18.0	20.5	15.0
18	12.0	9.0	14.0	9.5	20.5	16.0	25.5	19.0	26.0	19.5	20.0	15.0
19	12.5	8.5	14.5	9.5	20.5	16.0	24.5	19.0	26.0	20.5	21.0	15.0
20	12.0	10.0	15.5	10.5	20.5	14.5	25.0	19.0	25.5	20.0	21.5	15.5
21	10.5	9.5	17.0	11.5	20.5	15.5	27.0	20.5	24.0	20.0	22.0	16.0
22	11.0	9.5	17.5	12.5	20.5	15.0	28.0	21.5	21.5	19.5	21.5	16.0
23	10.5	8.5	18.5	13.0	19.5	14.5	28.0	22.0	23.5	17.5	20.5	16.0
24	10.5	9.0	17.5	14.0	21.0	14.5	25.0	22.0	25.0	18.5	20.5	16.0
25	10.0	9.0	16.0	14.5	22.0	15.0	26.0	19.5	25.5	19.0	20.5	15.5
26	11.0	9.0	18.0	13.0	23.5	16.5	26.0	19.5	25.0	19.5	20.5	15.5
27	10.0	9.0	18.5	12.5	24.5	17.5	27.0	20.0	24.5	18.5	20.5	15.5
28	10.0	9.5	18.5	14.0	24.0	18.5	28.0	21.0	24.5	19.0	19.0	16.5
29	10.0	9.5	17.0	14.5	23.0	17.5	28.0	21.5	24.5	18.0	19.5	15.5
30	10.5	10.0	18.0	14.0	24.0	18.0	26.5	22.0	25.0	19.0	18.5	14.5
31	---	---	18.5	13.5	---	---	25.5	21.5	25.5	19.5	---	---
MONTH	---	---	18.5	9.0	24.5	13.0	28.0	16.5	26.5	17.0	25.5	14.5

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm ft from 1 bank (00009)
OCT				
07...	1310	2.00	15.4	5.0
07...	1311	3.00	15.4	15.0
07...	1312	3.00	15.6	25.0
07...	1313	2.00	15.5	35.0
07...	1314	2.00	15.6	45.0
07...	1315	2.00	15.6	55.0
07...	1316	3.00	15.9	65.0
07...	1317	3.00	16.2	75.0
FEB				
12...	1136	1.00	6.8	6.0
12...	1137	1.00	6.7	18.0
12...	1138	1.00	6.7	30.0
12...	1139	1.00	6.7	42.0
12...	1140	1.00	6.7	54.0
JUL				
09...	1429	2.00	24.2	5.0
09...	1430	2.00	22.9	15.0
09...	1431	2.00	22.8	25.0
09...	1432	2.00	22.6	35.0
09...	1433	2.00	22.5	45.0

* Instantaneous discharge at time of the cross-sectional measurements: Oct. 7, 4.23 ft³/s; Feb. 12, 180 ft³/s; Jul 9, 20.9 ft³/s.

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 mi².

WATER-DISCHARGE RECORDS

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 49.91 ft above NGVD of 1929. 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 0.3 mi 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 poor. Diversions for irrigation of about 350 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 90,400 ft³/s, Dec. 22, 1955, gage height, 36.60 ft, site and datum then in use, from rating curve extended above 26,000 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 14 ft³/s, Sept. 26–30, and several days in October 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0315	41,600	27.12	Dec. 31	unknown	27,900	23.48
Dec. 27	2130	41,000	26.97	Jan. 13	1900	15,800	20.50

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	18	63	e12800	1480	786	1140	5720	354	128	59	29
2	14	18	62	e9100	e1370	722	1100	4200	334	125	59	29
3	15	18	61	e6900	e1180	686	1100	3480	316	123	61	29
4	15	19	64	e4060	1090	651	2320	3060	301	118	62	29
5	15	19	73	4270	1020	634	1770	2630	295	116	61	29
6	16	20	86	3640	997	623	1660	2250	279	115	60	29
7	16	343	76	3120	907	572	1520	2010	266	111	58	30
8	15	1690	68	2880	891	573	1390	1890	262	109	55	31
9	15	908	86	2630	867	560	1260	1690	253	111	53	31
10	15	1050	500	3420	849	664	1160	1520	243	114	51	32
11	14	745	484	5010	810	636	1120	1410	234	111	48	32
12	14	354	462	8590	755	618	3270	1320	229	108	47	31
13	14	329	3730	13700	776	1360	5110	1220	226	106	46	30
14	14	237	20600	10100	763	3790	4160	1120	221	103	45	29
15	15	166	14200	5590	1120	7310	3060	1000	212	101	44	28
16	15	124	26000	3640	4060	4440	3040	946	206	98	43	28
17	16	110	8330	2790	2700	2930	2740	893	200	97	42	28
18	16	122	5340	2250	1890	2190	2350	850	194	94	40	27
19	17	105	4900	1820	1970	1870	2080	786	191	90	39	27
20	17	98	8300	1570	2040	1900	1850	740	189	86	38	27
21	17	92	9090	1750	1670	1570	1740	705	182	84	38	27
22	17	87	5460	2620	1410	1780	1830	666	174	83	37	27
23	18	83	4080	3420	1250	2850	1850	630	167	81	36	27
24	18	79	3450	2740	1160	2230	4340	591	164	78	36	27
25	19	76	3010	3840	1050	2000	6060	561	160	77	35	27
26	19	73	3940	3080	980	2610	5570	526	148	75	33	27
27	19	70	22300	2610	933	2350	4430	487	145	73	32	27
28	19	68	27200	2230	843	1940	6180	453	139	70	31	28
29	19	66	11700	1930	---	e1680	11300	426	133	67	31	29
30	18	65	e7060	1780	---	1400	8740	405	129	63	31	29
31	18	---	e21800	1680	---	1250	---	379	---	60	30	---
TOTAL	503	7252	212575	135560	36831	55175	95240	44564	6546	2975	1381	860
MEAN	16.2	242	6857	4373	1315	1780	3175	1438	218	96.0	44.5	28.7
MAX	19	1690	27200	13700	4060	7310	11300	5720	354	128	62	32
MIN	14	18	61	1570	755	560	1100	379	129	60	30	27
AC-FT	998	14380	421600	268900	73050	109400	188900	88390	12980	5900	2740	1710

e Estimated.

MATTOLE RIVER BASIN

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	216	1374	2956	3616	3094	2266	1210	547	209	81.8	49.3	57.9
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	16.2	41.8	39.7	135	243	187	166	151	68.9	31.3	22.9	17.1
(WY)	2003	1960	1977	1977	1977	1988	1988	1970	1977	1977	1977	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1912 - 2003	
ANNUAL TOTAL	495118		599462			
ANNUAL MEAN	1356		1642		1300	
HIGHEST ANNUAL MEAN					2642	
LOWEST ANNUAL MEAN					157	
HIGHEST DAILY MEAN	27200	Dec 28	27200	Dec 28	55200	Dec 22 1964
LOWEST DAILY MEAN	14	Sep 26	14	Oct 1	14	Sep 26 2002
ANNUAL SEVEN-DAY MINIMUM	14	Sep 26	14	Oct 8	14	Sep 26 2002
MAXIMUM PEAK FLOW			41600		90400	
MAXIMUM PEAK STAGE			27.12		36.60	
ANNUAL RUNOFF (AC-FT)	982100		1189000		941500	
10 PERCENT EXCEEDS	3020		4110		3390	
50 PERCENT EXCEEDS	134		316		271	
90 PERCENT EXCEEDS	18		20		35	

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—

WATER TEMPERATURE: Water years 2001–03 (storm season only) (discontinued).

SEDIMENT DATA: Water years 2001–03 (storm season only) (discontinued).

PERIOD OF DAILY RECORD.—

SUSPENDED SEDIMENT DISCHARGE: Water years 2001–03 (storm season only) (discontinued).

REMARKS.—Sediment samples were collected on most days where water temperature is published. Zero bedload discharge observed for flows less than 105 ft³/s.

EXTREMES FOR PERIOD OF RECORD.—

SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 9,070 mg/L, Dec. 27, 2002; minimum daily mean, 1 mg/L, several days in most years.

SEDIMENT LOAD (storm season only): Maximum daily, 712,000 tons, Dec. 27, 2002; minimum daily, 0.04 ton, several days in October 2002.

EXTREMES FOR CURRENT YEAR.—

SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 9,070 mg/L, Dec. 27; minimum daily mean, 1 mg/L, several days in October, November and December.

SEDIMENT LOAD (storm season only): Maximum daily, 712,000 tons, Dec. 27; minimum daily, 0.04 ton, several days in October.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	---	---	11.0	---	---	12.0	---	---	---	---	---
2	---	---	---	---	---	---	---	11.5	---	---	---	---
3	15.0	---	---	---	10.5	---	---	---	---	---	---	---
4	---	10.0	---	12.0	---	---	9.0	---	---	---	---	---
5	---	---	---	12.5	---	12.0	---	---	20.0	---	---	---
6	---	13.0	---	---	---	---	---	---	---	---	---	---
7	---	13.5	---	---	7.0	---	---	---	---	---	---	---
8	---	12.5	9.0	---	---	---	---	---	---	---	---	---
9	---	13.0	---	---	---	10.5	---	---	---	22.0	---	---
10	---	13.0	---	---	---	---	13.0	---	---	---	---	---
11	---	---	9.5	11.5	---	---	10.5	---	---	---	21.0	---
12	---	---	---	12.0	---	---	---	---	---	---	---	---
13	---	---	12.5	12.5	---	11.0	11.5	---	---	---	---	---
14	---	---	12.5	---	---	11.0	---	---	---	---	---	---
15	---	---	11.5	---	11.0	11.0	---	---	---	---	---	---
16	---	13.0	11.5	---	9.5	11.0	11.5	---	---	---	---	---
17	---	---	10.5	---	---	---	---	16.0	---	---	---	---
18	---	---	10.0	11.5	---	---	---	---	---	---	---	---
19	---	10.5	9.0	---	---	---	---	---	---	---	---	---
20	---	---	10.5	---	10.0	---	12.5	---	---	---	---	---
21	---	---	10.5	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	11.0	---	---	---	---	21.5	---
23	---	---	---	---	---	12.0	---	---	---	---	---	---
24	---	12.0	9.5	12.0	---	---	10.0	---	---	---	---	---
25	---	---	---	---	---	---	9.5	16.0	---	---	---	---
26	---	---	11.0	---	---	---	---	---	---	---	---	---
27	14.0	---	12.0	---	10.0	---	---	---	---	---	---	---
28	---	---	10.0	---	---	---	---	---	---	---	---	---
29	---	7.5	10.0	---	---	---	11.0	---	---	---	---	---
30	---	---	---	---	---	---	12.0	18.5	---	---	---	---
31	---	---	10.5	13.0	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, fall dia <.002mm percent (70337)	Suspnd. sediment, fall dia <.004mm percent (70338)	Suspnd. sediment, fall dia <.008mm percent (70339)
JAN								
04...	1325	4010	12.0	717	7760	25	35	49
APR								
10...	1325	1150	13.0	47	146	--	--	--
29...	1050	12200	10.5	2520	83000	--	--	--
29...	1345	12500	11.0	2520	85000	18	23	29

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Suspnd. sedi-ment, falldia dst wat percent <.016mm (70340)	Suspnd. sedi-ment, falldia dst wat percent <.031mm (70341)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Suspnd. sedi-ment, sieve diametr percent <.125mm (70332)	Suspnd. sedi-ment, sieve diametr percent <.25mm (70333)	Suspnd. sedi-ment, sieve diametr percent <.5 mm (70334)	Suspnd. sedi-ment, sieve diametr percent <1 mm (70335)
JAN 04...	61	70	77	86	95	98	100
APR 10...	--	--	78	82	85	100	--
29...	--	--	70	--	--	--	--
29...	44	56	68	80	95	100	--

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam-pling method, code (82398)	Sam-pler type, code (84164)	Bag mesh size, bedload sam-pler mm (30333)	Tether line used in sam-pling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load, seconds (04120)	Hori-zontal width of verti-cal, feet (04121)	Compstd samples in x-sec bedload measmnt number (04118)
JAN 04...	1400	1000	1100	.25	0	1350	1415	10	10.0	2
04...	1435	1000	1100	.25	0	1425	1445	10	10.0	2
FEB 03...	1330	1000	1100	.25	0	1325	1335	15	10.0	2
03...	1352	1000	1100	.25	0	1345	1400	15	10.0	2
MAR 05...	1141	1000	1100	.25	0	1113	1208	60	4.0	2
05...	1232	1000	1100	.25	0	1215	1249	60	4.0	2
APR 10...	1217	1000	1100	.25	0	1205	1230	20	10.0	2
10...	1255	1000	1100	.25	0	1240	1310	20	10.0	2
29...	1450	1000	1100	.25	0	1415	1530	10	10.0	1
JUN 05...	1255	1000	1120	.25	0	1245	1300	30	4.0	2
05...	1315	1000	1120	.25	0	1308	1323	30	4.0	2

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Verti-cals in com-posite sample, number (04119)	Number of sam-pling points, count (00063)	Loca-tion in X-sect. looking dwnstrm ft from bank (00009)	Instan-taneous dis-charge, cfs (00061)	Temper-ature, water, deg C (00010)	Bedload sedi-ment dschrg average unit composit t/d/ft (04122)	Bedload sedi-ment dis-charge, tons/d (80225)	Bedload sedi-ment, sieve diametr percent <.063mm (80226)	Bedload sedi-ment, sieve diametr percent <.125mm (80227)
JAN 04...	24	24	5.0	4100	12.0	3.81	1120	--	<1
04...	24	24	5.0	4080	12.0	5.93	1120	--	<1
FEB 03...	13	13	5.0	1150	10.5	.65	78	<1	<1
03...	13	13	5.0	1130	10.5	.65	78	<1	<1
MAR 05...	22	22	3.0	646	12.0	.21	22	<1	<1
05...	22	22	3.0	644	12.0	.31	22	--	<1
APR 10...	22	22	5.0	1150	13.0	.68	167	<1	<1
10...	22	22	5.0	1160	13.0	.91	167	--	<1
29...	23	23	17.0	12600	11.0	49.7	10900	--	<1
JUN 05...	23	23	2.0	302	20.0	.04	5.5	<1	<1
05...	23	23	2.0	288	20.0	.10	5.5	<1	<1

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

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)	Bedload sedi- ment, sieve diametr percent <64 mm (80236)
JAN									
04...	1	10	17	22	39	56	83	100	--
04...	1	12	21	29	46	67	90	100	--
FEB									
03...	<1	19	59	82	95	99	100	--	--
03...	<1	16	43	62	80	94	100	--	--
MAR									
05...	<1	19	59	82	92	96	100	--	--
05...	<1	18	62	91	98	100	--	--	--
APR									
10...	<1	15	31	45	66	86	94	100	--
10...	1	16	34	55	84	95	100	--	--
29...	<1	4	7	13	24	39	64	92	100
JUN									
05...	1	21	46	63	75	87	95	100	--
05...	<1	15	34	50	65	83	100	--	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	14	1	0.04	18	1	0.05	63	1	0.17
2	14	1	0.04	18	1	0.05	62	1	0.17
3	15	1	0.04	18	1	0.05	61	1	0.17
4	15	1	0.04	19	1	0.05	64	1	0.17
5	15	1	0.04	19	1	0.05	73	1	0.20
6	16	1	0.04	20	3	0.15	86	1	0.23
7	16	1	0.04	343	479	1770	76	1	0.21
8	15	1	0.04	1690	539	2800	68	1	0.20
9	15	1	0.04	908	132	338	86	2	0.39
10	15	1	0.04	1050	171	546	500	112	193
11	14	1	0.04	745	153	357	484	48	69
12	14	1	0.04	354	26	25	462	45	88
13	14	1	0.04	329	14	13	3730	942	10800
14	14	1	0.04	237	12	8.0	20600	4550	266000
15	15	1	0.04	166	9	3.9	14200	3810	205000
16	15	1	0.04	124	4	1.4	26000	8070	698000
17	16	1	0.04	110	2	0.72	8330	2270	52100
18	16	1	0.04	122	2	0.57	5340	1380	20100
19	17	1	0.05	105	2	0.56	4900	1620	21900
20	17	1	0.05	98	3	0.69	8300	3430	82600
21	17	1	0.05	92	2	0.56	9090	2730	72100
22	17	1	0.05	87	2	0.44	5460	732	11000
23	18	1	0.05	83	1	0.33	4080	511	5660
24	18	1	0.05	79	1	0.24	3450	407	3790
25	19	1	0.05	76	1	0.24	3010	417	3380
26	19	1	0.05	73	1	0.27	3940	1800	20200
27	19	1	0.05	70	2	0.30	22300	9070	712000
28	19	1	0.05	68	2	0.33	27200	6750	533000
29	19	1	0.05	66	2	0.29	11700	2890	96300
30	18	1	0.05	65	1	0.19	e7060	e2530	e46100
31	18	1	0.05	---	---	---	e21800	e8500	e255000
TOTAL	503	---	1.37	7252	---	5868.43	212575	---	3115381.91

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

MATTOLE RIVER BASIN

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	e12800	e2800	e98000	1480	97	387	786	28	60
2	e9100	e2500	e62000	e1370	e75	e269	722	24	47
3	e6900	e1700	e25000	e1180	e55	e175	686	19	36
4	e4060	e765	e8640	1090	45	133	651	15	26
5	4270	658	7600	1020	38	105	634	10	17
6	3640	597	5880	997	31	83	623	9	14
7	3120	540	4560	907	25	61	572	8	12
8	2880	484	3760	891	24	58	573	7	12
9	2630	428	3040	867	24	56	560	7	11
10	3420	676	6910	849	24	55	664	9	16
11	5010	1140	15500	810	24	52	636	11	18
12	8590	3590	96400	755	23	47	618	16	27
13	13700	3620	138000	776	23	48	1360	702	3860
14	10100	2760	78900	763	22	46	3790	1280	13800
15	5590	1190	18600	1120	198	990	7310	2900	59000
16	3640	568	5670	4060	1490	16700	4440	1200	14900
17	2790	369	2790	2700	729	5440	2930	429	3450
18	2250	271	1650	1890	352	1820	2190	283	1680
19	1820	244	1200	1970	336	1840	1870	264	1350
20	1570	235	998	2040	252	1410	1900	300	1590
21	1750	227	1070	1670	137	622	1570	136	574
22	2620	409	3580	1410	103	393	1780	235	1360
23	3420	644	6090	1250	87	292	2850	565	4560
24	2740	420	3170	1160	74	234	2230	248	1500
25	3840	769	8020	1050	62	177	2000	224	1210
26	3080	489	4100	980	50	132	2610	413	2920
27	2610	324	2290	933	39	97	2350	204	1310
28	2230	226	1370	843	33	75	1940	150	787
29	1930	169	883	---	---	---	e1680	e125	e562
30	1780	140	675	---	---	---	1400	100	380
31	1680	118	536	---	---	---	1250	75	256
TOTAL	135560	---	616882	36831	---	31797	55175	---	115345
	APRIL			MAY					
1	1140	53	165	5720	838	13100			
2	1100	47	140	4200	512	5850			
3	1100	52	157	3480	350	3320			
4	2320	527	3490	3060	250	2070			
5	1770	208	1010	2630	222	1570			
6	1660	124	556	2250	193	1180			
7	1520	102	420	2010	165	896			
8	1390	80	299	1890	139	711			
9	1260	57	196	1690	117	533			
10	1160	39	122	1520	94	388			
11	1120	36	110	1410	72	274			
12	3270	1230	13200	1320	49	177			
13	5110	1600	22500	1220	27	89			
14	4160	1140	13000	1120	17	53			
15	3060	696	5800	1000	15	41			
16	3040	498	4080	946	13	33			
17	2740	340	2540	893	11	26			
18	2350	183	1160	850	10	22			
19	2080	132	742	786	9	19			
20	1850	120	599	740	8	16			
21	1740	117	551	705	8	14			
22	1830	117	579	666	7	12			
23	1850	297	1840	630	6	11			
24	4340	1130	13500	591	6	8.9			
25	6060	1940	34700	561	5	7.6			
26	5570	1860	28200	526	5	6.5			
27	4430	1290	15500	487	4	5.6			
28	6180	1510	26200	453	4	4.7			
29	11300	2610	80000	426	3	4.0			
30	8740	1350	32600	405	3	3.4			
31	---	---	---	379	3	3.0			
TOTAL	95240	---	303956	44564	---	30448.7			
PERIOD				587700.00		4219680.41			

e Estimated.

11469000 MATTOLE RIVER NEAR PETROLIA, CA—Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 2002	503.00	1.37	0	1
NOVEMBER	7252.00	5868.43	2	5870
DECEMBER	212575.00	3115381.91	140492	3255874
JANUARY 2003	135560.00	616882.00	84972	701854
FEBRUARY	36831.00	31797.00	9802	41599
MARCH	55175.00	115345.00	27852	143197
APRIL	95240.00	303956.00	64784	368740
MAY	44564.00	30448.70	24812	55261
TOTAL	587700.00	4219680.41	352716	4572396

EEL RIVER BASIN

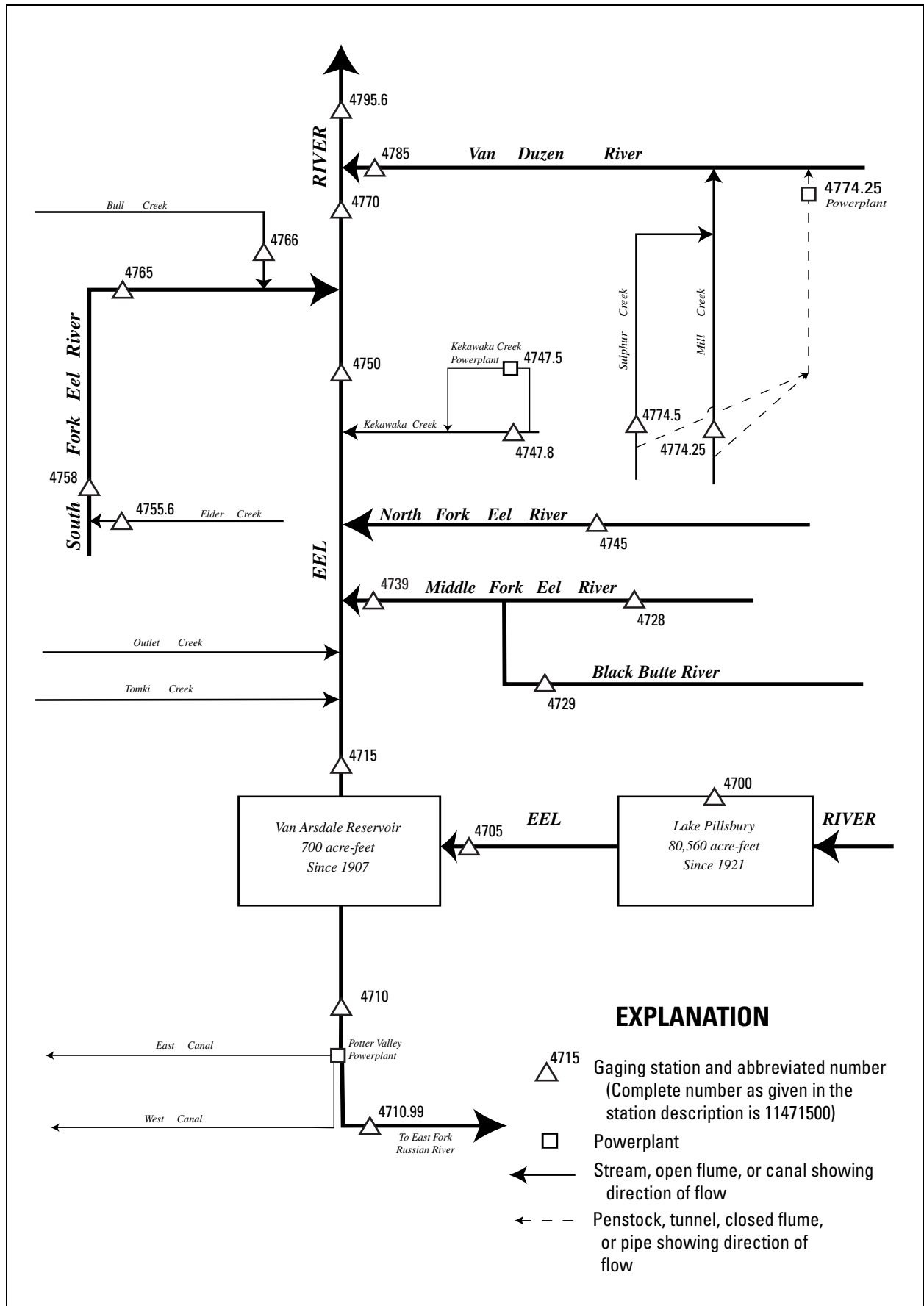


Figure 23. Diversions and storage in Eel River Basin.

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 mi².

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 NGVD of 1929 (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, 80,560 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 Federal Energy Regulatory Commission project no. 77.

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	1,840	2,463	1,865	13,701	1,890	41,811
1,824	153	1,845	3,391	1,870	17,664	1,895	50,179
1,827	333	1,850	5,710	1,875	22,451	1,900	59,469
1,830	626	1,855	7,831	1,880	28,071	1,905	69,675
1,835	1,371	1,860	10,456	1,885	34,474	1,910	80,643

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35200	28200	26000	63400	60500	59700	77700	77800	79800	75800	68100	59100
2	35000	28000	25700	62400	60400	59600	76400	77400	79900	75600	67900	58800
3	34900	27800	25500	61900	60300	59500	76400	77300	80000	75400	67700	58600
4	34700	27600	25200	61700	60200	59500	76800	77400	80000	75200	67500	58200
5	34500	27400	25000	61600	60100	59400	77200	77100	79800	75000	67200	57900
6	34200	27200	24800	61400	60000	59300	77400	77700	79700	74800	66900	57600
7	34000	27200	24600	61200	59900	59300	77700	78300	79600	74500	66600	57300
8	33800	27700	24400	61000	59800	59400	78000	78200	79500	74300	66400	57000
9	33500	28200	24200	61100	59700	59500	78200	78200	79300	74100	66100	56600
10	33300	29500	24100	62300	59700	59500	78400	78600	79200	73800	65800	56100
11	33100	29700	23900	62300	59600	59300	78600	79200	79000	73600	65500	55500
12	32800	29700	23800	65100	59500	59100	78900	79700	78900	73300	65200	55000
13	32600	29600	29700	66500	59900	59200	77900	80200	78700	73100	64900	54400
14	32400	29500	50800	64700	60000	62000	78500	80600	78600	72900	64600	53800
15	32200	29300	62600	63300	60500	70100	79000	80000	78500	72600	64300	53200
16	31900	29100	66500	62500	61600	69000	79300	79300	78400	72400	64100	52600
17	31700	28800	63400	62000	61000	70800	79300	79300	78200	72100	63800	52000
18	31400	28600	61900	61600	60700	72500	79100	79400	78100	71800	63500	51400
19	31200	28400	61600	61300	60500	73800	79000	79600	78000	71600	63200	50800
20	30900	28200	63700	61100	60400	75000	79100	79800	77800	71300	62900	50300
21	30700	28000	63500	61200	60300	75900	79200	80100	77700	71100	62600	49700
22	30500	27800	62000	62700	60200	76500	78800	79900	77600	70800	62300	49100
23	30200	27600	61200	62600	60100	76900	78000	80000	77400	70500	62000	48600
24	30000	27400	60800	62000	60100	76900	79300	80100	77200	70300	61700	48000
25	29800	27200	60500	61800	60000	76800	78300	79900	77000	70100	61400	47600
26	29500	27000	62000	61500	59900	77400	77000	79600	76900	69800	61100	47200
27	29300	26800	67100	61300	59800	78200	77700	79600	76700	69500	60800	46600
28	29000	26600	66300	61100	59700	78700	78700	79700	76500	69200	60400	46000
29	28800	26400	63900	60900	---	79000	78400	79900	76300	69000	60100	45500
30	28600	26200	64800	60700	---	79100	77700	80000	76100	68700	59800	44900
31	28400	---	65700	60600	---	78900	---	79800	---	68400	59500	---
TOTAL	988100	840700	1455200	1924800	1684400	2119800	2346000	2453700	2350400	2240600	1983900	1579400
MEAN	31874	28023	46942	62090	60157	68381	78200	79152	78347	72277	63997	52647
MAX	35200	29700	67100	66500	61600	79100	79300	80600	80000	75800	68100	59100
MIN	28400	26200	23800	60600	59500	59100	76400	77100	76100	68400	59500	44900
a	1880.28	1878.42	1876.22	1900.57	1900.02	1899.76	1908.04	1908.38	1907.95	1904.38	1900.01	1891.92
b	-7000	-2200	39500	-5100	-900	19200	-1200	2100	-6700	-4700	-8900	-14600

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 mi².

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 NGVD of 1929, 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 Federal Energy Regulatory Commission project no. 77.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 56,300 ft³/s, Dec. 22, 1964, gage height, 24.24 ft, from floodmarks, from rating curve extended above 37,000 ft³/s; minimum daily, 0.1 ft³/s, Sept. 8, 1924.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	141	158	4260	864	446	1200	2220	307	170	154	180
2	103	141	174	2490	790	419	1250	2190	241	164	163	166
3	97	142	155	1770	710	397	585	1980	242	164	161	164
4	108	143	144	1560	631	387	453	1730	261	166	160	165
5	129	142	140	1510	558	384	404	1730	313	166	159	169
6	130	142	139	1430	524	344	391	1250	298	157	158	162
7	130	145	138	1320	485	291	393	1190	266	162	156	161
8	129	150	139	1220	457	249	396	1400	259	162	159	169
9	129	162	140	1190	439	227	399	1210	249	158	165	231
10	129	176	140	1610	421	275	401	897	235	156	164	286
11	128	185	139	2190	406	383	404	710	253	160	163	301
12	127	185	139	3660	399	382	1580	726	232	161	163	313
13	127	179	133	8370	440	383	2450	742	219	160	161	329
14	132	174	116	6160	506	415	1120	823	189	160	160	331
15	140	178	142	3790	628	2680	989	1280	197	159	159	330
16	139	177	11300	2530	1530	3330	1100	1200	194	158	158	330
17	139	175	5630	1880	1260	704	1200	795	190	158	157	329
18	140	164	2530	1560	1020	323	1180	629	171	158	162	329
19	140	159	1590	1390	910	346	1050	549	167	157	165	328
20	140	160	2080	1260	868	361	941	524	173	156	164	327
21	140	150	4640	1290	868	373	946	479	171	155	160	326
22	141	142	2690	1860	868	500	1150	740	159	154	154	324
23	141	142	1560	2620	868	727	1330	603	159	153	156	302
24	140	141	1180	1900	868	816	1590	497	174	153	164	297
25	139	141	954	1690	655	815	2750	703	179	152	170	244
26	139	141	1120	1500	508	680	2740	661	171	153	169	244
27	138	141	5800	1370	481	393	1510	445	169	157	167	290
28	138	141	9470	1240	461	393	2480	321	170	159	164	314
29	139	140	6000	1110	---	459	4480	292	173	151	161	317
30	140	139	4570	1000	---	497	3350	326	176	166	163	316
31	140	---	8540	930	---	656	---	448	---	159	179	---
TOTAL	4075	4638	71790	67660	19423	19035	40212	29290	6357	4924	5018	8074
MEAN	131	155	2316	2183	694	614	1340	945	212	159	162	269
MAX	141	185	11300	8370	1530	3330	4480	2220	313	170	179	331
MIN	97	139	116	930	399	227	391	292	159	151	154	161
AC-FT	8080	9200	142400	134200	38530	37760	79760	58100	12610	9770	9950	16010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

	219	277	762	1300	1423	1055	663	341	200	175	177	208
MEAN	219	277	762	1300	1423	1055	663	341	200	175	177	208
MAX	361	1851	4945	5687	6624	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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1923 - 2003
ANNUAL TOTAL	202319	280496	
ANNUAL MEAN	554	768	563
HIGHEST ANNUAL MEAN			1443
LOWEST ANNUAL MEAN			85.4
HIGHEST DAILY MEAN	11300	Dec 16	11300
LOWEST DAILY MEAN	95	Jul 10	97
ANNUAL SEVEN-DAY MINIMUM	99	Jul 6	114
MAXIMUM PEAK FLOW			16300
MAXIMUM PEAK STAGE			13.41
ANNUAL RUNOFF (AC-FT)	401300	556400	407600
10 PERCENT EXCEEDS	1010	1730	1140
50 PERCENT EXCEEDS	150	292	232
90 PERCENT EXCEEDS	101	140	93

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."

SEDIMENT DATA: Water years 1964–68.

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 NGVD of 1929, 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 Federal Energy Regulatory Commission project no. 77.

EXTREMES FOR PERIOD OF RECORD (Since 1922).—Maximum daily discharge, 351 ft³/s, Oct. 31, 1982; no flow at times in several years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	87	100	140	16	278	277	275	274	149	150	154
2	96	88	91	252	78	278	277	275	257	152	150	150
3	96	87	71	251	119	278	277	275	202	152	152	153
4	95	90	54	251	261	278	274	275	199	149	153	150
5	104	91	49	250	265	277	269	275	202	149	152	150
6	104	92	46	251	268	248	273	276	230	149	148	151
7	101	103	45	251	275	182	275	275	242	157	147	150
8	100	119	45	251	275	184	275	275	223	153	150	150
9	98	123	47	251	276	185	274	289	204	101	152	187
10	97	162	51	251	276	202	294	298	226	159	157	251
11	94	131	48	251	276	282	305	298	169	151	154	271
12	91	110	49	251	269	280	293	298	148	148	151	275
13	89	107	150	252	277	278	290	298	151	157	154	291
14	91	93	199	253	277	278	311	299	152	153	152	295
15	90	101	170	253	277	266	311	298	152	151	149	293
16	94	100	25	255	276	262	307	251	152	152	149	293
17	95	98	105	84	265	264	291	302	151	153	149	292
18	97	95	245	0.03	277	279	312	301	154	152	149	291
19	99	92	251	0.03	277	279	311	300	152	152	151	291
20	101	106	249	0.03	277	279	311	300	149	152	153	292
21	100	113	248	0.03	277	278	311	300	150	151	154	298
22	100	107	250	0.03	276	278	311	299	149	151	152	293
23	101	105	249	0.03	277	278	311	299	150	151	148	297
24	100	106	250	0.03	277	278	196	299	149	148	148	265
25	101	105	249	0.03	277	279	104	299	150	148	150	221
26	100	105	250	0.03	250	278	55	299	150	148	158	250
27	95	106	192	0.03	278	278	129	299	149	148	157	260
28	100	105	5.5	0.03	278	278	129	299	149	154	156	284
29	98	104	5.0	0.03	---	277	128	281	149	151	154	285
30	91	103	122	0.03	---	278	269	254	149	146	155	288
31	87	---	87	0.03	---	278	---	254	---	154	154	---
TOTAL	2999	3134	3997.5	3998.42	7047	8195	7750	8915	5283	4641	4708	7271
MEAN	96.7	104	129	129	252	264	258	288	176	150	152	242
MAX	104	162	251	255	278	282	312	302	274	159	158	298
MIN	87	87	5.0	0.03	16	182	55	251	148	101	147	150
AC-FT	5950	6220	7930	7930	13980	16250	15370	17680	10480	9210	9340	14420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2003, BY WATER YEAR (WY)

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	186	194	210	223	241	244	230	213	176	157	154	178																																																																																		
MAX	321	311	311	316	325	330	330	330	325	314	320	314																																																																																		
(WY)	1991	1963	1982	1982	1998	1998	1998	1982	1982	1953	1953	1967																																																																																		
MIN	0.000	9.70	3.10	15.4	11.8	0.000	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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1910 - 2003
ANNUAL TOTAL	54917.5	67938.92	
ANNUAL MEAN	150	186	201
HIGHEST ANNUAL MEAN			305
LOWEST ANNUAL MEAN			84.0
HIGHEST DAILY MEAN	320	Feb 25	312
LOWEST DAILY MEAN	5.0	Dec 29	0.03
ANNUAL SEVEN-DAY MINIMUM	47	Dec 5	0.03
ANNUAL RUNOFF (AC-FT)	108900	134800	145300
10 PERCENT EXCEEDS	314	292	313
50 PERCENT EXCEEDS	96	154	215
90 PERCENT EXCEEDS	89	89	61

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 18010110, 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 NGVD of 1929, from topographic map.

REMARKS.—Flow represents inflow into the Russian River Basin after passing through powerhouse. See schematic diagrams of Russian River and Eel River Basins.

COOPERATION.—Records collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 77.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 335 ft³/s, Mar. 19, 20, 22, 23, 1998; no flow Apr. 4, 5, July 18–20, 1990; Nov. 15–19, 1993; and many days in 1995 and 2001.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	84	100	139	16	278	277	273	262	119	119	136
2	84	85	91	251	77	277	276	273	247	122	124	132
3	87	84	70	251	119	277	276	273	193	122	128	132
4	88	89	54	251	260	278	273	273	186	119	136	135
5	97	90	49	250	265	277	269	273	189	119	138	135
6	97	91	46	250	268	247	273	274	213	119	133	136
7	91	102	45	250	275	181	274	273	223	129	130	136
8	86	119	45	251	275	183	274	273	206	126	125	135
9	83	122	47	250	275	184	274	287	183	73	127	173
10	77	162	51	250	276	201	294	296	208	132	137	237
11	69	131	48	251	275	282	304	296	152	123	136	253
12	67	110	49	251	269	280	293	296	125	120	133	254
13	72	107	150	251	277	277	290	296	126	134	135	273
14	81	93	199	252	277	278	310	297	129	133	129	273
15	74	101	170	253	277	265	311	296	133	134	122	270
16	77	100	25	255	276	262	307	248	138	140	121	267
17	79	98	105	84	265	263	289	295	147	141	121	263
18	80	95	245	0.00	277	279	309	298	133	133	121	264
19	83	92	251	0.00	276	279	308	300	123	128	122	267
20	84	106	248	0.00	276	279	308	299	125	133	124	273
21	87	113	248	0.00	276	278	308	295	125	141	126	280
22	89	107	249	0.00	276	277	308	292	125	146	129	279
23	87	105	249	0.00	276	277	308	284	127	133	125	285
24	87	106	249	0.00	276	278	194	286	129	123	127	252
25	85	105	249	0.00	277	279	103	292	127	118	126	208
26	85	105	250	0.00	250	278	54	294	126	117	130	228
27	83	106	191	0.00	278	278	128	294	123	117	133	244
28	94	105	5.4	0.00	278	277	127	294	126	123	136	270
29	94	104	4.9	0.00	---	277	126	272	126	120	138	264
30	88	103	121	0.00	---	277	267	242	123	115	139	267
31	84	---	87	0.00	---	277	---	241	---	123	136	---
TOTAL	2601	3120	3991.3	3990.00	7038	8180	7712	8775	4698	3875	4006	6721
MEAN	83.9	104	129	129	251	264	257	283	157	125	129	224
MAX	97	162	251	255	278	282	311	300	262	146	139	285
MIN	67	84	4.9	0.00	16	181	54	241	123	73	119	132
AC-FT	5160	6190	7920	7910	13960	16230	15300	17410	9320	7690	7950	13330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	177	182	187	195	224	247	202	180	141	103	103	148
MAX	311	291	296	294	319	329	327	316	307	160	151	286
(WY)	1991	1998	2002	1998	1996	1998	1998	1993	1998	1993	1996	1996
MIN	79.3	90.1	46.5	35.8	45.0	51.4	53.7	87.4	59.0	50.5	47.4	57.8
(WY)	1989	1988	2001	1991	1991	1995	1990	2002	1994	2001	2001	2001

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1988 - 2003

ANNUAL TOTAL	51176.3	64707.30		
ANNUAL MEAN	140	177	174	
HIGHEST ANNUAL MEAN			248	1998
LOWEST ANNUAL MEAN			82.8	1995
HIGHEST DAILY MEAN	319	Feb 25	311	Apr 15
LOWEST DAILY MEAN	4.9	Dec 29	0.00	Jan 18
ANNUAL SEVEN-DAY MINIMUM	47	Dec 5	0.00	Jan 18
ANNUAL RUNOFF (AC-FT)	101500		128300	126000
10 PERCENT EXCEEDS	312		280	317
50 PERCENT EXCEEDS	87		138	135
90 PERCENT EXCEEDS	66		77	66

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 mi².

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 NGVD of 1929, 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 flow only 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 Federal Energy Regulatory Commission project no. 77.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 64,100 ft³/s, Dec. 22, 1964, gage height, 33.9 ft, from floodmarks; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	23	93	4320	1030	215	758	2200	260	36	6.3	16
2	6.1	22	93	2620	923	190	980	2070	152	31	6.1	6.3
3	9.2	24	93	1940	820	171	409	1920	152	27	6.1	6.2
4	13	26	93	1650	624	157	351	1710	151	22	6.1	6.2
5	17	26	94	1550	554	149	286	1670	170	18	6.6	6.1
6	18	18	94	1440	515	148	247	1290	186	17	6.2	6.3
7	18	20	93	1320	460	159	242	1080	151	11	6.1	6.1
8	21	27	93	1190	410	117	236	1310	148	9.4	6.1	6.1
9	23	27	93	1120	381	97	232	1130	131	9.7	6.0	6.2
10	23	94	93	1290	354	95	209	895	150	9.6	6.0	6.2
11	29	96	93	2040	268	129	197	659	220	9.5	5.9	6.2
12	29	96	94	2250	178	129	1060	653	183	9.4	5.6	6.2
13	29	95	288	5840	212	145	2070	652	153	9.1	5.6	6.2
14	29	96	1390	5260	288	356	1140	657	140	9.1	5.6	6.2
15	31	95	767	3540	314	2140	780	988	123	7.5	5.6	6.2
16	38	96	7190	2510	1270	2550	875	1060	60	6.1	5.6	6.2
17	37	96	3990	2070	1090	758	928	884	62	6.0	5.5	6.2
18	29	78	1930	1810	801	303	883	538	57	5.9	8.4	6.1
19	29	63	1270	1600	671	284	781	508	43	5.9	8.6	6.1
20	29	49	1740	1440	586	287	654	465	43	5.7	7.7	6.2
21	29	37	3700	1360	512	261	673	231	41	5.6	5.3	6.2
22	29	40	2320	1570	451	330	787	550	41	5.6	5.8	6.0
23	29	37	1690	2530	404	524	961	552	36	5.8	5.9	8.6
24	29	37	1240	2120	374	572	1660	393	36	5.7	5.2	9.9
25	29	37	983	1900	356	559	2540	418	36	5.6	5.2	10
26	29	37	1110	1730	343	583	2620	592	36	5.5	5.3	7.2
27	29	37	4370	1570	278	300	1760	379	36	5.1	5.4	6.9
28	29	37	7120	1430	243	274	2290	171	36	5.7	5.2	7.5
29	26	37	4930	1290	---	294	4010	160	36	6.0	5.1	7.7
30	26	37	3510	1170	---	336	3260	153	36	6.7	19	1.4
31	26	---	6690	1100	---	396	---	232	---	6.9	20	---
TOTAL	776.5	1540	57347	64570	14710	13008	33879	26170	3105	329.1	213.1	204.9
MEAN	25.0	51.3	1850	2083	525	420	1129	844	104	10.6	6.87	6.83
MAX	38	96	7190	5840	1270	2550	4010	2200	260	36	20	16
MIN	6.1	18	93	1100	178	95	197	153	36	5.1	5.1	1.4
AC-FT	1540	3050	113700	128100	29180	25800	67200	51910	6160	653	423	406

11471500 EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.3	125	719	1400	1512	1036	552	186	29.9	5.82	5.74	5.50
MAX	153	2389	5249	6293	8904	5492	3863	1174	366	25.3	54.1	27.9
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1998	1999	1980	1959
MIN	0.86	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1923 - 2003	
ANNUAL TOTAL	146255.5		215852.6			
ANNUAL MEAN	401		591		457	
HIGHEST ANNUAL MEAN					1546	
LOWEST ANNUAL MEAN					3.46	
HIGHEST DAILY MEAN	10200	Jan 2	7190	Dec 16	49500	Dec 22 1964
LOWEST DAILY MEAN	5.0	Jul 31	1.4	Sep 30	0.00	Sep 13 1953
ANNUAL SEVEN-DAY MINIMUM	5.6	Jul 28	5.3	Aug 23	0.16	Dec 5 1965
MAXIMUM PEAK FLOW			10500	Dec 16	64100	Dec 22 1964
MAXIMUM PEAK STAGE			18.66	Dec 16	33.90	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	290100		428100		330900	
10 PERCENT EXCEEDS	825		1750		1090	
50 PERCENT EXCEEDS	89		117		9.8	
90 PERCENT EXCEEDS	7.3		6.1		2.0	

11472800 MIDDLE FORK EEL RIVER ABOVE BLACK BUTTE RIVER, NEAR COVELO, CA

LOCATION.—Lat 39° 49' 45", long 123° 04' 11", in SE 1/4 SE 1/4 sec.22, T.23 N., R.11 W., Mendocino County, Hydrologic Unit 18010104, on left bank, 1.2 mi upstream from Black Butte River, and 9.8 mi northeast of Covelo.

DRAINAGE AREA.—204 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1967 to September 1970, October 2001 to current year.

GAGE.—Water-stage recorder. Datum of gage is 1,446.47 ft above NGVD of 1929. Oct. 31, 1968, to September 1970 at different datum. Prior to Oct. 31, 1968, at datum 5.0 ft higher.

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, 48,400 ft³/s, Jan. 23, 1970, gage height, 16.08 ft, from rating curve extended above 10,000 ft³/s, at datum then in use; maximum gage height, 23.99 ft, Dec. 16, 2003; minimum daily, 3.5 ft³/s, Sept. 13–20, 1970.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0315	21,500	23.99	Jan. 13	1845	14,100	20.55
Dec. 28	0515	14,700	20.89	Mar. 15	0545	10,100	18.68

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.1	e80	3150	1630	452	1250	2160	592	43	16	10
2	4.3	5.2	e78	2220	1330	417	1120	2200	550	41	19	9.8
3	4.5	5.3	e76	2140	1070	401	979	2400	519	40	21	9.5
4	4.4	5.4	e73	2590	889	373	1010	3090	513	38	19	11
5	4.3	5.4	e70	2840	751	342	1100	2680	471	36	19	12
6	4.3	5.4	e69	2440	648	321	960	2410	425	35	18	10
7	4.3	9.8	e68	2130	563	306	845	2130	384	33	17	10
8	4.2	1090	e68	1920	503	292	1180	2120	343	32	17	10
9	4.1	1050	e69	1830	455	282	1380	1710	300	31	17	10
10	4.1	1480	71	2480	419	382	1290	1560	267	29	16	12
11	4.1	697	93	3450	388	502	1190	1530	226	28	16	12
12	4.1	448	82	5370	360	595	1680	1550	196	27	16	11
13	4.1	586	3160	11200	490	609	1870	1890	173	26	15	10
14	4.1	297	13800	9410	631	2500	1690	2320	153	26	15	10
15	4.1	212	7590	5510	672	6440	1550	2260	137	25	15	9.8
16	4.2	171	12700	3550	1830	3020	1430	1840	128	25	14	9.7
17	4.2	148	4790	2760	1110	2050	1460	1550	120	24	14	9.6
18	4.2	131	2420	2630	933	1600	1420	1320	112	23	13	9.5
19	4.2	115	1750	2420	879	1410	1440	1170	104	22	13	9.3
20	4.3	e113	1800	2170	775	1390	1560	1180	96	21	13	9.0
21	4.3	e110	1890	2200	775	1300	1640	1280	88	21	13	8.9
22	4.3	e107	1330	3770	769	1510	1460	1460	81	20	13	8.5
23	4.4	e103	1090	4670	716	2020	1570	1540	75	19	13	8.2
24	4.6	e99	954	3020	679	1560	3890	1490	70	19	13	7.9
25	4.7	e95	861	4230	660	1430	2590	1240	65	19	12	7.7
26	4.7	e93	1370	3390	600	3890	2150	1010	60	19	12	7.6
27	4.8	e91	9720	3140	547	2550	1980	866	55	18	11	7.4
28	4.8	e89	11700	2490	492	1910	2510	863	52	17	11	7.3
29	4.8	e85	5350	1840	---	1590	2590	872	48	17	11	7.3
30	4.8	e82	3900	1650	---	1450	2250	801	45	16	11	7.3
31	4.9	---	5790	1720	---	1360	---	699	---	16	10	---
TOTAL	135.5	7533.6	92862	104330	21564	44254	49034	51191	6448	806	453	282.3
MEAN	4.37	251	2996	3365	770	1428	1634	1651	215	26.0	14.6	9.41
MAX	4.9	1480	13800	11200	1830	6440	3890	3090	592	43	21	12
MIN	4.1	5.1	68	1650	360	282	845	699	45	16	10	7.3
AC-FT	269	14940	184200	206900	42770	87780	97260	101500	12790	1600	899	560

e Estimated.

11472800 MIDDLE FORK EEL RIVER ABOVE BLACK BUTTE RIVER, NEAR COVELO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.2	244	2145	3572	1422	1021	953	770	139	24.5	13.6	8.10
MAX	28.4	576	3910	5112	2848	1428	1639	1651	317	46.1	24.2	11.6
(WY)	1970	2002	2002	1970	1968	2003	1969	2003	1969	1969	1968	1968
MIN	4.37	63.1	513	1605	770	733	234	205	46.2	15.0	7.40	4.57
(WY)	2003	1968	1968	1968	2003	1970	1970	2002	1970	2002	1970	1970

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	283713.0		378893.4			
ANNUAL MEAN	777		1038		862	
HIGHEST ANNUAL MEAN					1066	
LOWEST ANNUAL MEAN					565	
HIGHEST DAILY MEAN	15200	Jan 2	13800	Dec 14	33600	Jan 20 1969
LOWEST DAILY MEAN	4.1	Oct 9	4.1	Oct 9	3.5	Sep 13 1970
ANNUAL SEVEN-DAY MINIMUM	4.1	Oct 9	4.1	Oct 9	3.5	Sep 13 1970
MAXIMUM PEAK FLOW			21500	Dec 16	48400	Jan 23 1970
MAXIMUM PEAK STAGE			23.99	Dec 16	23.99	Dec 16 2003
ANNUAL RUNOFF (AC-FT)	562700		751500		624500	
10 PERCENT EXCEEDS	1490		2530		2130	
50 PERCENT EXCEEDS	115		300		176	
90 PERCENT EXCEEDS	4.7		5.4		8.1	

11472800 MIDDLE FORK EEL RIVER ABOVE BLACK BUTTE RIVER, NEAR COVELO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—November 1964 to September 1966, October 2002 to September 2003.

WATER TEMPERATURE: May to October 1966, October 1967 to September 1970, October 2002 to September 2003.

TURBIDITY: Water year 1968 (partial-record station).

SEDIMENT DATA: October 1967 to September 1970.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: May 1966 to September 1970.

SEDIMENT DATA: Water year 1968, December 1966 to September 1970.

REMARKS.—Records rated excellent except for Oct. 24 to Nov. 20, which are rated good. Interruptions in record were due to malfunction of sensing and (or) recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 34.5°C, July 26, 1973; minimum recorded, 0.0°C, on many days in 1965–69, 1971, 1973, 1975.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 27.4°C, July 29, 31; minimum recorded 2.9°C, Feb. 8.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.3	15.4	10.7	9.0	---	---	6.9	5.8	8.4	6.5	6.9	5.0
2	16.5	14.4	10.6	8.9	---	---	7.0	6.1	6.5	5.0	7.2	5.2
3	16.4	14.0	10.7	9.0	---	---	7.6	6.7	6.2	4.6	7.4	5.6
4	17.4	14.7	10.7	9.0	---	---	7.6	6.5	5.7	4.5	6.7	4.8
5	17.9	15.4	10.7	8.9	---	---	7.0	5.9	5.2	3.7	7.2	5.0
6	18.4	16.1	10.6	9.2	---	---	6.9	5.9	5.1	3.8	7.3	5.3
7	18.4	16.4	10.9	10.4	---	---	6.4	5.4	4.7	3.6	7.5	5.5
8	18.2	16.4	11.0	9.2	---	---	6.9	5.6	4.4	2.9	7.8	5.5
9	18.2	16.4	9.2	8.6	---	---	7.0	6.3	4.8	3.2	7.3	6.4
10	18.2	16.6	9.3	8.3	8.4	7.7	7.1	6.7	5.5	3.8	9.0	7.2
11	16.9	15.1	9.0	8.0	7.7	7.0	7.2	6.3	5.8	4.4	8.9	7.4
12	16.0	14.2	9.3	8.8	8.6	7.4	7.6	7.0	6.0	4.9	9.6	7.8
13	15.7	13.8	9.3	8.2	8.7	7.8	7.6	7.1	7.4	6.0	9.1	7.4
14	15.2	13.6	8.6	7.3	9.4	7.6	8.0	7.4	7.8	6.6	7.8	6.9
15	15.3	13.6	8.3	6.9	8.0	6.8	7.4	6.6	7.5	6.9	7.3	6.5
16	15.1	13.6	8.2	6.8	8.0	6.8	7.2	6.5	7.1	5.3	7.6	6.4
17	15.2	13.5	8.7	7.4	7.1	6.4	7.8	6.5	6.2	4.8	7.7	5.8
18	14.9	13.4	8.2	6.8	6.4	5.8	7.7	6.7	6.3	4.9	7.8	5.4
19	15.1	13.1	8.1	6.5	5.8	4.3	7.6	6.6	6.2	5.6	7.2	5.8
20	15.0	13.3	---	---	5.4	4.4	7.3	6.3	6.5	4.5	8.3	6.3
21	14.8	13.1	---	---	6.3	5.4	8.0	7.0	6.8	4.8	9.1	6.9
22	14.6	12.9	---	---	5.4	4.8	8.0	7.4	6.8	5.1	8.9	8.1
23	14.5	12.8	---	---	5.1	4.3	7.6	6.9	6.8	5.0	8.7	7.2
24	13.8	12.6	---	---	5.5	4.8	7.5	6.5	7.1	6.2	8.5	6.1
25	14.0	12.4	---	---	5.7	5.1	8.4	7.5	7.7	6.3	8.5	6.9
26	13.6	11.8	---	---	6.1	5.7	8.6	7.8	6.6	4.7	8.7	7.3
27	12.9	11.3	---	---	6.8	5.6	8.5	7.4	6.4	4.5	8.2	5.7
28	12.8	11.0	---	---	7.2	6.0	7.4	6.0	6.3	4.6	9.0	6.1
29	12.3	10.8	---	---	6.6	6.0	7.1	5.8	---	---	10.5	7.4
30	11.6	10.2	---	---	6.6	5.9	8.7	7.1	---	---	11.3	8.4
31	10.9	9.3	---	---	6.6	5.6	8.7	7.7	---	---	11.2	9.0
MONTH	18.4	9.3	---	---	---	---	8.7	5.4	8.4	2.9	11.3	4.8

11472800 MIDDLE FORK EEL RIVER ABOVE BLACK BUTTE RIVER, NEAR COVELO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	8.0	9.2	6.6	16.0	12.2	21.9	18.4	26.9	24.6	24.6	21.2
2	8.0	5.6	8.7	7.4	16.7	12.9	21.4	17.5	25.9	24.1	25.0	21.6
3	6.2	5.0	8.7	7.4	17.4	13.4	21.6	17.5	26.0	23.1	23.8	21.7
4	6.3	3.9	8.2	6.6	18.3	14.5	22.4	18.1	25.1	23.1	24.0	21.7
5	6.6	4.8	9.3	6.0	18.3	14.9	22.5	18.4	23.7	22.1	25.0	21.6
6	6.6	5.6	8.7	7.1	18.8	15.1	22.9	18.6	23.8	21.1	23.6	21.2
7	9.1	5.5	9.9	7.2	19.3	15.9	22.8	19.0	23.6	20.7	22.0	20.4
8	10.2	6.7	8.6	6.6	19.3	15.8	22.2	18.2	23.8	20.5	20.9	18.6
9	9.8	7.0	8.6	5.7	20.3	16.5	22.8	18.4	23.7	20.5	19.4	18.4
10	9.4	7.6	9.7	6.5	19.3	15.9	23.2	18.8	23.8	20.4	20.9	17.2
11	9.4	7.2	9.7	7.4	19.4	15.9	23.6	19.3	23.5	20.2	22.1	18.2
12	8.7	6.0	11.1	7.8	18.8	15.3	23.8	19.9	23.2	19.8	22.8	19.3
13	6.8	5.2	11.9	8.6	18.6	15.3	23.5	19.9	23.6	20.0	23.0	19.6
14	8.2	6.0	12.2	8.9	18.7	14.9	24.0	20.0	23.4	20.1	22.4	19.4
15	7.4	5.8	11.1	8.2	19.4	15.0	24.4	20.8	23.5	20.0	22.0	19.2
16	7.6	6.5	10.8	7.8	20.7	16.0	24.2	20.5	23.7	19.8	20.6	18.3
17	8.6	6.7	10.6	7.4	21.8	17.4	25.0	21.2	24.5	20.6	20.1	17.3
18	9.3	6.2	10.7	7.4	21.0	17.6	25.4	21.9	24.9	21.3	20.0	16.7
19	9.8	6.7	11.9	8.0	20.5	16.7	25.5	22.2	25.0	21.7	20.3	17.0
20	9.5	7.6	13.0	9.2	20.0	16.1	25.7	22.8	25.4	21.9	20.9	17.6
21	9.0	7.1	14.1	10.2	19.8	15.7	26.6	23.3	24.9	22.2	21.4	18.0
22	8.4	6.0	14.7	10.9	19.7	15.7	27.3	24.2	24.4	22.0	21.8	18.4
23	8.1	7.2	15.0	11.3	19.4	15.4	27.2	24.9	24.2	21.0	21.7	18.8
24	7.6	5.9	13.9	11.7	20.0	15.2	26.3	25.1	24.7	21.1	21.8	19.0
25	6.2	4.3	13.7	11.1	21.0	16.0	26.1	23.5	25.0	21.3	21.9	18.9
26	7.0	4.9	13.5	10.5	22.0	17.1	26.7	23.8	24.8	21.7	21.9	19.0
27	7.4	5.6	14.8	10.8	22.8	18.3	26.5	23.6	24.6	21.4	21.5	18.8
28	7.0	6.2	15.1	11.9	23.3	19.1	27.1	23.7	24.1	21.2	21.0	18.4
29	6.6	5.4	14.9	12.8	22.5	18.8	27.4	24.0	23.7	20.3	20.8	18.6
30	9.1	6.4	16.0	12.3	21.8	18.0	27.3	24.6	24.1	20.6	19.8	17.5
31	---	---	15.5	12.5	---	---	27.4	24.6	24.1	21.0	---	---
MONTH	10.2	3.9	16.0	5.7	23.3	12.2	27.4	17.5	26.9	19.8	25.0	16.7

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm ft from l bank (00009)
JUN				
05...*	0822	2.01	15.0	100
05...*	0824	2.94	15.0	90.0
05...*	0826	2.76	15.0	80.0
05...*	0828	2.40	15.0	70.0
05...*	0830	2.27	15.0	60.0
05...*	0832	1.94	15.0	50.0
05...*	0834	1.76	15.0	40.0
05...*	0836	1.58	15.0	30.0
05...*	0838	1.88	15.0	20.0
05...*	0840	1.56	15.0	10.0
AUG				
21...*	1020	.74	23.0	6.00
21...*	1025	.43	22.8	9.00
21...*	1030	.96	22.7	12.0
21...*	1035	.67	22.8	15.0
21...*	1040	1.07	22.7	18.0
21...*	1045	.95	22.7	21.0
21...*	1050	.67	22.8	24.0
21...*	1055	.62	22.7	27.0
21...*	1100	.31	22.8	30.0

* Instantaneous discharge at time of the cross-sectional measurements: June 5, 475 ft³/s, Aug. 21, 13 ft³/s.

11472900 BLACK BUTTE RIVER NEAR COVELO, CA

LOCATION.—Lat 39° 49' 15", long 123° 04' 50", in SE 1/4 sec.28, T.23 N., R.11 W., Mendocino County, Hydrologic Unit 18010104, on right bank 10 ft upstream from old highway bridge abutment, 0.5 mi upstream from mouth, and 9.5 mi east of Covelo.

DRAINAGE AREA.—162 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—Occasional low-flow measurements, water years 1951–56, and annual maximum, water years 1954–57, October 1958 to September 1975, October 2001 to current year.

REVISIONS (WATER YEARS).—WSP 1715: 1959(M).

GAGE.—Water-stage recorder. Datum of gage is 1,450.20 ft above NGVD of 1929. Sept. 10, 1953, to Sept. 30, 1957, crest-stage gage only at same site at different datum. Oct. 1, 1958, to Sep. 22, 1964, water-stage recorder at site 0.1 mi upstream at same datum. December 1964 to September 1975 at same site at different datum.

REMARKS.—Records good. No regulation or diversion upstream from station. See schematic diagram of [Eel River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 29,000 ft³/s, Dec. 22, 1964, gage height, 26.4 ft, from floodmarks at site and datum then in use; minimum daily, 0.76 ft³/s, Sept. 27, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 11, 1947, reached a stage of 36.2 ft, from floodmarks at crest-stage site (discharge, 26,000 ft³/s).

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 7,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	13,700	18.17	Mar. 15	0515	8,620	16.27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.6	14	1770	564	239	412	1410	228	20	8.2	4.5
2	1.2	1.6	14	1140	491	223	397	1410	206	19	11	4.4
3	1.2	1.6	14	969	431	218	352	1590	191	18	27	4.4
4	1.1	1.7	14	1100	385	210	449	1780	161	18	16	5.4
5	1.3	1.7	14	1170	348	193	381	1530	124	17	13	5.9
6	1.3	1.8	14	999	316	177	369	1320	110	18	12	5.0
7	1.3	3.9	13	843	286	167	400	1190	98	21	11	4.9
8	1.2	230	13	754	264	156	492	1130	87	20	11	4.8
9	1.1	309	13	751	243	148	491	971	82	18	11	4.9
10	0.99	680	14	1410	228	166	439	887	76	18	10	5.3
11	0.99	199	15	1740	214	187	402	819	70	17	9.5	5.6
12	0.99	83	14	2690	202	209	913	800	64	16	9.1	5.3
13	1.0	89	897	4800	289	223	1160	820	59	16	8.8	4.8
14	1.0	49	6170	3620	298	1130	818	836	55	16	8.3	4.4
15	1.1	35	3240	2250	329	4540	658	788	50	15	7.9	4.2
16	1.1	28	6610	1540	979	1810	590	691	47	14	7.5	4.1
17	1.1	24	1730	1190	521	1100	606	620	44	14	7.6	4.0
18	1.2	22	785	1050	425	836	577	558	41	13	7.3	4.0
19	1.2	19	582	914	420	706	549	510	40	12	7.0	4.0
20	1.3	18	1020	796	388	700	551	485	38	12	6.7	3.8
21	1.3	18	1460	781	377	585	553	471	35	11	6.4	3.7
22	1.3	18	607	1180	362	658	490	476	33	11	6.4	3.6
23	1.4	17	384	1590	341	853	522	469	32	11	6.4	3.5
24	1.5	16	285	1070	343	640	1480	451	30	10	6.3	3.3
25	1.5	15	228	1470	334	570	1290	411	28	11	6.2	3.3
26	1.6	15	409	1170	302	1620	1260	374	26	10	5.8	3.2
27	1.6	15	3640	1080	279	947	1190	334	25	9.6	5.5	3.0
28	1.6	14	4610	863	257	711	1670	314	23	9.2	5.3	2.9
29	1.6	14	2050	670	---	574	2040	297	22	8.7	5.1	2.9
30	1.7	14	1740	606	---	482	1680	275	20	8.2	4.9	3.0
31	1.7	---	4010	588	---	442	---	252	---	8.2	4.7	---
TOTAL	39.57	1954.9	40623	42564	10216	21420	23181	24269	2145	439.9	272.9	126.1
MEAN	1.28	65.2	1310	1373	365	691	773	783	71.5	14.2	8.80	4.20
MAX	1.7	680	6610	4800	979	4540	2040	1780	228	21	27	5.9
MIN	0.99	1.6	13	588	202	148	352	252	20	8.2	4.7	2.9
AC-FT	78	3880	80580	84430	20260	42490	45980	48140	4250	873	541	250

EEL RIVER BASIN

11472900 BLACK BUTTE RIVER NEAR COVELO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.9	167	682	997	687	600	500	297	71.7	18.5	6.83	4.71
MAX	231	1183	3542	2876	1434	1628	1273	783	207	39.4	12.7	10.9
(WY)	1963	1974	1965	1970	1968	1975	1963	2003	1967	1975	1975	1972
MIN	1.28	4.69	10.0	91.6	250	160	167	67.8	21.8	5.40	1.42	0.98
(WY)	2003	1960	1960	1960	1964	1964	1970	2002	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	110660.31		167251.37			
ANNUAL MEAN	303		458		337	
HIGHEST ANNUAL MEAN					624	
LOWEST ANNUAL MEAN					124	
HIGHEST DAILY MEAN	6650	Jan 2	6610	Dec 16	25000	Dec 22 1964
LOWEST DAILY MEAN	0.76	Sep 27	0.99	Oct 10	0.76	Sep 27 2002
ANNUAL SEVEN-DAY MINIMUM	0.84	Sep 23	1.0	Oct 9	0.84	Sep 23 2002
MAXIMUM PEAK FLOW			13700	Dec 16	29000	Dec 22 1964
MAXIMUM PEAK STAGE			18.17	Dec 16	26.40	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	219500		331700		244100	
10 PERCENT EXCEEDS	533		1190		796	
50 PERCENT EXCEEDS	30		87		76	
90 PERCENT EXCEEDS	1.1		1.8		4.3	

11472900 BLACK BUTTE RIVER NEAR COVELO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—November 1964 to September 1966, November 2001 to current year.

SPECIFIC CONDUCTANCE: October 1966 to September 1968.

WATER TEMPERATURE: May 1964 to September 1975, November 2001 to current year.

SEDIMENT DATA: Water years 1966 (partial-record station), December 1966 to September 1973.

TURBIDITY: Water years 1966–68 (partial-record station).

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1966 to September 1968.

WATER TEMPERATURE: May 1964 to September 1975, November 2001 to current year.

SEDIMENT DATA: Water years 1966 (partial-record station), December 1966 to September 1973.

REMARKS.—Records excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 34.5°C, July 26, 1973; minimum recorded, 0.0°C, many days in 1965–69, 1971, 1973, 1975.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 30.9°C, July 22; minimum recorded 2.0°C, Feb. 8.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.4	13.7	11.2	5.9	7.2	4.1	6.8	5.3	8.9	6.3	8.1	4.6
2	18.8	12.7	11.1	6.2	7.2	4.3	7.0	5.7	6.3	4.6	8.4	4.6
3	20.3	11.9	11.4	6.6	6.8	3.9	7.7	6.4	6.1	4.1	8.9	5.3
4	19.9	13.6	11.4	6.3	8.2	5.7	8.1	6.5	6.0	4.0	8.0	4.2
5	20.4	13.6	11.3	6.5	8.4	6.1	7.1	5.5	5.2	3.1	8.6	4.1
6	21.2	14.8	11.6	7.0	8.0	6.0	6.7	5.4	5.2	3.3	8.7	4.5
7	21.0	14.8	10.6	9.9	7.6	5.0	6.2	4.8	5.2	3.0	9.0	4.8
8	20.3	13.8	10.5	9.7	7.0	4.3	6.8	5.0	4.6	2.0	9.2	4.7
9	19.0	13.9	9.8	8.9	7.6	5.3	7.0	6.1	5.2	2.2	8.2	5.8
10	19.4	14.8	9.9	8.6	8.8	7.1	7.4	6.5	5.9	2.9	11.3	7.5
11	17.7	12.8	10.0	8.2	7.8	6.3	7.2	6.2	6.6	3.5	10.2	7.3
12	17.0	10.9	9.9	8.7	9.4	7.1	8.0	7.1	6.4	4.3	11.3	7.7
13	16.6	10.7	10.5	8.7	9.8	8.3	8.1	7.6	8.5	6.4	9.3	7.4
14	16.6	10.4	9.3	7.2	9.7	8.3	8.4	7.3	9.2	7.3	8.6	7.1
15	16.7	10.8	8.6	6.1	8.6	7.2	7.3	6.0	8.0	7.0	8.0	7.4
16	16.9	11.6	8.7	5.9	8.5	7.8	7.0	5.5	7.6	5.9	8.0	6.8
17	16.7	11.1	10.1	7.8	8.1	6.0	7.8	6.0	6.8	4.7	8.1	6.3
18	15.3	11.3	8.8	6.3	6.0	5.2	7.9	6.6	6.7	4.7	8.0	5.7
19	16.3	11.2	8.7	5.8	5.3	4.5	7.8	6.5	6.4	5.5	7.4	5.9
20	16.7	11.7	9.5	6.4	6.0	4.5	7.6	6.3	7.1	4.5	9.0	6.9
21	16.1	11.1	10.2	7.6	6.7	5.4	8.6	7.3	7.4	4.4	9.2	7.0
22	15.9	10.6	9.9	7.2	5.4	4.5	8.6	8.2	7.5	4.8	9.3	8.3
23	15.6	10.9	10.0	7.1	4.7	3.8	8.2	7.0	7.5	4.7	9.8	8.1
24	13.9	10.8	9.7	6.8	5.5	4.3	8.0	6.5	7.5	6.4	9.2	6.5
25	15.6	11.5	8.9	5.9	5.8	4.7	9.4	8.0	8.8	6.0	8.9	7.1
26	14.9	10.0	9.0	6.0	6.4	5.8	9.4	8.2	6.4	4.3	9.5	7.7
27	13.8	9.3	8.5	5.3	6.9	6.0	9.2	7.7	7.6	5.0	9.0	6.0
28	14.1	9.2	8.8	5.7	7.2	5.5	7.7	5.9	7.3	4.2	9.8	6.3
29	13.5	9.0	7.9	5.0	6.4	5.5	7.1	5.5	---	---	11.5	7.3
30	12.4	7.8	7.4	4.3	6.6	5.7	9.3	7.1	---	---	12.4	8.5
31	11.4	6.4	---	---	6.6	5.6	9.5	7.8	---	---	12.7	9.3
MONTH	21.2	6.4	11.6	4.3	9.8	3.8	9.5	4.8	9.2	2.0	12.7	4.1

11472900 BLACK BUTTE RIVER NEAR COVELO, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	8.4	9.6	6.5	19.5	12.8	24.5	18.0	29.5	24.1	27.8	19.2
2	8.4	6.1	9.0	7.5	20.4	13.9	23.9	16.7	28.3	23.5	28.1	19.5
3	7.0	5.4	9.1	7.4	21.3	14.2	24.2	16.6	28.0	22.4	25.5	19.5
4	7.7	4.6	9.0	6.8	22.4	15.5	25.1	17.6	26.2	21.6	26.8	19.9
5	7.8	5.2	10.3	6.3	22.5	16.0	25.4	17.8	24.7	20.7	27.8	20.6
6	7.1	5.9	8.7	6.9	22.9	16.2	25.6	18.5	26.4	20.1	25.7	19.0
7	10.6	5.7	11.0	7.4	23.4	17.1	25.6	18.9	26.1	19.0	23.0	18.7
8	11.6	6.8	8.7	6.8	23.3	16.8	24.9	17.6	26.4	19.1	23.2	16.8
9	11.1	7.0	9.5	5.9	23.9	17.6	25.5	17.8	26.4	19.0	20.5	17.1
10	10.8	7.7	11.3	6.3	22.6	16.7	25.9	18.4	26.6	19.3	24.1	15.4
11	10.0	7.3	11.3	7.2	22.7	16.6	26.4	19.2	26.4	18.8	25.5	16.9
12	9.0	7.1	13.1	8.0	21.5	15.7	26.7	19.6	26.0	18.5	26.3	18.2
13	8.0	6.2	14.2	9.0	21.2	15.4	26.6	19.7	26.4	19.0	26.2	18.2
14	8.8	6.4	14.6	9.5	21.3	14.9	26.8	19.8	26.1	18.6	25.0	17.1
15	7.5	5.9	13.3	9.1	22.1	15.2	27.5	20.7	26.3	18.1	24.8	17.0
16	8.1	6.5	12.9	8.1	23.5	16.4	27.0	19.9	26.8	18.6	23.1	16.4
17	10.0	7.2	12.6	7.6	24.4	17.8	28.1	20.9	27.6	19.2	23.1	15.6
18	10.3	6.3	12.9	7.7	23.2	17.9	28.8	21.3	27.8	19.8	22.6	15.0
19	10.9	6.5	14.2	8.3	22.7	17.2	29.0	21.8	27.6	20.4	23.2	15.6
20	10.1	7.6	15.3	9.5	22.0	15.8	28.9	22.4	28.2	20.1	23.6	15.9
21	9.3	7.7	16.7	10.5	22.0	15.5	30.4	23.6	27.5	20.6	24.2	16.0
22	9.7	6.6	17.9	11.9	21.8	15.6	30.9	23.8	27.0	20.8	24.6	16.2
23	8.8	7.6	18.8	12.7	21.5	14.9	30.3	25.0	26.9	19.3	24.3	16.7
24	8.2	6.8	17.0	13.4	22.2	14.8	27.8	25.6	27.9	19.5	24.2	16.9
25	6.8	5.7	16.3	12.6	23.3	15.7	28.3	22.8	28.3	19.4	24.5	17.9
26	7.8	5.0	16.6	11.7	24.4	16.9	29.3	22.2	27.9	20.2	24.0	16.8
27	8.2	5.4	18.0	11.5	25.3	18.2	29.5	22.0	27.5	19.6	23.5	16.9
28	7.6	6.3	18.1	12.7	25.8	19.0	30.3	22.2	27.2	19.2	23.0	16.4
29	7.5	6.3	17.6	14.0	25.1	18.0	30.6	22.6	27.1	18.5	23.0	17.6
30	9.9	5.0	19.8	13.9	24.5	17.2	29.8	24.1	27.5	18.9	21.0	15.5
31	---	---	19.0	13.6	---	---	30.2	24.4	27.5	19.4	---	---
MONTH	11.6	4.6	19.8	5.9	25.8	12.8	30.9	16.6	29.5	18.1	28.1	15.0

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm ft from l bank (00009)
JUN				
04...*	1540	0.55	22.3	50.0
04...*	1542	0.74	22.2	45.0
04...*	1544	0.67	22.1	40.0
04...*	1546	1.11	22.2	35.0
04...*	1548	1.63	22.2	30.0
04...*	1550	2.12	22.2	25.0
04...*	1552	2.56	22.2	20.0
04...*	1554	2.56	22.2	15.0
04...*	1556	2.53	22.2	10.0
04...*	1558	2.28	22.3	5.0
04...*	1600	2.00	22.3	0.0
AUG				
21...*	1515	0.60	27.2	25.0
21...*	1520	0.77	27.2	23.0
21...*	1525	1.06	27.2	21.0
21...*	1530	1.25	27.1	19.0
21...*	1535	1.18	27.1	17.0
21...*	1540	1.18	27.0	15.0
21...*	1545	1.12	27.0	13.0
21...*	1550	0.70	26.9	11.0
21...*	1555	0.35	26.7	9.0

* Instantaneous discharge at time of the cross-sectional measurements: June 4, 146 ft³/s, Aug. 21, 6.3 ft³/s.

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, 1.9 mi upstream from mouth, and 1.7 mi southeast of Dos Rios.

DRAINAGE AREA.—745 mi².

PERIOD OF RECORD.—October 1965 to current year.

CHEMICAL DATA: Water years 1959–1966

SPECIFIC CONDUCTANCE: October 1966 to September 1967.

WATER TEMPERATURE: Water years 1958–1982.

SEDIMENT RECORDS: Water year 1966–1976.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 901.58 ft above NGVD of 1929.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of [Eel River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 135,000 ft³/s, Jan. 1, 1997, gage height, 31.46 ft, from rating curve extended above 52,000 ft³/s, maximum gage height, 32.86 ft, Jan. 4, 1966; minimum daily, 0.39 ft³/s, Sept. 1, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 25,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0615	53,700	20.50	Mar. 15	0745	32,100	16.72
Dec. 31	0530	30,500	16.42				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	6.9	73	8520	2590	e1100	2110	5790	1280	147	34	17
2	4.0	7.0	69	5600	2230	e1000	2000	5250	1200	145	47	17
3	4.1	7.1	66	4470	1880	e940	1880	5300	1130	140	92	17
4	4.3	7.3	66	4500	1620	e890	2620	6150	1090	132	79	17
5	4.6	7.5	63	4810	1390	849	2360	5840	1020	126	58	17
6	4.8	7.6	66	4080	1220	778	2080	5290	939	120	51	20
7	4.9	18	66	3540	1070	734	2090	4730	865	116	47	20
8	5.0	748	62	3060	e950	693	2360	4620	799	112	46	18
9	5.0	1850	61	2840	e870	643	2540	4110	719	106	44	18
10	5.0	2490	68	4070	e800	664	2380	3680	654	99	43	18
11	4.8	1770	100	7410	e760	832	2270	3470	597	94	40	19
12	4.8	747	113	9510	e720	931	5040	3330	539	92	38	21
13	4.6	945	2830	20500	e1030	952	8760	3500	489	88	37	21
14	4.6	573	27700	16300	e1260	4370	5820	3950	447	84	36	19
15	4.6	367	12800	9720	e1380	19000	4460	4110	408	78	33	18
16	4.7	278	33000	6580	e4100	6970	3940	3590	375	73	29	17
17	4.7	226	9870	5100	e2250	4390	3770	3140	347	69	27	17
18	4.8	191	5340	4580	e1950	3190	3350	2780	325	65	26	16
19	4.8	166	4330	4100	e1750	2690	3100	2490	306	60	25	16
20	5.0	151	7610	3660	e1700	3010	3070	2370	289	57	23	16
21	5.4	152	9990	3550	e1700	2460	3150	2350	271	54	22	16
22	5.5	154	4480	4390	e1690	2430	3030	2470	252	51	21	16
23	5.6	144	2780	7010	e1620	3840	2850	2550	234	48	21	16
24	5.8	130	1960	4550	e1580	2920	8080	2520	223	46	21	15
25	6.0	118	1460	5880	e1500	2460	8130	2270	212	46	21	15
26	6.2	106	2360	5100	e1430	5630	7460	2000	196	45	21	15
27	6.3	95	15000	4670	e1320	4500	6090	1740	183	43	20	14
28	6.5	88	22900	4070	e1200	3400	9120	1630	173	40	19	14
29	6.6	81	12100	3190	---	2830	12500	1600	163	38	19	14
30	6.8	77	9190	2680	---	2470	8030	1530	152	35	19	14
31	6.8	---	21200	2690	---	2280	---	1420	---	34	18	---
TOTAL	160.5	11708.4	207773	180730	43560	89846	134440	105570	15877	2483	1077	508
MEAN	5.18	390	6702	5830	1556	2898	4481	3405	529	80.1	34.7	16.9
MAX	6.8	2490	33000	20500	4100	19000	12500	6150	1280	147	92	21
MIN	3.9	6.9	61	2680	720	643	1880	1420	152	34	18	14
AC-FT	318	23220	412100	358500	86400	178200	266700	209400	31490	4930	2140	1010

e Estimated.

11473900 MIDDLE FORK EEL RIVER NEAR DOS RIOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	89.9	1091	2558	4319	3498	3380	2092	1277	409	81.8	25.0	22.1
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	75.6	13.2	4.33	1.04
(WY)	1995	1996	1977	1977	1977	1977	1977	1977	2001	1977	1994	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	517012.2		793732.9			
ANNUAL MEAN	1416		2175		1563	
HIGHEST ANNUAL MEAN					3351	
LOWEST ANNUAL MEAN					121	
HIGHEST DAILY MEAN	33000	Dec 16	33000	Dec 16	81200	Jan 1 1997
LOWEST DAILY MEAN	3.7	Sep 8	3.9	Oct 1	0.39	Sep 1 1994
ANNUAL SEVEN-DAY MINIMUM	3.8	Sep 5	4.4	Oct 1	0.42	Aug 28 1994
MAXIMUM PEAK FLOW			53700	Dec 16	135000	Jan 1 1997
MAXIMUM PEAK STAGE			20.50	Dec 16	32.86	Jan 4 1966
ANNUAL RUNOFF (AC-FT)	1025000		1574000		1132000	
10 PERCENT EXCEEDS	2770		5440		3900	
50 PERCENT EXCEEDS	213		693		344	
90 PERCENT EXCEEDS	4.6		7.6		15	

11474500 NORTH FORK EEL RIVER NEAR MINA, CA

LOCATION.—Lat 39° 56' 15", long 123° 20' 45", in SW 1/4 sec.8, T.24 N., R.13 W., Mendocino County, Hydrologic Unit 18010105, on right bank, 0.2 mi upstream from county road bridge, 1.4 mi upstream from Asbill Creek, and 2 mi south of Mina.

DRAINAGE AREA.—248 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—August 1953 to September 1976, October 2001 to current year.

GAGE.—Water-stage recorder. Datum of gage is 1,016.8 ft above NGVD of 1929. Aug. 27, 1953, to Jan. 15, 1954, water-stage recorder and Jan. 16 to June 22, 1954, nonrecording gage, at site 0.4 mi downstream at different datums. June 23, 1954, to Dec. 21, 1964, water-stage recorder and Feb. 7 to July 8, 1965, non-recording gage at site 0.2 mi downstream at different datums. July 9, 1965, to Aug. 20, 1967, water-stage recorder at site 0.6 mi downstream at datum 15.1 ft lower.

REMARKS.—Records fair. No regulation or diversion above station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 133,000 ft³/s, Dec. 22, 1964, gage height, 34.5 ft, from floodmarks, present site, different datum, from rating curve extended above 12,000 ft³/s, on basis of slope-area measurement of maximum flow; minimum, 0.08 ft³/s, several days in October 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 9,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0300	27,500	20.81	Mar. 15	0430	16,100	17.22
Dec. 21	0530	10,400	15.04	Apr. 29	0415	9,300	14.57
Dec. 31	0130	25,000	20.10				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.11	0.12	16	4600	604	302	621	3110	125	20	5.0	2.1
2	0.08	0.13	16	2690	548	272	622	2390	116	19	6.1	2.0
3	0.09	0.12	16	2270	491	256	627	2210	108	18	8.5	1.9
4	0.08	0.13	16	1990	450	250	1170	2400	100	17	7.0	2.0
5	0.09	0.42	17	1820	415	232	1200	2100	93	15	6.6	2.0
6	0.08	1.2	19	1450	388	217	1140	1700	85	15	7.2	2.1
7	0.09	6.9	19	1180	360	205	1220	1440	79	16	6.6	2.1
8	0.08	421	18	982	338	195	1150	1250	74	15	6.2	2.4
9	0.09	677	17	865	319	187	1000	1080	69	13	5.9	2.4
10	0.08	1060	22	1340	301	207	839	908	65	13	5.7	2.6
11	0.08	395	67	2500	295	209	735	789	60	13	5.4	2.6
12	0.08	145	54	3460	286	222	2210	702	56	13	5.3	2.8
13	0.08	232	3000	5820	460	215	3510	647	52	12	5.2	2.5
14	0.08	121	14200	5200	658	1450	2890	613	50	12	5.0	2.0
15	0.08	77	7980	3070	679	8570	2120	563	48	12	4.6	1.8
16	0.08	58	16600	2000	4000	3070	2110	481	46	11	4.4	1.7
17	0.08	47	4480	1470	1710	1870	2100	430	42	11	4.2	1.5
18	0.09	40	2440	1150	1090	1270	1630	407	37	10	4.0	1.5
19	0.10	36	2020	940	1000	1110	1330	357	37	9.7	3.6	1.6
20	0.11	31	4660	786	909	1370	1120	310	37	9.1	3.3	1.8
21	0.11	28	6290	832	744	1020	1160	290	35	8.6	2.9	1.8
22	0.10	26	2540	1150	637	1010	1180	267	34	8.0	2.7	1.8
23	0.11	24	1460	1760	558	1650	1050	245	33	7.3	2.7	1.7
24	0.11	22	1010	1120	507	1250	4000	226	32	6.8	2.8	1.6
25	0.11	21	788	1710	474	1070	3210	207	30	6.7	2.9	1.5
26	0.11	20	1660	1220	403	3270	3670	193	28	6.6	2.7	1.4
27	0.10	19	10000	1060	368	1850	3340	181	26	6.2	2.6	1.3
28	0.10	18	14900	908	333	1310	5770	165	24	5.8	2.6	1.3
29	0.11	17	5710	758	---	1010	7500	154	22	5.5	2.5	1.3
30	0.11	17	6310	686	---	826	4680	147	20	5.3	2.4	1.2
31	0.11	---	15600	617	---	702	---	136	---	5.2	2.2	---
TOTAL	2.91	3561.02	121945	57404	19325	36647	64904	26098	1663	345.8	138.8	56.3
MEAN	0.094	119	3934	1852	690	1182	2163	842	55.4	11.2	4.48	1.88
MAX	0.11	1060	16600	5820	4000	8570	7500	3110	125	20	8.5	2.8
MIN	0.08	0.12	16	617	286	187	621	136	20	5.2	2.2	1.2
AC-FT	5.8	7060	241900	113900	38330	72690	128700	51770	3300	686	275	112

EEL RIVER BASIN

11474500 NORTH FORK EEL RIVER NEAR MINA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	66.0	452	1565	1881	1582	1205	693	243	45.3	11.0	4.29	4.16
MAX	746	2637	7834	3948	5335	3493	2466	905	104	28.3	10.4	24.5
(WY)	1963	1974	1965	1965	1958	1975	1963	1967	1958	1958	1976	1957
MIN	0.094	4.52	30.1	224	242	160	102	55.9	18.2	3.09	0.48	0.13
(WY)	2003	1960	1960	1976	1971	1965	1970	1959	1959	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1954 - 2003	
ANNUAL TOTAL	237020.69		332090.83			
ANNUAL MEAN	649		910		643	
HIGHEST ANNUAL MEAN					1181	
LOWEST ANNUAL MEAN					281	
HIGHEST DAILY MEAN	16600	Dec 16	16600	Dec 16	90000	Dec 22 1964
LOWEST DAILY MEAN	0.08	Oct 2	0.08	Oct 2	0.08	Oct 2 2002
ANNUAL SEVEN-DAY MINIMUM	0.08	Oct 10	0.08	Oct 10	0.08	Oct 10 2002
MAXIMUM PEAK FLOW			27500		133000	
MAXIMUM PEAK STAGE			20.81		34.50	
ANNUAL RUNOFF (AC-FT)	470100		658700		465700	
10 PERCENT EXCEEDS	1290		2390		1620	
50 PERCENT EXCEEDS	37		85		83	
90 PERCENT EXCEEDS	0.11		0.89		2.7	

11474500 NORTH FORK EEL RIVER NEAR MINA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1966–67, 1973 to October 1976, January 2002 to current year.

WATER TEMPERATURE: Water years 1973–75, January 2002 to current year.

SEDIMENT DATA: Water years 1966–67, 1973 to October 1976.

TURBIDITY: Water year 1967.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1972 to September 1975, January 2002 to current year.

SEDIMENT DATA: October 1972 to September 1975.

REVISED RECORDS.—WDR CA-74-P2: 1973.

INSTRUMENTATION.—Temperature recorder since January 2002 provides 15 minute data.

REMARKS.—Record is excellent.

EXTREMES FOR PERIOD OF RECORD.—

WATER TEMPERATURES: Maximum recorded, 30.5°C, July 23, 2003; minimum recorded, 2.0°C, Jan. 31, 2002.

SEDIMENT CONCENTRATIONS: Maximum daily, 5,050 mg/L, Jan. 16, 1974; minimum daily, 1 mg/L, many days 1972–75.

SEDIMENT DISCHARGE: Maximum daily, 426,000 tons, Jan. 16, 1974; minimum daily, 0 tons, many days 1973–75.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURES: Maximum recorded, 30.5°C, July 23; minimum recorded, 3.8°C, Feb. 9.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	20.9	13.8	12.9	6.0	7.5	6.1	8.5	7.5	11.2	9.4	9.6	7.2				
2	20.5	12.0	12.8	6.2	7.3	6.1	8.5	7.5	9.4	7.7	9.8	7.0				
3	19.6	12.2	12.8	6.3	7.1	5.9	9.6	8.5	7.9	6.2	10.5	7.9				
4	23.1	15.0	12.4	6.0	8.5	6.8	9.8	9.2	7.4	5.8	10.1	7.8				
5	23.3	15.0	12.2	6.1	8.5	7.5	9.7	8.3	6.6	4.8	9.9	7.4				
6	23.5	15.0	9.7	6.8	8.6	7.4	8.4	7.4	6.6	4.7	9.8	7.0				
7	23.3	14.6	11.3	9.7	7.9	7.0	7.8	6.8	6.3	4.4	10.7	8.1				
8	22.9	14.4	11.5	10.7	7.8	6.7	7.7	6.4	5.9	3.9	10.5	7.7				
9	21.4	14.4	10.9	10.3	8.4	7.0	8.3	7.6	6.0	3.8	9.8	9.0				
10	22.2	15.0	11.2	10.2	9.1	8.3	8.8	8.2	6.5	4.2	12.5	9.4				
11	20.8	12.8	11.6	10.4	8.9	8.2	8.7	8.2	7.0	5.0	12.2	10.5				
12	19.6	11.1	11.2	10.7	9.7	8.6	9.4	8.7	6.6	5.6	13.3	11.2				
13	19.2	10.9	11.8	10.8	10.8	9.2	10.4	9.4	8.3	6.6	12.6	10.7				
14	19.0	11.2	11.4	10.0	11.3	10.0	10.3	9.9	9.9	8.2	10.7	9.4				
15	19.0	11.2	10.4	9.1	10.0	9.2	9.9	8.3	9.4	8.9	9.7	9.1				
16	18.9	11.3	9.6	8.3	10.2	9.2	8.8	7.3	8.9	7.5	10.0	8.6				
17	18.7	11.0	10.5	9.4	9.2	7.8	8.8	7.5	8.3	7.0	9.8	8.0				
18	16.7	11.4	10.3	9.1	8.0	7.5	9.3	8.2	8.3	7.3	9.7	7.4				
19	19.0	11.4	9.9	8.4	7.6	6.3	9.1	7.9	8.0	7.4	8.7	7.7				
20	20.3	13.9	10.4	8.5	7.0	6.2	8.7	7.5	8.4	6.8	10.6	8.4				
21	18.9	11.8	11.1	9.3	8.2	7.0	9.9	8.3	9.1	7.4	10.6	9.2				
22	18.2	11.1	10.7	9.1	7.6	6.7	10.3	9.7	9.4	7.8	10.8	10.2				
23	17.9	11.6	11.2	10.2	6.7	5.8	10.0	9.3	9.0	7.0	10.7	9.2				
24	15.2	12.2	10.8	9.8	7.0	6.2	9.4	8.9	9.3	8.1	10.8	8.6				
25	17.9	11.7	10.1	8.8	7.1	6.6	10.8	9.3	10.6	8.5	10.1	9.1				
26	18.0	12.3	9.0	7.8	7.8	7.1	11.4	10.7	8.8	6.6	11.2	10.0				
27	15.9	9.8	8.5	7.2	9.2	7.8	11.6	10.4	8.9	6.6	10.2	8.0				
28	16.4	9.4	8.4	7.2	9.4	7.6	10.4	9.4	8.6	6.4	11.0	8.3				
29	15.3	8.8	8.0	6.8	8.2	7.3	9.0	7.8	---	---	12.4	9.5				
30	14.6	7.9	7.6	6.4	8.1	7.6	10.8	8.8	---	---	13.8	10.8				
31	13.6	6.6	---	---	8.4	7.5	11.6	10.4	---	---	14.2	11.4				
MONTH	23.5	6.6	12.9	6.0	11.3	5.8	11.6	6.4	11.2	3.8	14.2	7.0				

11474500 NORTH FORK EEL RIVER NEAR MINA, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	10.9	11.4	8.7	22.4	18.1	26.8	22.5	29.4	25.4	27.2	21.7
2	10.9	8.4	11.4	9.7	23.0	18.6	26.5	21.8	27.2	25.6	27.2	21.5
3	9.0	7.4	10.8	10.0	24.5	19.4	26.5	21.6	29.1	24.8	25.4	21.4
4	8.3	6.6	10.5	9.2	25.3	20.4	27.2	21.9	28.2	24.0	27.4	21.9
5	8.9	7.0	11.5	8.6	25.9	21.2	27.1	22.3	26.1	23.6	27.5	22.5
6	8.6	7.8	10.9	9.6	25.7	21.3	27.1	21.8	26.7	22.5	25.5	22.2
7	11.0	7.7	11.6	9.8	25.8	21.6	27.0	22.2	26.3	22.3	23.2	20.5
8	12.3	9.5	10.7	9.4	26.2	21.7	27.0	21.9	26.5	21.7	22.9	19.2
9	12.5	9.7	10.9	8.4	25.8	22.0	27.5	21.8	27.1	22.5	22.5	19.0
10	11.9	10.4	13.0	9.3	24.6	20.9	28.1	22.1	26.5	21.9	22.9	18.0
11	11.4	9.8	12.0	10.2	24.4	20.6	28.2	22.7	26.3	21.9	23.7	18.4
12	10.9	8.6	13.8	10.2	23.8	20.3	28.1	22.6	26.2	21.6	24.6	19.8
13	9.3	7.8	15.6	11.5	23.3	19.7	28.4	23.4	26.8	21.9	24.2	19.0
14	9.9	7.9	16.5	12.9	23.5	19.5	28.3	22.8	26.1	21.8	24.1	18.9
15	9.7	8.1	16.0	13.2	23.7	19.6	27.8	22.6	26.2	21.6	23.8	18.8
16	9.5	8.4	15.2	11.8	24.4	20.1	27.8	22.4	26.8	21.6	22.6	18.7
17	10.9	8.8	14.8	11.0	24.8	21.1	28.0	21.8	27.2	21.6	22.4	17.3
18	10.9	8.3	14.7	10.6	23.9	21.0	28.7	22.8	27.8	22.2	22.1	16.6
19	11.7	8.7	15.8	11.2	23.2	20.2	28.2	22.9	27.2	22.6	22.3	16.9
20	11.8	9.8	17.0	12.4	23.3	19.6	27.7	22.5	28.1	22.4	22.7	17.5
21	11.2	9.1	18.4	13.6	23.1	19.4	29.4	23.6	27.1	22.6	23.1	17.9
22	10.0	9.3	19.6	15.3	23.2	19.4	30.1	24.5	26.5	22.6	23.2	18.0
23	10.0	9.4	21.0	16.1	22.8	19.5	30.5	25.8	26.6	20.8	23.3	18.3
24	9.7	8.3	20.2	17.4	23.5	19.3	28.3	25.8	27.2	21.4	22.9	18.4
25	8.9	7.6	20.0	17.1	24.8	19.8	28.2	23.4	27.4	21.7	23.1	18.3
26	9.1	6.9	20.4	16.1	26.3	21.4	28.7	23.2	27.6	22.4	23.1	18.1
27	9.4	7.5	21.0	16.4	27.5	22.5	29.2	23.6	27.2	21.8	22.8	18.1
28	9.0	7.9	20.8	17.4	27.9	23.2	29.8	24.2	26.8	21.5	22.3	17.9
29	8.7	7.8	20.6	18.0	27.1	22.9	30.1	24.8	26.4	20.8	22.3	18.5
30	11.0	8.4	21.5	17.6	26.8	22.2	29.6	25.3	26.7	20.9	21.3	16.9
31	---	---	21.8	18.2	---	---	29.8	25.4	27.0	21.5	---	---
MONTH	13.0	6.6	21.8	8.4	27.9	18.1	30.5	21.6	29.4	20.8	27.5	16.6

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm ft from 1 bank (00009)
JUN				
04...	1025	1.63	20.8	55.0
04...	1029	1.91	20.8	50.0
04...	1031	1.94	20.8	45.0
04...	1033	1.63	20.8	40.0
04...	1035	1.75	20.8	35.0
04...	1037	2.07	20.8	30.0
04...	1039	2.15	20.8	25.0
04...	1041	1.16	20.9	20.0
04...	1043	1.27	21.0	15.0
AUG				
20...	1425	.21	26.8	15.7
20...	1430	.42	26.8	13.7
20...	1435	.53	26.9	11.7
20...	1440	.48	26.9	9.70
20...	1445	.48	27.0	7.70
20...	1450	.44	27.0	5.70
20...	1455	.31	27.1	3.70
20...	1500	.37	27.1	1.70

* Instantaneous discharge at time of the cross-sectional measurements: June 4, 100 ft³/s; Aug. 20, 3.2 ft³/s.

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 mi².

PERIOD OF RECORD.—September 1955 to current year. Prior to October 1965, published as "at Alderpoint."

SEDIMENT DATA: Water years 1966–76.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 217.26 ft above NGVD of 1929. 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 ft³/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 ft³/s, on basis of slope-area measurement at gage height 72.5 ft; minimum daily, 1.2 ft³/s, Sept. 13, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 41,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1000	137,000	39.82	Jan. 14	0200	55,600	26.93
Dec. 21	0945	55,300	26.87	Mar. 15	1430	68,200	26.93
Dec. 31	1145	102,000	34.69	Apr. 29	2000	66,000	26.58

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	41	177	42800	5820	2710	4560	30500	1820	354	71	38
2	7.2	43	171	24600	5320	2510	4940	23100	1750	341	72	37
3	7.2	42	167	18200	4550	2330	5230	19900	1580	329	79	36
4	7.1	41	174	15000	3980	2250	7050	18600	1480	314	92	36
5	7.5	41	220	13500	3440	2130	8010	16900	1410	297	136	38
6	7.9	42	220	11300	3120	1990	6390	14000	1330	281	127	40
7	8.1	107	218	9480	2860	1890	6000	11400	1250	265	107	39
8	8.7	473	222	8010	2630	1840	5550	10100	1180	254	97	40
9	9.3	2680	225	6930	2440	1760	5300	9560	1100	241	88	40
10	10	3840	276	7410	2300	1730	4800	7910	1030	227	84	43
11	11	5210	304	15700	2200	1820	4390	6750	966	214	84	42
12	19	2000	371	16300	2110	1940	7910	5980	936	201	79	41
13	28	1500	4090	44100	2580	2110	26200	5760	905	189	75	42
14	30	1460	76400	47400	3680	6720	22300	5900	839	180	72	41
15	33	958	55600	29500	3760	46300	15700	6030	789	173	69	42
16	33	703	103000	20700	17600	31200	13200	6050	747	166	67	42
17	35	560	49600	15800	13000	19400	13300	5290	706	163	64	40
18	37	472	25600	13000	9140	12200	10400	4520	671	157	61	37
19	38	415	19000	11000	7800	8690	8580	3870	644	149	59	35
20	38	370	28200	9310	7170	9380	7440	3550	620	137	57	34
21	42	330	48700	8490	5710	7610	7180	3420	589	129	54	34
22	44	304	25700	8950	4940	6540	8110	3270	567	123	51	34
23	44	296	16500	15000	4410	10400	7240	3580	542	117	49	34
24	42	274	11100	12200	3980	8650	21100	3470	520	108	47	34
25	41	252	8230	12300	3880	6950	24800	3180	503	103	47	33
26	40	233	7950	11500	3530	13500	29800	2910	480	99	46	32
27	40	216	31000	10100	3260	12900	22900	2730	452	97	45	31
28	40	202	86700	9140	2950	9050	29300	2370	424	94	43	30
29	40	192	55200	7830	---	6960	58100	2180	397	88	41	30
30	41	183	36200	6730	---	5680	48900	2100	372	82	41	29
31	41	---	84500	6160	---	5000	---	1960	---	75	39	---
TOTAL	837.6	23480	776015	488440	138160	254140	444680	246840	26599	5747	2143	1104
MEAN	27.0	783	25030	15760	4934	8198	14820	7963	887	185	69.1	36.8
MAX	44	5210	103000	47400	17600	46300	58100	30500	1820	354	136	43
MIN	7.1	41	167	6160	2110	1730	4390	1960	372	75	39	29
AC-FT	1660	46570	1539000	968800	274000	504100	882000	489600	52760	11400	4250	2190

EEL RIVER BASIN

11475000 EEL RIVER AT FORT SEWARD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	349	2822	9017	13200	12540	9622	5286	2368	705	146	52.8	52.2
MAX	4938	18740	56050	43180	47700	30660	23040	7963	4194	510	199	359
(WY)	1963	1974	1965	1995	1986	1995	1982	2003	1993	1998	1983	1986
MIN	20.5	49.4	45.5	222	434	1071	476	356	131	18.4	3.27	7.53
(WY)	1965	1960	1977	1991	1977	1988	1977	1977	1977	1977	1977	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1955 - 2003	
ANNUAL TOTAL	1587411.5		2408185.6			
ANNUAL MEAN	4349		6598		4648	
HIGHEST ANNUAL MEAN					10350 1983	
LOWEST ANNUAL MEAN					260 1977	
HIGHEST DAILY MEAN	103000	Dec 16	103000	Dec 16	434000	Dec 22 1964
LOWEST DAILY MEAN	6.8	Sep 11	7.1	Oct 4	1.2	Sep 13 1977
ANNUAL SEVEN-DAY MINIMUM	7.2	Sep 8	7.5	Oct 1	1.4	Sep 7 1977
MAXIMUM PEAK FLOW			137000		561000 Dec 22 1964	
MAXIMUM PEAK STAGE			39.82 Dec 16		82.60 Dec 22 1964	
ANNUAL RUNOFF (AC-FT)	3149000		4777000		3367000	
10 PERCENT EXCEEDS	8030		18400		11900	
50 PERCENT EXCEEDS	468		1250		726	
90 PERCENT EXCEEDS	8.0		38		35	

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 mi².

PERIOD OF RECORD.—October 1967 to current year.

CHEMICAL DATA: Water years 1968 to March 1996.

SEDIMENT DATA: Water years 1969 to March 1996.

WATER TEMPERATURE: Water years 1968–79.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,391.08 ft above NGVD of 1929.

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 ft³/s, Dec. 30, 1996, gage height, 9.88 ft, from rating curve extended above 700 ft³/s, on basis of slope-area measurements at gage heights 9.40 and 11.41 ft; minimum daily, 0.27 ft³/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 ft³/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 400 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0115	1,020	7.45	Dec. 31	0715	791	6.95
Dec. 21	0015	491	6.22	Apr. 29	2130	443	6.10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.45	0.86	1.5	319	32	21	33	222	11	4.5	1.9	0.98
2	0.44	0.84	1.4	179	30	20	33	134	11	4.3	1.9	0.93
3	0.43	0.85	1.4	105	27	19	32	93	10	4.2	1.9	1.2
4	0.45	0.86	1.5	80	25	18	44	77	9.9	4.1	1.9	1.1
5	0.45	0.84	1.4	66	23	17	43	68	9.6	4.0	2.0	1.1
6	0.44	0.85	1.4	56	22	16	43	60	9.4	3.9	2.0	1.1
7	0.43	6.1	1.3	49	20	15	43	53	9.1	3.8	2.0	1.2
8	0.41	15	1.3	44	19	14	43	50	8.9	3.8	2.0	1.1
9	0.41	13	1.9	40	18	14	41	45	8.6	3.6	1.9	1.2
10	0.41	24	3.1	48	17	13	40	41	8.3	3.5	1.8	1.2
11	0.45	9.9	2.5	60	16	13	38	37	8.1	3.4	1.8	1.1
12	0.45	7.0	2.6	108	16	13	60	34	7.8	3.3	1.7	1.0
13	0.45	5.9	163	273	23	16	82	31	7.6	3.3	1.7	0.94
14	0.49	4.7	522	272	20	29	90	29	7.4	3.2	1.6	0.87
15	0.51	4.0	376	164	33	148	84	27	7.1	3.1	1.6	0.85
16	0.51	3.5	612	100	78	99	98	25	6.9	3.2	1.5	0.83
17	0.51	3.2	282	75	59	70	102	23	6.7	3.2	1.5	0.84
18	0.50	2.8	148	61	50	56	88	22	6.5	2.9	1.4	0.81
19	0.51	2.6	116	52	46	50	71	20	6.3	2.8	1.3	0.79
20	0.54	2.4	259	45	42	47	59	19	6.2	2.7	1.3	0.79
21	0.57	2.2	382	42	38	42	52	18	6.0	2.6	1.3	0.77
22	0.60	2.1	213	48	35	45	46	17	5.8	2.5	1.3	0.72
23	0.61	2.0	112	54	33	52	49	16	5.6	2.4	1.3	0.71
24	0.69	1.9	76	52	31	49	95	15	5.6	2.4	1.3	0.69
25	0.82	1.8	59	58	29	47	114	14	5.4	2.4	1.2	0.68
26	0.87	1.7	61	56	26	58	118	14	5.1	2.3	1.2	0.67
27	0.86	1.6	291	52	24	55	104	13	4.9	2.2	1.1	0.65
28	0.84	1.6	647	47	23	51	153	13	4.7	2.1	1.1	0.66
29	0.81	1.5	375	42	---	45	384	12	4.6	2.0	1.1	0.72
30	0.80	1.5	311	38	---	41	344	12	4.5	1.9	1.1	0.72
31	0.83	---	601	35	---	37	---	11	---	1.9	1.0	---
TOTAL	17.54	127.10	5627.3	2720	855	1230	2626	1265	218.6	95.5	47.7	26.92
MEAN	0.57	4.24	182	87.7	30.5	39.7	87.5	40.8	7.29	3.08	1.54	0.90
MAX	0.87	24	647	319	78	148	384	222	11	4.5	2.0	1.2
MIN	0.41	0.84	1.3	35	16	13	32	11	4.5	1.9	1.0	0.65
AC-FT	35	252	11160	5400	1700	2440	5210	2510	434	189	95	53

11475560 ELDER CREEK NEAR BRANSCOMB, CA—Continued
(Hydrologic-Benchmark Station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.07	18.6	52.7	72.4	61.6	53.3	26.5	12.1	5.70	2.35	1.30	1.06
MAX	8.72	132	192	210	173	147	91.9	40.8	31.6	5.84	2.49	2.36
(WY)	1980	1974	1997	1970	1986	1983	1982	2003	1993	1993	1990	1986
MIN	0.57	0.99	1.04	2.32	3.40	5.45	3.01	2.13	1.35	0.67	0.48	0.51
(WY)	2003	1996	1977	1977	1977	1988	1977	1977	1977	1977	1977	1988

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	10572.41		14856.66			
ANNUAL MEAN	29.0		40.7		25.7	
HIGHEST ANNUAL MEAN					54.4 1974	
LOWEST ANNUAL MEAN					2.12 1977	
HIGHEST DAILY MEAN	647	Dec 28	647	Dec 28	1620	Jan 1 1997
LOWEST DAILY MEAN	0.37	Sep 26	0.41	Oct 8	0.27	Sep 10 1981
ANNUAL SEVEN-DAY MINIMUM	0.41	Sep 23	0.43	Oct 4	0.27	Sep 9 1981
MAXIMUM PEAK FLOW			1020		2480	Dec 30 1996
MAXIMUM PEAK STAGE			7.45		9.88	Dec 30 1996
ANNUAL RUNOFF (AC-FT)	20970		29470		18600	
10 PERCENT EXCEEDS	58		96		67	
50 PERCENT EXCEEDS	3.4		8.6		5.3	
90 PERCENT EXCEEDS	0.54		0.80		0.91	

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 mi².

PERIOD OF RECORD.—October 1965 to June 1995, October 1997 to April 1999 (seasonal), October 1999 to current year. Stage only July 1995 to September 1997.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 684.72 ft above NGVD of 1929. Prior to July 29, 1988, at datum 8.60 ft higher. July 30, 1988, to July 28, 2003, at datum 6.60 ft higher. Datum lowered July 28, 2003 due to channel scour.

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 ft³/s, Jan. 4, 1966, gage height, 27.4 ft, from floodmarks, present datum, from rating curve extended above 21,000 ft³/s, on basis of slope-area measurement at gage height 28.13 ft; minimum daily, 7.3 ft³/s, Aug. 4–6, 12, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 28.13 ft, from floodmarks, present datum, discharge, 78,700 ft³/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 8,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0500	18,400	14.20	Jan. 13	1815	8,510	9.11
Dec. 31	0915	16,700	13.50	Apr. 29	1815	10,900	10.54

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	34	6530	973	563	888	4660	268	104	39	24
2	12	14	33	4050	849	516	952	3290	259	102	40	24
3	12	14	33	3040	757	481	980	2860	244	99	41	25
4	13	14	36	2520	684	451	2020	2590	234	97	41	25
5	13	14	38	2280	623	419	1770	2290	226	94	41	25
6	13	14	36	1920	573	389	1610	2000	218	91	42	25
7	13	52	35	1640	530	368	1470	1750	214	89	42	26
8	12	380	34	1410	491	347	1280	1610	206	90	42	27
9	12	523	39	1240	460	330	1120	1480	199	87	41	27
10	12	891	99	1660	433	329	996	1290	192	83	40	29
11	12	460	113	2770	412	328	e950	1140	189	79	39	28
12	12	231	100	3960	391	324	e1850	1020	184	76	38	27
13	12	233	3290	7340	918	356	e3940	909	181	74	37	26
14	12	169	12900	6160	1090	1280	e3500	819	175	73	37	24
15	12	125	6680	3930	1310	5290	2680	741	169	71	36	23
16	12	101	13500	2840	4630	2980	2870	675	162	68	35	22
17	12	86	6400	2230	2590	2050	2770	619	158	66	34	22
18	12	74	4110	1830	1920	1560	2290	573	153	63	33	21
19	13	65	3890	1530	1780	1340	1920	533	150	e61	31	20
20	13	58	7670	1300	1560	1560	1590	495	147	e57	31	20
21	13	53	8570	1260	1300	1240	1450	465	143	e55	30	20
22	13	49	4490	1730	1140	1260	1390	439	140	e52	30	19
23	13	45	3030	2290	1010	2080	1360	417	136	e50	30	19
24	13	44	2350	1830	905	1610	4140	390	132	e48	30	18
25	14	41	1920	2810	878	1420	4070	375	127	e47	29	18
26	14	39	2130	2220	752	2540	3930	360	121	e46	28	18
27	14	37	6670	1930	696	2100	3150	338	115	e45	28	18
28	14	37	14000	1640	616	1730	4440	320	109	e44	27	18
29	14	36	8560	1390	---	1430	9730	307	106	42	26	18
30	14	35	7280	1220	---	1190	7770	296	105	40	26	18
31	14	---	13300	1070	---	1010	---	284	---	39	25	---
TOTAL	396	3948	131370	79570	30271	38871	78876	35335	5162	2132	1069	674
MEAN	12.8	132	4238	2567	1081	1254	2629	1140	172	68.8	34.5	22.5
MAX	14	891	14000	7340	4630	5290	9730	4660	268	104	42	29
MIN	12	14	33	1070	391	324	888	284	105	39	25	18
AC-FT	785	7830	260600	157800	60040	77100	156500	70090	10240	4230	2120	1340

e Estimated.

EEL RIVER BASIN

11475800 SOUTH FORK EEL RIVER AT LEGGETT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.7	708	1621	2327	2144	1769	832	307	126	49.0	28.7	28.5
MAX	272	4050	6072	7278	7294	5515	3528	1140	630	129	65.4	87.8
(WY)	1980	1974	1984	1970	1986	1983	1982	2003	1993	1993	1993	1986
MIN	12.3	40.2	32.9	98.1	137	147	78.4	59.5	26.7	9.96	9.67	10.7
(WY)	2002	1994	1977	1977	1977	1988	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	276482		407674			
ANNUAL MEAN	757		1117		795	
HIGHEST ANNUAL MEAN					1778	
LOWEST ANNUAL MEAN					69.5	
HIGHEST DAILY MEAN	14000	Dec 28	14000	Dec 28	49800	Jan 4 1966
LOWEST DAILY MEAN	12	Sep 23	12	Oct 1	7.3	Aug 4 1977
ANNUAL SEVEN-DAY MINIMUM	12	Sep 23	12	Oct 8	7.5	Jul 31 1977
MAXIMUM PEAK FLOW			18400	Dec 16	72700	Jan 4 1966
MAXIMUM PEAK STAGE			14.20	Dec 16	27.40	Jan 4 1966
ANNUAL RUNOFF (AC-FT)	548400		808600		576100	
10 PERCENT EXCEEDS	1730		3000		2040	
50 PERCENT EXCEEDS	97		214		138	
90 PERCENT EXCEEDS	14		14		22	

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, 20 mi upstream from mouth, and 4.3 mi southeast of Miranda.

DRAINAGE AREA.—537 mi².

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 NGVD of 1929. 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. 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 ft³/s, Dec. 22, 1964, gage height, 46.0 ft, from floodmarks, from rating curve extended above 53,000 ft³/s, on basis of slope-area measurement at gage height 42.7 ft; minimum observed, 9 ft³/s, Oct. 17, 1944.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0745	53,800	26.98	Jan. 13	2130	18,400	17.13
Dec. 21	0415	22,500	18.85	Apr. 29	2030	22,900	18.45
Dec. 28	1600	50,000	25.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	19	69	15500	2160	1300	1710	10100	537	178	63	40
2	17	19	68	8740	1810	1170	1670	7030	508	175	65	39
3	17	20	71	6530	1620	1060	1750	5800	485	171	68	40
4	17	20	79	5380	1490	990	3190	4840	460	166	69	40
5	17	20	88	5010	1370	931	3210	4240	442	161	70	40
6	18	20	85	4200	1270	870	2790	3630	425	157	71	40
7	18	165	79	3590	1180	823	2620	3150	410	153	43	41
8	18	730	74	3130	1090	781	2250	2800	399	152	40	41
9	17	1040	83	2780	1030	739	1990	2550	382	151	44	42
10	17	1320	251	3320	963	750	1780	2170	364	147	52	97
11	16	1490	326	5750	915	730	1660	1910	351	141	59	136
12	16	692	293	7540	869	720	3070	1720	343	136	61	115
13	17	553	3120	16000	1200	796	6520	1560	334	132	61	78
14	17	424	31900	14600	1940	2560	6210	1420	324	129	61	48
15	17	298	19800	8950	2740	10100	5320	1310	310	126	59	47
16	16	222	39000	6420	10800	6180	4800	1210	298	124	58	43
17	16	182	14800	5000	6390	4140	4790	1130	283	122	55	35
18	16	155	8440	4030	4480	3040	3880	1050	275	119	54	34
19	17	135	7350	3380	4020	2600	3230	993	267	116	53	33
20	18	121	13300	2880	3570	2800	2720	936	260	110	49	33
21	17	110	18000	2710	2980	2340	2520	886	252	106	38	33
22	17	102	9270	3230	2580	2300	2580	844	243	104	37	32
23	17	95	6290	4820	2260	3570	2410	802	236	99	39	32
24	18	89	4840	3750	2060	2970	7170	764	228	71	46	31
25	18	84	3920	5020	1800	2630	7830	738	223	76	47	31
26	18	78	3940	4360	1610	4510	8320	713	213	75	46	31
27	18	75	15100	3850	1490	3920	6580	680	204	83	44	31
28	19	73	40700	3350	1340	3210	7910	646	194	84	52	31
29	19	70	23100	2930	---	2660	19000	617	186	81	41	31
30	18	69	16700	2590	---	2210	17500	597	182	76	40	31
31	19	---	34900	2310	---	1910	---	570	---	68	40	---
TOTAL	537	8490	316036	171650	67027	75310	146980	67406	9618	3789	1625	1376
MEAN	17.3	283	10190	5537	2394	2429	4899	2174	321	122	52.4	45.9
MAX	19	1490	40700	16000	10800	10100	19000	10100	537	178	71	136
MIN	16	19	68	2310	869	720	1660	570	182	68	37	31
AC-FT	1070	16840	626900	340500	132900	149400	291500	133700	19080	7520	3220	2730

11476500 SOUTH FORK EEL RIVER NEAR MIRANDA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	250	1427	4105	5394	4775	3547	1847	705	300	111	59.6	58.7
MAX	3332	10130	17260	17530	16640	13000	8425	2370	1754	276	131	221
(WY)	1963	1974	1965	1970	1986	1983	1982	1990	1993	1993	1983	1986
MIN	17.3	25.0	74.6	207	284	304	176	122	52.7	20.4	18.0	19.9
(WY)	2003	1940	1977	1977	1977	1988	1977	1977	1977	1977	1977	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	662546		869844			
ANNUAL MEAN	1815		2383		1870	
HIGHEST ANNUAL MEAN					4393	
LOWEST ANNUAL MEAN					156	
HIGHEST DAILY MEAN	40700	Dec 28	40700	Dec 28	161000	Dec 22 1964
LOWEST DAILY MEAN	16	Sep 28	16	Oct 11	10	Aug 30 1964
ANNUAL SEVEN-DAY MINIMUM	16	Oct 11	16	Oct 11	14	Jul 30 1977
MAXIMUM PEAK FLOW			53800		199000	
MAXIMUM PEAK STAGE			26.98		46.00	
ANNUAL RUNOFF (AC-FT)	1314000		1725000		1355000	
10 PERCENT EXCEEDS	3690		6240		4880	
50 PERCENT EXCEEDS	190		424		342	
90 PERCENT EXCEEDS	19		20		44	

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 mi².

PERIOD OF RECORD.—October 1960 to current year.

SEDIMENT DATA: Water years 1960–80

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 269.36 ft above NGVD of 1929. 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 ft³/s, Dec. 31, 1996, gage height, 12.84 ft, maximum gage height, 20.6 ft³/s, Dec. 22, 1964, site and datum then in use; minimum daily, 0.20 ft³/s, Oct. 8, 9, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,700 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0030	5,860	10.89	Dec. 27	2230	2,140	6.99

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.25	e0.51	4.1	966	155	96	128	525	34	11	4.7	1.2
2	0.26	0.50	4.0	702	139	91	123	413	31	11	5.1	1.1
3	0.24	0.49	4.0	556	124	87	127	344	29	10	5.6	1.1
4	0.23	0.51	4.5	370	114	83	182	288	30	9.9	5.3	1.3
5	0.22	0.52	4.7	262	103	79	160	240	28	10	5.2	1.2
6	0.21	0.49	4.2	207	97	75	163	204	27	10	5.0	1.2
7	0.21	76	4.0	169	92	72	153	172	28	9.6	4.8	1.5
8	0.20	70	3.9	142	87	70	144	160	26	8.5	4.4	1.6
9	0.20	50	12	125	83	68	134	129	23	7.6	4.1	1.8
10	0.21	53	27	178	79	68	128	112	22	7.2	3.9	2.1
11	0.22	32	20	184	76	67	121	101	21	7.1	3.7	1.8
12	0.23	25	34	497	74	65	327	93	20	6.9	3.5	1.4
13	0.23	20	221	793	75	151	473	85	19	6.8	3.4	1.2
14	0.22	15	1300	765	70	580	484	79	19	6.7	3.2	1.0
15	0.22	13	1550	492	121	874	401	74	17	6.7	3.0	0.93
16	0.22	11	2200	380	199	505	357	69	16	6.6	2.8	0.89
17	0.24	9.8	822	314	164	381	318	65	16	6.5	2.6	0.86
18	0.24	8.6	737	267	149	304	299	61	15	6.3	2.4	0.84
19	0.23	7.7	682	232	207	256	277	58	15	6.2	2.2	0.87
20	0.24	7.1	963	201	228	239	259	55	15	5.9	2.1	0.80
21	0.25	6.7	890	195	203	210	266	53	14	5.8	2.1	0.79
22	0.26	6.2	808	249	184	227	256	50	14	5.7	2.0	0.79
23	0.28	5.8	679	254	169	228	279	48	13	5.6	2.1	0.78
24	0.30	5.5	549	250	155	201	326	46	12	5.6	1.9	0.76
25	0.32	5.3	406	260	139	200	581	45	11	5.6	1.7	0.74
26	0.33	5.1	436	239	129	257	573	43	9.8	5.5	1.6	0.74
27	0.36	4.8	1360	231	115	229	382	41	9.4	5.3	1.6	0.89
28	e0.48	4.6	1700	211	103	195	635	40	11	5.1	1.5	1.2
29	e0.80	4.4	1010	191	---	179	1000	39	12	4.8	1.4	1.2
30	e0.65	4.3	1010	176	---	162	734	38	12	4.6	1.4	1.2
31	e0.55	---	1520	161	---	141	---	36	---	4.6	1.3	---
TOTAL	9.10	453.92	18969.4	10219	3633	6440	9790	3806	569.2	218.7	95.6	33.78
MEAN	0.29	15.1	612	330	130	208	326	123	19.0	7.05	3.08	1.13
MAX	0.80	76	2200	966	228	874	1000	525	34	11	5.6	2.1
MIN	0.20	0.49	3.9	125	70	65	121	36	9.4	4.6	1.3	0.74
AC-FT	18	900	37630	20270	7210	12770	19420	7550	1130	434	190	67

e Estimated.

EEL RIVER BASIN

11476600 BULL CREEK NEAR WEOTT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.0	104	265	328	300	233	120	41.6	16.7	6.44	3.30	2.72
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	0.29	3.61	3.67	10.5	13.8	16.0	11.2	10.3	4.84	1.81	0.70	0.31
(WY)	2003	1994	1977	1977	1977	1988	1988	1988	1977	1977	1992	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	42540.58		54237.70			
ANNUAL MEAN	117		149		119	
HIGHEST ANNUAL MEAN					287	
LOWEST ANNUAL MEAN					9.72	
HIGHEST DAILY MEAN	2200	Dec 16	2200	Dec 16	4900	Jan 16 1974
LOWEST DAILY MEAN	0.20	Oct 8	0.20	Oct 8	0.20	Oct 8 2002
ANNUAL SEVEN-DAY MINIMUM	0.21	Oct 5	0.21	Oct 5	0.21	Oct 5 2002
MAXIMUM PEAK FLOW			5860		7830	
MAXIMUM PEAK STAGE			10.89		20.60	
ANNUAL RUNOFF (AC-FT)	84380		107600		86010	
10 PERCENT EXCEEDS	217		409		318	
50 PERCENT EXCEEDS	12		27		22	
90 PERCENT EXCEEDS	0.30		0.70		1.8	

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 mi².

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.

CHEMICAL DATA: Water years 1952–75, 1977, 1979–95.

BIOLOGICAL DATA: Water years 1979–81.

SEDIMENT DATA: Water years 1955–95, 1998.

SPECIFIC CONDUCTANCE: Water years 1979–81.

WATER TEMPERATURE: Water years 1958–82.

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 NGVD of 1929. Prior to Dec. 12, 1940, nonrecording gage at same site and datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. 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 ft³/s, Dec. 23, 1964, gage height, 72.0 ft, from floodmarks, from rating curve extended above 220,000 ft³/s, on basis of maximum flow at upstream stations; minimum observed, 10 ft³/s, Aug. 12–14, 1924.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 72,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1700	226,000	44.15	Jan. 14	0430	96,900	30.36
Dec. 21	1100	107,000	31.60	Mar. 15	2115	81,600	28.31
Dec. 28	1915	195,000	41.15	Apr. 30	0230	101,000	30.82

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	87	356	95400	10100	5580	8560	49400	3060	730	218	128
2	39	87	340	46200	9460	5150	8310	33300	2900	705	214	126
3	38	87	331	31300	8360	4780	9260	27500	2720	678	210	126
4	39	88	324	24300	7470	4510	11700	25100	2530	655	213	125
5	40	90	345	22000	6680	4300	14800	23600	2410	625	217	127
6	42	89	e352	19300	6050	4060	12600	19900	2300	591	236	126
7	43	248	e365	16600	5560	3830	12200	17200	2180	565	256	127
8	43	1520	393	14500	5140	3660	11100	15200	2090	540	238	132
9	43	2850	422	13000	4790	3510	10200	14600	1970	520	211	138
10	42	6390	618	12800	4500	3400	9470	12900	1860	504	195	142
11	41	9220	949	24900	4270	3430	8680	11500	1770	481	188	146
12	41	5020	987	28600	4080	3570	11400	10300	1680	459	186	212
13	40	3000	3440	71300	4110	3910	34300	9470	1640	435	194	223
14	42	2460	108000	88100	6510	9730	35300	9310	1570	412	195	200
15	42	1910	120000	54900	6800	51000	25100	9270	1490	396	186	171
16	47	1410	173000	34300	30800	47500	20000	9090	1420	389	180	147
17	56	1130	104000	24700	27400	27300	21000	8350	1360	378	178	140
18	61	949	47900	19600	17100	17200	17600	7530	1310	368	174	137
19	65	823	30900	16500	15100	13100	14900	6510	1260	354	166	129
20	67	740	50900	14300	15400	13300	13100	5950	1220	341	160	125
21	71	674	95000	13100	12400	12600	12300	5550	1180	322	158	122
22	73	616	53200	13500	10600	10800	13700	5310	1130	305	153	123
23	78	572	28900	21900	9390	14600	12300	5300	1090	297	143	116
24	e79	547	19700	20500	8420	14600	27900	5420	1060	284	137	108
25	e81	510	15000	19900	7750	12200	39600	5110	1020	268	135	104
26	83	472	13400	19900	7310	17700	47000	4670	976	249	133	104
27	86	443	44800	17200	6730	21600	35500	4400	929	248	135	102
28	85	413	163000	15500	6120	15400	38500	3950	875	244	136	100
29	85	390	125000	13400	---	12700	81000	3600	817	238	132	96
30	85	369	69800	11800	---	10700	84700	3430	756	233	134	95
31	85	---	151000	10600	---	9490	---	3270	---	226	130	---
TOTAL	1800	43204	1422722	849900	268400	385210	702080	375990	48573	13040	5541	3997
MEAN	58.1	1440	45890	27420	9586	12430	23400	12130	1619	421	179	133
MAX	86	9220	173000	95400	30800	51000	84700	49400	3060	730	256	223
MIN	38	87	324	10600	4080	3400	8310	3270	756	226	130	95
AC-FT	3570	85700	2822000	1686000	532400	764100	1393000	745800	96340	25860	10990	7930

e Estimated.

EEL RIVER BASIN

11477000 EEL RIVER AT SCOTIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	648	5028	14180	20130	19870	14300	8899	3714	1272	339	149	141
MAX	10910	38690	84420	69950	77680	51150	39190	12130	7511	920	422	735
(WY)	1963	1974	1965	1970	1958	1983	1982	2003	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1911 - 2003	
ANNUAL TOTAL	2923021		4120457			
ANNUAL MEAN	8008		11290		7334	
HIGHEST ANNUAL MEAN					17300	
LOWEST ANNUAL MEAN					563	
HIGHEST DAILY MEAN	173000	Dec 16	173000	Dec 16	648000	Dec 23 1964
LOWEST DAILY MEAN	38	Sep 30	38	Oct 1	12	Aug 12 1924
ANNUAL SEVEN-DAY MINIMUM	39	Sep 27	40	Oct 1	14	Aug 10 1924
MAXIMUM PEAK FLOW			226000	Dec 16	752000	Dec 23 1964
MAXIMUM PEAK STAGE			44.15	Dec 16	72.00	Dec 23 1964
INSTANTANEOUS LOW FLOW					10	Aug 12 1924
ANNUAL RUNOFF (AC-FT)	5798000		8173000		5313000	
10 PERCENT EXCEEDS	14200		28200		18000	
50 PERCENT EXCEEDS	949		2180		1400	
90 PERCENT EXCEEDS	45		90		102	

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, and 1.9 mi south-southeast of Dinsmore.

DRAINAGE AREA.—0.74 mi².

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 NGVD of 1929, from topographic map.

REMARKS.—Records of fishery release normally are computed only during periods of diversion to powerhouse or when 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 Federal Energy Regulatory Commission project no. 6154.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	0.44	0.33	0.35	0.35	0.40	---	---	---	---
2	---	---	---	0.42	0.35	0.35	0.35	0.40	---	---	---	---
3	---	---	---	---	0.37	0.35	0.33	0.40	---	---	---	---
4	---	---	---	0.35	0.35	0.33	0.33	0.42	---	---	---	---
5	---	---	---	0.33	0.35	0.33	0.33	0.42	---	---	---	---
6	---	---	---	0.33	0.35	0.33	0.33	0.40	---	---	---	---
7	---	---	---	0.37	0.35	---	0.33	0.40	---	---	---	---
8	---	---	---	0.42	0.35	---	0.35	0.37	---	---	---	---
9	---	---	---	0.42	0.35	---	0.37	0.37	---	---	---	---
10	---	---	---	0.42	0.35	0.35	0.37	0.37	---	---	---	---
11	---	---	---	0.44	0.35	0.33	0.37	0.37	---	---	---	---
12	---	---	---	0.44	---	0.33	0.40	0.35	---	---	---	---
13	---	---	0.40	0.46	---	0.37	0.40	0.35	---	---	---	---
14	---	---	---	0.44	---	0.37	0.35	0.37	---	---	---	---
15	---	---	---	0.44	0.40	0.40	0.35	0.33	---	---	---	---
16	---	---	0.49	0.44	0.40	0.37	0.35	0.31	---	---	---	---
17	---	---	0.46	0.44	0.40	0.37	0.37	0.31	---	---	---	---
18	---	---	0.44	0.40	0.37	0.37	0.35	0.31	---	---	---	---
19	---	---	---	0.40	0.37	0.37	0.35	0.31	---	---	---	---
20	---	---	0.42	0.40	0.40	0.37	0.35	0.31	---	---	---	---
21	---	---	0.42	0.40	0.40	0.37	0.35	0.33	---	---	---	---
22	---	---	0.37	0.40	0.40	0.37	0.37	0.31	---	---	---	---
23	---	---	0.42	---	0.37	0.37	0.40	0.33	---	---	---	---
24	---	---	0.49	---	0.37	0.37	0.42	---	---	---	---	---
25	---	---	0.49	0.40	0.37	0.40	0.40	---	---	---	---	---
26	---	---	0.51	0.37	0.35	0.46	0.40	---	---	---	---	---
27	---	---	---	0.35	0.35	0.42	0.40	---	---	---	---	---
28	---	---	---	0.33	0.35	0.40	0.40	---	---	---	---	---
29	---	---	---	0.33	---	0.40	0.40	---	---	---	---	---
30	---	---	---	0.33	---	0.37	0.40	---	---	---	---	---
31	---	---	---	0.33	---	0.37	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	11.02	---	---	---	---	---
MEAN	---	---	---	---	---	---	0.37	---	---	---	---	---
MAX	---	---	---	---	---	---	0.42	---	---	---	---	---
MIN	---	---	---	---	---	---	0.33	---	---	---	---	---
AC-FT	---	---	---	---	---	---	22	---	---	---	---	---

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, and 2 mi south-southeast of Dinsmore.

DRAINAGE AREA.—1.06 mi².

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 NGVD of 1929, from topographic map.

REMARKS.—Records of fishery release normally are computed only during periods of diversion to powerhouse or when 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 Federal Energy Regulatory Commission project no. 6154.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	0.63	0.40	0.37	0.37	0.49	---	---	---	---
2	---	---	---	0.63	0.42	0.37	0.37	0.49	---	---	---	---
3	---	---	---	---	0.42	0.37	0.33	0.49	---	---	---	---
4	---	---	---	0.60	0.40	0.35	0.33	0.49	---	---	---	---
5	---	---	---	0.60	0.40	0.35	0.33	0.44	---	---	---	---
6	---	---	---	0.60	0.40	0.35	0.33	0.42	---	---	---	---
7	---	---	---	0.57	0.37	---	0.37	0.35	---	---	---	---
8	---	---	---	0.57	0.37	---	0.44	0.33	---	---	---	---
9	---	---	---	0.54	0.37	---	0.46	0.33	---	---	---	---
10	---	---	---	0.57	0.37	0.35	0.46	0.31	---	---	---	---
11	---	---	---	0.63	0.37	0.37	0.46	0.31	---	---	---	---
12	---	---	---	0.65	---	0.37	0.46	0.40	---	---	---	---
13	---	---	---	0.69	---	0.42	0.35	0.46	---	---	---	---
14	---	---	---	0.69	---	0.54	0.44	0.46	---	---	---	---
15	---	---	---	0.63	0.46	0.44	0.46	0.44	---	---	---	---
16	---	---	---	0.60	0.44	0.49	0.46	0.42	---	---	---	---
17	---	---	---	0.54	0.42	0.46	0.49	0.40	---	---	---	---
18	---	---	---	0.49	0.44	0.44	0.44	0.40	---	---	---	---
19	---	---	---	0.49	0.44	0.40	0.42	0.40	---	---	---	---
20	---	---	0.60	0.49	0.44	0.42	0.42	0.42	---	---	---	---
21	---	---	0.54	0.49	0.44	0.40	0.42	0.42	---	---	---	---
22	---	---	---	0.49	0.42	0.42	0.42	0.42	---	---	---	---
23	---	---	---	---	0.42	0.42	0.49	0.40	---	---	---	---
24	---	---	0.42	---	0.42	0.40	0.49	---	---	---	---	---
25	---	---	0.40	0.49	0.40	0.37	0.44	---	---	---	---	---
26	---	---	0.46	0.46	0.40	---	0.40	---	---	---	---	---
27	---	---	---	0.42	0.40	---	0.42	---	---	---	---	---
28	---	---	---	0.42	0.37	---	0.44	---	---	---	---	---
29	---	---	---	0.40	---	---	0.46	---	---	---	---	---
30	---	---	---	0.42	---	---	0.46	---	---	---	---	---
31	---	---	0.66	0.40	---	0.37	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	12.63	---	---	---	---	---
MEAN	---	---	---	---	---	---	0.42	---	---	---	---	---
MAX	---	---	---	---	---	---	0.49	---	---	---	---	---
MIN	---	---	---	---	---	---	0.33	---	---	---	---	---
AC-FT	---	---	---	---	---	---	25	---	---	---	---	---

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 mi².

PERIOD OF RECORD.—October 1950 to current year.

CHEMICAL DATA: October 1958 to September 1965.

WATER TEMPERATURE: October 1955 to September 1963.

SEDIMENT DATA: December 1960 to September 1965.

REVISED RECORDS.—WSP 1735: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 358.18 ft above NGVD of 1929. 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 OUTSIDE PERIOD OF RECORD.—Peak of Jan. 21, 1943, had a discharge estimate of 22,900 ft³/s, based on method in WRI 77-21.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 48,700 ft³/s, Dec. 22, 1964, gage height, 24.0 ft, from floodmarks, present site and datum, from rating curve extended above 20,000 ft³/s, on basis of slope-area measurement at gage height 21.3 ft, former site and datum; minimum daily, 3.3 ft³/s, Sept. 26, 2002.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 15,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0400	32,500	16.69	Dec. 29	2300	26,700	14.63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	5.6	24	5260	1070	518	986	3060	274	55	13	8.8
2	3.8	5.6	22	2750	969	471	978	2540	257	54	13	8.2
3	3.9	5.6	19	2190	836	436	1050	2220	241	53	14	8.0
4	4.1	5.7	19	2030	732	405	1630	2700	225	51	16	7.8
5	4.2	5.9	22	1870	651	371	1510	2230	211	49	17	7.6
6	4.3	5.4	29	1450	583	341	1680	1780	196	47	18	8.0
7	4.5	29	27	1170	515	320	1660	1480	185	46	19	8.4
8	4.3	791	23	1000	464	301	1660	1420	175	45	18	8.2
9	4.3	1130	26	905	421	291	1550	1250	163	43	17	11
10	4.1	1420	119	1260	385	305	1360	1080	155	41	16	14
11	4.1	761	234	2380	359	322	1270	988	148	39	15	13
12	4.1	402	212	3260	333	351	2670	911	142	37	15	12
13	4.1	499	2130	8020	351	512	3640	874	134	35	14	11
14	4.1	296	17300	6380	448	3740	2630	895	130	35	14	9.6
15	4.1	206	12100	3520	688	8660	2000	871	123	34	14	8.8
16	4.1	157	20800	2270	4230	4110	1830	788	117	34	13	7.7
17	4.1	127	6570	1760	2140	2490	1840	707	112	32	13	7.5
18	4.1	105	2990	1460	1490	1820	1520	637	107	31	12	7.5
19	4.3	87	2220	1220	2040	1570	1310	572	103	29	11	7.5
20	4.4	75	5290	1050	1800	1720	1180	530	103	27	11	7.5
21	4.4	65	6290	1060	1430	1440	1250	518	98	26	11	7.5
22	4.5	57	2590	1490	1160	1430	1330	523	93	24	10	7.5
23	4.7	51	1550	2330	985	1970	1310	515	90	23	10	7.1
24	4.8	44	1100	1610	863	1500	4680	497	87	21	9.9	6.9
25	4.9	40	857	2190	767	1570	3870	457	83	20	10	6.5
26	5.1	35	1380	1630	690	4430	3390	418	77	20	9.9	6.4
27	5.3	32	14200	1710	638	2360	2810	371	71	20	9.4	6.4
28	5.6	30	19600	1480	573	1760	4390	347	65	18	9.4	6.2
29	5.6	28	7190	1190	---	1450	6310	328	59	16	9.4	6.0
30	5.6	26	6670	1160	---	1230	4350	326	56	15	9.3	6.0
31	5.6	---	13900	1080	---	1080	---	301	---	14	9.1	---
TOTAL	138.8	6526.8	145503	68135	27611	49274	67644	32134	4080	1034	400.4	248.6
MEAN	4.48	218	4694	2198	986	1589	2255	1037	136	33.4	12.9	8.29
MAX	5.6	1420	20800	8020	4230	8660	6310	3060	274	55	19	14
MIN	3.7	5.4	19	905	333	291	978	301	56	14	9.1	6.0
AC-FT	275	12950	288600	135100	54770	97730	134200	63740	8090	2050	794	493

EEL RIVER BASIN

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	138	872	1899	2269	2023	1609	927	444	139	35.6	16.6	18.9
MAX	1464	5476	6046	6608	6232	5015	3255	1139	821	98.0	82.4	144
(WY)	1963	1974	1956	1995	1958	1995	1963	1953	1993	1953	1983	1986
MIN	4.48	16.8	18.8	103	156	172	131	109	40.4	12.2	5.88	3.89
(WY)	2003	1960	1977	1977	1977	1988	1977	1985	1987	1977	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL TOTAL	313513.0		402729.6			
ANNUAL MEAN	859		1103		861	
HIGHEST ANNUAL MEAN					1610	
LOWEST ANNUAL MEAN					95.7	
HIGHEST DAILY MEAN	20800	Dec 16	20800	Dec 16	33900	Dec 22 1964
LOWEST DAILY MEAN	3.3	Sep 26	3.7	Oct 1	3.3	Sep 26 2002
ANNUAL SEVEN-DAY MINIMUM	3.5	Sep 23	4.1	Oct 1	3.5	Sep 23 2002
MAXIMUM PEAK FLOW			32500		48700	
MAXIMUM PEAK STAGE			16.69		24.00	
ANNUAL RUNOFF (AC-FT)	621900		798800		624000	
10 PERCENT EXCEEDS	1670		2560		2140	
50 PERCENT EXCEEDS	87		212		179	
90 PERCENT EXCEEDS	4.2		5.8		11	

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, and at Fernbridge.

DRAINAGE AREA.—3,614 mi².

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 NGVD of 1929.

REMARKS.—Data is collected for flood-warning purposes only. Figures given represent only those days when the gage height was above 0.52 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 2002 TO SEPTEMBER 2003

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	1.04	---	19.22	12.26	4.24	4.20	2.82	2.63
2	---	---	---	---	1.29	---	12.26	9.18	4.21	3.92	2.63	2.47
3	---	---	---	---	1.18	---	9.18	7.89	3.92	3.59	2.48	2.33
4	---	---	---	---	1.51	---	7.89	7.20	3.59	3.34	2.34	2.23
5	---	---	0.94	---	1.75	---	7.20	6.79	3.34	3.07	2.24	2.13
6	---	---	1.68	---	1.44	---	6.80	6.11	3.07	2.86	2.13	2.00
7	0.61	---	1.97	---	1.46	---	6.11	5.58	2.86	2.68	2.01	1.90
8	0.96	---	3.13	---	0.53	---	5.58	5.12	2.68	2.52	1.90	1.81
9	0.88	---	2.08	0.80	---	---	5.12	4.78	2.52	2.37	1.82	1.75
10	---	---	2.83	1.53	---	---	5.24	4.70	2.37	2.25	1.75	1.73
11	---	---	3.55	2.83	---	---	8.12	5.24	2.25	2.15	1.76	1.73
12	---	---	3.10	1.42	---	---	9.42	7.22	2.15	2.07	1.85	1.75
13	---	---	1.42	1.01	2.83	---	14.35	9.42	2.16	2.06	2.59	1.78
14	---	---	1.01	0.84	19.71	2.83	14.66	12.90	3.10	2.16	5.65	2.59
15	---	---	0.84	---	19.25	15.04	12.90	9.77	3.10	2.88	13.54	5.65
16	---	---	---	---	22.22	15.78	9.77	7.94	9.74	3.05	13.39	8.91
17	---	---	0.55	---	20.43	13.03	7.94	6.77	9.53	6.58	8.91	6.62
18	---	---	---	---	13.03	9.20	6.77	6.02	6.58	5.36	6.62	5.31
19	---	---	0.66	---	9.20	8.22	6.02	5.44	6.85	5.20	5.31	4.67
20	---	---	0.77	---	13.62	8.97	5.44	4.95	6.79	5.46	5.07	4.70
21	---	---	1.19	---	15.44	13.62	4.97	4.78	5.46	4.73	5.08	4.40
22	---	---	0.95	---	13.81	9.25	5.39	4.70	4.73	4.26	4.46	4.18
23	---	---	---	---	9.25	7.17	7.32	5.39	4.27	3.89	5.71	4.46
24	---	---	---	---	7.17	6.00	7.23	6.01	3.91	3.61	5.71	4.83
25	---	---	---	---	6.00	5.05	6.69	6.01	3.61	3.42	4.83	4.48
26	---	---	---	---	5.47	4.78	6.70	6.02	3.44	3.27	7.02	4.66
27	---	---	---	---	17.44	5.47	6.03	5.85	3.27	3.04	7.35	6.09
28	---	---	---	---	21.32	17.44	5.94	5.33	3.04	2.82	6.09	5.13
29	---	---	---	---	20.86	14.11	5.34	4.81	---	---	5.13	4.50
30	---	---	0.69	---	14.84	12.09	4.81	4.50	---	---	4.50	4.03
31	---	---	---	---	20.32	14.84	4.51	4.22	---	---	4.03	3.73
MONTH	---	---	---	---	---	---	19.22	4.22	9.74	2.06	13.54	1.73

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 mi².

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 NGVD of 1929, from topographic map. June 28 to Sept. 30, 1990, nonrecording gage 400 ft upstream at different datum.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,000 ft³/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 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0415	8,980	11.33	Mar. 15	0630	3,290	7.40
Dec. 28	0600	7,120	10.09				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	3.9	1830	299	172	374	1230	85	8.0	1.4	0.00
2	0.00	0.00	3.6	1070	261	154	358	1010	76	7.5	1.7	0.00
3	0.00	0.00	3.4	1100	226	141	354	893	70	7.0	1.5	0.00
4	0.00	0.00	4.1	1180	200	131	444	960	64	6.5	1.6	0.00
5	0.00	0.00	4.4	1050	178	118	441	857	57	6.4	1.6	0.00
6	0.00	0.00	4.3	822	159	106	427	726	50	6.0	1.6	0.00
7	0.00	0.00	3.9	687	145	98	483	625	46	5.5	1.4	0.00
8	0.00	4.8	3.6	601	131	91	559	557	43	5.3	1.3	0.00
9	0.00	55	4.5	545	119	85	549	492	39	5.1	1.1	0.00
10	0.00	304	15	602	110	91	495	431	36	4.6	0.97	0.00
11	0.00	137	18	809	103	87	445	386	34	4.2	0.84	0.00
12	0.00	78	20	1320	97	87	603	350	31	4.1	0.71	0.00
13	0.00	88	755	2380	143	101	863	323	29	4.0	0.62	0.00
14	0.00	59	4190	2260	181	371	871	304	28	3.7	0.52	0.00
15	0.00	41	2990	1380	276	2140	733	283	26	3.5	0.42	0.00
16	0.00	30	6270	938	1090	1130	711	255	24	3.4	0.34	0.00
17	0.00	24	2130	726	796	724	744	232	23	3.3	0.26	0.00
18	0.00	19	1210	594	606	523	632	213	21	3.1	0.20	0.00
19	0.00	16	947	489	550	448	540	197	20	3.0	0.15	0.00
20	0.00	13	1460	408	496	442	472	184	19	3.0	0.10	0.00
21	0.00	11	2110	389	436	366	464	173	18	2.8	0.06	0.00
22	0.00	9.9	1150	472	388	400	444	163	17	2.6	0.02	0.00
23	0.00	8.4	809	600	346	513	457	152	16	2.5	0.02	0.00
24	0.00	7.3	637	541	312	417	1090	140	16	2.6	0.01	0.00
25	0.00	6.7	525	718	280	393	1000	134	14	2.4	0.00	0.00
26	0.00	5.9	672	620	242	1090	1040	127	13	2.4	0.00	0.00
27	0.00	5.4	3690	560	216	858	1080	117	12	2.1	0.00	0.00
28	0.00	4.9	5500	487	191	677	1440	109	10	2.0	0.00	0.00
29	0.00	4.6	2160	414	---	557	2060	103	9.1	1.8	0.00	0.00
30	0.00	4.2	2270	365	---	473	1710	105	8.2	1.7	0.00	0.00
31	0.00	---	4510	321	---	415	---	94	---	1.6	0.00	---
TOTAL	0.00	937.10	44073.7	26278	8577	13399	21883	11925	954.3	121.7	18.44	0.00
MEAN	0.000	31.2	1422	848	306	432	729	385	31.8	3.93	0.59	0.000
MAX	0.00	304	6270	2380	1090	2140	2060	1230	85	8.0	1.7	0.00
MIN	0.00	0.00	3.4	321	97	85	354	94	8.2	1.6	0.00	0.00
AC-FT	0.00	1860	87420	52120	17010	26580	43400	23650	1890	241	37	0.00

MAD RIVER BASIN

11480390 MAD RIVER ABOVE RUTH RESERVOIR, NEAR FOREST GLEN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.00	158	470	626	623	492	264	117	43.3	6.77	1.06	0.82
MAX	57.6	741	1684	1887	2136	1299	878	385	229	25.0	4.87	12.2
(WY)	1990	1985	1997	1995	1986	1995	1982	2003	1993	1993	1993	1986
MIN	0.000	0.000	8.08	28.5	85.3	38.6	32.0	20.4	4.25	1.15	0.000	0.000
(WY)	1988	1994	1991	1991	1991	1988	1988	1987	2001	2001	1984	1984

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL TOTAL	89484.47		128167.24			
ANNUAL MEAN	245		351		232	
HIGHEST ANNUAL MEAN					419	
LOWEST ANNUAL MEAN					51.4	
HIGHEST DAILY MEAN	6270	Dec 16	6270	Dec 16	10300	Jan 1 1997
LOWEST DAILY MEAN	0.00	Aug 22	0.00	Oct 1	0.00	Oct 8 1980
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 22	0.00	Oct 1	0.00	Sep 11 1982
MAXIMUM PEAK FLOW			8980	Dec 16	15000	Feb 17 1986
MAXIMUM PEAK STAGE			11.33	Dec 16	13.10	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	177500		254200		168300	
10 PERCENT EXCEEDS	536		952		623	
50 PERCENT EXCEEDS	18		46		34	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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, and 5.6 mi west of Forest Glen.

DRAINAGE AREA.—121 mi².

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 NGVD of 1929 (levels by Humboldt Bay Municipal Water District).

REMARKS.—Reservoir is formed by earthfill dam; storage began July 1961. Total capacity, 48,000 acre-ft, elevation, 2,654.0 ft, crest of spillway. Minimum pool capacity, 7,810 acre-ft, elevation, 2,600 ft. Water is released down Mad River for municipal use. Records given represent total contents at 2400 hours.

COOPERATION.—Records from April 1 to September 30 are collected by Humboldt Bay Municipal Water District, under general supervision of the U.S. Geological Survey.

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, 53,700 acre-ft, Jan. 6, elevation, 2,658.83 ft; minimum contents, 29,200 acre-ft, Nov. 18–20, elevation, 2634.68 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	2,615	15,100	2,635	29,400	2,655	49,200
2,600	7,810	2,620	18,100	2,640	33,800	2,660	55,100
2,605	10,000	2,625	21,500	2,645	38,600	2,664	60,200
2,610	12,500	2,630	25,300	2,650	43,700		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33900	30200	29600	52200	48800	48200	47900	51500	46300	45100	41700	37400
2	33800	30000	29500	51100	48600	48200	48000	51200	46000	45000	41600	37300
3	33700	29900	29500	50900	48600	48100	48100	50800	45700	44900	41600	37100
4	33600	29800	29400	51000	48500	47900	48100	50800	45500	44900	41400	37100
5	33500	29700	29300	50600	48400	47800	48100	50900	45600	44800	41200	36900
6	33400	29600	29200	50300	48300	47600	49200	50600	45700	44900	41000	36800
7	33300	29900	29100	50000	48200	47400	49200	50400	45800	44700	40900	36700
8	33100	29900	29000	49700	48100	47200	49300	50200	45700	44600	40800	36500
9	33000	30000	28900	49400	48000	47000	49500	50100	45700	44500	40500	36400
10	32900	30500	28900	49700	47800	46800	49200	50000	45900	44400	40400	36300
11	32800	30700	28900	50100	47600	46600	48100	49900	45800	44300	40300	36200
12	32600	30900	28900	51800	47500	46500	49800	49800	45800	44200	40100	36000
13	32500	31000	31300	53000	47500	46700	50400	49700	45800	44100	39900	35900
14	32400	31000	40800	52400	47600	47700	50500	49700	45800	44000	39800	35800
15	32300	31000	48200	51500	48400	51100	50300	49400	45800	44000	39600	35700
16	32200	30900	55000	50600	50000	50900	50200	49100	45800	43800	39400	35500
17	32000	30900	52600	50200	50000	50200	50300	48800	45800	43700	39300	35400
18	31900	30800	51100	49700	49700	49800	50100	48700	45800	43600	39100	35300
19	31800	30800	50500	49500	49500	49600	49800	48600	45800	43500	39000	35200
20	31700	30700	51600	49200	49400	49400	49600	48600	45700	43400	38900	35100
21	31500	30600	51900	49100	49200	49200	49600	48300	45600	43300	38700	35000
22	31400	30500	50800	49500	49100	49300	49500	48300	45500	43200	38600	34800
23	31300	30400	50000	49600	48900	49300	49700	48200	45500	43200	38400	34700
24	31200	30400	49500	49600	48800	49200	50900	48000	45400	42900	38300	34600
25	31100	30300	49200	49800	48600	49300	51200	47800	45400	42700	38300	34400
26	30900	30200	49900	49700	48500	50200	51200	47600	45400	42700	38100	34300
27	30800	30000	55000	49500	48500	50100	51400	47500	45300	42600	38000	34200
28	30700	30000	52000	49300	48300	49800	52200	47200	45300	42400	37900	34100
29	30500	29900	52600	49100	---	49500	52700	46900	45300	42200	37700	33900
30	30400	29800	53100	49000	---	49200	52300	46800	45200	42000	37600	33800
31	30300	---	52300	48800	---	49100	---	46500	---	41900	37500	---
MAX	33900	31000	55000	53000	50000	51100	52700	51500	46300	45100	41700	37400
MIN	30300	29600	28900	48800	47500	46500	47900	46500	45200	41900	37500	33800
a	2635.98	2635.38	2657.70	2654.71	2654.28	2654.91	2657.58	2652.50	2651.28	2648.12	2643.88	2639.76
b	-3800	-500	+22500	-3500	-500	+800	+3200	-5800	-1300	-3300	-4400	-3700

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 mi².

PERIOD OF RECORD.—October 1980 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 2,560 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. Flow regulated by Ruth Reservoir (station 11480400) 1,200 ft upstream.

COOPERATION.—Records from Apr. 1 to Sept. 30 are collected by Humboldt Bay Municipal Water District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 17,800 ft³/s, Feb. 17, 1986, gage height, 17.61 ft, from floodmarks, from rating curve extended above 8,800 ft³/s; minimum daily, 5.6 ft³/s, Mar. 2, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	57	57	3440	439	251	453	1810	230	46	75	53
2	55	57	57	2020	400	235	419	1430	230	46	75	54
3	55	57	57	1520	366	226	399	1230	198	45	75	58
4	54	63	57	1520	278	224	431	1180	123	46	75	62
5	54	60	57	1490	326	223	461	1070	91	46	75	62
6	54	57	59	1260	297	223	458	979	44	46	76	62
7	54	61	58	1020	272	223	462	829	44	46	75	62
8	54	60	58	835	257	223	507	720	44	46	76	61
9	54	61	61	714	248	223	541	605	44	46	75	63
10	54	59	58	678	247	223	534	537	44	46	75	62
11	54	59	60	917	246	223	499	483	44	46	74	61
12	54	59	61	1340	244	173	563	434	44	46	74	60
13	53	60	66	2810	245	223	849	392	44	46	74	54
14	56	58	81	3150	245	225	1080	360	44	52	74	54
15	55	57	191	2390	249	998	1070	382	44	53	70	53
16	55	57	e3940	1660	693	1630	991	459	44	50	64	53
17	55	57	e3730	1220	1030	1270	997	369	44	50	64	54
18	55	57	e1910	937	888	927	908	321	43	50	64	56
19	55	57	e1150	756	746	734	790	290	40	50	63	54
20	73	56	e1120	633	661	678	679	271	40	50	67	54
21	55	55	e2370	573	569	595	608	260	40	50	62	54
22	55	56	e1760	588	500	547	604	257	40	50	62	54
23	55	56	e1120	765	447	630	579	256	40	50	62	53
24	55	56	767	735	401	611	1060	256	39	55	62	57
25	56	56	575	831	362	563	1340	232	39	62	59	53
26	56	57	599	832	328	863	1420	232	39	62	54	53
27	56	58	2750	766	296	1070	1460	232	39	e62	54	53
28	57	57	6920	691	271	909	1800	231	39	73	54	53
29	54	57	4260	606	---	743	2470	231	39	70	53	53
30	57	57	2840	536	---	616	2430	231	43	70	54	53
31	56	---	5000	482	---	522	---	231	---	72	53	---
TOTAL	1722	1734	41849	37715	11551	17024	26862	16800	1920	1628	2069	1688
MEAN	55.5	57.8	1350	1217	413	549	895	542	64.0	52.5	66.7	56.3
MAX	73	63	6920	3440	1030	1630	2470	1810	230	73	76	63
MIN	53	55	57	482	244	173	399	231	39	45	53	53
AC-FT	3420	3440	83010	74810	22910	33770	53280	33320	3810	3230	4100	3350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2003, BY WATER YEAR (WY)

	82.6	137	491	770	816	683	367	165	83.8	61.3	75.6	81.2
MEAN	82.6	137	491	770	816	683	367	165	83.8	61.3	75.6	81.2
MAX	118	607	1780	2490	2993	1990	1426	542	408	89.3	103	101
(WY)	1984	1985	1997	1995	1986	1995	1982	2003	1993	1987	1990	1986
MIN	55.5	24.5	8.35	8.02	7.61	24.4	28.0	44.5	38.2	42.5	44.6	54.1
(WY)	2003	1993	1987	1992	1991	1988	1988	2001	1991	1982	1998	1998

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1981 - 2003	
ANNUAL TOTAL	114916		162562			
ANNUAL MEAN	315		445		316	
HIGHEST ANNUAL MEAN					591	
LOWEST ANNUAL MEAN					68.7	
HIGHEST DAILY MEAN	6920		6920		13600	
LOWEST DAILY MEAN	34		39		5.6	
ANNUAL SEVEN-DAY MINIMUM	41		39		6.0	
MAXIMUM PEAK FLOW			7610		17800	
MAXIMUM PEAK STAGE			12.85		17.61	
ANNUAL RUNOFF (AC-FT)	227900		322400		228600	
10 PERCENT EXCEEDS	606		1120		755	
50 PERCENT EXCEEDS	58		75		88	
90 PERCENT EXCEEDS	44		46		41	

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 mi².

PERIOD OF RECORD.—October 1910 to September 1913, August 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

SEDIMENT DATA: Water years 1960–74.

REVISED RECORDS.—WSP 2129: 1965(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 10.79 ft above NGVD of 1929. 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 good. 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 ft³/s, Dec. 22, 1964, gage height, 30.7 ft, prior datum, from high-water profile and flood-routing study; minimum daily, 0.10 ft³/s, Aug. 29, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	34	53	11500	2540	1190	1850	6490	626	121	61	43
2	29	37	51	6320	2270	1100	2030	5080	594	122	71	34
3	30	35	50	4580	1940	1040	2530	4390	569	119	93	34
4	32	37	52	4520	1670	985	4240	5360	530	117	95	34
5	33	38	53	4550	1370	925	3650	4900	417	119	94	40
6	30	40	58	3830	1240	863	4470	3840	340	113	81	41
7	30	76	52	3170	1090	818	4180	3180	284	116	79	41
8	28	251	52	2650	966	783	3410	2870	247	115	74	42
9	28	383	53	2220	859	756	3160	2680	231	100	71	50
10	27	426	74	2030	786	794	2760	2280	216	87	71	67
11	29	457	154	2940	742	816	2490	2070	204	80	67	57
12	26	235	203	3050	704	889	3000	1900	200	73	70	48
13	27	211	582	7170	705	820	4110	1780	192	68	57	43
14	30	190	7080	9110	707	2470	4150	1700	187	67	57	41
15	29	138	7240	6060	694	6440	3440	1580	176	65	56	38
16	31	111	18200	4460	3020	6170	3060	1480	169	71	53	37
17	31	100	12100	3420	3070	4670	3350	1420	162	82	61	36
18	30	88	7270	2730	2610	3480	2880	1260	159	77	59	38
19	32	80	4800	2250	4710	2820	2440	1150	160	70	47	35
20	37	72	6060	1950	5040	2980	2150	1070	162	68	42	40
21	40	72	10700	1770	3270	2640	2160	1020	153	64	43	38
22	37	70	6390	1670	2660	2630	2510	993	147	61	49	36
23	40	63	4270	2050	2270	3630	2310	953	143	54	41	33
24	41	61	3250	2090	2000	2850	5760	916	140	47	46	32
25	37	58	2690	4080	1780	2970	6300	886	137	50	41	33
26	35	56	2490	2910	1590	8870	6150	851	133	52	31	37
27	36	55	14100	4170	1470	5200	5070	791	127	69	35	38
28	36	55	36400	3500	1310	3700	5410	732	122	71	36	40
29	35	55	16600	2580	---	2870	7450	698	122	70	34	40
30	38	55	9460	2460	---	2330	8400	696	118	67	34	36
31	35	---	19100	2430	---	2010	---	666	---	57	40	---
TOTAL	1011	3639	189687	118220	53083	80509	114870	65682	7167	2512	1789	1202
MEAN	32.6	121	6119	3814	1896	2597	3829	2119	239	81.0	57.7	40.1
MAX	41	457	36400	11500	5040	8870	8400	6490	626	122	95	67
MIN	26	34	50	1670	694	756	1850	666	118	47	31	32
AC-FT	2010	7220	376200	234500	105300	159700	227800	130300	14220	4980	3550	2380

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 mi².

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 NGVD of 1929.

REMARKS.—Records good except for daily discharges below 15 ft³/s, which are fair. No storage or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,830 ft³/s, Mar. 18, 1975, gage height, 14.19 ft, from rating curve extended above 3,100 ft³/s, on basis of slope-area measurement at gage height 14.08 ft; minimum daily, 1.8 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0830	3,250	8.20	Jan. 13	1645	3,000	7.25
Dec. 27	1430	8,520	13.14				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.5	2.5	718	325	103	153	385	43	15	6.9	5.3
2	3.1	3.3	2.5	414	264	94	237	281	41	15	7.2	4.8
3	3.0	3.3	2.6	320	210	91	403	239	37	15	8.3	4.8
4	3.0	3.3	2.9	323	173	85	736	362	35	15	9.0	5.6
5	3.2	3.3	2.6	352	147	77	461	303	34	14	12	6.2
6	3.3	3.5	2.5	257	127	71	953	240	32	14	9.6	6.3
7	3.0	11	2.4	201	110	71	661	203	31	15	8.8	6.7
8	2.7	39	2.2	169	100	67	377	207	30	15	8.4	6.9
9	2.5	21	4.4	143	91	67	277	180	28	14	8.0	9.8
10	2.5	21	15	148	83	72	232	158	27	14	7.4	13
11	2.4	14	25	208	79	80	207	141	26	13	7.0	7.9
12	2.5	11	20	345	73	89	255	128	26	13	6.9	7.0
13	2.5	11	84	1260	76	102	308	117	26	12	6.6	6.3
14	2.4	7.9	748	922	72	172	330	107	24	12	6.5	5.9
15	2.4	5.8	475	436	107	306	254	98	23	12	6.7	5.8
16	2.7	5.4	1610	300	397	230	266	89	22	11	6.6	5.3
17	2.8	12	596	233	267	171	337	83	22	11	6.5	5.2
18	3.2	11	330	192	220	134	263	78	22	10	6.5	5.2
19	3.2	7.9	257	165	839	130	214	74	23	10	6.3	4.9
20	3.3	6.1	599	144	647	228	185	69	21	10	5.9	5.1
21	3.4	5.2	704	152	337	195	185	66	20	9.8	6.0	4.8
22	3.7	4.7	296	149	245	322	176	63	19	9.4	6.3	4.3
23	3.8	4.0	199	174	190	378	220	61	18	8.8	6.3	4.0
24	3.8	3.8	162	269	160	233	705	59	18	7.5	5.9	3.9
25	3.8	3.4	134	506	136	458	604	59	17	7.6	5.7	3.7
26	4.0	3.3	120	277	130	1190	648	55	16	7.7	5.3	3.9
27	3.8	3.0	3740	907	129	423	425	50	15	8.0	5.1	4.0
28	3.8	2.9	2980	453	112	282	317	46	14	7.7	5.3	4.2
29	3.7	2.6	1360	287	---	219	346	46	14	7.5	5.6	4.3
30	3.6	2.5	1030	249	---	182	554	48	15	7.2	5.5	4.2
31	3.4	---	1940	230	---	160	---	45	---	7.2	5.5	---
TOTAL	97.5	239.7	17448.6	10903	5846	6482	11289	4140	739	348.4	213.6	169.3
MEAN	3.15	7.99	563	352	209	209	376	134	24.6	11.2	6.89	5.64
MAX	4.0	39	3740	1260	839	1190	953	385	43	15	12	13
MIN	2.4	2.5	2.2	143	72	67	153	45	14	7.2	5.1	3.7
AC-FT	193	475	34610	21630	11600	12860	22390	8210	1470	691	424	336

LITTLE RIVER BASIN

11481200 LITTLE RIVER NEAR TRINIDAD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.9	156	317	341	293	253	142	75.3	32.3	13.0	8.15	7.60
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	3.15	4.62	7.45	28.2	19.7	35.5	22.1	21.9	12.2	6.12	3.59	3.35
(WY)	2003	1994	1977	1977	1977	1988	1977	1987	1966	1959	1959	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1956 - 2003	
ANNUAL TOTAL	45612.0		57916.1			
ANNUAL MEAN	125		159		138	
HIGHEST ANNUAL MEAN					240	
LOWEST ANNUAL MEAN					23.8	
HIGHEST DAILY MEAN	3740	Dec 27	3740	Dec 27	7860	Mar 18 1975
LOWEST DAILY MEAN	2.2	Dec 8	2.2	Dec 8	1.8	Sep 25 1991
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 9	2.5	Oct 9	1.9	Sep 24 1991
MAXIMUM PEAK FLOW			8520		9830	
MAXIMUM PEAK STAGE			13.14		14.19	
ANNUAL RUNOFF (AC-FT)	90470		114900		100100	
10 PERCENT EXCEEDS	280		381		360	
50 PERCENT EXCEEDS	16		26		35	
90 PERCENT EXCEEDS	3.2		3.3		5.7	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—June 1953 to September 1958, October 1972 to September 1993, October 1997 to current year.

REVISED RECORDS.—WDR CA-78-2: Drainage area.

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

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,200 ft³/s, Mar. 18, 1975, gage height, 13.70 ft, from rating curve extended above 6,400 ft³/s; minimum daily, 0.69 ft³/s, Sept. 30, 1993.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0300	4,690	8.60	Dec. 28	0045	6,300	9.91
Dec. 20	2230	2,580	6.42	Mar. 26	0400	3,520	7.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.9	6.1	1440	442	196	386	827	108	27	6.5	2.9
2	2.0	3.0	5.9	871	385	183	409	709	101	26	7.2	2.4
3	2.0	3.0	5.9	708	334	179	441	680	95	25	9.3	2.4
4	2.0	3.1	7.2	720	296	170	602	1030	88	24	9.1	3.7
5	2.0	3.1	7.1	611	264	157	540	859	82	22	9.9	3.5
6	1.9	3.0	6.7	469	238	148	642	695	77	22	11	3.1
7	1.7	11	6.4	398	215	141	637	596	73	21	11	3.6
8	1.4	71	6.2	344	199	135	625	585	70	22	9.5	5.0
9	1.1	60	6.2	308	183	136	609	542	66	20	9.2	10
10	0.98	74	20	339	171	156	572	483	63	19	8.9	17
11	1.0	41	34	444	161	163	539	440	61	18	8.1	8.6
12	1.2	25	38	571	151	166	661	401	59	18	7.9	6.5
13	1.2	34	193	1190	152	182	596	394	58	18	7.6	5.6
14	1.2	21	1450	1050	143	680	518	390	57	18	7.1	4.6
15	1.2	15	1170	655	168	1240	447	359	54	16	6.7	4.5
16	1.1	13	2640	491	447	753	428	317	51	16	6.7	4.4
17	1.1	14	818	401	292	550	469	287	49	15	6.2	4.6
18	1.1	14	440	346	261	433	413	260	47	14	5.7	4.6
19	1.2	11	359	301	508	400	371	239	48	13	5.1	4.1
20	1.5	10	1030	264	555	423	347	225	47	13	4.6	4.1
21	1.8	9.4	1390	255	448	373	399	218	44	12	4.1	4.2
22	2.1	8.8	608	271	396	451	421	215	43	11	4.2	3.9
23	2.1	8.3	398	284	347	513	501	203	42	10	5.5	3.3
24	2.4	8.0	319	393	306	403	982	189	41	9.6	5.4	2.9
25	2.5	7.7	260	713	274	602	953	176	38	9.6	4.7	2.6
26	2.7	7.3	258	431	253	1990	882	163	34	9.3	3.9	2.5
27	2.9	6.8	2360	608	234	935	757	149	31	8.8	3.8	2.3
28	2.9	6.6	3630	491	213	674	867	137	29	8.4	3.9	2.4
29	2.8	6.2	1490	386	---	541	1090	131	27	7.4	4.1	2.7
30	2.6	6.2	1730	433	---	455	1050	128	26	6.8	3.7	3.2
31	2.7	---	2950	416	---	400	---	117	---	6.5	3.3	---
TOTAL	56.28	507.4	23642.7	16602	8036	13928	18154	12144	1709	486.4	203.9	135.2
MEAN	1.82	16.9	763	536	287	449	605	392	57.0	15.7	6.58	4.51
MAX	2.9	74	3630	1440	555	1990	1090	1030	108	27	11	17
MIN	0.98	2.9	5.9	255	143	135	347	117	26	6.5	3.3	2.3
AC-FT	112	1010	46900	32930	15940	27630	36010	24090	3390	965	404	268

REDWOOD CREEK BASIN

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.5	234	448	504	555	469	300	158	65.5	20.7	9.28	8.27
MAX	226	1179	1563	1628	1479	1306	748	392	253	46.4	27.4	29.2
(WY)	1974	1974	1956	1956	1958	1975	1982	2003	1993	1993	1983	1986
MIN	1.82	15.2	12.3	31.3	42.2	81.5	62.6	53.0	22.3	9.21	3.14	1.72
(WY)	2003	1977	1977	1977	1977	1988	1988	1992	1987	2002	1992	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1954 - 2003	
ANNUAL TOTAL	73069.33		95604.88			
ANNUAL MEAN	200		262		232	
HIGHEST ANNUAL MEAN					423	
LOWEST ANNUAL MEAN					44.2	
HIGHEST DAILY MEAN	3630	Dec 28	3630	Dec 28	8360	Mar 18 1975
LOWEST DAILY MEAN	0.81	Sep 27	0.98	Oct 10	0.69	Sep 30 1993
ANNUAL SEVEN-DAY MINIMUM	0.94	Sep 23	1.1	Oct 9	0.94	Sep 23 2002
MAXIMUM PEAK FLOW			6300		12200	
MAXIMUM PEAK STAGE			9.91		13.70	
ANNUAL RUNOFF (AC-FT)	144900		189600		168300	
10 PERCENT EXCEEDS	460		676		593	
50 PERCENT EXCEEDS	27		61		73	
90 PERCENT EXCEEDS	1.9		2.9		6.0	

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, 2000–02.

SEDIMENT DATA: Water years 1973–92, October 2000 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1972 to September 1992 (storm season only).

SUSPENDED-SEDIMENT DISCHARGE: October 1972 to September 1992, October 2000 to April 2002.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 33.5°C, Aug. 2, 1977; minimum recorded, 0.5°C, Jan. 9, 1997.

SEDIMENT CONCENTRATION: Maximum daily mean, 11,200 mg/L, Mar. 18, 1975; minimum daily mean, 0 mg/L, at times in several years.

SEDIMENT LOAD: Maximum daily, 276,000 tons, Mar. 18, 1975; minimum daily, 0 ton, at times in several years.

REMARKS.—Periodic total load sampling above 1,000 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, fall dia dst wat percent <.002mm (70337)	Suspended sediment, fall dia dst wat percent <.004mm (70338)	Suspended sediment, fall dia dst wat percent <.008mm (70339)
DEC								
21...	1215	1250	7.0	150	506	--	--	--
28...	1530	3390	7.0	1170	10700	6	7	10
MAR								
15...	1155	1230	7.5	349	1160	--	--	--

Date	Suspended sediment, fall dia dst wat percent <.016mm (70340)	Suspended sediment, fall dia dst wat percent <.031mm (70341)	Suspended sediment, sieve diametr percent <.063mm (70331)	Suspended sediment, sieve diametr percent <.125mm (70332)	Suspended sediment, sieve diametr percent <.25mm (70333)	Suspended sediment, sieve diametr percent <.5 mm (70334)	Suspended sediment, sieve diametr percent <1 mm (70335)	Suspended sediment, sieve diametr percent <2 mm (70336)
DEC								
21...	--	--	62	71	81	92	100	--
28...	34	52	58	67	77	88	95	100
MAR								
15...	--	--	57	64	72	84	93	100

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sampling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Horizontal width of vertical, feet (04121)
DEC									
21...	0950	1000	1100	.25	0	940	1000	15	4.0
21...	1025	1000	1100	.25	0	1010	1040	15	4.0
MAR									
15...	0940	1000	1100	.25	0	930	950	15	4.0
15...	1010	1000	1100	.25	0	1000	1020	15	4.0

REDWOOD CREEK BASIN

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA—Continued

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from 1 bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit cmposit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)	Bedload sedi- ment, sieve diametr percent <.25mm (80228)
DEC									
21...	2	19	19	2.00	1370	7.0	12.9	740	--
21...	2	19	19	2.00	1330	7.0	7.67	740	--
MAR									
15...	2	20	20	2.00	1280	7.5	5.69	460	1
15...	2	20	20	2.00	1300	7.5	6.43	460	1

Date	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)	Bedload sedi- ment, sieve diametr percent <64 mm (80236)
DEC								
21...	5	19	42	66	81	92	98	100
21...	4	13	27	38	50	72	92	100
MAR								
15...	12	40	74	93	93	96	100	--
15...	9	27	44	58	74	87	90	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 mi².

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 NGVD of 1929. 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 to Aug. 3, 1987, nonrecording gage at same site and datum.

REMARKS.—Records good except for estimated daily discharges and discharges below 10 ft³/s, which are fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 50,500 ft³/s, Dec. 22, 1964, former site, from outside high-water marks, maximum gage height, 28.22 ft, Jan. 1, 1997; minimum daily, 2.1 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 9,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1115	12,700	20.64	Dec. 28	0400	23,700	24.15

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	2.5	17	7290	2010	994	1700	3080	345	101	32	15
2	4.8	2.4	16	4210	1760	940	1850	2550	349	100	33	14
3	4.6	2.4	16	2970	1510	908	2240	2370	319	97	39	13
4	4.6	2.3	16	2690	1320	865	3540	3140	295	94	39	13
5	4.5	2.4	17	2730	1190	815	3060	3090	279	91	57	13
6	4.4	2.6	17	2190	1080	773	3460	2410	263	89	50	13
7	4.1	9.3	17	1800	975	745	3520	2080	254	88	42	14
8	3.9	94	16	1510	902	717	3000	1940	247	86	38	16
9	3.9	210	18	1330	831	704	2690	1780	237	83	36	22
10	3.9	213	55	1270	778	740	2410	1480	224	80	33	35
11	3.8	169	80	1510	737	750	2170	1280	219	75	31	31
12	3.9	114	129	2180	693	787	2240	1130	219	72	29	28
13	3.7	106	527	4770	674	827	2250	1000	217	69	29	22
14	3.5	83	4120	6080	648	1430	2090	908	212	67	27	18
15	3.5	61	e3750	3630	732	2570	1790	827	201	65	26	15
16	3.7	48	e10900	2770	2110	2200	1660	785	192	65	25	13
17	4.0	57	4560	2210	1650	1780	1740	732	184	63	25	11
18	4.0	55	2580	1880	1390	1420	1590	670	179	61	24	10
19	3.8	45	e1650	1600	2830	1260	1420	632	178	59	22	9.5
20	3.6	38	e3300	1440	3740	1590	1310	619	172	56	21	9.5
21	3.7	33	6150	1390	2560	1420	1280	576	165	53	20	9.2
22	3.7	30	2800	1300	2080	1570	1340	545	157	52	20	8.9
23	3.7	27	1900	1370	1750	2090	1450	510	148	49	19	8.6
24	3.9	25	1460	1370	1520	1630	3650	471	140	47	18	8.2
25	3.9	23	1160	3220	1340	1870	3910	447	132	45	18	8.2
26	3.7	22	1020	2190	1220	6420	4550	432	125	44	18	8.0
27	3.6	20	9610	3850	1160	4220	3680	400	117	42	17	7.9
28	3.6	19	18800	3080	1060	2880	3150	397	111	40	17	8.0
29	3.4	18	9970	2230	---	2260	3320	417	105	38	17	7.8
30	2.6	17	8250	1960	---	1950	3890	396	104	36	16	7.6
31	2.6	---	12500	1870	---	1780	---	380	---	34	15	---
TOTAL	119.6	1550.9	105421	79890	40250	50905	75950	37474	6089	2041	853	417.4
MEAN	3.86	51.7	3401	2577	1438	1642	2532	1209	203	65.8	27.5	13.9
MAX	5.0	213	18800	7290	3740	6420	4550	3140	349	101	57	35
MIN	2.6	2.3	16	1270	648	704	1280	380	104	34	15	7.6
AC-FT	237	3080	209100	158500	79840	101000	150600	74330	12080	4050	1690	828

e Estimated.

REDWOOD CREEK BASIN

11482500 REDWOOD CREEK AT ORICK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	144	1017	2141	2513	2199	1919	1211	628	250	85.0	40.5	37.1
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1911 - 2003	
ANNUAL TOTAL	320234.3		400960.9			
ANNUAL MEAN	877		1099		1011	
HIGHEST ANNUAL MEAN					1726	
LOWEST ANNUAL MEAN					192	
HIGHEST DAILY MEAN	18800	Dec 28	18800	Dec 28	43200	Dec 22 1964
LOWEST DAILY MEAN	2.3	Nov 4	2.3	Nov 4	2.1	Oct 20 1987
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 30	2.5	Oct 30	2.2	Oct 17 1987
MAXIMUM PEAK FLOW			23700		50500	
MAXIMUM PEAK STAGE			24.15		28.22	
ANNUAL RUNOFF (AC-FT)	635200		795300		732200	
10 PERCENT EXCEEDS	2200		3020		2710	
50 PERCENT EXCEEDS	114		217		305	
90 PERCENT EXCEEDS	4.9		4.9		24	

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.

CHEMICAL DATA: Water years 1959–66, 1973–81.

WATER TEMPERATURE: Water years 1966–92, 2001 (daily), October 2001 to current year (periodic).

SEDIMENT DATA: Water years 1955–56, 1970–92, 2001 (daily), October 2001 to current year (periodic).

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1965 to September 1981, October 1981 to September 1992.

SUSPENDED-SEDIMENT DISCHARGE: March 1970 to September 1981, October 1981 to September 1992, October 2000 to April 2001.

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 and 2001.

SEDIMENT LOAD: Maximum daily, 1,070,000 tons, Mar. 18, 1975; minimum daily, 0 ton, Nov. 10–12, 1986, Apr. 20, 29, 30, 1987, several days during 1989–90, many days during 1991 and 2001

REMARKS.—Periodic total load sampling above 5,000 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, falldia dst wat percent <.002mm (70337)	Suspnd. sedi- ment, falldia dst wat percent <.004mm (70338)	Suspnd. sedi- ment, falldia dst wat percent <.008mm (70339)
DEC								
17...	1425	4150	7.5	193	2160	--	--	--
30...	1415	9110	9.0	985	24200	18	19	24

Date	Suspnd. sedi- ment, falldia dst wat percent <.016mm (70340)	Suspnd. sedi- ment, falldia dst wat percent <.031mm (70341)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Suspnd. sedi- ment, sieve diametr percent <.125mm (70332)	Suspnd. sedi- ment, sieve diametr percent <.25mm (70333)	Suspnd. sedi- ment, sieve diametr percent <.5 mm (70334)	Suspnd. sedi- ment, sieve diametr percent <1 mm (70335)
DEC							
17...	--	--	69	75	84	96	100
30...	37	50	64	77	89	98	100

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampl- er type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Hori- zontal width of verti- cal, feet (04121)
DEC									
17...	1105	1000	1100	.25	0	1050	1120	15	10.0
17...	1140	1000	1100	.25	0	1125	1155	15	10.0
30...	1120	1000	1100	.25	0	1110	1135	10	10.0
30...	1155	1000	1100	.25	0	1140	1205	10	10.0

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrge average unit cmposit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)
DEC								
17...	2	19	19	5.0	4530	7.5	8.65	2230
17...	2	19	19	5.0	4480	7.5	16.1	2230
30...	2	23	23	5.0	7360	9.0	20.3	3830
30...	2	23	23	5.0	7670	9.0	16.2	3830

REDWOOD CREEK BASIN

11482500 REDWOOD CREEK AT ORICK, CA—Continued

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)	Bedload sedi- ment, sieve diametr percent <64 mm (80236)
DEC								
17...	9	26	44	60	70	87	100	--
17...	7	21	35	52	70	88	98	100
30...	6	14	28	48	66	83	98	100
30...	7	16	30	51	70	85	98	100

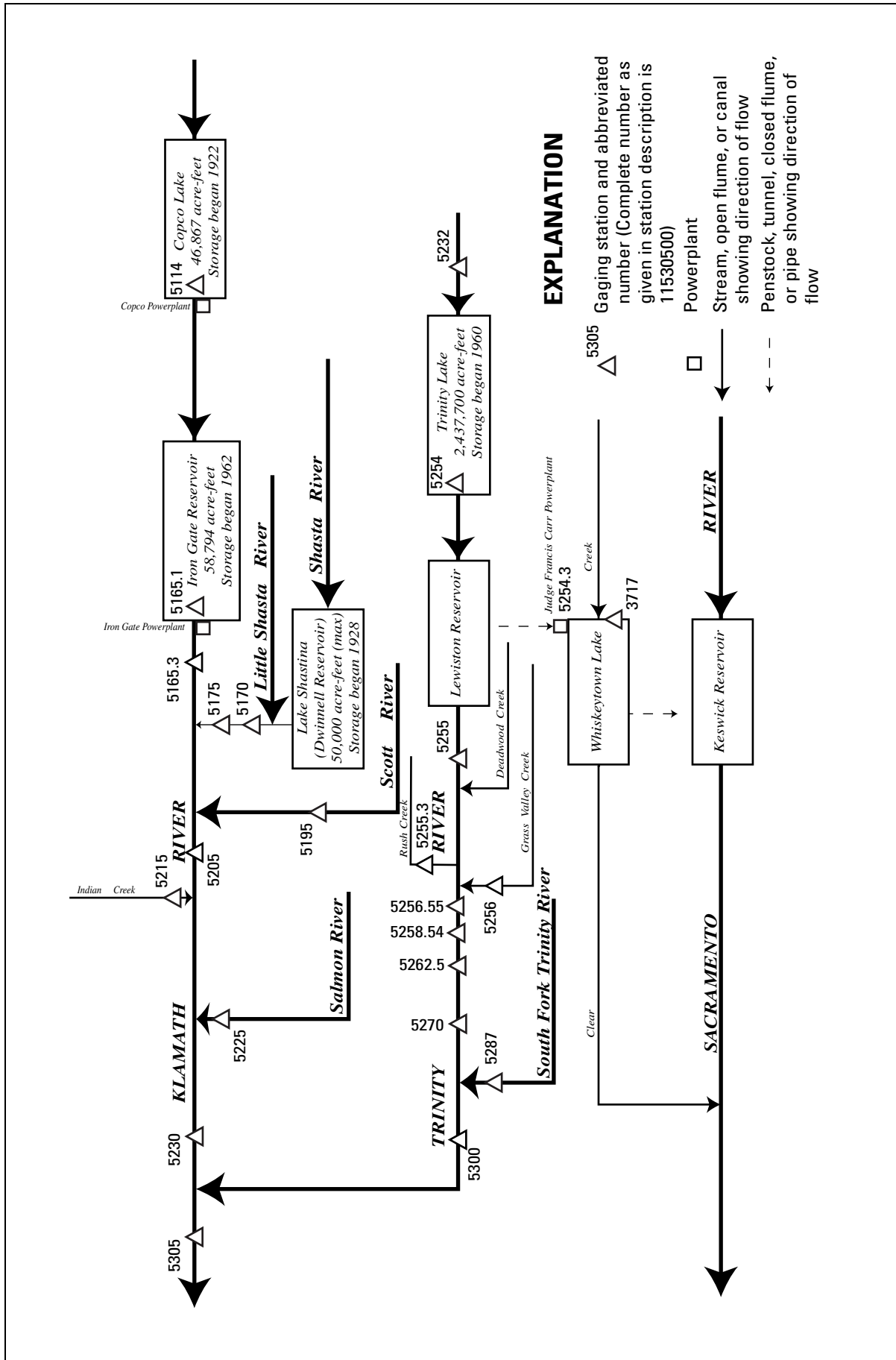


Figure 24. Diversions and storage in Klamath River and Trinity River Basins

RESERVOIRS IN KLAMATH RIVER BASIN, CA

11511400 COPCO LAKE NEAR COPCO

LOCATION.—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 mi², 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 NGVD of 1929 (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 Federal Energy Regulatory Commission project no. 2082. 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, 46,770 acre-ft, June 15, elevation, 2,607.40 ft; minimum, 38,608 acre-ft, Feb. 3, elevation, 2,598.80 ft.

11516510 IRON GATE RESERVOIR NEAR HORN BROOK

LOCATION.—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 mi², 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 NGVD of 1929 (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 Federal Energy Regulatory Commission project no. 2082. 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, 59,673 acre-ft, Mar. 28, elevation, 2,328.89 ft; minimum, 53,429 acre-ft, Jan. 30, elevation, 2,322.26 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800 HOURS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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	2,605.80	45,194	—	2,325.70	56,582	—
Oct. 31	2,604.90	44,321	-873	2,323.52	54,566	-2,016
Nov. 30	2,601.48	41,080	-3,241	2,325.62	56,508	+1,942
Dec. 31	2,603.60	43,075	+1,995	2,328.21	59,000	+2,492
CAL YR 2002	—	—	-75	—	—	+2,831
Jan. 31	2,601.90	41,474	-1,601	2,322.70	53,823	-5,177
Feb. 28	2,604.20	43,649	+2,175	2,324.40	55,373	+1,550
Mar. 31	2,606.20	45,584	+1,935	2,326.80	57,631	+2,258
Apr. 30	2,604.50	43,936	-1,648	2,328.30	59,088	+1,457
May 31	2,604.04	43,496	-440	2,324.67	55,622	-3,466
June 30	2,600.60	40,259	-3,237	2,325.00	55,928	+306
July 31	2,606.80	46,173	+5,914	2,326.04	56,903	+975
Aug. 31	2,607.10	46,471	+298	2,326.38	57,227	+324
Sept. 30	2,606.24	45,622	-849	2,325.67	56,555	-672
WTR YR 2003	—	—	+428	—	—	-27

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1962–80, December 1999 to current year.

PRECIPITATION: Water years 1999–2001.

CHEMICAL DATA: Water years 1962–81, June 2002 to current year (seasonal only).

DISSOLVED OXYGEN: Water years 1999–2001, June 2002 to current year (seasonal only).

pH: Water years 1999–2001, June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: Water years 1999–2001, June 2002 to current year (seasonal only).

AIR TEMPERATURE: Water years 1999–2001.

WATER TEMPERATURE: Water years 1962–80, 1999–2001, June 2002 to current year (seasonal only).

PERIOD OF DAILY RECORD.—

PRECIPITATION: December 1999 to September 2001.

DISSOLVED OXYGEN: December 1999 to September 2001, June 2002 to current year (seasonal only).

pH: December 1999 to September 2001, June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: December 1999 to September 2001, June 2002 to current year (seasonal only).

AIR TEMPERATURE: December 1999 to September 2001.

WATER TEMPERATURE: October 1962 to June 1980, December 1999 to September 2001, June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since December 1999. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved Oxygen records rated excellent except for Oct. 14–16, May 26 to June 2, July 15–17, July 30 to Aug. 2,

Aug. 16–21, 28–30 and Sept. 18–21, which are rated good; Oct. 1–3, July 18–22, Aug. 3–6, Aug. 31 to Sept. 3, Sept. 22–27, which are rated fair; Sept. 4–10, 28–30, which are rated poor. pH records rated excellent. Specific conductance records rated excellent, except for Oct. 27 to Nov. 6 and Sept. 26–30, which are rated good. Water temperature records rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

PRECIPITATION: Maximum daily rainfall, 0.26 inches, Jan. 10, 2000; no rainfall for many days each year.

DISSOLVED OXYGEN: Maximum recorded, 15.3 mg/L, Sept. 18, 2003; minimum recorded, 3.0 mg/L, July 23, 2001.

pH: Maximum recorded, 9.3 standard units, Aug. 20, 2001; minimum recorded, 6.4 standard units, Dec. 7, 8, 2001.

SPECIFIC CONDUCTANCE: Maximum recorded, 219 microsiemens, June 16, 17, 2000; minimum recorded, 115 microsiemens, July 31, 2003.

AIR TEMPERATURE: Maximum recorded, 109° F, May 22, 2001; minimum recorded, 13° F, Dec. 30, 2000, Jan. 17, 2001.

WATER TEMPERATURE: Maximum recorded, 23.5° C, Aug. 3, 4, 1977, Aug. 10, 1978; minimum recorded, 0.5° C, many days in 1972.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 15.3 mg/L, Sept. 18; minimum recorded, 5.2 mg/L, Aug. 5, 9.

pH: Maximum recorded, 9.1 standard units, Sept. 6, 7; minimum recorded, 7.4 standard units, Nov. 2–5.

SPECIFIC CONDUCTANCE: Maximum recorded, 216 microsiemens, Oct. 10, 13; minimum recorded, 115 microsiemens, July 31.

WATER TEMPERATURE: Maximum recorded, 23.1° C, July 30; minimum recorded, 10.4° C, Nov. 5.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Turbid- ity, wat unfl- lab, Hach 2100AN NTU (99872)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std field, units (00400)	Specif. conduc- tance, wat unfl- trd uS/cm 25 degC (00095)	Temper- ature, deg C water, (00010)
JUL									
14...	0810	747	1.9	712	8.6	105	8.2	198	21.5
SEP									
15...	0800	1190	4.1	710	7.0	82	8.4	160	19.5
JUL									
14...	65	13.4	7.73	3.03	.9	16.3	34	100	122
SEP									
15...	55	11.5	6.43	2.54	.8	13.2	33	76	92

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
	JUL 14...	<1	4.25	<.2	28.1	13.3	147	.20	150
SEP 15...	<1	3.88	<.2	37.5	6.3	123	.18	130	.61

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
	JUL 14...	e.014	.125	.10	.12	6.9	3.8	5.8	24
SEP 15...	e.009	.317	.12	.16	8.5	3.8	6.8	21	2.4

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

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.1	6.8	10.9	10.2	---	---	---	---	---	---	---	---
2	8.4	6.7	10.8	10.1	---	---	---	---	---	---	---	---
3	7.1	6.3	11.1	10.6	---	---	---	---	---	---	---	---
4	7.6	6.7	11.3	10.7	---	---	---	---	---	---	---	---
5	8.0	6.8	11.4	10.8	---	---	---	---	---	---	---	---
6	7.6	6.8	---	---	---	---	---	---	---	---	---	---
7	9.1	6.8	---	---	---	---	---	---	---	---	---	---
8	8.3	7.2	---	---	---	---	---	---	---	---	---	---
9	8.0	7.2	---	---	---	---	---	---	---	---	---	---
10	9.7	7.9	---	---	---	---	---	---	---	---	---	---
11	9.2	8.3	---	---	---	---	---	---	---	---	---	---
12	8.8	7.8	---	---	---	---	---	---	---	---	---	---
13	8.9	8.0	---	---	---	---	---	---	---	---	---	---
14	9.2	8.5	---	---	---	---	---	---	---	---	---	---
15	9.2	8.7	---	---	---	---	---	---	---	---	---	---
16	9.6	8.5	---	---	---	---	---	---	---	---	---	---
17	9.5	8.6	---	---	---	---	---	---	---	---	---	---
18	9.8	8.8	---	---	---	---	---	---	---	---	---	---
19	10.1	9.2	---	---	---	---	---	---	---	---	---	---
20	10.7	9.2	---	---	---	---	---	---	---	---	---	---
21	10.4	9.3	---	---	---	---	---	---	---	---	---	---
22	10.5	9.3	---	---	---	---	---	---	---	---	---	---
23	10.2	9.2	---	---	---	---	---	---	---	---	---	---
24	10.8	9.4	---	---	---	---	---	---	---	---	---	---
25	10.9	9.4	---	---	---	---	---	---	---	---	---	---
26	10.6	9.4	---	---	---	---	---	---	---	---	---	---
27	10.9	10.2	---	---	---	---	---	---	---	---	---	---
28	11.0	10.2	---	---	---	---	---	---	---	---	---	---
29	10.8	10.2	---	---	---	---	---	---	---	---	---	---
30	10.9	10.3	---	---	---	---	---	---	---	---	---	---
31	10.9	10.3	---	---	---	---	---	---	---	---	---	---
MONTH	11.0	6.3	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	9.2	8.5	8.8	8.0	7.3	6.3	8.4	6.8
2	---	---	---	---	9.2	8.4	8.6	7.9	7.0	6.2	9.1	6.8
3	---	---	---	---	8.9	8.1	8.6	8.0	6.8	6.2	8.8	5.5
4	---	---	---	---	8.8	7.9	8.6	8.0	7.0	5.3	9.2	6.0
5	---	---	---	---	8.5	7.8	8.4	7.8	7.1	5.2	9.6	6.5
6	---	---	---	---	8.4	7.5	8.3	7.6	7.1	5.3	9.1	5.3
7	---	---	---	---	8.4	7.6	8.1	7.5	7.2	5.6	10.2	6.7
8	---	---	---	---	8.5	7.5	8.4	7.6	7.4	5.9	8.4	7.2
9	---	---	---	---	8.7	7.4	8.3	7.8	7.4	5.2	8.7	6.9
10	---	---	---	---	9.5	8.0	9.0	7.8	7.6	6.1	9.1	6.9
11	---	---	---	---	9.7	8.2	8.9	8.0	7.1	6.5	9.5	7.6
12	---	---	---	---	9.5	8.1	9.0	8.1	7.0	6.3	13.0	7.5
13	---	---	---	---	9.1	8.2	9.1	8.2	7.8	6.2	11.3	9.2
14	---	---	9.8	8.9	9.6	8.5	9.1	8.1	8.1	5.8	9.7	8.2
15	---	---	10.0	8.8	9.0	8.3	9.0	8.1	8.8	5.8	11.9	8.2
16	---	---	9.0	8.8	8.8	8.1	8.9	8.0	8.7	7.8	14.4	11.2
17	---	---	9.2	8.8	8.9	8.0	8.9	8.0	8.6	7.7	14.6	10.7
18	---	---	9.2	8.8	8.6	8.0	8.9	7.9	8.8	7.5	15.3	11.6
19	---	---	9.3	8.7	8.5	8.0	9.0	7.8	9.2	7.5	11.6	10.2
20	---	---	9.0	8.7	8.4	7.9	8.9	7.7	8.3	7.5	12.6	8.4
21	---	---	9.1	8.7	8.5	7.8	8.8	7.6	9.0	7.6	9.4	8.2
22	---	---	9.1	8.7	8.3	7.8	8.3	7.3	8.9	7.4	10.0	7.6
23	---	---	9.0	8.6	8.5	7.7	8.2	7.1	9.2	7.8	8.9	7.6
24	---	---	9.2	8.5	8.3	7.8	8.3	7.1	9.3	7.5	9.1	7.2
25	---	---	9.1	8.4	8.4	7.8	8.1	7.2	9.5	7.5	9.3	7.4
26	---	---	9.0	8.5	8.6	7.8	8.1	7.1	8.9	7.5	10.3	7.1
27	---	---	9.0	8.4	8.6	8.0	8.1	6.9	9.2	7.8	8.6	6.6
28	---	---	9.0	8.4	8.5	7.9	8.0	6.9	8.9	7.3	10.1	7.9
29	---	---	8.9	7.8	8.5	7.5	8.0	6.8	9.2	7.0	11.9	8.2
30	---	---	9.1	7.9	8.7	7.9	7.9	6.8	9.1	7.2	10.2	6.8
31	---	---	9.4	8.6	---	---	7.9	6.7	9.1	7.4	---	---
MONTH	---	---	---	---	9.7	7.4	9.1	6.7	9.5	5.2	15.3	5.3

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.0	7.7	7.6	7.5	---	---	---	---	---	---	---	---
2	7.9	7.6	7.5	7.4	---	---	---	---	---	---	---	---
3	7.8	7.6	7.5	7.4	---	---	---	---	---	---	---	---
4	8.0	7.7	7.5	7.4	---	---	---	---	---	---	---	---
5	8.0	7.7	7.5	7.4	---	---	---	---	---	---	---	---
6	7.9	7.7	---	---	---	---	---	---	---	---	---	---
7	8.3	7.7	---	---	---	---	---	---	---	---	---	---
8	8.0	7.7	---	---	---	---	---	---	---	---	---	---
9	7.9	7.8	---	---	---	---	---	---	---	---	---	---
10	8.4	7.8	---	---	---	---	---	---	---	---	---	---
11	8.0	7.8	---	---	---	---	---	---	---	---	---	---
12	7.9	7.6	---	---	---	---	---	---	---	---	---	---
13	7.7	7.6	---	---	---	---	---	---	---	---	---	---
14	7.8	7.7	---	---	---	---	---	---	---	---	---	---
15	7.7	7.6	---	---	---	---	---	---	---	---	---	---
16	7.8	7.6	---	---	---	---	---	---	---	---	---	---
17	7.9	7.7	---	---	---	---	---	---	---	---	---	---
18	8.0	7.7	---	---	---	---	---	---	---	---	---	---
19	8.0	7.8	---	---	---	---	---	---	---	---	---	---
20	8.3	7.8	---	---	---	---	---	---	---	---	---	---
21	8.0	7.7	---	---	---	---	---	---	---	---	---	---
22	7.9	7.6	---	---	---	---	---	---	---	---	---	---
23	7.8	7.6	---	---	---	---	---	---	---	---	---	---
24	8.0	7.6	---	---	---	---	---	---	---	---	---	---
25	8.0	7.7	---	---	---	---	---	---	---	---	---	---
26	7.9	7.6	---	---	---	---	---	---	---	---	---	---
27	7.8	7.7	---	---	---	---	---	---	---	---	---	---
28	7.9	7.7	---	---	---	---	---	---	---	---	---	---
29	7.8	7.7	---	---	---	---	---	---	---	---	---	---
30	7.8	7.6	---	---	---	---	---	---	---	---	---	---
31	7.7	7.6	---	---	---	---	---	---	---	---	---	---
MONTH	8.4	7.6	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	8.4	8.2	8.5	8.0	8.1	7.7	8.7	8.4
2	---	---	---	---	8.4	8.2	8.3	8.0	8.0	7.7	8.8	8.4
3	---	---	---	---	8.3	8.0	8.4	8.1	7.9	7.7	8.8	7.6
4	---	---	---	---	8.5	8.0	8.3	8.0	8.0	7.5	8.9	7.9
5	---	---	---	---	8.3	8.0	8.4	8.0	8.1	7.5	8.9	8.2
6	---	---	---	---	8.2	8.0	8.3	8.0	8.2	7.5	9.1	7.6
7	---	---	---	---	8.3	8.0	8.3	7.9	8.2	7.6	9.1	8.4
8	---	---	---	---	8.4	7.9	8.2	8.0	8.3	7.7	9.0	8.6
9	---	---	---	---	8.5	8.0	8.1	7.9	8.3	7.5	8.8	8.6
10	---	---	---	---	8.7	8.2	8.2	7.9	8.4	7.7	8.8	8.3
11	---	---	---	---	8.7	8.3	8.2	8.0	8.4	7.9	8.8	8.3
12	---	---	---	---	8.7	8.2	8.2	7.8	8.4	8.0	8.7	8.3
13	---	---	---	---	8.6	8.2	8.2	7.8	8.3	7.9	8.8	8.4
14	---	---	8.3	8.0	8.7	8.4	8.2	7.9	8.3	7.5	8.4	8.2
15	---	---	8.3	8.0	8.6	8.3	8.3	7.8	8.7	7.5	8.4	8.1
16	---	---	8.2	8.0	8.4	8.2	8.3	7.8	8.5	8.2	8.5	8.2
17	---	---	8.2	8.0	8.6	8.1	8.3	7.8	8.5	8.2	8.4	8.1
18	---	---	8.1	8.0	8.4	8.1	8.3	7.8	8.5	8.1	8.2	7.9
19	---	---	8.2	8.0	8.5	8.1	8.3	7.7	8.8	8.1	8.1	7.8
20	---	---	8.2	8.0	8.4	8.1	8.4	7.7	8.5	8.2	8.0	7.8
21	---	---	8.2	8.0	8.3	8.0	8.6	7.7	8.8	8.2	8.1	7.8
22	---	---	8.2	8.0	8.2	8.0	8.3	7.7	8.8	8.0	8.1	7.8
23	---	---	8.2	8.0	8.3	7.9	8.3	7.8	8.6	8.3	8.2	7.8
24	---	---	8.3	8.0	8.1	7.9	8.3	7.8	8.7	8.2	8.4	7.8
25	---	---	8.3	8.0	8.1	7.9	8.1	7.8	8.6	8.2	8.3	7.9
26	---	---	8.2	8.0	8.2	7.9	8.1	7.8	8.7	8.3	8.2	7.8
27	---	---	8.2	8.0	8.2	8.0	8.2	7.8	8.8	8.5	8.1	7.7
28	---	---	8.3	8.0	8.1	7.9	8.2	7.7	8.7	8.4	8.5	7.9
29	---	---	8.2	7.8	8.1	7.8	8.1	7.7	8.8	8.1	9.0	8.2
30	---	---	8.4	7.8	8.3	8.0	8.1	7.7	8.7	8.3	8.6	7.8
31	---	---	8.6	8.2	---	---	8.1	7.7	8.9	8.5	---	---
MONTH	---	---	---	---	8.7	7.8	8.6	7.7	8.9	7.5	9.1	7.6

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	194	193	208	192	---	---	---	---	---	---	---	---
2	200	194	206	193	---	---	---	---	---	---	---	---
3	204	196	215	200	---	---	---	---	---	---	---	---
4	205	203	213	201	---	---	---	---	---	---	---	---
5	206	205	214	194	---	---	---	---	---	---	---	---
6	208	206	---	---	---	---	---	---	---	---	---	---
7	210	204	---	---	---	---	---	---	---	---	---	---
8	211	209	---	---	---	---	---	---	---	---	---	---
9	211	210	---	---	---	---	---	---	---	---	---	---
10	216	203	---	---	---	---	---	---	---	---	---	---
11	214	207	---	---	---	---	---	---	---	---	---	---
12	214	206	---	---	---	---	---	---	---	---	---	---
13	216	207	---	---	---	---	---	---	---	---	---	---
14	211	206	---	---	---	---	---	---	---	---	---	---
15	213	206	---	---	---	---	---	---	---	---	---	---
16	213	207	---	---	---	---	---	---	---	---	---	---
17	209	207	---	---	---	---	---	---	---	---	---	---
18	210	208	---	---	---	---	---	---	---	---	---	---
19	211	209	---	---	---	---	---	---	---	---	---	---
20	213	210	---	---	---	---	---	---	---	---	---	---
21	212	205	---	---	---	---	---	---	---	---	---	---
22	213	211	---	---	---	---	---	---	---	---	---	---
23	213	210	---	---	---	---	---	---	---	---	---	---
24	215	200	---	---	---	---	---	---	---	---	---	---
25	204	197	---	---	---	---	---	---	---	---	---	---
26	203	197	---	---	---	---	---	---	---	---	---	---
27	204	198	---	---	---	---	---	---	---	---	---	---
28	206	196	---	---	---	---	---	---	---	---	---	---
29	208	194	---	---	---	---	---	---	---	---	---	---
30	201	192	---	---	---	---	---	---	---	---	---	---
31	200	193	---	---	---	---	---	---	---	---	---	---
MONTH	216	192	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	181	177	194	192	172	116	167	161
2	---	---	---	---	184	179	194	193	180	161	168	165
3	---	---	---	---	186	181	194	192	174	166	173	165
4	---	---	---	---	190	186	194	191	175	165	168	166
5	---	---	---	---	193	189	192	185	182	167	168	166
6	---	---	---	---	195	192	192	187	180	174	169	163
7	---	---	---	---	197	194	192	189	177	175	169	163
8	---	---	---	---	198	194	192	190	178	175	168	166
9	---	---	---	---	198	191	193	191	180	176	167	164
10	---	---	---	---	199	197	193	185	178	176	168	164
11	---	---	---	---	199	196	195	183	178	177	168	165
12	---	---	---	---	198	193	194	189	187	177	170	165
13	---	---	---	---	198	197	200	192	189	178	170	164
14	---	---	165	163	202	196	193	184	182	178	166	165
15	---	---	164	161	197	196	195	185	182	177	167	165
16	---	---	162	160	198	196	199	186	177	175	167	165
17	---	---	161	159	198	196	199	182	177	175	170	166
18	---	---	161	159	198	196	197	165	176	174	168	167
19	---	---	162	159	198	190	193	161	175	173	169	163
20	---	---	164	156	198	196	196	161	176	175	169	164
21	---	---	161	157	197	195	196	167	176	174	173	165
22	---	---	163	156	197	195	191	178	176	168	166	165
23	---	---	164	161	197	194	187	183	171	160	166	163
24	---	---	166	163	197	193	189	184	171	165	166	163
25	---	---	166	164	197	196	188	181	178	164	166	164
26	---	---	168	164	197	195	190	175	178	167	165	161
27	---	---	171	167	197	195	187	170	171	168	162	160
28	---	---	172	167	196	195	180	140	170	168	162	160
29	---	---	174	170	196	190	179	140	173	167	162	157
30	---	---	176	170	194	193	166	143	169	167	163	161
31	---	---	178	175	---	---	144	115	168	161	---	---
MONTH	---	---	---	---	202	177	200	115	189	116	173	157

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.9	16.3	11.8	11.2	---	---	---	---	---	---	---	---
2	16.7	15.9	11.4	10.9	---	---	---	---	---	---	---	---
3	16.3	15.9	11.1	10.7	---	---	---	---	---	---	---	---
4	16.6	15.8	11.0	10.5	---	---	---	---	---	---	---	---
5	16.6	15.8	10.9	10.4	---	---	---	---	---	---	---	---
6	16.4	15.7	---	---	---	---	---	---	---	---	---	---
7	16.6	15.6	---	---	---	---	---	---	---	---	---	---
8	16.3	15.5	---	---	---	---	---	---	---	---	---	---
9	15.9	15.3	---	---	---	---	---	---	---	---	---	---
10	16.0	15.3	---	---	---	---	---	---	---	---	---	---
11	15.6	14.8	---	---	---	---	---	---	---	---	---	---
12	15.0	14.4	---	---	---	---	---	---	---	---	---	---
13	14.9	14.3	---	---	---	---	---	---	---	---	---	---
14	14.9	14.3	---	---	---	---	---	---	---	---	---	---
15	14.8	14.2	---	---	---	---	---	---	---	---	---	---
16	14.7	14.2	---	---	---	---	---	---	---	---	---	---
17	14.6	14.0	---	---	---	---	---	---	---	---	---	---
18	14.7	14.0	---	---	---	---	---	---	---	---	---	---
19	14.8	14.0	---	---	---	---	---	---	---	---	---	---
20	14.9	14.1	---	---	---	---	---	---	---	---	---	---
21	14.4	14.0	---	---	---	---	---	---	---	---	---	---
22	14.2	13.7	---	---	---	---	---	---	---	---	---	---
23	13.9	13.4	---	---	---	---	---	---	---	---	---	---
24	13.9	13.4	---	---	---	---	---	---	---	---	---	---
25	13.7	13.2	---	---	---	---	---	---	---	---	---	---
26	13.7	12.9	---	---	---	---	---	---	---	---	---	---
27	13.2	12.9	---	---	---	---	---	---	---	---	---	---
28	13.2	12.7	---	---	---	---	---	---	---	---	---	---
29	12.8	12.4	---	---	---	---	---	---	---	---	---	---
30	12.5	12.0	---	---	---	---	---	---	---	---	---	---
31	12.2	11.7	---	---	---	---	---	---	---	---	---	---
MONTH	16.9	11.7	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	18.1	16.8	21.4	19.4	22.7	21.8	20.8	20.2
2	---	---	---	---	18.9	17.1	20.4	19.5	22.3	21.7	20.8	20.2
3	---	---	---	---	19.0	17.4	21.2	19.7	22.1	21.4	20.6	19.7
4	---	---	---	---	19.4	17.9	21.2	19.6	22.1	21.0	20.7	19.8
5	---	---	---	---	19.3	18.4	21.7	19.6	21.8	20.8	20.7	19.9
6	---	---	---	---	19.6	18.1	21.6	19.7	21.7	20.7	20.5	19.5
7	---	---	---	---	20.6	18.7	21.3	19.8	21.7	20.7	20.3	19.7
8	---	---	---	---	21.1	18.9	21.1	19.8	21.6	20.7	19.9	19.4
9	---	---	---	---	20.7	18.8	20.8	19.8	21.6	20.5	19.7	19.2
10	---	---	---	---	20.8	19.2	21.1	19.9	21.6	20.7	19.8	18.9
11	---	---	---	---	20.6	19.2	21.2	19.9	21.6	20.7	20.1	19.0
12	---	---	---	---	20.3	19.0	21.4	19.9	21.5	20.7	20.1	19.0
13	---	---	---	---	19.7	19.1	21.3	19.6	21.4	20.7	19.5	18.8
14	---	---	15.6	11.7	20.1	19.0	21.6	19.9	21.2	20.0	19.0	18.4
15	---	---	14.2	11.8	20.5	19.1	22.0	19.9	21.5	20.0	19.3	18.3
16	---	---	13.6	11.7	20.5	19.3	22.1	20.0	21.4	20.5	18.9	18.3
17	---	---	13.5	12.2	21.2	19.6	21.5	20.1	21.3	20.6	18.7	18.0
18	---	---	13.1	11.7	20.7	19.6	22.0	20.4	21.5	20.6	18.2	17.7
19	---	---	13.4	12.1	21.2	19.3	22.5	20.4	22.3	20.9	18.4	17.5
20	---	---	14.6	12.2	20.9	19.5	22.4	20.6	21.4	20.7	18.4	17.7
21	---	---	14.7	12.9	20.7	19.2	22.3	20.8	21.5	20.7	18.4	17.7
22	---	---	15.6	13.4	20.2	19.0	22.6	20.9	21.4	20.5	18.2	17.6
23	---	---	15.4	13.9	20.0	18.8	22.6	21.2	21.1	20.5	18.2	17.6
24	---	---	16.1	14.2	19.8	18.5	22.2	21.2	21.2	20.2	18.4	17.5
25	---	---	16.0	14.3	19.8	18.7	22.2	21.2	21.1	20.2	18.2	17.5
26	---	---	15.9	14.4	20.4	19.0	22.2	21.1	20.8	20.2	17.7	17.2
27	---	---	16.5	14.9	20.7	19.3	22.2	21.2	21.2	20.2	17.7	17.1
28	---	---	17.5	15.2	20.3	19.3	22.5	21.1	21.0	20.2	18.0	17.3
29	---	---	16.4	15.0	20.0	18.7	22.7	21.3	21.2	19.7	18.8	17.5
30	---	---	17.8	15.0	20.9	19.3	23.1	21.4	20.9	19.9	17.8	17.1
31	---	---	18.5	16.6	---	---	22.9	21.3	21.3	20.1	---	---
MONTH	---	---	---	---	21.2	16.8	23.1	19.4	22.7	19.7	20.8	17.1

KLAMATH RIVER BASIN

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample locat- ion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
08...*	1110	2.20	705	8.4	103	8.2	192	21.3	128
08...*	1115	3.00	705	8.2	100	8.1	192	21.2	100
08...*	1120	4.50	705	8.1	99	8.1	192	21.2	72.0
08...*	1125	4.20	705	8.2	99	8.1	191	20.7	44.0
08...*	1130	3.80	705	8.3	100	8.1	190	20.3	16.0
SEP									
10...*	1450	2.50	711	7.1	85	8.7	160	20.5	110
10...*	1452	4.60	711	7.1	85	8.7	161	20.5	81.0
10...*	1454	5.30	711	7.1	85	8.7	161	20.4	64.0
10...*	1456	4.20	711	7.2	85	8.6	162	20.2	47.0
10...*	1458	5.30	711	7.3	86	8.6	164	19.9	30.0

* Instantaneous discharge at the time of the cross-sectional measurements: July 8, 1010 ft³/s; Sept. 10, 1190 ft³/s.

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 2002 to current year.

CHEMICAL DATA: July 2002 to current year (seasonal only).

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: October 2001 to current year. (seasonal only).

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: October 2001 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent, except for June 25–27, and July 26–28, which are rated good; June 28 to July 4, and July 29–31, which are rated fair; July 5–9, and Aug. 1–5, which are rated poor. pH records rated excellent, except for July 14–22, which are rated fair. Specific conductance and water temperature records rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 14.1 mg/L, Nov. 2, 2002; minimum recorded, 4.3 mg/L, July 31, 2003.

pH: Maximum recorded, 8.8 standard units, several days during 2002; minimum recorded, 7.7 standard units, June 2, 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 597 microsiemens, Sept. 11, 2002; minimum recorded, 351 microsiemens, June 14, 15, 2003.

WATER TEMPERATURE: Maximum recorded, 27.5°C, June 25, July 11, 2002; minimum recorded, 3.0°C, Dec. 20, 31, 2003.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 14.1 mg/L, Nov. 2; minimum recorded, 4.3 mg/L, July 31.

pH: Maximum recorded, 8.7 standard units, May 22, 26–28; minimum recorded, 7.7 standard units, June 2.

SPECIFIC CONDUCTANCE: Maximum recorded, 578 microsiemens, Apr. 29; minimum recorded, 351 microsiemens, June 14, 15.

WATER TEMPERATURE: Maximum recorded, 26.5°C, July 22, 23, 29, 30; minimum recorded, 3.0°C, Dec. 20, 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfiltered, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, std units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
APR									
09...	1820	174	8.7	692	9.6	105	8.3	454	15.0
JUN									
17...	1150	73	5.3	688	8.7	109	8.3	479	21.0
AUG									
19...	1120	64	3.6	693	8.9	110	8.2	490	21.0
Date	Hardness, water, unfiltered, mg/L as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, filtered, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water filtered, inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, water filtered, inc tit field, mg/L (00453)
APR									
09...	180	24.0	29.0	2.54	1	33.4	28	224	268
JUN									
17...	180	24.0	30.3	2.78	1	31.7	27	263	314
AUG									
19...	190	27.5	29.8	3.10	1	32.1	26	216	260

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
APR 09...	2	16.9	.23	48.6	7.4	297	.41	300	.23
JUN 17...	3	18.3	.2	53.7	6.5	325	.39	289	.33
AUG 19...	2	19.2	.3	57.3	6.2	306	.41	302	.30

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo-phytin a, phyto-plank- ton, ug/L (62360)	Chloro-phyll a phyto-plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
APR 09...	<.015	.079	.12	.14	5.3	3.5	1.9	e7	7.5
JUN 17...	<.015	<.022	.14	.17	5.6	2.9	.9	12	9.2
AUG 19...	<.015	<.022	.17	.19	5.0	1.5	.7	12	5.7

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

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	13.9	11.3	---	---	---	---	---	---	---	---
2	---	---	14.1	11.4	---	---	---	---	---	---	---	---
3	---	---	13.8	11.0	---	---	---	---	---	---	---	---
4	---	---	14.0	10.8	---	---	---	---	---	---	---	---
5	---	---	13.8	10.7	---	---	---	---	---	---	---	---
6	---	---	13.0	10.5	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	12.1	8.8	---	---	---	---	---	---	---	---	---	---
17	12.5	8.6	---	---	---	---	---	---	---	---	---	---
18	12.6	8.6	---	---	---	---	---	---	---	---	---	---
19	12.7	8.8	---	---	---	---	---	---	---	---	---	---
20	12.6	8.8	---	---	---	---	---	---	---	---	---	---
21	12.7	8.8	---	---	---	---	---	---	---	---	---	---
22	12.3	9.1	---	---	---	---	---	---	---	---	---	---
23	12.5	9.1	---	---	---	---	---	---	---	---	---	---
24	12.4	9.3	---	---	---	---	---	---	---	---	---	---
25	12.6	9.4	---	---	---	---	---	---	---	---	---	---
26	12.9	9.8	---	---	---	---	---	---	---	---	---	---
27	13.2	10.1	---	---	---	---	---	---	---	---	---	---
28	13.0	10.2	---	---	---	---	---	---	---	---	---	---
29	12.8	10.2	---	---	---	---	---	---	---	---	---	---
30	13.4	10.6	---	---	---	---	---	---	---	---	---	---
31	13.5	10.9	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	12.6	6.3	11.4	7.1	7.7	5.3	10.4	7.5
2	---	---	---	---	12.5	6.3	11.5	7.4	7.0	5.3	10.2	7.4
3	---	---	---	---	10.9	5.6	12.0	7.5	7.9	6.0	10.3	7.4
4	---	---	---	---	10.9	5.6	12.0	6.1	8.6	6.2	10.7	7.6
5	---	---	---	---	11.0	5.5	11.8	7.3	9.9	6.0	10.4	7.5
6	---	---	---	---	10.6	5.0	11.5	7.1	10.0	7.1	11.0	7.7
7	---	---	---	---	10.2	5.2	11.0	7.0	10.8	7.4	10.6	7.9
8	---	---	---	---	9.9	5.2	11.7	7.1	11.3	7.5	11.6	8.6
9	---	---	---	---	10.2	5.3	10.0	6.4	10.7	7.5	11.2	8.3
10	10.4	8.6	---	---	10.1	5.7	8.9	6.2	10.2	7.6	11.4	8.5
11	11.4	8.8	---	---	10.3	5.9	---	---	11.4	7.5	10.6	7.7
12	10.8	8.6	---	---	9.9	6.1	---	---	11.3	7.5	10.5	7.6
13	11.2	9.4	10.9	7.3	9.8	6.3	---	---	---	---	10.6	7.6
14	11.1	9.5	10.9	7.1	10.0	6.6	---	---	---	---	10.7	7.8
15	11.2	9.4	11.2	7.1	9.8	6.5	---	---	---	---	10.4	7.8
16	12.0	9.8	11.6	7.5	9.4	6.2	---	---	---	---	10.4	7.8
17	11.4	9.5	11.9	7.9	9.8	6.1	---	---	---	---	10.9	8.2
18	12.1	9.4	12.4	8.3	9.3	6.0	---	---	---	---	11.1	8.4
19	12.0	9.1	12.1	7.8	10.0	6.7	---	---	10.9	7.1	10.8	8.2
20	11.5	8.8	13.0	7.3	10.2	7.3	---	---	10.2	6.9	11.2	7.4
21	12.2	9.3	12.5	6.8	10.3	7.4	---	---	10.3	7.0	11.0	7.8
22	12.1	9.3	12.6	6.4	10.3	7.6	---	---	10.6	7.4	11.3	7.8
23	12.5	9.1	12.3	6.1	10.7	7.7	9.7	5.9	10.8	7.6	11.6	7.7
24	12.0	9.1	11.2	6.0	11.0	8.0	8.3	5.9	10.8	7.5	11.8	7.8
25	11.3	9.2	11.6	6.3	11.0	7.5	8.8	6.2	10.8	7.4	12.1	7.8
26	11.7	9.1	13.4	6.8	11.2	7.2	7.9	5.8	10.9	7.3	12.9	7.8
27	11.3	8.9	13.4	6.4	11.3	7.0	8.4	5.7	10.6	7.3	13.0	7.4
28	11.5	8.6	13.3	6.3	11.5	6.7	8.5	5.7	10.5	7.4	13.1	7.4
29	10.2	9.0	12.0	6.1	11.6	6.6	8.3	5.5	10.8	7.5	12.1	7.6
30	9.7	8.1	13.1	6.2	11.9	7.0	8.0	4.4	10.8	7.4	12.5	7.9
31	---	---	12.6	6.0	---	---	6.7	4.3	10.4	7.4	---	---
MONTH	---	---	---	---	12.6	5.0	---	---	---	---	13.1	7.4

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	509	478	439	429	---	---	---	---	---	---	---	---
2	481	470	432	428	---	---	---	---	---	---	---	---
3	---	---	431	427	---	---	---	---	---	---	---	---
4	---	---	443	390	---	---	---	---	---	---	---	---
5	---	---	452	438	---	---	---	---	---	---	---	---
6	---	---	443	430	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	482	446	---	---	---	---	---	---	---	---	---	---
18	482	444	---	---	---	---	---	---	---	---	---	---
19	448	442	---	---	---	---	---	---	---	---	---	---
20	448	438	---	---	---	---	---	---	---	---	---	---
21	441	437	---	---	---	---	---	---	---	---	---	---
22	441	438	---	---	---	---	---	---	---	---	---	---
23	444	415	---	---	---	---	---	---	---	---	---	---
24	454	377	---	---	---	---	---	---	---	---	---	---
25	449	369	---	---	---	---	---	---	---	---	---	---
26	446	439	---	---	---	---	---	---	---	---	---	---
27	447	440	---	---	---	---	---	---	---	---	---	---
28	444	438	---	---	---	---	---	---	---	---	---	---
29	449	435	---	---	---	---	---	---	---	---	---	---
30	459	448	---	---	---	---	---	---	---	---	---	---
31	449	434	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	577	555	496	479	485	444	499	447	505	490
2	---	---	558	530	508	454	475	463	497	481	522	467
3	---	---	530	502	458	413	482	466	510	482	516	485
4	---	---	529	462	475	436	478	464	512	477	510	486
5	---	---	496	482	482	448	469	458	512	477	518	454
6	---	---	490	485	483	456	469	448	512	487	519	450
7	---	---	505	485	492	458	480	456	503	484	515	499
8	---	---	507	500	494	483	485	391	518	487	513	494
9	---	---	505	490	508	485	484	425	513	495	533	452
10	471	461	495	490	498	488	482	457	507	491	529	434
11	484	466	522	494	489	470	473	460	496	483	547	523
12	478	466	529	499	475	455	491	465	510	477	545	534
13	500	466	535	489	471	452	490	464	507	487	536	404
14	516	495	546	475	468	351	486	416	492	471	529	396
15	531	509	533	520	471	351	512	414	486	473	539	509
16	512	489	524	434	478	431	526	500	497	473	530	510
17	491	482	538	524	479	428	514	485	499	431	518	500
18	492	450	528	508	475	463	493	469	488	475	508	486
19	490	484	532	459	467	456	483	474	484	437	505	438
20	496	431	524	513	468	456	487	469	513	456	479	461
21	498	446	528	504	467	437	472	404	490	483	482	470
22	503	447	542	505	467	437	462	443	488	478	479	466
23	519	502	544	521	471	462	465	429	497	487	480	454
24	519	510	532	516	468	418	476	442	492	486	471	460
25	524	506	519	503	471	405	480	462	489	472	463	446
26	535	517	518	509	475	390	548	480	515	476	453	433
27	539	494	510	487	495	434	552	444	512	488	467	446
28	549	502	504	442	491	465	514	444	515	490	467	453
29	578	507	503	487	500	467	504	484	525	493	462	454
30	559	541	501	485	500	485	511	441	523	494	480	462
31	---	---	498	483	---	---	504	434	523	496	---	---
MONTH	---	---	577	434	508	351	552	391	525	431	547	396

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.5	12.0	8.0	4.5	8.0	5.5	6.0	5.0	11.0	9.5	11.0	7.5
2	13.0	10.5	8.0	4.5	8.0	5.5	6.5	5.0	9.5	8.0	11.0	8.5
3	13.0	10.5	9.0	5.0	7.5	5.0	7.5	6.0	9.0	7.0	12.0	9.0
4	14.5	12.0	9.0	5.5	9.0	6.0	9.0	7.0	8.5	6.5	11.0	8.5
5	16.0	13.0	9.5	6.0	9.0	7.0	8.5	7.5	8.0	5.5	11.5	8.0
6	16.5	12.5	10.0	7.5	9.0	7.0	7.5	6.5	7.5	5.5	12.0	9.0
7	16.0	12.5	9.0	8.0	9.0	6.5	7.0	5.5	7.0	5.5	11.5	9.0
8	16.0	12.0	10.0	8.5	7.5	5.5	7.0	5.0	7.5	5.0	12.5	9.5
9	15.0	11.5	10.0	8.5	8.5	6.0	7.0	5.5	8.0	5.5	11.5	9.5
10	14.5	11.0	10.0	8.5	8.5	7.5	7.0	6.0	8.5	6.0	13.5	10.0
11	13.5	10.0	11.0	8.5	8.5	7.0	7.0	6.0	8.0	6.0	14.0	11.0
12	12.5	9.0	10.5	9.0	8.5	6.5	8.5	7.0	8.5	6.0	14.0	11.0
13	12.5	8.5	10.0	9.0	8.5	7.5	8.5	8.0	9.5	7.5	12.5	9.5
14	13.0	9.0	10.5	8.5	8.5	7.5	8.5	7.5	11.5	9.5	11.5	9.0
15	13.0	9.5	10.0	8.0	8.0	7.5	8.5	7.0	10.5	9.0	11.0	9.5
16	13.0	9.5	10.0	7.0	7.5	5.5	8.5	7.5	9.0	7.5	10.0	9.0
17	13.0	9.5	10.5	8.5	5.5	4.0	8.0	7.0	8.5	7.5	10.5	8.0
18	13.0	10.0	10.0	8.0	5.5	4.0	8.5	6.5	10.5	7.5	11.5	8.5
19	13.5	10.0	11.0	8.0	5.0	3.5	8.5	6.5	11.0	9.5	11.0	9.0
20	13.0	10.0	11.0	8.5	4.0	3.0	8.0	7.0	10.5	8.5	11.5	8.5
21	13.0	10.0	10.5	8.0	5.5	3.5	9.0	7.0	11.0	9.0	13.5	11.0
22	12.5	9.5	9.5	7.5	6.5	4.5	9.5	8.0	11.0	9.0	12.0	10.5
23	12.5	9.0	10.5	8.0	6.5	4.5	9.0	8.0	10.0	8.0	11.5	9.0
24	12.0	9.0	11.0	8.5	6.5	4.5	8.5	8.0	11.0	8.0	12.5	9.5
25	12.0	9.0	10.0	8.0	6.5	5.5	10.0	8.0	11.0	8.5	13.0	11.0
26	11.0	8.5	8.5	6.0	6.0	5.5	11.0	9.5	9.0	7.5	13.0	10.5
27	11.0	8.0	8.0	5.5	6.5	5.5	10.5	9.0	10.0	7.0	12.0	9.0
28	11.0	8.0	8.5	5.5	6.5	4.0	9.0	8.0	9.0	7.5	13.0	10.0
29	10.5	8.0	8.5	5.5	5.0	4.0	8.5	7.5	---	---	14.5	11.5
30	9.0	6.5	8.5	5.5	5.0	4.0	10.0	8.5	---	---	16.0	12.5
31	8.5	5.5	---	---	5.5	3.0	11.0	9.5	---	---	16.5	14.5
MONTH	16.5	5.5	11.0	4.5	9.0	3.0	11.0	5.0	11.5	5.0	16.5	7.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	11.5	16.5	12.5	22.5	17.5	22.5	19.5	25.0	22.0	21.5	18.0
2	11.5	9.5	15.5	13.5	23.0	17.5	22.0	18.5	23.0	20.0	22.0	18.5
3	10.0	8.5	14.0	12.5	24.0	18.5	22.0	18.0	20.5	19.5	21.0	18.5
4	11.5	8.0	14.0	11.0	24.0	19.0	23.0	19.0	22.0	18.5	21.0	18.0
5	11.0	9.0	15.0	11.0	24.5	19.0	23.5	19.5	22.0	19.0	21.5	18.5
6	11.5	9.0	15.5	12.5	24.5	19.5	23.5	20.0	22.0	19.0	20.5	17.0
7	14.5	9.5	16.0	12.5	25.0	20.5	24.0	20.5	21.5	18.5	19.0	16.5
8	15.0	11.5	14.0	12.5	25.0	20.5	24.0	18.5	21.5	18.0	17.5	15.0
9	15.5	11.5	13.5	11.0	23.5	19.5	24.5	19.5	21.5	18.5	17.5	15.5
10	14.5	11.5	16.0	12.0	23.0	18.5	24.0	20.0	21.5	18.0	18.5	14.5
11	15.0	11.5	15.0	13.0	22.0	18.5	24.5	20.0	21.5	18.0	19.0	15.5
12	13.5	10.5	17.5	12.5	21.5	18.0	24.5	20.5	21.5	18.0	19.5	16.5
13	10.5	9.0	20.5	14.5	22.0	17.5	24.5	20.0	22.0	18.0	19.0	16.0
14	12.0	9.0	21.5	16.0	22.0	17.0	24.5	20.0	22.0	18.0	19.0	15.5
15	11.5	9.5	20.5	15.5	22.5	17.5	23.5	20.5	22.0	18.0	19.0	15.5
16	11.5	9.0	19.0	13.5	23.5	18.0	24.5	20.5	21.5	18.0	17.5	15.5
17	13.0	9.5	17.5	12.5	24.0	19.5	25.0	21.0	22.5	18.0	16.5	13.5
18	14.0	10.0	17.0	11.5	23.0	20.5	25.5	21.5	23.0	19.5	16.0	13.0
19	15.5	10.5	18.5	11.5	20.5	18.0	26.0	21.5	23.5	20.5	17.0	13.5
20	15.0	12.0	20.5	13.5	21.0	16.5	26.0	22.0	24.0	20.0	17.0	14.0
21	13.0	10.5	22.0	15.0	21.0	17.0	26.0	22.0	22.5	20.0	17.5	14.5
22	14.0	11.0	23.0	16.5	20.5	17.0	26.5	22.5	20.5	19.0	18.0	14.5
23	14.0	12.0	24.0	17.5	19.5	16.5	26.5	23.5	21.5	18.0	18.0	14.5
24	13.0	10.5	22.5	18.5	20.0	15.5	24.5	22.0	22.0	18.5	18.0	14.5
25	11.5	9.0	20.5	17.0	21.5	16.5	23.0	21.0	22.5	19.0	18.0	14.5
26	11.5	8.5	21.5	15.5	23.0	18.0	24.5	20.0	21.5	19.5	18.0	14.5
27	12.0	9.5	22.5	16.5	24.0	19.5	25.0	21.5	22.0	18.5	18.5	14.5
28	12.0	9.5	23.5	18.0	24.5	20.0	25.5	21.5	22.0	19.0	18.5	14.5
29	11.5	9.0	23.0	18.5	24.0	21.0	26.5	22.0	21.5	17.5	17.5	14.5
30	15.0	10.0	23.5	18.5	24.0	20.0	26.5	22.0	22.0	18.0	17.0	14.0
31	---	---	23.5	18.5	---	---	26.0	21.0	21.5	18.5	---	---
MONTH	15.5	8.0	24.0	11.0	25.0	15.5	26.5	18.0	25.0	17.5	22.0	13.0

11517000 SHASTA RIVER NEAR MONTAGUE, CA—Continued

CROSS SECTION ANALYSES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample locat- ion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
09...*	0905	.60	697	7.4	88	8.1	481	19.5	6.00
09...*	0910	.50	697	7.4	89	8.1	479	19.6	16.0
09...*	0915	1.80	697	7.4	89	8.1	479	19.6	26.0
09...*	0920	1.60	697	7.4	89	8.1	480	19.6	36.0
09...*	0925	1.80	697	7.4	89	8.1	480	19.6	46.0
SEP									
11...*	0840	1.20	703	8.4	91	8.2	540	15.2	6.00
11...*	0845	1.64	703	8.4	91	8.2	540	15.2	16.0
11...*	0850	2.06	703	8.4	91	8.2	540	15.2	26.0
11...*	0855	2.00	703	8.4	91	8.2	541	15.2	36.0
11...*	0900	2.04	703	8.4	91	8.2	541	15.2	46.0

* Instantaneous discharge at time of cross-sectional measurements: July 9, 45 ft³/s; Sept. 11, 57 ft³/s.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1933 to December 1941, December 1944 to current year.

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,000 ft above NGVD of 1929, from topographic map. Prior to Nov. 2, 1933, nonrecording gage at same site and datum.

REMARKS.—Records good. 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 ft³/s, Dec. 22, 1964, gage height, 12.92 ft, in gage well, 13.85 ft, from floodmarks, from rating curve extended above 4,100 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft³/s, Aug. 24, 1981, July 17, 1985.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 630 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 28	2045	1650	6.42	Jan. 15	0030	680	4.70

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	143	150	683	346	254	329	307	129	59	83	74
2	118	144	150	510	350	253	314	272	131	76	74	80
3	120	144	148	396	340	251	284	258	108	75	91	79
4	118	143	150	348	321	247	278	304	107	65	103	70
5	120	144	150	333	302	244	269	299	100	60	92	62
6	144	147	150	321	296	240	264	253	85	61	69	54
7	144	150	150	295	293	238	253	250	83	56	74	55
8	146	180	150	274	282	236	244	265	79	47	65	59
9	149	193	150	265	278	234	233	273	82	43	61	58
10	146	182	153	258	272	235	218	278	82	50	76	65
11	141	174	152	250	269	236	207	279	78	67	74	64
12	141	170	150	254	268	237	208	270	77	56	65	65
13	140	168	151	359	274	236	222	250	91	46	66	65
14	136	163	168	588	291	271	261	192	100	41	63	69
15	135	160	195	596	292	324	262	162	97	44	62	69
16	138	158	306	445	308	421	250	162	93	55	67	70
17	137	157	457	375	339	481	248	159	89	53	68	73
18	125	154	461	349	306	400	248	153	78	54	57	83
19	130	155	291	331	286	352	235	149	79	51	61	102
20	129	156	257	316	288	325	224	138	88	48	62	103
21	128	160	296	309	278	304	210	132	89	46	61	103
22	130	158	296	298	270	296	209	123	86	51	64	107
23	130	157	266	302	266	303	207	122	92	53	70	109
24	133	157	232	303	265	306	195	119	96	63	69	105
25	135	152	213	306	258	297	220	121	89	70	62	97
26	133	149	204	303	255	422	223	123	84	99	61	103
27	131	149	505	370	255	467	226	120	80	81	49	113
28	132	150	1400	505	253	378	221	116	78	67	59	107
29	136	150	1500	411	---	343	268	124	65	64	59	104
30	141	150	1120	362	---	328	326	129	56	66	57	97
31	141	---	992	354	---	319	---	137	---	158	65	---
TOTAL	4101	4717	11113	11369	8101	9478	7356	6039	2671	1925	2109	2464
MEAN	132	157	358	367	289	306	245	195	89.0	62.1	68.0	82.1
MAX	149	193	1500	683	350	481	329	307	131	158	103	113
MIN	74	143	148	250	253	234	195	116	56	41	49	54
AC-FT	8130	9360	22040	22550	16070	18800	14590	11980	5300	3820	4180	4890

KLAMATH RIVER BASIN

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	196	278	338	340	313	203	140	102	45.2	38.9	74.1
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	17.9	10.1	8.35	26.7
(WY)	1989	1937	1937	1937	1934	1977	1992	1992	1955	1960	1939	1981

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1934 - 2003	
ANNUAL TOTAL	48572		71443			
ANNUAL MEAN	133		196		185	
HIGHEST ANNUAL MEAN					364 1974	
LOWEST ANNUAL MEAN					77.9 1934	
HIGHEST DAILY MEAN	1500	Dec 29	1500	Dec 29	10400	Dec 23 1964
LOWEST DAILY MEAN	12	Jul 18	41	Jul 14	1.5	Aug 24 1981
ANNUAL SEVEN-DAY MINIMUM	17	Jul 17	49	Jul 13	5.5	Aug 9 1939
MAXIMUM PEAK FLOW			1650	Dec 28	21500	Dec 22 1964
MAXIMUM PEAK STAGE			6.42	Dec 28	12.92	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	96340		141700		133800	
10 PERCENT EXCEEDS	234		330		349	
50 PERCENT EXCEEDS	127		150		152	
90 PERCENT EXCEEDS	23		62		26	

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1959–79, June 2002 to current year.

CHEMICAL DATA: Water years 1959–79, June 2002 to current year (seasonal only).

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: Water years 1965–79, June 2002 to current year (seasonal only).

SEDIMENT DATA: Water years 1955–56, 1958–62.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: June 1965 to January 1979, June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent, except for Apr. 25 to May 30, July 8–22, and Aug. 6–19, which are rated good; May 30 to June 17, which is rated fair; June 17 to July 8, July 22 to Aug. 6, and Aug. 19 to Sept. 30, which are rated poor. pH records, specific conductance records, and water temperature records rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 13.7 mg/L, Aug. 24, 2002; minimum recorded, 5.3 mg/L, July 9, 11, 2002.

pH: Maximum recorded, 8.9 standard units, Aug. 30, 2002, several days in 2003; minimum recorded, 8.2 standard units, many days in 2002 and 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 657 microsiemens, Sept. 18, 2002; minimum recorded, 437 microsiemens, Nov. 4, 2002.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 15, 16, 1972, July 11, 2002; minimum recorded, 0.0°C, Jan. 30, 31, 1972.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 13.0 mg/L, Oct. 24; minimum recorded, 5.8 mg/L, July 21.

pH: Maximum recorded, 8.9 standard units, several days during the year; minimum recorded, 8.2 standard units, many days during the year.

SPECIFIC CONDUCTANCE: Maximum recorded, 622 microsiemens, Oct. 1; minimum recorded, 437 microsiemens, Nov. 4.

WATER TEMPERATURE: Maximum recorded, 30.2°C, July 22; minimum recorded, 3.2°C, Nov. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfltrd, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd, field, std units (00400)	Specific conductance, unfltrd, wat unfltrd, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
APR 10...	1540	209	8.0	702	10.3	112	8.8	480	15.5
JUN 17...	1815	103	2.1	686	8.8	121	8.8	494	26.0
AUG 19...	1820	62	3.7	702	7.3	97	8.8	530	25.5

Date	Hardness, water, unfltrd, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, unfltrd, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, unfltrd, wat flt incrm. titr., field, mg/L (00453)	
APR 10...	200	29.0	31.9	2.13	1	31.5	25	238	274
JUN 17...	200	28.1	31.8	2.86	1	31.7	25	238	269
AUG 19...	210	31.8	32.8	3.30	1	34.2	25	240	280

KLAMATH RIVER BASIN

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, Residue sum of water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
APR 10...	8	16.2	.20	44.1	9.7	308	.41	301	.22
JUN 17...	10	18.3	.3	49.0	7.6	313	.42	309	.36
AUG 19...	6	21.6	.3	51.0	7.7	327	.46	335	.41
Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
APR 2003 10...	<.015	.051	.10	.12	4.5	3.5	2.8	e7	7.5
JUN 17...	<.015	<.022	.15	.17	5.1	1.1	.4	9	3.7
AUG 19...	<.015	<.022	.16	.19	6.7	2.7	.9	e7	6.6

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

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.9	9.3	---	---	---	---	---	---	---	---	---	---
2	10.4	9.6	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	10.9	9.7	---	---	---	---	---	---	---	---	---	---
17	11.8	9.9	---	---	---	---	---	---	---	---	---	---
18	11.8	10.1	---	---	---	---	---	---	---	---	---	---
19	11.8	10.1	---	---	---	---	---	---	---	---	---	---
20	11.8	10.2	---	---	---	---	---	---	---	---	---	---
21	12.2	10.4	---	---	---	---	---	---	---	---	---	---
22	12.5	10.6	---	---	---	---	---	---	---	---	---	---
23	12.8	10.9	---	---	---	---	---	---	---	---	---	---
24	13.0	10.9	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	9.0	7.6	10.2	8.4	7.5	6.4	9.0	7.2
2	---	---	---	---	8.9	7.4	10.3	8.6	7.7	6.7	8.9	7.1
3	---	---	---	---	8.8	7.2	10.3	8.5	8.0	7.2	9.2	7.4
4	---	---	---	---	8.8	7.2	10.1	8.0	8.1	6.8	9.2	7.1
5	---	---	---	---	8.8	7.0	10.1	8.2	8.1	7.0	8.8	7.1
6	---	---	---	---	8.8	7.0	10.0	8.0	8.4	6.9	9.3	7.3
7	---	---	---	---	8.7	6.8	9.6	7.8	8.0	6.9	9.9	7.5
8	---	---	---	---	8.7	7.0	9.9	6.9	8.1	7.0	10.1	7.9
9	---	---	---	---	9.2	7.2	8.6	6.7	8.1	6.9	9.9	8.0
10	---	---	---	---	9.5	7.4	8.3	6.6	8.1	7.0	9.8	8.3
11	---	---	---	---	9.6	7.4	8.2	6.7	8.1	6.9	9.5	8.0
12	---	---	---	---	9.7	7.6	8.2	6.7	8.2	6.7	9.3	8.1
13	---	---	---	---	10.3	7.7	8.4	6.6	8.4	6.8	9.5	8.1
14	---	---	9.2	7.9	10.2	7.4	8.3	6.4	8.6	7.3	9.6	8.0
15	---	---	9.3	8.3	10.1	7.4	8.2	6.4	8.7	7.4	9.5	8.0
16	---	---	9.8	8.6	9.7	6.9	8.1	6.4	8.9	7.4	9.6	8.3
17	---	---	10.2	9.1	9.4	7.0	8.1	6.1	9.0	7.3	10.1	8.6
18	---	---	10.8	9.2	8.7	7.2	7.8	6.2	8.8	7.2	10.0	8.5
19	---	---	10.5	8.7	9.1	7.8	7.8	6.1	8.7	7.3	9.8	8.3
20	---	---	10.0	8.3	9.2	8.1	8.1	6.1	8.9	7.3	9.7	8.2
21	---	---	9.7	7.8	9.4	8.2	8.1	5.8	8.8	7.5	9.7	8.0
22	---	---	9.2	7.4	9.6	8.1	7.7	5.9	8.9	7.9	9.6	8.0
23	---	---	9.2	7.2	9.7	8.6	7.8	6.4	9.1	7.7	9.5	7.9
24	---	---	9.0	7.5	10.0	8.5	7.7	6.6	9.0	7.5	9.6	8.0
25	---	---	9.4	7.9	10.0	8.2	7.8	6.7	9.0	7.3	9.7	8.0
26	---	---	9.8	7.8	9.6	8.0	7.9	6.9	9.0	7.5	9.7	8.0
27	---	---	9.8	7.5	9.5	7.7	7.9	6.5	8.9	7.3	9.6	7.8
28	---	---	9.6	7.2	9.5	5.9	7.8	6.3	9.0	7.4	9.6	7.7
29	---	---	9.2	7.2	9.4	6.7	7.9	6.2	9.4	7.4	9.7	8.1
30	---	---	9.1	7.5	9.8	8.0	7.7	6.1	9.2	7.2	10.0	8.1
31	---	---	8.8	7.6	---	---	7.2	6.3	9.0	7.3	---	---
MONTH	---	---	---	---	10.3	5.9	10.3	5.8	9.4	6.4	10.1	7.1

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	622	588	461	450	---	---	---	---	---	---	---	---
2	617	523	451	442	---	---	---	---	---	---	---	---
3	523	508	446	439	---	---	---	---	---	---	---	---
4	508	502	445	437	---	---	---	---	---	---	---	---
5	506	494	451	443	---	---	---	---	---	---	---	---
6	500	477	---	---	---	---	---	---	---	---	---	---
7	477	471	---	---	---	---	---	---	---	---	---	---
8	472	460	---	---	---	---	---	---	---	---	---	---
9	470	467	---	---	---	---	---	---	---	---	---	---
10	470	461	---	---	---	---	---	---	---	---	---	---
11	462	455	---	---	---	---	---	---	---	---	---	---
12	458	452	---	---	---	---	---	---	---	---	---	---
13	459	455	---	---	---	---	---	---	---	---	---	---
14	458	456	---	---	---	---	---	---	---	---	---	---
15	457	451	---	---	---	---	---	---	---	---	---	---
16	463	455	---	---	---	---	---	---	---	---	---	---
17	463	459	---	---	---	---	---	---	---	---	---	---
18	473	463	---	---	---	---	---	---	---	---	---	---
19	472	456	---	---	---	---	---	---	---	---	---	---
20	462	456	---	---	---	---	---	---	---	---	---	---
21	462	453	---	---	---	---	---	---	---	---	---	---
22	458	447	---	---	---	---	---	---	---	---	---	---
23	456	450	---	---	---	---	---	---	---	---	---	---
24	460	452	---	---	---	---	---	---	---	---	---	---
25	463	454	---	---	---	---	---	---	---	---	---	---
26	465	455	---	---	---	---	---	---	---	---	---	---
27	458	450	---	---	---	---	---	---	---	---	---	---
28	457	448	---	---	---	---	---	---	---	---	---	---
29	455	448	---	---	---	---	---	---	---	---	---	---
30	469	446	---	---	---	---	---	---	---	---	---	---
31	469	452	---	---	---	---	---	---	---	---	---	---
MONTH	622	446	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	519	504	540	524	548	539	552	529
2	---	---	---	---	519	500	532	506	539	529	531	520
3	---	---	---	---	516	500	511	500	561	533	535	521
4	---	---	---	---	525	506	512	501	571	503	536	519
5	---	---	---	---	527	502	521	502	574	565	539	522
6	---	---	---	---	525	508	513	498	574	551	565	539
7	---	---	---	---	525	504	511	498	570	556	563	551
8	---	---	---	---	525	515	510	497	568	547	564	549
9	---	---	---	---	526	515	519	501	564	550	576	546
10	---	---	---	---	533	525	534	512	567	550	606	576
11	---	---	---	---	535	522	519	504	552	537	594	579
12	---	---	---	---	530	511	518	507	538	530	592	580
13	---	---	---	---	517	491	521	510	539	519	594	575
14	---	---	558	533	505	498	522	508	543	522	584	572
15	---	---	557	532	514	501	516	505	532	515	576	560
16	---	---	541	523	515	499	523	507	523	514	573	552
17	---	---	541	522	510	493	552	523	522	512	555	549
18	---	---	543	530	517	508	553	529	536	518	555	538
19	---	---	536	526	518	507	544	518	540	526	538	525
20	---	---	538	517	514	497	535	519	534	519	534	515
21	---	---	537	526	509	499	537	524	542	520	521	516
22	---	---	540	523	513	501	550	515	542	524	526	520
23	---	---	547	534	513	502	527	505	539	521	532	519
24	---	---	548	528	517	505	516	502	548	531	537	526
25	---	---	538	528	513	502	521	516	542	526	542	520
26	---	---	547	530	511	501	539	510	543	525	537	511
27	---	---	547	529	516	507	581	539	541	524	511	492
28	---	---	536	521	532	516	583	553	557	531	516	497
29	---	---	539	510	533	522	561	543	548	533	519	510
30	---	---	535	521	539	524	546	537	554	544	518	506
31	---	---	525	500	---	---	560	506	567	541	---	---
MONTH	---	---	---	---	539	491	583	497	574	503	606	492

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.9	10.4	5.8	3.6	---	---	---	---	---	---	---	---
2	13.3	10.0	5.7	3.2	---	---	---	---	---	---	---	---
3	12.8	10.2	6.4	3.7	---	---	---	---	---	---	---	---
4	15.0	11.6	7.0	4.2	---	---	---	---	---	---	---	---
5	15.6	12.4	7.4	5.0	---	---	---	---	---	---	---	---
6	16.5	13.0	---	---	---	---	---	---	---	---	---	---
7	16.0	12.4	---	---	---	---	---	---	---	---	---	---
8	15.5	12.1	---	---	---	---	---	---	---	---	---	---
9	15.1	11.5	---	---	---	---	---	---	---	---	---	---
10	13.8	11.1	---	---	---	---	---	---	---	---	---	---
11	12.8	9.7	---	---	---	---	---	---	---	---	---	---
12	12.1	8.6	---	---	---	---	---	---	---	---	---	---
13	11.9	8.2	---	---	---	---	---	---	---	---	---	---
14	12.2	8.3	---	---	---	---	---	---	---	---	---	---
15	12.5	8.7	---	---	---	---	---	---	---	---	---	---
16	12.4	8.8	---	---	---	---	---	---	---	---	---	---
17	12.6	9.0	---	---	---	---	---	---	---	---	---	---
18	12.4	9.3	---	---	---	---	---	---	---	---	---	---
19	12.7	9.3	---	---	---	---	---	---	---	---	---	---
20	12.8	9.9	---	---	---	---	---	---	---	---	---	---
21	12.4	9.4	---	---	---	---	---	---	---	---	---	---
22	12.1	9.3	---	---	---	---	---	---	---	---	---	---
23	11.6	8.5	---	---	---	---	---	---	---	---	---	---
24	11.4	8.6	---	---	---	---	---	---	---	---	---	---
25	11.1	8.4	---	---	---	---	---	---	---	---	---	---
26	10.4	7.7	---	---	---	---	---	---	---	---	---	---
27	10.1	7.3	---	---	---	---	---	---	---	---	---	---
28	10.2	7.3	---	---	---	---	---	---	---	---	---	---
29	9.1	6.9	---	---	---	---	---	---	---	---	---	---
30	7.7	5.9	---	---	---	---	---	---	---	---	---	---
31	6.5	4.3	---	---	---	---	---	---	---	---	---	---
MONTH	16.5	4.3	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	23.7	17.7	24.8	19.1	26.3	22.5	23.9	18.8
2	---	---	---	---	24.1	18.1	25.2	18.9	24.7	21.7	23.9	18.9
3	---	---	---	---	25.3	18.5	25.0	18.7	23.0	21.0	22.0	19.0
4	---	---	---	---	25.3	19.2	26.0	19.0	24.9	19.9	23.0	18.5
5	---	---	---	---	25.7	19.1	26.3	19.5	24.0	19.9	24.3	19.6
6	---	---	---	---	26.4	19.3	26.7	19.7	24.1	18.9	22.4	17.4
7	---	---	---	---	26.9	20.6	25.0	20.2	23.6	18.5	20.0	17.7
8	---	---	---	---	26.6	20.8	25.8	18.4	23.2	18.4	18.6	14.9
9	---	---	---	---	25.3	19.3	27.1	19.2	23.9	18.6	18.9	15.6
10	---	---	---	---	24.9	18.6	26.9	19.7	23.6	18.6	19.6	14.3
11	---	---	---	---	24.3	18.2	26.5	20.3	23.5	18.0	20.6	15.0
12	---	---	---	---	23.2	18.2	26.4	20.5	23.3	18.0	20.6	16.2
13	---	---	---	---	23.0	17.7	26.5	19.8	24.2	18.3	19.5	15.4
14	---	---	21.1	16.2	23.5	17.2	27.6	20.0	23.8	18.3	19.9	14.8
15	---	---	19.9	16.1	24.0	17.8	27.7	20.8	24.0	18.2	19.9	15.5
16	---	---	18.9	13.9	25.4	18.4	27.4	20.9	23.9	18.0	17.6	15.1
17	---	---	17.1	13.0	26.3	19.9	28.3	20.9	24.4	18.0	17.2	12.9
18	---	---	16.7	11.4	23.6	20.1	28.9	21.7	25.9	19.3	17.3	12.8
19	---	---	18.2	11.9	23.4	17.7	29.1	22.2	25.9	20.8	17.7	13.4
20	---	---	20.2	13.7	22.2	17.3	28.4	22.1	26.3	20.2	18.3	14.0
21	---	---	22.0	15.2	22.4	17.1	29.6	22.2	23.8	20.7	18.6	14.4
22	---	---	23.5	16.8	21.9	16.4	30.2	23.6	22.6	20.4	18.7	14.6
23	---	---	24.4	17.4	20.5	15.8	29.8	24.4	23.9	18.6	18.8	14.7
24	---	---	21.6	19.0	21.6	15.4	27.3	24.4	24.5	18.7	18.9	14.8
25	---	---	21.6	17.7	23.3	16.5	27.7	22.7	24.8	19.0	18.9	14.8
26	---	---	22.3	16.6	25.1	18.2	26.5	21.8	23.5	19.6	18.6	14.5
27	---	---	23.6	16.4	26.4	19.6	27.6	21.5	24.7	19.0	19.2	15.0
28	---	---	23.8	18.0	27.0	20.4	28.3	22.1	24.2	19.4	19.0	15.0
29	---	---	24.6	19.3	26.5	21.1	28.9	22.3	23.6	18.0	17.9	14.9
30	---	---	23.8	19.1	26.2	19.8	29.2	23.0	24.3	18.3	17.5	14.1
31	---	---	23.9	18.9	---	---	26.5	23.5	23.9	18.9	---	---
MONTH	---	---	---	---	27.0	15.4	30.2	18.4	26.3	18.0	24.3	12.8

11517500 SHASTA RIVER NEAR YREKA, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC uS/cm (00095)	Temperature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
08...*	1345	1.30	709	8.9	113	8.7	502	23.7	6.00
08...*	1350	1.40	709	8.7	111	8.7	502	23.7	18.0
08...*	1355	1.40	709	8.5	108	8.7	502	23.7	30.0
08...*	1400	1.60	709	8.5	108	8.7	502	23.6	42.0
08...*	1405	1.80	709	8.4	107	8.7	502	23.5	54.0
SEP									
10...*	0745	1.00	711	9.0	95	8.3	598	14.5	6.00
10...*	0750	1.90	711	9.1	96	8.4	598	14.5	18.0
10...*	0755	2.00	711	9.1	96	8.4	598	14.5	30.0
10...*	0800	2.20	711	9.1	96	8.4	598	14.5	42.0
10...*	0805	2.30	711	9.1	96	8.4	598	14.5	54.0

* Instantaneous discharge at the time of the cross-sectional measurements: July 8, 47 ft³/s; Sept. 10, 65 ft³/s.

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 mi².

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 NGVD of 1929 (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 good. 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 ft³/s, Dec. 22, 1964, gage height, 25.34 ft, from floodmarks, from rating curve extended above 15,000 ft³/s, on basis of slope-area measurement at 21.40 ft, site and datum then in use; minimum daily, 3.4 ft³/s, Sept. 20–22, 2001.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,700 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1730	5,930	12.43	Jan. 27	2130	3,520	10.45
Dec. 28	1545	8,250	13.97	Mar. 15	1330	2,970	9.90
Jan. 14	0815	4,370	11.21	Mar. 26	1245	4,060	10.94

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	30	68	2130	2610	613	1720	1290	1840	348	92	40
2	13	37	69	1610	2200	586	1580	1260	1750	327	103	41
3	13	38	69	1480	1860	572	1410	1290	1750	302	134	47
4	13	37	67	1580	1640	556	1340	1350	1810	287	196	46
5	13	33	70	1900	1470	534	1240	1280	1800	279	200	47
6	13	31	73	1740	1350	516	1150	1220	1710	270	162	47
7	13	36	76	1570	1250	500	1080	1190	1710	259	146	48
8	14	71	78	1450	1170	483	1050	1190	1690	244	137	48
9	14	186	78	1330	1100	491	1050	1150	1580	229	126	48
10	14	184	79	1240	1040	627	1090	1070	1380	221	119	48
11	14	153	79	1180	989	686	1170	1030	1230	212	113	48
12	15	126	81	1410	944	765	1240	1020	1150	205	103	49
13	15	121	101	2690	931	812	1390	1090	1060	186	96	48
14	15	120	1060	4150	922	1150	1290	1280	956	174	92	49
15	15	108	2650	3170	914	2230	1180	1490	884	167	86	48
16	15	98	3920	2380	1090	1860	1110	1430	846	154	80	49
17	15	88	2040	1980	1020	1480	1050	1310	856	143	72	51
18	15	80	1080	1790	927	1260	1000	1210	869	128	69	51
19	15	75	787	1680	890	1140	946	1110	857	125	62	53
20	15	69	678	1600	849	1080	923	1100	783	119	56	53
21	16	66	717	1550	815	1000	1010	1210	707	113	50	52
22	18	69	627	1560	789	1180	1120	1520	643	101	46	52
23	19	76	533	2180	768	1440	1070	1960	588	91	43	54
24	20	76	474	1960	744	1270	1230	2380	529	98	44	52
25	20	72	433	2370	712	1300	1230	2360	469	135	42	52
26	21	71	421	2500	683	3460	1190	2070	425	141	43	52
27	22	70	1840	3070	662	2710	1130	2010	401	128	41	51
28	23	69	7330	3030	634	2030	1200	2050	392	121	39	51
29	23	68	4660	2300	---	1710	1390	2240	386	110	42	52
30	24	69	2800	2200	---	1560	1380	2300	366	107	44	52
31	25	---	3080	2810	---	1600	---	2090	---	99	40	---
TOTAL	513	2427	36118	63590	30973	37201	35959	46550	31417	5623	2718	1479
MEAN	16.5	80.9	1165	2051	1106	1200	1199	1502	1047	181	87.7	49.3
MAX	25	186	7330	4150	2610	3460	1720	2380	1840	348	200	54
MIN	13	30	67	1180	634	483	923	1020	366	91	39	40
AC-FT	1020	4810	71640	126100	61430	73790	71320	92330	62320	11150	5390	2930

11519500 SCOTT RIVER NEAR FORT JONES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	106	327	800	1079	1149	1046	1028	1142	717	187	63.1	53.1
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	4.14	10.7	52.7	80.9	99.0	83.3	55.1	121	49.6	7.97	5.52	4.43
(WY)	2002	1995	1995	1977	1977	1977	1977	1977	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL	175228		294568			
ANNUAL MEAN	480		807		639	
HIGHEST ANNUAL MEAN					1496	
LOWEST ANNUAL MEAN					74.9	
HIGHEST DAILY MEAN	7330	Dec 28	7330	Dec 28	39500	Dec 23 1964
LOWEST DAILY MEAN	10	Sep 24	13	Oct 1	3.4	Sep 20 2001
ANNUAL SEVEN-DAY MINIMUM	11	Sep 19	13	Oct 1	3.6	Sep 18 2001
MAXIMUM PEAK FLOW			8250		54600	
MAXIMUM PEAK STAGE			13.97		25.34	
ANNUAL RUNOFF (AC-FT)	347600		584300		462800	
10 PERCENT EXCEEDS	1060		1960		1550	
50 PERCENT EXCEEDS	341		556		302	
90 PERCENT EXCEEDS	12		37		45	

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 mi², approximately (not including Lost River, Butte Creek, or Lower Klamath Lake Basins).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1912 to September 1925, July 1951 to current year. Monthly discharges only for some periods, published in WSP 1315-B.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above NGVD of 1929, 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 ft³/s, Dec. 23, 1964, gage height, 33.75 ft, from floodmarks, from rating curve extended above 49,000 ft³/s, on basis of slope-area measurements at gage heights 20.1 and 29.2 ft; minimum daily, 320 ft³/s, Nov. 25, 1917.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 29	Unknown	16,400	a 11.25	Mar. 26	1600	10,100	8.82
Jan. 14	1215	10,400	8.98				

a From floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	1080	1200	8040	7360	2610	7000	5470	5290	1740	1060	1190
2	1500	1090	1200	6350	6530	2450	6730	5400	4960	1720	1260	1350
3	1520	1100	1180	5770	5660	2360	6320	5660	4880	1700	1310	1360
4	1530	1110	1180	5840	5050	2330	5980	5950	4910	1660	1380	1340
5	1530	1110	1180	6390	4560	2290	5550	5930	4910	1630	1400	1380
6	1540	1120	1180	5830	4210	2250	5250	5820	4710	1610	1360	1340
7	1550	1200	1180	5090	3900	2200	5080	5680	4570	1580	1340	1340
8	1520	1440	1180	4560	3630	2170	5180	5700	4530	1540	1320	1340
9	1520	1510	1190	4090	3420	2200	5270	5630	4350	1510	1280	1360
10	1510	1580	1260	3730	3250	2330	5300	5460	4040	1470	1280	1390
11	1480	1430	1230	3440	3100	2410	5590	5340	3770	1410	1270	1370
12	1340	1380	1230	3780	2890	2480	5700	5360	3450	1270	1250	1360
13	1190	1390	1380	6480	2810	2570	5900	5220	3310	1170	1240	1350
14	1060	1320	2610	9970	2860	3210	5920	5170	3140	1140	1230	1360
15	e1060	1290	5190	8910	2860	5560	5720	5340	3010	1110	1200	1370
16	1050	1260	7070	7300	3270	5890	5390	5160	2900	1090	1200	1370
17	1050	1260	5500	6370	3270	5160	5170	4810	2740	1080	1190	1370
18	1040	1250	3490	5890	3040	4500	5000	4430	2730	1070	1180	1390
19	1040	1240	2720	5500	2910	4030	4870	4150	2690	1050	1170	1410
20	1040	1250	2410	5150	2830	3860	4810	4080	2580	1030	1170	1480
21	1040	1260	2450	4830	2950	3770	4910	4210	2450	1020	1160	1600
22	1050	1260	2350	4700	2910	4130	4990	4640	2260	1000	1160	1600
23	1040	1250	2190	5600	2850	4640	4940	5330	2180	996	1180	1630
24	1050	1240	2050	5200	2810	4360	5140	5960	2120	1020	1170	1630
25	1050	1230	1950	5910	2740	4410	5150	5980	2050	1060	1160	1610
26	1050	1220	e1910	6330	2790	8950	5140	5650	1960	1090	1140	1600
27	1050	1220	e8000	7480	2770	8330	5050	5500	1890	1080	1130	1610
28	1050	1210	e6500	8320	2710	8360	5030	5540	1850	1030	1130	1610
29	1060	1210	e13000	6970	---	8200	5250	5830	1830	999	1150	1600
30	1070	1210	9180	6700	---	7520	5370	5990	1780	982	1140	1620
31	1070	---	10800	7640	---	7160	---	5710	---	994	1140	---
TOTAL	38110	37720	105140	188160	99940	132690	162700	166100	97840	38851	37750	43330
MEAN	1229	1257	3392	6070	3569	4280	5423	5358	3261	1253	1218	1444
MAX	1550	1580	13000	9970	7360	8950	7000	5990	5290	1740	1400	1630
MIN	1040	1080	1180	3440	2710	2170	4810	4080	1780	982	1060	1190
AC-FT	75590	74820	208500	373200	198200	263200	322700	329500	194100	77060	74880	85950

e Estimated.

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2098	3003	4529	5779	6143	6456	5908	5109	3229	1657	1410	1644
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1913 - 2003	
ANNUAL TOTAL	887416		1148331			
ANNUAL MEAN	2431		3146		3902	
HIGHEST ANNUAL MEAN					7434	
LOWEST ANNUAL MEAN					1151	
HIGHEST DAILY MEAN	13000	Dec 29	13000	Dec 29	115000	Dec 23 1964
LOWEST DAILY MEAN	759	Aug 19	982	Jul 30	320	Nov 25 1917
ANNUAL SEVEN-DAY MINIMUM	763	Aug 14	1030	Jul 19	417	Aug 18 1992
MAXIMUM PEAK FLOW			16400	Dec 29	165000	Dec 23 1964
MAXIMUM PEAK STAGE			a 11.25	Dec 29	33.75	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1760000		2278000		2827000	
10 PERCENT EXCEEDS	4440		5940		8050	
50 PERCENT EXCEEDS	1790		2260		2690	
90 PERCENT EXCEEDS	843		1090		1200	

a From floodmarks.

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1955–79, 1999–2001, June 2002 to current year.

CHEMICAL DATA: Water years 1959–66, June 2002 to current year (seasonal only).

DISSOLVED OXYGEN: Water years 2000–01 (daily), June 2002 to current year (seasonal only).

pH: Water years 2000–01 (daily), June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: Water years 2000–01 (daily), June 2002 to current year (seasonal only).

AIR TEMPERATURE: Water years 1999–2001.

WATER TEMPERATURE: Water years 1964–79, 2000–01 (daily), June 2002 to current year (seasonal only).

SEDIMENT DATA: Water years 1955–56.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: January 2000 to September 2001, June 2002 to current year (seasonal only).

pH: January 2000 to September 2001, June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: January 2000 to September 2001, June 2002 to current year (seasonal only).

AIR TEMPERATURE: December 1999 to September 2001.

WATER TEMPERATURE: October 1963 to May 1979, January 2000 to September 2001 (daily), June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since January 2000. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent except for Oct. 25–29, May 20–31, June 10–12, July 24, 25, and Aug. 28–31, which are rated good; Oct. 8–12, 21–24, June 1–3, 13–18, July 26, 27, and Sept. 1–6, which are rated fair; Oct. 13–20, June 19, July 28 to Aug. 6, and Sept. 7–9, which are rated poor. pH records rated excellent. Specific conductance records rated excellent except for June 19 to July 7, which was rated poor. Water temperature records rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 17.8 mg/L, Apr. 13, 2000; minimum recorded, 5.2 mg/L, Aug. 26, 2001.

pH: Maximum recorded, 9.4 standard units, July 2, 2001; minimum recorded, 6.3 standard units, Nov. 16, 2001.

SPECIFIC CONDUCTANCE: Maximum recorded, 414 microsiemens, Feb. 22, 23, 2000; minimum recorded, 117 microsiemens, May 25, 2003.

AIR TEMPERATURE: Maximum recorded, 98° F, Aug. 8, 2001; minimum recorded, 19° F, Feb. 13, 2001.

WATER TEMPERATURE: Maximum recorded, 29.5° C, July 26, 1970; minimum recorded, 0.0° C, Dec. 30, 31, 1978.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 16.9 mg/L, Oct. 31; minimum recorded, 5.7 mg/L, Sept. 12, 13.

pH: Maximum recorded, 9.0 standard units, July 18–20; minimum recorded, 7.7 standard units, Oct. 24–26, 28, and May 30.

SPECIFIC CONDUCTANCE: Maximum recorded, 258 microsiemens, Aug. 1; minimum recorded, 117 microsiemens, May 25.

WATER TEMPERATURE: Maximum recorded, 28.0° C, July 23; minimum recorded, 6.7° C, Nov. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
JUL									
15...	0630	1110	1.3	723	7.8	94	8.3	224	22.0
SEP									
16...	0650	1370	3.6	729	8.7	95	8.1	200	17.5
Date	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end field, mg/L as CaCO3 (39036)	Bicarbonate, wat flt incr. titr., field, mg/L (00453)
JUL									
15...	86	16.9	10.6	2.25	.6	13.4	25	94	114
SEP									
16...	74	14.4	9.22	2.47	.7	13.9	28	76	92

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
JUL 15...	1	5.48	<.2	23.9	10.5	141	.19	140	.35
SEP 16...	1	5.65	<.2	34.4	6.5	134	.19	141	.55

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo-phytin a, phyto-plank- ton, ug/L (62360)	Chloro-phyll a phyto-plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
JUL 15...	<.015	.038	.07	.08	4.8	2.6	e1.2	20	4.5
SEP 16...	e.008	.257	.11	.16	7.6	5.5	5.0	24	4.2

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

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	16.6	13.2	---	---	---	---	---	---	---	---
2	11.6	10.1	16.4	14.3	---	---	---	---	---	---	---	---
3	11.7	9.8	15.1	13.2	---	---	---	---	---	---	---	---
4	11.4	9.4	14.7	12.5	---	---	---	---	---	---	---	---
5	---	---	14.0	12.3	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	13.0	10.7	---	---	---	---	---	---	---	---	---	---
9	13.2	11.2	---	---	---	---	---	---	---	---	---	---
10	13.7	11.6	---	---	---	---	---	---	---	---	---	---
11	14.2	11.7	---	---	---	---	---	---	---	---	---	---
12	14.4	12.0	---	---	---	---	---	---	---	---	---	---
13	14.6	12.1	---	---	---	---	---	---	---	---	---	---
14	14.4	12.2	---	---	---	---	---	---	---	---	---	---
15	14.2	12.1	---	---	---	---	---	---	---	---	---	---
16	14.6	12.2	---	---	---	---	---	---	---	---	---	---
17	13.7	11.3	---	---	---	---	---	---	---	---	---	---
18	12.8	10.5	---	---	---	---	---	---	---	---	---	---
19	12.6	10.4	---	---	---	---	---	---	---	---	---	---
20	12.6	10.3	---	---	---	---	---	---	---	---	---	---
21	14.1	10.5	---	---	---	---	---	---	---	---	---	---
22	15.9	12.9	---	---	---	---	---	---	---	---	---	---
23	15.9	12.8	---	---	---	---	---	---	---	---	---	---
24	16.1	13.6	---	---	---	---	---	---	---	---	---	---
25	15.9	13.3	---	---	---	---	---	---	---	---	---	---
26	14.9	12.5	---	---	---	---	---	---	---	---	---	---
27	15.4	12.4	---	---	---	---	---	---	---	---	---	---
28	14.6	12.2	---	---	---	---	---	---	---	---	---	---
29	14.8	12.1	---	---	---	---	---	---	---	---	---	---
30	14.2	12.1	---	---	---	---	---	---	---	---	---	---
31	16.9	13.1	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	10.7	9.8	8.8	8.0	10.3	7.9	9.7	6.3	10.2	7.0
2	---	---	10.5	9.7	8.8	7.8	10.5	7.9	8.8	6.3	9.8	7.0
3	---	---	10.5	9.8	10.1	7.8	10.6	7.8	10.2	6.9	9.5	6.9
4	---	---	10.7	10.0	9.5	8.6	10.6	7.7	10.2	6.5	9.4	7.3
5	---	---	11.0	9.9	9.6	8.6	10.5	7.6	10.1	6.4	9.7	7.2
6	---	---	10.7	9.7	9.5	8.5	10.4	7.5	10.5	6.6	10.2	7.2
7	---	---	10.6	9.8	9.5	8.4	10.3	6.8	10.4	7.8	10.4	7.3
8	---	---	10.6	9.7	9.3	8.3	8.3	6.8	10.5	7.7	11.0	7.8
9	---	---	10.8	10.1	9.6	8.4	8.4	6.9	10.6	7.7	10.9	6.8
10	---	---	10.8	9.7	9.6	8.4	8.4	6.9	10.6	7.6	7.9	6.5
11	---	---	10.5	9.7	9.8	8.3	8.5	6.9	10.7	7.7	7.5	5.8
12	---	---	10.7	9.3	9.8	8.3	8.6	6.8	10.8	7.7	7.4	5.7
13	---	---	10.5	9.1	9.8	8.4	8.7	7.0	10.8	7.5	7.2	5.7
14	---	---	10.0	8.6	9.9	8.4	8.7	7.0	10.7	7.4	7.6	6.2
15	---	---	9.7	8.6	9.7	8.0	8.7	6.9	10.8	7.6	7.9	6.4
16	---	---	10.1	8.8	9.7	7.6	8.8	7.0	10.8	7.6	---	---
17	---	---	10.1	8.9	9.4	7.4	8.9	6.9	10.8	7.4	11.5	9.6
18	---	---	10.3	9.0	9.4	7.4	8.9	6.8	10.5	7.2	11.5	9.0
19	---	---	10.2	8.7	10.1	7.6	9.0	6.8	10.2	7.1	10.0	8.6
20	---	---	9.9	8.5	9.0	7.9	9.2	6.8	10.2	7.1	9.2	7.7
21	---	---	9.8	8.2	9.0	7.9	9.3	6.8	10.1	7.1	8.9	7.5
22	---	---	9.6	8.2	9.1	8.0	9.1	7.0	9.9	7.1	8.8	7.4
23	---	---	9.1	8.1	9.2	8.0	9.0	6.9	10.0	7.4	8.7	7.4
24	---	---	8.7	8.2	9.3	7.9	8.9	6.8	9.9	7.2	8.7	7.4
25	---	---	9.0	8.6	9.1	7.6	9.2	7.1	9.9	7.1	8.8	7.4
26	---	---	9.1	8.4	9.5	7.6	9.5	7.0	9.8	7.2	9.4	7.5
27	---	---	9.1	8.3	9.4	7.6	9.7	6.9	10.0	7.2	8.9	7.5
28	---	---	8.8	8.2	9.3	7.5	9.8	6.7	9.8	7.3	8.9	7.4
29	10.9	10.1	8.6	8.1	9.3	7.5	9.7	6.6	10.1	7.2	9.8	7.6
30	10.9	10.0	8.6	8.1	9.6	7.6	9.7	6.4	10.1	7.2	---	---
31	---	---	8.8	8.1	---	---	9.7	6.3	10.2	7.1	---	---
MONTH	---	---	11.0	8.1	10.1	7.4	10.6	6.3	10.8	6.3	---	---

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	8.5	7.9	---	---	---	---	---	---	---	---
2	8.4	7.9	8.5	8.1	---	---	---	---	---	---	---	---
3	8.3	7.9	8.5	8.1	---	---	---	---	---	---	---	---
4	8.4	7.8	8.6	8.1	---	---	---	---	---	---	---	---
5	8.4	7.9	8.6	8.1	---	---	---	---	---	---	---	---
6	8.4	7.9	---	---	---	---	---	---	---	---	---	---
7	8.4	7.9	---	---	---	---	---	---	---	---	---	---
8	8.4	7.9	---	---	---	---	---	---	---	---	---	---
9	8.5	7.9	---	---	---	---	---	---	---	---	---	---
10	8.5	7.9	---	---	---	---	---	---	---	---	---	---
11	8.5	7.9	---	---	---	---	---	---	---	---	---	---
12	8.5	8.0	---	---	---	---	---	---	---	---	---	---
13	8.5	8.0	---	---	---	---	---	---	---	---	---	---
14	8.5	8.0	---	---	---	---	---	---	---	---	---	---
15	8.5	8.0	---	---	---	---	---	---	---	---	---	---
16	8.5	8.0	---	---	---	---	---	---	---	---	---	---
17	8.6	8.0	---	---	---	---	---	---	---	---	---	---
18	8.6	8.0	---	---	---	---	---	---	---	---	---	---
19	8.6	8.0	---	---	---	---	---	---	---	---	---	---
20	8.5	8.0	---	---	---	---	---	---	---	---	---	---
21	8.4	7.9	---	---	---	---	---	---	---	---	---	---
22	8.3	7.8	---	---	---	---	---	---	---	---	---	---
23	8.3	7.8	---	---	---	---	---	---	---	---	---	---
24	8.3	7.7	---	---	---	---	---	---	---	---	---	---
25	8.3	7.7	---	---	---	---	---	---	---	---	---	---
26	8.4	7.7	---	---	---	---	---	---	---	---	---	---
27	8.3	7.8	---	---	---	---	---	---	---	---	---	---
28	8.3	7.7	---	---	---	---	---	---	---	---	---	---
29	8.3	7.8	---	---	---	---	---	---	---	---	---	---
30	8.5	7.9	---	---	---	---	---	---	---	---	---	---
31	8.4	7.9	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.5	8.2	8.1	7.8	8.6	8.2	8.8	8.2	8.7	8.2
2	---	---	8.4	8.2	8.2	7.8	8.6	8.2	8.4	8.0	8.7	8.1
3	---	---	8.3	8.1	8.4	7.8	8.6	8.2	8.8	8.0	8.6	8.0
4	---	---	8.3	8.1	8.4	8.0	8.6	8.2	8.8	8.0	8.6	8.0
5	---	---	8.4	8.2	8.4	8.0	8.6	8.2	8.8	8.0	8.6	8.1
6	---	---	8.4	8.2	8.4	8.0	8.6	8.2	8.8	8.1	8.6	8.0
7	---	---	8.4	8.2	8.4	7.9	8.6	8.2	8.7	8.0	8.8	8.2
8	---	---	8.4	8.2	8.4	7.9	8.6	8.2	8.7	8.0	8.8	8.1
9	---	---	8.4	8.2	8.4	8.0	8.6	8.1	8.8	8.1	8.8	8.3
10	---	---	8.4	8.2	8.5	8.0	8.6	8.2	8.8	8.0	8.8	8.2
11	---	---	8.3	8.1	8.6	8.0	8.7	8.2	8.8	8.1	8.8	8.2
12	---	---	8.4	8.1	8.6	8.0	8.8	8.3	8.8	8.1	8.7	8.1
13	---	---	8.4	8.1	8.6	8.0	8.8	8.3	8.8	8.1	8.7	8.2
14	---	---	8.4	8.0	8.6	8.0	8.8	8.3	8.8	8.1	8.8	8.2
15	---	---	8.4	8.0	8.7	8.0	8.8	8.3	8.8	8.1	8.6	8.2
16	---	---	8.4	8.0	8.7	8.0	8.9	8.3	8.8	8.1	8.6	8.1
17	---	---	8.5	8.0	8.6	8.0	8.9	8.3	8.8	8.1	8.6	8.1
18	---	---	8.5	8.0	8.6	8.0	9.0	8.2	8.8	8.1	8.6	8.1
19	---	---	8.4	8.0	8.6	8.0	9.0	8.2	8.8	8.0	8.6	8.1
20	---	---	8.5	7.9	8.6	8.0	9.0	8.2	8.8	8.1	8.6	8.1
21	---	---	8.5	7.9	8.6	8.1	8.8	8.2	8.8	8.1	8.6	8.1
22	---	---	8.4	7.8	8.6	8.1	8.7	8.2	8.7	8.0	8.6	8.1
23	---	---	8.2	7.8	8.6	8.1	8.7	8.1	8.8	8.0	8.6	8.1
24	---	---	8.0	7.8	8.6	8.1	8.7	8.2	8.7	8.0	8.6	8.1
25	---	---	8.0	7.8	8.6	8.1	8.7	8.0	8.7	8.1	8.6	8.1
26	---	---	8.1	7.8	8.6	8.1	8.8	8.2	8.7	8.2	8.6	8.1
27	---	---	8.1	7.8	8.6	8.1	8.9	8.2	8.7	8.2	8.6	8.1
28	---	---	8.1	7.8	8.6	8.1	8.9	8.2	8.7	8.2	8.6	8.1
29	8.4	8.1	8.0	7.8	8.6	8.1	8.9	8.2	8.7	8.1	8.7	8.1
30	8.4	8.2	7.9	7.7	8.6	8.1	8.9	8.2	8.7	8.1	---	---
31	---	---	8.0	7.8	---	---	8.9	8.2	8.7	8.2	---	---
MONTH	---	---	8.5	7.7	8.7	7.8	9.0	8.0	8.8	8.0	---	---

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	247	240	---	---	---	---	---	---	---	---
2	228	219	246	241	---	---	---	---	---	---	---	---
3	232	228	243	240	---	---	---	---	---	---	---	---
4	231	229	241	239	---	---	---	---	---	---	---	---
5	235	230	240	238	---	---	---	---	---	---	---	---
6	233	225	---	---	---	---	---	---	---	---	---	---
7	239	232	---	---	---	---	---	---	---	---	---	---
8	243	233	---	---	---	---	---	---	---	---	---	---
9	237	230	---	---	---	---	---	---	---	---	---	---
10	238	231	---	---	---	---	---	---	---	---	---	---
11	237	228	---	---	---	---	---	---	---	---	---	---
12	238	229	---	---	---	---	---	---	---	---	---	---
13	241	230	---	---	---	---	---	---	---	---	---	---
14	246	241	---	---	---	---	---	---	---	---	---	---
15	247	244	---	---	---	---	---	---	---	---	---	---
16	245	244	---	---	---	---	---	---	---	---	---	---
17	246	244	---	---	---	---	---	---	---	---	---	---
18	246	243	---	---	---	---	---	---	---	---	---	---
19	248	243	---	---	---	---	---	---	---	---	---	---
20	251	244	---	---	---	---	---	---	---	---	---	---
21	244	242	---	---	---	---	---	---	---	---	---	---
22	244	242	---	---	---	---	---	---	---	---	---	---
23	244	239	---	---	---	---	---	---	---	---	---	---
24	243	241	---	---	---	---	---	---	---	---	---	---
25	245	240	---	---	---	---	---	---	---	---	---	---
26	245	234	---	---	---	---	---	---	---	---	---	---
27	245	231	---	---	---	---	---	---	---	---	---	---
28	245	241	---	---	---	---	---	---	---	---	---	---
29	243	241	---	---	---	---	---	---	---	---	---	---
30	246	234	---	---	---	---	---	---	---	---	---	---
31	246	235	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	201	195	138	131	198	194	258	218	203	198
2	---	---	196	192	141	138	201	197	255	215	204	198
3	---	---	192	185	146	140	204	201	215	211	201	198
4	---	---	185	182	145	140	207	203	218	211	202	196
5	---	---	187	182	153	142	208	206	224	218	201	195
6	---	---	184	181	147	143	209	207	225	214	197	192
7	---	---	182	181	145	142	211	207	217	208	195	190
8	---	---	186	182	144	142	210	207	216	211	196	189
9	---	---	186	183	148	144	208	207	216	210	194	190
10	---	---	189	186	155	148	208	207	212	208	195	194
11	---	---	190	188	160	155	211	208	215	209	199	195
12	---	---	191	189	166	159	218	211	216	210	201	197
13	---	---	189	185	163	160	218	217	212	202	200	198
14	---	---	185	175	170	163	219	217	214	210	201	195
15	---	---	175	164	174	169	218	211	217	206	201	196
16	---	---	167	163	174	172	219	211	211	200	201	198
17	---	---	166	162	174	171	223	215	210	204	203	198
18	---	---	168	165	174	171	225	220	210	203	200	198
19	---	---	169	167	178	170	226	223	205	201	203	200
20	---	---	170	167	176	168	225	222	202	201	207	203
21	---	---	167	157	180	176	223	220	206	202	207	199
22	---	---	157	141	182	179	223	220	208	203	201	196
23	---	---	141	129	184	182	225	218	205	203	202	198
24	---	---	130	119	187	183	223	220	206	204	200	198
25	---	---	127	117	191	185	223	215	208	205	199	195
26	---	---	133	127	194	190	225	220	206	201	199	194
27	---	---	133	128	195	192	230	222	204	200	197	194
28	---	---	134	129	197	193	230	220	202	196	197	193
29	188	185	130	124	197	195	228	225	202	196	196	191
30	198	188	128	122	198	194	225	221	202	200	---	---
31	---	---	131	128	---	---	222	219	201	198	---	---
MONTH	---	---	201	117	198	131	230	194	258	196	---	---

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	7.9	7.0	---	---	---	---	---	---	---	---
2	16.2	13.9	7.8	6.7	---	---	---	---	---	---	---	---
3	15.8	14.1	7.9	7.0	---	---	---	---	---	---	---	---
4	17.4	14.9	8.3	7.3	---	---	---	---	---	---	---	---
5	17.6	15.6	8.6	7.8	---	---	---	---	---	---	---	---
6	17.9	15.7	---	---	---	---	---	---	---	---	---	---
7	17.5	15.5	---	---	---	---	---	---	---	---	---	---
8	17.0	14.9	---	---	---	---	---	---	---	---	---	---
9	16.7	14.7	---	---	---	---	---	---	---	---	---	---
10	16.0	14.2	---	---	---	---	---	---	---	---	---	---
11	15.1	13.1	---	---	---	---	---	---	---	---	---	---
12	14.2	12.4	---	---	---	---	---	---	---	---	---	---
13	13.9	12.3	---	---	---	---	---	---	---	---	---	---
14	13.8	12.4	---	---	---	---	---	---	---	---	---	---
15	14.0	12.6	---	---	---	---	---	---	---	---	---	---
16	13.9	12.6	---	---	---	---	---	---	---	---	---	---
17	13.9	12.6	---	---	---	---	---	---	---	---	---	---
18	13.8	12.8	---	---	---	---	---	---	---	---	---	---
19	14.0	12.6	---	---	---	---	---	---	---	---	---	---
20	14.4	13.0	---	---	---	---	---	---	---	---	---	---
21	14.0	12.8	---	---	---	---	---	---	---	---	---	---
22	13.8	12.5	---	---	---	---	---	---	---	---	---	---
23	13.2	12.1	---	---	---	---	---	---	---	---	---	---
24	12.5	11.8	---	---	---	---	---	---	---	---	---	---
25	12.5	11.5	---	---	---	---	---	---	---	---	---	---
26	12.1	11.0	---	---	---	---	---	---	---	---	---	---
27	11.2	10.5	---	---	---	---	---	---	---	---	---	---
28	11.5	10.4	---	---	---	---	---	---	---	---	---	---
29	10.6	9.6	---	---	---	---	---	---	---	---	---	---
30	9.8	8.7	---	---	---	---	---	---	---	---	---	---
31	8.8	7.7	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.3	10.6	16.5	14.6	21.3	19.2	26.8	24.8	23.8	21.4
2	---	---	11.9	11.1	17.2	15.0	21.7	18.7	25.4	23.2	23.8	21.1
3	---	---	11.2	10.5	18.0	15.6	22.1	19.1	23.9	22.6	23.5	21.3
4	---	---	11.2	10.3	18.2	16.0	22.7	19.5	25.1	22.3	22.7	20.4
5	---	---	11.7	10.1	18.3	16.1	23.4	20.2	24.1	22.4	23.5	20.9
6	---	---	11.6	10.9	18.9	16.3	23.7	20.8	23.7	22.0	22.8	20.5
7	---	---	12.6	11.0	19.5	16.9	23.5	21.2	22.9	20.6	21.5	19.8
8	---	---	11.7	10.9	19.6	17.3	22.9	20.4	23.4	21.1	19.8	17.8
9	---	---	11.2	10.2	18.9	16.8	23.3	20.0	23.6	21.4	19.4	17.8
10	---	---	12.5	10.4	19.2	16.6	23.5	20.7	23.3	21.2	20.2	17.6
11	---	---	12.1	11.6	19.2	16.7	23.7	21.0	22.7	20.5	20.8	18.0
12	---	---	13.7	11.4	18.9	16.8	23.5	21.2	22.8	20.3	21.2	18.8
13	---	---	14.9	12.8	18.6	16.2	23.7	21.0	23.6	20.7	20.6	18.4
14	---	---	14.9	13.7	19.1	16.2	24.5	21.0	23.8	21.3	20.2	17.7
15	---	---	14.8	13.4	20.2	16.7	25.0	22.0	23.1	21.2	20.2	18.0
16	---	---	13.6	12.0	21.2	17.8	24.8	21.7	23.1	20.4	19.5	17.6
17	---	---	13.2	11.9	22.1	18.8	25.5	22.0	23.8	20.9	18.6	16.3
18	---	---	13.0	11.2	21.6	19.4	26.2	22.9	24.7	21.7	18.6	15.9
19	---	---	13.8	11.2	19.8	17.8	26.7	23.5	25.4	22.9	19.3	16.7
20	---	---	15.1	12.4	20.0	17.4	26.8	23.6	25.4	22.9	19.4	16.9
21	---	---	16.1	13.5	19.9	17.4	27.2	23.7	24.7	22.6	19.9	17.2
22	---	---	16.3	14.3	19.6	17.1	27.8	24.4	23.8	21.8	19.9	17.3
23	---	---	16.2	14.4	18.8	16.6	28.0	25.0	23.8	20.9	20.1	17.5
24	---	---	15.5	13.5	19.3	15.9	27.8	24.9	24.2	21.3	20.0	17.3
25	---	---	14.4	13.0	20.8	17.0	27.0	24.0	24.3	21.8	19.9	17.3
26	---	---	15.0	13.3	22.2	18.4	26.7	23.5	23.3	21.8	19.6	17.2
27	---	---	15.2	13.7	23.0	19.6	26.7	23.7	23.4	21.3	20.0	17.4
28	---	---	15.9	14.6	23.8	20.5	27.0	23.7	23.8	21.4	19.7	17.4
29	10.2	9.9	16.4	14.8	23.2	21.0	27.5	24.0	23.4	21.0	19.2	17.2
30	11.4	9.6	16.2	14.9	22.5	20.2	27.9	24.5	23.5	21.0	---	---
31	---	---	16.1	14.6	---	---	27.8	24.9	23.6	21.5	---	---
MONTH	---	---	16.4	10.1	23.8	14.6	28.0	18.7	26.8	20.3	---	---

KLAMATH RIVER BASIN

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
07...*	1640	4.20	720	8.8	110	8.6	208	23.6	135
07...*	1645	4.00	720	8.8	110	8.6	208	23.6	105
07...*	1650	3.70	720	8.7	109	8.6	208	23.6	75.0
07...*	1655	3.30	720	8.7	109	8.6	208	23.6	45.0
07...*	1700	3.40	720	8.7	109	8.6	208	23.6	15.0
SEP									
09...*	1440	3.50	720	10.1	115	8.6	194	18.9	154
09...*	1445	3.60	720	10.0	114	8.6	194	18.9	123
09...*	1450	3.40	720	9.9	113	8.6	194	18.9	95.0
09...*	1455	3.10	720	9.8	112	8.6	194	18.9	66.0
09...*	1500	2.80	720	9.8	112	8.6	194	18.9	30.0

* Instantaneous discharge for cross-sectional measurements: July 7, 1590 ft³/s; Sept. 9, 1360 ft³/s.

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 mi².

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 NGVD of 1929. 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 good. 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 ft³/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 ft³/s, on basis of slope-area measurement at gage height 29.0 ft, previous site and datum; minimum discharge observed, 20 ft³/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 ft³/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0215	4,980	10.16	Dec. 27	1445	7,100	11.49

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	33	57	1050	1470	452	920	905	482	140	64	49
2	32	33	55	833	1180	439	813	923	470	135	70	48
3	32	33	55	897	1000	430	748	976	462	130	81	47
4	33	33	55	1260	871	419	742	970	454	126	78	51
5	33	33	56	1340	779	407	687	886	433	122	71	52
6	32	33	55	1040	703	398	667	818	410	119	70	50
7	31	69	55	879	642	391	660	765	397	117	68	49
8	30	172	54	773	596	385	711	729	374	114	66	51
9	30	227	57	692	555	459	783	675	343	110	65	56
10	30	293	91	635	523	581	812	635	318	107	64	59
11	30	185	106	631	498	578	815	616	300	104	63	54
12	30	163	140	1480	475	586	910	612	290	102	63	51
13	30	162	643	2410	465	857	926	657	276	101	62	49
14	30	115	2700	2380	458	1560	830	734	264	99	60	49
15	30	96	1870	1640	577	2100	753	714	253	96	58	48
16	30	86	3180	1280	796	1370	707	635	245	94	57	48
17	30	94	1120	1090	716	1050	668	587	238	91	56	49
18	30	90	700	1060	693	872	623	547	232	89	56	49
19	30	81	531	1040	705	796	589	522	220	86	55	48
20	30	80	527	976	678	771	573	524	211	84	54	47
21	30	90	511	1050	632	730	565	586	204	81	53	46
22	31	91	453	1410	610	1200	539	688	197	80	53	45
23	31	86	405	1680	584	1230	577	742	190	77	53	44
24	31	78	373	1440	558	970	790	733	183	75	53	44
25	31	74	341	1730	535	1150	729	671	176	75	53	43
26	31	68	420	1730	513	2060	779	606	170	73	52	42
27	31	65	3990	2300	489	1390	756	574	166	72	51	42
28	32	62	2280	1670	468	1120	825	603	157	70	51	42
29	32	60	1210	1300	---	985	940	628	151	68	51	42
30	32	58	1220	1630	---	928	933	622	144	66	50	43
31	33	---	1620	1740	---	930	---	539	---	64	49	---
TOTAL	961	2843	24930	41066	18769	27594	22370	21422	8410	2967	1850	1437
MEAN	31.0	94.8	804	1325	670	890	746	691	280	95.7	59.7	47.9
MAX	33	293	3990	2410	1470	2100	940	976	482	140	81	59
MIN	30	33	54	631	458	385	539	522	144	64	49	42
AC-FT	1910	5640	49450	81450	37230	54730	44370	42490	16680	5890	3670	2850

KLAMATH RIVER BASIN

11521500 INDIAN CREEK NEAR HAPPY CAMP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.4	303	611	753	812	777	661	547	260	99.5	59.5	51.2
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	29.2	45.6	45.7	50.5	87.1	170	198	144	63.6	36.5	25.3	24.6
(WY)	2002	1960	1977	1977	1977	1977	2001	2001	2001	1977	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1957 - 2003	
ANNUAL TOTAL	130335		174619			
ANNUAL MEAN	357		478		416	
HIGHEST ANNUAL MEAN					817	
LOWEST ANNUAL MEAN					83.7	
HIGHEST DAILY MEAN	3990	Dec 27	3990	Dec 27	30700	Dec 22 1964
LOWEST DAILY MEAN	30	Oct 8	30	Oct 8	21	Sep 12 1977
ANNUAL SEVEN-DAY MINIMUM	30	Oct 8	30	Oct 8	22	Sep 8 1977
MAXIMUM PEAK FLOW			7100		39000	
MAXIMUM PEAK STAGE			11.49		24.30	
ANNUAL RUNOFF (AC-FT)	258500		346400		301500	
10 PERCENT EXCEEDS	820		1120		960	
50 PERCENT EXCEEDS	172		290		205	
90 PERCENT EXCEEDS	33		33		46	

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 mi².

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 NGVD of 1929. 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 ft³/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 ft³/s; minimum daily, 60 ft³/s, Sept. 21–24, 2001.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0845	11,600	9.81	Jan. 13	2245	13,600	10.58
Dec. 28	0100	23,700	14.51	Mar. 26	0745	15,800	11.50

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	129	300	6520	5730	1580	4650	4050	3760	958	361	201
2	124	130	288	4770	4800	1520	4160	4020	3690	906	387	197
3	126	131	278	4330	4160	1480	3730	4030	3770	878	503	194
4	130	133	275	4740	3680	1430	3600	4250	3940	846	475	212
5	130	132	289	5430	3310	1380	3310	3960	3850	819	431	213
6	128	133	296	4670	3020	1340	3180	3790	3630	800	384	201
7	125	197	288	4260	2760	1310	3070	3610	3640	794	380	195
8	120	842	276	3840	2550	1270	3300	3540	3470	772	364	203
9	117	1020	275	3510	2360	1380	3610	3300	3170	716	347	228
10	115	976	368	3260	2200	1800	3730	3110	2810	682	334	266
11	115	708	387	3110	2080	1830	3960	3040	2530	669	323	245
12	117	559	424	4340	1970	2000	4090	2990	2360	663	315	224
13	118	695	825	8710	1960	2110	3950	3260	2150	640	308	211
14	119	504	5890	10700	2010	3240	3680	3810	1960	608	298	201
15	120	408	5090	7350	2030	5200	3440	4110	1820	600	285	196
16	118	364	8220	5600	2650	4520	3250	3740	1840	596	277	192
17	116	371	4100	4830	2340	3800	3170	3430	1920	575	270	195
18	115	359	2580	4750	2210	3290	2960	3180	1950	553	263	195
19	116	331	1950	4550	2240	3020	2810	2970	1790	533	255	192
20	119	348	1870	4220	2160	2850	2790	3080	1590	517	247	188
21	120	468	2350	3910	2120	2670	2970	3540	1410	495	242	185
22	123	500	1860	4070	2080	3700	2910	4580	1310	486	238	179
23	123	446	1500	5210	2020	4470	2970	5300	1230	477	242	174
24	124	401	1290	4440	1960	3840	4090	5620	1160	468	240	171
25	126	366	1120	6210	1890	4490	4040	4950	1110	459	233	168
26	128	340	1130	5980	1810	12800	4110	4460	1100	445	225	165
27	128	317	9370	7360	1730	8220	4040	4390	1130	419	222	162
28	128	311	17100	6340	1650	6170	4060	4550	1150	390	218	160
29	128	314	8400	5130	---	5230	4100	4870	1130	373	215	160
30	126	310	6850	5580	---	4860	4100	4740	1040	360	213	164
31	127	---	10400	6380	---	4790	---	4290	---	370	207	---
TOTAL	3791	12243	95639	164100	71480	107590	107830	122560	67410	18867	9302	5837
MEAN	122	408	3085	5294	2553	3471	3594	3954	2247	609	300	195
MAX	130	1020	17100	10700	5730	12800	4650	5620	3940	958	503	266
MIN	115	129	275	3110	1650	1270	2790	2970	1040	360	207	160
AC-FT	7520	24280	189700	325500	141800	213400	213900	243100	133700	37420	18450	11580

KLAMATH RIVER BASIN

11522500 SALMON RIVER AT SOMES BAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	340	1084	2176	2966	2959	2932	2996	3105	1906	618	261	201
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	102	130	175	190	255	448	710	786	402	146	81.6	80.2
(WY)	2002	1937	1937	1937	1977	1977	1977	1977	1992	1931	1931	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1912 - 2003	
ANNUAL TOTAL	557041		786649			
ANNUAL MEAN	1526		2155		1789	
HIGHEST ANNUAL MEAN					3754	
LOWEST ANNUAL MEAN					339	
HIGHEST DAILY MEAN	17100	Dec 28	17100	Dec 28	100000	Dec 22 1964
LOWEST DAILY MEAN	111	Sep 27	115	Oct 10	60	Sep 21 2001
ANNUAL SEVEN-DAY MINIMUM	114	Sep 23	117	Oct 8	61	Sep 18 2001
MAXIMUM PEAK FLOW			23700	Dec 28	133000	Dec 22 1964
MAXIMUM PEAK STAGE			14.51	Dec 28	46.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1105000		1560000		1296000	
10 PERCENT EXCEEDS	3510		4780		4210	
50 PERCENT EXCEEDS	1050		1380		1020	
90 PERCENT EXCEEDS	125		133		179	

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 mi², not including Lost River or Lower Klamath Lake Basins.

WATER-DISCHARGE RECORDS

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."

REVISED RECORDS.—WSP 1565: 1935(M), 1949.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 353.98 ft above NGVD of 1929. 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 ft³/s, Dec. 22, 1964, gage height, 76.5 ft, from floodmarks, site and datum then in use, from rating curve extended above 80,000 ft³/s, on basis of slope-conveyance study, gage height, 59.4 ft; minimum daily, 320 ft³/s, Aug. 25, Sept. 1, 1931.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 40,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 27	1845	e56,000	Unknown	Mar. 26	1130	41,000	16.34
Jan. 14	0045	42,900	16.70				

e Estimated on basis of peak flows recorded at nearby streams.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	1510	1930	e23000	23200	7180	18500	16300	12400	3570	2040	1870
2	1810	1530	1910	e20000	19900	6820	17300	16300	11800	3470	2120	1910
3	1850	1540	1900	17500	17000	6510	15900	16400	11600	3400	2390	2000
4	1870	1550	1890	20000	15000	6310	15500	17100	11800	3350	2400	2030
5	1870	1550	1900	23200	13400	6090	14400	16400	11700	3270	2400	2050
6	1870	1550	1910	17900	12200	5900	13800	15600	11100	3220	2350	2040
7	1880	1700	1900	16600	11200	5750	13200	14900	10800	3180	2320	2000
8	1870	3370	1880	15300	10300	5600	13700	14500	10400	3120	2280	2010
9	1840	3830	1900	13800	9540	5980	14800	14000	9790	3030	2230	2060
10	1850	4790	2190	12600	8960	7610	15100	13300	8940	2960	2190	2140
11	1840	3790	2350	12000	8450	7660	15700	13000	8180	2910	2170	2100
12	1800	2970	2570	16900	7980	7950	16400	12800	7570	2820	2160	2050
13	1690	3360	4890	31200	7670	8370	16500	13100	7040	2690	2130	2020
14	1580	2670	20000	39600	7740	13900	15700	14000	6630	2590	2120	2000
15	1490	2350	21600	31200	7980	20900	14800	14300	6280	2550	2080	2000
16	1490	2210	20700	24200	11700	20500	14000	13600	6130	2520	2050	1990
17	1480	2220	16100	20300	11400	16500	13400	12600	5980	2480	2040	2000
18	1490	2230	12400	19000	10500	14200	12600	11600	5880	2440	2030	2000
19	1480	2120	9140	17800	10300	12700	12000	10700	5690	2400	2010	2010
20	1480	2090	8270	16500	9980	12300	11700	10500	5390	2370	1990	2020
21	1480	2250	9440	15800	9560	11600	12000	11300	5060	2330	1970	2080
22	1490	2310	8010	16400	9370	14400	11800	13200	4770	2290	1960	2130
23	1490	2230	6730	21300	9050	18200	11900	15100	4490	2260	1970	2140
24	1500	2150	5890	18400	8690	15400	15400	16400	4330	2240	1980	2150
25	1500	2080	5240	23000	8370	15500	15000	15600	4180	2240	1960	2140
26	1500	2030	5620	22800	8020	36400	16000	14400	4070	2250	1930	2120
27	1500	1990	e50000	28800	7790	30100	15800	13800	3980	2240	1910	2110
28	1500	1960	e38000	27000	7460	24300	15700	13900	3910	2200	1890	2110
29	1500	1950	e32000	22200	---	21900	16300	14600	3840	2140	1890	2100
30	1500	1950	e37000	21900	---	20100	16500	14800	3700	2090	1890	2100
31	1510	---	e28000	25400	---	19100	---	13900	---	2040	1870	---
TOTAL	50780	69830	363260	651600	302710	425730	441400	438000	217430	82660	64720	61480
MEAN	1638	2328	11720	21020	10810	13730	14710	14130	7248	2666	2088	2049
MAX	1880	4790	50000	39600	23200	36400	18500	17100	12400	3570	2400	2150
MIN	1480	1510	1880	12000	7460	5600	11700	10500	3700	2040	1870	1870
AC-FT	100700	138500	720500	1292000	600400	844400	875500	868800	431300	164000	128400	121900

e Estimated.

KLAMATH RIVER BASIN

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2977	5930	10610	13780	14010	13860	12680	10990	6475	2799	2046	2190
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1928 - 2003	
ANNUAL TOTAL	2295970		3169600			
ANNUAL MEAN	6290		8684		8168	
HIGHEST ANNUAL MEAN					17030	
LOWEST ANNUAL MEAN					2520	
HIGHEST DAILY MEAN	50000	Dec 27	50000	Dec 27	240000	Dec 23 1964
LOWEST DAILY MEAN	1220	Aug 16	1480	Oct 17	320	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	1220	Aug 15	1480	Oct 15	453	Aug 1 1931
MAXIMUM PEAK FLOW			e56000	Dec 27	307000	Dec 22 1964
MAXIMUM PEAK STAGE			Unknown	Dec 27	76.50	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	4554000		6287000		5917000	
10 PERCENT EXCEEDS	12900		18700		17900	
50 PERCENT EXCEEDS	3680		5880		4850	
90 PERCENT EXCEEDS	1290		1870		1870	

e Estimated on basis of peak flows recorded at nearby streams.

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1967–79, June 2002 to current year.

CHEMICAL DATA: June 2002 to current year (seasonal only).

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: Water years 1964–79 (daily). June 2002 to current year (seasonal only).

SEDIMENT DATA: Water years 1967–79.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: October 1963 to May 1979 (daily). June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen record rated excellent except for June 10–12, July 27–29, Aug. 12–15, 27–30, which are rated good; June 13–16, July 30 to Aug. 4, 16–18, Aug. 31 to Sept. 4, which are rated fair; May 14 to June 3, June 17–20, Aug. 5–7, 19–20, Sept. 5–30, which are rated poor. pH record rated excellent except for Oct. 31 to Nov. 5, which is rated good. Specific conductance record rated excellent, except for May 3–6, which are rated good; May 7–10, which are rated fair; May 11–14, which are rated poor. Water temperature record rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 12.3 mg/L, Sept. 21–23, 2002; minimum recorded, 6.8 mg/L, July 31, 2003.

pH: Maximum recorded, 8.6 standard units, July 29, 2002; minimum recorded, 7.8 standard units, several days during 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 235 microsiemens, Nov. 4, 2002; minimum recorded, 93 microsiemens, May 24, 2003.

WATER TEMPERATURE: Maximum recorded, 26.2°C, July 24, 30, 31, 2003; minimum recorded, 6.8°C, Nov. 4, 2002.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 12.2 mg/L, May 5; minimum recorded, 6.8 mg/L, July 31.

pH: Maximum recorded, 8.6 standard units, several days during the year; minimum recorded, 7.8 standard units, several days during the year.

SPECIFIC CONDUCTANCE: Maximum recorded, 235 microsiemens, Nov. 4; minimum recorded, 93 microsiemens, May 24.

WATER TEMPERATURE: Maximum recorded, 26.2°C, July 24, 30, 31; minimum recorded, 6.8°C, Nov. 4.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfiltered, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, field, std units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, deg C (00010)
JUL									
16...	0650	2510	2.3	756	8.6	98	8.2	177	21.5
SEP									
17...	0720	1990	4.4	758	9.4	100	8.3	189	18.0
Date	Hardness, water, unfiltered, mg/L as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, adsorption, ratio (00931)	Sodium, water, filtered, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water filtered, inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, water filtered, inc tit, titr., field, mg/L (00453)
JUL									
16...	74	16.0	8.19	1.47	.4	8.18	19	86	104
SEP									
17...	75	15.6	8.69	1.99	.6	11.3	24	90	109

KLAMATH RIVER BASIN

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
JUL 16...	0	3.78	<.2	19.8	7.0	116	.16	120	.16
SEP 17...	0	5.23	<.2	29.2	5.9	132	.19	136	.36

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
JUL 16...	<.015	<.022	.03	.04	2.3	1.5	e.8	14	1.4
SEP 17...	<.015	e.018	.06	.11	8.1	5.7	9.7	19	1.8

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

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	11.1	9.5	---	---	---	---	---	---	---	---	---	---
3	11.1	9.5	---	---	---	---	---	---	---	---	---	---
4	11.2	9.5	---	---	---	---	---	---	---	---	---	---
5	11.3	9.4	---	---	---	---	---	---	---	---	---	---
6	11.2	9.2	---	---	---	---	---	---	---	---	---	---
7	11.1	9.2	---	---	---	---	---	---	---	---	---	---
8	11.1	9.1	---	---	---	---	---	---	---	---	---	---
9	11.2	9.2	---	---	---	---	---	---	---	---	---	---
10	11.2	9.3	---	---	---	---	---	---	---	---	---	---
11	11.5	9.5	---	---	---	---	---	---	---	---	---	---
12	11.6	9.7	---	---	---	---	---	---	---	---	---	---
13	11.6	9.9	---	---	---	---	---	---	---	---	---	---
14	11.5	9.9	---	---	---	---	---	---	---	---	---	---
15	11.4	9.7	---	---	---	---	---	---	---	---	---	---
16	11.0	9.8	---	---	---	---	---	---	---	---	---	---
17	11.0	9.7	---	---	---	---	---	---	---	---	---	---
18	10.9	9.6	---	---	---	---	---	---	---	---	---	---
19	10.7	9.5	---	---	---	---	---	---	---	---	---	---
20	10.5	9.2	---	---	---	---	---	---	---	---	---	---
21	10.2	9.0	---	---	---	---	---	---	---	---	---	---
22	10.0	8.9	---	---	---	---	---	---	---	---	---	---
23	9.9	8.7	---	---	---	---	---	---	---	---	---	---
24	9.5	8.6	---	---	---	---	---	---	---	---	---	---
25	9.3	8.4	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.8	11.3	10.6	10.3	9.4	8.4	8.1	6.9	9.5	7.7
2	---	---	11.6	11.3	10.4	10.2	9.6	8.5	8.0	6.9	9.5	7.8
3	---	---	11.6	11.3	11.0	10.2	9.7	8.8	8.4	7.2	8.9	7.8
4	---	---	12.0	11.6	10.6	10.0	9.6	8.6	8.4	7.2	9.5	7.9
5	---	---	12.2	11.6	10.5	9.9	9.5	8.5	8.6	7.3	9.4	7.8
6	---	---	11.9	11.6	10.3	9.7	9.3	8.3	8.6	7.3	9.3	7.8
7	---	---	11.8	11.4	10.2	9.5	9.1	8.2	9.1	7.5	9.1	7.9
8	---	---	11.8	11.4	10.0	9.4	9.1	8.2	9.1	7.6	9.5	8.1
9	---	---	12.1	11.7	10.0	9.4	9.1	8.2	9.1	7.8	9.3	8.0
10	---	---	12.1	11.5	10.1	9.5	9.1	8.2	9.2	7.8	9.6	8.9
11	---	---	11.8	11.4	10.0	9.4	9.2	8.2	9.3	7.8	9.6	8.8
12	---	---	11.8	11.1	10.1	9.4	9.2	8.2	9.4	7.9	9.4	8.7
13	---	---	11.5	10.8	10.2	9.5	9.2	8.2	9.2	7.7	9.5	8.7
14	---	---	11.3	10.4	10.1	9.4	9.2	8.2	9.3	7.7	9.5	8.7
15	---	---	11.1	10.4	10.1	9.3	9.1	8.1	9.5	7.8	9.5	8.7
16	---	---	11.4	10.8	9.8	8.9	9.2	8.1	9.6	7.9	9.5	8.7
17	---	---	11.6	11.0	9.5	8.6	9.2	8.1	9.6	7.9	9.6	8.9
18	---	---	11.9	11.2	9.3	8.7	9.1	8.0	9.7	7.9	9.7	8.9
19	---	---	12.0	11.3	9.3	8.7	9.0	7.9	9.7	7.8	9.6	8.9
20	---	---	11.8	11.2	9.7	8.8	9.0	7.8	9.7	7.9	9.6	8.9
21	---	---	11.6	11.0	9.7	9.1	8.8	7.4	9.2	7.4	9.6	8.8
22	---	---	11.4	11.0	9.7	9.1	8.4	7.3	9.3	7.3	9.6	8.8
23	---	---	11.4	10.9	9.8	9.1	8.4	7.2	9.5	7.6	9.6	8.8
24	---	---	11.2	10.9	10.0	9.2	8.2	7.1	9.6	7.5	9.4	8.7
25	---	---	11.3	11.1	9.9	9.0	8.3	7.1	9.6	7.6	9.6	8.8
26	---	---	11.3	10.9	9.7	8.7	8.4	7.2	9.6	7.7	9.6	8.8
27	---	---	11.2	10.8	9.4	8.4	8.4	7.2	9.8	7.8	9.7	8.8
28	---	---	11.0	10.7	9.2	8.0	8.4	7.2	9.7	7.6	9.7	8.8
29	11.9	11.6	10.8	10.6	9.1	8.1	8.3	7.0	9.9	7.6	9.8	8.8
30	12.1	11.5	10.7	10.4	9.2	8.3	8.2	6.9	9.6	7.9	9.8	9.0
31	---	---	10.6	10.4	---	---	8.2	6.8	9.6	7.8	---	---
MONTH	---	---	12.2	10.4	11.0	8.0	9.7	6.8	9.9	6.9	9.8	7.7

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	210	207	225	224	---	---	---	---	---	---	---	---
2	207	205	225	217	---	---	---	---	---	---	---	---
3	206	204	230	217	---	---	---	---	---	---	---	---
4	211	206	235	224	---	---	---	---	---	---	---	---
5	219	211	---	---	---	---	---	---	---	---	---	---
6	219	218	---	---	---	---	---	---	---	---	---	---
7	219	218	---	---	---	---	---	---	---	---	---	---
8	221	219	---	---	---	---	---	---	---	---	---	---
9	224	220	---	---	---	---	---	---	---	---	---	---
10	224	222	---	---	---	---	---	---	---	---	---	---
11	224	223	---	---	---	---	---	---	---	---	---	---
12	229	223	---	---	---	---	---	---	---	---	---	---
13	224	222	---	---	---	---	---	---	---	---	---	---
14	222	221	---	---	---	---	---	---	---	---	---	---
15	223	221	---	---	---	---	---	---	---	---	---	---
16	225	222	---	---	---	---	---	---	---	---	---	---
17	227	225	---	---	---	---	---	---	---	---	---	---
18	231	223	---	---	---	---	---	---	---	---	---	---
19	227	224	---	---	---	---	---	---	---	---	---	---
20	227	223	---	---	---	---	---	---	---	---	---	---
21	228	224	---	---	---	---	---	---	---	---	---	---
22	226	223	---	---	---	---	---	---	---	---	---	---
23	227	225	---	---	---	---	---	---	---	---	---	---
24	226	223	---	---	---	---	---	---	---	---	---	---
25	225	223	---	---	---	---	---	---	---	---	---	---
26	225	223	---	---	---	---	---	---	---	---	---	---
27	225	223	---	---	---	---	---	---	---	---	---	---
28	225	223	---	---	---	---	---	---	---	---	---	---
29	225	222	---	---	---	---	---	---	---	---	---	---
30	225	224	---	---	---	---	---	---	---	---	---	---
31	225	224	---	---	---	---	---	---	---	---	---	---
MONTH	231	204	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	157	152	108	103	164	162	191	190	192	189
2	---	---	157	151	109	107	165	163	191	188	189	187
3	---	---	151	146	109	107	166	164	194	185	192	189
4	---	---	146	139	109	106	169	166	204	185	196	186
5	---	---	143	140	108	104	171	169	185	184	197	187
6	---	---	144	142	109	107	172	170	189	184	190	188
7	---	---	144	141	109	107	172	167	194	189	190	188
8	---	---	142	140	111	107	169	168	194	192	188	185
9	---	---	143	140	113	109	171	169	193	189	185	182
10	---	---	144	142	118	113	172	171	192	189	183	181
11	---	---	144	142	124	118	173	171	193	192	183	180
12	---	---	143	142	127	124	173	170	192	190	185	183
13	---	---	142	133	131	127	173	171	198	190	188	185
14	---	---	133	124	135	131	174	172	195	193	190	187
15	---	---	131	125	139	135	176	174	195	188	189	188
16	---	---	126	124	141	139	176	175	192	191	190	188
17	---	---	128	125	142	138	176	175	192	190	190	187
18	---	---	130	128	140	136	178	176	192	191	189	189
19	---	---	132	130	140	138	180	178	192	190	191	189
20	---	---	132	131	142	140	182	180	193	191	191	190
21	---	---	131	123	146	142	183	177	193	190	193	190
22	---	---	123	109	150	146	181	178	190	190	197	193
23	---	---	109	100	152	150	181	179	191	190	198	192
24	---	---	100	93	155	152	181	179	190	189	194	192
25	---	---	100	95	158	155	181	180	190	188	195	193
26	---	---	104	98	160	158	183	181	190	189	195	194
27	---	---	105	102	160	158	184	182	191	190	194	193
28	---	---	105	101	160	156	188	183	192	190	194	192
29	157	151	102	98	160	157	190	188	190	188	194	192
30	153	150	99	95	162	159	193	189	190	187	194	191
31	---	---	103	97	---	---	194	190	189	186	---	---
MONTH	---	---	157	93	162	103	194	162	204	184	198	180

KLAMATH RIVER BASIN

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.9	15.9	8.8	7.8	---	---	---	---	---	---	---	---
2	15.9	14.9	7.9	7.2	---	---	---	---	---	---	---	---
3	15.4	14.6	7.4	6.9	---	---	---	---	---	---	---	---
4	16.0	14.7	7.3	6.8	---	---	---	---	---	---	---	---
5	16.7	15.3	---	---	---	---	---	---	---	---	---	---
6	17.4	16.2	---	---	---	---	---	---	---	---	---	---
7	17.4	16.5	---	---	---	---	---	---	---	---	---	---
8	17.4	16.4	---	---	---	---	---	---	---	---	---	---
9	17.1	16.1	---	---	---	---	---	---	---	---	---	---
10	16.6	15.7	---	---	---	---	---	---	---	---	---	---
11	15.9	14.6	---	---	---	---	---	---	---	---	---	---
12	15.0	13.9	---	---	---	---	---	---	---	---	---	---
13	14.2	13.5	---	---	---	---	---	---	---	---	---	---
14	13.8	13.3	---	---	---	---	---	---	---	---	---	---
15	13.7	13.0	---	---	---	---	---	---	---	---	---	---
16	13.6	12.9	---	---	---	---	---	---	---	---	---	---
17	13.5	12.9	---	---	---	---	---	---	---	---	---	---
18	13.4	12.9	---	---	---	---	---	---	---	---	---	---
19	13.6	13.0	---	---	---	---	---	---	---	---	---	---
20	14.0	13.4	---	---	---	---	---	---	---	---	---	---
21	13.9	13.3	---	---	---	---	---	---	---	---	---	---
22	13.7	13.1	---	---	---	---	---	---	---	---	---	---
23	13.4	12.9	---	---	---	---	---	---	---	---	---	---
24	13.1	12.6	---	---	---	---	---	---	---	---	---	---
25	12.7	12.2	---	---	---	---	---	---	---	---	---	---
26	12.4	11.9	---	---	---	---	---	---	---	---	---	---
27	11.9	11.2	---	---	---	---	---	---	---	---	---	---
28	11.4	11.0	---	---	---	---	---	---	---	---	---	---
29	11.1	10.6	---	---	---	---	---	---	---	---	---	---
30	10.6	9.7	---	---	---	---	---	---	---	---	---	---
31	9.7	8.8	---	---	---	---	---	---	---	---	---	---
MONTH	17.4	8.8	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.0	9.9	15.5	14.3	21.4	19.9	25.9	25.2	23.4	22.6
2	---	---	11.0	10.6	16.2	14.8	20.6	19.0	25.5	24.3	23.4	22.5
3	---	---	10.8	10.3	16.8	15.3	20.4	18.7	24.8	23.8	23.3	21.9
4	---	---	10.3	9.6	17.3	15.9	21.0	19.0	24.7	23.4	23.0	21.8
5	---	---	10.6	9.4	17.4	16.1	21.5	19.6	23.6	22.7	23.0	22.2
6	---	---	10.5	10.0	17.9	16.4	22.2	20.2	23.4	22.3	23.0	22.2
7	---	---	11.3	10.2	18.4	16.7	22.1	20.8	22.8	21.6	22.3	21.0
8	---	---	11.1	10.3	18.8	17.1	21.9	20.4	22.8	21.7	21.0	19.8
9	---	---	10.5	9.9	18.4	17.2	22.1	20.4	22.7	21.6	19.8	18.9
10	---	---	11.3	9.8	18.2	16.7	22.1	20.6	22.7	21.6	19.7	18.4
11	---	---	11.2	10.9	18.3	16.8	22.2	20.7	22.3	21.3	20.1	18.8
12	---	---	12.5	11.0	17.7	16.7	22.3	21.0	21.9	20.9	20.4	19.5
13	---	---	13.6	12.1	17.6	16.2	22.4	21.3	22.2	21.0	20.3	19.2
14	---	---	13.9	12.8	17.9	16.4	22.5	21.3	22.4	21.4	20.2	19.2
15	---	---	13.5	12.4	18.2	16.3	22.7	21.6	22.4	21.6	19.9	19.2
16	---	---	12.5	11.6	19.4	17.1	22.7	21.6	22.6	21.8	19.6	18.7
17	---	---	12.1	11.2	20.2	18.3	23.3	21.6	22.9	21.9	18.7	17.8
18	---	---	11.8	10.9	19.8	18.6	23.8	22.4	23.5	22.2	18.2	17.0
19	---	---	12.3	10.9	19.5	18.3	24.1	22.9	23.9	23.0	18.5	17.4
20	---	---	13.5	11.7	19.0	17.5	24.8	23.2	24.2	23.3	19.0	17.9
21	---	---	14.6	12.8	18.7	17.0	25.3	24.1	24.2	23.4	19.3	18.1
22	---	---	14.8	13.5	18.8	17.2	25.8	24.6	23.9	22.8	19.6	18.3
23	---	---	14.9	13.6	18.4	17.0	25.9	25.0	23.2	22.5	19.8	18.4
24	---	---	14.7	13.5	18.4	16.5	26.2	25.2	23.3	22.4	19.8	18.5
25	---	---	13.7	13.0	19.2	16.9	26.0	24.9	23.3	22.4	19.8	18.5
26	---	---	14.2	12.9	20.5	18.0	25.5	24.3	23.3	22.6	19.8	18.4
27	---	---	14.4	13.3	21.6	19.3	25.3	24.2	23.1	22.2	19.6	18.4
28	---	---	14.7	13.9	22.4	20.2	25.5	24.1	23.1	22.3	19.6	18.4
29	9.5	9.3	15.1	14.3	22.3	20.7	25.8	24.6	22.7	21.7	19.2	18.4
30	10.7	9.3	15.6	14.3	21.8	20.5	26.2	25.0	23.1	22.1	19.1	18.0
31	---	---	15.4	14.5	---	---	26.2	25.5	23.2	22.4	---	---
MONTH	---	---	15.6	9.4	22.4	14.3	26.2	18.7	25.9	20.9	23.4	17.0

11523000 KLAMATH RIVER AT ORLEANS, CA—Continued

CROSS SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC uS/cm (00095)	Temperature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
07...*	1435	11.6	747	9.1	105	8.3	164	21.5	210
07...*	1440	10.1	747	9.1	105	8.3	164	21.5	160
07...*	1445	10.0	747	9.1	105	8.3	164	21.5	120
07...*	1450	9.80	747	9.0	104	8.3	164	21.5	80.0
07...*	1455	10.5	747	9.0	104	8.3	164	21.5	40.0
SEP									
09...*	1245	8.80	747	9.4	103	8.2	186	18.9	218
09...*	1250	7.60	747	9.5	104	8.2	186	18.9	182
09...*	1255	8.30	747	9.5	104	8.2	186	18.9	154
09...*	1300	7.50	747	9.4	103	8.2	185	18.9	123
09...*	1305	8.30	747	9.4	103	8.2	186	18.9	83.0

* Instantaneous discharge at the time of the cross-sectional measurements: July 7, 3200 ft³/s; Sept. 9, 2060 ft³/s.

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 mi².

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 NGVD of 1929. 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 ft³/s, Jan. 16, 1974, gage height, 12.96 ft, site and datum then in use, from rating curve extended above 4,500 ft³/s, on basis of slope-area measurement of peak flow, maximum gage height, 16.82 ft, Jan. 1, 1997, present datum; minimum daily, 16 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1600	5,490	9.62	Jan. 22	2145	2,580	7.37
Dec. 28	0345	4,670	9.06	Mar. 15	0345	4,720	9.09
Jan. 13	1815	2,480	7.27	May 23	2015	3,360	8.05

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	36	50	561	1220	329	1210	1110	1800	256	73	38
2	36	36	48	457	1020	316	983	1100	1770	236	122	34
3	37	37	47	408	848	311	813	1150	1770	221	150	34
4	39	37	47	416	733	301	736	1180	1790	208	168	39
5	38	36	48	394	646	294	635	1080	1670	198	105	40
6	36	36	48	403	575	292	579	1030	1600	190	93	37
7	34	228	47	425	517	293	545	1030	1640	182	91	36
8	32	309	45	436	473	296	581	1030	1550	172	85	38
9	31	162	57	439	436	335	673	898	1380	160	81	43
10	31	130	90	527	408	378	769	859	1250	151	77	48
11	31	103	69	704	389	436	986	870	1120	145	71	37
12	31	102	67	1740	374	498	1220	939	1050	138	66	34
13	32	113	292	2280	401	758	1190	1190	930	133	68	34
14	31	89	2680	2110	444	1540	1070	1530	832	130	66	33
15	31	80	1590	1480	579	2980	971	1660	788	125	61	32
16	31	71	2590	1040	745	1470	926	1480	797	118	57	31
17	30	70	822	954	607	1030	861	1290	794	110	60	29
18	31	66	482	1090	543	824	825	1130	755	105	57	30
19	31	64	368	1100	524	718	811	1060	665	101	52	30
20	32	85	327	1020	492	643	846	1180	569	97	48	30
21	33	94	278	940	468	592	941	1570	501	92	51	28
22	34	87	232	1550	457	758	918	2230	446	91	55	26
23	34	75	210	1920	437	823	971	2710	403	86	56	22
24	35	68	196	1360	419	708	1220	2840	369	142	48	23
25	36	64	185	1250	400	741	1070	2360	344	109	43	25
26	36	59	190	1260	381	1160	949	2210	339	97	43	25
27	35	56	982	1670	362	932	889	2180	339	88	44	25
28	34	54	4060	1490	344	805	1130	2330	331	80	45	24
29	34	54	1760	1100	---	780	1200	2450	311	74	45	24
30	34	52	972	967	---	913	1120	2220	282	72	42	26
31	35	---	738	1130	---	1140	---	2000	---	73	39	---
TOTAL	1033	2553	19617	32621	15242	23394	27638	47896	28185	4180	2162	955
MEAN	33.3	85.1	633	1052	544	755	921	1545	940	135	69.7	31.8
MAX	39	309	4060	2280	1220	2980	1220	2840	1800	256	168	48
MIN	28	36	45	394	344	292	545	859	282	72	39	22
AC-FT	2050	5060	38910	64700	30230	46400	54820	95000	55900	8290	4290	1890

11523200 TRINITY RIVER ABOVE COFFEE CREEK, NEAR TRINITY CENTER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	74.5	203	333	473	567	671	865	1060	509	132	55.2	44.0
MAX	447	1664	1726	1899	2248	1641	1558	2414	2159	778	205	134
(WY)	1963	1974	1965	1974	1958	1995	2000	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003	
ANNUAL TOTAL	141288		205476			
ANNUAL MEAN	387		563		414	
HIGHEST ANNUAL MEAN					851	
LOWEST ANNUAL MEAN					66.2	
HIGHEST DAILY MEAN	4460	Jan 2	4060	Dec 28	18900	Jan 16 1974
LOWEST DAILY MEAN	23	Sep 26	22	Sep 23	16	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	27	Sep 22	24	Sep 23	16	Sep 8 1977
MAXIMUM PEAK FLOW			5490	Dec 14	26500	Jan 16 1974
MAXIMUM PEAK STAGE			9.62	Dec 14	16.82	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	280200		407600		300200	
10 PERCENT EXCEEDS	845		1480		1060	
50 PERCENT EXCEEDS	204		329		173	
90 PERCENT EXCEEDS	33		34		37	

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, and 9 mi north of Lewiston.

DRAINAGE AREA.—692 mi².

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 2,389.95 ft above NGVD of 1929 (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 HOURS) 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 HOURS) FOR CURRENT YEAR.—Maximum contents, 2,408,421 acre-ft, June 12, elevation, 2,367.61 ft; minimum, 1,387,863 acre-ft, Dec. 12, elevation, 2,295.24 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	2,190	529,611	2,310	1,583,586	2,380	2,616,989
2,140	292,859	2,250	955,140				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1493277	1404800	1392306	1581474	1893048	1940531	2040579	2223313	2359933	2363135	2246424	2063838
2	1486206	1404339	1391964	1585958	1898776	1941099	2044244	2227772	2365697	2359773	2241170	2056607
3	1479051	1403305	1391509	1590079	1902838	1941383	2047186	2232391	2371814	2356251	2237472	2049100
4	1472382	1403191	1391167	1594074	1906630	1941951	2047922	2237164	2378578	2352729	2232391	2042631
5	1469417	1402503	1390483	1598833	1909580	1942235	2048070	2241325	2384388	2349371	2226694	2036620
6	1467164	1401816	1389914	1602975	1911547	1942518	2049689	2244724	2389734	2346029	2220704	2029731
7	1464317	1403191	1388888	1606866	1913372	1942802	2049689	2247660	2395565	2342369	2215027	2022284
8	1461592	1405953	1388433	1610768	1914918	1943228	2049542	2249051	2401088	2338390	2209657	2015422
9	1458525	1407105	1388091	1614301	1916188	1944226	2051750	2248896	2404999	2332828	2204306	2008296
10	1455222	1408027	1388319	1619601	1917599	1945225	2054694	2248123	2407280	2327133	2199107	2001607
11	1452037	1407797	1388433	1627202	1918164	1946366	2059257	2247042	2408258	2321595	2193149	1996245
12	1447454	1406644	1387863	1646673	1918870	1947650	2067090	2246578	2408421	2315443	2188426	1990307
13	1442645	1406298	1390256	1677290	1920564	1950504	2076558	2247505	2407443	2309467	2184464	1984378
14	1437841	1405376	1411255	1703698	1921976	1959072	2085165	2250441	2406140	2303962	2179589	1978179
15	1433060	1404915	1427230	1720486	1925082	1979476	2092897	2254459	2404836	2301141	2174729	1970833
16	1428163	1403534	1452037	1731560	1930171	1990886	2100346	2257555	2404184	2298952	2170023	1963805
17	1423867	1402618	1460531	1740552	1933151	1998563	2106614	2259415	2403532	2295981	2166987	1957638
18	1419114	1401357	1464554	1749439	1935706	2003061	2112448	2259881	2401903	2292855	2163346	1951931
19	1414021	1400670	1468468	1758226	1936557	2004370	2118132	2259881	2399133	2289102	2158656	1945653
20	1412868	1399524	1472738	1766630	1937125	2005533	2123536	2260966	2395889	2287070	2153058	1939964
21	1412061	1399180	1475355	1774528	1937125	2007278	2130294	2264532	2392325	2284580	2145807	1934570
22	1411600	1398836	1477739	1785403	1936983	2009169	2136612	2272132	2388762	2282091	2137968	1929177
23	1411024	1397805	1479170	1801448	1937125	2012223	2143245	2282869	2384550	2280068	2130744	1923671
24	1410448	1397232	1480601	1813099	1936841	2013241	2152755	2294574	2380510	2276800	2123836	1918164
25	1409872	1397232	1482031	1825067	1936699	2014695	2161681	2304277	2377612	2272755	2116786	1912108
26	1409065	1396774	1484774	1835985	1937693	2019802	2169264	2311826	2375357	2269339	2109307	1905928
27	1408373	1395514	1496872	1849277	1938828	2023161	2176096	2319538	2373746	2264842	2101836	1899894
28	1407797	1394139	1532573	1859732	1939538	2025935	2186750	2328398	2372297	2262206	2094089	1894166
29	1407105	1393107	1552904	1868580	---	2028271	2202930	2338390	2369881	2259260	2086204	1887459
30	1406414	1392649	1565233	1876755	---	2031929	2215948	2346984	2366660	2256004	2078784	1881203
31	1405722	---	1575140	1885928	---	2036181	---	2353849	---	2251986	2071228	---
a	2295.16	2294.02	2309.32	2332.92	2336.73	2343.42	2355.40	2364.23	2365.03	2357.74	2345.80	2332.58
b	-94397	-13073	+182491	+310788	+53610	+96643	+179767	+137901	+12811	-114674	-180758	-190025
MAX	1493277	1408027	1575140	1885928	1939538	2036181	2215948	2353849	2408421	2363135	2246424	2063838
MIN	1405722	1392649	1387863	1581474	1893048	1940531	2040579	2223313	2359933	2251986	2071228	1881203

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 NGVD of 1929. See WSP 1929 for history of changes prior to July 7, 1964.

REMARKS.—Records good. Flow completely regulated by Trinity 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 Trinity 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 ft³/s, Dec. 22, 1955, gage height, 27.3 ft, from floodmarks, site and datum then in use; minimum, 23 ft³/s, July 30, 1924. Since completion of Trinity Dam in 1960, maximum discharge, 14,400 ft³/s, Jan. 18, 1974, gage height, 10.41 ft; minimum daily, 100 ft³/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 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	290	290	296	307	308	306	2450	2020	1990	467	1410
2	431	289	290	294	307	306	312	2610	1990	1990	469	1380
3	433	288	290	293	309	307	310	2530	1980	2020	467	1330
4	435	294	289	295	310	306	311	2520	1990	2010	467	1290
5	437	308	290	296	311	310	310	2520	1980	2010	463	1300
6	433	307	289	292	311	311	310	2520	1980	2000	473	1290
7	432	310	289	312	313	310	309	2510	1990	1990	466	1230
8	431	308	291	315	313	302	307	2530	1980	2000	466	1210
9	432	307	290	313	311	281	309	2550	1980	2010	465	1150
10	433	304	294	316	310	302	308	2540	1980	1860	467	1140
11	434	302	295	315	309	329	307	2540	1980	1570	464	1120
12	434	305	298	317	309	324	311	2520	1980	1320	468	1090
13	434	302	301	321	309	315	315	2520	1990	1180	465	1060
14	433	302	285	319	307	314	314	2520	1980	1050	464	1050
15	434	302	282	313	305	315	313	2530	1980	906	462	999
16	311	296	290	310	287	319	309	2520	1990	793	466	659
17	289	296	280	310	299	315	309	2520	1990	708	463	465
18	290	300	279	312	316	313	329	2520	1980	630	465	468
19	290	300	283	313	306	315	319	2530	1990	585	461	445
20	292	299	287	314	304	317	319	2440	1980	511	465	445
21	286	293	288	312	303	315	319	2260	1990	439	466	449
22	289	291	288	313	307	314	305	2170	1990	385	467	446
23	289	296	284	313	307	316	318	2080	1980	388	466	445
24	286	295	288	315	306	309	320	2020	1980	404	721	446
25	285	292	286	314	308	309	316	1980	1980	453	1810	448
26	288	290	286	300	308	312	313	1990	1980	492	1700	449
27	288	292	291	305	307	309	313	2010	1990	490	1570	445
28	287	291	303	300	307	309	316	2010	1990	486	1460	441
29	288	288	296	305	---	303	317	2020	1990	455	1480	441
30	288	290	299	308	---	302	1000	2020	1990	465	1440	445
31	289	---	303	306	---	302	---	2010	---	465	1430	---
TOTAL	11131	8927	8994	9557	8606	9619	10074	73010	59570	34055	22323	24986
MEAN	359	298	290	308	307	310	336	2355	1986	1099	720	833
MAX	437	310	303	321	316	329	1000	2610	2020	2020	1810	1410
MIN	285	288	279	292	287	281	305	1980	1980	385	461	441
AC-FT	22080	17710	17840	18960	17070	19080	19980	144800	118200	67550	44280	49560

11525530 RUSH CREEK NEAR LEWISTON, CA

LOCATION.—Lat 40° 43'29", long 122° 50'01", in SE 1/4 SW 1/4 sec.12, T.33 N., R.9 W., Trinity County, Hydrologic Unit 18010211, on left bank, 0.1 mi downstream from Snow Gulch, 0.3 mi upstream of confluence with Trinity River, and 2.3 mi northwest of Lewiston.

DRAINAGE AREA.—22.3 mi².

PERIOD OF RECORD.—October 2002 to September 2003.

GAGE.—Water-stage recorder. Datum of gage is 1,837 ft above NGVD of 1929.

REMARKS.—No Diversions. See schematic diagram of [Klamath River and Trinity River Basins](#).

COOPERATION.—Records were collected by Hoopa Valley Tribal Fisheries, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 252 ft³/s, Apr. 29, 2003, gage height, 2.55 ft; minimum daily, 1.8 ft³/s, Sept. 25–29, 2003.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	---	---	---	---	---	---	139	87	19	4.3	2.3
2	2.1	---	---	---	---	---	---	121	97	17	7.7	2.2
3	2.0	---	---	---	---	---	---	119	99	16	6.5	2.4
4	1.9	---	---	---	---	---	---	112	103	15	5.9	2.8
5	1.9	---	---	---	---	---	---	98	94	15	5.7	2.9
6	1.9	---	---	---	---	---	---	91	92	14	5.5	2.6
7	2.0	---	---	---	---	---	---	86	98	15	5.8	2.5
8	2.0	---	---	---	---	---	---	82	90	14	5.5	2.5
9	2.0	---	---	---	---	---	---	74	81	12	5.2	3.1
10	2.0	---	---	---	---	---	---	70	66	12	4.9	3.5
11	2.0	---	---	---	---	---	---	72	57	11	4.7	3.4
12	2.0	---	---	---	---	---	---	74	53	11	4.6	2.9
13	2.1	---	---	---	---	---	---	90	46	10	4.4	2.5
14	2.1	---	---	---	---	---	---	114	42	9.5	4.2	2.4
15	2.1	---	---	---	---	---	---	111	43	9.5	4.0	2.2
16	2.1	---	---	---	---	---	---	94	48	9.2	3.8	2.2
17	2.0	---	---	---	---	---	73	82	51	8.7	3.6	2.4
18	2.0	---	---	---	---	---	68	74	48	8.1	3.5	2.3
19	2.1	---	---	---	---	---	64	68	41	7.6	3.3	2.2
20	2.1	---	---	---	---	---	62	80	36	7.2	3.1	2.2
21	2.1	---	---	---	---	---	75	105	31	7.0	3.0	2.1
22	2.1	---	---	---	---	---	72	136	27	6.7	3.1	2.0
23	2.3	---	---	---	---	---	82	147	25	6.5	3.4	1.9
24	2.5	---	---	---	---	---	148	148	21	6.5	3.3	1.9
25	2.5	---	---	---	---	---	131	113	23	6.3	3.1	1.8
26	2.6	---	---	---	---	---	116	106	25	5.9	2.9	1.8
27	2.6	---	---	---	---	---	104	105	23	5.5	2.8	1.8
28	2.7	---	---	---	---	---	127	122	22	5.1	2.6	1.8
29	---	---	---	---	---	---	222	129	21	4.7	2.6	1.8
30	---	---	---	---	---	---	177	112	20	4.5	2.5	1.9
31	---	---	---	---	---	---	---	94	---	4.3	2.4	---
TOTAL	---	---	---	---	---	---	---	3168	1610	303.8	127.9	70.3
MEAN	---	---	---	---	---	---	---	102	53.7	9.80	4.13	2.34
MAX	---	---	---	---	---	---	---	148	103	19	7.7	3.5
MIN	---	---	---	---	---	---	---	68	20	4.3	2.4	1.8
AC-FT	---	---	---	---	---	---	---	6280	3190	603	254	139

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 mi².

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 NGVD of 1929 (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 ft³/s, Feb. 28, 1983, gage height, 10.11 ft, from rating curve extended above 700 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 3.8 ft³/s, July 29, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 220 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0300	1,070	6.54	Mar. 15	0645	261	4.58
Dec. 28	1530	480	5.28	Apr. 28	2230	449	5.06
Jan. 12	2100	317	4.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	14	177	95	52	58	245	60	32	20	15
2	11	12	14	142	90	51	57	214	59	32	28	15
3	11	12	14	130	86	50	56	205	57	31	27	16
4	11	12	14	120	84	50	58	187	55	30	23	16
5	12	12	15	113	81	49	55	168	53	30	22	16
6	12	15	15	105	78	47	54	156	52	29	21	16
7	11	39	15	98	76	47	53	145	51	29	21	16
8	11	40	15	92	74	46	52	137	50	28	21	16
9	11	30	15	88	72	47	51	129	50	28	21	17
10	11	28	15	100	69	47	51	124	49	27	21	17
11	11	27	15	118	68	46	51	119	48	26	21	16
12	11	26	15	200	66	45	84	116	47	26	21	16
13	11	23	30	294	70	48	122	114	46	26	21	15
14	11	17	256	256	67	75	121	113	45	25	20	15
15	11	16	182	207	71	181	106	110	44	25	20	15
16	11	13	517	173	98	113	104	104	43	25	19	15
17	11	12	168	152	76	92	98	100	42	24	19	15
18	11	11	108	141	70	82	91	96	42	24	19	15
19	11	11	87	128	69	77	86	91	42	23	18	15
20	11	11	82	120	65	74	84	89	41	23	18	15
21	11	11	80	114	62	70	104	87	40	22	18	15
22	11	11	71	122	61	70	94	85	40	22	18	15
23	11	11	64	128	60	68	92	83	39	22	20	15
24	12	11	60	120	57	65	123	81	39	21	19	15
25	12	11	56	123	56	64	120	79	37	22	17	15
26	12	11	55	118	55	80	112	77	36	21	16	15
27	12	11	114	117	54	69	110	73	35	21	16	15
28	12	11	394	111	53	65	258	70	34	20	16	15
29	12	12	250	103	---	62	389	67	33	20	16	15
30	12	14	195	101	---	60	301	65	32	19	16	15
31	13	---	244	99	---	59	---	63	---	19	15	---
TOTAL	352	494	3189	4210	1983	2051	3195	3592	1341	772	608	462
MEAN	11.4	16.5	103	136	70.8	66.2	106	116	44.7	24.9	19.6	15.4
MAX	13	40	517	294	98	181	389	245	60	32	28	17
MIN	11	11	14	88	53	45	51	63	32	19	15	15
AC-FT	698	980	6330	8350	3930	4070	6340	7120	2660	1530	1210	916

KLAMATH RIVER BASIN

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.0	23.3	43.8	78.2	102	109	73.8	55.3	33.8	18.4	12.4	11.6
MAX	20.8	70.4	220	332	493	531	186	174	121	54.1	30.6	23.0
(WY)	1999	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1976 - 2003	
ANNUAL TOTAL	16778.6		22249			
ANNUAL MEAN	46.0		61.0		48.6	
HIGHEST ANNUAL MEAN					136 1983	
LOWEST ANNUAL MEAN					10.2 1977	
HIGHEST DAILY MEAN	686	Jan 2	517	Dec 16	2420	Mar 2 1983
LOWEST DAILY MEAN	9.3	Aug 15	11	Oct 1	3.8	Jul 29 1994
ANNUAL SEVEN-DAY MINIMUM	9.6	Aug 14	11	Oct 7	4.0	Jul 25 1994
MAXIMUM PEAK FLOW			1070		3500 Feb 28 1983	
MAXIMUM PEAK STAGE			6.54		10.11 Feb 28 1983	
ANNUAL RUNOFF (AC-FT)	33280		44130		35230	
10 PERCENT EXCEEDS	80		122		106	
50 PERCENT EXCEEDS	28		45		22	
90 PERCENT EXCEEDS	11		12		9.3	

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.—November 1975 to September 30, 2002 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: November 1975 to September 30, 2002 (discontinued).

REVISED RECORDS.—WDR CA-01-04: 2001 (monthly totals for the Summary of Water and Sediment Discharge).

REMARKS.—Zero bed load observed at flows less than 48 ft³/s. Record is collected for hydrologic and sediment-transport correlation studies with Grass Valley Creek near Lewiston (station 11525630).

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 in most years.

SEDIMENT LOAD: Maximum daily, 65,200 tons, Mar. 2, 1983; minimum daily, 0 ton, several days in most years.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Suspnd. sedi- ment, sieve diametr percent <.125mm (70332)	Suspnd. sedi- ment, sieve diametr percent <.25mm (70333)	Suspnd. sedi- ment, sieve diametr percent <.5 mm (70334)	Suspnd. sedi- ment, sieve diametr percent <1 mm (70335)	Suspnd. sedi- ment, sieve diametr percent <2 mm (70336)
OCT											
04...	1010	11	8.0	2	.06	--	--	--	--	--	--
04...	1515	12	12.0	4	.13	--	--	--	--	--	--
15...	1420	11	10.0	4	.12	--	--	--	--	--	--
24...	1115	12	9.0	4	.13	--	--	--	--	--	--
31...	0930	12	4.0	3	.10	--	--	--	--	--	--
NOV											
07...	1000	36	8.0	10	.97	--	--	--	--	--	--
07...	1315	36	9.5	8	.78	--	--	--	--	--	--
17...	1130	12	6.5	1	.03	--	--	--	--	--	--
24...	1605	11	7.0	1	.03	--	--	--	--	--	--
30...	1315	14	4.0	2	.08	--	--	--	--	--	--
DEC											
05...	0945	15	6.5	1	.04	--	--	--	--	--	--
08...	1245	15	5.0	<.5	<.02	--	--	--	--	--	--
13...	1205	21	7.5	1	.06	--	--	--	--	--	--
14...	1230	240	7.5	387	251	--	--	--	--	--	--
15...	1100	112	7.0	32	9.7	--	--	--	--	--	--
16...	1045	438	8.0	430	509	16	23	33	50	70	95
16...	1050	435	8.0	337	396	--	--	--	--	--	--
17...	1205	166	5.5	76	34	--	--	--	--	--	--
24...	1430	58	5.0	2	.31	--	--	--	--	--	--
30...	1440	186	5.0	18	9.0	--	--	--	--	--	--
31...	1305	234	5.0	126	80	--	--	--	--	--	--
JAN											
02...	1030	139	5.0	106	40	--	--	--	--	--	--
12...	1215	189	6.5	343	175	--	--	--	--	--	--
13...	1015	294	7.0	160	127	9	12	16	27	52	100
30...	1450	101	8.5	3	.82	--	--	--	--	--	--
FEB											
06...	1035	79	4.0	13	2.8	27	--	--	--	--	--
06...	1040	78	4.0	4	.84	--	--	--	--	--	--
11...	1610	67	6.5	2	.36	--	--	--	--	--	--
19...	1120	72	6.5	2	.39	--	--	--	--	--	--
MAR											
06...	0920	48	4.0	2	.26	--	--	--	--	--	--
18...	0945	84	6.0	4	.91	52	--	--	--	--	--
26...	0915	87	8.0	10	2.3	50	62	70	81	100	--
APR											
14...	1030	116	7.0	9	2.8	39	--	--	--	--	--
30...	1015	307	7.0	213	177	11	15	19	28	48	68

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bed sediment, dry svd sve dia <.5 mm (80167)	Bed sediment, dry svd sve dia <1 mm (80168)	
MAR							
18...	1030	1	84	6.0	1	4	
18...	1035	1	84	6.0	--	1	
18...	1040	1	84	6.0	2	5	
Date	Time	Bed sediment, dry svd sve dia <2 mm (80169)	Bed sediment, dry svd sve dia <4 mm (80170)	Bed sediment, dry svd sve dia <8 mm (80171)	Bed sediment, dry svd sve dia <16 mm (80172)	Bed sediment, dry svd sve dia <32 mm (80173)	Bed sediment, dry svd sve dia <64 mm (80174)
MAR							
18...	12	26	31	33	49	100	
18...	2	6	10	18	100	--	
18...	14	30	38	47	70	100	

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sampling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Starting time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Horizontal width of vertical, feet (04121)
FEB									
07...	1330	1000	1120	.250	0	1325	1340	30	1.0
07...	1345	1000	1120	.250	0	1340	1355	30	1.0
MAR									
18...	1015	1000	1120	.250	0	1010	1020	30	1.0
18...	1025	1000	1120	.250	0	1020	1030	30	1.0
26...	0930	1000	1120	.250	0	0925	0935	30	1.0
26...	0940	1000	1120	.250	0	0935	0945	30	1.0
APR									
14...	1005	1000	1120	.250	0	1000	1010	30	1.0
14...	1015	1000	1120	.250	0	1010	1020	30	1.0
30...	1040	1000	1100	.250	0	1030	1045	30	2.0
30...	1050	1000	1100	.250	0	1045	1100	30	2.0
Date	Time	Compsd samples in x-sec bedload measmnt number (04118)	Verticals in composite sample, number (04119)	Number of sam-pling points, count (00063)	Locatn in X-sect. looking downstrm ft from 1 bank (00009)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bedload dschrge average unit cmposit t/d/ft (04122)	Bedload sedi-ment dis-charge, tons/d (80225)
FEB									
07...		2	15	15	--	77	4.5	.59	6.4
07...		2	15	15	--	77	4.5	.27	6.4
MAR									
18...		2	16	16	5.00	83	6.0	.64	11
18...		2	16	16	5.00	83	6.0	.73	11
26...		2	16	16	5.00	63	8.0	.11	4.8
26...		2	16	16	5.00	63	8.0	.49	4.8
APR									
14...		2	17	17	2.00	116	7.0	.25	4.2
14...		2	17	17	2.00	116	7.0	.25	4.2
30...		2	22	22	10.0	306	7.0	.88	21
30...		2	22	22	10.0	306	7.0	1.03	21

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
FEB								
07...	--	6	22	54	90	96	99	100
07...	--	4	15	50	93	100	--	--
MAR								
18...	--	1	10	38	86	98	100	--
18...	--	1	5	32	87	100	--	--
26...	--	2	13	44	91	100	--	--
26...	--	1	9	42	89	99	100	--
APR								
14...	--	1	7	42	86	98	100	--
14...	--	4	16	54	93	100	--	--
30...	1	6	24	61	92	100	--	--
30...	1	4	20	56	92	100	--	--

11525630 GRASS VALLEY CREEK NEAR LEWISTON, CA

LOCATION.—Lat 40° 41' 12", long 122° 51' 36", in NW 1/4 SW 1/4, sec.26, T.33 N., R.9 W., [Trinity County](#), Hydrologic Unit 18010211, on right bank, 0.2 mi downstream from unnamed tributary, 0.5 mi upstream from the confluence with Trinity River, and 3.2 mi southwest of Lewiston.

DRAINAGE AREA.—36.8 mi².

PERIOD OF RECORD.—March 2003 to April 2003 (storm season only).

SEDIMENT DATA: March 2003 to April 2003 (storm season only).

REMARKS.—Zero bed load observed at flows less than 52 ft³/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 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspnd. sediment, sieve diameter, percent <.063mm (70331)	Suspnd. sediment, sieve diameter, percent <.125mm (70332)	Suspnd. sediment, sieve diameter, percent <.25mm (70333)	Suspnd. sediment, sieve diameter, percent <.5 mm (70334)	Suspnd. sediment, sieve diameter, percent <1 mm (70335)
MAR										
06...	1120	52	5.0	1	.14	--	--	--	--	--
18...	1210	92	7.0	4	.99	63	--	--	--	--
26...	1055	96	9.0	9	2.3	58	73	85	100	--
APR										
14...	1210	120	7.0	8	2.6	52	--	--	--	--
30...	1230	312	8.0	68	57	36	45	53	67	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Number of sampling points, count (00063)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Bed sediment, dry svs dia, percent <.125mm (80165)	Bed sediment, dry svs dia, percent <.25mm (80166)	Bed sediment, dry svs dia, percent <.5 mm (80167)	
MAR								
18...	1250	1	92	7.0	--	--	1	
18...	1255	1	92	7.0	--	2	6	
18...	1300	1	92	7.0	3	7	16	
Date		Bed sediment, dry svs dia, percent <1 mm (80168)	Bed sediment, dry svs dia, percent <2 mm (80169)	Bed sediment, dry svs dia, percent <4 mm (80170)	Bed sediment, dry svs dia, percent <8 mm (80171)	Bed sediment, dry svs dia, percent <16 mm (80172)	Bed sediment, dry svs dia, percent <32 mm (80173)	Bed sediment, dry svs dia, percent <64 mm (80174)
MAR								
18...	5	17	35	42	47	89	100	
18...	15	24	30	34	40	77	100	
18...	25	34	40	43	54	100	--	

11525630 GRASS VALLEY CREEK NEAR LEWISTON, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sam- pling method, code (82398)	Sampler type, code (84164)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Rest time on bed for bed load sample, seconds (04120)	Hori- zontal width of verti- cal, feet (04121)
MAR									
18...	1230	1000	1120	.250	0	1225	1235	30	.5
18...	1240	1000	1120	.250	0	1235	1245	30	.5
26...	1110	1000	1120	.250	0	1105	1115	30	1.0
26...	1120	1000	1120	.250	0	1115	1125	30	1.0
APR									
14...	1145	1000	1120	.250	0	1140	1150	30	1.0
14...	1155	1000	1120	.250	0	1150	1200	30	1.0
30...	1250	1000	1100	.250	0	1240	1255	30	1.0
30...	1300	1000	1100	.250	0	1255	1305	30	1.0

Date	Compstd samples in x-sec bedload measmnt number (04118)	Verti- cals in com- posite sample, number (04119)	Number of sam- pling points, count (00063)	Locatn in X-sect. looking downstrm ft from l bank (00009)	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bedload sedimnt dschrg average unit cmposit t/d/ft (04122)	Bedload sedi- ment dis- charge, tons/d (80225)
MAR								
18...	2	16	16	12.0	92	7.0	.33	3.0
18...	2	16	16	12.0	92	7.0	.41	3.0
26...	2	12	12	10.0	96	9.0	.36	4.4
26...	2	12	12	10.0	96	9.0	.37	4.4
APR								
14...	2	20	20	6.00	120	7.0	.10	4.2
14...	2	20	20	6.00	120	7.0	.32	4.2
30...	2	14	14	4.00	279	8.0	.50	4.0
30...	2	14	14	4.00	279	8.0	.07	4.0

Date	Bedload sedi- ment, sieve diametr percent <.25mm (80228)	Bedload sedi- ment, sieve diametr percent <.5 mm (80229)	Bedload sedi- ment, sieve diametr percent <1 mm (80230)	Bedload sedi- ment, sieve diametr percent <2 mm (80231)	Bedload sedi- ment, sieve diametr percent <4 mm (80232)	Bedload sedi- ment, sieve diametr percent <8 mm (80233)	Bedload sedi- ment, sieve diametr percent <16 mm (80234)	Bedload sedi- ment, sieve diametr percent <32 mm (80235)
MAR								
18...	--	4	21	64	96	100	--	--
18...	--	1	10	43	81	87	88	100
26...	--	4	22	63	94	100	--	--
26...	--	5	23	58	94	100	--	--
APR								
14...	1	10	31	70	94	97	100	--
14...	--	4	16	54	89	94	94	100
30...	2	7	18	46	82	96	97	100
30...	3	12	37	70	95	100	--	--

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA

LOCATION.—Lat 40° 40'21", long 122° 55'07", in SW 1/4 NW 1/4 sec.32, T.33 N., R.9 W., [Trinity County](#), Hydrologic Unit 18010211, on left bank, 1.8 mi northeast of Douglas City, 2.3 mi downstream from Limekiln Gulch, and 11.3 mi downstream from Lewiston diversion dam.

DRAINAGE AREA.—812 mi².

PERIOD OF RECORD.—April 1981 to September 1991, October 2002 to September 2003.

WATER TEMPERATURE: Water years 1981–91.

SEDIMENT DATA: Water years 1981–91.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,650 ft above NGVD of 1929.

REMARKS.—Flow regulated by Trinity Lake (station 11525400) and transbasin diversion to Judge Francis Carr powerplant (station 11525430). Small diversion for irrigation upstream from station. See schematic diagram of [Klamath River and Trinity River Basins](#).

COOPERATION.—Records were collected by Hoopa Valley Tribal Fisheries, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,070 ft³/s, June 12, 1983, gage height, 10.45 ft; minimum daily, 228 ft³/s, June 15, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	294	292	671	574	384	459	2680	2110	1940	503	1330
2	451	294	290	652	529	378	445	2910	2100	1940	527	1300
3	453	293	292	638	503	375	430	2810	2070	1960	524	1270
4	457	291	295	612	487	374	436	2760	2090	1960	513	1230
5	460	316	296	583	471	369	417	2720	2060	1960	508	1230
6	455	314	294	588	461	367	411	2710	2050	1950	515	1220
7	452	377	291	549	450	363	398	2680	2070	1940	512	1180
8	452	421	284	547	442	361	393	2680	2050	1950	512	1150
9	453	387	285	638	431	336	394	2690	2040	1950	507	1120
10	455	371	297	785	422	362	401	2670	2020	1850	511	1100
11	458	344	315	1570	415	411	399	2670	2010	1580	506	1090
12	460	346	736	1470	412	410	461	2640	2000	1340	512	1060
13	461	349	936	1100	431	398	581	2660	2000	1220	510	1030
14	459	328	1420	870	423	477	607	2680	1980	1100	505	1020
15	460	318	814	756	424	786	561	2680	1980	985	505	987
16	341	312	539	705	509	622	547	2650	1990	868	508	710
17	284	295	465	669	471	546	532	2620	1990	778	504	428
18	283	307	468	632	478	504	533	2620	1980	698	504	447
19	286	308	514	604	462	486	507	2610	1970	652	500	427
20	289	310	476	588	444	476	496	2540	1960	573	502	428
21	281	308	427	728	432	458	555	2410	1960	492	505	430
22	287	302	401	617	428	470	522	2360	1960	422	507	426
23	290	302	377	719	423	473	539	2280	1940	409	509	426
24	288	300	376	657	415	446	688	2230	1950	431	628	427
25	288	298	542	809	412	445	666	2150	1940	475	1640	427
26	292	294	1790	731	406	647	636	2130	1940	530	1600	430
27	291	296	1230	716	399	518	609	2140	1950	529	1480	428
28	290	294	845	652	391	480	859	2160	1950	524	1370	426
29	291	292	1180	592	---	461	1300	2170	1950	488	1390	431
30	291	292	951	585	---	458	1600	2150	1940	495	1360	437
31	294	---	732	602	---	463	---	2110	---	498	1340	---
TOTAL	11502	9553	18450	22635	12545	14104	17382	77970	60000	34487	22517	24045
MEAN	371	318	595	730	448	455	579	2515	2000	1112	726	802
MAX	461	421	1790	1570	574	786	1600	2910	2110	1960	1640	1330
MIN	281	291	284	547	391	336	393	2110	1940	409	500	426
AC-FT	22810	18950	36600	44900	24880	27980	34480	154700	119000	68400	44660	47690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2003, BY WATER YEAR (WY)

MEAN	340	435	782	762	758	1361	768	999	956	616	471	405
MAX	371	1002	2670	3001	2449	6446	3109	3107	4644	1144	726	802
(WY)	2003	1984	1984	1984	1983	1983	1983	1983	1983	1983	2003	2003
MIN	304	318	318	315	320	371	381	361	338	323	310	303
(WY)	1989	2003	1991	1991	1991	1985	1990	1985	1990	1988	1988	1988

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1981 - 2003

ANNUAL TOTAL	325190											
ANNUAL MEAN	891								731			
HIGHEST ANNUAL MEAN									2022		1983	
LOWEST ANNUAL MEAN									371		1990	
HIGHEST DAILY MEAN	2910					May 2			8020		Jun 12 1983	
LOWEST DAILY MEAN	281					Oct 21			228		Jun 15 1990	
ANNUAL SEVEN-DAY MINIMUM	286					Oct 17			237		Jun 9 1990	
MAXIMUM PEAK FLOW	3070					May 1			8070		Jun 12 1983	
MAXIMUM PEAK STAGE					7.18	May 1			10.45		Jun 12 1983	
ANNUAL RUNOFF (AC-FT)	645000								529500			
10 PERCENT EXCEEDS	2060								1290			
50 PERCENT EXCEEDS	511								428			
90 PERCENT EXCEEDS	299								318			

11525854 TRINITY RIVER AT DOUGLAS CITY, CA

LOCATION.—Lat 40° 38' 50", long 122° 57' 17", in SW 1/4 NW 1/4 sec.12, T.32 N., R.10 W., Trinity County, Hydrologic Unit 18010211, on right bank, 0.5 mi downstream of Reading Creek, 1.4 mi downstream from Weaver Creek, and 0.75 mi southwest of Douglas City.

DRAINAGE AREA.—931 mi².

PERIOD OF RECORD.—October 2002 to September 2003.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,597 ft above NGVD of 1929.

REMARKS.—Flow regulated by Trinity Lake (station 11525400) and transbasin diversion to Judge Francis Carr powerplant (station 11525430). Small diversion for irrigation upstream from station. See schematic diagram of [Klamath River and Trinity River Basins](#).

COOPERATION.—Records were collected by Hoopa Valley Tribal Fisheries, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,240 ft³/s, Dec. 16, 2002, gage height, 8.68 ft; minimum daily, 277 ft³/s, Nov. 26, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	440	314	289	1390	811	510	668	3050	2190	1900	498	1240
2	440	316	299	1040	753	504	598	3340	2170	1890	526	1210
3	443	326	292	987	713	510	559	3190	2130	1910	534	1180
4	448	324	301	940	688	513	579	3130	2150	1910	516	1140
5	451	338	330	914	667	499	536	3030	2120	1910	509	1150
6	446	357	335	862	650	505	538	2990	2100	1900	515	1130
7	445	462	302	828	635	510	552	2950	2100	1890	511	1110
8	446	525	302	793	622	504	558	2920	2080	1890	510	1070
9	445	447	326	752	608	494	552	2900	2060	1900	505	1050
10	448	434	344	823	598	527	504	2850	2050	1830	507	1030
11	450	395	344	956	590	576	516	2840	2030	1570	502	1020
12	450	395	366	1790	573	627	631	2800	2010	1330	505	1000
13	451	398	493	3010	594	683	803	2820	2010	1200	506	971
14	454	366	1790	2420	564	752	904	2870	1990	1090	499	961
15	455	366	1430	1700	595	1590	839	2890	1980	994	499	938
16	370	365	3400	1300	793	1030	845	2840	1980	881	500	751
17	309	346	1090	1100	663	852	870	2790	1980	813	497	475
18	307	337	706	1020	644	766	793	2770	1970	717	495	486
19	310	344	625	950	629	737	716	2740	1960	644	492	447
20	319	332	705	882	600	721	694	2680	1950	582	493	449
21	312	299	791	837	582	703	760	2550	1940	516	493	451
22	316	299	660	888	571	730	746	2500	1940	451	497	449
23	319	292	574	993	564	739	761	2440	1920	424	501	445
24	322	287	526	950	556	716	1100	2410	1920	450	530	446
25	326	279	490	1180	548	718	1020	2310	1910	474	1470	445
26	324	277	515	1050	534	958	963	2260	1900	531	1520	445
27	313	284	1750	1020	525	800	914	2260	1910	527	1400	442
28	325	290	3480	930	516	755	1350	2270	1910	516	1280	437
29	333	289	1660	844	---	753	2430	2280	1910	497	1290	440
30	321	291	1620	834	---	748	2330	2260	1900	489	1270	443
31	316	---	2260	845	---	729	---	2210	---	495	1250	---
TOTAL	11854	10374	28395	34828	17386	21759	25629	84140	60170	34121	21620	23251
MEAN	382	346	916	1123	621	702	854	2714	2006	1101	697	775
MAX	455	525	3480	3010	811	1590	2430	3340	2190	1910	1520	1240
MIN	307	277	289	752	516	494	504	2210	1900	424	492	437
AC-FT	23510	20580	56320	69080	34490	43160	50840	166900	119300	67680	42880	46120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MEAN	382	346	916	1123	621	702	854	2714	2006	1101	697	775
MAX	382	346	916	1123	621	702	854	2714	2006	1101	697	775
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	382	346	916	1123	621	702	854	2714	2006	1101	697	775
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

ANNUAL TOTAL	373527	
ANNUAL MEAN	1023	
HIGHEST DAILY MEAN	3480	Dec 28
LOWEST DAILY MEAN	277	Nov 26
ANNUAL SEVEN-DAY MINIMUM	285	Nov 24
MAXIMUM PEAK FLOW	6240	Dec 16
MAXIMUM PEAK STAGE	8.68	Dec 16
ANNUAL RUNOFF (AC-FT)	740900	
10 PERCENT EXCEEDS	2260	
50 PERCENT EXCEEDS	705	
90 PERCENT EXCEEDS	331	

11526250 TRINITY RIVER AT JUNCTION CITY, CA

LOCATION.—Lat 40° 43' 43", long 123° 03' 39", in NE 1/4 SW 1/4 sec.12, T.33 N., R.11 W., [Trinity County](#), Hydrologic Unit 18010211, on left bank, 1.3 mi downstream of Oregon Gulch, 0.4 mi upstream of Canyon Creek, and 0.5 mi southwest of Junction City.

DRAINAGE AREA.—1,057 mi².

PERIOD OF RECORD.—October 2002 to September 2003.

GAGE.—Water-stage recorder. Datum of gage is 1,445 ft above NGVD of 1988.

REMARKS.—Flow regulated by Trinity Lake (station 11525400) and transbasin diversion to Judge Francis Carr powerplant (station 11525430). Small diversion for irrigation upstream from station. See schematic diagram of [Klamath River and Trinity River Basins](#).

COOPERATION.—Records were collected by Hoopa Valley Tribal Fisheries, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,170 ft³/s, Dec. 16, 2002, gage height, 10.22 ft; minimum daily, 296 ft³/s, Oct. 21, 2002.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	436	309	347	2780	1260	744	962	3950	2340	1970	514	1330
2	437	310	346	1990	1170	728	936	4180	2330	1960	554	1300
3	440	310	347	1760	1090	716	900	3940	2280	1980	570	1270
4	444	304	355	1670	1040	708	909	3850	2300	1980	544	1230
5	446	328	357	1630	989	693	863	3680	2260	1980	535	1240
6	444	329	355	1540	948	683	835	3590	2240	1970	539	1220
7	438	392	352	1460	911	673	819	3510	2230	1950	537	1200
8	440	589	351	1390	882	665	786	3450	2210	1960	535	1160
9	438	504	352	1310	853	645	759	3390	2190	1960	528	1140
10	438	518	370	1390	828	663	754	3310	2170	1910	528	1130
11	442	447	369	1740	808	691	758	3260	2150	1620	523	1110
12	443	418	366	2800	791	691	855	3200	2130	1370	523	1090
13	445	425	515	5210	839	682	1180	3180	2120	1240	525	1060
14	445	394	2580	4570	816	874	1380	3210	2100	1130	516	1040
15	444	380	2470	3400	837	2530	1300	3210	2090	1040	514	1020
16	397	369	5830	2610	1320	1850	1260	3140	2090	920	514	852
17	300	355	2270	2130	1120	1450	1240	3080	2080	840	512	531
18	298	355	1240	1940	1050	1240	1190	3040	2080	756	508	504
19	299	358	971	1780	1020	1150	1130	3000	2060	713	505	466
20	302	356	1040	1610	955	1140	1080	2930	2050	646	504	462
21	296	357	1290	1490	911	1060	1140	2780	2040	569	505	463
22	300	353	1040	1480	883	1040	1130	2710	2040	478	508	461
23	302	352	867	1730	864	1050	1120	2650	2020	438	516	456
24	299	354	768	1570	841	987	1780	2610	2010	468	516	456
25	302	349	697	1920	829	954	1770	2500	2010	480	1440	454
26	302	346	702	1760	799	1390	1680	2450	1990	551	1630	455
27	303	345	2200	1690	780	1230	1580	2440	1990	546	1510	452
28	303	346	5880	1540	760	1110	2120	2440	1990	543	1370	447
29	303	343	3430	1360	---	1050	3940	2450	1980	520	1380	447
30	303	347	2800	1330	---	1010	3510	2430	1970	504	1360	453
31	307	---	4030	1320	---	989	---	2380	---	511	1340	---
TOTAL	11536	11242	44887	61900	26194	31086	39666	95940	63540	35503	22603	24899
MEAN	372	375	1448	1997	936	1003	1322	3095	2118	1145	729	830
MAX	446	589	5880	5210	1320	2530	3940	4180	2340	1980	1630	1330
MIN	296	304	346	1310	760	645	754	2380	1970	438	504	447
AC-FT	22880	22300	89030	122800	51960	61660	78680	190300	126000	70420	44830	49390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MEAN	372	375	1448	1997	936	1003	1322	3095	2118	1145	729	830
MAX	372	375	1448	1997	936	1003	1322	3095	2118	1145	729	830
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	372	375	1448	1997	936	1003	1322	3095	2118	1145	729	830
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

ANNUAL TOTAL	468996
ANNUAL MEAN	1285
HIGHEST DAILY MEAN	5880 Dec 28
LOWEST DAILY MEAN	296 Oct 21
ANNUAL SEVEN-DAY MINIMUM	299 Oct 18
MAXIMUM PEAK FLOW	9170 Dec 16
MAXIMUM PEAK STAGE	10.22 Dec 16
ANNUAL RUNOFF (AC-FT)	930300
10 PERCENT EXCEEDS	2610
50 PERCENT EXCEEDS	989
90 PERCENT EXCEEDS	355

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 mi².

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 NGVD of 1929. Oct. 1, 1931, to Jan. 19, 1940, at site 2 mi upstream at different datum.

REMARKS.—Records excellent. Flow regulated since November 1960 by Trinity 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 ft³/s, Feb. 25, 1958, gage height, 30.50 ft, from rating curve extended above 40,000 ft³/s, on basis of slope-area measurement at gage height 43.2 ft; minimum, 82 ft³/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 ft³/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 12,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1100	15,400	13.80	Jan. 14	0100	12,400	12.66
Dec. 28	0915	17,700	14.62				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	493	384	497	6140	3630	1400	2640	6180	3630	2430	647	1360
2	495	386	492	4570	3160	1350	2410	6430	3590	2380	659	1330
3	498	387	487	3660	2790	1310	2180	6030	3570	2390	742	1310
4	502	387	490	e3170	2510	1280	2100	5950	3670	2380	756	1260
5	505	391	501	e3700	2290	1230	1930	5590	3660	2360	698	1270
6	505	405	504	e3930	2120	1190	1830	5380	3540	2360	654	1230
7	499	495	497	3850	1970	1160	1760	5190	3590	2360	647	1230
8	497	1040	490	3620	1860	1130	1790	5070	3580	2350	640	1160
9	495	900	488	3380	1750	1120	1900	4890	3450	2290	626	1170
10	495	944	537	3350	1660	1230	1900	4710	3300	2260	613	1130
11	495	818	548	3980	1590	1280	1890	4620	3050	2040	605	1130
12	498	684	548	5610	1520	1380	2050	4530	2960	1810	598	1100
13	501	806	733	10400	1590	1400	2510	4600	2920	1590	598	1060
14	500	669	6380	10800	1590	1890	2730	4870	2850	1440	587	1020
15	500	600	6810	7870	1590	4830	2660	5020	2780	1340	577	1010
16	499	566	11200	6000	2700	4400	2540	4770	2830	1210	573	933
17	409	539	5640	4990	2470	3550	2510	4550	2910	1110	572	640
18	376	526	3300	4710	2230	3000	2370	4370	2980	1000	566	532
19	374	519	2410	4400	2140	2680	2270	4240	2850	929	561	522
20	374	528	2330	4020	2020	2480	2200	4220	2770	866	555	501
21	378	596	2730	3700	1920	2250	2270	4230	2640	784	554	498
22	373	600	2320	3680	1850	2360	2310	4530	2590	720	555	495
23	377	569	1920	4920	1790	2680	2230	4730	2520	674	562	489
24	378	551	1650	4120	1730	2410	3550	4790	2470	673	564	487
25	378	533	1450	5710	1680	2330	3710	4430	2470	668	1030	485
26	379	516	1380	5250	1600	5160	3670	4100	2470	691	1690	483
27	381	504	3880	5420	1530	4220	3540	3970	2540	689	1570	481
28	381	499	14600	4830	1460	3450	4080	3980	2610	669	1460	477
29	378	500	8740	3960	---	3010	6260	4160	2610	650	1390	474
30	378	500	6120	3660	---	2820	6340	4140	2510	617	1410	477
31	380	---	7920	3940	---	2770	---	3880	---	643	1360	---
TOTAL	13671	17342	97592	151340	56740	72750	82130	148150	89910	44373	24619	25744
MEAN	441	578	3148	4882	2026	2347	2738	4779	2997	1431	794	858
MAX	505	1040	14600	10800	3630	5160	6340	6430	3670	2430	1690	1360
MIN	373	384	487	3170	1460	1120	1760	3880	2470	617	554	474
AC-FT	27120	34400	193600	300200	112500	144300	162900	293900	178300	88010	48830	51060

e Estimated.

KLAMATH RIVER BASIN

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
MAXIMUM PEAK FLOW	81500 Feb 25 1958
MAXIMUM 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 - 2003, BY WATER YEAR (WY)

MEAN	485	1069	2167	3328	3197	3391	2483	2346	1613	761	493	456
MAX	804	3570	8745	12220	10190	13770	8146	6343	7006	1988	1087	858
(WY)	1980	1974	1965	1997	1983	1983	1974	1983	1983	1998	1983	2003
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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	652475	824361	
ANNUAL MEAN	1788	2259	1810
HIGHEST ANNUAL MEAN			4816 1983
LOWEST ANNUAL MEAN			372 1977
HIGHEST DAILY MEAN	14600 Dec 28	14600 Dec 28	53300 Jan 1 1997
LOWEST DAILY MEAN	373 Oct 22	373 Oct 22	165 Aug 24 1966
ANNUAL SEVEN-DAY MINIMUM	376 Oct 18	376 Oct 18	170 Aug 21 1966
MAXIMUM PEAK FLOW		17700 Dec 28	78100 Dec 22 1964
MAXIMUM PEAK STAGE		14.62 Dec 28	29.82 Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1294000	1635000	1311000
10 PERCENT EXCEEDS	4220	4780	3910
50 PERCENT EXCEEDS	1210	1760	994
90 PERCENT EXCEEDS	494	495	364

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 mi².

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 NGVD of 1929. Oct. 1, 1965, to Aug. 24, 2000, at datum 3.00 ft higher.

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, 75,000 ft³/s, Feb. 17, 1986, gage height, 28.47 ft, present datum, from rating curve extended above 15,000 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 31.00 ft, Jan. 26, 1983, present datum; minimum daily, 12 ft³/s, Aug. 19, 20, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 33.45 ft, present datum, from floodmarks, discharge, 88,000 ft³/s, on basis of flood-routing study.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 8,600 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0715	32,000	20.81	Jan. 13	2245	15,100	15.30
Dec. 28	0515	25,700	19.00	Mar. 15	1200	9,490	12.60

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	45	110	9230	2760	e1500	2200	5450	984	335	132	81
2	25	45	109	6210	2530	e1490	2130	4900	929	333	138	78
3	28	45	109	5080	2320	e1350	2030	4610	886	320	178	76
4	30	46	112	5380	2150	e1300	2090	4450	849	311	181	84
5	31	47	122	5610	2010	e1230	1990	4090	805	305	171	119
6	32	48	125	4900	1890	1180	1910	3690	767	302	159	102
7	32	102	118	4260	1780	1150	1870	3330	732	282	153	102
8	31	565	113	3750	1710	1100	1910	3050	702	274	152	95
9	30	688	116	3410	1630	1080	1920	2810	672	275	147	94
10	29	866	155	3620	1530	1100	1880	2580	644	267	143	101
11	28	773	185	4900	1460	1080	1810	2360	627	258	135	102
12	29	479	182	6700	1400	1050	2000	2180	610	251	131	103
13	29	429	433	13300	1520	1110	2460	2050	596	245	131	94
14	30	374	9680	12800	1560	1730	2610	2000	574	239	127	91
15	31	304	9740	9120	1620	7070	2580	1920	549	234	120	86
16	31	256	21200	6850	4010	5350	2570	1800	526	231	115	85
17	32	221	7750	5500	3440	3790	2840	1680	506	221	116	81
18	32	197	4310	5070	2870	3040	2700	1590	490	213	110	81
19	33	177	2920	4790	e2690	2670	2490	1510	489	207	106	83
20	34	164	3040	4480	e2450	2590	2340	1460	468	200	102	79
21	35	152	4660	4310	e2250	2360	2310	1410	459	196	99	76
22	36	143	3200	4370	e2150	2310	2310	1390	449	184	94	76
23	37	135	2320	5050	e2100	2520	2250	1360	442	178	97	73
24	38	132	1900	4530	e2000	2320	3700	1330	427	171	97	69
25	39	127	1640	4810	e1980	2260	3950	1300	418	166	97	68
26	40	123	1770	e4480	e1750	3700	4170	1250	402	162	96	68
27	41	120	9230	e4250	e1700	3620	4200	1190	382	156	91	67
28	42	117	21700	3830	e1600	3120	5570	1140	369	148	88	65
29	43	114	10700	3340	---	2760	7260	1120	352	143	88	65
30	43	111	7860	3060	---	2500	6460	1130	343	136	86	64
31	44	---	16100	2880	---	2320	---	1050	---	129	87	---
TOTAL	1038	7145	141709	169870	58860	71750	86510	71180	17448	7072	3767	2508
MEAN	33.5	238	4571	5480	2102	2315	2884	2296	582	228	122	83.6
MAX	44	866	21700	13300	4010	7070	7260	5450	984	335	181	119
MIN	23	45	109	2880	1400	1050	1810	1050	343	129	86	64
AC-FT	2060	14170	281100	336900	116700	142300	171600	141200	34610	14030	7470	4970

e Estimated.

KLAMATH RIVER BASIN

11528700 SOUTH FORK TRINITY RIVER BELOW HYAMPOM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	118	694	2027	3604	3407	3317	1893	1032	462	180	88.8	74.1
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	16.1	17.0
(WY)	1988	1988	1977	1977	1977	1977	1977	1977	1977	1977	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	476182		638857			
ANNUAL MEAN	1305		1750		1400	
HIGHEST ANNUAL MEAN					3049	
LOWEST ANNUAL MEAN					131	
HIGHEST DAILY MEAN	21700	Dec 28	21700	Dec 28	59200	Jan 16 1974
LOWEST DAILY MEAN	22	Sep 23	23	Oct 1	12	Aug 19 2001
ANNUAL SEVEN-DAY MINIMUM	22	Sep 23	29	Oct 1	13	Aug 16 2001
MAXIMUM PEAK FLOW			32000		75000	
MAXIMUM PEAK STAGE			20.81		31.00	
ANNUAL RUNOFF (AC-FT)	944500		1267000		1014000	
10 PERCENT EXCEEDS	2830		4500		3550	
50 PERCENT EXCEEDS	322		627		405	
90 PERCENT EXCEEDS	29		48		64	

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.

DRAINAGE AREA.—2,853 mi².

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 NGVD of 1929. 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 Trinity 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 ft³/s, Dec. 22, 1964, gage height, 57.0 ft, present site and datum, from floodmarks, from rating curve extended above 123,000 ft³/s; minimum daily, 162 ft³/s, Oct. 4, 1931.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 30,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	1245	56,300	31.26	Jan. 14	0515	41,800	27.98
Dec. 28	1000	59,800	31.98				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	609	524	781	30600	9670	4290	7400	17800	6090	3300	1060	1660
2	619	529	770	20300	8720	4120	7090	17000	5930	3240	1040	1640
3	623	533	761	15900	7840	3980	6770	15700	5870	3200	1180	1610
4	629	541	767	15300	7210	3870	6930	15600	5840	3180	1250	1600
5	638	536	784	15900	6690	3720	6760	14600	5820	3150	1240	1590
6	640	548	793	14300	6270	3570	6760	13300	5560	3120	1120	1590
7	637	674	790	12800	5900	3460	6720	12300	5490	3120	1100	1540
8	627	1870	770	11500	5550	3350	6880	11600	5400	3070	1070	1510
9	624	2540	770	10500	5250	3300	7220	10900	5150	3010	1050	1520
10	620	2780	852	10100	4990	3480	7050	10100	4980	2960	1020	1540
11	617	2680	1020	12600	4790	3510	6760	9610	4690	2800	1000	1500
12	622	1890	1060	15200	4480	3570	6990	9230	4530	2570	986	1460
13	624	1780	1600	32900	4370	3610	7920	9070	4390	2320	976	1410
14	627	1560	16000	38000	4520	5700	8120	9320	4270	2150	967	1350
15	629	1290	26500	28500	4440	14800	7870	9450	4170	2010	939	1320
16	629	1140	42500	20800	8220	15500	7540	8910	4140	1910	924	1280
17	605	1060	26000	16400	8290	11500	7720	8380	4180	1770	915	1090
18	511	985	12900	14400	7120	9100	7420	7960	4200	1640	905	826
19	503	935	8490	12800	6870	7860	7010	7670	4080	1510	889	804
20	500	905	8380	11400	6730	7490	6720	7510	3970	1450	870	764
21	499	948	13000	10400	6310	6890	6640	7480	3810	1360	859	754
22	505	991	9680	9960	5990	6900	6770	7680	3710	1270	853	742
23	506	949	7360	12600	5700	7870	6620	7890	3630	1200	860	734
24	508	901	6050	11500	5420	7350	9940	7920	3560	1140	869	722
25	509	872	5140	14800	5170	7230	11600	7530	3500	1150	902	716
26	514	840	4760	14100	4920	15700	12200	7090	3460	1130	1950	707
27	517	813	13400	14100	4710	14400	11700	6830	3480	1160	1940	705
28	522	797	55000	13400	4480	11100	13600	6720	3510	1130	1830	702
29	521	792	37700	11300	---	9340	18900	6820	3510	1090	1710	693
30	515	787	26300	10100	---	8240	19900	6870	3400	1040	1720	698
31	518	---	41400	10200	---	7750	---	6480	---	1020	1690	---
TOTAL	17767	33990	372078	492660	170620	222550	261520	305320	134320	64170	35684	34777
MEAN	573	1133	12000	15890	6094	7179	8717	9849	4477	2070	1151	1159
MAX	640	2780	55000	38000	9670	15700	19900	17800	6090	3300	1950	1660
MIN	499	524	761	9960	4370	3300	6620	6480	3400	1020	853	693
AC-FT	35240	67420	738000	977200	338400	441400	518700	605600	266400	127300	70780	68980

KLAMATH RIVER BASIN

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
MAXIMUM PEAK FLOW	a190000 Dec 22 1955
MAXIMUM PEAK STAGE	36.90 Dec 22 1955
ANNUAL RUNOFF (AC-FT)	4070000
10 PERCENT EXCEEDS	12700
50 PERCENT EXCEEDS	3070
90 PERCENT EXCEEDS	442

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	816	2979	7127	10940	9947	9939	6546	4742	2780	1254	758	676
MEAN	816	2979	7127	10940	9947	9939	6546	4742	2780	1254	758	676
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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	1639827	2145456	
ANNUAL MEAN	4493	5878	4855
HIGHEST ANNUAL MEAN			11350 1983
LOWEST ANNUAL MEAN			786 1977
HIGHEST DAILY MEAN	55000 Dec 28	55000 Dec 28	168000 Dec 22 1964
LOWEST DAILY MEAN	499 Oct 21	499 Oct 21	244 Aug 23 1977
ANNUAL SEVEN-DAY MINIMUM	504 Oct 19	504 Oct 19	246 Aug 18 1977
MAXIMUM PEAK FLOW		59800 Dec 28	231000 Dec 22 1964
MAXIMUM PEAK STAGE		31.98 Dec 28	57.00 Dec 22 1964
ANNUAL RUNOFF (AC-FT)	3253000	4256000	3517000
10 PERCENT EXCEEDS	8420	13500	11300
50 PERCENT EXCEEDS	2080	3710	2160
90 PERCENT EXCEEDS	621	639	597

a From rating curve extended above 56,000 ft³/s.

11530000 TRINITY RIVER AT HOOPA, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11530000 TRINITY RIVER AT HOOPA, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAY				
14...*	1530	8.50	13.9	32.0
14...*	1535	13.5	13.9	50.0
14...*	1540	12.0	13.9	72.0
14...*	1545	10.8	13.9	89.0
14...*	1550	7.00	13.9	118
SEP				
02...*	1555	7.00	18.9	33.0
02...*	1600	8.20	18.9	47.0
02...*	1605	7.20	18.9	62.0
02...*	1610	6.40	18.9	73.0
02...*	1615	4.80	18.9	93.0

* Instantaneous discharge at the time of the cross-sectional measurements: May 14, 9,420 ft³/s; Sept. 2, 1,620 ft³/s.

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 mi², approximately (not including Lost River or Lower Klamath Lake Basins).

WATER-DISCHARGE RECORDS

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 current year. Monthly discharge only for some periods, published in WSP 1315-B.

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 NGVD of 1929. 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 NGVD of 1929.

REMARKS.—Records fair. Medium and low flows considerably regulated by reservoirs and powerplants upstream from station and by transbasin diversion (from Trinity River) to Judge Francis Carr Powerplant (station 11525430) since April 1963. Large diversions for irrigation upstream from station. Gage is affected by tide at discharges below 30,000 ft³/s. See schematic diagram of [Klamath River and Trinity River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 557,000 ft³/s, Dec. 23, 1964, gage height, 55.3 ft, former datum, from floodmarks, from rating curve extended above 230,000 ft³/s, on basis of flood-routing study; minimum daily, 1,310 ft³/s, Sept. 4, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of December 1861 reached a stage of 60 ft, site and datum then in use, discharge 450,000 ft³/s; flood of February 1881 reached a discharge of 360,000 ft³/s; flood of February 1890 reached a stage of 63 ft, site and datum then in use, discharge 425,000 ft³/s. Maximum discharges for 1927 and 1932–50, determined from upstream stations, are published in WSP 1686, Part 11, Volume 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2670	2320	3200	90000	40000	15900	30200	41000	19900	7650	3310	3660
2	2590	e2340	3200	56500	35600	15300	28900	39000	18900	7410	3350	3620
3	2550	e2340	3190	43900	30900	14900	27500	37600	18500	7240	3680	3690
4	e2640	e2350	3360	42000	27400	14200	28700	39200	18300	7140	4010	3740
5	e2650	e2340	e3360	47400	24700	13600	27600	38800	18400	7000	4060	3750
6	e2680	e2340	e3360	42000	22800	13100	27100	35500	17700	6890	3950	3770
7	e2740	e2920	e3270	36800	21000	12700	26500	33100	17200	6820	3850	3680
8	e2780	e5690	3150	32600	19600	12300	25900	31500	16900	6750	3800	3670
9	e2780	e7190	3070	29700	18400	12500	26900	30000	16300	6640	3720	3750
10	e2710	e8050	3330	28000	17600	15300	27200	28300	15500	6450	3600	3930
11	2580	e7430	4040	28500	16700	15500	27500	26900	14600	6330	3510	3840
12	2520	6480	4930	32300	15900	15700	28600	26100	13800	5990	3480	3700
13	2420	6110	7460	64700	15500	16100	30600	25700	13100	5630	3430	3610
14	2320	5550	29700	98500	15600	21900	30300	26200	12500	5310	3370	3520
15	e2300	4590	66900	74900	15900	34800	28900	26800	12000	5060	3280	3450
16	2290	4130	95700	53500	23900	44700	27200	25800	11600	4910	3210	3420
17	2160	4040	73400	42700	27100	34700	26500	24200	11300	4700	3170	3350
18	e2170	3910	35400	38000	24300	28600	25400	22700	11300	4510	3140	3100
19	e2190	3830	24500	35300	26400	25200	24000	21400	11100	4330	3100	2940
20	e2200	3630	22300	32400	27300	25400	22900	20700	10600	4180	3060	2930
21	e2190	3780	31200	30100	23900	23800	22500	20900	10100	4060	3000	2920
22	e2180	3960	25600	29500	22300	24600	22500	22300	9760	3920	2970	3030
23	e2190	3750	16800	35900	21300	32800	22400	24300	9270	3790	3000	3040
24	e2210	3530	17300	34000	20000	29200	30400	25700	8880	3680	3030	3040
25	e2160	3370	15100	41100	18800	27600	34600	25100	8650	3620	3010	3040
26	e2210	3220	13900	42200	18000	59200	37700	23400	8360	3640	3340	3080
27	e2210	3190	42600	49200	17300	59500	36400	22200	8260	3650	3960	3090
28	e2220	3100	163000	49900	16400	44200	35700	21700	8210	3630	3860	3060
29	e2360	3060	113000	40500	---	38000	39800	22100	8150	3520	3720	3050
30	e2340	3160	76300	36900	---	34200	44200	22500	7920	3430	3690	3020
31	e2330	---	115000	41500	---	31700	---	21700	---	3340	3690	---
TOTAL	74540	121700	1026620	1380500	624600	807200	874600	852400	387060	161220	107350	101490
MEAN	2405	4057	33120	44530	22310	26040	29150	27500	12900	5201	3463	3383
MAX	2780	8050	163000	98500	40000	59500	44200	41000	19900	7650	4060	3930
MIN	2160	2320	3070	28000	15500	12300	22400	20700	7920	3340	2970	2920
AC-FT	147900	241400	2036000	2738000	1239000	1601000	1735000	1691000	767700	319800	212900	201300

e Estimated.

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
MAXIMUM PEAK FLOW	a425000 Dec 22 1955
MAXIMUM PEAK STAGE	b49.7 Dec 22 1955
ANNUAL RUNOFF (AC-FT)	12320000
10 PERCENT EXCEEDS	37300
50 PERCENT EXCEEDS	10200
90 PERCENT EXCEEDS	2860

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	4798	14220	26090	33760	33090	33620	25880	19520	11210	4678	3129	3224
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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1963 - 2003

ANNUAL TOTAL	5135510	6519280	
ANNUAL MEAN	14070	17860	17530
HIGHEST ANNUAL MEAN			36100 1983
LOWEST ANNUAL MEAN			4036 1977
HIGHEST DAILY MEAN	163000 Dec 28	163000 Dec 28	420000 Dec 23 1964
LOWEST DAILY MEAN	1890 Sep 15	2160 Oct 17	1310 Sep 4 1977
ANNUAL SEVEN-DAY MINIMUM	1960 Sep 10	2180 Oct 17	1370 Aug 18 1977
MAXIMUM PEAK FLOW		181000 Dec 28	557000 Dec 23 1964
MAXIMUM PEAK STAGE		28.91 Dec 28	55.30 Dec 23 1964
ANNUAL RUNOFF (AC-FT)	10190000	12930000	12700000
10 PERCENT EXCEEDS	27900	38300	39500
50 PERCENT EXCEEDS	6880	12300	9510
90 PERCENT EXCEEDS	2120	2780	2830

a From rating curve extended above 140,000 ft³/s on basis of flood-routing study.
 b From floodmarks, site and datum then in use.

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1951-95, July 2002 to current year.

CHEMICAL DATA: Water years 1951-95, July 2002 to current year (seasonal only).

BIOLOGICAL DATA: Water years 1975-81.

DISSOLVED OXYGEN: July 2002 to current year (seasonal only).

pH: July 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: Water years 1975-81, July 2002 to current year (seasonal only).

WATER TEMPERATURE: Water years 1966-81, July 2002 to current year (seasonal only).

SEDIMENT DATA: Water years 1955-56, 1975-95.

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: July 2002 to current year (seasonal only).

pH: July 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: October 1974 to September 1981 (once daily), July 2002 to current year (seasonal only).

WATER TEMPERATURE: November 1965 to September 1981 (daily), July 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since July 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen record is fair. pH record is excellent; specific conductance record is excellent, except for June 6-11, which is poor; water temperature record is excellent, except for June 9-18, which is poor. Interruptions in record are due to malfunction of recording and (or) sensing equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 11.9 mg/L, Sept. 30, 2003; minimum recorded, 6.7 mg/L, July 12, Aug. 29, Sept. 14, 2002.

pH: Maximum recorded, 8.8 standard units, Sept. 30, 2003; minimum recorded, 7.7 standard units, June 27-30, 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 211 microsiemens, Oct. 23, 25, 2002; minimum recorded, 87 microsiemens, June 9, 2003.

WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 12, 1979; minimum recorded, 2.5°C, Feb. 2, 1972.

EXTREMES FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 11.9 mg/L, Sept. 30; minimum recorded, 7.2 mg/L, Aug. 2.

pH: Maximum recorded, 8.8 standard units, Sept. 30; minimum recorded, 7.7 standard units, June 27-30.

SPECIFIC CONDUCTANCE: Maximum recorded, 211 microsiemens, Oct. 23, 25; minimum recorded, 87 microsiemens, June 9.

WATER TEMPERATURE: Maximum recorded, 24.9°C, July 28; minimum recorded, 9.4°C, Apr. 29, 30.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfiltered, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, standard units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, deg C (00010)
JUL									
17...	0910	4680	<1.0	771	8.5	94	8.2	161	20.0
SEP									
18...	0920	3110	2.3	762	9.4	97	8.1	168	17.0
Date	Hardness, water, unfiltered, mg/L as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, percent (00932)	Bicarbonate, water, filtered, titration, mg/L as CaCO3 (39086)	Bicarbonate, water, filtered, titration, mg/L (00453)
JUL									
17...	70	15.5	7.59	.91	.3	5.25	14	72	87
SEP									
18...	76	15.9	8.77	1.34	.4	7.59	18	78	95

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

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	
JUL 17...	<1	2.87	<.2	16.2	5.7	97	.14	100	.10
SEP 18...	<1	3.87	<.2	21.4	5.4	111	.17	122	.17

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
JUL 17...	<.015	<.022	e.01	e.02	1.5	.6	e.9	e8	1.1
SEP 18...	<.015	<.022	.03	.06	3.2	2.5	6.2	11	1.3

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

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	10.1	7.4	---	---	---	---	---	---	---	---	---	---
3	9.8	7.5	---	---	---	---	---	---	---	---	---	---
4	10.3	7.5	---	---	---	---	---	---	---	---	---	---
5	10.3	7.8	---	---	---	---	---	---	---	---	---	---
6	10.3	7.8	---	---	---	---	---	---	---	---	---	---
7	10.5	7.7	---	---	---	---	---	---	---	---	---	---
8	10.4	7.7	---	---	---	---	---	---	---	---	---	---
9	10.3	7.7	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	10.5	8.7	---	---	---	---	---	---	---	---	---	---
20	10.5	8.5	---	---	---	---	---	---	---	---	---	---
21	10.8	8.7	---	---	---	---	---	---	---	---	---	---
22	10.6	8.2	---	---	---	---	---	---	---	---	---	---
23	10.6	8.8	---	---	---	---	---	---	---	---	---	---
24	10.4	8.8	---	---	---	---	---	---	---	---	---	---
25	11.0	8.9	---	---	---	---	---	---	---	---	---	---
26	11.1	9.0	---	---	---	---	---	---	---	---	---	---
27	11.6	9.4	---	---	---	---	---	---	---	---	---	---
28	11.5	9.6	---	---	---	---	---	---	---	---	---	---
29	11.6	9.6	---	---	---	---	---	---	---	---	---	---
30	11.4	9.7	---	---	---	---	---	---	---	---	---	---
31	11.7	9.8	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	10.8	10.6	10.9	9.6	9.4	8.7	8.3	7.3	9.8	7.7
2	---	---	10.7	10.5	10.8	9.5	9.4	8.8	8.2	7.2	10.1	7.6
3	---	---	10.9	10.6	10.7	9.4	9.5	8.9	8.5	7.5	9.4	7.8
4	---	---	11.3	10.9	11.2	9.2	9.5	8.9	8.9	7.7	10.2	7.9
5	---	---	11.3	11.1	10.8	9.1	9.5	8.9	9.1	8.0	9.3	7.9
6	---	---	11.3	11.1	10.7	9.0	9.4	8.7	9.1	8.1	9.2	7.8
7	---	---	11.3	11.1	10.2	8.5	9.3	8.7	10.1	8.2	9.6	7.9
8	---	---	11.1	10.8	10.0	8.5	9.3	8.8	10.1	8.2	10.2	7.7
9	---	---	11.3	11.0	---	---	9.2	8.6	10.0	8.0	9.7	8.2
10	---	---	11.2	10.8	---	---	9.2	8.6	10.3	8.1	10.2	8.2
11	---	---	11.1	10.6	---	---	9.2	8.5	10.4	8.1	10.2	8.5
12	---	---	11.0	10.5	---	---	9.2	8.5	10.4	8.1	10.1	8.0
13	---	---	11.4	10.3	---	---	9.2	8.3	10.6	8.1	10.1	8.1
14	---	---	10.8	10.1	---	---	9.2	8.4	10.4	8.1	10.2	8.3
15	---	---	10.9	10.1	---	---	9.1	8.2	10.5	8.0	10.3	7.9
16	---	---	11.2	10.5	---	---	9.3	8.4	9.9	7.9	10.6	7.7
17	---	---	11.1	10.4	---	---	9.2	8.3	9.9	7.8	10.7	8.9
18	---	---	11.2	10.5	---	---	9.3	8.1	10.1	7.8	10.7	8.9
19	---	---	11.2	10.6	9.8	8.9	8.8	8.2	10.1	7.8	10.8	8.8
20	---	---	11.4	10.5	9.7	9.0	8.8	8.1	10.0	7.8	10.8	8.7
21	---	---	11.0	10.3	9.8	8.9	8.6	8.0	10.2	7.6	11.1	8.7
22	---	---	10.8	10.0	9.8	8.9	8.6	7.8	9.6	7.8	10.9	8.5
23	---	---	10.4	9.8	9.8	8.7	8.5	7.6	10.4	7.9	11.0	8.5
24	---	---	10.2	9.7	9.9	8.7	8.6	7.6	10.3	7.9	11.1	8.5
25	---	---	10.3	9.8	9.8	8.5	8.5	7.6	10.3	7.8	11.2	8.5
26	---	---	10.6	9.9	9.6	8.2	8.5	7.7	10.3	7.3	11.3	8.4
27	---	---	10.6	10.0	9.5	8.0	8.4	7.6	10.2	7.9	11.0	8.4
28	---	---	10.6	9.7	9.2	7.8	8.3	7.5	9.7	7.9	10.7	8.4
29	11.0	10.7	10.6	9.7	9.1	7.6	8.2	7.3	10.4	8.1	11.3	8.5
30	11.0	10.8	10.6	9.7	9.4	7.5	8.4	7.4	10.2	8.0	11.9	8.6
31	---	---	10.8	9.7	---	---	8.4	7.3	10.0	7.9	---	---
MONTH	---	---	11.4	9.7	---	---	9.5	7.3	10.6	7.2	11.9	7.6

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	191	187	---	---	---	---	---	---	---	---	---	---
3	193	191	---	---	---	---	---	---	---	---	---	---
4	197	190	---	---	---	---	---	---	---	---	---	---
5	192	191	---	---	---	---	---	---	---	---	---	---
6	197	192	---	---	---	---	---	---	---	---	---	---
7	201	197	---	---	---	---	---	---	---	---	---	---
8	200	199	---	---	---	---	---	---	---	---	---	---
9	208	200	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	204	194	---	---	---	---	---	---	---	---	---	---
20	205	196	---	---	---	---	---	---	---	---	---	---
21	209	194	---	---	---	---	---	---	---	---	---	---
22	207	200	---	---	---	---	---	---	---	---	---	---
23	211	192	---	---	---	---	---	---	---	---	---	---
24	207	201	---	---	---	---	---	---	---	---	---	---
25	211	202	---	---	---	---	---	---	---	---	---	---
26	207	195	---	---	---	---	---	---	---	---	---	---
27	207	206	---	---	---	---	---	---	---	---	---	---
28	207	204	---	---	---	---	---	---	---	---	---	---
29	207	206	---	---	---	---	---	---	---	---	---	---
30	207	206	---	---	---	---	---	---	---	---	---	---
31	208	207	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	135	131	116	111	143	142	175	174	163	159
2	---	---	136	134	118	115	145	143	175	173	161	160
3	---	---	135	134	119	111	146	145	173	172	163	161
4	---	---	134	127	117	111	146	145	175	172	164	163
5	---	---	130	127	112	105	147	146	188	174	166	164
6	---	---	131	130	105	98	147	144	182	174	167	166
7	---	---	132	131	98	94	147	144	177	175	168	167
8	---	---	132	132	95	91	145	144	180	177	169	166
9	---	---	134	132	91	87	145	144	180	180	168	164
10	---	---	136	134	109	90	145	144	181	179	165	164
11	---	---	136	135	---	---	147	145	180	178	168	165
12	---	---	136	135	---	---	148	146	181	178	169	166
13	---	---	140	135	---	---	149	147	181	179	171	168
14	---	---	140	135	---	---	150	148	181	178	169	166
15	---	---	135	130	---	---	153	150	181	179	170	168
16	---	---	130	128	---	---	154	151	182	180	172	167
17	---	---	131	129	---	---	155	153	181	179	168	149
18	---	---	133	130	---	---	159	154	181	179	170	168
19	---	---	134	132	134	132	159	157	182	181	175	170
20	---	---	132	131	137	133	161	158	182	181	177	175
21	---	---	132	130	140	137	163	161	182	180	179	177
22	---	---	131	127	144	140	165	163	182	181	182	179
23	---	---	130	127	146	144	167	164	182	180	184	182
24	---	---	127	121	148	145	167	165	181	180	186	181
25	---	---	122	119	150	147	168	167	181	179	187	183
26	---	---	123	121	152	149	182	168	181	179	186	181
27	---	---	123	121	152	151	170	168	180	166	185	183
28	---	---	124	122	152	150	170	169	166	159	185	184
29	132	128	124	121	151	148	172	170	161	160	184	183
30	131	128	121	114	151	141	173	171	162	161	184	182
31	---	---	114	109	---	---	174	172	162	160	---	---
MONTH	---	---	140	109	---	---	182	142	188	159	187	149

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	17.1	16.1	---	---	---	---	---	---	---	---	---	---
3	16.5	15.7	---	---	---	---	---	---	---	---	---	---
4	16.8	16.0	---	---	---	---	---	---	---	---	---	---
5	17.0	16.1	---	---	---	---	---	---	---	---	---	---
6	17.4	16.4	---	---	---	---	---	---	---	---	---	---
7	17.7	16.8	---	---	---	---	---	---	---	---	---	---
8	17.7	16.9	---	---	---	---	---	---	---	---	---	---
9	17.6	16.8	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	14.9	13.7	---	---	---	---	---	---	---	---	---	---
20	15.8	14.5	---	---	---	---	---	---	---	---	---	---
21	15.4	14.2	---	---	---	---	---	---	---	---	---	---
22	15.2	14.3	---	---	---	---	---	---	---	---	---	---
23	14.5	13.9	---	---	---	---	---	---	---	---	---	---
24	14.2	13.7	---	---	---	---	---	---	---	---	---	---
25	14.2	13.2	---	---	---	---	---	---	---	---	---	---
26	13.9	13.2	---	---	---	---	---	---	---	---	---	---
27	13.2	12.3	---	---	---	---	---	---	---	---	---	---
28	13.2	12.1	---	---	---	---	---	---	---	---	---	---
29	12.9	12.0	---	---	---	---	---	---	---	---	---	---
30	12.3	11.4	---	---	---	---	---	---	---	---	---	---
31	11.5	10.6	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.1	10.3	17.0	15.1	20.7	19.4	24.5	23.0	22.1	20.6
2	---	---	11.7	10.9	17.6	15.2	20.4	18.8	24.4	22.8	22.2	20.9
3	---	---	11.1	10.7	18.4	15.7	20.3	18.5	22.9	22.1	22.1	20.3
4	---	---	11.2	10.3	18.6	16.2	20.3	18.4	22.7	22.2	21.1	19.9
5	---	---	11.8	10.0	18.8	16.8	20.4	18.6	23.7	21.9	21.1	20.0
6	---	---	11.3	10.5	18.4	16.8	20.6	18.9	23.0	21.4	20.3	20.0
7	---	---	11.6	10.5	18.6	17.0	20.1	18.9	22.4	20.3	20.2	19.5
8	---	---	12.1	10.9	19.4	17.3	21.1	18.8	22.7	20.7	20.0	19.0
9	---	---	11.5	10.6	20.0	17.5	21.4	19.4	23.0	21.2	19.5	18.3
10	---	---	12.5	10.6	18.9	17.2	21.4	19.6	22.7	20.8	19.4	17.8
11	---	---	12.1	11.5	17.6	17.0	21.8	19.8	22.4	20.9	20.2	18.0
12	---	---	13.2	11.3	17.1	16.8	21.9	19.7	22.4	20.8	20.7	19.0
13	---	---	14.3	12.1	17.3	16.6	22.0	20.3	22.5	20.9	20.6	18.8
14	---	---	14.2	13.4	18.4	16.4	22.2	20.1	22.3	20.8	20.6	18.8
15	---	---	13.9	12.8	18.7	16.8	21.7	20.2	22.7	21.3	20.0	18.6
16	---	---	13.8	12.2	19.0	17.3	22.2	20.0	22.6	21.2	19.7	18.2
17	---	---	13.3	11.9	18.6	17.8	22.3	20.2	22.5	21.2	18.8	17.3
18	---	---	13.5	11.6	19.1	18.1	22.7	20.4	22.9	21.5	18.6	17.1
19	---	---	13.8	11.6	18.4	17.5	23.1	20.9	22.9	21.6	18.5	17.4
20	---	---	14.3	12.1	19.2	17.0	23.4	21.2	23.1	21.9	18.9	17.9
21	---	---	15.2	12.8	19.4	17.2	23.5	21.7	23.1	21.9	19.4	18.2
22	---	---	16.0	14.1	19.2	16.6	24.3	22.2	22.9	21.6	19.7	18.6
23	---	---	16.4	14.4	19.1	16.6	24.4	22.6	22.5	21.1	19.7	18.5
24	---	---	15.7	14.9	19.4	16.2	24.2	22.7	22.7	21.5	19.4	18.5
25	---	---	14.9	14.0	20.3	16.3	23.8	22.0	22.7	21.8	19.3	18.5
26	---	---	15.7	13.9	21.4	17.1	24.0	22.1	22.8	21.8	19.4	18.4
27	---	---	16.0	14.0	22.1	17.8	24.6	22.4	22.8	21.1	19.3	18.3
28	---	---	16.3	14.6	22.5	18.5	24.9	23.0	22.2	20.2	19.2	18.6
29	9.9	9.4	16.1	15.0	21.6	18.8	24.7	23.0	21.6	20.2	19.4	18.7
30	10.9	9.4	15.3	14.8	20.6	19.0	24.5	22.9	21.5	20.1	19.2	18.1
31	---	---	16.7	14.8	---	---	24.3	23.1	21.7	20.2	---	---
MONTH	---	---	16.7	10.0	22.5	15.1	24.9	18.4	24.5	20.1	22.2	17.1

KLAMATH RIVER BASIN

11530500 KLAMATH RIVER NEAR KLAMATH, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm 1 bank (00009)
OCT									
08...*	1223	--	761	9.8	101	8.6	199	17.0	405
08...*	1230	--	761	9.4	97	8.6	200	17.0	315
08...*	1238	--	761	8.8	91	8.5	201	17.0	225
08...*	1245	--	761	8.3	86	8.5	200	17.0	135
08...*	1255	--	761	9.7	101	8.5	200	17.5	45.0
MAY									
06...*	1110	--	760	11.7	104	8.0	127	10.2	66.0
06...*	1111	--	760	11.5	103	8.0	127	10.3	198
06...*	1112	--	760	11.4	102	8.0	127	10.2	330
06...*	1113	--	760	11.4	102	8.0	127	10.3	528
06...*	1114	--	760	11.2	101	7.9	130	10.7	564
JUN									
04...*	1135	--	758	10.2	106	8.1	115	16.9	60.0
04...*	1139	--	758	9.4	98	8.1	115	16.9	180
04...*	1141	--	758	9.9	103	8.1	115	16.9	300
04...*	1142	--	758	9.9	103	8.1	115	17.0	420
04...*	1144	--	758	10.8	116	8.6	123	18.4	540
JUL									
17...*	0905	4.10	764	8.7	96	8.2	161	20.1	48.0
17...*	0908	7.80	764	8.6	95	8.2	161	20.1	144
17...*	0914	6.50	764	8.5	93	8.2	161	20.1	240
17...*	0916	4.50	764	8.5	93	8.2	161	20.1	336
17...*	0920	1.20	764	8.5	94	8.2	161	20.2	432
SEP									
18...*	0915	2.10	762	9.4	97	8.0	169	16.8	378
18...*	0921	8.00	762	9.4	97	8.1	168	17.0	294
18...*	0923	7.70	762	9.5	98	8.1	168	17.0	210
18...*	0926	6.40	762	9.3	96	8.1	168	17.0	126
18...*	0928	3.40	762	9.4	97	8.1	168	17.0	42.0

* Instantaneous discharge at the time of the cross-sectional measurements: Oct. 8, 2,980 ft³/s; May 6, 35,400 ft³/s; June 4, 18,300 ft³/s; July 17, 4,680 ft³/s; Sept. 18, 3,110 ft³/s.

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 mi².

PERIOD OF RECORD.—October 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

CHEMICAL DATA: Water years 1952 to 1993

BIOLOGICAL DATA: Water years 1978 to 1981

SPECIFIC CONDUCTANCE: Water years 1979 to 1981

WATER TEMPERATURE: Water years 1966 to 1981

SEDIMENT DATA: Water years 1955 to 1956, 1977 to 1993.

REVISED RECORDS.—WSP 1929: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 79.26 ft above NGVD of 1929. Prior to Oct. 9, 1991, at site 1.1 mi upstream at datum 10.35 ft higher.

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, 228,000 ft³/s, Dec. 22, 1964, gage height, 48.5 ft, from floodmarks, from rating curve extended above 110,000 ft³/s, on basis of slope-area measurement at gage height 39.51 ft, former site and datum; minimum daily, 160 ft³/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 ft³/s, from rating extension above 39.51 ft.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 36,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0700	48,300	21.33	Dec. 27	1500	60,200	23.01

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	193	397	15900	10600	2740	4870	6970	1380	587	340	253
2	208	194	385	10600	8390	2560	4910	6220	1310	577	343	250
3	206	194	373	11000	6600	2460	5610	5800	1260	562	370	247
4	209	194	369	11900	5460	2310	8160	8560	1210	549	369	252
5	211	195	367	11200	4680	2170	7480	8430	1170	539	361	252
6	206	194	354	8200	4100	2060	9810	6610	1120	531	361	256
7	201	300	344	6620	3660	2100	9520	5500	1090	525	359	269
8	197	1310	335	5550	3310	2390	8410	4850	1060	526	348	287
9	194	2810	348	4810	3010	4110	8090	4320	1010	513	340	309
10	193	6860	823	4330	2770	6920	8200	3880	972	500	334	376
11	192	3380	1860	4130	2580	5120	8180	3600	947	489	330	313
12	191	e2100	2500	5860	2410	4800	8510	3370	927	480	327	283
13	192	e1970	7940	11000	2310	4980	8790	3310	927	476	324	266
14	193	1310	25100	13500	2190	13000	7660	3400	912	472	319	256
15	192	985	21100	8580	2760	16100	6470	3200	871	465	312	252
16	192	848	34800	6460	9670	11800	5740	2870	846	463	308	251
17	192	1400	13600	5350	9570	8220	5690	2630	820	452	304	253
18	193	1280	9160	4690	9280	6260	5260	2430	802	441	298	252
19	194	1010	6780	4160	10300	5510	4660	2270	788	431	293	248
20	196	850	9930	3700	9210	8300	4230	2180	772	421	287	246
21	196	757	16900	3770	6860	7490	3940	2150	752	411	281	240
22	196	674	8950	4340	5820	12200	3590	2190	731	404	280	233
23	196	608	5950	7410	5050	12700	4140	2170	713	394	291	231
24	197	562	4630	6710	4410	8400	10700	2110	693	385	291	228
25	200	524	3770	11500	3940	9600	9680	1980	673	379	282	226
26	202	488	4570	8820	3560	20800	10800	1850	650	378	274	223
27	200	461	38200	18600	3230	12300	9250	1710	628	371	273	220
28	198	440	34100	11700	2950	8850	8060	1640	607	364	272	220
29	197	423	18200	8020	---	6910	7900	1590	594	354	271	222
30	195	410	23800	11000	---	5720	8160	1570	597	347	267	223
31	194	---	30600	11800	---	5030	---	1480	---	343	261	---
TOTAL	6134	32924	326535	261210	148680	223910	216470	110840	26832	14129	9670	7637
MEAN	198	1097	10530	8426	5310	7223	7216	3575	894	456	312	255
MAX	211	6860	38200	18600	10600	20800	10800	8560	1380	587	370	376
MIN	191	193	335	3700	2190	2060	3590	1480	594	343	261	220
AC-FT	12170	65300	647700	518100	294900	444100	429400	219900	53220	28020	19180	15150

e Estimated.

SMITH RIVER BASIN

11532500 SMITH RIVER NEAR CRESCENT CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	998	4546	7560	8566	7497	6464	4367	2755	1263	530	338	332
MAX	11770	23620	21740	21930	22680	15760	11960	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL TOTAL	1125082		1384971			
ANNUAL MEAN	3082		3794		3752	
HIGHEST ANNUAL MEAN					7027	
LOWEST ANNUAL MEAN					975	
HIGHEST DAILY MEAN	38200	Dec 27	38200	Dec 27	180000	Dec 22 1964
LOWEST DAILY MEAN	191	Oct 12	191	Oct 12	160	Oct 24 1964
ANNUAL SEVEN-DAY MINIMUM	192	Oct 11	192	Oct 11	163	Oct 20 1964
MAXIMUM PEAK FLOW			60200	Dec 27	228000	Dec 22 1964
MAXIMUM PEAK STAGE			23.01	Dec 27	48.50	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	2232000		2747000		2718000	
10 PERCENT EXCEEDS	7600		9670		8860	
50 PERCENT EXCEEDS	907		1280		1570	
90 PERCENT EXCEEDS	206		211		265	

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 mi².

PERIOD OF RECORD.—October 1989 to current year. Records prior to October 1989 in files of the California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929.

REMARKS.—Data is collected for flood-warning purposes. Interruptions in record were due to malfunction of the sensing equipment.

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height, 34.12 ft, Jan. 8, 1990.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.53	12.48	12.48	12.43	12.98	12.93	---	---	18.24	17.75	14.98	14.87
2	12.52	12.47	12.49	12.43	12.95	12.91	18.63	17.66	17.75	16.96	14.87	14.76
3	12.51	12.47	12.48	12.43	12.94	12.89	18.42	17.68	16.96	16.41	14.79	14.71
4	12.52	12.48	12.48	12.43	12.93	12.89	19.32	17.56	16.41	16.02	14.73	14.62
5	12.52	12.50	12.48	12.42	12.94	12.88	19.03	17.57	16.04	15.74	14.64	14.54
6	12.51	12.46	12.49	12.44	12.92	12.85	17.58	16.87	15.75	15.50	14.55	14.48
7	12.51	12.45	12.99	12.46	12.90	12.81	16.88	16.38	15.50	15.31	14.59	14.48
8	12.49	12.44	14.29	12.97	12.88	12.82	16.38	16.02	15.32	15.15	14.74	14.58
9	12.48	12.43	15.89	13.99	12.99	12.82	16.03	15.76	15.15	15.00	16.98	14.63
10	12.48	12.43	17.57	15.89	13.89	12.97	15.76	15.61	15.00	14.88	16.98	16.28
11	12.47	12.43	16.14	14.85	14.60	13.89	15.62	15.53	14.89	14.78	16.29	15.91
12	12.47	12.42	14.85	14.48	15.01	14.60	16.81	15.61	14.78	14.68	16.04	15.74
13	12.47	12.43	14.88	14.33	18.40	14.95	19.66	16.81	14.69	14.65	16.71	15.67
14	12.48	12.44	14.33	13.91	24.25	17.13	19.75	17.89	14.66	14.54	19.37	16.71
15	12.48	12.43	13.92	13.65	22.79	19.37	17.89	16.85	15.80	14.52	19.92	18.47
16	12.46	12.44	13.67	13.54	25.39	20.45	16.86	16.30	17.84	15.80	19.28	17.74
17	12.47	12.43	14.27	13.61	20.45	18.25	16.30	15.95	17.84	17.18	17.75	16.86
18	12.47	12.44	14.23	13.91	18.26	17.22	15.96	15.70	17.67	17.13	16.86	16.29
19	12.48	12.44	13.91	13.66	17.22	16.68	15.71	15.48	18.44	17.37	16.54	16.09
20	12.49	12.44	13.68	13.53	20.44	16.57	15.49	15.31	18.23	17.13	17.45	16.51
21	12.49	12.45	13.55	13.43	20.88	18.56	15.52	15.29	17.14	16.50	17.25	16.78
22	12.50	12.45	13.54	13.32	18.56	17.02	16.68	15.35	16.52	16.17	20.50	16.85
23	12.49	12.45	13.35	13.26	17.02	16.26	17.07	16.49	16.18	15.87	20.13	17.86
24	12.49	12.45	13.27	13.19	16.26	15.82	17.86	16.21	15.88	15.62	17.86	16.92
25	12.50	12.46	13.23	13.14	15.83	15.48	18.58	17.63	15.63	15.43	20.28	16.74
26	12.51	12.46	13.16	13.07	16.90	15.41	18.03	17.08	15.43	15.26	21.64	19.44
27	12.51	12.46	13.09	13.05	26.84	16.90	21.28	18.03	15.27	15.11	19.45	17.89
28	12.51	12.45	13.06	13.00	24.78	21.88	19.59	17.71	15.11	14.97	17.91	17.06
29	12.50	12.45	13.04	12.97	21.92	19.03	17.75	16.82	---	---	17.07	16.47
30	12.49	12.44	13.02	12.95	---	---	18.80	16.81	---	---	16.50	16.12
31	12.49	12.43	---	---	---	---	18.77	17.92	---	---	16.14	15.91
MONTH	12.53	12.42	17.57	12.42	---	---	---	---	18.44	14.52	21.64	14.48

11532650 SMITH RIVER NEAR FORT DICK, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	16.05	15.84	17.00	16.58	14.09	14.00	13.24	13.17	12.79	12.74	12.63	12.55				
2	16.04	15.86	16.61	16.34	14.02	13.94	13.23	13.15	12.79	12.74	12.62	12.55				
3	16.66	16.00	16.38	16.24	13.99	13.90	13.20	13.11	12.85	12.76	12.62	12.54				
4	17.36	16.65	17.80	16.28	13.94	13.85	13.17	13.12	12.86	12.80	12.62	12.54				
5	17.27	16.77	17.69	16.88	13.88	13.82	13.17	13.09	12.84	12.78	12.62	12.54				
6	18.22	16.91	16.88	16.38	13.85	13.77	13.15	13.09	12.82	12.78	12.61	12.54				
7	18.18	17.35	16.40	16.02	13.80	13.74	13.14	13.08	12.82	12.78	12.65	12.55				
8	17.43	17.07	16.04	15.83	13.77	13.71	13.14	13.09	12.82	12.75	12.67	12.59				
9	17.29	16.92	15.86	15.59	13.73	13.66	13.13	13.06	12.80	12.74	12.74	12.61				
10	17.37	16.98	15.63	15.39	13.70	13.62	13.10	13.04	12.78	12.71	12.87	12.69				
11	17.43	16.92	15.43	15.29	13.67	13.60	13.08	13.02	12.76	12.72	12.82	12.63				
12	17.55	16.91	15.29	15.18	13.66	13.58	13.06	13.00	12.76	12.71	12.68	12.57				
13	17.58	17.17	15.23	15.17	13.64	13.58	13.05	12.99	12.75	12.71	12.63	12.53				
14	17.24	16.74	15.29	15.16	13.62	13.55	13.03	12.98	12.75	12.69	12.59	12.49				
15	16.78	16.40	15.19	15.05	13.59	13.52	13.03	12.97	12.73	12.68	12.57	12.49				
16	16.45	16.19	15.05	14.90	13.56	13.49	13.03	12.97	12.73	12.67	12.55	12.53				
17	16.31	16.19	14.91	14.78	13.52	13.46	13.01	12.95	12.73	12.66	12.55	12.53				
18	16.21	15.96	14.79	14.68	13.51	13.43	12.99	12.93	12.72	12.65	12.55	12.53				
19	15.99	15.73	14.68	14.59	13.48	13.41	12.97	12.92	12.71	12.63	12.54	12.53				
20	15.76	15.58	14.61	14.54	13.46	13.39	12.96	12.89	12.69	12.63	12.54	12.52				
21	15.61	15.44	14.59	14.53	13.44	13.37	12.94	12.88	---	---	12.54	12.51				
22	15.48	15.27	14.62	14.53	13.41	13.35	12.91	12.86	---	---	12.52	12.50				
23	16.84	15.25	14.60	14.52	13.40	13.32	12.90	12.84	---	---	12.51	12.49				
24	18.62	16.84	14.58	14.48	13.38	13.30	---	---	---	---	12.50	12.49				
25	18.06	17.51	14.49	14.42	13.33	13.27	12.86	12.82	---	---	12.50	12.48				
26	18.18	18.03	14.43	14.31	13.32	13.25	12.86	12.81	12.67	12.60	12.49	12.47				
27	18.08	17.27	14.35	14.24	13.29	13.21	12.85	12.80	12.66	12.60	12.48	12.47				
28	17.31	17.02	14.27	14.20	13.27	13.18	12.84	12.78	12.66	12.60	12.48	12.47				
29	17.31	16.96	14.23	14.16	13.25	13.17	12.83	12.76	12.66	12.59	12.48	12.47				
30	17.36	16.97	14.23	14.13	13.24	13.18	12.81	12.75	12.65	12.59	12.49	12.48				
31	---	---	14.17	14.06	---	---	12.80	12.74	12.64	12.56	---	---				
MONTH	18.62	15.25	17.80	14.06	14.09	13.17	---	---	---	---	12.87	12.47				

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected.

Special study and miscellaneous sites

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at special study and miscellaneous sites during water year 2003

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water year)	Measurements	
					Date	Discharge (ft ³ /s)
SALINAS RIVER BASIN						
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	1962–2002	01-08-2003	187
					02-21-2003	107
					03-05-2003	89.6

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 2003

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 , Hydrologic Unit 18010211, 300 ft upstream from mouth and 0.7 mi northeast of Lewiston.	9.10	a1965–75, 1976–2003	05-02-03	44.6
					08-11-03	b1.76

a Published as a miscellaneous measurement.

b Base flow.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

Water-quality partial-record stations are particular sites where chemical-quality, biological, and (or) sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

REDWOOD CREEK BASIN

375159122343801 REDWOOD CREEK AT BIG LAGOON BRIDGE, NEAR MUIR BEACH, CA

LOCATION.—Lat 37° 51'59", long 122° 34'38", in Point Reyes National Seashore, [Marin County](#), Hydrologic Unit 18050005, downstream from Big Lagoon Bridge at Shoreline Highway.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.— November 1998 to September 2001.

CHEMICAL DATA: November 1998 to September 2001.

SEDIMENT DATA: November 1998 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000 (NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd, field, std units (00400)	Specific conductance, wat unfltrd, uS/cm, 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, unfltrd, mg/L as CaCO3 (00900)
NOV 23...	1230	.66	770	7.5	67	7.7	256	11.0	100
JAN 27...	1500	15	768	9.6	86	7.5	215	11.0	74
MAR 29...	1320	5.6	--	--	--	7.6	206	11.5	73
MAY 31...	1450	3.2	762	9.2	90	7.8	213	14.5	83
JUL 27...	1500	.76	763	8.6	83	7.6	235	14.0	88
SEP 28...	1420	.21	764	6.0	59	7.7	255	14.5	94

Date	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)
NOV 23...	15	16.1	14.5	.95	.6	13.9	23	85.0	17.2
JAN 27...	16	11.5	10.9	1.30	.6	12.1	26	58.0	18.8
MAR 29...	6	11.2	10.8	.96	.6	11.4	25	67.0	13.9
MAY 31...	5	13.1	12.1	.72	.6	11.8	23	78.0	13.5
JUL 27...	1	14.2	12.8	.75	.6	13.1	24	87.0	14.8
SEP 28...	1	14.5	14.0	.97	.7	15.1	26	93.0	16.0

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents, mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap., at 180degC, wat flt, mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV 23...	<.1	16.9	12.7	143	.20	146	<.10	.12	<.02
JAN 27...	<.1	15.2	9.5	116	.18	131	.11	.40	<.02
MAR 29...	<.1	15.6	8.5	113	.16	121	e.07	e.05	<.02
MAY 31...	<.1	17.0	9.5	125	.18	132	<.10	e.07	<.02
JUL 27...	<.1	16.8	10.0	135	.19	140	e.08	.12	<.02
SEP 28...	<.1	16.8	10.8	144	.20	144	e.06	.12	<.02

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

REDWOOD CREEK BASIN

375159122343801 REDWOOD CREEK AT BIG LAGOON BRIDGE, NEAR MUIR BEACH, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
NOV 23...	<.05	<.010	<.01	.011	.016	--	--	14	14.7
JAN 27...	.39	<.010	.13	.159	.022	--	--	15	e1.3
MAR 29...	<.05	<.010	.12	.134	.125	--	--	e7	2.9
MAY 31...	.06	<.010	.01	.014	.015	<.2	1.4	e7	3.3
JUL 27...	.05	<.010	.01	.014	.023	--	--	e7	3.9
SEP 28...	<.05	<.010	.01	.015	.022	<.2	1.4	24	14.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
NOV 23...SS	1230	.66	11.0	4	.01	79
JAN 27...SS	1500	15	11.0	10	.42	97
MAR 29...SS	1320	5.6	11.5	5	.08	52
MAY 31...SS	1450	3.2	14.5	1	.01	82
JUL 27...SS	1500	.76	14.0	3	.01	33
SEP 28...SS	1420	.21	14.5	4	<.01	76

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

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

PINE GULCH CREEK BASIN

11460170 PINE GULCH CREEK AT BOLINAS, CA

LOCATION.—Lat 37° 55' 07", long 122° 41' 31", in Las Baulinas Grant, Marin County, Hydrologic Unit 18050005, on right bank, 100 ft upstream from highway bridge, 0.4 mile upstream from mouth, and 0.9 mile north of Bolinas.

DRAINAGE AREA.—7.83 mi².

PERIOD OF RECORD.—May 1967 to September 1970, November 1998 to September 1999, October 2000 to September 2001.

CHEMICAL DATA: November 1998 to September 1999, October 2000 to September 2001.

WATER TEMPERATURE: May 1967 to September 1970.

SEDIMENT DATA: June 1967 to September 1970, November 1998 to September 1999, October 2000 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)
NOV 23...	1140	1.4	770	9.8	87	7.9	304	10.5	92
JAN 27...	1320	10	768	9.7	86	7.5	232	10.5	67
MAR 29...	1230	8.8	--	--	--	7.5	212	11.0	58
MAY 31...	1340	4.3	762	9.2	91	7.8	221	15.0	68
JUL 27...	1420	1.3	763	9.2	93	8.0	260	16.0	76
SEP 28...	1330	.84	764	8.1	79	7.7	286	14.5	79

Date	Noncarb hardness, wat flt mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)
NOV 23...	19	18.0	11.4	1.88	1	25.2	37	73.0	21.9
JAN 27...	21	13.0	8.42	2.21	1	17.9	36	46.0	20.5
MAR 29...	18	10.8	7.40	1.37	.9	16.1	37	40.0	17.6
MAY 31...	13	13.2	8.57	1.40	.9	18.0	36	55.0	17.9
JUL 27...	10	14.6	9.59	4.99	1	21.1	36	66.0	19.0
SEP 28...	2	15.1	10.0	1.81	1	24.8	40	77.0	20.2

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, sum of constituents, mg/L (70301)	Residue, water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (00608)
NOV 23...	.1	19.0	34.5	177	.24	173	.10	.21	<.02
JAN 27...	.1	17.4	22.4	134	.20	149	.17	.97	<.02
MAR 29...	<.1	20.3	23.4	122	.18	131	e.09	.11	<.02
MAY 31...	.1	20.8	25.5	140	.20	150	e.09	.10	.02
JUL 27...	.1	19.8	27.6	158	.22	163	.13	.10	<.02
SEP 28...	.1	18.8	29.8	168	.24	176	.10	.16	<.02

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

PINE GULCH CREEK BASIN

11460170 PINE GULCH CREEK AT BOLINAS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
NOV 23...	.27	<.010	.05	.064	.071	--	--	61	6.7
JAN 27...	1.01	<.010	.10	.126	.141	--	--	43	6.0
MAR 29...	.30	<.010	.05	.058	.062	--	--	27	5.7
MAY 31...	.25	<.010	.06	.066	.066	<.2	2.1	41	4.3
JUL 27...	.23	<.010	.06	.076	.079	--	--	55	4.3
SEP 28...	.28	<.010	.07	.074	.094	<.2	2.2	74	5.4

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
NOV 23...SS	1140	1.4	10.5	<.5	<.01	100
JAN 27...SS	1320	10	10.5	6	.16	26
MAR 29...SS	1230	8.8	11.0	4	.10	88
MAY 31...SS	1340	4.3	15.0	2	.02	84
JUL 27...SS	1420	1.3	16.0	3	.01	80
SEP 28...SS	1330	.84	14.5	<.5	<.01	67

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

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

LAGUNITAS CREEK BASIN

380230122471901 OLEMA CREEK AT BEAR VALLEY ROAD BRIDGE, NEAR OLEMA, CA

LOCATION.—Lat 38° 02' 30", long 122° 47' 19", in Point Reyes National Seashore, [Marin County](#), Hydrologic Unit 18050005, downstream from Bear Valley Road Bridge, east of Francis Drake Highway, and near Olema.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—February 1998 to September 2001.

CHEMICAL DATA: February 1998 to September 2001.

SEDIMENT DATA: February 1998 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)
NOV 23...	1100	1.7	770	10.5	91	8.0	359	9.5	140
JAN 27...	1230	33	768	10.1	90	7.6	173	10.5	55
MAR 29...	1200	10	--	--	--	7.6	222	12.0	77
MAY 31...	1250	4.6	762	9.9	99	8.0	234	15.5	94
JUL 27...	1350	1.5	763	9.9	106	7.9	298	18.5	120
SEP 28...	1300	.86	764	7.7	76	7.6	328	15.0	120

Date	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)
NOV 23...	39	32.3	15.3	2.17	.6	15.9	19	105	21.6
JAN 27...	--	11.9	6.23	2.15	.6	10.7	29	--	14.9
MAR 29...	11	16.6	8.56	1.28	.6	11.2	24	66.0	14.0
MAY 31...	17	20.7	10.2	1.43	.6	12.9	23	77.0	15.2
JUL 27...	17	25.7	12.5	1.84	.6	15.1	22	99.0	18.1
SEP 28...	9	26.7	13.4	1.93	.6	15.9	22	113	18.8

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV 23...	.1	14.8	36.5	204	.29	214	.18	.23	<.02
JAN 27...	<.1	13.0	10.1	--	--	120	.19	.35	<.02
MAR 29...	<.1	14.3	15.0	122	.18	133	.12	.13	<.02
MAY 31...	<.1	13.5	17.7	138	.21	151	e.08	.13	<.02
JUL 27...	.1	14.5	21.4	169	.24	176	.11	.15	<.02
SEP 28...	.1	14.3	23.6	183	.26	191	.12	.15	.02

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

LAGUNITAS CREEK BASIN

380230122471901 OLEMA CREEK AT BEAR VALLEY ROAD BRIDGE, NEAR OLEMA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
NOV 23...	.44	<.010	.03	.053	.071	--	--	40	34.5
JAN 27...	1.13	<.010	.03	.043	.064	--	--	31	7.3
MAR 29...	.27	<.010	.04	.054	.073	--	--	21	14.6
MAY 31...	.11	<.010	.04	.056	.063	<.2	2.0	23	10.9
JUL 27...	.08	<.010	.05	.063	.069	--	--	26	18.2
SEP 28...	.06	<.010	.06	.062	.083	<.2	2.0	28	29.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan-taneous dis-charge, cfs (00061)	Temper-ature, water, deg C (00010)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment load, tons/d (80155)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)
NOV 23...SS	1100	1.7	9.5	1	<.01	80
JAN 27...SS	1230	33	10.5	12	1.1	86
MAR 29...SS	1200	10	12.0	3	.08	96
MAY 31...SS	1250	4.6	15.5	2	.03	69
JUL 27...SS	1350	1.5	18.5	4	.02	65
SEP 28...SS	1300	.86	15.0	<.5	<.01	67

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

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

KLAMATH RIVER BASIN

11510990 KLAMATH RIVER ABOVE SHOVEL CREEK, NEAR COPCO, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.2	10.6	9.4	8.0	9.4	7.4	8.8	6.3	10.3	7.8
2	---	---	11.4	11.1	9.3	7.7	9.5	7.4	8.5	6.5	10.0	7.5
3	---	---	11.5	11.1	8.9	7.6	9.4	7.3	8.6	6.7	10.6	7.5
4	---	---	11.8	11.4	9.2	7.6	9.3	7.3	8.2	6.6	10.1	7.7
5	---	---	12.0	11.3	9.2	7.4	9.3	7.1	8.3	6.6	10.0	7.8
6	---	---	11.7	11.2	9.1	7.4	9.1	6.8	8.8	6.9	10.0	7.8
7	---	---	11.6	10.9	9.0	7.3	9.0	6.9	9.7	7.6	10.2	8.0
8	---	---	11.4	11.0	9.0	7.3	9.2	7.2	10.6	7.8	10.8	8.1
9	---	---	11.7	11.3	9.0	7.4	9.1	7.0	10.1	7.5	9.5	8.1
10	---	---	11.7	11.2	9.1	7.4	9.0	7.0	10.4	7.5	---	---
11	---	---	11.6	11.2	9.2	7.6	9.1	6.8	10.4	7.7	---	---
12	---	---	11.4	10.7	9.3	7.6	9.2	6.8	10.5	7.6	---	---
13	---	---	11.2	9.5	9.3	7.7	9.3	6.9	10.1	7.6	---	---
14	---	---	9.8	8.9	9.3	7.7	9.4	6.8	10.0	7.7	---	---
15	---	---	9.6	9.0	9.4	7.3	9.3	6.8	9.9	7.8	---	---
16	---	---	9.8	9.1	9.7	7.4	9.2	6.8	10.1	7.4	---	---
17	---	---	9.7	9.1	9.7	7.4	9.3	6.8	10.0	7.3	---	---
18	---	---	10.1	9.1	9.8	7.4	9.3	6.8	9.6	7.2	---	---
19	---	---	10.0	8.9	10.2	7.7	9.2	6.7	9.5	7.1	---	---
20	---	---	10.1	8.4	10.3	7.8	9.3	6.7	9.3	7.1	---	---
21	---	---	9.9	8.4	10.4	7.9	9.2	6.7	9.8	7.2	---	---
22	---	---	9.8	8.2	10.4	7.9	9.2	6.8	9.2	6.7	---	---
23	---	---	9.6	7.8	10.6	8.0	9.1	6.9	9.6	6.6	---	---
24	---	---	9.6	7.8	10.5	8.0	9.1	6.9	10.1	7.8	---	---
25	---	---	9.5	8.1	10.4	8.0	9.2	7.0	9.9	7.8	---	---
26	---	---	9.9	8.1	10.3	7.6	9.0	6.6	10.1	7.8	---	---
27	---	---	9.9	8.0	9.9	7.1	8.9	6.6	10.3	7.8	---	---
28	---	---	9.7	8.1	10.0	7.1	8.8	6.5	10.1	7.9	---	---
29	---	---	9.5	8.0	9.4	7.4	8.8	6.5	10.3	8.0	---	---
30	10.7	10.3	9.6	7.9	9.9	7.5	8.5	6.7	10.3	7.7	---	---
31	---	---	9.7	8.0	---	---	8.5	6.4	10.4	7.7	---	---
MONTH	---	---	12.0	7.8	10.6	7.1	9.5	6.4	10.6	6.3	---	---

KLAMATH RIVER BASIN

11510990 KLAMATH RIVER ABOVE SHOVEL CREEK, NEAR COPCO, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.5	7.9	8.2	7.8	---	---	---	---	---	---	---	---
2	8.5	7.9	8.2	7.8	---	---	---	---	---	---	---	---
3	8.5	7.9	8.3	7.8	---	---	---	---	---	---	---	---
4	8.6	7.9	8.2	7.8	---	---	---	---	---	---	---	---
5	8.6	7.9	8.3	7.8	---	---	---	---	---	---	---	---
6	8.5	7.9	---	---	---	---	---	---	---	---	---	---
7	8.5	7.9	---	---	---	---	---	---	---	---	---	---
8	8.5	7.9	---	---	---	---	---	---	---	---	---	---
9	8.4	7.8	---	---	---	---	---	---	---	---	---	---
10	8.4	7.8	---	---	---	---	---	---	---	---	---	---
11	8.2	7.8	---	---	---	---	---	---	---	---	---	---
12	8.2	7.8	---	---	---	---	---	---	---	---	---	---
13	8.2	7.8	---	---	---	---	---	---	---	---	---	---
14	8.1	7.8	---	---	---	---	---	---	---	---	---	---
15	8.4	7.8	---	---	---	---	---	---	---	---	---	---
16	8.4	7.8	---	---	---	---	---	---	---	---	---	---
17	8.4	7.7	---	---	---	---	---	---	---	---	---	---
18	8.4	7.8	---	---	---	---	---	---	---	---	---	---
19	8.4	7.7	---	---	---	---	---	---	---	---	---	---
20	8.4	7.7	---	---	---	---	---	---	---	---	---	---
21	8.5	7.7	---	---	---	---	---	---	---	---	---	---
22	8.1	7.7	---	---	---	---	---	---	---	---	---	---
23	8.1	7.7	---	---	---	---	---	---	---	---	---	---
24	8.1	7.7	---	---	---	---	---	---	---	---	---	---
25	8.1	7.7	---	---	---	---	---	---	---	---	---	---
26	8.1	7.7	---	---	---	---	---	---	---	---	---	---
27	8.1	7.8	---	---	---	---	---	---	---	---	---	---
28	8.1	7.8	---	---	---	---	---	---	---	---	---	---
29	8.3	7.8	---	---	---	---	---	---	---	---	---	---
30	8.4	7.8	---	---	---	---	---	---	---	---	---	---
31	8.4	7.8	---	---	---	---	---	---	---	---	---	---
MONTH	8.6	7.7	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.5	8.1	8.8	8.1	8.8	7.9	8.6	7.7	8.5	7.7
2	---	---	8.4	8.2	8.8	8.1	8.8	7.9	8.4	7.8	8.5	7.7
3	---	---	8.4	8.2	8.8	8.0	8.9	7.9	8.6	7.8	8.6	7.8
4	---	---	8.4	8.2	8.6	7.9	8.7	7.8	8.5	7.8	8.3	7.8
5	---	---	8.5	8.2	8.8	7.9	8.7	7.8	8.6	7.7	8.6	7.8
6	---	---	8.4	8.2	8.8	7.9	8.7	7.8	8.6	7.8	8.4	7.8
7	---	---	8.4	8.2	8.8	7.9	8.6	7.8	8.5	7.7	8.4	7.8
8	---	---	8.4	8.2	8.8	7.9	8.5	7.8	8.4	7.7	8.6	7.8
9	---	---	8.4	8.2	8.8	7.9	8.6	7.7	8.7	7.7	8.3	7.8
10	---	---	8.4	8.2	8.8	7.9	8.5	7.7	8.6	7.7	8.7	7.8
11	---	---	8.4	8.2	8.8	7.9	8.5	7.7	8.8	7.7	8.4	7.8
12	---	---	8.5	8.2	8.7	7.9	8.5	7.7	8.7	7.8	8.5	7.7
13	---	---	8.5	8.0	8.7	7.9	8.5	7.7	8.7	7.7	8.4	7.8
14	---	---	8.4	8.0	8.8	7.9	8.5	7.7	8.6	7.8	8.4	7.8
15	---	---	8.4	8.0	9.0	8.0	8.7	7.7	8.6	7.8	8.5	7.8
16	---	---	8.4	8.0	9.0	7.9	8.6	7.7	8.6	7.8	8.5	7.8
17	---	---	8.4	8.1	9.0	7.9	8.5	7.7	8.5	7.8	8.7	7.8
18	---	---	8.4	8.0	9.0	7.9	8.6	7.7	8.5	7.8	8.5	7.8
19	---	---	8.5	8.0	9.1	8.0	8.6	7.7	8.5	7.7	8.7	7.8
20	---	---	8.6	8.0	9.0	8.0	8.6	7.7	8.5	7.8	8.4	7.8
21	---	---	8.5	8.0	9.1	8.0	8.6	7.7	8.4	7.8	8.4	7.9
22	---	---	8.5	7.9	9.1	8.0	8.6	7.7	8.4	7.8	8.6	7.9
23	---	---	8.5	8.0	9.1	8.0	8.7	7.7	8.4	7.8	8.5	7.9
24	---	---	8.4	7.9	9.1	7.9	8.3	7.7	8.5	7.8	8.8	7.9
25	---	---	8.5	8.0	9.1	8.0	8.6	7.7	8.5	7.8	8.4	7.9
26	---	---	8.6	8.0	9.1	8.0	8.5	7.7	8.5	7.8	8.4	7.8
27	---	---	8.6	7.9	8.9	8.1	8.5	7.7	8.5	7.8	8.4	7.8
28	---	---	8.6	8.0	8.8	8.0	8.5	7.7	8.5	7.7	8.4	7.7
29	---	---	8.6	8.0	8.6	7.9	8.6	7.7	8.5	7.8	8.4	7.8
30	8.4	8.1	8.6	8.0	9.0	7.9	8.8	7.7	8.4	7.8	8.4	7.8
31	---	---	8.8	8.0	---	---	8.6	7.7	8.5	7.7	---	---
MONTH	---	---	8.8	7.9	9.1	7.9	8.9	7.7	8.8	7.7	8.8	7.7

KLAMATH RIVER BASIN

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	206	200	166	158	---	---	---	---	---	---	---	---
2	202	194	166	159	---	---	---	---	---	---	---	---
3	197	190	163	153	---	---	---	---	---	---	---	---
4	191	187	167	157	---	---	---	---	---	---	---	---
5	190	188	167	154	---	---	---	---	---	---	---	---
6	190	183	---	---	---	---	---	---	---	---	---	---
7	184	178	---	---	---	---	---	---	---	---	---	---
8	179	172	---	---	---	---	---	---	---	---	---	---
9	174	169	---	---	---	---	---	---	---	---	---	---
10	174	167	---	---	---	---	---	---	---	---	---	---
11	190	174	---	---	---	---	---	---	---	---	---	---
12	193	166	---	---	---	---	---	---	---	---	---	---
13	210	167	---	---	---	---	---	---	---	---	---	---
14	220	176	---	---	---	---	---	---	---	---	---	---
15	215	171	---	---	---	---	---	---	---	---	---	---
16	203	169	---	---	---	---	---	---	---	---	---	---
17	201	167	---	---	---	---	---	---	---	---	---	---
18	197	184	---	---	---	---	---	---	---	---	---	---
19	189	163	---	---	---	---	---	---	---	---	---	---
20	189	162	---	---	---	---	---	---	---	---	---	---
21	183	159	---	---	---	---	---	---	---	---	---	---
22	179	163	---	---	---	---	---	---	---	---	---	---
23	175	160	---	---	---	---	---	---	---	---	---	---
24	173	160	---	---	---	---	---	---	---	---	---	---
25	173	159	---	---	---	---	---	---	---	---	---	---
26	179	161	---	---	---	---	---	---	---	---	---	---
27	186	162	---	---	---	---	---	---	---	---	---	---
28	187	166	---	---	---	---	---	---	---	---	---	---
29	182	161	---	---	---	---	---	---	---	---	---	---
30	163	160	---	---	---	---	---	---	---	---	---	---
31	171	159	---	---	---	---	---	---	---	---	---	---
MONTH	220	159	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	181	161	207	198	182	161	153	147	156	148
2	---	---	187	180	207	196	167	153	153	147	159	150
3	---	---	186	177	202	193	156	147	155	148	160	151
4	---	---	180	158	195	172	153	146	154	148	155	149
5	---	---	159	154	194	172	150	144	154	147	154	148
6	---	---	156	149	197	176	148	143	149	144	158	149
7	---	---	157	151	208	174	149	142	147	143	162	152
8	---	---	156	148	208	179	156	143	147	144	164	152
9	---	---	158	150	206	179	158	149	147	143	163	157
10	---	---	150	147	197	173	157	148	148	144	162	149
11	---	---	157	148	196	172	154	146	151	146	153	146
12	---	---	164	157	185	166	157	148	154	148	150	143
13	---	---	162	153	191	168	154	147	156	148	143	141
14	---	---	172	162	193	172	152	146	155	148	150	141
15	---	---	168	161	194	174	151	146	157	149	153	148
16	---	---	209	167	175	170	150	145	157	149	153	148
17	---	---	204	194	176	172	149	144	155	148	150	147
18	---	---	201	192	180	174	149	145	151	146	148	141
19	---	---	199	191	181	173	148	145	150	146	149	143
20	---	---	200	186	180	170	153	147	152	147	183	149
21	---	---	200	184	175	167	154	148	153	149	191	168
22	---	---	205	178	174	163	155	146	154	145	190	163
23	---	---	221	182	172	161	151	145	150	145	186	161
24	---	---	233	177	185	162	150	145	149	144	183	160
25	---	---	234	203	240	166	148	145	147	143	178	162
26	---	---	233	182	266	190	151	145	148	144	165	153
27	---	---	223	179	292	217	151	147	151	146	155	148
28	---	---	243	187	277	191	153	147	153	147	153	148
29	---	---	255	200	225	173	155	148	157	148	163	149
30	163	161	255	206	188	159	155	148	158	150	171	153
31	---	---	229	186	---	---	154	147	159	149	---	---
MONTH	---	---	255	147	292	159	182	142	159	143	191	141

KLAMATH RIVER BASIN

11510990 KLAMATH RIVER ABOVE SHOVEL CREEK, NEAR COPCO, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.6	11.5	7.9	6.0	---	---	---	---	---	---	---	---
2	13.4	11.1	7.3	4.9	---	---	---	---	---	---	---	---
3	12.8	11.1	7.8	4.9	---	---	---	---	---	---	---	---
4	14.0	11.5	7.6	5.4	---	---	---	---	---	---	---	---
5	14.0	11.7	8.6	5.4	---	---	---	---	---	---	---	---
6	14.4	11.8	---	---	---	---	---	---	---	---	---	---
7	14.3	12.0	---	---	---	---	---	---	---	---	---	---
8	14.1	11.8	---	---	---	---	---	---	---	---	---	---
9	13.9	11.7	---	---	---	---	---	---	---	---	---	---
10	13.4	11.3	---	---	---	---	---	---	---	---	---	---
11	13.3	11.5	---	---	---	---	---	---	---	---	---	---
12	12.6	9.8	---	---	---	---	---	---	---	---	---	---
13	12.6	9.9	---	---	---	---	---	---	---	---	---	---
14	12.6	9.9	---	---	---	---	---	---	---	---	---	---
15	12.2	10.2	---	---	---	---	---	---	---	---	---	---
16	12.4	10.2	---	---	---	---	---	---	---	---	---	---
17	12.4	10.4	---	---	---	---	---	---	---	---	---	---
18	12.2	10.4	---	---	---	---	---	---	---	---	---	---
19	12.2	10.2	---	---	---	---	---	---	---	---	---	---
20	12.1	10.3	---	---	---	---	---	---	---	---	---	---
21	12.3	10.3	---	---	---	---	---	---	---	---	---	---
22	12.4	10.3	---	---	---	---	---	---	---	---	---	---
23	12.0	9.8	---	---	---	---	---	---	---	---	---	---
24	11.6	9.4	---	---	---	---	---	---	---	---	---	---
25	11.4	9.2	---	---	---	---	---	---	---	---	---	---
26	10.8	9.0	---	---	---	---	---	---	---	---	---	---
27	10.6	8.5	---	---	---	---	---	---	---	---	---	---
28	10.4	8.4	---	---	---	---	---	---	---	---	---	---
29	9.2	7.8	---	---	---	---	---	---	---	---	---	---
30	8.5	7.2	---	---	---	---	---	---	---	---	---	---
31	7.7	6.5	---	---	---	---	---	---	---	---	---	---
MONTH	14.4	6.5	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.6	9.1	21.5	18.0	22.3	17.2	23.6	18.9	21.5	16.9
2	---	---	11.4	9.7	21.8	17.9	22.1	16.3	22.7	17.9	21.3	17.5
3	---	---	11.6	10.6	22.3	18.2	22.2	16.6	22.4	18.7	20.9	16.8
4	---	---	11.4	10.3	22.4	17.6	22.0	17.1	22.6	18.2	21.2	16.2
5	---	---	12.3	10.3	22.8	17.7	22.4	16.9	21.5	18.0	21.1	18.2
6	---	---	12.1	10.5	23.3	18.1	22.5	17.5	21.4	18.4	21.2	16.4
7	---	---	12.4	10.8	23.6	18.8	22.5	16.5	21.8	17.7	19.8	15.9
8	---	---	12.0	10.5	23.8	18.5	22.3	17.6	22.2	16.6	18.9	15.4
9	---	---	11.2	10.4	23.2	17.9	22.8	18.2	22.1	17.3	18.5	15.9
10	---	---	11.7	10.4	22.5	17.1	22.9	18.7	21.9	16.2	17.8	14.6
11	---	---	11.5	9.9	22.1	17.2	23.1	18.4	21.6	16.4	19.3	14.6
12	---	---	12.5	10.4	21.6	17.2	22.8	18.1	21.2	16.6	18.6	15.6
13	---	---	14.2	10.6	21.5	17.0	22.6	17.6	21.4	17.3	18.6	15.5
14	---	---	15.7	12.0	21.7	17.0	23.1	17.7	21.0	17.0	18.3	14.9
15	---	---	15.7	12.6	21.2	18.3	22.4	19.0	21.0	17.4	18.1	15.4
16	---	---	15.1	12.3	20.6	17.0	23.0	18.9	21.6	16.3	17.1	13.8
17	---	---	15.3	12.4	21.0	17.6	23.4	18.4	21.4	17.1	15.9	12.7
18	---	---	15.1	11.5	20.4	17.9	23.0	19.4	21.9	17.7	16.8	14.3
19	---	---	15.9	11.4	19.1	16.4	23.5	19.1	22.0	18.2	16.3	13.4
20	---	---	16.9	12.0	18.3	15.6	23.5	19.1	22.4	18.2	17.4	14.1
21	---	---	17.8	13.3	18.5	15.6	23.9	19.8	21.0	16.6	17.5	14.2
22	---	---	18.6	14.2	18.1	14.8	24.6	20.1	20.4	17.1	17.3	14.4
23	---	---	19.7	15.1	17.4	14.6	23.9	20.8	21.4	16.8	17.4	14.4
24	---	---	18.8	15.0	18.3	15.4	23.5	18.4	21.4	17.1	17.5	15.1
25	---	---	18.7	15.8	19.7	16.3	23.9	19.9	21.5	17.2	17.9	15.0
26	---	---	19.3	14.6	20.6	16.9	24.5	19.1	20.8	16.9	18.2	14.7
27	---	---	20.1	14.8	21.8	17.7	24.4	19.0	21.6	17.1	18.4	14.9
28	---	---	20.7	16.9	22.2	17.9	24.5	19.2	21.1	17.3	18.4	14.9
29	---	---	20.7	17.5	22.0	17.4	24.2	20.1	21.2	17.1	18.3	14.7
30	11.5	9.0	21.3	17.6	20.6	18.3	23.6	21.0	21.6	16.8	18.2	14.3
31	---	---	21.8	17.6	---	---	24.5	19.7	21.1	16.9	---	---
MONTH	---	---	21.8	9.1	23.8	14.6	24.6	16.3	23.6	16.2	21.5	12.7

KLAMATH RIVER BASIN

11510990 KLAMATH RIVER ABOVE SHOVEL CREEK, NEAR COPCO, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
08...	0850	3.00	691	8.3	98	8.0	146	18.4	9.00
08...	0855	2.80	691	8.4	99	8.1	146	18.5	27.0
08...	0900	3.20	691	8.5	100	8.1	146	18.6	45.0
08...	0905	4.20	691	8.5	100	8.1	146	18.6	63.0
08...	0910	1.70	691	8.7	103	8.2	146	18.7	81.0
SEP									
10...	1145	3.50	693	10.1	110	8.4	152	15.0	9.00
10...	1150	2.40	693	10.1	110	8.4	153	15.0	27.0
10...	1155	3.70	693	10.2	112	8.4	153	15.1	45.0
10...	1200	4.30	693	10.2	112	8.4	153	15.1	63.0
10...	1205	1.40	693	10.3	114	8.4	153	15.5	81.0

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA

LOCATION.—Lat 41° 28' 17", long 122° 26' 23", in NE 1/4 SE 1/4 sec. 20, T.42 N., R.5 W., Siskiyou County, Hydrologic Unit 18010207, on left bank, 0.8 mi downstream from Beaughton Creek, 1.0 mi downstream from Parks Creek, and 1.0 mi northeast of Edgewood.

DRAINAGE AREA.—70.3 mi².

PERIOD OF RECORD.—Water year 2002 to current year.

CHEMICAL DATA: June 2002 to current year (seasonal only).

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: June 2002 to current year (seasonal only).

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent, except for Oct. 27 to Nov. 1, May 20–23, June 11–16, 28, Aug. 1–5, 23–25, and Sept. 14, 15, which are rated good; Nov. 2–6, May 24–28, Aug. 8, 9, 26–28, and Sept. 16–17, which are rated fair; Oct. 1, 2, May 29, 30, June 29 to July 2, Aug. 10–18, Aug. 29 to Sept. 11, and Sept. 18–30, which are rated poor. pH records rated excellent. Specific conductance records rated excellent, except for June 13–15, which are rated good. Water temperature records rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 17.8 mg/L, Oct. 22, 2002; minimum recorded, 5.1 mg/L, Aug. 17, 2003.

pH: Maximum recorded, 9.4 standard units, several days during 2002, Oct. 18–20, 2003; minimum recorded, 7.7 standard units, Sept. 2, 3, 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 249 microsiemens, July 12, 2002; minimum recorded, 119 microsiemens, June 7–9, 2003.

WATER TEMPERATURE: Maximum recorded, 30.0° C, July 11, 2002; minimum recorded, 1.8° C, Nov. 1, 2002.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 17.8 mg/L, Oct. 22; minimum recorded, 5.1 mg/L, Aug. 17.

pH: Maximum recorded, 9.4 standard units, Oct. 18–20; minimum recorded, 7.7 standard units, Sept. 2, 3.

SPECIFIC CONDUCTANCE: Maximum recorded, 247 microsiemens, Aug. 19–21; minimum recorded, 119 microsiemens, June 7–9.

WATER TEMPERATURE: Maximum recorded, 28.0° C, July 22; minimum recorded, 1.8° C, Nov. 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfiltered, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, std units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, deg C (00010)
APR 09...	1325	89	1.1	686	11.0	116	8.7	199	13.0
Date	Hardness, unfiltered, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, filtered, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water filtered, titration, mg/L as CaCO ₃ (39086)	Bicarbonate, water filtered, titration, mg/L (00453)
APR 09...	96	5.44	20.0	1.22	.3	5.85	12	110	129

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
APR 09...	2	2.09	.07	33.4	1.8	136	.18	135	e.08
Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
APR 09...	<.015	e.018	.03	.04	3.1	2.2	3.6	11	2.5

e Estimated.

< Actual value is known to be less than value.

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	8.5	13.9	12.1	---	---	---	---	---	---	---	---
2	12.3	9.2	13.9	11.5	---	---	---	---	---	---	---	---
3	14.1	9.7	12.9	10.7	---	---	---	---	---	---	---	---
4	14.2	9.3	12.7	10.8	---	---	---	---	---	---	---	---
5	14.5	9.6	12.2	9.7	---	---	---	---	---	---	---	---
6	14.8	9.7	---	---	---	---	---	---	---	---	---	---
7	15.2	10.0	---	---	---	---	---	---	---	---	---	---
8	15.4	10.3	---	---	---	---	---	---	---	---	---	---
9	15.7	10.4	---	---	---	---	---	---	---	---	---	---
10	15.8	11.1	---	---	---	---	---	---	---	---	---	---
11	16.4	11.8	---	---	---	---	---	---	---	---	---	---
12	16.7	11.9	---	---	---	---	---	---	---	---	---	---
13	16.9	11.8	---	---	---	---	---	---	---	---	---	---
14	17.0	11.8	---	---	---	---	---	---	---	---	---	---
15	17.2	11.6	---	---	---	---	---	---	---	---	---	---
16	17.1	11.6	---	---	---	---	---	---	---	---	---	---
17	17.4	11.5	---	---	---	---	---	---	---	---	---	---
18	17.4	11.3	---	---	---	---	---	---	---	---	---	---
19	17.5	11.8	---	---	---	---	---	---	---	---	---	---
20	17.6	12.2	---	---	---	---	---	---	---	---	---	---
21	17.7	12.3	---	---	---	---	---	---	---	---	---	---
22	17.8	12.5	---	---	---	---	---	---	---	---	---	---
23	17.6	12.5	---	---	---	---	---	---	---	---	---	---
24	17.4	12.7	---	---	---	---	---	---	---	---	---	---
25	17.1	12.5	---	---	---	---	---	---	---	---	---	---
26	16.8	12.7	---	---	---	---	---	---	---	---	---	---
27	17.3	12.7	---	---	---	---	---	---	---	---	---	---
28	16.6	12.6	---	---	---	---	---	---	---	---	---	---
29	15.8	12.6	---	---	---	---	---	---	---	---	---	---
30	15.6	12.6	---	---	---	---	---	---	---	---	---	---
31	14.6	12.5	---	---	---	---	---	---	---	---	---	---
MONTH	17.8	8.5	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	9.0	7.2	10.7	9.5	9.4	8.2	9.9	6.6	12.6	5.6
2	---	---	9.7	9.0	10.5	9.1	8.7	7.6	9.2	6.6	12.4	5.4
3	---	---	10.0	9.3	10.1	8.8	---	---	9.7	7.2	10.8	5.8
4	---	---	10.5	9.5	9.9	8.8	---	---	9.4	7.0	10.6	6.2
5	---	---	10.8	9.5	10.0	8.7	---	---	10.2	7.2	11.6	6.3
6	---	---	10.8	10.0	9.8	8.6	---	---	10.6	7.5	12.9	6.5
7	---	---	10.7	9.8	9.6	8.5	---	---	10.7	7.4	11.4	6.7
8	---	---	10.9	10.3	9.7	8.6	---	---	10.8	6.9	12.6	6.4
9	10.7	9.2	---	---	9.9	8.7	---	---	10.7	6.8	13.6	6.7
10	10.8	9.4	---	---	9.9	8.8	---	---	11.1	6.6	13.4	6.6
11	10.8	9.6	---	---	10.0	8.9	---	---	10.7	6.3	11.0	6.9
12	10.5	9.7	---	---	10.0	8.9	---	---	11.0	6.2	11.2	7.3
13	10.7	9.8	10.9	9.4	10.2	8.9	---	---	9.6	6.3	11.2	7.5
14	10.5	9.5	10.8	9.4	10.5	8.8	---	---	10.8	5.8	11.4	7.3
15	10.9	9.7	11.2	9.8	10.6	8.8	---	---	10.1	5.5	11.4	7.2
16	10.8	10.0	11.8	10.0	10.6	8.3	---	---	9.4	5.4	11.7	7.4
17	10.6	9.8	11.8	10.4	9.7	8.4	---	---	9.2	5.1	11.8	7.7
18	10.9	9.6	12.2	10.4	10.0	9.0	---	---	9.0	5.5	11.8	7.5
19	11.0	9.3	12.3	10.1	10.8	9.6	---	---	9.3	7.0	11.7	7.2
20	10.6	9.6	11.8	9.8	11.1	9.8	---	---	9.2	6.9	11.5	7.2
21	10.4	9.9	11.6	9.8	11.1	9.9	---	---	9.6	7.0	11.3	7.1
22	10.5	9.7	11.3	9.5	11.6	10.0	---	---	9.9	7.2	11.0	7.0
23	10.6	10.0	11.4	9.4	11.7	10.3	9.6	6.7	9.7	7.1	10.9	6.9
24	---	---	11.1	9.8	11.8	9.8	8.4	7.6	9.8	6.9	10.9	6.8
25	11.5	10.3	11.4	9.9	11.3	9.4	8.3	7.2	10.3	6.8	10.7	6.9
26	11.6	9.9	11.3	9.7	10.9	8.9	8.5	7.2	10.9	6.9	10.8	6.6
27	10.6	9.4	11.5	9.3	10.4	8.9	8.5	6.9	11.3	6.9	10.5	6.7
28	9.9	9.0	11.2	9.4	10.3	8.9	8.8	6.7	11.8	6.8	10.7	6.7
29	9.5	8.5	11.2	9.3	10.0	9.0	9.1	6.5	12.1	6.3	11.0	6.6
30	9.1	7.7	11.0	9.2	9.9	8.7	9.5	6.5	12.3	6.2	11.3	6.6
31	---	---	10.3	9.4	---	---	9.8	6.7	11.7	6.0	---	---
MONTH	---	---	---	---	11.8	8.3	---	---	12.3	5.1	13.6	5.4

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.2	7.9	9.1	8.1	---	---	---	---	---	---	---	---
2	9.2	7.9	9.1	8.1	---	---	---	---	---	---	---	---
3	9.2	7.9	9.1	8.1	---	---	---	---	---	---	---	---
4	9.3	7.9	9.2	8.1	---	---	---	---	---	---	---	---
5	9.3	7.9	9.2	8.1	---	---	---	---	---	---	---	---
6	9.3	7.9	9.3	8.1	---	---	---	---	---	---	---	---
7	9.3	7.9	---	---	---	---	---	---	---	---	---	---
8	9.3	7.9	---	---	---	---	---	---	---	---	---	---
9	9.3	7.9	---	---	---	---	---	---	---	---	---	---
10	9.3	7.9	---	---	---	---	---	---	---	---	---	---
11	9.2	7.9	---	---	---	---	---	---	---	---	---	---
12	9.2	8.0	---	---	---	---	---	---	---	---	---	---
13	9.2	7.9	---	---	---	---	---	---	---	---	---	---
14	9.3	7.9	---	---	---	---	---	---	---	---	---	---
15	9.3	7.9	---	---	---	---	---	---	---	---	---	---
16	9.3	7.9	---	---	---	---	---	---	---	---	---	---
17	9.3	8.0	---	---	---	---	---	---	---	---	---	---
18	9.4	8.0	---	---	---	---	---	---	---	---	---	---
19	9.4	8.0	---	---	---	---	---	---	---	---	---	---
20	9.4	8.0	---	---	---	---	---	---	---	---	---	---
21	9.3	8.0	---	---	---	---	---	---	---	---	---	---
22	9.3	8.0	---	---	---	---	---	---	---	---	---	---
23	9.2	8.0	---	---	---	---	---	---	---	---	---	---
24	9.3	8.0	---	---	---	---	---	---	---	---	---	---
25	9.2	8.0	---	---	---	---	---	---	---	---	---	---
26	9.2	8.0	---	---	---	---	---	---	---	---	---	---
27	9.2	8.0	---	---	---	---	---	---	---	---	---	---
28	9.2	8.1	---	---	---	---	---	---	---	---	---	---
29	9.2	8.1	---	---	---	---	---	---	---	---	---	---
30	9.2	8.1	---	---	---	---	---	---	---	---	---	---
31	9.1	8.1	---	---	---	---	---	---	---	---	---	---
MONTH	9.4	7.9	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.5	8.3	8.2	8.0	8.3	8.0	9.0	7.8	9.2	7.8
2	---	---	8.5	8.3	8.2	8.0	8.2	8.0	8.6	7.8	9.1	7.7
3	---	---	8.6	8.3	8.2	8.0	8.2	8.0	8.8	7.8	9.1	7.7
4	---	---	8.6	8.4	8.2	8.0	8.2	8.0	8.8	7.9	8.9	7.8
5	---	---	8.6	8.4	8.3	8.0	8.2	8.0	8.9	7.8	9.1	7.8
6	---	---	8.6	8.4	8.3	8.0	8.2	8.0	9.0	7.9	9.2	7.8
7	---	---	8.6	8.4	8.3	8.0	8.3	8.0	9.0	7.9	9.1	7.8
8	---	---	8.6	8.4	8.3	8.0	8.3	8.0	9.1	7.9	9.2	7.8
9	8.8	8.2	---	---	8.3	8.0	8.2	8.0	9.0	7.9	9.0	7.8
10	8.7	8.2	---	---	8.3	8.0	8.3	8.0	9.0	7.9	9.1	7.8
11	8.7	8.2	---	---	8.3	8.1	8.3	8.0	9.0	7.8	9.0	7.8
12	8.5	8.2	---	---	8.3	8.1	8.3	8.1	8.9	7.9	9.0	7.8
13	8.3	8.2	8.8	8.4	8.3	8.1	8.4	8.1	8.8	7.9	9.0	7.8
14	8.4	8.2	8.8	8.3	8.3	8.1	8.4	8.1	8.8	7.9	9.0	7.8
15	8.5	8.2	8.7	8.3	8.4	8.0	8.4	8.0	8.7	7.9	9.1	7.8
16	8.5	8.3	8.7	8.3	8.3	8.0	8.4	8.0	8.7	7.9	9.1	7.8
17	8.5	8.3	8.7	8.3	8.3	8.0	8.5	8.1	8.7	7.9	9.1	7.8
18	8.5	8.3	8.6	8.2	8.4	8.0	8.5	8.1	8.6	7.8	9.1	7.8
19	8.5	8.3	8.7	8.2	8.3	8.0	8.6	8.1	8.7	7.8	9.2	7.8
20	8.6	8.3	8.7	8.2	8.3	8.0	8.7	8.0	8.7	7.8	9.2	7.8
21	8.6	8.3	8.7	8.2	8.4	8.0	8.8	8.0	8.5	7.8	9.2	7.8
22	8.6	8.3	8.6	8.2	8.4	8.0	8.9	8.0	8.8	7.8	9.1	7.8
23	8.7	8.3	8.4	8.2	8.4	8.0	8.7	7.9	8.8	7.8	9.1	7.8
24	8.6	8.4	8.3	8.1	8.4	8.0	8.1	7.9	8.9	7.8	9.1	7.8
25	8.5	8.3	8.3	8.1	8.4	8.0	8.3	7.9	8.9	7.8	9.1	7.8
26	8.6	8.3	8.2	8.1	8.4	8.0	8.4	7.9	9.1	7.8	9.1	7.8
27	8.6	8.3	8.2	8.1	8.4	7.9	8.5	7.9	9.1	7.8	9.2	7.8
28	8.5	8.2	8.2	8.0	8.3	7.9	8.7	7.9	9.2	7.8	9.2	7.8
29	8.4	8.2	8.2	8.0	8.3	8.0	8.8	7.8	9.2	7.8	9.2	7.8
30	8.5	8.3	8.2	8.0	8.3	8.0	8.9	7.8	9.2	7.8	9.2	7.8
31	---	---	8.2	8.0	---	---	9.0	7.9	9.2	7.8	---	---
MONTH	---	---	---	---	8.4	7.9	9.0	7.8	9.2	7.8	9.2	7.7

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	211	195	183	173	---	---	---	---	---	---	---	---
2	208	195	181	172	---	---	---	---	---	---	---	---
3	210	196	181	171	---	---	---	---	---	---	---	---
4	211	200	181	171	---	---	---	---	---	---	---	---
5	204	188	184	171	---	---	---	---	---	---	---	---
6	205	189	181	172	---	---	---	---	---	---	---	---
7	210	191	---	---	---	---	---	---	---	---	---	---
8	204	185	---	---	---	---	---	---	---	---	---	---
9	199	182	---	---	---	---	---	---	---	---	---	---
10	198	181	---	---	---	---	---	---	---	---	---	---
11	195	180	---	---	---	---	---	---	---	---	---	---
12	191	179	---	---	---	---	---	---	---	---	---	---
13	190	177	---	---	---	---	---	---	---	---	---	---
14	193	177	---	---	---	---	---	---	---	---	---	---
15	193	178	---	---	---	---	---	---	---	---	---	---
16	189	177	---	---	---	---	---	---	---	---	---	---
17	191	178	---	---	---	---	---	---	---	---	---	---
18	190	177	---	---	---	---	---	---	---	---	---	---
19	191	177	---	---	---	---	---	---	---	---	---	---
20	187	176	---	---	---	---	---	---	---	---	---	---
21	182	171	---	---	---	---	---	---	---	---	---	---
22	184	171	---	---	---	---	---	---	---	---	---	---
23	182	172	---	---	---	---	---	---	---	---	---	---
24	181	171	---	---	---	---	---	---	---	---	---	---
25	179	169	---	---	---	---	---	---	---	---	---	---
26	177	169	---	---	---	---	---	---	---	---	---	---
27	177	167	---	---	---	---	---	---	---	---	---	---
28	181	168	---	---	---	---	---	---	---	---	---	---
29	183	173	---	---	---	---	---	---	---	---	---	---
30	181	172	---	---	---	---	---	---	---	---	---	---
31	182	171	---	---	---	---	---	---	---	---	---	---
MONTH	211	167	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	187	179	133	123	170	166	216	203	236	218
2	---	---	190	187	135	127	173	169	215	211	235	221
3	---	---	194	190	136	125	175	171	220	205	232	215
4	---	---	192	191	132	122	176	173	216	205	245	215
5	---	---	194	192	130	122	179	175	213	206	238	222
6	---	---	200	192	130	121	181	178	213	208	228	216
7	---	---	198	195	128	119	181	179	217	209	224	211
8	---	---	195	194	126	119	180	178	218	212	223	212
9	---	---	---	---	128	119	185	179	217	210	223	214
10	198	193	---	---	133	124	189	183	218	214	221	210
11	195	188	---	---	137	129	193	187	221	216	219	209
12	189	175	---	---	140	136	198	192	225	220	219	211
13	179	170	209	200	142	137	198	194	225	220	216	204
14	183	175	201	188	146	139	202	196	229	223	213	202
15	184	180	188	183	148	143	206	201	230	226	215	204
16	185	180	187	183	150	145	207	201	230	225	214	199
17	187	183	190	185	150	146	206	200	233	225	211	200
18	190	186	194	190	148	141	207	202	240	230	212	200
19	192	189	197	194	149	147	209	202	247	239	218	200
20	194	192	196	187	154	149	209	205	247	237	216	202
21	194	190	188	171	158	154	218	209	247	237	217	204
22	196	191	171	150	163	158	223	216	241	226	218	208
23	197	192	154	137	165	162	223	161	241	228	217	207
24	---	---	141	127	170	165	181	140	238	225	217	206
25	---	---	139	128	175	169	187	181	236	227	215	207
26	185	181	142	131	175	173	197	187	234	220	213	204
27	185	179	141	129	176	173	200	197	230	219	212	201
28	179	156	136	123	175	171	208	200	235	218	216	201
29	169	155	130	117	171	167	209	202	231	217	221	205
30	179	169	126	117	168	166	215	203	230	216	221	209
31	---	---	129	121	---	---	217	197	230	216	---	---
MONTH	---	---	---	---	176	119	223	140	247	203	245	199

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.6	9.7	8.6	1.8	---	---	---	---	---	---	---	---
2	16.1	7.8	8.9	2.3	---	---	---	---	---	---	---	---
3	15.5	8.2	9.4	3.2	---	---	---	---	---	---	---	---
4	19.2	10.9	9.9	3.4	---	---	---	---	---	---	---	---
5	18.7	10.0	10.8	4.2	---	---	---	---	---	---	---	---
6	19.4	10.1	---	---	---	---	---	---	---	---	---	---
7	19.0	9.7	---	---	---	---	---	---	---	---	---	---
8	18.3	9.2	---	---	---	---	---	---	---	---	---	---
9	17.8	8.7	---	---	---	---	---	---	---	---	---	---
10	16.9	9.6	---	---	---	---	---	---	---	---	---	---
11	15.1	7.1	---	---	---	---	---	---	---	---	---	---
12	15.0	6.4	---	---	---	---	---	---	---	---	---	---
13	15.2	6.8	---	---	---	---	---	---	---	---	---	---
14	15.6	7.2	---	---	---	---	---	---	---	---	---	---
15	15.8	7.4	---	---	---	---	---	---	---	---	---	---
16	15.7	7.2	---	---	---	---	---	---	---	---	---	---
17	16.0	7.5	---	---	---	---	---	---	---	---	---	---
18	15.5	8.5	---	---	---	---	---	---	---	---	---	---
19	15.6	7.6	---	---	---	---	---	---	---	---	---	---
20	15.3	8.1	---	---	---	---	---	---	---	---	---	---
21	14.5	7.5	---	---	---	---	---	---	---	---	---	---
22	14.3	7.3	---	---	---	---	---	---	---	---	---	---
23	13.8	6.9	---	---	---	---	---	---	---	---	---	---
24	13.2	8.3	---	---	---	---	---	---	---	---	---	---
25	13.3	7.3	---	---	---	---	---	---	---	---	---	---
26	12.8	6.1	---	---	---	---	---	---	---	---	---	---
27	11.5	5.7	---	---	---	---	---	---	---	---	---	---
28	12.1	5.8	---	---	---	---	---	---	---	---	---	---
29	10.0	5.4	---	---	---	---	---	---	---	---	---	---
30	10.0	3.9	---	---	---	---	---	---	---	---	---	---
31	9.1	2.7	---	---	---	---	---	---	---	---	---	---
MONTH	19.4	2.7	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	13.0	5.9	15.5	8.3	20.3	13.4	24.3	18.2	24.8	15.2
2	---	---	9.9	7.5	16.4	8.8	20.1	13.1	19.9	18.3	25.2	15.4
3	---	---	11.9	7.4	17.1	9.3	20.8	12.9	21.1	17.8	22.1	15.2
4	---	---	11.9	6.7	16.9	9.7	22.2	13.2	24.0	16.2	20.4	15.2
5	---	---	13.4	6.5	17.2	9.5	22.8	13.9	22.8	15.9	24.0	15.6
6	---	---	10.6	6.8	17.6	10.1	23.1	14.4	22.2	15.4	21.6	14.2
7	---	---	12.5	7.8	18.3	10.9	21.9	15.1	22.2	15.0	18.9	14.2
8	---	---	---	---	18.0	11.0	22.5	13.9	22.4	14.5	20.1	12.1
9	---	---	---	---	17.6	10.2	23.5	14.3	22.2	15.2	18.1	13.5
10	11.0	7.7	---	---	17.8	10.4	23.2	14.8	22.7	14.8	20.5	12.0
11	13.0	6.9	---	---	18.2	10.9	24.4	15.3	24.0	14.5	21.8	12.7
12	8.1	5.0	---	---	18.0	11.5	24.1	15.8	23.9	14.2	21.1	13.7
13	9.0	4.6	---	---	18.1	11.2	23.6	15.4	23.2	14.6	20.8	12.5
14	9.7	4.8	16.3	8.4	18.8	10.8	24.4	15.5	23.3	13.9	20.8	11.6
15	8.5	4.7	14.8	7.9	19.1	11.2	24.6	16.3	24.5	14.7	21.4	12.9
16	8.8	5.3	13.9	6.5	20.0	11.8	25.2	16.5	24.2	14.4	18.8	12.0
17	10.3	6.1	13.2	6.9	20.9	12.8	25.7	16.5	24.8	14.6	19.4	10.9
18	11.2	5.3	13.2	5.6	17.8	12.9	25.8	16.8	26.1	15.8	19.9	10.6
19	13.0	5.0	14.7	5.9	18.1	11.5	26.1	17.3	25.1	17.3	20.7	11.2
20	11.4	6.8	16.0	7.4	18.3	11.2	25.8	17.7	25.9	16.1	20.8	11.6
21	10.2	7.4	16.7	8.2	18.8	12.0	27.2	17.9	20.2	16.5	21.0	11.9
22	11.4	7.1	16.4	8.7	18.3	10.8	28.0	19.1	22.5	16.7	21.4	12.2
23	10.6	7.0	15.8	8.4	17.6	10.3	26.9	18.2	24.0	15.4	21.5	12.4
24	---	---	13.7	8.7	18.9	10.1	20.9	16.5	24.7	15.2	21.5	12.7
25	---	---	13.7	8.1	20.3	11.2	24.3	17.3	24.4	15.0	21.4	12.7
26	11.7	4.6	14.4	8.1	21.6	12.3	24.3	17.1	22.5	15.5	21.3	12.1
27	8.9	5.7	15.7	7.9	22.2	13.4	25.9	16.8	23.6	15.4	21.6	13.0
28	9.2	5.4	15.4	8.6	22.6	13.9	26.4	17.2	23.0	15.1	20.7	12.7
29	9.7	5.3	15.7	8.9	21.1	14.3	27.1	17.5	24.0	14.3	19.9	13.9
30	11.6	5.2	15.4	8.9	21.0	13.8	27.3	18.2	24.6	14.9	19.6	11.9
31	---	---	15.7	8.9	---	---	26.4	18.5	24.2	15.4	---	---
MONTH	---	---	---	---	22.6	8.3	28.0	12.9	26.1	13.9	25.2	10.6

KLAMATH RIVER BASIN

11516750 SHASTA RIVER NEAR EDGEWOOD, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
09...*	1040	.40	686	8.5	100	8.2	186	18.0	5.00
09...*	1045	.40	686	8.5	100	8.2	186	17.9	13.0
09...*	1050	.40	686	8.6	101	8.2	186	17.9	21.0
09...*	1055	.80	686	8.7	102	8.2	186	17.9	29.0
09...*	1100	1.00	686	8.6	101	8.2	186	17.9	37.0
SEP									
11...*	0938	.60	694	10.2	108	8.3	212	13.6	3.00
11...*	0940	.80	694	10.2	108	8.3	212	13.6	8.00
11...*	0942	1.00	694	10.2	108	8.3	212	13.6	13.0
11...*	0944	.70	694	10.2	108	8.3	212	13.7	18.0
11...*	0946	.80	694	10.1	107	8.3	212	13.7	23.0

* Instantaneous discharge at the time of cross-sectional measurements: Unknown.

KLAMATH RIVER BASIN

11516880 SHASTA RIVER NEAR GRENADA, CA

LOCATION.—Lat 41° 38' 54", long 122° 29' 54", in SE 1/4 NE 1/4 sec. 23, T.44 N., R.6 W., Siskiyou County, Hydrologic Unit 18010207, on left bank, 200 feet downstream from County Road A12 highway bridge, 0.5 mi downstream from Willow Creek, and 1.7 mi east of Grenada.

DRAINAGE AREA.—525 mi².

PERIOD OF RECORD.—June 2003 to August 2003 (discontinued).

CHEMICAL DATA: June 2003 to August 2003 (discontinued).

REMARKS.—Discrete water samples collected in cooperation with the North Coast Regional Water Quality Control Board.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, wat unfltrd std uS/cm 25 degC (00095)	Temperature, deg C (00010)
JUN 17...	0840	103	2.7	687	6.8	83	8.0	426	19.6
AUG 19...	0830	83	2.1	691	6.6	77	7.9	426	18.2
Date	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat fltrd inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat fltrd incrm. titr., field, mg/L (00453)
JUN 17...	170	21.1	27.6	2.35	.9	27.7	26	194	231
AUG 19...	170	22.7	26.8	2.55	.9	27.7	26	188	227
Date	Carbonate, wat fltrd incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue evap. at 180degC, wat fltrd mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
JUN 17...	2	15.1	.2	54.8	5.6	275	.37	275	.23
AUG 19...	<1	15.8	.3	57.7	5.8	272	.37	270	.20
Date	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, water, unfltrd, mg/L (00680)	Pheophytin a, phyton, ug/L (62360)	Chlorophyll a, phyton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
JUN 17...	<.015	<.022	.14	.15	3.7	4.6	1.7	9	3.4
AUG 19...	<.015	<.022	.15	.17	4.1	3.7	1.0	8	2.9

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

KLAMATH RIVER BASIN

11517015 SHASTA RIVER AT HIGHWAY 3, NEAR MONTAGUE, CA

LOCATION.—Lat 41° 43'37", long 122° 33'28", in NE 1/4 NE 1/4 sec. 29, T.45 N., R.6 W., Siskiyou County, Hydrologic Unit 18010207, on left bank, at Highway 3, 3.1 mi downstream from Little Shasta River, and 1.6 mi west of Montague.

DRAINAGE AREA.—676 mi².

PERIOD OF RECORD.—April 2003 to September 2003.

CHEMICAL DATA: April 2003 to August 2003 (seasonal only).

DISSOLVED OXYGEN: April 2003 to September 2003 (seasonal only).

pH: April 2003 to September 2003 (seasonal only).

SPECIFIC CONDUCTANCE: April 2003 to September 2003 (seasonal only).

WATER TEMPERATURE: April 2003 to September 2003 (seasonal only).

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: April 2003 to September 2003 (seasonal only).

pH: April 2003 to September 2003 (seasonal only).

SPECIFIC CONDUCTANCE: April 2003 to September 2003 (seasonal only).

WATER TEMPERATURE: April 2003 to September 2003 (seasonal only).

INSTRUMENTATION.—Water-quality monitor since April 2003. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent, except for Apr. 13, 14, July 6–8, 29–31, Aug. 1, 10, 11, 28–31, and Sept. 1, 17–20, which are rated good; April 15, 16, Aug. 2–5, 12–14, and Sept. 2–8, 21–25, which are rated fair; Apr. 17–25, July 15–19, and Sept. 9, 10, 26–30, which are rated poor. pH records rated excellent. Specific conductance records rated excellent, except for June 16, 17, which are rated good. Water temperature records rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 12.9 mg/L, May 16, 2003; minimum recorded, 4.0 mg/L, June 8, and July 31, 2003.

pH: Maximum recorded, 8.7 standard units, several days during 2003; minimum recorded, 7.8 standard units, July 26, 31, 2003.

SPECIFIC CONDUCTANCE: Maximum recorded, 602 microsiemens, Sept. 9, 2003; minimum recorded, 460 microsiemens, July 6, 2003.

WATER TEMPERATURE: Maximum recorded, 27.4°C, July 22, 2003; minimum recorded, 8.8°C, Apr. 13, 25, 2003.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 12.9 mg/L, May 16; minimum recorded, 4.0 mg/L, June 8, and July 31.

pH: Maximum recorded, 8.7 standard units, several days during the year; minimum recorded, 7.8 standard units, July 26, 31.

SPECIFIC CONDUCTANCE: Maximum recorded, 602 microsiemens, Sept. 9; minimum recorded, 460 microsiemens, July 6.

WATER TEMPERATURE: Maximum recorded, 27.4°C, July 22; minimum recorded, 8.8°C, Apr. 13, 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
APR									
10...	1050	171	7.2	691	9.1	93	8.3	472	12.0
JUN									
17...	1435	81	2.0	687	9.9	129	8.4	484	23.0
AUG									
19...	1250	59	4.3	692	10.0	127	8.4	498	22.0

Date	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)
APR									
10...	180	24.4	29.6	2.39	1	32.9	28	225	272
JUN									
17...	180	23.8	30.0	2.87	1	31.7	27	227	268
AUG									
19...	200	28.1	30.4	3.12	1	33.0	26	238	286

KLAMATH RIVER BASIN

11517015 SHASTA RIVER AT HIGHWAY 3, NEAR MONTAGUE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
APR 10...	1	17.8	.23	48.8	7.5	299	.40	295	.21
JUN 17...	4	18.4	.3	53.8	6.5	304	.41	300	.35
AUG 19...	2	20.6	.3	57.3	6.4	322	.43	317	.38

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
APR 10...	<.015	.072	.12	.14	4.8	4.0	3.4	e9	6.9
JUN 17...	<.015	<.022	.150	.170	4.5	2.1	.7	10	12.4
AUG 19...	<.015	<.022	.14	.17	5.7	1.6	.9	11	7.2

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

KLAMATH RIVER BASIN

11517015 SHASTA RIVER AT HIGHWAY 3, NEAR MONTAGUE, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	508	473	530	503	509	494
2	---	---	---	---	---	---	480	469	543	525	520	494
3	---	---	---	---	514	485	478	467	558	535	519	499
4	---	---	---	---	514	493	489	465	560	545	518	499
5	---	---	---	---	506	490	478	464	563	530	556	518
6	---	---	---	---	507	489	477	460	565	530	543	526
7	---	---	---	---	510	498	474	463	560	515	553	530
8	---	---	---	---	518	501	496	474	555	527	562	522
9	---	---	---	---	522	503	492	479	565	533	602	559
10	---	---	---	---	527	508	483	467	544	515	577	561
11	492	476	---	---	527	495	478	463	524	503	584	562
12	491	478	---	---	508	481	489	468	527	491	584	555
13	511	478	---	---	498	483	495	471	528	500	561	545
14	520	511	564	539	498	487	481	467	513	487	549	531
15	537	520	542	518	504	494	498	471	498	490	545	532
16	525	497	531	509	504	488	531	498	504	488	533	524
17	497	487	539	520	505	480	521	505	518	501	525	510
18	497	491	533	522	494	480	518	481	518	502	510	490
19	495	487	535	519	486	471	506	483	508	492	507	486
20	498	490	---	---	481	469	516	492	533	497	501	487
21	497	482	---	---	480	471	516	489	529	497	513	492
22	506	488	---	---	481	471	494	472	526	485	509	496
23	530	477	---	---	486	475	487	474	530	503	521	500
24	527	515	---	---	485	479	486	476	524	499	529	498
25	525	518	---	---	484	474	492	468	525	495	536	494
26	---	---	---	---	489	475	559	491	513	493	506	468
27	---	---	---	---	498	485	568	528	536	502	488	472
28	---	---	---	---	508	490	538	505	528	503	496	479
29	---	---	---	---	511	498	510	500	544	524	490	477
30	---	---	---	---	510	497	524	489	547	513	499	481
31	---	---	---	---	---	---	530	470	535	508	---	---
MONTH	---	---	---	---	---	---	568	460	565	485	602	468

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
	1	---	---	---	---	23.2
2	---	---	---	---	22.6	19.0
3	---	---	23.3	18.7	22.8	18.8
4	---	---	23.4	19.6	23.7	19.2
5	---	---	23.9	19.6	24.2	19.6
6	---	---	24.2	20.0	24.4	19.9
7	---	---	24.9	21.1	24.4	20.4
8	---	---	24.8	21.2	24.3	18.7
9	---	---	23.6	19.9	25.3	19.3
10	14.1	11.5	22.9	19.3	24.9	19.6
11	14.7	11.3	22.5	18.9	25.2	20.3
12	13.3	10.6	21.6	18.7	24.9	20.6
13	10.6	8.8	21.4	17.9	24.9	19.9
14	12.0	9.0	21.1	15.9	21.6	17.4
15	11.4	9.3	19.7	15.5	22.2	18.0
16	11.6	8.9	18.5	13.8	22.9	18.7
17	12.8	9.6	17.2	12.4	24.2	19.9
18	14.0	9.9	16.6	11.3	22.5	19.8
19	15.4	10.0	18.1	11.7	21.2	18.0
20	14.8	11.7	20.4	17.0	26.7	21.7
21	12.8	10.5	20.9	17.4	27.1	21.6
22	13.9	10.6	20.7	17.0	27.4	22.7
23	14.0	11.6	19.8	16.4	27.3	23.4
24	12.8	10.7	20.2	15.8	24.6	22.2
25	10.7	8.8	21.6	17.0	24.1	21.3
26	---	---	23.1	18.5	24.2	20.1
27	---	---	24.5	20.1	25.6	21.7
28	---	---	25.1	20.6	26.2	22.0
29	---	---	25.2	21.1	26.8	22.0
30	---	---	24.8	20.0	26.7	22.6
31	---	---	---	---	25.5	21.1
MONTH	---	---	---	---	27.4	18.7

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

KLAMATH RIVER BASIN

11517015 SHASTA RIVER AT HIGHWAY 3, NEAR MONTAGUE, CA—Continued

CROSS SECTION ANALYSES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
JUL									
08...*	1545	2.00	695	10.9	139	8.5	492	22.8	5.00
08...*	1550	3.50	695	11.0	141	8.5	489	23.0	15.0
08...*	1555	1.80	695	10.9	140	8.5	489	22.9	25.0
08...*	1600	4.50	695	10.9	140	8.5	490	23.0	35.0
08...*	1605	4.00	695	10.9	140	8.5	492	23.0	45.0
SEP									
10...*	0935	3.20	698	8.0	85	8.1	574	14.1	6.00
10...*	0940	4.80	698	8.0	85	8.1	574	14.1	16.0
10...*	0942	3.50	698	7.9	84	8.1	574	14.1	26.0
10...*	0944	5.00	698	7.9	84	8.1	575	14.1	36.0
10...*	0947	5.30	698	8.0	85	8.1	574	14.1	46.0

* Instantaneous discharge at the time of cross-sectional measurements: Unknown.

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA

LOCATION.—Lat 41° 50' 16", long 122° 57' 48", in SE 1/4 SW 1/4 sec. 11, T.46 N., R.9 W., [Siskiyou County](#), Hydrologic Unit 18010206, on right bank, 0.7 mi upstream from Cedar Cove, 1.0 mi downstream from Grouse Creek, and 3.5 mi southwest of Klamath River.

DRAINAGE AREA.—5,885 mi².

PERIOD OF RECORD.—June 2002 to current year.

CHEMICAL DATA: July 2002 to current year (seasonal only).

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: June 2002 to current year (seasonal only).

PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: June 2002 to current year (seasonal only).

pH: June 2002 to current year (seasonal only).

SPECIFIC CONDUCTANCE: June 2002 to current year (seasonal only).

WATER TEMPERATURE: June 2002 to current year (seasonal only).

INSTRUMENTATION.—Water-quality monitor since June 2002. Electronic data logger with 60 minute interval.

REMARKS.—Dissolved oxygen records rated excellent except for May 12–15, July 31 to Aug. 4, 17–21, 25, 26, Sept. 17–20, which are rated good; Aug. 5, 6, 27–30, Sept. 21–27, which are rated fair; June 26–29, Aug. 31 to Sept. 9, Sept. 28–30, which are rated poor. pH record is rate excellent except for Aug. 6–21, which is rated fair; July 16–21, which is rated poor. Specific conductance record is rated excellent, except for Aug. 6–21, which is rated good; June 11–19, which is rated poor. Water temperature record is rated excellent. Interruption in record due to malfunction of the recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

DISSOLVED OXYGEN: Maximum recorded, 14.8 mg/L, Nov. 5, 2002; minimum recorded, 6.3 mg/L, Aug. 18, 2002, July 31, Aug. 1, 2003.

pH: Maximum recorded, 9.1 standard units, Aug. 2, 3, 5, 2002; minimum recorded, 7.8 standard units, Aug. 23, 2002.

SPECIFIC CONDUCTANCE: Maximum recorded, 273 microsiemens, July 31, Aug. 1, 2003; minimum recorded, 169 microsiemens, May 29, 30, 2003.

WATER TEMPERATURE: Maximum recorded, 27.7° C, July 23, 2003; minimum recorded, 8.0° C, Oct. 31 to Nov. 4, 2002.

EXTREME FOR CURRENT YEAR.—

DISSOLVED OXYGEN: Maximum recorded, 14.8 mg/L, Nov. 5; minimum recorded, 6.3 mg/L, July 31, Aug. 1.

pH: Maximum recorded, 9.0 standard units, Aug. 15, 16, 18, Sept. 7, 8; minimum recorded, 7.9 standard units, July 25.

SPECIFIC CONDUCTANCE: Maximum recorded, 273 microsiemens, July 31, Aug. 1; minimum recorded, 169 microsiemens, May 29, 30.

WATER TEMPERATURE: Maximum recorded, 27.7° C, July 23; minimum recorded, 8.0° C, Oct. 31 to Nov. 4.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 degC (00095)	Temperature, deg C (00010)	
JUL	14...	1940	933	2.0	712	8.4	107	8.8	220	24.0
SEP	15...	1930	1410	3.2	716	8.8	102	8.5	186	19.5
Date	Hardness, water, unfltrd mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt inc tit field, mg/L as CaCO ₃ (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	
JUL	14...	78	15.3	9.63	2.85	.8	16.6	31	88	104
SEP	15...	66	12.7	8.21	2.55	.8	14.1	31	78	94

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
JUL 14...	2	5.37	<.2	27.2	11.9	142	.19	139	.49
SEP 15...	1	5.21	<.2	36.1	6.4	134	.20	147	.58

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a phyto- plank- ton, fluoro, fltrd, ug/L (70953)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
JUL 14...	<.015	e.013	.10	.11	6.2	1.6	e.8	23	5.4
SEP 15...	e.010	.285	.12	.16	8.8	4.2	5.0	21	4.8

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

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

OXYGEN DISSOLVED, MG/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	14.2	11.9	---	---	---	---	---	---	---	---
2	---	---	14.4	11.9	---	---	---	---	---	---	---	---
3	10.3	8.6	14.5	11.9	---	---	---	---	---	---	---	---
4	10.4	8.5	14.4	11.7	---	---	---	---	---	---	---	---
5	10.5	8.4	14.8	11.7	---	---	---	---	---	---	---	---
6	10.4	8.4	---	---	---	---	---	---	---	---	---	---
7	10.5	8.4	---	---	---	---	---	---	---	---	---	---
8	10.6	8.5	---	---	---	---	---	---	---	---	---	---
9	10.7	8.5	---	---	---	---	---	---	---	---	---	---
10	10.6	8.6	---	---	---	---	---	---	---	---	---	---
11	11.2	8.9	---	---	---	---	---	---	---	---	---	---
12	11.3	9.1	---	---	---	---	---	---	---	---	---	---
13	11.4	9.0	---	---	---	---	---	---	---	---	---	---
14	11.5	9.3	---	---	---	---	---	---	---	---	---	---
15	11.4	9.3	---	---	---	---	---	---	---	---	---	---
16	11.6	9.3	---	---	---	---	---	---	---	---	---	---
17	11.7	9.5	---	---	---	---	---	---	---	---	---	---
18	11.8	9.5	---	---	---	---	---	---	---	---	---	---
19	11.9	9.7	---	---	---	---	---	---	---	---	---	---
20	11.9	9.6	---	---	---	---	---	---	---	---	---	---
21	12.1	9.7	---	---	---	---	---	---	---	---	---	---
22	12.2	9.8	---	---	---	---	---	---	---	---	---	---
23	12.4	9.9	---	---	---	---	---	---	---	---	---	---
24	12.5	10.1	---	---	---	---	---	---	---	---	---	---
25	12.5	10.1	---	---	---	---	---	---	---	---	---	---
26	12.8	10.4	---	---	---	---	---	---	---	---	---	---
27	12.9	10.6	---	---	---	---	---	---	---	---	---	---
28	13.0	10.6	---	---	---	---	---	---	---	---	---	---
29	12.9	10.8	---	---	---	---	---	---	---	---	---	---
30	13.5	11.1	---	---	---	---	---	---	---	---	---	---
31	13.9	11.5	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.0	9.2	10.5	8.0	---	---	9.7	6.3	10.5	7.9
2	---	---	10.7	9.2	10.6	7.9	---	---	8.4	6.7	10.4	7.8
3	---	---	10.5	9.5	10.2	7.9	---	---	9.5	7.0	9.2	7.8
4	---	---	10.9	9.7	10.1	7.8	---	---	10.9	6.8	9.6	7.8
5	---	---	10.9	9.3	10.0	7.8	---	---	11.2	6.6	9.2	7.4
6	---	---	10.6	9.4	10.0	7.7	---	---	10.4	6.9	9.3	7.4
7	---	---	10.7	9.4	9.7	7.6	---	---	9.6	7.3	9.0	7.5
8	---	---	10.5	9.4	9.5	7.5	11.0	7.7	9.8	7.2	9.0	7.5
9	---	---	10.6	9.6	9.6	7.6	11.0	7.6	9.8	7.2	9.8	7.4
10	---	---	10.7	9.3	9.6	7.2	11.1	7.5	9.9	7.2	10.4	7.9
11	---	---	10.6	9.3	9.8	7.7	11.2	7.5	9.9	7.3	10.3	7.8
12	---	---	10.6	9.0	9.8	7.7	11.2	7.4	10.0	7.3	10.4	7.7
13	---	---	10.5	8.7	10.0	7.9	11.5	7.5	10.2	7.2	10.4	7.7
14	---	---	10.7	8.6	10.0	7.9	11.6	7.6	9.8	7.0	10.5	7.9
15	---	---	10.2	8.6	9.9	7.6	---	---	10.6	7.1	10.1	7.7
16	---	---	10.6	8.8	---	---	---	---	10.2	7.2	10.4	7.8
17	---	---	10.7	8.8	9.5	7.0	---	---	11.6	7.0	10.9	8.2
18	---	---	11.0	8.9	9.4	7.2	---	---	10.6	6.8	11.1	8.2
19	---	---	11.0	8.6	9.8	7.9	---	---	9.6	6.6	10.9	8.1
20	---	---	10.9	8.6	9.8	7.8	---	---	9.4	6.5	11.1	8.0
21	---	---	10.8	8.3	9.8	8.0	9.6	6.8	9.7	6.7	10.4	8.0
22	---	---	10.7	8.3	9.8	8.0	9.8	6.6	9.7	7.4	10.6	8.0
23	---	---	10.6	8.2	9.7	8.0	9.6	6.4	10.0	7.5	10.9	8.0
24	---	---	9.9	8.2	9.8	7.9	9.4	6.4	10.2	7.5	11.1	7.9
25	---	---	10.2	8.5	9.4	7.6	9.8	6.8	10.2	7.5	12.2	9.4
26	---	---	10.6	8.4	9.3	7.4	9.9	6.6	10.3	7.6	12.1	7.9
27	---	---	10.5	8.2	9.3	7.6	10.0	6.8	10.4	7.8	12.2	7.8
28	---	---	10.4	8.2	9.3	7.5	10.3	6.6	10.3	7.7	12.4	7.7
29	11.0	9.8	10.2	8.2	9.0	7.4	10.3	6.5	10.5	8.0	12.2	7.7
30	11.2	9.5	10.5	8.1	---	---	10.3	6.4	10.3	8.0	12.2	7.9
31	---	---	10.4	8.1	---	---	11.0	6.3	10.3	7.9	---	---
MONTH	---	---	11.0	8.1	---	---	---	---	11.6	6.3	12.4	7.4

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.5	8.1	8.5	8.2	---	---	---	---	---	---	---	---
2	8.4	8.1	8.5	8.2	---	---	---	---	---	---	---	---
3	8.3	8.0	8.5	8.1	---	---	---	---	---	---	---	---
4	8.4	8.0	8.5	8.1	---	---	---	---	---	---	---	---
5	8.4	8.0	8.5	8.1	---	---	---	---	---	---	---	---
6	8.4	8.0	---	---	---	---	---	---	---	---	---	---
7	8.4	8.0	---	---	---	---	---	---	---	---	---	---
8	8.5	8.0	---	---	---	---	---	---	---	---	---	---
9	8.4	8.0	---	---	---	---	---	---	---	---	---	---
10	8.4	8.0	---	---	---	---	---	---	---	---	---	---
11	8.5	8.1	---	---	---	---	---	---	---	---	---	---
12	8.5	8.1	---	---	---	---	---	---	---	---	---	---
13	8.4	8.1	---	---	---	---	---	---	---	---	---	---
14	8.5	8.1	---	---	---	---	---	---	---	---	---	---
15	8.5	8.1	---	---	---	---	---	---	---	---	---	---
16	8.5	8.1	---	---	---	---	---	---	---	---	---	---
17	8.5	8.2	---	---	---	---	---	---	---	---	---	---
18	8.6	8.2	---	---	---	---	---	---	---	---	---	---
19	8.5	8.2	---	---	---	---	---	---	---	---	---	---
20	8.5	8.2	---	---	---	---	---	---	---	---	---	---
21	8.6	8.2	---	---	---	---	---	---	---	---	---	---
22	8.6	8.2	---	---	---	---	---	---	---	---	---	---
23	8.6	8.2	---	---	---	---	---	---	---	---	---	---
24	8.6	8.2	---	---	---	---	---	---	---	---	---	---
25	8.6	8.2	---	---	---	---	---	---	---	---	---	---
26	8.5	8.2	---	---	---	---	---	---	---	---	---	---
27	8.5	8.2	---	---	---	---	---	---	---	---	---	---
28	8.5	8.2	---	---	---	---	---	---	---	---	---	---
29	8.5	8.2	---	---	---	---	---	---	---	---	---	---
30	8.5	8.2	---	---	---	---	---	---	---	---	---	---
31	8.5	8.2	---	---	---	---	---	---	---	---	---	---
MONTH	8.6	8.0	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.5	8.1	8.7	8.1	8.8	8.3	8.6	8.0	8.8	8.4
2	---	---	8.4	8.0	8.7	8.1	8.8	8.4	8.2	8.0	8.7	8.4
3	---	---	8.3	8.0	8.7	8.1	8.9	8.4	8.4	8.0	8.7	8.3
4	---	---	8.4	8.0	8.7	8.0	8.9	8.4	8.6	8.0	8.8	8.3
5	---	---	8.5	8.0	8.6	8.1	8.9	8.4	8.7	8.1	8.8	8.2
6	---	---	8.4	8.0	8.6	8.0	8.9	8.4	8.6	8.1	8.7	8.2
7	---	---	8.5	8.0	8.6	8.0	8.9	8.4	8.5	8.0	9.0	8.4
8	---	---	8.4	8.0	8.5	8.0	8.8	8.2	8.7	8.2	9.0	8.4
9	---	---	8.4	8.0	8.5	8.1	8.8	8.4	8.7	8.1	8.9	8.5
10	---	---	8.4	8.0	8.5	8.1	8.8	8.3	8.8	8.2	8.8	8.5
11	---	---	8.4	8.0	8.6	8.2	8.8	8.4	8.8	8.4	8.7	8.3
12	---	---	8.5	8.0	8.6	8.3	8.8	8.3	8.8	8.4	8.7	8.3
13	---	---	8.6	8.0	8.5	8.2	8.9	8.3	8.9	8.5	8.7	8.3
14	---	---	8.6	8.0	8.6	8.3	8.9	8.2	8.9	8.4	8.7	8.3
15	---	---	8.6	8.0	8.6	8.3	8.9	8.2	9.0	8.4	8.6	8.2
16	---	---	8.6	8.1	8.6	8.3	8.7	8.1	9.0	8.5	8.6	8.2
17	---	---	8.6	8.0	8.5	8.3	8.7	8.2	8.9	8.5	8.6	8.2
18	---	---	8.6	8.1	8.5	8.2	8.8	8.7	9.0	8.6	8.6	8.2
19	---	---	8.7	8.1	8.5	8.2	8.9	8.7	8.9	8.6	8.5	8.2
20	---	---	8.7	8.1	8.5	8.4	8.8	8.6	8.8	8.5	8.5	8.2
21	---	---	8.7	8.0	8.5	8.3	8.9	8.5	8.7	8.3	8.5	8.1
22	---	---	8.7	8.0	8.6	8.3	8.7	8.1	8.6	8.2	8.5	8.1
23	---	---	8.7	8.0	8.6	8.3	8.7	8.1	8.6	8.3	8.5	8.1
24	---	---	8.5	8.0	8.6	8.3	8.6	8.0	8.7	8.4	8.5	8.1
25	---	---	8.6	8.0	8.6	8.3	8.7	7.9	8.7	8.3	8.6	8.1
26	---	---	8.7	8.0	8.6	8.3	8.7	8.0	8.7	8.3	8.6	8.1
27	---	---	8.7	8.0	8.6	8.3	8.7	8.0	8.7	8.4	8.6	8.1
28	---	---	8.6	8.0	8.7	8.3	8.7	8.0	8.8	8.3	8.6	8.0
29	8.4	8.0	8.6	8.0	8.7	8.3	8.7	8.0	8.7	8.3	8.6	8.2
30	8.5	8.0	8.6	8.0	8.8	8.3	8.8	8.0	8.8	8.4	8.8	8.3
31	---	---	8.7	8.0	---	---	8.7	8.0	8.7	8.4	---	---
MONTH	---	---	8.7	8.0	8.8	8.0	8.9	7.9	9.0	8.0	9.0	8.0

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	223	217	245	242	---	---	---	---	---	---	---	---
2	234	222	244	242	---	---	---	---	---	---	---	---
3	232	229	242	240	---	---	---	---	---	---	---	---
4	231	230	241	238	---	---	---	---	---	---	---	---
5	232	230	240	239	---	---	---	---	---	---	---	---
6	237	231	---	---	---	---	---	---	---	---	---	---
7	237	233	---	---	---	---	---	---	---	---	---	---
8	236	233	---	---	---	---	---	---	---	---	---	---
9	235	233	---	---	---	---	---	---	---	---	---	---
10	235	233	---	---	---	---	---	---	---	---	---	---
11	235	232	---	---	---	---	---	---	---	---	---	---
12	238	235	---	---	---	---	---	---	---	---	---	---
13	242	238	---	---	---	---	---	---	---	---	---	---
14	243	240	---	---	---	---	---	---	---	---	---	---
15	244	230	---	---	---	---	---	---	---	---	---	---
16	246	230	---	---	---	---	---	---	---	---	---	---
17	247	246	---	---	---	---	---	---	---	---	---	---
18	247	244	---	---	---	---	---	---	---	---	---	---
19	248	245	---	---	---	---	---	---	---	---	---	---
20	247	245	---	---	---	---	---	---	---	---	---	---
21	246	244	---	---	---	---	---	---	---	---	---	---
22	245	244	---	---	---	---	---	---	---	---	---	---
23	245	244	---	---	---	---	---	---	---	---	---	---
24	246	244	---	---	---	---	---	---	---	---	---	---
25	246	245	---	---	---	---	---	---	---	---	---	---
26	246	245	---	---	---	---	---	---	---	---	---	---
27	246	244	---	---	---	---	---	---	---	---	---	---
28	245	243	---	---	---	---	---	---	---	---	---	---
29	244	243	---	---	---	---	---	---	---	---	---	---
30	245	243	---	---	---	---	---	---	---	---	---	---
31	244	243	---	---	---	---	---	---	---	---	---	---
MONTH	248	217	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	216	211	180	176	217	214	273	216	198	190
2	---	---	211	202	183	177	222	217	225	209	198	189
3	---	---	202	194	191	179	222	219	214	208	192	189
4	---	---	202	193	189	183	220	218	222	210	190	186
5	---	---	200	193	194	187	218	216	220	213	186	183
6	---	---	193	188	188	184	217	216	215	203	184	180
7	---	---	190	189	188	184	218	210	210	203	185	180
8	---	---	193	190	187	184	210	204	212	205	183	179
9	---	---	196	193	190	184	205	200	205	199	184	182
10	---	---	198	196	187	182	201	200	208	200	189	183
11	---	---	199	196	190	179	204	200	211	195	190	187
12	---	---	201	195	186	180	207	203	227	199	190	187
13	---	---	198	194	187	182	205	202	203	199	190	185
14	---	---	194	188	194	186	203	200	218	200	190	184
15	---	---	188	184	201	193	206	201	200	197	187	186
16	---	---	186	183	203	197	234	201	200	195	190	185
17	---	---	185	183	210	202	243	216	204	197	187	184
18	---	---	188	185	212	207	248	222	199	196	188	185
19	---	---	188	186	213	205	243	222	201	193	191	187
20	---	---	188	181	216	211	228	198	198	195	192	186
21	---	---	183	178	216	213	223	204	198	193	187	185
22	---	---	180	171	217	215	221	215	195	192	193	186
23	---	---	177	171	219	216	222	218	196	192	194	191
24	---	---	176	170	221	218	220	214	197	194	192	190
25	---	---	175	170	221	219	224	218	197	192	194	190
26	---	---	176	171	221	217	233	221	194	189	192	188
27	---	---	176	171	221	219	234	229	194	187	193	188
28	---	---	175	170	222	218	231	219	194	187	193	187
29	208	201	175	169	222	219	224	205	193	191	189	187
30	220	208	175	169	219	215	221	205	198	190	190	185
31	---	---	178	173	---	---	273	205	195	188	---	---
MONTH	---	---	216	169	222	176	273	198	273	187	198	179

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

WATER TEMPERATURE, DEGREES C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.5	15.0	9.0	8.0	---	---	---	---	---	---	---	---
2	16.0	14.5	9.0	8.0	---	---	---	---	---	---	---	---
3	16.0	15.0	9.0	8.0	---	---	---	---	---	---	---	---
4	17.0	15.5	9.0	8.0	---	---	---	---	---	---	---	---
5	17.0	15.5	9.5	8.5	---	---	---	---	---	---	---	---
6	17.0	16.0	---	---	---	---	---	---	---	---	---	---
7	17.0	15.5	---	---	---	---	---	---	---	---	---	---
8	16.5	15.0	---	---	---	---	---	---	---	---	---	---
9	16.0	15.0	---	---	---	---	---	---	---	---	---	---
10	16.0	14.5	---	---	---	---	---	---	---	---	---	---
11	15.0	13.5	---	---	---	---	---	---	---	---	---	---
12	14.0	13.5	---	---	---	---	---	---	---	---	---	---
13	14.0	13.0	---	---	---	---	---	---	---	---	---	---
14	14.0	13.0	---	---	---	---	---	---	---	---	---	---
15	14.5	13.0	---	---	---	---	---	---	---	---	---	---
16	14.0	13.0	---	---	---	---	---	---	---	---	---	---
17	14.0	13.0	---	---	---	---	---	---	---	---	---	---
18	14.0	13.0	---	---	---	---	---	---	---	---	---	---
19	14.0	13.0	---	---	---	---	---	---	---	---	---	---
20	14.5	13.5	---	---	---	---	---	---	---	---	---	---
21	14.0	13.0	---	---	---	---	---	---	---	---	---	---
22	14.0	13.0	---	---	---	---	---	---	---	---	---	---
23	13.5	12.0	---	---	---	---	---	---	---	---	---	---
24	13.0	12.0	---	---	---	---	---	---	---	---	---	---
25	13.0	12.0	---	---	---	---	---	---	---	---	---	---
26	12.5	11.5	---	---	---	---	---	---	---	---	---	---
27	12.0	11.0	---	---	---	---	---	---	---	---	---	---
28	12.0	11.0	---	---	---	---	---	---	---	---	---	---
29	11.0	10.0	---	---	---	---	---	---	---	---	---	---
30	10.5	9.0	---	---	---	---	---	---	---	---	---	---
31	9.5	8.0	---	---	---	---	---	---	---	---	---	---
MONTH	17.0	8.0	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	13.2	10.2	18.5	15.8	21.9	20.3	25.8	24.0	22.6	21.6
2	---	---	13.0	10.5	19.0	16.0	22.4	20.6	24.0	22.4	22.7	21.7
3	---	---	12.1	10.5	19.6	16.8	22.2	20.6	23.6	22.1	22.3	20.8
4	---	---	12.0	10.3	20.0	16.9	22.8	21.0	24.4	22.4	21.8	20.7
5	---	---	13.2	9.7	20.3	17.5	23.2	21.4	23.9	22.1	22.3	21.6
6	---	---	12.7	10.9	20.4	17.7	23.5	21.6	23.1	21.2	21.6	20.6
7	---	---	13.1	11.1	20.8	18.4	23.4	21.9	22.8	21.2	21.1	19.3
8	---	---	12.7	11.2	21.2	18.8	22.4	20.4	22.9	21.8	19.5	18.4
9	---	---	12.0	11.0	20.7	18.2	23.2	21.2	23.2	21.7	20.0	19.0
10	---	---	13.2	11.3	20.7	18.2	23.2	21.5	22.9	21.6	19.9	18.4
11	---	---	13.0	11.4	20.5	18.2	23.6	21.7	22.6	21.2	20.6	19.2
12	---	---	14.4	11.4	20.2	18.5	24.2	21.6	22.7	21.2	20.9	19.8
13	---	---	15.4	11.8	20.0	17.9	23.8	20.9	23.2	21.6	20.2	19.1
14	---	---	15.5	12.0	20.3	18.1	24.7	21.2	23.2	21.8	19.6	18.3
15	---	---	15.2	13.7	21.0	18.7	25.0	21.9	22.6	21.1	19.7	19.0
16	---	---	14.4	12.1	21.8	19.3	24.7	21.8	22.8	21.0	19.2	18.1
17	---	---	14.1	11.7	22.4	20.4	25.1	22.4	23.2	21.6	18.4	16.9
18	---	---	13.9	11.2	22.1	20.0	25.7	22.9	24.0	22.4	18.5	17.3
19	---	---	14.9	11.4	21.2	18.6	25.9	23.1	24.4	23.1	18.8	17.8
20	---	---	15.5	12.4	20.8	19.1	26.0	23.3	24.3	22.8	19.0	17.9
21	---	---	16.3	13.4	20.9	18.7	26.5	23.4	23.4	21.9	19.1	17.7
22	---	---	16.6	13.5	20.2	18.6	27.3	23.9	22.7	21.8	19.2	17.8
23	---	---	17.1	14.2	19.4	18.2	27.7	24.6	23.1	21.3	19.2	17.6
24	---	---	16.8	14.2	20.2	17.6	26.1	23.7	23.3	22.0	19.2	17.7
25	---	---	16.1	14.3	21.2	18.9	26.2	22.8	23.4	22.1	19.0	17.6
26	---	---	17.0	14.0	22.1	20.1	26.2	23.7	22.8	21.8	18.8	17.4
27	---	---	17.6	13.9	23.0	21.0	26.6	23.5	22.8	21.3	18.9	17.7
28	---	---	17.5	14.9	23.4	21.5	26.8	23.3	23.2	21.5	18.9	17.5
29	11.3	9.4	17.9	15.5	23.0	21.8	27.1	23.5	22.2	21.1	18.8	17.4
30	12.2	9.8	18.0	15.1	21.8	20.7	27.4	24.0	23.0	21.4	18.3	17.1
31	---	---	18.3	15.7	---	---	27.0	24.1	22.8	21.9	---	---
MONTH	---	---	18.3	9.7	23.4	15.8	27.7	20.3	25.8	21.0	22.7	16.9

KLAMATH RIVER BASIN

11517818 KLAMATH RIVER AT WALKER BRIDGE, NEAR KLAMATH RIVER, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample loca- tion, feet (81903)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
AUG									
06...*	1505	5.00	720	8.7	108	8.4	214	23.0	14.0
06...*	1510	2.30	720	8.7	108	8.4	214	23.0	44.0
06...*	1515	2.30	720	8.7	108	8.4	214	23.0	74.0
06...*	1520	2.00	720	8.7	108	8.4	214	23.0	104
06...*	1525	1.80	720	8.7	108	8.4	214	23.0	134
SEP									
09...*	1630	1.30	712	9.8	115	8.6	183	19.9	155
09...*	1635	3.50	712	9.8	115	8.6	183	19.9	125
09...*	1640	4.20	712	9.7	114	8.6	183	19.9	95.0
09...*	1645	4.40	712	9.8	115	8.6	183	19.9	65.0
09...*	1650	5.40	712	9.7	114	8.6	183	19.9	35.0

* Instantaneous discharge at the time of cross-sectional measurements: Unknown.

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Conversion Factors

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^0	kilometer (km)
Area		
acre	4.047×10^3	square meter (m ²)
	4.047×10^{-1}	square hectometer (hm ²)
	4.047×10^{-3}	square kilometer (km ²)
square mile (mi ²)	2.590×10^0	square kilometer (km ²)
Volume		
gallon (gal)	3.785×10^0	liter (L)
	3.785×10^{-3}	cubic meter (m ³)
	3.785×10^0	cubic decimeter (dm ³)
million gallons (Mgal)	3.785×10^3	cubic meter (m ³)
	3.785×10^{-3}	cubic hectometer (hm ³)
cubic foot (ft ³)	2.832×10^{-2}	cubic meter (m ³)
	2.832×10^1	cubic decimeter (dm ³)
cubic-foot-per-second-per-day [(ft ³ /s/d)]	2.447×10^3	cubic meter (m ³)
	2.447×10^{-3}	cubic hectometer (hm ³)
acre-foot (acre-ft)	1.223×10^3	cubic meter (m ³)
	1.223×10^{-3}	cubic hectometer (hm ³)
	1.223×10^{-6}	cubic kilometer (km ³)
Flow rate		
cubic foot per second (ft ³ /s)	2.832×10^1	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m ³ /s)
	2.832×10^1	cubic decimeter per second (dm ³ /s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m ³ /s)
	6.309×10^{-2}	cubic decimeter per second (dm ³ /s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^1	cubic decimeter per second (dm ³ /s)
Mass		
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$



1879–2004